

Product Support Bulletins

May 1974 to September 2000

These Support Bulletins have changes that were not necessarily made before the manuals were printed.

To use open the psbindex.pdf find your model in many cases there will be many bulletins for the same model. Write down the number associated with the Support Bulletin and look for it in the included numbered .pdfs

I decided to assemble this as one .pdf however it is large should someone desire the files to be sent separate email me tps33@comcast.net

Mike

MBB

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| PSB # | MODEL | DESCRIPTION | DATE |
| 1 | 2.7AJ Series | Part No. Corrections, Oper Manual 924-0311 | 5/6/74 |
| 2 | JC-DJC-RJC-RDJC-MJC-MDJC-RDJF-MDJF (Spec AA) | New rear mounting rubber for generators | 5/6/74 |
| 3 | All MCCK's only | New carburetor and needle valve change (Operators Manual 927-0350) | 5/20/74 |
| 4 | 25 kW UT series, tractor drive alternators (Spec AB all models) | P/N additions – UT Oper Manual 971-0001 | 5/20/74 |
| 5 | MJB-MJC and RJC | P/N changes for head gaskets | 5/20/74 |
| 6 | All UR series generator sets, models EK-EM-KB-KR | Relocation and change to solid-state voltage regulator | 5/20/74 |
| 7a | All DYA, DYC, DEH, MDEH, DEF, DEG, and MDEG | Relocation and change to solid-state voltage regulator | 3/27/75 |
| 8 | NHC gasoline engines and NH power drawer unit | New intake valve seats and aluminized intake valve | 5/20/74 |
| 9 | NHA, NHB, NHC, NHCV, NHBV, NHCV | Spec advance and product improvement | 5/20/74 |
| 10 | (Roper) Sears BF-MS/2666C & (Roper) Roper BF-MS/2675C | Change in cylinder air housing shrouds for garden tractors | 5/20/74 |
| 11 | L-25 engines | Change crankshaft keyway location | 5/20/74 |
| 12 | NHA, NHB, NHC, NHAV, NHBV, and NHCV | New front and rear main bearings | 5/20/74 |
| 13 | BF industrial engines | Crankshaft keyway location change | 5/20/74 |
| 14 | 7.5MDJE Spec C | Extension kit for Onan marine soundshield P/N 405-1482 | 5/20/74 |
| 15 | 6.5NH | Remote start/stop switch wiring in FMC motor home installation | 6/3/74 |
| 16 | 2.5AJ-1E/13036K, 12006K, 6000K, 6820K, 2.7AJ-1R/12020 | New brushes to prolong commutator life | 6/3/74 |
| 17 | NH series eng/generator sets | New rear bearing plate gasket and change in torque value | 6/3/74 |
| 18 | All LK, CCK, NH and BF engines and gensets | New style breaker box mounting screws and replacement tool | 6/3/74 |
| 19 | 4.0BF-1R/9000, 9500, 14122; 6.0NH-1R/9000, 9500 | New voltage regulator for motor home electric power plants | 6/3/74 |
| 20 | All CCK, CCKA, and CCKB industrial engines, spec J | Product improvements and spec advance | 6/3/74 |
| 21 | MAJ, AJ, and AK | Vibration mounts #402-0261 and mounting kits 402-0265 | 7/22/74 |
| 22a | WA, WB, DYD, and DYG series generator sets | Relocation and change to solid-state voltage regulators | 3/27/75 |
| 23 | 6.5NH | Part number corrections (940-0301 Operator's Manual) | 8/5/74 |
| 24 | All DJ, MDJ, and RDJ engines & gensets | Valves packaged incorrectly | 8/5/74 |
| 25 | All MJB, MJC, RJC series | Head gaskets packed incorrectly | 8/5/74 |
| 26 | DYG 150 & 175 kW; DYH 200 kW; DYB 250 kW | Changes in oil capacity for Allis-Chalmers diesel engines | 8/5/74 |
| 27a | All CCK series engines & gensets after S/N 742287 | Part number changes for Operator's Manuals | 8/16/74 |
| 28 | 30EK Spec G | Change in engine size | 9/4/74 |
| 29 | All Class "A" engines & gensets | Replacement timing gear sets | 9/4/74 |
| 30 | CCK Spec R | Vacu-flo conversion kits | 9/4/74 |
| 31 | All CCK, NH, BF, NB, LK & MCCK Ind eng & gensets | Front oil seal p/n 509-0040 | 9/27/74 |
| 32 | J series marine units | Water pump impeller, p/n 132-0064 | 9/27/74 |
| 33 | UF to YD | 2 bearing AC generators from 6 kW – 20 kW | 11/14/74 |

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| 34 | Generator sets from 12.5 through 90 kW | Addition of running time meter | 11/14/74 |
| 35 | Bolens model BF-MS/2938D | Spec advance | 11/15/74 |
| 36 | All Class A units | New serial number identification codes | 11/25/74 |
| 37 | CCK, CCKA, CCKB, NH, NHC, NHB, NHAV, NHBV, NHCV | New oil fill tube mounting hardware | 11/25/74 |
| 38 | JC series engines | New inverted connector for greater oil flow | 12/2/74 |
| 39 | ATUC, ATUD, ATUE 30-400 amp transfer switches | Product improvements and spec advance | 12/16/74 |
| 40 | All CCK and NH gensets (Spec 1200) 4, 5 & 6.5 kW | 611-1086 motor home control using 300-0859 printed circuit board | 12/16/74 |
| 41 | All AK, AJ, MAJ, and LK units w/Walbro carburetors | Distortion of carburetor mounting flange | 12/16/74 |
| 42 | All J Series | Return of diesel injection pumps under warranty | 12/16/74 |
| 43 | MDJC only | Change in section "D" of the L-835L parts price book | 12/16/74 |
| 44 | All JC-MJC and RJC generator sets | Spark plug gap change | 1/27/75 |
| 45 | All MCCK generator sets | Change in mounting hardware | 1/27/75 |
| 46 | All NHA, NHB, NHC, NHAV, NHBV and NHCV industrial engines | New pistons and piston rings | 1/27/75 |
| 47 | MDJB-MDJE (2 cyl); MDJC-MDJF (4 cyl) units w/sound shield | Emergency relay nuisance tripping | 1/27/95 |
| 48 | All CCK, CCKA, and CCKB ind eng & CCK gensets, all NH gensets | Change in muffler/manifold mounting hardware | 2/3/75 |
| 49 | All UR series, single bearing AC generators 30 kW - 175 kW | Relocation of SCR bridge to generator control box | 2/3/75 |
| 50 | 6.0NH-1R/9000 generator sets | Product improvements and spec advance | 2/14/75 |
| 51 | 4.0BF-1R/9000 | Product improvements and spec advance | 2/14/75 |
| 52 | DYC series all radiator cooled models | Change in engine radiator | 2/14/75 |
| 53 | All BF-MS industrial engines | Breather tube maintenance | 2/14/75 |
| 54 | CCKB-MS/2861J & CCKB-MS/2900J | Ignition timing change | 2/14/75 |
| 55 | NH-MS/2145C, NH-MS/2146C & NH-MS/2259C | Replacement engines for Tennant floor scrubbers, Owatonna & JD skid loaders | 2/14/75 |
| 56 | J series, UR spec B, 7-12 UF, 2.5-4UF, UD | Comparison, new generators vs phased out models | 2/20/75 |
| 57 | CCK, MCCK and NH gensets using 300-0859 PCB in control | 300-0859 PCB | 2/20/75 |
| 58 | Any Onan-built RV plant, CCK, NH, AJ, BF, or LK | Load transfer switches used with Onan RV elec power plants | 2/20/75 |
| 59a | MCCK and Marine J series | O ring | 3/14/75 |
| 60 | CCK and NH gensets using 300-0859 PCB | RV remote wiring connections different from standard Onan wiring diagrams | 3/5/75 |
| 61a | All major service manuals for all gensets | Red cover generator set service manuals | 9/10/75 |
| 62 | 40 and 55 UR tractor drive PTO alternators | Change in gear box (Von Ruden to Apex) | 3/27/75 |
| 63a | 15 & 25 YD 2 bearing PTO alternators | Change in gear pitch | 5/1/75 |
| 64 | J series | Manifold bolt locking tab | 4/8/75 |
| 65 | 40 and 55 UR tractor drive PTO alternators | Change in gear box oil capacity (Von Ruden & Apex) | 4/8/75 |
| 66 | MDJF only | Oil consumption, runaway engines, excessive smoke | 5/1/75 |
| 67 | All 2 and 4 cylinder J series (gas/diesel) | New fuel pump filter bowl | 5/1/75 |
| 68 | All Class A & B diesel engine generator sets | Diesel engine fuel oil specifications | 5/8/75 |
| 69 | Any LT with overvoltage, plug in solid-state models (3 phase only) | Voltage sensing problems | 5/16/75 |
| 70 | 1.5, 2, 2.5, 3.5 UD; 2.5, 3, 4 UF | UD & UF 2 bearing AC generators changing to YCB series | 5/16/75 |
| 71 | CCK, CCKA, CCKB, BF, BG, LK, NH, NHA, NHB & NHC Ind eng | Change in crankshaft flywheel keyway location | 5/16/75 |

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| 72 | All LK, CCK, CCKA, CCKB and MCCK engines & gensets | Oil in breaker box | 5/16/75 |
| 73 | All J series YD generators from Nov 74 – Feb 75 | J series single phase air-cooled stators used in YD generators | 5/16/75 |
| 74 | 4BF-1R/9000 & 9500; 6NH-1R/9000 & 9500 | Carburetor icing air preheaters | 5/16/75 |
| 75 | WA, WE, WB, WC, WH, FT, DFB, DFC, DFD, DFE, DFH, DFK..... | Possible failure of UK generator bearing on Class B sets | 6/6/75 |
| 76 | All units built prior to Dec 7, 1974 | Onan annunciator panels, p/n 300-0749 12 volt | 6/6/75 |
| 77 | All engine controls used with YB generators | New printed circuit module puller, p/n 420-0348 | 6/27/75 |
| 78 | All Diesel J series engines; 1, 2, and 4 cylinder models | Oil system restrictions and external oil lines and tee | 7/17/75 |
| 79a | BF engine for garden tractor applications | Part number addition (Major Service Manual 965-0250 dated 5AE75) | 8/7/75 |
| 80 | BF-MS/2666C, BF-MS/2833D, BF-MS/2851D | Surging or hunting | 7/25/75 |
| 81 | NH & CCK motor home generator sets | New electric fuel pump | 8/7/75 |
| 82 | All marine engines & generator sets | Marine fiberglass fuel tanks | 8/7/75 |
| 83 | NHC-MS/2302A, 2467A, 2487A, 2644A, 2705B, 2707B, 2916B..... | Short block kit p/n 110-2319 | 8/29/75 |
| 84 | Class B UR series (30-115 kW) equipped w/12 volt battery system | Capacitor addition (.5 Mfd) to 12 volt alternator, p/n 191-0665 | 9/12/75 |
| 85 | 4BF RV series and all MCCK series | Part number addition & deletion | 9/19/75 |
| 86 | NHA, NHB, NHC, NHP, NHAV, NHBV, NHCV, and NHPV | Spec advance and product improvements | 9/26/75 |
| 87 | 4BF RV series | Part number corrections (Parts catalog 965-0220) | 9/26/75 |
| 88 | NHA, NHB, NHC, NHAV, NHBV and NHCV Ind eng & 6NH gensets | Ignition timing change | 10/10/75 |
| 89 | All 2 & 4 cyl water-cooled J diesel engine gensets | Cylinder head gasket 110-1852 sealant procedure | 10/10/75 |
| 90 | NHC-MS/2699B, 2538A (used in skid steer loader, J Deere & Owatonna) | Erratic fuel pump operation | 10/17/75 |
| 91 | DYC engine generator sets Class B | Starter chatter (DYC) when used with AT style transfer switch | 10/17/75 |
| 92a | All J series units | 191-0324 Prestolite starter | 1/30/76 |
| 93 | YD two bearing alternators (5-20 kW) | P/N correction (Oper manual and parts catalog 929-0004) | 11/14/75 |
| 94 | MJC, MDJC, and MDJF | New fresh water pump (132-0147) | 11/20/75 |
| 95 | 4BF-1R/9000C, 9500A | New ring expander and ring set | 12/10/75 |
| 96 | 6NH-1R/9000H | Change to new top adjust points | 12/10/75 |
| 97 | Any CCK or NH Winnebago motor home generator set | Winnebago remote start/stop switches for motor home units | 12/5/75 |
| 98 | All YCB series generators (single and 2 bearing) | No AC output (voltage will not build up) | 12/18/75 |
| 99 | 2.5LK-1R/1330L, 2.5LK-3R/1330L | Charge disconnect relay 307-0454 | 12/18/75 |
| 100 | All Onan alternators w/solid-state exciters | Easy to build field flashing tool | 12/18/75 |
| 101 | BF ind eng; BF RV sets spec 9000 & 9500 only | Oil consumption | 1/23/76 |
| 102 | LK, AJ, AK, CCK, JB, JC, DJB, DJC (air-cooled only) | Housings | 1/23/76 |
| 103 | AJ, AK, CCK, MCCK, NH and J series | Carburetor main jet adjustment (packing nut) | 2/6/76 |
| 104 | 2 & 4 cyl J series | Generator wiring and connection diagrams for YD series generators | 2/6/76 |
| 105 | 800 amp & larger Westinghouse transfer switches | Lubrication procedures | 2/10/76 |
| 106 | General (ref Onan Tool Catalog 900-0019) | Maintenance and service tool set 420-0285 | 2/13/76 |
| 107 | All 2 bearing (separate) YCB generators | Spec advance and product improvements | 2/13/76 |
| 108 | AT series w/control accessory panel (groups 11-15) | Change in auto trans switch bypass module 300-0927 used for time delay start/stop | 2/17/76 |

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| 109 | CCK-MS/2260G, NHC-MS/2302A, NHC-MS/2572A | Onan short block assemblies (catalog 932-0109) | 2/18/76 |
| 110 | AT (60, 100 & 200 amps); LT (60, 100 & 200 amps) all 300 amp mech switch | Foil nameplates used on Onan transfer switches | 2/25/76 |
| 111 | MDJC Oper Manual & Parts catalog (968-0341) dated 9A-AA74 | Part number corrections | 3/10/76 |
| 112 | CCK-MS, CCKA-MS, CCKB-MS, NHA, NHB, NHC, NHP..... | 191-1052 starter | 3/12/76 |
| 113 | 4BF-3CR/16000 & 4BF-3CR/16002 motor home models | Spec advance and product improvements | 3/18/76 |
| 114 | 2.5LK-3CR/12000 motor home models | Spec advance and product improvements | 3/18/76 |
| 115 | 4BF - RV series | Part number corrections (parts catalog 965-0220) date code 10A75 | 3/26/76 |
| 116 | All BF/BFV & BG/BGV ind eng w/integral carb mounting fuel pump | Carburetor fuel pump changes | 4/9/76 |
| 117 | DFE, DFP and DFM (Class B) | Change in standard governor and spec advance | 4/14/76 |
| 118 | All service bulletin manuals | Service bulletins | 4/16/76 |
| 119 | CCK and CCKA industrial engines | New dry type air cleaner | 5/7/76 |
| 120 | CCK, CCKA, & CCKB industrial engines | Flywheel changes | 5/7/76 |
| 121 | CCK, CCKA, & CCKB industrial engines | New alternator adjustment bracket, vee belt and guard | 5/7/76 |
| 122 | All automatic transfer switches "AT" series | Multiple series "AT" automatic transfer switches | 5/7/76 |
| 123 | UR & YB Gens using 305-0524 rectifier bridge & 332-1268 or 332-1704 VR | Checking for symmetrical firing of rectifier bridge 305-0524 | 5/7/76 |
| 124 | DYD (Class B) 100 and 125 kW | Part number corrections (Oper Manual & Parts Catalog 973-0305) date code 12AE75 | 5/7/76 |
| 125 | NHP-NHPV industrial gas engines | Part number corrections (Serv Manual & Parts Cat 940-0250) date code 4-76/C | 5/7/76 |
| 126 | NHC-NHCV industrial engines | Part number corrections (Serv Manual & Parts Cat 940-0251) date code 11AC75 | 5/7/76 |
| 127 | PC Spec E, PD Spec C, PE Spec C, PF Spec C, PG Spec C..... | Spec advance and product improvements on YCB series (1-6 kW) (60 Hz) | 5/21/76 |
| 128 | PC Spec E, PD Spec C, PE Spec C, PF Spec C, PG Spec C..... | Spec advance and product improvements on YCB series (1-6 kW) (50 Hz) | 5/21/76 |
| 129 | 2.7AJ-1R/12020K RV generator set | New spark plug and high tension lead | 5/21/76 |
| 130 | DYC (Class B) (During spec F) | Muffler revision | 5/28/76 |
| 131 | JB-JC Ind engines Spec A-O, JB-JC gensets Spec A-N | 115-0132 tappet | 5/28/76 |
| 132 | 4.0BF-1R/9000 only | 300-1073 printed circuit control board (interference problem) | 5/28/76 |
| 133 | NHC-NHCV industrial engines | Part number correction (Serv manual & parts catalog 940-0251) date code 11AC75 | 5/28/76 |
| 134 | All ATUE series for 3 wire starting standby elec gensets | 300-0926 2 to 3 wire converter module | 6/4/76 |
| 135 | All Class A engines or generator sets | S/N identification for prototype/experimental or pilot model Class A units | 6/25/76 |
| 136 | WB (Class B) sets | Muffler revision | 6/25/76 |
| 137 | P/N 191-0871 | Parts Price List L835N (eff 3/23/76) L835P (eff 7/1/76) | 6/25/76 |
| 138 | Section C Code F17 | L835P parts price list section C | 6/30/76 |
| 139 | Onan Class B diesel generator sets | Exhaust emissions | 7/1/76 |
| 140 | UR, YD, YB gensets and AT transfer switches | Testing standard unijunction transistors | 7/28/76 |
| 141 | J series spec AA gen; YD PTO gen; 1 & 2 bearing YD gen | New regulator board | 7/28/76 |
| 142 | DDB 50 kW (Class B) | New starter motor | 7/28/76 |
| 143 | NHC-MS industrial engines | Ignition misfire | 7/28/76 |
| 144 | CCKB-MF/2863J; EZ-Go car GT-7 application | Exhaust smoke and high oil consumption | 7/28/76 |

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| 145 | BF, NHA, NHAHV< NHB, NHBV, NHC, NHCV, BG, CCKA, CCKB | Flywheel alternator magnetic ring (Onan p/n 191-0884) | 7/28/76 |
| 146 | DJB and DJC air cooled models only | Head bolt torque change | 7/28/76 |
| 147 | NHC-NHCV industrial engines | Part number correction (Serv manual & parts catalog 940-0251) date code 11AC75 | 7/28/76 |
| 148 | BF, NH, and CCK gensets (standard Spec 1 and motor home units) | New ignition coil (Onan p/n 166-0643) | 7/28/76 |
| 149 | UR & YB brushless gen using 332-1268/1704/1956 VR; YD gen..... | SCR switching loads | 7/30/76 |
| 150 | CCK, BF, and NH RV models (excluding power drawer models) | 149-1304 electric fuel pump | 7/30/76 |
| 151 | All | Serial Numbers | 8/9/76 |
| 152 | MCKK generator sets | Part number correction (parts catalog 927-0221) date code 3-76 spec A-F | 8/16/76 |
| 153 | NHA, NHAHV, NHB, NHBV, NHC, NHCV, NHP, NHPV ind eng | Part number correction for ignition tune-up kits | 8/16/76 |
| 154 | CCK - RV applications | Spec advance and product improvements | 9/10/76 |
| 155 | DDA 30 kW & DDB 50 kW (Class B sets) | Part number correction | 9/10/76 |
| 156 | Any AT control accessory group | New starter transient filter assembly (300-1442) | 9/16/76 |
| 157 | DJB & DJC air-cooled models only | 800-0503 broken cylinder head bolts (short length only) | 9/16/76 |
| 158 | NHA, NHB, NHC, NHAHV, NHBV, NHCV ind eng | Cylinder bolt torque clarification | 9/16/76 |
| 159 | MDJC, MDJF, RJC, RDJC, RDJF | Crankshaft breakage or worn torsional damper | 9/30/76 |
| 160 | Distributor and dealer service parts stock | 191-0761 solenoid switch assembly for 191-0734 and 191-0790 starters | 9/30/76 |
| 161 | All spark ignited Onan-built engines, welders and gensets (except J.....) | Radio frequency interference (spark plugs and spark plug cables) | 10/6/76 |
| 162 | NH "RV" application | Spec advance and product improvements | 10/12/76 |
| 163 | Distributor and dealer service parts stock | 160-1154 point set | 10/12/76 |
| 164 | Class B sets - FT, DDA, DDB, DEF, DEG, DEH, DFY, DFT..... | Muffler revision | 10/22/76 |
| 165 | MAJ, MUK, MTK, MKH | Thermostat 309-0057 | 10/22/76 |
| 166 | CW generator sets | Connecting rod | 10/22/76 |
| 167 | Part number 149-0533 | L835P and CL835P supplement #1 (effective 10-15-76) | 10/22/76 |
| 168 | All BF engines | New carburetor and spec advance | 10/29/76 |
| 169 | CCK, CCKA, CCKB, RCCK, and NH ind engines | New gearbox ratio | 11/17/76 |
| 170 | YD "PTO" tractor drive alternator 15 & 25 kW | Load cable plugs, 323-0996 single phase, 323-0997 three phase | 12/17/76 |
| 171a | All RV models in spec 16000 and above | Cautions concerning use of RV gensets in applications other than motor homes | 3/15/77 |
| 172 | All J series units (2 & 4 cyl) air and water-cooled | Leaking cap nuts on "PSU" injection pump | 1/14/77 |
| 173 | BF, CCK, and NH ind eng | Hydraulic pump adapters | 1/28/77 |
| 174 | Class B gensets with YB gens (200-350 kW) | Exciter rotor heat sinks (p/n 363-0049 & 363-0050) | 2/10/77 |
| 175 | All LK generator sets only | Connecting rod change | 2/25/77 |
| 176 | All NH generator sets (non-RV models only) | Part number corrections (Parts catalog 940-0220) | 3/11/77 |
| 177 | KB, KR, EK, and EM | Adjustment of anti-dieseling solenoid on Class B sets | 3/18/77 |
| 178 | All RDJE/RDJEA liquid-cooled industrial engines | Part number correction (Serv Manual & Parts Catalog 974-0250) dated 7/76 | 3/18/77 |
| 179 | NH, NHA, NHB, NHC ind engines | Gas conversion kits | 3/31/77 |
| 180 | All MCKK generator sets | Field fix campaign on exhaust manifold bolts | 3/31/77 |
| 181 | Various models | 149-1395 repair kit for 149-1304 elec fuel pump | 5/4/77 |

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| 182 | Not applicable | Foam packing of returned parts | 5/4/77 |
| 183 | 2.7AJ/12020 RV generator set | Part number correction (2.7AJ RV Parts catalog 924-0220) | 5/4/77 |
| 184 | DEH elec generating set | Spec letter correction (DEH Oper Manual & Parts Cat 976-0306) dated 5/77 | 5/4/77 |
| 185 | All water-cooled units | Mixture and use of antifreeze | 5/4/77 |
| 186 | Any set (primarily RV) using a spark arrester/muffler | Operation and maintenance of exhaust spark arrester/muffler | 5/6/77 |
| 187 | Class B sets, 30EK/J, 45EM/J, 55 & 70EN/B, 70 & 85KR/T, 115WA/K | Product improvements and spec advance | 5/6/77 |
| 188 | All Class B sets | Product improvements and spec advance | 5/24/77 |
| 189 | CCK, CCKA, CCKB ind eng | New operator's foldout separate parts catalog & eng serv manual | 6/4/77 |
| 190 | All Class A gensets | Gas conversion kit usage | 6/3/77 |
| 191 | All 4 cyl J series ind eng & gensets, air & water-cooled | Oil pump intake cup assembly | 6/8/77 |
| 192 | CCKA, CCKB, NH, NHA, NHB, NHC ind eng & power drawer gensets | Starter replacement | 6/22/77 |
| 193 | 6.5NH-3CR/16000J, 16004J RV gensets | Carburetor adjustment | 6/27/77 |
| 194 | All Cummins powered Class B sets | Change in fuel lift capacity | 7/1/77 |
| 195 | All MCCK gensets | Field fix campaign on exhaust manifold bolts | 7/22/77 |
| 196 | All private brand labeled Master/Koehring division Briggs & Stratton..... | Idlematic control troubleshooting (internal type control) | 7/22/77 |
| 197 | MDJC & MDJE | Part number corrections, parts catalogs 968-0220 & 968-0222 | 7/27/77 |
| 198 | All HA's (automatic demand controls) | HA demand control spec advance | 7/29/77 |
| 199 | MAJ only | Fuel filter change for compliance with US Coast Guard regulation 183 | 7/29/77 |
| 200 | 6.5NH-3CR/16000J, 16002J, 16004J, 17198D and 7789J RV sets | Armature and fan replacement | 8/5/77 |
| 201a | All Class B sets | Remote annunciator panel (MPB Section 8, page 642) | 9/28/77 |
| 202 | LK, CCK, MCCK gensets (1500 & 1800 RPM only) | Nylon crankshaft thrust washer | 9/9/77 |
| 203 | All class B sets and water-cooled J series models only | Product changes | 9/9/77 |
| 204a | DFV, DFW, DFY | New Cummins diesel engines | 12/14/77 |
| 205 | 3TR portable genset | Special engine to generator shaft adapter (202-0698) | 9/14/77 |
| 206 | 4PK, 4.5PG, 5.5PH portable gensets | Special engine to generator shaft adapter (202-0699) | 9/14/77 |
| 207a | P or T series portable gensets and single or 2 bearing sep gen (YCB) | No voltage build-up | 10/19/77 |
| 208 | All CCK welders, 6DJB welders and constant potential welders | OSHA grounding regulations | 9/28/77 |
| 209 | All BF, CCK, and NH elec gen sets for RV | New electric fuel pump 149-1541 | 10/5/77 |
| 210 | DFN & DFS Class B sets | Change in capacity for oil and water (or antifreeze) | 10/5/77 |
| 211 | All P series and T series portable Class A gensets | Spec advance and product improvements | 10/5/77 |
| 212 | All marine sets | US Coast Guard approved marine fuel lines | 10/12/77 |
| 213 | All AT's, LT's, and OT's with exerciser clocks | Exerciser timer adjustments | 10/12/77 |
| 214 | 2.7AJ RV sets | Low oil pressure cut-off switch operation on initial start | 10/26/77 |
| 215 | All NH family industrial engines and gensets | Exhaust port insert | 10/26/77 |
| 216 | 6.5NH-3CR RV sets | Spark plug replacement | 11/1/77 |
| 217 | General shop use | Portable service cart | 12/7/77 |
| 218 | DYG and DYH (w/Woodward governors) | Governor hunting condition on sets w/Allis-Chalmers engines | 1/18/78 |
| 219b | CCK and NH RV sets only | RV control 611-1086 using 300-0859 PCB | 1/10/79 |

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| 220 | Class A ind engines | Part number corrections | 1/18/78 |
| 221 | All 1978 RV sets | 900-0314 RV control troubleshooting supplement (oper manual) | 1/18/78 |
| 222 | All Onan J series diesels only (air and water cooled) | Diesel fuel recommendations (all operator's manuals) | 1/24/78 |
| 223 | MAJ, MJC, MCCK (Control-o-matic only) | Compliance w/US Coast Guard regulation #183 (Phase 2 effective 2/1/78) | 2/1/78 |
| 224 | All gasoline fueled gensets used in vehicular applications | Gasoline tank and fuel connections | 2/8/78 |
| 225 | All gasoline fueled industrial engines | Pressurized/vented fuel systems | 2/10/78 |
| 226 | All Onan units with spin-on oil filters | Low temperature oil recommendations | 2/15/78 |
| 227 | All types | Printed circuit board list | 2/17/78 |
| 228 | All B series engines and BF, BFA and BGA gensets | Excessive oil carry-over | 2/22/78 |
| 229 | 2.7AJ RV sets | Piston scuffing | 3/29/78 |
| 230 | All units 30 kW and larger | New tank heaters | 3/22/78 |
| 231 | All units 30 – 180 kW | False shutdowns | 3/22/78 |
| 232 | DYJ, DYA, DYC, DYD, DYG, and DYH | New Allis-Chalmers model designations | 3/22/78 |
| 233 | MDJE and MDJF | New improved heat exchangers, MDJE P/N 130-1188; MDJF P/N 130-1189 | 3/22/78 |
| 234 | All J Series industrial engines & gensets | New material for rear main bearing plate gasket | 3/24/78 |
| 235 | All DJE generator sets | Part number corrections (parts catalog 967-0225) | 3/29/78 |
| 236 | All 4 cylinder J series diesel generator sets only | Injection timing advance to correct rough running immediately after start-up | 4/5/78 |
| 237 | 6.5NH-3CR/16004/K RV sets only | Corrections to installation dimensions | 5/17/78 |
| 238 | DJA and MDJA 3CR and 53CR (reconnectable) only | New brush rig | 5/17/78 |
| 239 | 45, 65, and 80 kW UR PTO's | Spec advance and product improvement | 5/17/78 |
| 240 | JB, JC, DJA, DJB, DJC, and MDJA | Fuse protection in control box | 5/17/78 |
| 241b | N52M-GA019.9 | Cylinder head torque | 6/1/78 |
| 242 | 420-0333 nozzle tester (portable) | Onan tool catalog 900-0019 | 5/17/78 |
| 243 | CCK, MCCK, RCCK, and NH engines and gensets | Rear bearing plate shim | 5/17/78 |
| 244 | All gasoline spark ignition engines (twin cylinder) | Ignition failure or rough running | 5/17/78 |
| 245a | ATUC, ATUD, ATUE, OTUC, OTUD and OTUE | Spec advance and product improvements | 8/30/78 |
| 246 | All RJC, RDJC, and RDJF generator sets | Product improvements and spec advance | 6/21/78 |
| 247 | General usage | 308-0097 switch | 6/28/78 |
| 248 | CCK RV Spec A-Q; LK RV Spec A-G | Updating RV exhaust systems | 6/28/78 |
| 249 | 3AJ-1R/16017R and 16018R | Generator grounding (potential shock hazard) | 7/18/78 |
| 250 | All RV sets | Start solenoid failure due to sticking remote start switches on RV sets | 8/30/78 |
| 251 | All B43M, B48M, BF, BG and N52M engines | Gasoline in engine crankcase | 8/30/78 |
| 252 | All Onan engines with rotating blower screens | Engine blower screens | 8/30/78 |
| 253 | JB, DJB, DJE and MDJE generator sets | New voltage regulator board (300-1540) | 9/7/78 |
| 254 | MDJB, MDJE, MDJC, MDJF, RDJF, RDJC, RDJE and RDJEA | New style head gasket | 9/7/78 |
| 255 | All Operator's Manuals | Change in Onan mailing policy for all operator's manuals | 9/11/78 |
| 256 | Mobile units | Flexible fuel lines | 10/6/78 |
| 257 | N52M-GA019.9 industrial engines | Spec advance and product improvements | 10/18/78 |

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| 258 | All NB engines and welders | 191-0767, 191-0780, 191-1176 (replacement for 191-0780) starters | 10/18/78 |
| 259 | All Onan marine generator sets | US Coast Guard regulation 183.410 requirements | 11/3/78 |
| 260 | DJE (Spec AE), MDJE (Spec AD) | New camshaft and change in fuel injection timing | 11/8/78 |
| 261 | ATUC, ATUD, ATUE, OTUC, OTUD and OTUE | AT and OT PCB contact differences | 12/1/78 |
| 262 | CCKA, CCKB< N52M, JB-JC | Part number corrections | 1/17/79 |
| 263 | DFE, MDJE, AJ, JB | Part number corrections | 1/17/79 |
| 264 | B48M-GA018/3450A | Starter motor installation, E-Z-Go applications | 1/17/79 |
| 265 | MCCK/H only | New heat exchanger kit (130-1429) | 2/7/79 |
| 266 | BFA and BGA RV generator sets only | Change in spark plug | 2/7/79 |
| 267 | BFA (Spec A), BGA (Spec A) and NH (Spec K) | New carburetor air preheater kit | 2/7/79 |
| 268 | 4 & 6.5MCCK remote start (Spec E and F models only) | Marine control 300-1002 using 300-0859 PCB | 2/7/79 |
| 269 | All 6.5NH Spec L models | Spec advance and product improvements | 2/14/79 |
| 270 | UR series gensets (25-180 kW) | UR voltage regulator board reference voltages | 2/21/79 |
| 271 | BFA (Spec B), BGA (Spec B) and NH (Spec M) RV generator sets | Spec advance and product improvements | 3/7/79 |
| 272 | All twin cylinder Onan gasoline engines | Servicing oil pumps | 3/14/79 |
| 273 | 4CCK RV sets only | C141A instruction sheet change | 3/14/79 |
| 274 | CCKA-MS/3670J and CCKA-S/3671J | New CCKA engine for Miller Electric Co | 3/21/79 |
| 275 | BGA, BFA, NH, BF, MCCK, MDJC | Part number corrections | 5/4/79 |
| 276 | 4BFA/16004B, 16020B; 5BGA/16004B, 16020B; 6.5NH/16004, 16020M | Oil base repairs in warranty (changes in oil base and gaskets) | 5/18/79 |
| 277 | Any standby Class B generator set with the Kim tank heater option | Class B Kim tank heaters | 6/1/79 |
| 278 | All J Series diesel sets | New diesel starting guide | 6/15/79 |
| 279 | 4 & 6.5MCCK/H | MCCK choke modification | 6/20/79 |
| 280 | All | Onan short block assemblies, Catalog 932-0109 | 6/20/79 |
| 281 | All portable YCB sets and contractors models | Receptacle replacement | 6/20/79 |
| 282 | All OT and AT transfer switches equipped with 2 amp battery chargers | Battery charger fuse failure (321-0180) | 6/30/79 |
| 283 | All NB engines and welders | 191-0767, 191-0780, 191-1176 (replacement for 191-0780) starters | 7/11/79 |
| 284 | Any Onan twin cylinder RV set | Electric fuel pump replacement | 7/18/79 |
| 285 | 4BFA-1R/16004C & 5BGA-3CR/16004C | Dimensional errors in Oper Manual and Inst Guides for twin cyl RV sets | 7/18/79 |
| 286 | Any Onan RV generator set installation | RV exhaust system inspection | 7/18/79 |
| 287 | All BF, BG, B43M, B48M, and N52M industrial & gard tract engines | Flywheel blower screens | 8/15/79 |
| 288a | CCKA industrial engines | Angle of operation; Gravely garden tractor applications | 10/1/79 |
| 289 | B & N series eng & gensets w/Walbro LUA carb | 146-0228 carburetor repair kit; 146-0214 main adjustment needle kit | 8/15/79 |
| 290 | All NHC and NHCV engines only | Changes in ignition timing and spark advance settings | 8/15/79 |
| 291 | All Onan Class A engines and generator sets | Fogging of engines and generator sets | 8/15/79 |
| 292 | J series cranking motors 191-0324 (12V) 191-0443 (24V) | Cranking motor spare parts | 8/29/79 |
| 293 | CCKB, DJB, DJC | Part number corrections | 8/29/79 |
| 294 | SK series generator sets | Engine parts clarification (parts catalog 946-0220) | 10/1/79 |
| 295 | JB, P, T, DFE, LK, NH | Part number corrections | 10/1/79 |

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| 296 | 6.5NH-3CR/16004 | Start solenoid (parts catalog 940-0222 dated 2-78) | 10/10/79 |
| 297 | All CCK generator sets | Exhaust smoke and high oil consumption in light load applications | 10/15/79 |
| 298a | 4 & 5CCK Spec 1 remote/portable; 4 & 5CCK Spec 2236 | Spec advance and product improvements | 12/19/79 |
| 299a | MDJE marine models | 405-1482 marine sound shield kit | 7/27/81 |
| 300 | N52M, CCKB-MS/2232 | Part number corrections | 10/24/79 |
| 301a | All B series industrial engines (inc gensets) all specs | Torque change | 1/16/80 |
| 302 | AT (prior to spec C), OT (prior to spec B) | Using Onan AT or OT transfer switches with non-Onan gensets | 1/9/80 |
| 303 | RDJA (Thermo King) and MDJA | Injection pump mounting bolt | 1/9/80 |
| 304 | BFA & BGA spec A only; NH spec K only | New start disconnect kit 300-1959 for RV sets | 1/16/80 |
| 305 | All class B sets 30 kW and up | Voltage adjust rheostat on control panel | 2/1/80 |
| 306 | CCKA-MS/3671J and 3718J industrial engines | Spark plug carbon fouling | 2/1/80 |
| 307a | 4 & 5CCK spec 1 remote units (Beginning Spec V or later) | Conversion kit 403-1661 used with carrying frame kit 403-1328 | 2/27/80 |
| 308a | All 4 cylinder J series eng and gensets and DJB sets w/vacu-flo | Potential wear of flywheel hub and related parts on torsionally damped flywheels | 11/30/83 |
| 309 | DJB, DJBA, DJC and DJE engines and gensets | Replacement cylinder head kits | 3/5/80 |
| 310 | 4BFA, 5BGA, 6.5NH gensets & B48G, N52, NHC and CCKA ind eng | LUA carburetor float travel | 3/10/80 |
| 311 | All Onan built engines | Use of gasohol and gasoline de-icer in Onan built engines | 3/21/80 |
| 312 | NHCV ind engines | Engine service kit | 4/2/80 |
| 313 | All Onan P series models w/Briggs & Stratton Eng | Fuel recommendation | 4/4/80 |
| 314 | Onan part 147-0215 & 147-0229 | American Bosch PSU injection pumps | 4/4/80 |
| 315 | JB generator sets (begin spec AA) | Ignition resistor bypass kit 357-0055 | 4/8/80 |
| 316 | All JC, RJC, DJC, RDJC, RDJF, MDJC, and MDJF engines | 101-0361 center main bearing spare parts stock check | 4/8/80 |
| 317 | All twin cylinder Onan gasoline engines | Servicing oil pumps | 4/30/80 |
| 318 | 5PK-3E/20000H, 6.5PM-3E/20000H, 5PK-3E/21590H, 6.5PM-3E/21590H | Potential oil leak at oil reservoir tank | 5/7/80 |
| 319 | 6.5PM-3P or 3E/H w/Briggs Stratton 16 HP eng | Checking torque value on rotor thru-stud | 6/11/80 |
| 320 | MDJB, MDJC, RDJC | New cylinder head gasket (110-2944) | 7/15/80 |
| 321 | P series gensets | 150-1763 idlematic kit. 300-1801 printed circuit control | 8/1/80 |
| 322 | MCCK begin spec H | Restoring residual magnetism | 8/6/80 |
| 323a | DJC, MDJC, RDJF, MDJF diesel; JC, RJC gas/gasoline | J series crankshaft replacement | 9/15/80 |
| 324 | All CCK and NH RV sets in spec 10115 or earlier | New replacement kit for RV controls using the 309-0859 PCB | 8/10/80 |
| 325 | All OT transfer switches | Transfer switch control relay | 9/15/80 |
| 326a | CCKA Miller welder engine specs 3670J, 3671, and 3718J only | Gasoline in the oil and spark plug fouling | 10/15/80 |
| 327a | Various CCK and NH RV models and older MCCK models | Replacement kits for 300-0859 printed circuit board | 11/6/80 |
| 328 | BF spec 9000 or 9500 power drawer models only | 123-1164 oil level indicator | 10/15/80 |
| 329 | MCCK spec H marine generator sets | 305-0517 bridge rectifier | 11/6/80 |
| 330 | CCK or NH RV sets with sisson choke | 300-2027 replacement control kit | 11/26/80 |
| 331 | All B and N series engines | Parts stock check of 101-0432 front main bearing | 11/26/80 |
| 332 | All Class B sets with Cummins engines | Oil viscosity recommendations for Cummins engines | 11/26/80 |
| 333 | CCKA industrial engines | Carburetor high temperature kit 142-0607 for CCKA industrial engines in Gravelly | 12/10/80 |

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| 334 | All OT models | OT transfer switch voltage conversion | 12/15/80 |
| 335 | General service information | Identifying Onan generator series and excitation voltages for Class A generators | 12/23/80 |
| 336 | NHC-MS/3626C | Steamway carpet cleaner manufactured by Assoc Engr, Denver, CO | 12/30/80 |
| 337a | CCKB-MF/2746J and/or 3397J ind eng only | Low temperature operation of Fairmont railway car application | 2/2/81 |
| 338 | All J series 1, 2, and 4 cylinder ind engines & gensets | Service procedure for rear bearing plate and crankshaft inspection | 3/18/81 |
| 339 | 4BFA & 6.5NH Aux models only | 191-1351 voltage regulator | 3/24/81 |
| 340 | DJC generator set | Incorrect spec letter coverage (parts catalog 967-0222) | 4/22/81 |
| 341 | 6.5NH/P generator sets | Intermittent shutdown | 7/1/81 |
| 342 | All gasoline industrial engines and generator sets | Improved crankshaft oil seals (509-0040 & 509-0041) | 7/22/81 |
| 343 | All DJ series Onan diesel sets with YD generator | Circuit breaker (320-0505) | 8/3/81 |
| 344 | Parts stock | 101-0450-10 main bearing kit | 8/5/81 |
| 345 | CCK and NH RV models and MCKK marine models | Replacement control kits for 300-0859 PCB | 9/21/81 |
| 346 | RCCK industrial engines | New cylinder head gasket (110-2750) | 9/21/81 |
| 347 | RDJC & MDJC spare parts | Gasket sets 168-0080, 168-0092, and 168-0100 | 10/9/81 |
| 348 | CCK spec 16000U, 16001U, and 160030U RV models | Crankshaft and rotor substitution | 10/9/81 |
| 349 | P series portable generator sets in spec C through H | New idlematic kits 150-1904; 150-1905 replacement printed circuit board and linkage | 10/16/81 |
| 350 | J series marine sets only | New fuel solenoid kits | 1/27/82 |
| 351 | MCKK w/heat exchanger cooling; J series w/heat exchanger or keel..... | 132-0110 water pump changes | 1/27/82 |
| 352 | 30SK generator sets | Hot restart problems due to choke operation | 3/19/82 |
| 353 | AJ, LK, CCK generator sets | Replacement of 149-1694 mechanical fuel safety valve | 3/19/82 |
| 354 | All Onan built J series water cooled (MDJB, MDJC, RDJC) | Correct cylinder head gasket usage | 3/19/82 |
| 355 | MDJC and MDJF models only | 132-0147 raw water pumps | 3/19/82 |
| 356 | EK, EM, EN, KB, SK gasoline models only | Improper electric choke operation | 3/26/82 |
| 357 | 6NH-1R/9000 power drawer | Motor home muffler installation | 4/2/82 |
| 358 | All L series diesel engines | Cooling system air lock | 5/7/82 |
| 359 | T260G industrial engines | Part number correction (parts catalog 965-0260) (microfiche 145) | 6/18/82 |
| 360 | All L series diesel engines | Replacement thermostat kit 309-0458 (192 degrees F) | 6/18/82 |
| 361 | L423 diesel engines | Dual filter base fittings | 6/24/82 |
| 362 | All B series engines | Installation of valve guide kit 110-3068 and valve stem seal kit 110-3236 | 7/1/82 |
| 363 | 5BGA-3CR & 6.5NH-3CR UN generator sets | Potential wiring error | 7/20/82 |
| 364 | B43M, B48M, BG ind eng using Marvel Schebler DD style carburetor | Float swelling problems due to ethanol/methanol blended gasoline | 7/22/82 |
| 365 | All B43G and B48G industrial engines | Change in ignition timing and point gap setting | 7/17/82 |
| 366 | Any N & B block engine series and all CCK block with high lift camshaft | Incorrect camshaft bearing usage | 7/26/82 |
| 367a | All J series 2 and 4 cyl diesel models now using Bosch PSU pump | Change in injection pump model usage | 10/25/82 |
| 368 | MCKK spec H only | Battery discharge when using HA auto demand control | 8/25/82 |
| 369 | T260G industrial engines | Part number correction (parts catalog 965-0260) (microfiche 145) | 8/30/82 |
| 370 | All 50 Hz EK and EM models only | Governor spring change (151-0579) | 8/30/82 |

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| 371 | CCK welder only | Part number correction (parts catalog 927-0255) (microfiche 17) | 9/3/82 |
| 372 | EN generator set | Part number correction (parts catalog 928-0221) (microfiche 566) | 9/14/82 |
| 373 | Not applicable | Parts catalog reference to 900-0234 | 9/14/82 |
| 374 | AT, OT, YB, YD, and UV | Servicing aids for solid state controls | 10/8/82 |
| 375 | DYG, DYH, DFP, DFM, and 350DFN | Part number corrections (Class B sets) | 10/25/82 |
| 376 | All L423D and L634D open and closed power units | Mandatory radiator hose and fan belt guard change | 12/3/82 |
| 377 | B series engines using Marvel Schebler DD style carburetor | Carburetor float and part number change | 12/6/82 |
| 378 | P or T series (YCB) portable sets and separate 2 bearing alternators | Engine to generator adapter usage and fit | 12/15/82 |
| 379 | BFA and NH RV or Aux models and CCK home standby sets only | New breather icing kits | 12/15/82 |
| 380 | All Onan marine sets with new exhaust elbow assembly | New marine exhaust temperature switch protective shield and kit | 12/15/82 |
| 381 | All sets with horizontal (Kim) type tank heaters | Change in oil pressure switch mounting bracket (333-0142) | 12/15/82 |
| 382 | OTSAL and OTSAK spec 16941B or C transfer switches only | Correction of auxiliary contact problem | 12/30/82 |
| 383 | L series generator sets | Potential wiring error | 12/30/82 |
| 384 | J series engines | Unusual crankshaft gear failure | 1/14/83 |
| 385 | DL4 and DL6 generator sets only | Alternator drive belt too long | 1/14/83 |
| 386 | B43M and B48M industrial engines only | Air cleaner covers/moisture in engine | 1/14/83 |
| 387 | Not applicable | Vinyl and rubber hose standardization (one inch ID and smaller) | 1/14/83 |
| 388 | JB industrial engines and generator sets | Ignition timing adjustment and diaphragm replacement | 2/11/83 |
| 389 | B48M-GA018/4107A only (Miller Elec Mfg Co) | Incorrect connecting rod listing in parts catalog (965-0261) | 3/1/83 |
| 390 | B43M, B48M | Valve replacement recommendations | 3/1/83 |
| 391 | All Standby Gensets | Kim "Hot Start" Tank Heaters | 4/1/83 |
| 392 | NH 6.5 spec P(RV) | Spark Plug Fouling | 4/11/88 |
| 393 | BFA-RV | Exhaust Manifold Plug | 6/17/83 |
| 394 | N Series Gensets, T260G Industrial Only | Replacement Valve | 8/26/83 |
| 395 | B43G, B48G, T260G Industrial Only | Fixed Position Starter Bracket | 9/22/83 |
| 396 | L Series | Timing Spec's for Replacement Injector Pumps | 11/1/83 |
| 397 | B Series | Air Baffle Sheetmetal | 11/1/83 |
| 398 | BF, BG, B43M, B48M | Fuel Pump Cracking-Vacuum Pulse Pump 149-1322 | 11/1/83 |
| 399 | B Series w/Nikki Carb | Stumble and Hesitation During Angle Operation | 1/18/84 |
| 400 | L Series | Potential Field Problems with Fuel System Air Leaks | 1/18/84 |
| 401 | B Series | Carburetor Float Assembly 142-0652-on | 1/18/84 |
| 402 | B43E, B43G, B48G Industrial w/Nikki Carbs | Cold Starting Improvement: Choke Plate Modifications | 1/18/84 |
| 404 | L Series | New L Series Rocker Arm Adjustment Nut and Capnut | 2/29/84 |
| 405 | MDKC 4.0, MDKC 8.0 | Incorrect Bracket Orientation on Sound Shield Housing Doors | 4/12/84 |
| 406 | B Series | Complaints of engine surge, stumble, hesitation or hard starting | 8/28/84 |
| 407 | B, C, N & T Series Engines | Interchangeability of oil filters | 4/12/84 |
| 408 | ES, DTA, and L Gensets w/Transfer Switch | Circuit breaker size vs. Battery charge rates | 4/12/84 |
| 409 | NH | Starter replacement R Brushes | 4/12/84 |

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| 410 | MDEG, MDEH | Oil filter part number correction | 4/12/84 |
| 411 | B43M, B48M, BG | Gearcase cover part # correction & clarification | 4/12/84 |
| 412 | B48M-GA018/4107A | Engine surge | 4/12/84 |
| 413 | MDL4 20.0 | Excessive high-low charging rates | 4/12/84 |
| 414 | B Series w/Marvel Schebler DD Carbs | Brass float & buoyancy spring #146-0380 | 1/1/85 |
| 415 | DL4B 33.0, DL6B 50.0 | Housing Door Interference. | 1/1/85 |
| 416 | LT26K Transfer Switch | Relay Hold Down Tie Wraps on #300-2759 Mother Boards | 1/1/85 |
| 417 | K Series | 10 AMP DC Circuit Breaker (Battery Charge Acc'y) Tripping | 1/1/85 |
| 418 | OTII | Caution Tag for OT II Controls | 1/1/85 |
| 419 | OTII | C-MOS Latch-Up on 300-2109 Mother Boards | 1/1/85 |
| 420 | B Series | Excessive oil carry-over. | 1/1/85 |
| 421 | P Series, Spec H | Field Flash Kit 300-2999. | 1/2/85 |
| 422 | BFA, BGA 5.0, NH-RV 6.5 | New oil base gasket. | 1/2/85 |
| 423 | UR | Monitor Boards #300-0681(R), 300-0682(U), 307-2196 Time Delay Relay K-4 | 4/1/85 |
| 424 | LT26K Series Transfer Switches | 307-2196 Time Delay Relay (K-4) | 5/85 |
| 425 | B,N & T Series | Premature condenser failure, #312-0244, 312-0246 | 1/7/85 |
| 426 | L Series | Thermostat diagnosis | 1/7/85 |
| 427 | B,N & T Series | Valve clearance specifications | 1/8/85 |
| 428 | MAJB | Oil in breaker box. | 1/8/85 |
| 429 | OTII, Group 31 & 34 | Shorted C12 capacitors | 8/1/85 |
| 430 | MDJC, MDJF | 132-0147 water pump supplied in kit | 9/27/85 |
| 431 | L Series | Failure to start/stop when switched | 11/7/85 |
| 432 | L Series Turbo | Crankcase breather elements. | 11/7/85 |
| 433 | L Series | Replacing Water Pump Adapter in Cylinder Head | 1/1/86 |
| 434 | L423D-I, L634D-I | High Speed Cylinder Heads Installed on Low-Speed Engines | 12/85 |
| 435 | J Series | Thermostat Test Data and Procedures | 1/1/86 |
| 436 | BGE | Oil Base Leaks Emerald | 1/1/86 |
| 437 | L Series Turbo | Exhaust Manifold Gasket Leakage | 1/1/86 |
| 438 | DKC, DKD, MDKC, MDKD | Stop Lever Shaft Corrosion | 1/1/86 |
| 439 | BGE,NHE | Emerald Underfloor Mount Lockup Kits | 1/9/85 |
| 440 | BGE,NHE | Emerald Control Circuit Board #300-2784 Cautions | 1/3/86 |
| 441 | L634T-A | High Temp Thermostats for | 1/2/86 |
| 442 | L Series | Harding Ring Gear for L | 1/2/86 |
| 443 | L634T-A | Injection Pump Installation and Timing w/New Style Mounting Hardware | 1/2/86 |
| 444 | BGE,NHE | New Mounting Hardware | 1/4/86 |
| 445 | BGE,NHE | New Style Fuel Pump | 1/5/86 |
| 446 | DJE, MDJE | Rack/Plunger Seizure on #147-0355 Injector Pump | 1/5/86 |
| 447 | BGE,NHE | Brush Corrosion | 5/27/86 |

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| 448 | Gasoline Engines | "4C" Carburetor & Combustion Chamber Cleaner | 1/6/86 |
| 449 | All RV & Mobile Gensets | Fuel Supply Problems | 1/8/86 |
| 450 | DKC, DKD, MDKC, MDKD | Overcharging of Batteries | 1/8/86 |
| 451 | NHE | Air Conditioner Motor Starting | 1/8/86 |
| 452 | BGE,NHE | Carburetor Icing | 10/1/86 |
| 453 | OT Spec A-C | Calibration of 300-0750 Voltage Sensors | 10/10/86 |
| 454 | NHC-MS/3977D in Ditch-witch | V 252 cable plow | 7/86 |
| 455 | L634T | Engine speed settings | 7/86 |
| 456 | Gas Ind. Engines w/overhead Fuel Tanks | Fuel dilution of engine oil | 10/86 |
| 457 | KQ 5.0 | Improper polarity receptacles | 11/86 |
| 458 | All Engines | Onagard seasonal/long term engine storage fogging spray | 12/10/86 |
| 459 | BGE Commercial | Breather tube bypass kit | 12/10/86 |
| 460 | All RV, Marine, Portable, & Commercial Gens | TV/VCR usage | 1/2/87 |
| 461 | Detector Control Models | Engine Monitor Boards #300-2807 thru 2812 | 1/18/87 |
| 462 | ES 20.0 | Improperly plumbed tank heaters | 1/1/87 |
| 463 | BF Industrial, 4.0 BF | BF cylinder bore resizing | 5/5/87 |
| 464 | UR Gensets | Nuisance faults on 1-light engine controls | 6/18/87 |
| 465 | LTII Spec G | Malfunction of normal/emergency lamps | 6/18/87 |
| 466 | BGE,NHE | Troubleshooting procedure- unit stops after stop switch is released | 6/18/87 |
| 467 | T260G Industrial | T260G replacement oil filter | 7/1/87 |
| 468 | L-Series | Injection pump mounting auto part # change | 5/1/87 |
| 469 | L-Series | Installation of engine block heater kit #541-0020 | 5/1/87 |
| 470 | L-Marine | Fuel Injector Ass'y Retaining Nut Torque Spec Change | 5/1/87 |
| 471 | Gasoline | Oil viscosity recommendations | 11/1/87 |
| 472 | Gasoline Industrial | Replacement piston #112-0186 | 11/1/87 |
| 473 | L-Series Automotive | Engine cooling system fill procedure | 12/1/87 |
| 474 | L Series | Oil cooler torque spec | 12/1/87 |
| 475 | T260 | Coil Brkt. | 3/1/88 |
| 476 | MME 9.0 | Oil capacity correction | 4/1/88 |
| 477 | MME 9.0 | Potential wiring error T21 | 1/4/88 |
| 478 | Gasoline Industrial | Pulse fuel pump contamination | 1/5/88 |
| 479 | B and F Shortblocks | Wet holes | 1/6/88 |
| 480 | MME 9.0 | New adjustment procedure- autochoke | 1/5/88 |
| 481 | MME, MDKC, MDKD | Remote meter panel kits | 1/5/88 |
| 482 | P216, P218 for Melroe & Genie | Oil level change | 1/8/88 |
| 483 | MCCK Spec H | Replacement fuel pump kit #149-2186 | 1/7/88 |
| 484 | P Series | L.P. main jet quality check | 1/9/88 |
| 485 | J Series w/Radiator | Water pump improvement | 1/9/88 |

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| 486 | MME 9.0 | Possible defect and product improvement | 1/10/88 |
| 487 | P218G, P220G | Oil leaks and oil carryover into aircleaner | 1/10/88 |
| 488 | CCK, MCCK, A Series, Engines & Gensets | Premature failure of ignition condensers #312-0069 | 1/10/88 |
| 489 | MCCK 6.5 | Missing high exhaust temp switch shield | 1/11/88 |
| 490 | BGE,NHE,KV | Governor Adjustments | 1/11/88 |
| 491 | BGE, BGD, NHE, NHD | Emerald Under Floor Installation | 1/11/88 |
| 492 | T-260 | N & T Valve Guide | 1/12/88 |
| 493 | P220 & T260G on Woodmiser Sawmills | Improved Voltage Regulator | 1/12/88 |
| 494 | Techstar- DL4B, DL6B, DL6BT, SJB, SKB | Trailer Mounted Gensets | 1/2/89 |
| 495 | OTIII Spec G | Preheat Time Delay | 1/3/89 |
| 496 | All Transfer Switches | Electronic Exercise Clock | 1/3/89 |
| 497 | AJ, MAJ, MAJB | Point Gap | 1/4/89 |
| 498 | SJB 35.0 | Thermostat Change | 1/4/89 |
| 499 | KV 2.8 | Loss of Governed Power | 1/6/89 |
| 500 | P Series | Oil Leaks | 1/5/89 |
| 501 | OTIII 40-1000, Spec G | Rod Ends | 1/6/89 |
| 502 | BGE,NHE | Relocation of Ignition Capacitor | 1/6/89 |
| 503 | Gasoline | Intake Valve & Port Deposit | 1/8/89 |
| 504 | BGA(A-D), BFA(A-C), NH(J-P), NHL(P) | Relocation of Ignition Condenser | 1/8/89 |
| 505 | MME 9.0 | Replacement Fuel Pump Kit 149-2240 | 1/9/89 |
| 506 | Detector Control-12V w/Battery Charge | False Low Oil Pressure Fault on First Start of Day | 1/9/89 |
| 507 | MME 9.0 | Governor Replacement | 1/9/89 |
| 508 | BGD,NHD | Road Draft Tube Kit | 1/9/89 |
| 509 | BGE (F), BGD, NHE (D,E), NHD | Fuel Pumps | 1/9/89 |
| 510 | T260G | Valve Seat Insert | 1/10/89 |
| 511 | CPP-55R/17030R Converter | Test Procedure | 1/2/90 |
| 512 | KV | Muffler Installation | 1/2/90 |
| 513 | KV | Vibration Isolation Mounting Hardware Change | 1/2/90 |
| 514 | All Mobile Gensets w/Automatic Voltage Reg's | Correct AVR Part #'s | 1/2/90 |
| 515 | MME | Circuit Breaker Product Recall | 1/2/90 |
| 516 | MDL3 | Intake Noise Reduction Kit | 1/2/90 |
| 517 | Gasoline Horizontal | Hunting Reduction | 1/5/90 |
| 518 | P Series after #L88 | Hunting Reduction | 1/5/90 |
| 519 | Gasoline w/Nikki Carbs | High-speed Hunting Reduction | 1/5/90 |
| 520 | T260 | Torque Spec. for Connecting Rods | 1/4/90 |
| 521 | Gas Engines: 43 & 48 cid Shortblocks | New Breather System Update | 1/4/90 |
| 522 | E125V | Governor Action | 1/5/90 |
| 523 | BGD,NHD | Service Caution, AVR #305-0830-03 | 1/7/90 |

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|------|---|--|---------|
| 524 | All Onan Engines | Aftermarket oil filters | 1/11/90 |
| 525 | B, P Series Shortblocks | Missing Breather Kit #123-1898 | 7/25/90 |
| 526 | Gas Ind. w/166-0643 & 166-0535 Ignition Coil | Replacement Ignition Coil | 7/25/90 |
| 527 | BGE,BGD,NHE,NHD | Plug Fouling | 1/8/90 |
| 528 | UR Monitors #300-0679 thru 300-0682 | False and/or erratic shutdowns | 11/90 |
| 529 | All RV & Marine Gensets | '800' Phone number label | 12/90 |
| 530b | BGE,BGM,NHE,NHM | LOPKO high temperature intermittent shutdown | 9/8/95 |
| 531 | Daytanks | Nuisance Tripping | 1/91 |
| 532 | MDL3, MDL4, MDL6 – S/N's between A86 – J90 | Nicollet transformers on marine gensets | 1/91 |
| 533 | All RV | Fuel pump test procedure | 9/91 |
| 534 | Detector 12 control – 24 V | First start of day shutdowns | 2/91 |
| 535 | All industrial sets | Nuisance tripping: low coolant level switch | 9/91 |
| 536 | Perf. Spec C Horizontal shaft eng w/tool-less air cleaner | Poor pulse fuel pump performance | 6/91 |
| 537 | All spec C Perf. Eng. previous to S/N D913788533 | Oil contamination of the fuel pump pulse line | 6/91 |
| 538 | MDL3, MDL4, MDL6 | Remote panels and gauge packages | 6/91 |
| 539 | P220G-I/11072C; P220G-I/11124C | Mandatory application rework | 6/91 |
| 540 | Performer engines | Starter engagement troubleshooting | 9/91 |
| 541 | DGEA, DGFA, DGFB, CT60, CTA61, CTA62 | Coolant fill | 7/17/92 |
| 542 | Elite E125V Spec B | Engine Overspeed | 11/91 |
| 543 | EN Series | Break-in | 12/91 |
| 544 | BGD, BGE, BGM, NHD, NHE, NHM | Service specifications: oil pressure | 3/92 |
| 545a | BGD, BGE, BGM, NHD, NHE, NHM | Spark plug change 167-0272 | 5/92 |
| 546 | DGxx, DFxx sets built in 1991 | Field circuit breaker miswiring | 2/12/92 |
| 547a | BGD, NHD | Product enhancement – aerial lift truck applications | 3/92 |
| 548 | BGE | Change in underfloor housing kits | 1/92 |
| 549 | NEVER ISSUED | | N/A |
| 550 | Performer engines | Oil leaks | 2/92 |
| 551 | NEVER ISSUED | | N/A |
| 552 | DFxx, NTxx, NTaxx, KTAxx, VTAxx | Low and/or fluctuating AC output | 7/17/92 |
| 553 | ES, EK, EM | Electronic governors | 2/26/92 |
| 554 | Emerald, Marquis, All commercial/mobile Emeralds | Negative battery cable connection | 3/92 |
| 555 | Performer engines and Performer powered gensets | Poor starting, misfiring, low power, vibration & running on one cylinder | 3/92 |
| 556 | B, N, & T series industrial engines, B & N series gensets | Magna arc electric ignition | 4/92 |
| 557 | MAJB | Revised choke setting | 4/15/92 |
| 558 | MAJB | Water in engine | 10/92 |
| 559 | 150-260 amp OT transfer switches, spec G | Programmed transition drive through | 6/5/92 |
| 560 | NEVER ISSUED | | N/A |
| 561 | All gas RV & Commercial | Oil level measurement | 6/92 |

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| 562 | BGD, NHD (3 phase only) | New Emerald 3 phase voltage regulator | 3/93 |
| 563 | Emerald & Marquis w/electronic AVR | Set dies when switch released | 6/92 |
| 564 | Emerald & Marquis w/electronic AVR | Rotor/stator check | 6/92 |
| 565 | JB, JC (gas & gas/gaseous) | Hard starting – manual choke conversion | 8/92 |
| 566 | BGD, BGE, BGM, NHD, NHE, NHM | Lack of output in wet conditions | 9/92 |
| 567 | Performer engines | Dual fuel option and kits | 10/92 |
| 568 | P218 | New application | 10/5/92 |
| 569 | Battery chargers 305–0812, 0813, 3152, 3257, 3298 | Test procedure | 10/28/92 |
| 570 | All industrial sets | 193–0244 oil pressure sending unit | 10/28/92 |
| 571 | Industrial gensets using detector control w/F92 S/N | Engine control monitor | 10/28/92 |
| 572 | Performer series | Manufacturing process improvements to prevent oil leaks | 10/2/92 |
| 573 | BGD, BGE, BGM, NHD, NHE, NHM | Control boards: identification and application | 12/92 |
| 574 | BGD, BGE, BGM, NHD, NHE, NHM | New starter gear kit | 12/92 |
| 575 | Industrial gensets using detector control boards w/auto fuses | Engine control monitor fuses | 1/8/93 |
| 576 | All sets using YD, UR, YB & UV Brushless Generators | 541–0460 EMI/RFI withstand kit | 1/4/93 |
| 577 | OTI, OTII, and OTIII Specs A–G, 40–1000 amps | OTI, OTII, OTIII linear actuators | 2/22/93 |
| 578 | DFBD through DFMB industrial gensets | Reconnectable water jacket heaters | 4/18/94 |
| 579 | 20ES beginning Spec E | Overspeed/overshoot on start | 3/29/93 |
| 580 | DKG prior to B933001019 | No AC output | 4/93 |
| 581 | 6MDKUB – 9MDKWB | Product improvement | 3/93 |
| 582 | Performer P220 spec 10808D, 149–2181–01 fuel pump | Fuel pump caps | 5/82 |
| 583 | NEVER ISSUED | | N/A |
| 584 | DFBC/BD/BE/BF/CB/CC/EB/EL/FB/LA/LB/LC/MB..... | Coolant heater hose | 8/17/93 |
| 585 | EN series w/S/N's prior to 3/93 | Oil level | 9/1/93 |
| 586 | DGEA, DGFA, DGFB, QSEA, or QSFA | Kim heaters on "C" block engines | 9/7/93 |
| 587 | MAJB – 50 & 60 Hz | Announcing a new kit to replace the K2 relay and socket | 10/93 |
| 588 | All generator sets with PMG | New overspeed module 305–0902–01 & 305–0902–02 | 12/1/93 |
| 589 | Performer Engines | Piston Rings | 1/20/94 |
| 590 | DKX AUXA | Duplicate Wire Colors | 2/21/94 |
| 591 | 4.0KY, Spec B | Noise on Start–up | 2/22/94 |
| 592 | See Tester Instruction Sheet(s) | 420–0576 Tester Kit | 3/18/94 |
| 593 | Emerald/Marquis w/Newer Style Carb & Elec. Ignition | Carb vacuum pull–off line kinked. Random & intermittent ignition miss | 3/31/94 |
| 594 | DKX | R134a Refrigerant | 3/30/94 |
| 595 | All Industrial Sets | Installations equipped with battery chargers | 6/28/94 |
| 596 | All Industrial Sets | Bosch Alternators | 8/8/94 |
| 597 | MCE Series | Starter, P/N 191–2132 | 9/94 |
| 598 | OTI (A–C), OTII (E–F), OTIII (G–H), BT (A 800–1000), BT (B600–1000) | Transfer Switch Replacement Contacts | 10/31/94 |
| 599 | 3.6/4.0 KY | Spark Plug Gap | 10/94 |

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| 600 | Emerald/Marquis | Carburetor Choke Adjustment/Carburetor Replacement Parts | 10/94 |
| 601 | All PCC Equipped Gensets | PCC Remote Starting Circuits | 11/19/94 |
| 602 | OTIII Built Prior to July, 1988 | OTIII Motherboard Replacement | 11/30/94 |
| 603 A | J Series and General Usage | 321-0175 Fuse Holder | 2/17/95 |
| 604 | 4.0KY Microlite Spec A & B | Microlite Ground Terminals | 1/27/95 |
| 605a | 6.5NHM (Marquis) | Oil Fouling of the LP Regulator | 11/27/96 |
| 606 | All Spec B & C P224 Engines | 110-3570 Exhaust Valve | 1/27/95 |
| 607 | DKX | 191-2163 90 Amp Alternator Kit | 2/8/95 |
| 608 | DF Series Generator Sets | Reconnection Silkscreens | 3/10/95 |
| 609 | All with PCC Controls | Current Transformers | 3/10/95 |
| 610 | PLTE Switches | PLTE Switches not Transferring in Closed Transition | 3/16/95 |
| 611 | MDKAE and MDKAD | Sea Water Pump Impeller Redesign | 3/21/95 |
| 612 | ES | Breakers | 4/7/95 |
| 613 | JB Generator Sets | Ignition Point Burning | 6/16/95 |
| 614 | All units with Newage generator ends | Exciter Rotor Removal | 6/16/95 |
| 615 | MME Series Generator Sets | Stuck Exhaust Valves | 7/17/95 |
| 616 | Elite Vertical Shaft Engines | Oil Leak Repair | 8/11/95 |
| 617 | P220V-I/11324 | Low Charge Rate or Dead Battery on Tractors Manufactured by MTD | 8/11/95 |
| 618 | 5.0/6.5/7.0 Marquis Specs B through F | Governor Control Modules P/N 151-0702 | 9/8/95 |
| 619 | 2.5/2.8 Microlite (A-C) & 3.6/4.0KV Microlite (A-B) | Hard Starting at Cool/Cold Temperatures | 9/8/95 |
| 620 | Emerald/Marquis Gensets | Engine Electronics, Inc. Products for Emerald/Marquis Gensets | 9/8/95 |
| 621 | J Series/UT (PTO) | Magneciter VR Conversion; Kit 305-0899, Inst Sheet C439 | 11/30/95 |
| 622 | MDKUB/WB | Speed Change | 12/18/95 |
| 623 | 3.0MAJB | Unscheduled Shutdown | 12/15/95 |
| 624 | KV gensets with S/N A94 through K95 | KV positive battery terminal insulation boot replacement. | 1/29/96 |
| 625 | DGB, DGC, DGD, MDG, QSG | Throttle Spring | 3/22/96 |
| 626 | 4.0KY Microlite | Keepers Coming Off and Dropping a Valve | 4/26/96 |
| 627a | 4.0KY Microlite | Intermittent Shutdowns, Especially when traveling over rough roads | 12/18/96 |
| 628 | Industrial Only | Oil Pressure Sender, P/N 193-0244 | 5/10/96 |
| 629b | 4.0 Microlite | Stumbling/Shutdown Troubleshooting | 9/2/97 |
| 630b | All NHD, BGD, and other Mobile Gensets | Mobile Gensets Used in Stationary Applications | 5/13/98 |
| 631 | All Performer Vertical Shaft Engines | Air Cleaner Cover Installation | 10/14/96 |
| 632 | HDKAG Prior to S/N K963610776 & HDKAQ Prior to S/N L963614384 | Unused Q50 Q60 Stator Leads | 1/8/97 |
| 633a | BGE & NHE Mobile Gensets, Spec K-M, BGM & NHM Prior to Spec G | CR10 Battery Charging Rectifier Bridge | 4/25/97 |
| 634 | All Performer Engines Beginning Spec C | Low Fuel Pump Output | 1/31/97 |
| 635a | 7.5HDKAJ & 8.0HDKAK, Prior to S/N J96360134B | Oil Leaking From Oil Fill Hose | 4/25/97 |
| 636 | Microlite 4000 | Oil Carryover into Air Cleaner | 2/19/97 |

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| 637 | All Marquis Spec B & Later/Emerald Single Phase w/Elec VR | Low Voltage Output | 4/25/97 |
| 638 | Pro Series Portables 5000/5000E and 6000E Spec C Only | Breather Icing | 4/25/97 |
| 639 | | Onan Warranty Policy Clarification | 4/25/97 |
| 640 | | Mispackaged Kits | 4/25/97 |
| 641 | 2.8KV-FR/11351 100 V, 60 Hz | Generator Set Stops or Circuit Breaker Trips | 5/30/97 |
| 642 | AT/OT I Transfer Switches | Time Delay Start/Stop Printed Circuit Boards (300-0921, 0922) | 9/2/97 |
| 643 | 6/5MDKUB; 7.5/9MDKWB | 388-3444 & 338-3455 Engine Harness Wiring Correction | 9/2/97 |
| 644 | HDKAL, H DKAQ, HDKAR, HDKAS Commercial Mobile Gensets | Rotor Damper Bar Assembly Welds | 12/12/97 |
| 645a | GG, GEA, GN, DG, and DN Series | DN/GN Series Interconnect Leads | 6/8/98 |
| 646 | BGD & NHD Commercial Mobile, Spec J, K, & L | Premature Start Disconnect | 2/2/98 |
| 647a | All Performer Engines, Marquis & Emerald Gensets | Crankshaft Rear Oil Seal Leaks | 10/5/98 |
| 648 | 7.5/8.0 HDKAJ/HDKAK Quiet Diesel | Sticking/binding governor actuator prior to S/N C980702860 | 4/1/98 |
| 649a | NHM/BGM Marquis generators | Rough running or poor ignition performance | 4/20/98 |
| 650b | Performer Engines, Spec H, | Oil Level Indicator Breaking and/or Oil Fill Cap Leaking | 5/19/2000 |
| 651 | KV Microlites, S/N's K970656129 Through C980716331 | Improper Torque on Starter Mounting Bolts | 4/30/98 |
| 652a | 4.0/3.6 KY's Built Between F980763873 and H980778275 | Modified Exhaust Manifolds Used on Undersized Cylinder Head Exhaust Port | 1/4/99 |
| 653a | BGD | Commercial Mobile Gensets Equipped with 541-0456 Extended Oil Fill Kits | 11/6/98 |
| 654 | MDL Series, MDKC/D, MDKAL, MDKAA/AB, MDKAD/E/F, MDKUB/ WB Spec C). The pigtail would have to be supplied on Spec A & B. | Marine Adapter Harness | 9/7/98 |
| 655 | MDKA Series (MDKAL, MDKAD, MDKAE, MDKAF) | Circuit Breaker Kit 319-3611 | 10/5/98 |
| 656a | Microlite, Emerald, Marquis, and other Generators with Similar Style Wound Rotors with Brush-Type Excitation | Test Procedure for Wire Wound Rotors | 2/11/00 |
| 657 | All RV LP Vapor Models | 4 - 40 lb. LP Tanks with Overfill Protection Device | 12/11/98 |
| 658 | All | Crankcase Pressure and Blowby Measurement | 12/17/98 |
| 659 | BGD/NHD, Spec M | Mounting Isolator Configuration | 2/26/99 |
| 660 | Onan Industrial Engines & Engines used on Generators | Porosity in Engine Blocks | 2/26/99 |
| 661 | Performer 248V Floorcare Engine | Floorcare P248 Performance Issues | 12/17/99 |
| 662 | 5.0/6.0EGH Model Gensets with H99, I99, J99 and K99 Date Codes | Pro Series Portable Genset Fuel Caps, P/N 327-1208 | 2/16/00 |
| 663 | HDKAJ, HDKAK, and HDKAT | Inverter Converter Replacement | 3/3/00 |
| 664 | BGE/NHE & BGM/NHM | Unstable Engine/Generator Operation | 4/10/00 |
| 665 | BGE/NHE Build Date Range March 1-31, 2000 | Overcrimped Wire Terminal | 4/10/00 |
| 666 | Quiet Diesel Generators, but possibly any generator | Unexplained Generator Shutdowns | 5/26/00 |
| 667 | HGJAA, HGJAB, HGJAC | Fuel System Hose Clamps | 6/23/00 |
| 668 | MDKUB (Kubota Z482) Spec F | Injection Pump Timing Adjustment Required for Speed Conversion | 7/21/00 |
| 669 | Performer Engines, Spec H, Manufactured in 1998, 1999, and 2000 | Flywheel Magnets and Alternator Stator Failures | 7/21/00 |
| 670 | BGE/BGD and NHE/NHD | Leaking Fuel Filters | 9/8/00 |

The following catalog has gaps in its page numbers, or doesn't have any numbers. We have chosen to leave the page numbering in the order that Acrobat assigns it.

NEW! PRODUCT SUPPORT BULLETIN ON:

MICROFICHE

Since 1974, Product Support Bulletins have been provided on a paper format as a one time mailing. Stock of past Product Support Bulletins has not been maintained at the Factory. The difficulty in this situation arises with the signing of a new dealer, dealer product changeover, or the fact that a product problem or conversion may not surface in the field for several years. We are not able to support the field with duplicate bulletins after the initial printing.

To remedy this situation, we have decided to produce a set of microfiche (at no charge) to cover all of the Product Support Bulletins printed, starting with bulletin number 1. As in the past, printed bulletins will continue to be sent to the appropriate recipients; however, at the end of each year, a set of updated fiche will be sent to microfiche card holders along with the year end Product Support Bulletin Index.

DIRECTIONS:

The printed index is good for both the printed bulletins and the microfiche set. The microfiche sets have "eye-readable" reference numbers on the rows for fast access to a specific Product Support Bulletin. If you are looking for a specific subject covered in the Product Support Bulletins, first check the printed index - then refer to your Product Support Bulletin book (file) or fiche set. The top color bar of each fiche card shows the reference numbers of the bulletins found in each fiche card.

All printed Product Support Bulletins are not sent to everyone. Below is a listing of the codes used to distribute the mailings.

- C - For Separate Controls Only
- E - For Engines Only
- G - For Separate Generators Only
- M - For Miscellaneous
- S - For Engine/Generator Sets

Al Jacobson, Chairman
Product Support Bulletin Committee



PRODUCT SUPPORT BULLETIN NO. 1
SERVICE/PARTS/PUBLICATIONS

DATE May 6, 1974
page 1 **of** 1

SUBJECT: PART NUMBER CORRECTIONS
(Operators Manual #924-0311)

REF. FILE# S - 1

MODEL(S) or SERIES: 2.7 AJ Series

EFFECTIVE: With New 2.7 AJ Models

Item 15 on page 21 of the 2.7 AJ Operators Manual (#924-0311) called for Part Number 102-0754 as being a valve, drain. This is incorrect!

The correct Part Number for the Drain Valve only is 504-0017. Please change your records accordingly.

Also Item 11 on page 27 calls for a fixed resistor, Part #350-0049. This is incorrect!

The correct Resistor should be ordered under Part #353-0049.

Please change your records accordingly.



PRODUCT SUPPORT BULLETIN NO. 2
SERVICE/PARTS/PUBLICATIONS

DATE May 6, 1974
page 1 **of** 1

SUBJECT: NEW REAR MOUNTING RUBBER FOR
GENERATORS

REF. FILE# S - 2

MODEL(S) or SERIES: JC, DJC, RJC, RDJC,
RDJF, MJC, MDJC, MDJF

EFFECTIVE: SPEC AA

The new YD generator used on these models is lighter and there is less loading on rear mounts.

The Part Number for the new Rear Mount only is #402-0286. The old mounting rubber is not interchangeable with the new style listed above.

You may continue to use up your stock of the old style mount (Part #402-0287) on the engine end of these models. Use the new style on the generator end only.



PRODUCT SUPPORT BULLETIN NO. 3
SERVICE/PARTS/PUBLICATIONS

DATE May 20, 19
page 1 **of** 1

SUBJECT: CARBURETOR AND NEEDLE VALVE CHANGE **REF. FILE#** S - 3
(Operators Manual #927-0350)

MODEL(S) or SERIES: ALL MCKK'S ONLY **EFFECTIVE:** DURING SPEC F.

A Running Change is being made, effective 5/15/74, on all MCKK units in Spec F Series.

The change involves a new style Carburetor with a Viton Tip Needle Valve and a Clip. This clip helps prevent the needle valve from sticking in the valve seat. The new Carburetor Needle Valve is grooved to accept the clip.

All parts are interchangeable between the old and new style carburetors except that the clip can only be used with the new style needle. Part Numbers affected are:

| NEW PART NO. | DESCRIPTION |
|--------------|-----------------------|
| 141-0829 | Carburetor |
| 141-0830 | Needle and Seat Assy. |
| 141-0838 | Repair Kit |

NOTE: This is not a mandatory field modification!



PRODUCT SUPPORT BULLETIN NO. 4
SERVICE/PARTS/PUBLICATIONS

DATE May 20, 19
page 1 **of** 1

SUBJECT: PART NUMBER ADDITIONS
(Operators Manual #971-0001)
Dated 9AB73

REF. FILE# G - 1

MODEL(S) or SERIES:

25 KW UT SERIES
Tractor Drive Alternators

EFFECTIVE:
Spec AB
All Models

Two items in the gear box group on page 18 of the UT Operators Manual are shown in the illustration; but were not listed with the corresponding part number and description.

Item 26 is shown as a Fitting, Vent under Part Number #518-0172. This should be referenced as Item 28 as shown on the illustration.

Change Item 26 to read: Part Number #190-0225 Qty. Used - 1, Description: Gear, Pinion, (3.32 to 1 ratio).

Add Item 27 to read: Part Number #505-0007 Qty. Used - 1, Description: Bushing, Reducer (1/4 x 1/8)

Please change your records accordingly.



PRODUCT SUPPORT BULLETIN NO. 5
SERVICE/PARTS/PUBLICATIONS

DATE May 20, 1
page 1 **of** 1

SUBJECT: PART NUMBER CHANGES FOR HEAD GASKET REF. FILE# S-4
OPERATORS MANUALS #968-0320, 968-0340 and 974-0300.

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL MJB
MJC SERIES
RJC

A number of warranty reports have been received indicating a problem with the Head Gaskets on the models listed.

The older Head Gasket #110-1852 is designed primarily for Diesel Engines and should never be used on the gasoline fueled models listed above.

Effective immediately use Head Gasket #110-1211 on all gasoline generator set models as listed above.

The Operators Manuals to be changed are:

Item 2 Page 27 Series MJB 968-0320 Manual
Item 2 Page 32 Series MJC 968-0340 Manual
Item 2 Page 31 Series RJC 974-0300 Manual

Please change your records accordingly.



PRODUCT SUPPORT BULLETIN NO. 6
SERVICE/PARTS/PUBLICATIONS

DATE May 20, 19
page 1 **of** 1

SUBJECT: RELOCATION OF VOLTAGE REGULATOR AND
CHANGE TO SOLID STATE TYPE REGULATOR

REF. FILE# S - 5

MODEL(S) or SERIES:

ALL "UR" SERIES GENERATOR SETS
MODELS EK, EM, KB AND KR

EFFECTIVE:

SPEC F FOR EK AND EM MODELS
SPEC S FOR KB AND KR MODELS

On all of the above models, the voltage regulator is being changed to a solid state SCR type.

The voltage regulator will also be relocated from the generator end bell to the AC control panel.

This improvement should result in better performance and greater overall reliability.

Numerous parts changes and deletions will be forthcoming for these models. But in most cases the parts affected will be the same for all series.

The Operators Manuals and Parts list will be updated for each model as each manual is reprinted. Note these changes in your manuals as necessary until new copies are available.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 7A
SERVICE/PARTS/PUBLICATIONS

DATE MARCH 27, 1974
page 1 **of** 1

SUBJECT: RELOCATION OF VOLTAGE REGULATOR AND
CHANGE TO SOLID STATE TYPE REGULATOR

REF. FILE# S-6

THIS BULLETIN SUPERSEDES
BULLETIN #7 DATED
5/20/74

MODEL(S) or SERIES:

ALL DYA, DYC, DEH, MDEH, DEF
DEG AND MDEG SERIES GENERATOR SETS

EFFECTIVE:

SPEC E FOR DYC SERIES
SPEC F FOR DYA SERIES
SPEC H FOR DEG AND MDEG SERIES
SPEC J FOR DEF SERIES
SPEC G FOR DEH AND MDEH SERIES

On all of the above models, the Voltage Regulator is being changed to a solid state SCR type.

The Voltage Regulator will also be relocated from the Generator End Bell to the AC Control Panel.

This improvement should result in better performance and greater overall reliability.

Numerous parts changes and deletions will be forthcoming for these models, but in most cases the parts affected will be the same for all series.

The Operators Manuals and Parts List will be updated for each model as each manual is reprinted. Note these changes in your manuals as necessary until new copies are available.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 8
SERVICE/PARTS/PUBLICATIONS

DATE May 20, 19
page 1 **of** 1

SUBJECT: NEW INTAKE VALVE SEATS AND
ALUMINIZED INTAKE VALVE

REF. FILE# E - 1

MODEL(S) or SERIES:
ALL NHC GASOLINE ENGINES AND
NH POWER DRAWER UNITS

EFFECTIVE: RUNNING CHANGE SPEC

On all of the above models, a running change is being made in SPEC B models.

The change involves a new Intake Valve Seat and Aluminized Intake Valve.

All parts are interchangeable between the old and new style Intake Valves and Valve Seats on gasoline fueled engines. Part numbers affected are:

| NEW PART NO. | DESCRIPTION |
|--------------|---------------------------|
| 110-1974 | Intake Valve (Aluminized) |
| 110-1933 | Intake Valve Seat |

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 9
SERVICE/PARTS/PUBLICATIONS

DATE May 20, 1
page 1 **of** 1

SUBJECT: SPEC ADVANCE AND
PRODUCT IMPROVEMENTS

REF. FILE# E - 2

MODEL(S) or SERIES:

EFFECTIVE: SPEC B

NHA, NHB, NHC, NHAV,
NHBV AND NHCV

A number of internal and external changes are taking place on all models listed above beginning Spec B. All changes are being made to increase the products reliability.

The parts being changed include: Starter, Blower and Cylinder Air Housings, Governor Shaft Arm and Bearings, Crankshaft (New Key Slot Location), Intake Valve and Valve Seat (Aluminized) on gas fueled engines; and the addition of lifting brackets to NHA, NHAV, NHB and NHBV.

In most cases, old and new parts are not interchangeable.

A Supplementary Parts List (#940-1014) was issued 3/74 to the Operators Manual and Parts Catalog (#940-0403 for NHA and NHB) and (#940-0404 for NHC).

A Supplementary Parts List (#940-1013) was issued 8/73 to the Operators Manual and Parts Catalog (#940-0403 for NHA and NHBV).

A Supplementary Parts List (#940-1011) was issued 8/73 to the Operators Manual and Parts Catalog (#940-0404 for the NHCV only).

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 10
SERVICE/PARTS/PUBLICATIONS

DATE May 20, 1974
page 1 **of** 1

SUBJECT: CHANGE IN CYLINDER AIR HOUSING
SHROUDS FOR GARDEN TRACTORS

REF. FILE# E-3

MODEL(S) or SERIES:

(ROPER) SEARS BF-MS/2666C
(ROPER) ROPER BF-MS/2675C

EFFECTIVE:

SPEC C BEGINNING SERIAL #777749

The Right Hand and Left Hand Cylinder Shrouds are being changed to provide increased clearance and prevent build-up of grass in the Engine mounting area of this tractor.

A spacer is being added to the shrouds for increased clearance. The mounting screw is longer to allow for the extra space needed for the spacer.

This is a temporary change until July 1974. At this time production will change to the new model and these changes and others will be incorporated in the new models.

The new mounting shrouds used with the longer screw are interchangeable with the old style; but the mounting screw is not. Part numbers affected are:

| NEW PART NO. | DESCRIPTION |
|--------------|--------------------|
| 134-2938 | R.H. Air Cyl. Hsg. |
| 134-2939 | L.H. Air Cyl. Hsg. |
| 815-0290 | Mounting Screw |

Check clearance on all units received for repair and replace shrouds and screw if customer complains of excessive grass build up.

This is not a Mandatory Field Modification



PRODUCT SUPPORT BULLETIN NO. 11
SERVICE/PARTS/PUBLICATIONS

DATE May 20, 19

page 1 **of** 1

SUBJECT: CHANGE IN CRANKSHAFT KEYWAY
LOCATION

REF. FILE# E - 4

MODEL(S) or SERIES:

EFFECTIVE: SPEC B

L-25 ENGINES ONLY ALL CUSTOMERS

The Crankshaft front end keyway location and depth is being changed to a new standard location.

The keyway will be farther toward the front end for increased strength.

All L-25 engines may use either old or new Crankshafts but the old key must be used with the old Crankshafts and new key with new Crankshaft.

The new Crankshaft can be ordered under part #104-0876. The corresponding wood ruff key is part #515-0098.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 12
SERVICE/PARTS/PUBLICATIONS

DATE May 20, 197
page 1 **of** 1

SUBJECT: NEW FRONT AND REAR MAIN BEARINGS

REF. FILE# E - 5

MODEL(S) or SERIES: NHA, NHAV, NHB, NHBV,
NHC and NHCV

EFFECTIVE: SPEC B

All NH Series Engines, beginning with Spec B production, will have new front and rear main bearings with a deeper oil groove.

This product improvement will result in better oil lubrication and greater reliability.

The old and new block and bearing plate assemblies are interchangeable, but the old stock should be used first.

A supplemental bulletin will be issued with part numbers for new bearing kits.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 13
SERVICE/PARTS/PUBLICATIONS

DATE May 20, 197
page 1 **of** 1

SUBJECT: CHANGE IN CRANKSHAFT KEYWAY LOCATION AND SPEC ADVANCE **REF. FILE#** E - 6

MODEL(S) or SERIES: BF SERIES INDUSTRIAL ENGINES **EFFECTIVE:** SPEC D

The Crankshaft front end keyway location and depth is being changed to a new standard location.

The keyway will be farther toward the front end for increased strength.

All BF Industrial Engines may use either old or new crankshafts but the old key must be used with old crankshafts and new key with new crankshafts.

New Gearcase assemblies are interchangeable with old. Governor arm and Shaft assemblies are not interchangeable.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 14
SERVICE/PARTS/PUBLICATIONS

DATE May 20, 197
page 1 **of** 1

SUBJECT: EXTENSION KIT FOR ONAN MARINE
SOUND SHIELD PART NO. 405-1482

REF. FILE# M - 1

MODEL(S) or SERIES: 7.5 KW MDJE

EFFECTIVE: SPEC C

A number of reports have been received indicating an interference problem between the top of the sound shield and the raw water outlet from the Heat Exchanger on the above model.

This problem can be corrected by installation of a new Housing Extension Kit. This kit will raise the housing by one inch and eliminate the interference problem.

The part number for the new kit is 405-2171. The kit includes complete instructions along with the parts.

This is not a Mandatory Field Modification

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 15
SERVICE/PARTS/PUBLICATIONS

DATE 6/3/74
page 1 **of** 1

SUBJECT: REMOTE START/STOP SWITCH WIRING
IN FMC MOTOR HOME INSTALLATION (RV)

REF. FILE# S - 7

MODEL(S) or SERIES: 6.5 NH

EFFECTIVE: IMMEDIATELY

PROBLEM

The Remote Start/Stop Switch wiring in the FMC Motor Home differs from the standard wiring configuration in that 3 wires and 2 batteries are used. The generator battery is used for cranking and starting at the power plant. Remote starting is accomplished by using the generator battery for cranking and the vehicle battery for energizing the printed circuit board and start solenoid.

REMEDY

Remote Starting - One wire runs from vehicle battery to switch to terminal 16 of the printed circuit board.

Remote Stopping - One wire runs from terminal 14 of the printed circuit board to remote switch to ground on chassis.

A third wire runs from terminal 10 on the printed circuit board to operate the generator run light inside the motor home.

The circuit board is not protected by the F1 fuse when the unit is started remotely unless a 9 amp fuse has been added to terminal 16 by FMC.

This installation has been made with Onan's knowledge. Standard motor home warranty policy applies to these units except for circuit board failures as a result of no F1 fuse protection when started remotely.

Damage to the board from this unprotected terminal would consist of burned paths from the point of remote wire connection.

FMC has included a modified wiring diagram of their remote connections with each motor home.

This bulletin is for informational purposes



PRODUCT SUPPORT BULLETIN NO. 16
SERVICE/PARTS/PUBLICATIONS

DATE 6/3/74
page 1 **of** 1

SUBJECT: NEW BRUSHES TO PROLONG
COMMUTATOR LIFE

REF. FILE# S - 8

MODEL(S) or SERIES:

EFFECTIVE: JANUARY 1974

2.5 AJ-1E/13036K, 12006K, 6000K, 6820K
2.7 AJ-1R/12020 - All Units Prior to January 1974

The present DC brushes (Part #214-0093) have been found to reduce commutator life through excessive sparking and the creation of flat spots on the commutator.

Replace all old DC brushes in above models with new brush which should be ordered under part #214-0100. Install the new DC brushes in all units you have in stock. Also check the commutators in stock units for flat spots and turn the commutator if necessary before installing new DC brushes.

Standard Warranty Policy Applies! Time allowed is 15 minutes for replacing brushes only. Two hours for turning commutator and replacing brushes.

STOCK DISPOSITION: Return all stock of 214-0093 old DC brushes for credit before Aug. 1st 1974. Mention Product Support Bulletin #16 or include a copy of same along with old brushes. Onan will replace your present stock at no charge.



PRODUCT SUPPORT BULLETIN NO. 17
SERVICE/PARTS/PUBLICATIONS

DATE 6/3/74
page 1 **of** 1

SUBJECT: NEW REAR BEARING PLATE GASKET AND CHANGE IN TORQUE VALUE **REF. FILE#** S - 9

MODEL(S) or SERIES: **EFFECTIVE:** IMMEDIATELY

ALL NH SERIES ENGINES
ALL NH SERIES GENERATOR SETS

A running change is being made in production for the Rear Bearing Plate Gasket (#101-0415) on all NH series models as listed above.

The new gasket is made of Armstrong Accobest material and is black in color with the marking N-80 imprinted on the gasket. The Part # is the same for the old and new gasket. The old gasket which has a grey metallic appearance is no longer available.

When using the new gasket (Black in Color) the Rear Bearing Plate Torque increases to 25-28 ft. lbs. This torque value is very important if the new gasket is to seal properly.

The torque value for the old style gasket was 20-23 ft. lbs. If the old style gasket is over-torqued or torqued to the value for the new gasket (25-28 ft. lbs) it will still work properly.

When your stock of the old style gasket is depleted you will receive the new style automatically when ordering.

Please change your records accordingly.



PRODUCT SUPPORT BULLETIN NO. 18
SERVICE/PARTS/PUBLICATIONS

DATE 6/3/74
page 1 **of** 2

SUBJECT: NEW STYLE BREAKER BOX MOUNTING
SCREWS AND REPLACEMENT TOOL (420-0342)
BALL POINT DRIVER

REF. FILE# S - 10

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL LK, CCK, NH AND BF ENGINES AND
GENERATOR SETS

A change in the Breaker Box Mounting Hardware is being made in the production of all models as listed above. The Breaker Box Mounting Screws (both Phillips and Round Head) are being changed to a new style Socket Head Screw.

This change will prevent loose point boxes in the field and increase positive torquing ability.

It is very important that all breaker box socket head screws be torqued to maintain 5-7 ft. lbs. after timing is set.

Onan has a new special tool available for use in installing these new socket head screws. The part number is 420-0342 (Ball Point Driver) and may be ordered from Onan. See Tool Catalog #900-0019.

Part Number changes for various models are listed by model as follows:

PARTS STATUS

| <u>NEW PART NO.</u> | <u>DESCRIPTION</u> | <u>QTY. PER UNIT</u> | <u>MODELS AFFECTED</u> |
|---------------------|-------------------------------------|--------------------------|--|
| 802-0034 | Socket Head Screw (1/4-20 x 3/4) | 2 | NHA, NHB, NHC, NHAV, NHBV, NHCV BF, NH GEMINI - BF GEMINI |
| 850-0038 | High Collar Lock Washer | 2 | NHA, NHB, NHC, NHAV, NHBV, NHCV BF, NH GEMINI - BF GEMINI |
| 802-0034 | Socket Head Screw (1/4-20 x 3/4) | 2 | LK, L25, CCK, CCKA, CCKB (Short Breaker Box) |
| 850-0040 | Lock Washer 1/4 | 2 | LK, L25, CCK, CCKA, CCKB (Short Breaker Box) |

(Over)

PARTS STATUS

| NEW PART NO. | DESCRIPTION | QTY. PER UNIT | MODELS AFFECTED |
|--------------|-------------------|------------------|---|
| 802-0035 | Socket Head Screw | 2 | CCK Generator Sets NH Generator Sets CCK Industrial Engines NH Industrial Engines (With Tall Breaker Box) |
| 850-0040 | Lock Washer 1/4 | 1 | CCK Generator Sets NH Generator Sets CCK Industrial Engines NH Industrial Engines (With Tall Breaker Box) |
| 526-0214 | Flat Washer | 2 | CCK Generator Sets NH Generator Sets CCK Industrial Engines NH Industrial Engines (With Tall Breaker Box) |

Please change your records accordingly.



PRODUCT SUPPORT BULLETIN NO. 19
SERVICE/PARTS/PUBLICATIONS

DATE 6/3/74
page 1 **of** 1

SUBJECT: NEW VOLTAGE REGULATOR FOR MOTOR HOME ELECTRIC POWER PLANTS
REF. FILE# S - 11

MODEL(S) or SERIES: **EFFECTIVE:** IMMEDIATELY

4.OBF-1R/9000 6.ONH-1R/9000
4.OBF-1R/9500 6.ONH-1R/9500
4.OBF-1R/14122

A running change is being made in production for the voltage regulator on the models listed.

The new regulator may be ordered under part #191-1106. This new regulator has a lower reverse current leakage which means the RV Electric Power Plant battery has less discharge when not in use.

The old and new style regulators are completely interchangeable, but the old style regulator should no longer be used on the models listed above.

Use the Old Style Regulator (Part #191-0886) on other models. Both regulators will still be available.

This is not a Mandatory field modification.

Please change your records accordingly.



PRODUCT SUPPORT BULLETIN NO. 20
SERVICE/PARTS/PUBLICATIONS

DATE 6/3/74
page 1 **of** 1

SUBJECT: PRODUCT IMPROVEMENTS
AND SPEC ADVANCE

REF. FILE# E - 7

MODEL(S) or SERIES:

EFFECTIVE: SPEC "J"

ALL CCK, CCKA, AND CCKB
INDUSTRIAL ENGINES ONLY

Numerous Product Improvements and additional standarization between models is being made, beginning with Spec "J" production, on the Industrial Engines listed above.

In most cases the parts are not interchangeable between Spec "G" and Spec "J" models.

Some of the many changes are: Rear bearing plate cap screws, fixed oil by-pass 12 V solenoid shift starter, new aluminum oil base, less rope sheave and new blower housings on MS models only, new governor paddle shaft bearings, rubber fuel lines, flat face flywheel, flywheel guards, dry type air cleaner element, salt and pepper muffler, new 20 amp flywheel alternator system, new crankshaft and key and 4 ball breather system.

All of the Operator Manuals and Parts Catalogs for these models are being revised now and will be available for distribution in the near future.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 21
SERVICE/PARTS/PUBLICATIONS

DATE July 22, 1974
page 1 **of** 1

SUBJECT: VIBRATION MOUNTS #402-0261
and MOUNTING KITS #402-K265

REF. FILE# S - 12

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

MAJ, AJ AND AK

Our supplier has discovered a problem with the mold for these vibration mounts. Because of this problem the Rubber Cone Mount may break under the pressure from tightening during installation.

After the mold was changed it was still very difficult to tell the difference between the mounts made from the old mold and the new mold just by appearance.

You may have difficulty identifying the old mount from the new mount.

For this reason we are recalling all 402-0261 mounts and 402K265 mounting kits shipped between January 1st and May 1st, 1974.

This program will be in effect until October 1, 1974.

Check your parts stock and your unit stock on the above models and return all stock for exchange by October 1, 1974.

When replacing the mounts on MAJ units in your stock, a new retainer strap, Part #402-0389 should be installed with each vibration mount. This "fail safe" strap will prevent the unit from breaking loose if the mounts are damaged.

This is a Mandatory Field Modification.

Standard Warranty Policy applies.



PRODUCT SUPPORT BULLETIN NO. 22A
SERVICE/PARTS/PUBLICATIONS

DATE MARCH 27, .

page 1 of 1

SUBJECT: RELOCATION OF VOLTAGE REGULATOR AND CHANGE TO SOLID STATE TYPE REGULATOR **REF. FILE#** S-13

THIS BULLETIN SUPERSEDES
BULLETIN #22 DATED
6/24/74

MODEL(S) or SERIES:

ALL WA, WB, DYD AND
DYG SERIES GENERATOR SETS

EFFECTIVE:

SPEC J FOR WA SERIES
SPEC L FOR WB SERIES
SPEC D FOR DYD SERIES
SPEC D FOR DYG SERIES

On all of the above models, the Voltage Regulator is being changed to a solid state SCR type.

The Voltage Regulator will also be relocated from the Generator End Bell to the AC Control Panel.

This improvement should result in better performance and greater overall reliability.

Numerous parts, changes and deletions will be forthcoming for these models, but in most cases the parts affected will be the same for all series.

The Operators Manuals and Parts List will be updated for each model as each manual is reprinted. Note these changes in your manuals as necessary until new copies are available.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 23
SERVICE/PARTS/PUBLICATIONS

DATE 8/5/74
page 1 **of**

SUBJECT: PART NUMBER CORRECTIONS
(OPERATOR MANUAL #940-0301)

REF. FILE# S - 14

MODEL(S) or SERIES:
6.5 KW NH SERIES
ELECTRIC GENERATING SETS

EFFECTIVE: IMMEDIATELY

The part numbers for the front main bearings (both standard and undersize) were not listed in the parts catalog for the above operators manual.

Item 12 on page 30 of the (940-0301) Operators Manual lists the part numbers for the Bearing, Crankshaft - Main. These are really the part numbers for the rear main bearings only.

The part numbers for the front main bearings (both standard and undersize) should be added on page 31 under the cylinder block group as follows:

BEARING, CRANKSHAFT - FRONT

| | | |
|--------------|--------|-----------------|
| #101-0432 | Qty. 2 | Standard |
| #101-0432-02 | Qty. 2 | .002" Undersize |
| #101-0432-10 | Qty. 2 | .010" Undersize |
| #101-0432-20 | Qty. 2 | .020" Undersize |
| #101-0432-30 | Qty. 2 | .030" Undersize |

Please change your records accordingly.



PRODUCT SUPPORT BULLETIN NO. 24
SERVICE/PARTS/PUBLICATIONS

DATE 8/5/74
page 1 **of**

SUBJECT: VALVES PACKAGED INCORRECTLY **REF. FILE#** S - 15

MODEL(S) or SERIES: **EFFECTIVE:** IMMEDIATELY

ALL DJ, MDJ AND RDJ (DIESEL)
ENGINES AND GENERATOR SETS

The parts department has discovered that the 110-1218 (Intake) valves (1.495 Dia) have been erroneously packaged and shipped as 110-1278 (Exhaust) valves (1.317 Dia).

Approximately 150-200 of these valves were shipped between June 29th and July 23rd of this year.

The stock at Onan has been corrected.

Check your stock to see that part number and valve type agree.

The 110-1218 valve is the larger intake valve used on Gasoline Engines Only.

The 110-1278 valve is the smaller exhaust valve used on Diesel Engines Only.

This bulletin is for information purposes.



PRODUCT SUPPORT BULLETIN NO. 25
SERVICE/PARTS/PUBLICATIONS

DATE 8/5/74
page 1 **of**

SUBJECT: HEAD GASKETS PACKAGED INCORRECTLY **REF. FILE#** S - 16

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL MJB, MJC, RJC SERIES

The Parts Department has discovered that the 110-1211 (Gasoline) head gasket (copper clad) has been shipped as 110-1852 (Diesel) head gasket (asbestos clad).

These gaskets were shipped between June 29th and July 19th of this year.

The stock at Onan has been corrected.

Check your stock to see that part number and head gasket type agree.

Also refer to Product Support Bulletin #5

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 26
SERVICE/PARTS/PUBLICATIONS

DATE 8-26-74
page 1 **of** 1

SUBJECT: CHANGES IN OIL CAPACITY FOR
 ALLIS-CHALMERS DIESEL ENGINES

REF. FILE# S - 17

MODEL(S) or SERIES:

DYG 150 and 175 KW
 DYH 200 KW
 DYB 250 KW

CLASS "B" SERIES
 GENERATOR SETS

EFFECTIVE: STARTING SERIAL #'S
 DYG BEGINNING ENGINE MFR SERIAL #
17-02136
 DYH BEGINNING ENGINE MFR SERIAL #
21-12211
 DYB BEGINNING ENGINE MFR SERIAL #
25-03413

Our supplier (Allis-Chalmers) has changed the oil pan on the above models from cast iron to aluminum beginning with the Allis-Chalmers engine serial numbers listed above.

The engine serial number is stamped on the right side of the engine block (viewed from the radiator end).

The oil capacity for all engines with aluminum oil pans is 45 quarts with a filter change and 37 quarts without a filter change.

The oil capacity for all engines with cast iron oil pans is 31 quarts with a filter change and 28 quarts without a filter change.

Onan recommends changing the oil filter with each oil change!

The Allis-Chalmers model numbers for the diesel engines used on the Onan generator sets are as follows:

| <u>ALLIS-CHALMERS ENGINE MODEL</u> | <u>ONAN SERIES</u> | <u>KW SIZE</u> |
|------------------------------------|--------------------|----------------|
| 17000 | DYG | 150 and 175 KW |
| 21000 | DYH | 200 KW |
| 25000 | DYB | 250 KW |

The specification pages should be changed in the following Onan Operator Manuals:

| <u>ONAN SERIES</u> | <u>OPERATOR MANUAL #</u> | <u>OIL PAN CAPACITY WITH FILTER</u> |
|--|--------------------------|---|
| DYG - NOTE: The Operator's Manual for the DYG is currently being revised and will be available soon. | 973-0306 | Cast Iron - 31 Quart Aluminum - 45 Quart |
| DYH - | 973-0309 | Cast Iron - 31 Quart Aluminum - 45 Quart |
| DYB - A supplement will be issued soon for the DYH and DYB Operator manuals. | 973-0310 | Cast Iron - 31 Quart Aluminum - 45 Quart |

Please change your records accordingly.

This Bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 27A
SERVICE/PARTS/PUBLICATIONS

DATE 9/16/74
page 1 **of** 2

SUBJECT:

PART NO. CORRECTIONS
 OPERATOR AND SERVICE MANUALS

REF. FILE# S - 18

This Bulletin Supercedes #27

MODEL(S) or SERIES:

ALL CCK, CCKA, CCKB, CCKM INDUSTRIAL
 ENGINES AND GENERATOR SETS (EXCEPT MCCK)

EFFECTIVE:

BEGINNING ENGINE SERIAL #742287

The part numbers for the main bearing and the piston as shown in the above model Operator and Service Manuals are incorrect.

In addition to the following specific manual changes: All CCK series Industrial Engines and Generator Sets beginning with engine serial #742287, must use the new 101-0450 main bearing and the 112-0136 piston. All models and units listed above prior to serial #742287 may use either the old main bearing (101-0420) and piston (112-0071) or the new main bearing and piston; but Onan recommends using the new main bearing and piston in all CCK series Industrial Engines and Generator Sets regardless of serial # or spec except where the 112-0073 piston is specified. The 20 H.P. CCKB Simplicity Tractor Engines, Spec MS-2420H, 2440H and 2733J, MUST use the new main bearing (101-0450) and piston (112-0136) in ALL applications regardless of serial number!

The following table lists the new part numbers and Item numbers for all the CCK Series Operator and Service Manuals which are affected. Parts supplements will be available for all of these models as soon as possible.

| OPERATOR OR SERVICE MANUAL NUMBER | NEW MAIN BEARING (101-0450 Item No.) | PAGE NO. | NEW PISTON (112-0136 Item No.) | PAGE NO. |
|-----------------------------------|--------------------------------------|----------|--------------------------------|----------|
| 927-0304 | 4 | 31 | 11 | 35 |
| 927-0251 | 15 | 35 | 11 | 33 |
| 927-0310 | 12 | 29 | 11 | 32 |
| 927-0360 | 12 | 24 | 11 | 23 |
| 927-1030 | 41 | 39 | 1 | 40 |
| 927-1060 | 41 | 35 | N/A | N/A |
| 927-1103 | 15 | 37 | 11 | 40 |

The CCKB 10KW generator set and the 7 CCK 225 ampere welder use an entirely different piston (112-0073) than either piston previously mentioned. The main bearing for the 10KW CCKB generator set is the same as that used in all other CCK series Industrial engines and generator sets (101-0450). The MCCK and LK generator sets will continue to use the 101-0420 main bearing and the 112-0071 piston as before.

(Over)

Page 2 - Continued
Product Support Bulletin #27

STOCK DISPOSITION:

Onan distributors and dealers:

Present stock of 112-0071 Pistons and 101-0420 Main Bearings should be retained and used on MCKK and LK models.

Onan Customers:

If you do not service MCKK or LK Onan Products permitting you to deplete your stock, write the Onan Parts Department for return authorization.
Order new 112-0136 Piston and 101-0450 Bearings for your service stock.

Please change your part numbers in each manual accordingly until new parts supplements are available.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 28
SERVICE/PARTS/PUBLICATIONS

DATE 9/4/74
page 1 **of** 1

SUBJECT: ENGINE CHANGE

REF. FILE# S - 19

MODEL(S) or SERIES:

ALL EK SERIES (30 KW)

EFFECTIVE:

SPEC G - NOVEMBER PRODUCTION

Our supplier (Ford) can no longer supply the 240 CID Industrial Engine used on the above model.

Starting with Spec "G" production in November of 1974, Onan will use a 300 CID (Ford) Industrial Engine in Place of the 240 CID Industrial Engine presently used on Spec F Models.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 29
SERVICE/PARTS/PUBLICATIONS

DATE 9/4/74
page 1 **of** 1

SUBJECT: REF. FILE# S - 20
REPLACEMENT TIMING GEAR SETS

MODEL(S) or SERIES: EFFECTIVE: IMMEDIATELY
ALL CLASS "A" ENGINES AND
GENERATOR SETS

For years Onan has supplied timing gears in sets only! (Cam and Crank gears).

When overhauling engines, it usually isn't necessary to replace both gears. Onan will now offer each gear separately!

The following gear sets can be ordered separately as follows:

| GEAR SET PART # | CAM GEAR PART # | CRANK GEAR PART # |
|-----------------|-----------------|-------------------|
| 105-0353 | 105-0332 | 104-0032 |
| 105-0072 * | 105-0030 | 104-0032 |
| 105-0235 * | 105-0377 | 104-0048 |

* The two gear sets noted above will not be available as separate gears until Onan's present stock is depleted!

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 30
SERVICE/PARTS/PUBLICATIONS

DATE 9/4/74
page 1 **of** 1

SUBJECT: VACU-FLO CONVERSION KITS

REF. FILE# S - 21

MODEL(S) or SERIES:

ALL CCK GENERATOR SETS

EFFECTIVE:

SPEC R

The Vacu-Flo Conversion Kit (134-0996) applies to all CCK series generator sets Prior to Spec R!

A new Vacu-Flo Conversion Kit (134-3029) is necessary for all CCK series generator sets beginning with Spec R!

These kits come with installation instructions.

These two kits are not interchangeable!

Please Change Section "D" Page 2 of the L-835L Parts Price List accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 31
SERVICE/PARTS/PUBLICATIONS

DATE 9/27/74
page 1 **of** 1

SUBJECT: FRONT OIL SEAL
PART #509-0040

REF. FILE# S - 22

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL CCK, NH, BF, NB, LK AND MCKK
INDUSTRIAL ENGINES AND GENERATOR
SETS

Onan has two suppliers for the oil seal used on the models listed above. The part #509-0040 remains the same.

There is a new installation clearance dimension of 1-1/32" instead of the 31/32" or 1" dimensions given in previous service manuals for the models listed above.

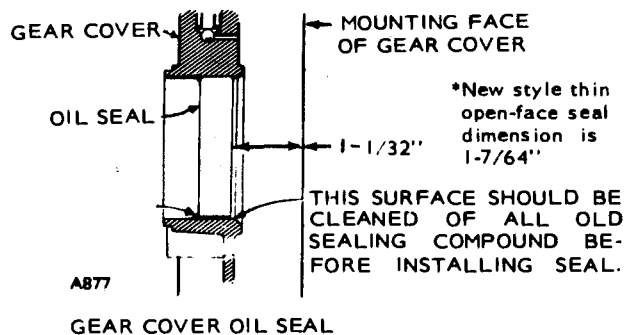
When installing the front gear cover oil seal tap the seal inward until rear (spring side) of Casing is 1-1/32" from the mounting face of the gear cover. See Illustration.

If not installed to proper depth - there is a remote possibility that the main sealing lip could ride up on to the radius of the crankshaft.

Onan offers a service tool (#420-0313) oil seal guide and driver to aid in placement of the seal during installation.

Please change your records accordingly.

This bulletin is for informational purposes.



INSTALLATION OF GEAR COVER OIL SEAL



PRODUCT SUPPORT BULLETIN NO. 32
SERVICE/PARTS/PUBLICATIONS

DATE 9/27/74
page 1 **of** 1

SUBJECT: WATER PUMP IMPELLER
PART #132-0064

REF. FILE# S - 23

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

"J" SERIES MARINE UNITS

Onan has received an incorrect shipment of the above water pump Impeller (#132-0064). 191 have been distributed in the field as replacement parts.

Incorrect Impellers are identified by being of all Rubber Construction, 1/4 inch diameter shaft hole and 2 inches in outside diameter. Check your stock and return all of these for exchange before December 27, 1974.

Correct Impellers are identified by being Rubber with a 3/8 inch Brass Insert and 1-9/16 inches outside diameter.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 33
SERVICE/PARTS/PUBLICATIONS

DATE Nov. 14, 19
page 1 **of** 1

SUBJECT: 2-BEARING AC GENERATORS FROM
6KW THROUGH 20 KW

REF. FILE# G-2

MODEL(S) or SERIES:

EFFECTIVE: FEBRUARY 75 PRODUCTION

7.0 UF-3S, 12.0 UF-3S, 12.0 UF-4S
5.0 UF-53S and 10.0 UF-53S

Beginning Spec AA, all "UF" models listed above are obsolete and will be replaced by the "YD" Generator family.

These units are available in sizes from 6KW through 20KW.

New Specification Sheets will list all models and sizes of "YD" Generators.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 34
SERVICE/PARTS/PUBLICATIONS

DATE Nov. 14, 19
page 1 **of** 1

SUBJECT: ADDITION OF RUNNING TIME METER
TO ALL GENERATOR SETS FROM
12.5KW THROUGH 90-KW

REF. FILE# S-24

MODEL(S) or SERIES:

EFFECTIVE:

FEBRUARY 25 PRODUCTION

EK, EM, KB, KR, DEH, DDA, DYJ, DEG,
MDEH, MDEG, DYA, ,DYC, RJC, RDJC & RDJF

A Product Improvement is being made, requested by ODAC, involving the installatio of a Running Time Meter to all "UR" and water-cooled "J"series generator sets beginning with February 1975 Production.

This improvement is necessary to Comply with the ONAN 5-year or 1500 hour Warranty on the above models.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 35
SERVICE/PARTS/PUBLICATIONS

DATE 11/15/74
page 1 **of** 1

SUBJECT: SPEC ADVANCE FOR "BF" SERIES
TRACTOR ENGINES

REF. FILE# E - 8

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

BOLENS MODEL BF-MS/2938D

The current Major Service Manual for the "BF" Engine used in garden tractor service is listed as a basic model BF-MS/2425 in the 965-0250 manual dated 9AD74.

A new production order effective 10/30/74 for Bolens Tractor applications is now in Spec BF-MS/2938D.

All service information and parts are identical except for the Gear Case.

Spec BF-MS/2425 uses a 103-0409 Gear Case for Spec A Thru C.

Spec BF-MS/2938D uses a 103-0501 Gear Case beginning Spec D.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 36
SERVICE/PARTS/PUBLICATIONS

DATE 11/25/74
page 1 **of** 1

SUBJECT:

NEW SERIAL NUMBER IDENTIFICATION CODE ON
NAMEPLATES FOR FRIDLEY AND HUNTSVILLE
MANUFACTURING FACILITIES

REF. FILE#

M - 2

MODEL(S) or SERIES:

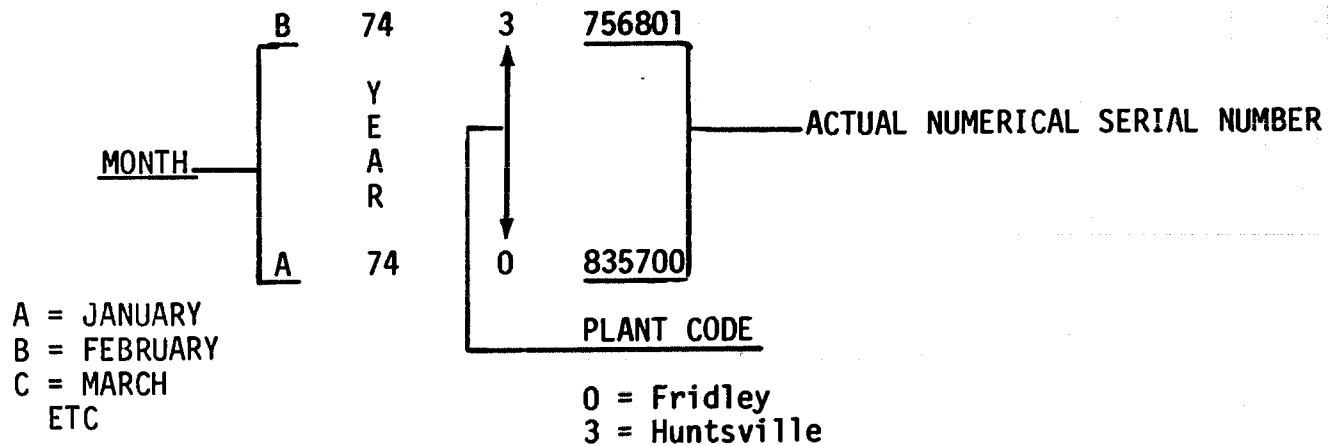
ALL CLASS "A" UNITS

EFFECTIVE:

IMMEDIATELY

Unit Nameplates for Fridley and the NEW Huntsville Manufacturing facilities have a NEW code for identification purposes. The first digit is a letter which signifies the month of manufacture, the next two numbers signify the year of manufacture, the next number identifies the Onan Manufacturing Plant; and the last 6 numbers list the actual numerical serial number of each unit. (See example).

EXAMPLE



This information is available in Miscellaneous Service Bulletin #5 along with further detailed information on all types of Onan equipment.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 37
SERVICE/PARTS/PUBLICATIONS

DATE NOV. 25, 19
page 1 **of** 1

SUBJECT: NEW OIL FILL TUBE MOUNTING HARDWARE **REF. FILE#** E - 9

MODEL(S) or SERIES:

CCK, CCKA, CCKB, NH, NHC, NHB, NHAV, NHBV, NHCV

EFFECTIVE:

Immediately

Reports indicate engine vibration may be causing the "Whizlock" capscrews # 821-0019 (1/4-20 x 5/8) to loosen on the oil fill tube.

Use replacement hex head capscrew #800-0004 and a split lock washer #850-0040 to correct the problem.

Order stock as needed!

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 38
SERVICE/PARTS/PUBLICATIONS

DATE Dec. 2, 197
page 1 **of** 1

SUBJECT: NEW INVERTED CONNECTOR FOR
GREATER OIL FLOW IN "JC" ENGINES

REF. FILE# S - 25

MODEL(S) or SERIES:

EFFECTIVE: 10/30/74

ALL "JC" ENGINES

A new inverted connector (Part #502-0281) in the cylinder heads; changes from .020 to .028 restriction to allow more oil to get to the valve train components.

This same fitting (.028 restriction) was used in earlier "JC" engine production prior to April 19, 1971.

A new breather valve system using a PCV valve was added in April 1971 on all "JC" engines with a .020 restriction inverted connector for the valve train area.

With the new PCV valve breather system and the inverted connector with a .028 restriction; upper deck flooding could occur in the valve train area on any units built between April 1971 and July 1972.

As of July 1972; subsequent changes to the cylinder block and some additional tappet changes allowed better drainage and greater lubrication of the valve train area using the PCV valve and a connector with a .028 restriction!

During the period from July 1972 through October 10, 1974 a connector with a .020 restriction was used although oil lubrication could be marginal in some cases.

Any units built between April of 1971 and July of 1972 may have a problem with excessive oil in the valve train area which could cause leakage and heavy smoking of the exhaust if using a restrictor connector of .028 (part #502-0281!)

Any units brought in for repair; built between April 1971 and July 1972 with a complaint of this nature; should be checked to see what size the connector for the valve train area is? If the unit has a PCV valve breather system it should have a connector with a .020 restriction part #502-0394!

ANY units built after 10-25-74 will use the .028 restriction connector!

This is not a mandatory field modification!

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 39
SERVICE/PARTS/PUBLICATIONS

DATE Dec 16,
page 1 **of** 1

SUBJECT: PRODUCT IMPROVEMENT AND
SPEC ADVANCE

REF. FILE# C - 1

MODEL(S) or SERIES:
ATUC, ATUD, and ATUE 30-400 AMP
TRANSFER SWITCHES

EFFECTIVE: SPEC B

The disconnect plug on the above AT'S was changed from a metal shield ring on the outside to a plug with an "All Plastic" body.

Manufacturers are discontinuing the metal type plug.

Also, with the change to Spec B, we are adding transfer inhibit terminals and a manual operator to all transfer switches that are mechanically held on both the line and the generator side.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 40
SERVICE/PARTS/PUBLICATIONS

DATE Dec 16, 1974
page 1 **of** 1

SUBJECT: 611C1086 MOTOR HOME CONTROL USING 300-0859 PRINTED CIRCUIT BOARD
REF. FILE# S - 26

MODEL(S) or SERIES: ALL "CCK" AND "NH" GENERATOR SETS (Spec 12000) 4.0, 5.0 & 6.5KW
EFFECTIVE: Immediately

During the period from Sept 1st through Nov 1st 1974, Onan installed a jumper wire between terminals 2 and 10 on the 300-0859 Printed Circuit Board used on the above Motor Home Generator Sets.

This jumper wire eliminated the F3 fuse-link protection on the board should a wire from terminal 10 of the board short to ground! This causes no damage to the printed circuit board.

As of Oct 15th, this jumper wire was replaced with a fuseholder and a 9-amp fuse connected between terminals 2 and 10 on the top of the Printed Circuit Board itself. This fuse is similar to fuse F1 which is connected to terminal 5 of the 300-0859 Printed Circuit Board, but is not on the Board itself.

On Any units brought in for service, visually check the control for this jumper wire (connected between 2 and 10 on the board itself). If the jumper wire is installed Remove and discard it!

It isn't necessary to add a 9-amp fuse (when jumper wire is removed) as fuse protection is provided by the F3 fuse-link on the bottom side of the Printed Circuit Board.

In case fuse-link F3 is burnt out, a fuse and fuseholder assembly (Onan part #321-0210) which includes fuse, fuseholder and leads can be added. This is an alternative to soldering a wire to the board as described in the Operator's Manual #927-0310 page 12 for the "CCK" and 940-0310 Page 14 for the "NH" models.

SERVICE TIP: If a customer complains that his Running Time Meter or Generator On-Light doesn't function; this could be the problem! To correct this problem refer to the procedures above and thoroughly check the wiring!

Standard Warranty Policy Applies to removal of the jumper if necessary!

This bulletin is for informational purposes.

NOTE: The F3 fuse-link mentioned above is actually a short length of etching on the bottom side of the printed circuit board which has a calibrated resistance and is narrower in width than the normal etching of the board on each side of the fuse-link!



PRODUCT SUPPORT BULLETIN NO. 41
SERVICE/PARTS/PUBLICATIONS

DATE Dec. 16,
page 1 **of** 1

SUBJECT:

REF. FILE# S - 27

DISTORTION OF CARBURETOR
MOUNTING FLANGE

MODEL(S) or SERIES:

EFFECTIVE:

IMMEDIATELY

ALL AK, AJ, MAJ, AND LK UNITS WITH
WALBRO CARBURETORS

The above problem (Distortion of Carburetor Mounting Flange) may occur if the carburetor flange nuts are inadvertently overtightened. The mounting flange is quite thin and if overtightened, could cause air leaks, burned valves, etc.

Onan has added a new carburetor flange plate between the carburetor and the 1/2" laminated carburetor spacer.

Order your stock of the new plate part #145-0469 and gasket part #141-0078 to add to any units currently in your shop for repairs. The gasket is added between the carburetor and the new plate.

Advise your customers of the availability of these parts and suggest that they make this modification on their units the next time the unit is serviced.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 42
SERVICE/PARTS/PUBLICATIONS

DATE DEC 16, 1
page 1 **of** 1

SUBJECT: RETURN OF DIESEL INJECTION PUMPS **REF. FILE#** M - 3

MODEL(S) or SERIES: **EFFECTIVE:** IMMEDIATELY

ALL "J" SERIES DIESELS

Onan is receiving many injection pumps not properly protected (dirt, shavings, etc. which necessitates thorough cleaning and re-assembly prior to testing. This requires extra time and labor!

When you return diesel injection equipment for exchange or for warranty credit; consideration is important to protect these parts against dirt contamination.

Please make sure the injection pump inlets and outlets are covered immediately after removal from the engine. You can use the protective plastic caps removed from the new pump for this purpose.

Failure to provide adequate protection can result in warranty denial and extra expense for you!

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 43
SERVICE/PARTS/PUBLICATIONS

DATE 12-16-74
page 1 **of** 1

SUBJECT: CHANGE IN SECTION "D" OF THE
L-835L PARTS PRICE LIST

REF. FILE# M - 4

MODEL(S) or SERIES: MDJC ONLY

EFFECTIVE: IMMEDIATELY

The Heat Exchanger Kit for the MDJC shown on page D-6 of the L-835L Parts Price List is INCORRECT! (Onan Part #130-0914).

The correct part number for that kit is 130-0915!

Please change your records accordingly.



PRODUCT SUPPORT BULLETIN NO. 44
SERVICE/PARTS/PUBLICATIONS

DATE JAN 27, 19
page 1 **of** 1

SUBJECT: SPARK PLUG GAP CHANGE

REF. FILE# S-28

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

All JC-MJC and RJC Generator Sets

For better performance (smoother running) and standardization; when operating at light loads the spark plug gap has been increased from .025 (0.64 mm) to .035 (0.89 mm).

If the problem of rough running at light loads occurs in the field, just regap the plugs to .035 (0.89 mm).

This applies to all gas, gas-gasoline and straight gasoline units.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 45
SERVICE/PARTS/PUBLICATIONS

DATE JAN 27, 19
page 1 **of**

SUBJECT: CHANGE IN MOUNTING HARDWARE **REF. FILE#** S-29

MODEL(S) or SERIES: **EFFECTIVE:** IMMEDIATELY
All MCKK Generator Sets

Onan has decided to remove all "whizlock" hardware from all cast surfaces on MCKK units.

"Whizlock" hardware is currently used for mounting the oil pump, thermostat housing and exhaust manifold.

New hardware is listed below and used where indicated. The exhaust manifold mounting hardware is torqued to 14-17 foot lbs. (18.98 Nm - 23.05 Nm).

OIL PUMP MOUNTING HARDWARE

Part #800-0007 HHCS (use with 850-0040 Lockwasher. Quantity is 2.

THERMOSTAT MOUNTING HARDWARE

Part #800-0007 HHCS (use with 850-0040 Lockwasher. Quantity is 4.

EXHAUST MANIFOLD MOUNTING HARDWARE

Part #800-0029 HHCS (use with 850-0045 Lockwasher. Quantity is 4.

Order stock as needed.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 46
SERVICE/PARTS/PUBLICATIONS

DATE JAN 27, 197
page 1 **of** 1

SUBJECT: NEW PISTONS AND PISTON RINGS

REF. FILE# S-30

MODEL(S) or SERIES:

All NHA, NHB, NHC, NHAV, NHBV
and NHCV Industrial Engines.

EFFECTIVE: IMMEDIATELY

This across the board product improvement results in improved oil control and greater scuff resistance to the cylinder bore.

Ring set part numbers (113-0164, 113-0165 and 113-0166) remain the same for both new and old pistons.

The new piston is Part #112-0141 which replaces old piston Part #112-0111 for all engine applications. The new piston must be used in all industrial engines.

The 112-0111 piston will continue to be used on all 6.0 and 6.5 kW NH generator sets. If desired the new piston (part #112-0141) may be used in the generator sets also, but this is not mandatory.

This bulletin is for informational purposes.



SUBJECT: EMERGENCY RELAY NUISANCE TRIPPING **REF. FILE#** S-31

MODEL(S) or SERIES:

MDJB-MDJE 2 cylinder
MDJC-MDJF 4 cylinder
UNITS EQUIPPED WITH SOUND SHIELD

EFFECTIVE: Beginning
Spec "AA" Only

Under extremely - abnormal operating conditions the emergency Relay (part #320-0104) being a thermo-activated device, can nuisance trip!

Check oil level, oil pressure and LOPK0.

After checking above, if condition persists modification to your generator air inlet is required.

The addition of a new Duct Adapter Band (part #405-2209 for the MDJB and MDJE models and part #405-1536 for the MDJC and MDJF models) will lower the operating temperatures which caused nuisance tripping of the emergency relay.

Necessary mounting hardware is the same and consists of the following:

- 1EA 870-0053 HEX NUT 10/32
- 1EA 850-0030 LOCKWASHER #10
- 1EA 813-0105 SCREW RHM (10-32 x 1)

Adjust the duct adapter band so it extends 1/4" (6.4 mm) into air duct. See Figure 1. Tighten adapter band.

This is not a mandatory field modification.

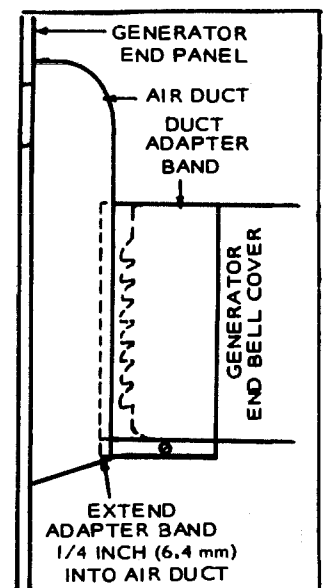


FIGURE 1.



PRODUCT SUPPORT BULLETIN NO. 48
SERVICE/PARTS/PUBLICATIONS

DATE Feb 3, 197
page 1 **of** 1

SUBJECT: CHANGE IN MUFFLER/MANIFOLD
MOUNTING HARDWARE

REF. FILE# S-32

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL CCK, CCKA, AND CCKB INDUSTRIAL ENGINES AND
CCK GENERATOR SETS. ALL "NH" SERIES GENERATOR
SETS ONLY.

To secure exhaust to the intake manifold more effectively, Onan is changing the mounting hardware from self locking capscrews to capscrews and splitlock washers.

New hardware is listed below.

| PART NUMBER | DESCRIPTION | QTY PER UNIT |
|-------------|-------------------------|--------------|
| 850-0045 | Washer, Lock 5/16 | 4 |
| 800-0028 | Screw--HHC 5/16-18 x 1" | 4 |

Order your stock as needed.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 49
SERVICE/PARTS/PUBLICATIONS

DATE Feb 3, 197
page 1 **of** 1

SUBJECT: RELOCATION OF SCR BRIDGE TO
GENERATOR CONTROL BOX.

REF. FILE# S-33

MODEL(S) or SERIES:

EFFECTIVE: BEGIN SPEC "C"

ALL "UR" SERIES--SINGLE BEARING "AC" GENERATORS
from 30 kW THROUGH 175 kW.

The current spec on this generator family was advanced from B to "C" because of the relocation of the SCR bridge.

The SCR bridge was previously mounted on the generator endbell itself.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 50
SERVICE/PARTS/PUBLICATIONS

DATE Feb 14, 1
page 1 **of** 1

SUBJECT: PRODUCT IMPROVEMENTS AND
SPEC ADVANCE

REF. FILE# S-34

MODEL(S) or SERIES:

EFFECTIVE: SPEC "G".

6.ONH-1R/9000 GENERATOR SETS

The following changes effective February 13, 1975 are being made on the above model:

1. New circuit breaker part #320-0549.
2. Addition of a guard to the Vacu-Flo scroll.
3. Change in crankshaft blower wheel keyway.
4. AC output leads changed from 3 to 2.
5. Changed starter (new part #191-1052).

The circuit breaker (Item #1) was changed because of a nuisance tripping problem on some models-(due to vibration).

On units prior to Spec "G", a new Kit is available, part #320-0570, which contains all necessary parts and installation instructions to install the new circuit breaker.

This is not a mandatory field modification.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 51
SERVICE/PARTS/PUBLICATIONS

DATE Feb 14, 19
page 1 **of** 1

SUBJECT: PRODUCT IMPROVEMENTS AND
SPEC ADVANCE

REF. FILE# S-35

MODEL(S) or SERIES:

EFFECTIVE: SPEC "C"

4.OBF-1R/9000

The following changes effective immediately are being made on the above model:

1. New circuit breaker part #320-0547.
2. AC output leads changed from 3 to 2.
3. Addition of a flange to the air cleaner adapter.
4. Addition of a guard to the Vacu-Flo scroll.
5. New oil fill tube and twist cap type oil level indicator.

The circuit breaker (Item 1) was changed because of a nuisance tripping problem on some models-(due to vibration).

On units prior to Spec "C", a new Kit is available, part #320-0569, which contains all necessary parts and installation instructions to install the new circuit breaker.

This is not a mandatory field modification.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 52
SERVICE/PARTS/PUBLICATIONS

DATE Feb 14, 19
page 1 **of** 1

SUBJECT: CHANGE IN ENGINE RADIATOR

REF. FILE# S-36

MODEL(S) or SERIES: DYC SERIES
ALL RADIATOR COOLED MODELS.

EFFECTIVE: SPEC "F"

Our engine supplier (Allis Chalmers) has changed their engine configuration, which requires a different radiator.

The new radiator has a different inlet, and outlet location and a different outlet hose.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 53
SERVICE/PARTS/PUBLICATIONS

DATE Feb 14, 19
page 1 **of** 1

SUBJECT: BREATHER TUBE MAINTENANCE

REF. FILE# E-10

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL BF-MS INDUSTRIAL ENGINES

During normal routine engine maintenance, always inspect air cleaner breather tube (part #123-1176) for possible air leaks through which the engine could breathe in dirt.

Overlooking this important (but seldom checked) maintenance item could allow dirt to enter the engine and cause severe and extensive engine damage.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 54
SERVICE/PARTS/PUBLICATIONS

DATE Feb 14, 19
page 1 **of** 1

SUBJECT: IGNITION TIMING CHANGE

REF. FILE# E-11

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

CCKB-MS/2861J Gorman Rupp models
CCKB-MS/2900J Wilson and Cousins models

The Owner's Operator/Service manual (927-0404) for the CCKB series in Spec "J", specifies initial timing on spark advance models at 1° ATC.

The two models listed above have magneto ignition with electric start; and INITIAL TIMING on these models ONLY should be 5° BTC.

The above models with 1° ATC initial timing may be hard to start.

With spark advance in operation, these engines were firing at 18° BTC.
This timing change means these engines will fire at 24° BTC.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 55
SERVICE/PARTS/PUBLICATIONS

DATE Feb 14, 19
page 1 **of** 2

SUBJECT: REPLACEMENT ENGINES FOR
 TENNANT FLOOR SCRUBBERS
 OWATONNA SKID LOADERS &
 JOHN DEERE SKID LOADERS

REF. FILE# E-12

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

TENNANT NH-MS 2145C (LPG) AND NH-MS 2146C (GASOLINE)
 OWATONNA AND JOHN DEERE NH-MS 2259C

Onan has discontinued manufacturing the NH-MS industrial engines. If above OEM customers need a replacement NH-MS engine, they must be furnished the NHC-MS industrial engine.

Replacement NHC/MS engines for NH-MS engines are available as follows:

| <u>OEM Account</u> | <u>Current Model and Spec</u> | <u>Replacement Model and Spec</u> |
|-------------------------|-------------------------------|-----------------------------------|
| Tennant Co. | NH-MS 2145C (LPG) | NHC-MS 2917B (LPG) |
| | NH-MS 2146C (Gasoline) | NHC-MS 2916B (Gasoline) |
| Owatonna and John Deere | NH-MS 2259C | NHC-MS 2699B |

In addition to the basic NHC-MS industrial engines, each OEM customer requires additional parts to accommodate installation of the new engine in their particular equipment application.

TENNANT CORPORATION
 701 North Lilac Drive
 Minneapolis, Minnesota 55422
 Telephone: AC 612/540-1262

For Tennant floor scrubbers, a Gasoline or LPG conversion kit is available through the Tennant Company ONLY to complete the installation of the NHC-MS industrial engine. Contact the Tennant Company directly at the address shown at left.

OWATONNA MACHINE COMPANY
 Highway 45 North
 Owatonna, Minnesota 55060
 Telephone: AC 507/451-2860

For Owatonna conversions, additional modification parts such as the muffler, air-cleaner, heat shield, shroud, throttle cable and mounting hardware are available directly from Owatonna Manufacturing Company at the address shown at left.

(OVER)

Page 2 continued
Product Support Bulletin #55

JOHN DEERE COMPANY
OUTSIDE MANUFACTURED PRODUCTS DIVISION
MOLINE, ILLINOIS

For John Deere conversions, the same additional modification parts are necessary as were used for Owatonna conversions. These parts are available directly from the John Deere company at the address shown at left.

For OWATONNA and JOHN DEERE skid loader conversions with electric fuel pump, the fitting on the fuel line hose must be cut off to connect to the new fuel pump in addition to the modification parts mentioned earlier on page 1.

In all three applications, any additional parts necessary to accommodate the basic NHC-MS industrial engines to the particular equipment involved, MUST be ordered DIRECTLY from the OEM account at the listed locations, and NOT from Onan.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 56
SERVICE/PARTS/PUBLICATIONS

DATE Feb. 20, 19
page 1 **of** 2

SUBJECT: COMPARISON
NEW GENERATORS VS PHASED OUT MODELS REF. FILE# G-3
(SINGLE AND 2-BEARING)

MODEL(S) or SERIES:

"J"-SERIES TO "YD"
"UR" SPEC "B" TO "UR" SPEC "C"
7-12KW "UF" TO "YD"
2.5 - 4KW "UF" TO "YCB"
"UD" TO "YCB"

EFFECTIVE:

IMMEDIATELY

"UR" IS SINGLE BEARING
"YD" IS SINGLE AND 2-BEARING
"YCB" IS 2-BEARING

With Spec Advance changes and new model introduction, confusion abounds. Four major differences exist between older phased out model generators and current production models. The differences are:

- KW RATING
- OPERATING RPM
- PHYSICAL SIZE
- DIRECTION OF ROTATION

There is NO direct interchangeability with old style generators.

The following is a comprehensive layout of comparison between old and new style STANDARD PRODUCTION UNITS. Applicable notations for application are called out.

1. "YD"-VS-"J" SERIES, SINGLE BEARING (per MPB Sec 7-599-1.)

Comparitive Differences are: LENGTH: "YD" generally shorter than "J" series.

DIAMETER: "YD" is 7/8 inches larger in diameter than "J" series. (Requires different engine adapter.)

VOLTAGE REGULATOR: "YD" uses a separate voltage regulator assembly mounted in an enclosure for remote mounting. The "J" series had the static exciter mounted in the air flow in the generator end bell.



*The voltage regulator is NOT to be mounted on the end bell where it would restrict air flow.
The "YD" requires about 20% more air flow for cooling.*

(OVER)

2. "UR" SPEC "B"-VS-"UR" SPEC "C", SINGLE BEARING.

A combining of voltage regulator components was made. There had been a chassis assembly mounted on the generator end bell. Now the components are all in one loose chassis assembly for remote mounting. No physical appearance changes nor changes in rotation speed were made. For additional information refer to Product Support Bulletin #49 (Code S-33) dated February 3, 1975.

3. "YD"-VS-"UF", 2-BEARING GENERATORS.

Comparitive Differences are: In sizes 7 through 12KW, the "UF" is changed to a "YD" generator.

The "YD" generator is larger in diameter, but shorter in comparable length per unit rating.

All "YD" generators have clockwise rotation as standard, which may NOT be "field modified."

"UF" generators may be modified in the field for either clockwise or counterclockwise rotation.

All "YD" generators are 1800 RPM. Some "UF" generators were 3600 RPM.

4. "YCB"-VS-"UD" AND "UF", 2-BEARING GENERATORS.

Comparitive Differences are: In sizes 2.5 through 4KW, the "UF" is changed to a "YCB" generator, and the "UD" is also changed to a "YCB" generator.

All "YCB" models are clockwise rotation and 3600 RPM-60HZ, or 3000 RPM-50HZ. Rotation may NOT be "field modified".

"UF" and "UD" may be modified in the field for either clockwise or counterclockwise rotation. In addition, the "YCB" uses the same mounting bolt hole spacing and shaft size as the "UD".

All 60HZ "YCB" generators are 3600 RPM. Some "UF" generators were 1500 and 1800 RPM units.

For further details, contact your Onan Zone Representative or the Onan Factory.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 57
SERVICE/PARTS/PUBLICATIONS

DATE Feb. 20, 19
page 1 **of** 2

SUBJECT: 300-0859 PRINTED CIRCUIT BOARD

REF. FILE# S-37

MODEL(S) or SERIES:

CCK, MCCK, AND NH GENERATOR SETS USING THE
300-0859 PRINTED CIRCUIT BOARD IN THE
CONTROL (SOLID-STATE)

EFFECTIVE: IMMEDIATELY

This bulletin pertains to modification packages that have been made to reduce, prevent or eliminate the common field problems on generator set controls using this printed circuit board. The four main modification packages and procedures are as follows:

1. **IN-LINE FUSE PACKAGE #321-0212:** This package is to reduce board failures on early units without fuse protection on terminal #5. Most board failures were caused by customer errors such as reverse battery connections or incorrect remote start connections etc. The procedure is as follows:

UNITS IN WARRANTY - Add fuse package at No Charge for Parts and Labor, IF WARRANTABLE. Allowable labor time will be 15 minutes.

UNITS OUT OF WARRANTY - Promote sale of Fuse package at Customer's expense.

2. **F3 FUSE BY-PASS PACKAGE #321-0210:** This package is offered as a customer convenience to eliminate the necessity of removing the printed circuit board to repair a blown fuse F3. The procedure is as follows:

Warranty claims will NOT be paid on repair or replacement of the complete 300-0859 Printed Circuit Board. Also refer to Product Support Bulletin #40 (Code S-26) dated December 16, 1974.

Promote sale of Fuse By-Pass package as a convenience at Customer's expense.

3. **COVER AND SWITCH REPAIR PACKAGE #300-1232:** This package includes the necessary hardware and parts to repair a missing switch S-1 or S-2 which may have been damaged when cover was removed. The procedure is as follows:

UNITS IN WARRANTY - Onan will supply Parts and Labor at No Charge. Allowable labor time will be 1/2 hour. NO WARRANTY will be allowed for replacement of the complete 300-0859 Printed Circuit Board because of a missing switch push-button on S-1 or S-2. Replace the board if the switch becomes broken off at the solder connections.

UNITS OUT OF WARRANTY - Promote sale of 300-1232 Switch Repair Package at Customer's expense.

(OVER)

4. START-DISCONNECT MODIFICATION PACKAGE #300-1231: This package was designed to reduce, prevent or eliminate three separate problems which were:
 - A. Sticking Start Solenoids
 - B. Solenoid Chatter Affecting Cranking Speed.
 - C. Blown CR10 Diodes (provided motor home applications do NOT have a faulty transfer switch.

Procede as follows:

UNITS IN WARRANTY - Onan will allow normal Parts and Labor. Allowable labor time will be 1/2 hour.

UNITS OUT OF WARRANTY - Submit Warranty Claim for CONSIDERATION by Onan to cover all Parts at No Charge, But Labor at Customer's expense. This policy expires ONE YEAR from DATE of THIS BULLETIN.

5. GENERAL INFORMATION AND PROCEDURES FOR REPAIRING THE 300-0859 PRINTED CIRCUIT BOARD.

General warranty coverage does NOT apply if the 300-0859 Printed Circuit Board is replaced because of corroded printed circuit paths, which may have been caused by foreign material (road salt, water, etc.); (except as noted in modification package #4 above because of chattering Start Solenoids affecting cranking speed.)

Warranty coverage does NOT apply to boards replaced because of blown CR10 Diodes (If used in conjunction with a faulty transfer switch.)

Resolder Cracked Solder Joints at the Terminal Strips. Warranty Labor allowance will be 15 minutes.

For further information on problems caused by faulty transfer switches, refer to Product Support Bulletin #58 (Code C-2) dated February 20, 1975.

A new Service Bulletin (Control 17) providing detailed informaton on problem symptoms, troubleshooting and repair procedures for the 300-0859 Printed Circuit Board, will be available in the near future.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 58
SERVICE/PARTS/PUBLICATIONS

DATE Feb. 20, 1
page 1 **of** 2

SUBJECT: LOAD TRANSFER SWITCHES USED WITH
ONAN "RV" ELECTRIC POWER PLANTS

REF. FILE# C-2

MODEL(S) or SERIES:

ANY ONAN-BUILT "RV" PLANT - CCK, NH, AJ, BF OR LK.

EFFECTIVE: IMMEDIATELY

CAUTION *Be careful when choosing or installing a transfer switch mechanism used with any Onan-Built "RV" electric power plant. All installations and transfer switches themselves MUST meet the requirements of NFPA 501C (STANDARD FOR RECREATIONAL VEHICLES) and ANSI 119.2.*

SUCH EQUIPMENT MUST ENSURE THAT THE OUTSIDE POWER SOURCE AND THE ELECTRIC PLANT CANNOT BE CONNECTED TOGETHER AT THE SAME TIME.

Use of a transfer switch NOT meeting above requirements will effect Warranty Coverage.

We offer the following suggestions for making your choice of transfer equipment.

TRANSFER MECHANISMS NOT RECOMMENDED

Some transfer mechanisms have back-to-back circuit breakers or have transfer switches without positive-off positions. They have an interlocking device to prevent both generator-side and utility line-side contacts from closing simultaneously. But some problems can occur.

CAUTION *Don't assume a positive-off position transfer mechanism is necessarily safe unless the off position provides a means of delay long enough for residual voltages of inductive loads to decay before switching to the other power source.*

WARNING *If the RV plant is supplying power to the motor home load and someone switches the load from the plant to the utility power source, both generator-side and utility line-side contacts may be closed for an instant (due to damage or misalignment of the interlock device), or an arc can occur across one set of contacts if loads, especially an air conditioner or other large load, are operating when switching occurs. This means the male terminals of the power cord plug (for utility power connection) are "HOT" for an instant and could:*

1. Cause shock to someone holding power cord if touching plug terminals, or shock to someone working on utility lines if plug is already connected to the utility receptacle; or

(OVER)

2. Cause an arc between plug male terminals and chassis, which could possible start a fire.

Printed circuit boards of Onan electric plant controls, if so equipped, can also be damaged when switching from the utility power source to the electric plant if arcing occurs or if both generator-side and line-side contacts are closed for an instant.

RECOMMENDED TRANSFER MECHANISMS

An economical manual, positive-off transfer mechanism is a receptacle for the electric plant in the compartment. An approved power cable connected from the load, plugs into this receptacle or the park utility power receptacle. This ensures both sources are NOT connected simultaneously.

An alternative to the receptacle is a manual, positive-off type transfer switch. The positive-off switch allows residual voltages of inductive loads (Motors, etc.) to decay before switching to the other power source.

NOTE: A motor-reversing type switch is most desirable of the positive-off type switches. Switching from one power source to the other cannot be done unless first stopping at the OFF position of the Switch itself.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 59A
SERVICE/PARTS/PUBLICATIONS

DATE March 14, 1
page 1 **of** 1

SUBJECT: "O" RING

REF. FILE# S-38

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

MCCK AND MARINE "J"-SERIES

This bulletin supersedes bulletin #59 dated 3/5/75. The part # for the Locktite compound was incorrect.

Bulletin should read as follows:

The 509-0113 "O" ring previously used in the 131-0152 and 131-0165 water pumps is no longer used.

In our assembly we use Locktite compound (Part #518-0306) in place of "O" ring to seal bearing.

Locktite is included with all 131-0154 and 131-0166 Shaft and Bearing Assemblies.

Locktite compound (Part #518-0306) is available for your stock.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 60
SERVICE/PARTS/PUBLICATIONS

DATE March 5, 19
page 1 **of** 1

SUBJECT: "RV" REMOTE WIRING CONNECTIONS
DIFFERING FROM STANDARD "ONAN"
WIRING DIAGRAMS

REF. FILE# S-39

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

"CCK" AND "NH" GENERATOR SETS USING THE
300-0859 PRINTED CIRCUIT BOARD CONTROL

GENERAL INFORMATION:

Sports Coach, Executive and several other Motor Home manufacturers are making wiring connections to this printed circuit board that differ from those shown on the standard "Onan" wiring diagrams.

Connections for the Remote Start-Stop functions for these manufacturers are the same as those used on standard "Onan" wiring diagrams. Terminals 13 and 14 are for "Stop" connections and terminals 15 and 16 are for "Start" connections.

The differences occur when connections are made for the Generator Run light, Running Time meter and B+ to the Printed Circuit Board.

SPECIFIC CHANGES:

Terminal #8 on the board is used to provide 12 volts for operating the Generator Run light and the Running Time meter. In some cases a fuse is installed in this line.

A separate wire is connected from the Battery Positive terminal to terminal #5 to place B+ on the board. This wire replaces the factory installed wire between the Start Solenoid B+ terminal and terminal #5 on the Printed Circuit Board.

If the wire from terminal #8 shorts to ground, damage can occur to the Q2 transistor which in turn would disable the Start-Disconnect Circuit. This results in the Start Solenoid staying energized until the Start pushbutton is released. The G1R1 Charge Resistor, located in the Generator End Bell, can also be Overheated, which in turn would disable the Battery Charging Circuit.

WARRANTY POLICY:

These connections are made with "Onan's knowledge." Standard Motor Home Warranty policy applies to these units Except for Circuit Board failures as described above, resulting from a "Shorted Customer installed wire" or "Faulty wiring made by others."

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 61A
SERVICE/PARTS/PUBLICATIONS

DATE SEPT. 10, 1975
page 1 **of** 1

SUBJECT: "RED COVER" GENERATOR SET
SERVICE MANUALS

REF. FILE# M-9

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL MAJOR SERVICE MANUALS
FOR ALL GENERATOR SETS.

As previously announced in Product Support Bulletin No. 61 (3/27/75), all individual "Red Cover" Major Service Manuals will be discontinued!

The New Master Service Manual #922-0500 contains the information previously covered in all the individual "Red Cover" service manuals. The Net Price is \$25.00.

The New Master Service Manual #922-0501 consists of "Engines" Only information and sells for a Net Price of \$10.00.

Master Service Manual #922-0500 is a MUST for all Onan Distributors, Approved Dealers, Marine and RV Dealers.

Registered and Tractor Dealers require the 922-0501 Master Service Manual (Engines ONLY information). All Onan Dealers should purchase their manuals from their Onan Distributor.

All future additions or revisions to these Master Service Manuals will be covered by attached sample form #900-0198.

An informational notice will be sent in the near future with complete instructions for updating the Master Service Manuals you now have.

This bulletin is for informational purposes.



MASTER SERVICE MANUAL 922-0500

Date _____

SUPPLEMENTARY INFORMATION

INSERT THIS INFORMATION IN:

PART 1. ENGINE SECTION
PART 2. GENERATOR SECTION
PART 3. CONTROL SECTION

DISPOSITION OF EXISTING SECTION/S

- REMOVE AND DISCARD
- NOT APPLICABLE
- NOT AFFECTED



PRODUCT SUPPORT BULLETIN NO. 62
SERVICE/PARTS/PUBLICATIONS

DATE MARCH 27, 1
page 1 **of** 1

SUBJECT: CHANGE IN GEAR BOX
(VON RUDEN TO APEX)

REF. FILE# G-4

MODEL(S) or SERIES:

EFFECTIVE: SPEC "C"

40.0 AND 55.0 "UR" TRACTOR DRIVE
"PTO" ALTERNATORS

Beginning Spec "C", Von Ruden (Part #'s 190-0303 & 190-0327) Gear Boxes (540 & 1000 RPM) are being replaced with the Apex (Part #190-0413) Gear Box (1000 RPM ONLY).

Customers with units prior to Spec "C", requiring replacement of the Von Ruden (540 or 1000 RPM) Gear Boxes will be furnished the Apex 1000 RPM Gear Box with modification instructions.

In addition to the above changes, the SCR Type Voltage Regulator will be relocated from the Alternator End Bell to the AC Control panel.

This improvement will result in better performance and greater overall reliability.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 63 A
SERVICE/PARTS/PUBLICATIONS

DATE May 1, 75
page 1 **of** 1

SUBJECT: CHANGE IN GEAR PITCH

REF. FILE# G-5

THIS BULLETIN
SUPERSEDES #63
DATED 3/27/75

MODEL(S) or SERIES:

EFFECTIVE: SPEC "AA"

15.0 AND 25.0 "YD" 2-BEARING
"PTO" ALTERNATORS
(MAJOR CUSTOMER JOHN DEERE)

A running change is being made from 16 Pitch to 10 Pitch Gears on 15 YD Model for standardization. 25 YD is and has been standard with 10 Pitch Gears.

Replacement gears will be supplied as a gear set ONLY under part # 190-0437. This will eliminate the possibility of mixing different Pitch Gears or badly worn gears with a new gear.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 64
SERVICE/PARTS/PUBLICATIONS

DATE April 8, 19
page 1 **of** 1

SUBJECT: MANIFOLD BOLT LOCKING TAB

REF. FILE# S-40

MODEL(S) or SERIES: "J" SERIES

EFFECTIVE: 6/11/74

A running change has been made in production on "J" Series units effective 6/11/74.

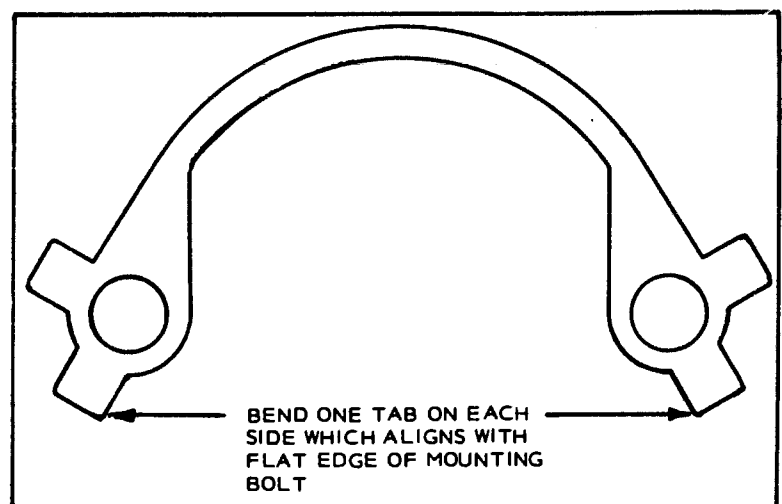
The change involves a new Exhaust Manifold Bolt Lock Tab. This lock tab prevents the possibility of manifold nuts coming loose due to engine vibration. See illustration below.

The new lock tab may be ordered under Onan part # 154-1665.

Usage will be one tab on one cylinder units, two tabs on two cylinder units and four tabs on four cylinder units.

This bulletin is for informational purposes.

NOTE: This is NOT a mandatory field modification!





PRODUCT SUPPORT BULLETIN NO. 65
SERVICE/PARTS/PUBLICATIONS

DATE April 8, 19
page 1 **of** 1

SUBJECT: CHANGE IN GEAR BOX OIL CAPACITY (VON RUDEN AND APEX) **REF. FILE#** G-6

MODEL(S) or SERIES: 40.0 AND 55.0 "UR" TRACTOR DRIVE "PTO" ALTERNATORS **EFFECTIVE:** IMMEDIATELY

The Gear Box Oil capacity for the above models (Prior to Spec "C") as shown in the Operators Manuals (971-0006 and 971-0007) is incorrect!

The Gear Box Oil capacity varies according to the RPM and Make of Gear Box used! Refer to the following table.

| <u>GEAR BOX MANUFACTURER</u> | <u>RPM</u> | <u>OIL CAPACITY (US PINTS)</u> |
|------------------------------|------------|--------------------------------|
| VON-RUDEN (SPEC A & B) | 1000 | 5½ Pints |
| VON-RUDEN (SPEC A & B) | 540 | 2½ Pints |
| APEX (Begin SPEC "C") | 1000 | 1½ Pints |

Please note these changes on pages 3, 4 and 10 in both the 971-0006 and 971-0007 Operator Manuals.

The 1½ Pint quantity currently shown in these manuals is correct for Apex models Only beginning Spec "C"! Check the nameplate on your gear box.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 66
SERVICE/PARTS/PUBLICATIONS

DATE May 1, 197
page 1 **of** 1

SUBJECT: OIL CONSUMPTION
RUNAWAY ENGINES
EXCESSIVE SMOKE

REF. FILE# S-41

MODEL(S) or SERIES: "MDJF" ONLY

EFFECTIVE: IMMEDIATELY

A few reports have been received concerning a problem of high oil consumption, runaway engines or excessive smoking on "MDJF" models only.

The problem may be caused by too small an air inlet hole in the intake manifold.

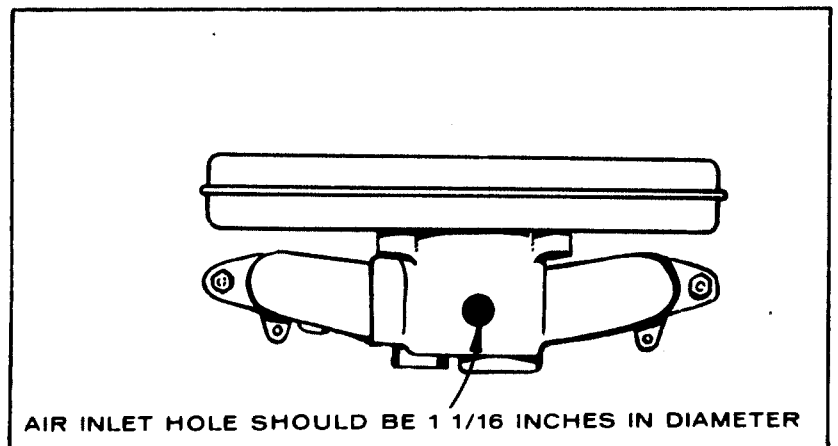
If the Air Inlet on the manifold measures 15/16 inches in diameter, it is too small. See Illustration below. The small hole could create manifold vacuum causing oil carry over through the breather system.

The correct size for the Air Inlet should be 1 & 1/16 inches in diameter. (1/8 Inch Larger.)

Remove the manifold, then use a Rotary file to enlarge the Air Inlet hole from 15/16 inches to 1 & 1/16 inches in diameter. Use compressed air to remove filings. Or replace the manifold with Part #154-1376 on 12-volt models or Part #154-1379 for 32-volt models.

A maximum of 2-hours is allowed for normal warranty repairs.

This bulletin is for informational purposes.





PRODUCT SUPPORT BULLETIN NO. 67
SERVICE/PARTS/PUBLICATIONS

DATE May 1, 197
page 1 **of** 1

SUBJECT: NEW FUEL PUMP FILTER BOWL

REF. FILE# S-42

MODEL(S) or SERIES:

ALL 2 AND 4 CYLINDER "J" SERIES
(GASOLINE AND DIESEL)

EFFECTIVE: BEGINNING SPEC "AA"

The length of the fuel filter bowl has been shortened on the above models beginning with Spec "AA".

The reason is to increase working clearance.

Old and New fuel pumps are completely interchangeable.

Onan stock of the bowls has been mixed in the recent past and 149-1168 Short bowls have been shipped in boxes marked 149-0116 (Long bowls). Check your stock to be sure you have the correct bowls on hand under the correct part numbers.

The old style Longer bail (Part #149-1006) and Bowl (Part #149-0116) (2 & 3/8 inches) are used on "J"-Series models prior to Spec "AA" and on other earlier Onan-built models.

The New style Shorter bail (Part #149-1169) and Bowl (Part of #149-1168) (1 & 5/8 inches) are used on 2 and 4 cylinder "J"-Series models ONLY, beginning Spec "AA".

Parts lists will be updated to show the newer (Shorter) Bail and Bowl.

Pay particular attention to Bowl Length if replacing Bowl Only regardless of Model.

For customer orders,--supply matching Bail and Bowl as described above.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 68
SERVICE/PARTS/PUBLICATIONS

DATE May 8, 197
page 1 **of** 1

SUBJECT: DIESEL ENGINE FUEL OIL
SPECIFICATIONS

REF. FILE# S-43

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL CLASS "A" & "B" DIESEL ENGINE GENERATOR SETS

The Diesel Engine fuel oil specifications shown on page 2 of this bulletin apply to all "Onan" Diesel Driven generator sets regardless of type or kW size (ie Air-cooled, water cooled, radiator cooled etc.).

Use of the fuel oil as specified will meet or exceed the current warranty requirements of each engine manufacture (ie Allis-Chalmers, Cummins, Detroit, John Deere, Ford, etc.).

Temperature ratings are shown in both Fahrenheit (^oF) and Celsius (^oC). All other values are shown in "Industry Accepted Standards" for all categories.

Because of size and number of different ratings, the chart is shown entirely on page 2.

This bulletin supercedes any and all previous information published on this topic for any "Onan Generator Sets."

This Bulletin is for informational purposes.

DIESEL ENGINE FUEL OIL SPECIFICATIONS FOR ALL "ONAN" CLASS "A" & "B" GENERATOR SETS

| | DYA, DYB, DYC, DYD, DYG, DYH (Allis-Chalmers) | DFT, DFU, DFV, DFW, DFY (Cummins) | DHA, DHB (DETROIT) | | DEF, DEG, DEH (Ford) | DDA, DDB (John Deere) | (ONAN) | |
|--|--|--|------------------------|------------------------|----------------------------------|-------------------------------------|------------------------|--------------------------|
| | | | #1D | #2D | | | #1D | #2D |
| API Gravity | 30-35 | 30-42 | - | - | - | - | 35 Min. | 30 Min. |
| Cetane No. | 46-60 | 40 Min. | 40 Min. | 40 Min. | 40 Min. | 40 Min. | 40 Min. | 40 Min. |
| Sulfur (Max.) | 0.5% | 1% | 0.5% | 0.5% | 0.5% | 1% | 0.5% | 1% |
| Viscosity (SSU) @ 100°F (37.8°C) | 35-40 | 30-45 | 33-35 | 34-40 | 32-40 | 32-40 | 34.4 Max. | 32.6-40.1 |
| Water & Sediment (Max) | Trace | 0.1% | Trace | 0.10% | 0.05% | 0.1% | 0.05% Max. | 0.05% Max. |
| Pour Point | 0°F (-17.8°C) | Below Lowest Temp | - | - | 10°F (5.6°C) Below Ambient | 10°F (5.6°C) Below Ambient | * | * |
| Carbon (Max.) | 0.02% | 0.25% | 0.15% | 0.35% | 0.35% | 0.35% | 0.15% | 0.35% |
| Ash (Max.) | 0.02% | 0.02% | 0.01% | 0.02% | 0.01% | 0.01% | 0.01% | 0.01% |
| Alkali or Mineral Acids | - | - | - | - | - | - | - | - |
| Distillation 10% 50% 90% Max. | | | | | | | | |
| End Point Max. | 98% Summer 700°F (370°C) Winter 600°F (315°C) | 625°F (329°C) 725°F (385°C) | 550°F (288°C) | 640°F (338°C) | 540-640°F (282-338°C) | 540-640°F (282-338°C) | 550°F (288°C) | 540-675°F (282-359°C) |
| Cloud Point | - | - | - | - | - | - | ** | ** |
| Volatility 90% | 650°F (343°C) | - | - | - | - | - | | |
| Diesel Index | 48.5-65.5 | - | - | - | - | - | 38 Min. | 38 Min. |
| Flash Point | 150°F Min. (65.5°C) | 125°F Min. (51.7°C) | 100°F Min. (37.8°C) | 125°F Min. (51.7°C) | 125°F Min. (51.7°C) | 100-125°F Min. (37.8- 51.7°C) | 100°F Min. (37.8°C) | 125°F Min. (51.7°C) |
| Active Sulfur Copper Strip Corrosion | - | #2 Max. 3-Hours at 122°F (50°C) | - | - | #3 | #3 (ASTM- D975) | #3 (ASTM- D975) | #3 (ASTM- D975) |

* - Minimum of 10°F (5.6°C) Below Lowest Anticipated Temperature.

** - Cloud Point Temperature Must Be Below Lowest Anticipated Ambient Temperature.

#1D Means No. 1 Grade Diesel Fuel.

#2D Means No. 2 Grade Diesel Fuel.



PRODUCT SUPPORT BULLETIN NO. 69
SERVICE/PARTS/PUBLICATIONS

DATE May 16, 19

page 1 **of** 1

SUBJECT: VOLTAGE SENSING PROBLEMS

REF. FILE# C-3

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ANY "LT" WITH OVER VOLTAGE, PLUG-IN SOLID-
STATE MODULES (3-PHASE MODELS ONLY)

We have had some problems with over voltage on the plug-in solid state modules on 3-phase "LT'S ONLY, shipped from 1971 through 1974.

The basic problems are:

1. Over-Voltage solid state modules—when used by themselves, will NOT indicate an "Over-Voltage" condition on one (1) leg, — unless all three (3) legs or phases are in an "Over-Voltage" condition!
2. A combination "Over-Voltage" and "Under-Voltage" causes a feedback condition which will prevent the "Under-Voltage Sensors" from dropping out individually!

To correct either problem, order new Racks under numbers shown below.
(Do NOT order if your control has a NEW Rack)!

| <u>OLD RACK NUMBER</u> | <u>REPLACED BY</u> | <u>NEW RACK NUMBER</u> |
|--|--------------------|------------------------|
| 323-0817 (OVER-VOLTAGE ONLY) | | 323-0948 |
| 323-0847 (OVER & UNDER VOLTAGE) | | 323-0949 |
| 323-0846 (SOCKET ASSEMBLY USED WITH OVER & UNDER VOLTAGE) | | 323-0950 |

Transfer switches identified above are affected and should be modified per this bulletin. Normal warranty conditions will apply for this modification even if switches are beyond the normal warranty period!

Maximum Allowable Warranty Time is 1 & 1/2 Hours!

Order replacement racks through the Onan Service Department — giving the Complete Model Number, Serial Number and Wiring Diagram Number of the "LT" involved! A corrected wiring diagram will be sent along with the new replacement racks as specified at NO CHARGE!

A separate instruction sheet is included with each replacement rack for wiring purposes.

This Bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 70
SERVICE/PARTS/PUBLICATIONS

DATE May 16, 19
page 1 **of** 1

SUBJECT: "UD" AND "UF" 2-BEARING "AC"
GENERATORS CHANGING TO "YCB"
SERIES

REF. FILE# G-7

MODEL(S) or SERIES:

EFFECTIVE: May 8, 1975

1.5 UD 2.5 UF
2.0 UD 3.0 UF
2.5 UD 4.0 UF
3.5 UD

Effective May 8, 1975, all AC "UD" and "UF" models listed above will be replaced with the "YCB" series.

These units are available in sizes from 1.0 through 6.0 kW.

All DC versions of the "UD" and "UF" series will remain unchanged!

New Specification sheets will list all models and sizes of "YCB" Generators.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 71
SERVICE/PARTS/PUBLICATIONS

DATE May 16, 19
page 1 **of** 1

SUBJECT: CHANGE IN CRANKSHAFT FLYWHEEL
 KEYWAY LOCATION

REF. FILE# E-13

MODEL(S) or SERIES:

CCK, CCKA, CCKB, BF, BG, LK, NH,
 NHA, NHB AND NHC INDUSTRIAL ENGINES

EFFECTIVE: IMMEDIATELY

Changes are being made in numerous crankshafts used in the above models. The change involves moving the flywheel keyway closer to the end of the shaft and making it deeper! See illustration below.

The Old woodruff key (515-0002) will NOT work (but it will fit if you're careless) on the new keyway! A NEW key (Part #515-0098) will now be used. Onan will continue to supply new woodruff key with all replacement crankshafts.

On all parts orders for 515-0002 and 515-0098 keys, Onan will supply a Key Kit, (Part #515-0227) which includes both keys. This is to ensure that the correct key is on hand when it is NOT certain if it is needed for an Old or New Crankshaft.

This bulletin is for informational purposes.



| <u>QTY.</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|-------------|-----------------|----------------------------|
| 1 | 515-0002 | Key, 3/4" Diameter x 3/16" |
| 1 | 515-0098 | Key, 5/8" Diameter x 3/16" |



PRODUCT SUPPORT BULLETIN NO. 72
SERVICE/PARTS/PUBLICATIONS

DATE May 16, 19
page 1 **of** 1

SUBJECT: OIL IN BREAKER BOX

REF. FILE# S-44

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL LK, CCK, CCKA, CCKB AND MCKK
ENGINES AND GENERATOR SETS

Some reports indicate oil is still getting into the Breaker Boxes even though the 160-1143 Breaker Box Plunger Diaphragm (Boot) has been removed per our recommendations in Tele-News #101, dated August 30, 1973.

The crankcase in the above engines MUST operate under a vacuum near 0 to 14 inches of water column depending on the engine. If the pressure in the crankcase goes positive in pressure, oil will be forced into the breaker box!

To correct this condition allowing oil to get into the breaker box (Positive Crankcase Pressure), look for the following:

1. Poor gaskets or seal (whether an oil leak is present or not). Check these items:
 - A. Oil Base Gasket
 - B. Rear Bearing and Seal
 - C. Gear Cover Gasket and Seal
 - D. Loose Breather Tube
 - E. Oil Fill Cap Gasket
 - F. Valve Cover Gaskets
 - G. Point Box Gasket or Warped Point Box
2. Poorly operating Breather caused by:
 - A. Ball Sticking
 - B. Clogged or kinked lines or Breather
3. Piston, Bore or Ring Problem caused by:
 - A. Worn or Scored Bores
 - B. Worn or Stuck Rings
 - C. Worn or Scored Pistons

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 73
SERVICE/PARTS/PUBLICATIONS

DATE May 16, 1975
page 1 **of** 1

SUBJECT: J-SERIES SINGLE PHASE
AIR-COOLED STATORS USED
IN "YD" GENERATORS

REF. FILE# S-45

MODEL(S) or SERIES:
ALL J-SERIES "YD" GENERATORS FROM
NOVEMBER 1974 THROUGH FEBRUARY 1975

EFFECTIVE: BEGINNING SPEC "AA"

We have discovered the possibility of the Stator Shorting against a portion of the engine generator adapter on air cooled "YD" series generators. ALL unshipped ONAN Sets have been corrected.

PROBLEM IDENTIFICATION:

Check the location of the generator Air Outlet! A small hole should appear in the lower right hand corner of the generator adapter. See Illustration below. This hole will appear on units with serial numbers prefixed 0475 through 1075.

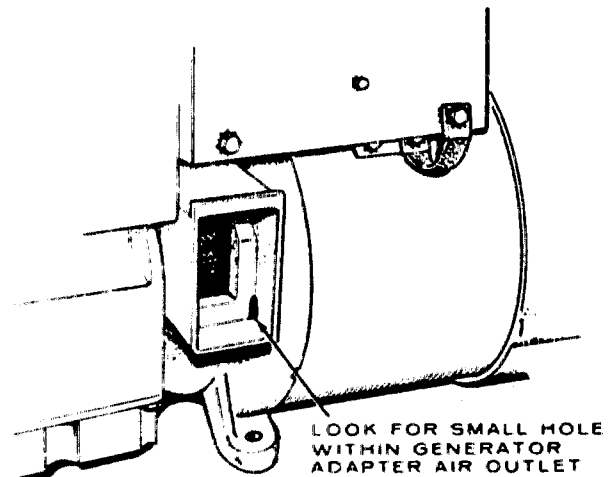
PROBLEM SYMPTOM:

When running (under NO Load) generator appears to be under load (between T3 and T4). Low output will occur on this leg. Under above conditions, Stator will burn out after a short period of operation!

CORRECTION:

If the generator adapter does NOT have a small hole in the Air Outlet, replace the adapter with Onan Part #231-0161. Standard Warranty Policy applies. Maximum allowable warranty time is 1 & 1/2 hours! In Oct. 1975 a NEW casting will appear which does NOT have the hole in the generator air outlet, but this will be the correct adapter.

This bulletin is for informational purposes.





PRODUCT SUPPORT BULLETIN NO. 74
SERVICE/PARTS/PUBLICATIONS

DATE May 16, 197
page 1 **of** 1

SUBJECT: CARBURETOR ICING
AIR PRE-HEATERS

REF. FILE# S-46

MODEL(S) or SERIES:

4.0 BF-1R/9000 & 9500
6.0 NH-1R/9000 & 9500

EFFECTIVE: IMMEDIATELY

Above models, when operated in low ambient, high humidity conditions, may have ice forming in the carburetor causing erratic engine operation.

Air Pre-Heater Kits are now being offered for sale to use on units operating under these conditions. The system must be manually disconnected when operating the set in ambients above 50°F (10°C).

Modification Package 140-1352 fits 6.0 "NH" sets for Spec 9000 & 9500.

Modification Package 140-1361 fits 4.0 "BF" sets for Spec 9000 & 9500.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 75
SERVICE/PARTS/PUBLICATIONS

DATE June 6, 19
page 1 **of** 1

SUBJECT: POSSIBLE FAILURE OF "UK"
GENERATOR BEARING ON CLASS
"B" SETS

REF. FILE# S-47

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

WA, WE, WB, WC, WH, FT, DFB, DFC, DFD, DFE,
DFH, DFK, DFQ, DFP, DFM, DWF, AND DYB WITH
SERIAL NUMBERS PRIOR TO 0672461456, ON
MAGNECITER CONTROLLED GENERATORS ONLY!

False overspeed shutdown may be an indication of Generator Bearing failure.

This bulletin is an update of Tele-News #88. It serves as a reminder of what procedure to follow when false overspeed shutdown is reported.

First establish whether the shutdown is false and not related to the overspeed switch. If Bearing failure caused the problem, the following parts must be replaced:

| <u>PART NO.</u> | <u>DESCRIPTION</u> | <u>QUANTITY</u> |
|-----------------|--------------------|-----------------|
| 211-0252 | Endbell | 1 |
| 150-0713 | Contact | 1 |
| 150-0717 | Switch (Overspeed) | 1 |
| 510-0101 | Bearing | 1 |
| 526-0017 | Washer | 2 |
| 800-0052 | Screw | 1 |

CAUTION

The generator must be properly realigned with the engine as described in the appropriate Operator's Manual.

IF APPLICABLE, handle under Standard Warranty procedure!

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 76
SERVICE/PARTS/PUBLICATIONS

DATE June 6, 1974
page 1 of 1

SUBJECT: ONAN ANNUNCIATOR PANELS
 ONAN PART NO. 300-0749 - 12 VOLT

REF. FILE# S-48

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

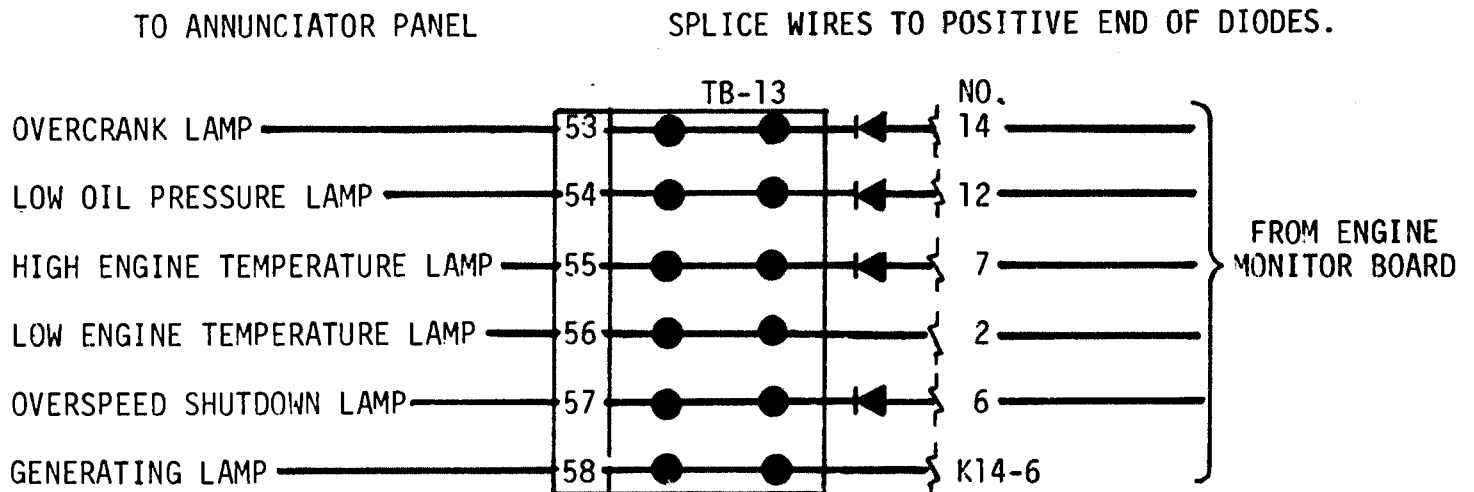
ALL UNITS BUILT PRIOR TO DECEMBER 7, 1974

PROBLEM: When depressing "Lamp Test" Button on the Annunciator panel, it may cause the Generator Set to Crank. It may do this even if the Generator Set "Run-Off-Remote Switch" is in the "OFF" position.

CORRECTION: (Refer to illustration at the bottom of the page.) Add Four Diodes (Onan Part No. 357-0004) in Series with the leads going to Terminal Board-13 in the Engine Control Panel. The diodes are added to TB-13 pins 53, 54, 55 & 57. Test the Annunciator Panels for above condition during normal routine maintenance, and if this condition exists, install the four diodes per the instructions in this bulletin.

WARRANTY: Maximum labor time is one hour. NO Travel Time or Mileage is allowed.

WIRING INSTRUCTIONS: Remove the lugged wire from TB 13-53. Cut off lug and strip wire insulation back about 1/2 inch. Connect Cathode lead of Diode to TB 13-53 and solder opposite end to previously stripped wire. Wrap with tape. Do the same with the remaining 3 diodes connecting the Cathode leads to TB 13 pins 54, 55 and 57. Wire numbers and circuit functions are shown below.



THIS IS A MANDATORY FIELD MODIFICATION which must be performed on the next service or maintenance call for each unit.



PRODUCT SUPPORT BULLETIN NO. 77
SERVICE/PARTS/PUBLICATIONS

DATE June 27, 1
page 1 **of** 1

SUBJECT:

NEW PRINTED CIRCUIT MODULE PULLER
PART #420-0348

REF. FILE#

M-6

MODEL(S) or SERIES:

ALL ENGINE CONTROLS USED WITH "YB" GENERATORS.

EFFECTIVE:

IMMEDIATELY

Field reports indicate some difficulty in removing the engine control printed circuit modules on sets having "YB" generators.

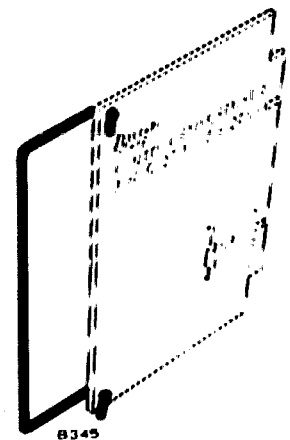
To alleviate this difficulty, Onan has designed a new printed circuit module puller tool, part #420-0348. See illustration below.

Insert tool in predrilled holes of printed circuit module and apply steady pressure to remove module as shown below.

This new tool makes removal and replacement of any printed circuit module.....
"A Snap"!

This tool will be listed in the Onan Tool Catalog #900-0019. Sells for \$.50 Net order one (or more) now..., for your servicemen!

This bulletin is for informational purposes.





PRODUCT SUPPORT BULLETIN NO. 78
SERVICE/PARTS/PUBLICATIONS

DATE July 17, 19
page 1 **of** 2

SUBJECT: OIL SYSTEM RESTRICTIONS AND
EXTERNAL OIL LINES AND TEE

REF. FILE# E-14

MODEL(S) or SERIES:

ALL DIESEL "J"-SERIES ENGINES
1, 2 and 4 CYLINDER MODELS

EFFECTIVE: IMMEDIATELY

Several recent warranty claims on above models resulted from insufficient oil lubrication due to clogged oil passages and lines to areas such as the rocker arm area and/or the fuel injection pump tappet and button area. There is a good possibility - that IF oil line Restricted Fittings were the Cause - that replacement of the injection pump is only a temporary solution; which will correct this condition for approximately 100 hours - after which the pump will fail again. The main cause of this problem is due to the clogged external oil line fittings.

Oil lines to the cylinder head(s) if plugged, will cause extreme valve train wear and early engine failure. The oil lines and passages should be removed and cleaned using low pressure compressed air whenever any major service is performed on the engine. Refer to the illustration of a typical 1, 2 and 4 cylinder diesel unit on page 2 of this bulletin.

The single cylinder models have a restricted fitting in the external oil line system which should be cleaned using a #70 drill (.028) at the oil line connection point for the cylinder head area. The tee for the low oil pressure switch should also be cleaned periodically using a #70 drill (.028). The metric equivalent is .71 mm.

The two cylinder models have 3 restricted fittings in the external oil line system and should be cleaned using a #70 drill at the oil line connection point for the cylinder head area, and a #56 drill (.046) at the tee connector between the oil filter adapter and the injection pump pad. The metric equivalent is 1.17 mm.

The four cylinder models have 4 restricted fittings in the external oil line system and should be cleaned using a #70 drill (.028) at the oil line connection points for each cylinder head assembly, and a #56 drill (.046) at the tee connector coupling between the oil filter adapter and the injection pump pad.

All oil lines and fittings MUST be blown clean using low pressure compressed air before installation.

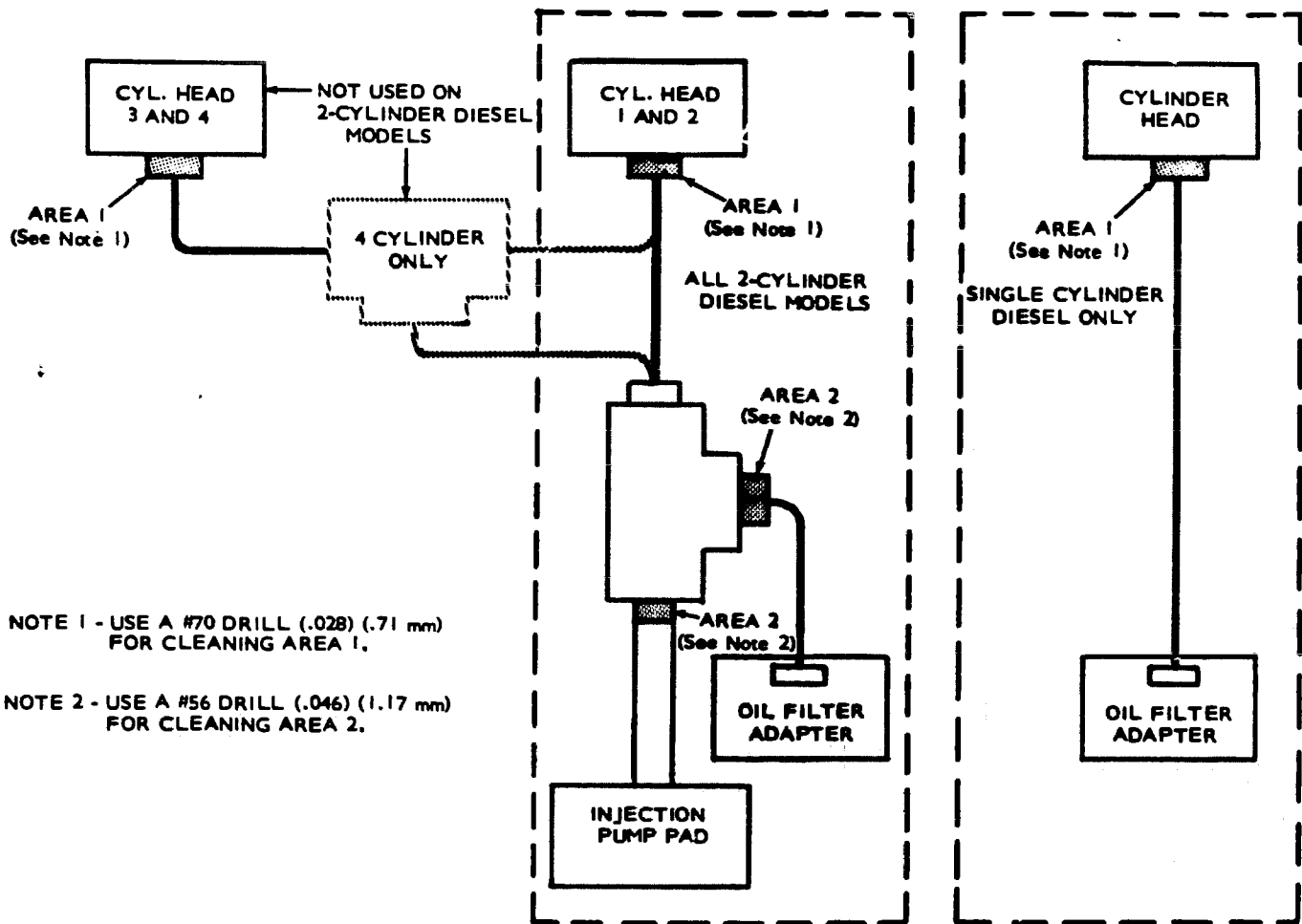
CAUTION: Do NOT enlarge orifice or substitute fittings.

If pipe thread sealant is used, start threads before applying sealant to prevent any clogging of oil lines.

These oil lines and restricted fittings MUST be checked and kept clean to prevent serious engine damage.

This bulletin is for informational purposes.

(OVER)



**OIL LINES AND RESTRICTIONS
FOR A TYPICAL "J"-SERIES DIESEL ENGINE**



PRODUCT SUPPORT BULLETIN NO. 79A
SERVICE/PARTS/PUBLICATIONS

DATE Aug. 7, 1
page 1 **of** 1

SUBJECT: PART NUMBER ADDITION
(MAJOR SERVICE MANUAL #965-0250)
DATED 5AE75

REF. FILE# M-7

MODEL(S) or SERIES:
BF ENGINE FOR GARDEN TRACTOR APPLICATIONS

EFFECTIVE: ALL MODELS USING
OPTIONAL OIL FILTER

This bulletin supersedes Bulletin #79 dated 7/17/75. The part number for the oil filter was incorrect.

Bulletin should read as follows:

The Optional oil filter (Item 32) in the Gear cover, oil base group on page 34 of this manual, was Not listed with the part number and description on page 35.

Item 32 is the oil filter, part #122-0338.

Please add this part number and description to the listing on page 35 of Your manual.

This bulletin is for informational purposes.

Please change your records accordingly.



PRODUCT SUPPORT BULLETIN NO. 80
SERVICE/PARTS/PUBLICATIONS

DATE July 25, 1
page 1 of 1

SUBJECT: "SURGING" or "HUNTING"

REF. FILE# E-15

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

BF-MS/2666 C — SEARS MODEL SS16 TWIN
BF-MS/2833 D

BF-MS/2851 D ROPER MODEL RT 16

If the above engines (used in garden tractor applications) which use a 142-0531 original equipment carburetor, develop a hunting (surging) condition (within the one year warranty period) at idle to mid-range speeds and you cannot correct problem by making carburetor adjustments according to procedure in the Operator's manual; order a 142-0578 Carburetor Replacement Kit which includes a new fuel filter.

Standard Warranty Policy will apply if carburetor replacement is necessary to correct this problem ONLY when engine is within warranty period.

Dealer and Distributor stock of the 142-0531 carburetors should be checked — any carburetor with the model DD-11 marked on the back of it should be returned for exchange.

ONLY Carburetors with the model DD-11R marked on the back of the carburetor body should be used.

The DD-11R Replacement Carburetor should be adjusted according to the procedure given in the instructions of the 142-0578 Carburetor Kit.

The original instructions given in the Operator's manual for the DD-11 Carburetors DO NOT APPLY to the Replacement Kit Carburetors.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 81
SERVICE/PARTS/PUBLICATIONS

DATE Aug. 7, 19
page 1 **of** 1

SUBJECT: NEW ELECTRIC FUEL PUMP

REF. FILE# S-49

MODEL(S) or SERIES:

EFFECTIVE: STARTING SERIAL NO.
0575948597

NH AND CCK MOTOR HOME GENERATOR SETS

A running change has been made (effective with production Serial #0575948597) changing from Bendix to Walbro Electric fuel pumps on above models.

The New Walbro pump is available under Onan Part #149-1304.

Old (Bendix) and New (Walbro) fuel pumps are completely interchangeable.

If replacing a Bendix fuel pump with the New Walbro pump, an additional lead (Onan Part #336-2345) will also be required for installation.

This bulletin is for informational purposes.

The following catalog has gaps in its page numbers, or doesn't have any numbers. We have chosen to leave the page numbering in the order that Acrobat assigns it.



PRODUCT SUPPORT BULLETIN NO. 82
SERVICE/PARTS/PUBLICATIONS

DATE Aug. 7, 19
page 1 **of** 1

SUBJECT: MARINE FIBERGLASS FUEL TANKS

REF. FILE#

M-8

MODEL(S) or SERIES:

EFFECTIVE:

IMMEDIATELY

ALL MARINE ENGINES AND GENERATOR SETS

Fiberglass fuel tanks can present a problem if the fuel pick up tube is too long. The fiberglass fibers from within the fuel tank settle to the bottom of the tank and form a mat over a period of time. This can restrict fuel pick up and cause fuel starvation of the engine.

Should this occur, it may be necessary to remove the fuel pick up tube and cut off sufficient tube length to raise the end high enough to provide an unobstructed fuel pick up tube.

To determine amount of tube to cut, measure depth from tube mounting flange to tank bottom. Generally a 2" clearance between the fuel pick up tube and bottom of fuel tank is sufficient to prevent fuel line clogging.

This problem would Not be related to the Onan Product, therefore the Standard Onan Warranty Does Not Apply! You may wish to advise the customer as to what is necessary to correct this problem Before Proceeding!

This bulletin is for informational purposes only.



PRODUCT SUPPORT BULLETIN NO. 83
SERVICE/PARTS/PUBLICATIONS

DATE August 29, 1

page 1 **of** 1

SUBJECT:

REF. FILE# E-16

SHORT BLOCK KIT
PART NUMBER 110-2319

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

NHC-MS/2302A, 2467A, 2487A, 2644A, 2705B

2707B, 2916B, 2918B, 2991B and 2993B

The above Gas Fueled models are used in Tennant Floor Sweepers. The Short Block for these models is supplied as a Kit-Only -- Part Number 110-2319. This kit includes cylinder heads, head gaskets, oil base gasket and manifold gasket as well as the block itself.

Caution must be taken in quoting short block prices for the above models. Refer to Section A of the L835 Parts Price List for Part Number 110-2319. The Price listed for the Short Block Assembly on page 1V of the L835 Does Not Apply in this case.

SUBJECT: CAPACITOR ADDITION (.5 Mfd) TO 12 VOLT ALTERNATOR 191-0665. **REF. FILE#** S-50

MODEL(S) or SERIES:

CLASS "B" "UR" SERIES (30 through 115 kW)
EQUIPPED WITH 12 VOLT BATTERY SYSTEM

EFFECTIVE: PRIOR TO SERIAL NO.
956693, July 17th
1975 PRODUCTION

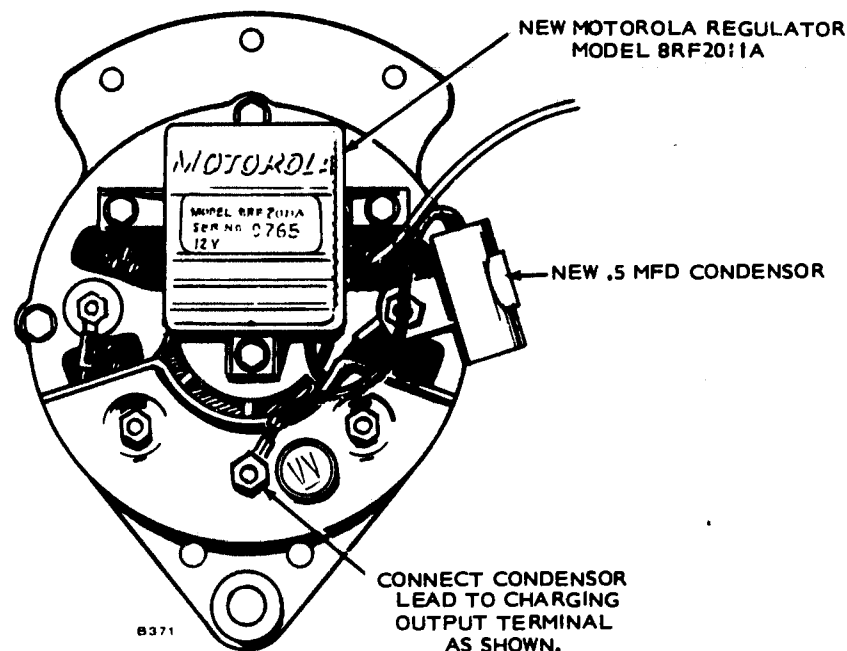
If any of the above units unexplainably and erratically shut down, or fail to shut down, - the Motorola Alternator and Regulator (191-0665) may be causing negative voltage spikes - thus preventing proper operation of the Engine Monitor board in the control.

Motorola has changed the Regulator (191-P732) from R3-1 to 8RF2011A, and now requires a .5 mfd condensor (312-0201) be installed in Alternator Charging Output Circuit.

When servicing these "UR" series sets (prior to serial number 956693) check for and add condensor if not in the circuit. Standard Warranty applies.

See illustration below for wiring details to install new condensor in circuit.

This bulletin is for informational purposes.





PRODUCT SUPPORT BULLETIN NO. 85
SERVICE/PARTS/PUBLICATIONS

DATE Sept. 19,
page 1 **of** 1

SUBJECT: PART NUMBER ADDITION AND DELETION
(PARTS CATALOG #927-0221), MCKK
(PARTS CATALOG #965-0220), BF "RV" SET.

REF. FILE# S-51

MODEL(S) or SERIES: 4.0 "BF" "RV" SERIES AND ALL "MCKK" SERIES

EFFECTIVE: IMMEDIATELY

Item 13 on page 13 of the Exhaust System Group (Part #154-1763), in the BF, "RV" Parts Catalog (#965-0220) SHOULD BE DELETED from your catalog. This Optional Item is NOT Available on this model.

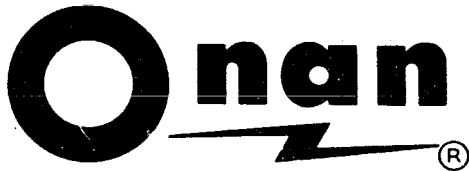
The Ignition Coil (Item 30) in the Ignition Group on page 12 of the MCKK Parts Catalog (#927-0221), was NOT listed with the corresponding part number and description on page 13.

Item 30 is the Ignition Coil, Part #166-0382.

Please add this part number and description to the listing on page 13 of Your Parts Catalog.

This bulletin is for informational purposes.

Please change your records accordingly.



PRODUCT SUPPORT BULLETIN NO. 86
SERVICE/PARTS/PUBLICATIONS

DATE Sept. 26, 1
page 1 **of** 1

SUBJECT: SPEC ADVANCE AND PRODUCT
IMPROVEMENTS

REF. FILE# E-17

MODEL(S) or SERIES:

EFFECTIVE: BEGINNING SPEC "C"

NHA, NHB, NHC, NHP, NHAV,
NHBV, NHCV and NHPV.

These models will incorporate numerous Product Improvements beginning with Spec "C" production models. The end result means improved engine life and lower maintenance costs.

Many changes involve internal items too numerous to mention. Other external changes involved consist of:

New aluminum oil base, improved cooling system, press-in fill tube and plastic oil fill cap, new ignition coil clamp and new Top Adjust points, and a different mounting of the voltage regulator when a flywheel alternator is used. A new combination intake and exhaust manifold gasket is also being used.

In most cases, old and new parts are interchangeable; but pay close attention to notes or reference to applications by specification letter designation in the new Parts Catalogs for these models.

All of the Operator's Manuals and Parts Catalogs for these models are being revised now and will be available for distribution in the near future.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. _____ 87
SERVICE/PARTS/PUBLICATIONS

DATE Sept. 26,
page 1 **of** 1

SUBJECT: PART NUMBER CORRECTIONS
(Parts Catalog #965-0220)

REF. FILE# S-52

MODEL(S) or SERIES:
4.0 "BF" "RV" SERIES

EFFECTIVE: IMMEDIATELY

Item 9 on page 3 of the Camshaft Group (Part #105-0402), in the BF "RV" Parts Catalog (965-0220) should be changed to Part #105-0376. Part #105-0402 is NOT the correct Camshaft for this model.

Item 47 on page 7 of the Fuel System Group (Part #154-1440), in the BF "RV" Parts Catalog (965-0220) should be changed to Part #154-1446. Part #154-1440 is a complete manifold and carburetor assembly, but not for this model.

Part #154-1446 (Item 47 Page 7) is the Intake Manifold Gasket ONLY.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 88
SERVICE/PARTS/PUBLICATIONS

DATE Oct. 10, 1
page 1 **of** 1

SUBJECT: IGNITION TIMING CHANGE

REF. FILE# S-53

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

NHA, NHB, NHC, NHAV, NHBV, AND NHCV
INDUSTRIAL ENGINES AND 6.0 NH GENERATOR SETS

The ignition timing on the above models is changing from 25⁰ BTC to 20⁰ BTC.

On "Fixed" Breaker Box models, change point gap from .020" to .016".

These timing changes reduce the chances of detonation (pinging) when combustion chambers have lead build-up.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 89
SERVICE/PARTS/PUBLICATIONS

DATE OCT. 10, 1
page 1 **of** 1

SUBJECT: CYLINDER HEAD GASKET
110-1652 SEALANT PROCEDURE

REF. FILE# S-54

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL 2 and 4 CYLINDER WATER COOLED
"J" SERIES DIESEL ENGINE GENERATOR SETS:

| | |
|-----------|-----------|
| 6.0 MDJB | 15.0 MDJF |
| 7.5 MDJE | 15.0 RDJC |
| 12.0 MDJC | 17.5 RDJF |

Whenever the head gasket(s) are replaced on any of the above models, "RTV" Sealant must be used along with the new head gasket.

"RTV" means Room Temperature Vulcanizing Sealant.

There are a number of RTV sealants on the market. We recommend White "RTV" Sealant such as Dow-Corning "Silastic" RTV Silicone Rubber Adhesive Sealant #732 or General Electric White "RTV" Sealant.

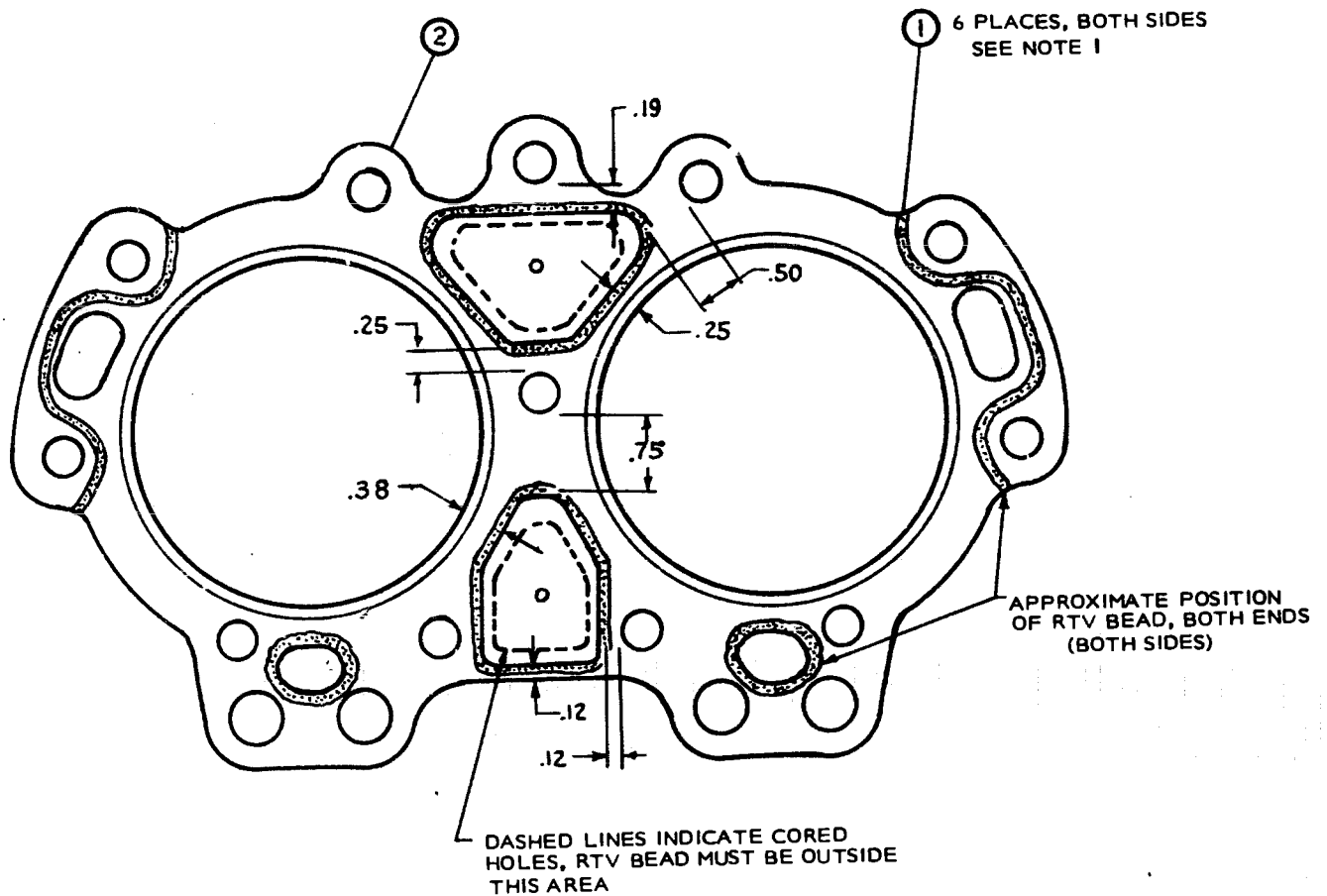
When applying Sealant, Bead should be .03-.06 thick on both sides of head gasket. The "RTV" Sealant may also be applied to the finished surface of the block and just one side of the gasket.

The gasket **MUST** be installed before the "RTV" Sealant Hardens! Minimum cure time before operating the engine is ONE HOUR. Water and water vapor will accelerate curing of the "RTV" Rubber Sealant. See Illustration on page 2 of this bulletin.

Refer to Section 4 of the Master Service Manual (Dimensions, Clearances & Torques) for torquing instructions.

This bulletin is for informational purposes.

(OVER)



TYPICAL 110-1852 HEAD GASKET "RTV" SEALANT APPLICATION PROCEDURE

NOTE:

1. BEAD SHOULD BE .03-.06 THICK BOTH SIDES OF GASKET. RTV APPLIED ON ONE SIDE MAY BE MADE ON FINISHED SURFACE OF BLOCK.
2. GASKET TO BE INSTALLED BEFORE RTV HARDENS.
3. MINIMUM CURE TIME BEFORE OPERATING ENGINE - 1 HR. (WATER AND WATER VAPOR WILL ACCELERATE CURING OF RTV RUBBER).



PRODUCT SUPPORT BULLETIN NO. 90
SERVICE/PARTS/PUBLICATIONS

DATE OCT. 17, 1
page 1 **of** 1

SUBJECT: ERRATIC FUEL PUMP OPERATION

REF. FILE# E-18

MODEL(S) or SERIES:

NHC - MS/2699B
NHC - MS/2538A

AS USED IN SKID-STEER LOADER
JOHN DEERE AND OWATONNA MFG. CO.

EFFECTIVE: IMMEDIATELY

Incorrectly marked oil level indicators resulted in high oil levels, causing fuel pump problems.

The present oil level indicator (Part #123-0694) MUST be replaced by a new oil level indicator (Part #123-1342). The part number is stamped on the indicator.

The high oil level can cause an increase in oil consumption and/or smoking.

The oil capacity shown in the Operator's manual (940-0404) is correct as shown:
Oil capacity ---- 3-1/2 quarts (3.3 litre).
Oil capacity with Filter change ----- 4 quarts (3.8 litre).

Standard Warranty Policy applies for replacement of the oil level indicator.

Maximum allowable labor time is 15 minutes.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 91
SERVICE/PARTS/PUBLICATIONS

DATE Oct. 17, 1975
page 1 **of** 1

SUBJECT: STARTER CHATTER (DYC)
 (WHEN USED WITH "AT" STYLE
 TRANSFER SWITCH)

REF. FILE# S-55

MODEL(S) or SERIES:
 "DYC" ENGINE GENERATOR SET CLASS "B"

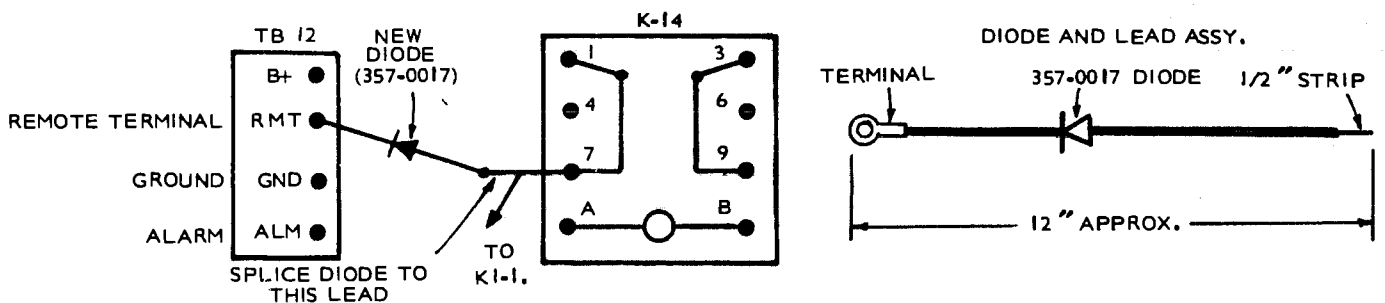
EFFECTIVE: IMMEDIATELY

A starter chattering problem can occur when an "AT" style transfer switch is used with a "DYC" (75 and 90 kW) engine generating set.

This occurs because of the extremely high starter break-a-way current draw which lowers battery terminal voltage. This lower voltage plus the 2.5 to 3 volt drop across the time delay start-stop module in the "AT" causes the ignition relay "K-12" to de-energize.

Then the starter drops out allowing battery voltage to rise which re-energizes K-12 and causes lower battery voltage again.

The solution to this problem is to install a diode (Part #357-0017) in the engine control between relay K14 pin 7 and terminal board TB12-remote terminal (RMT) connection point. See diagram below.



This diode and lead assembly will bypass the voltage drop of the time delay start-stop board when the starter is energized. This will provide enough voltage to the ignition relay (K-12) to keep it energized and preventing starter chatter.

Standard Warranty Policy applies. Maximum allowable labor time is 30 minutes.

Units shipped from factory after November 1, 1975 will have diode installed.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 92A
SERVICE/PARTS/PUBLICATIONS

DATE Jan. 30, 19
page 1 of 1

SUBJECT: 191-0324 PRESTOLITE STARTER

REF. FILE#. S-56

This Bulletin Supersedes
#92 dated 11/14/75.

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL "J" - SERIES UNITS

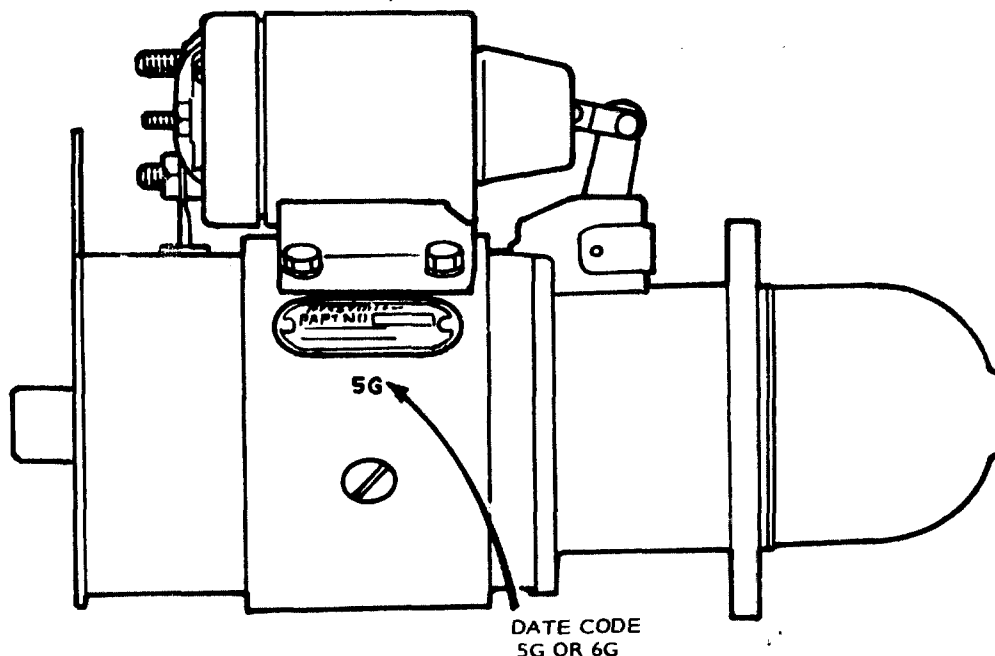
Some of the above Prestolite starters used on "J"-Series units are being recalled by the manufacturer. Starters with date codes 5G or 6G ONLY are affected.

All Dealers and Distributors Should Check Their Stock. Do NOT release any affected starters to a customer. Apply for Warranty on starters you have with Date Codes that are affected. Onan will send you an MRA for these starters based on your claim and Credit you on receipt of the starter. Return of starters in stock is limited to 90 days from date of issue of this bulletin. (April 30, 1976).

The Date Code is stamped on the starter housing right below the Prestolite nameplate. See illustration below.

Reference this Product Support Bulletin by number on your claim form.

This bulletin is for informational purposes.





PRODUCT SUPPORT BULLETIN NO. ⁹³_____
SERVICE/PARTS/PUBLICATIONS

DATE NOV. 14, 1
page 1 **of** 1

SUBJECT: PART NUMBER CORRECTION
(OPERATORS MANUAL AND PARTS CATALOG #929-0004)

REF. FILE# G-8

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

"YD" TWO-BEARING ALTERNATORS
(5.0 Through 20.0 kW)

Item 5 on page 17 of the YD Two-Bearing Alternator Operator's Manual (#929-0004) called for part number 320-0500 as being a Circuit Breaker. This is Incorrect!

The correct part number for the Circuit Breaker (Item 5) is 320-0505.

Please change your records accordingly.



PRODUCT SUPPORT BULLETIN NO. 94
SERVICE/PARTS/PUBLICATIONS

DATE 11/20/75
page 1 **of** 1

SUBJECT: NEW FRESH WATER PUMP
(132-0147)

REF. FILE# S-57

MODEL(S) or SERIES:
MJC, MDJC AND MDJF

EFFECTIVE: 10/16/75

Effective 10-16-75, a new Jabsco fresh water pump (Part #132-0147) is replacing the previous Sherwood pump (Part #132-0115) on above models.

The pump assemblies are completely interchangeable.

The internal parts for each pump are available from Onan as replacement parts, but are NOT interchangeable.

Future Parts Catalogs will reflect these changes.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 95
SERVICE/PARTS/PUBLICATIONS

DATE Dec. 10, 1
page 1 **of** 1

SUBJECT: NEW RING EXPANDER AND RING SET **REF. FILE#** S-58

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

4.OBF-1R/9000C
4.OBF-1R/9500A

For improved oil control, a New Ring Expander, Part Number 113-0173 is available for installation behind the second compression ring.

A New Ring Set, Part Number 113-0188 is available which includes the New Ring Expander.

The New Ring Set or Expander is for use on the above models ONLY.

You may continue to use your stock of the 113-0174 Ring Sets on the above models by adding the 113-0173 Ring Expander behind the second compression ring.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 96
SERVICE/PARTS/PUBLICATIONS

DATE Dec. 10, 19
page 1 **of** 1

SUBJECT: CHANGE TO NEW TOP ADJUST POINTS **REF. FILE#** S-59

MODEL(S) or SERIES:

6.ONH-1R/9000H

EFFECTIVE: Beginning Spec H

The following running changes and Product Improvements apply to the above model:

1. Addition of flex metal conduit to cover A.C. output leads.
2. Addition of 4 x 4 outlet box to terminate A.C. output leads.
3. Change to new top adjust type breaker point box.

The New Part Number for Top Adjust Breaker Point Assembly is 160-1183. Matching ignition condenser is available under Part #312-0196. Order your supply of these parts to have on hand for servicing New Top Adjust type Breaker Box.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 97
SERVICE/PARTS/PUBLICATIONS

DATE Dec. 5, 19
page 1 **of** 1

SUBJECT: WINNEBAGO REMOTE START/STOP
SWITCHES FOR MOTOR HOME UNITS

REF. FILE# S-60

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ANY CCK OR NH WINNEBAGO MOTOR
HOME GENERATOR SET

A situation can exist on the above Winnebago motor home generator sets which will NOT allow the generator set to shut off from the remote start/stop switch that is supplied by Winnebago. This does NOT apply if the start/stop Remote switch is made by Onan.

In operation on some switches, the heat from the generator "Run" light affects the switch housing material causing the back of the switch to deform when the stop button is pushed. When this occurs the switch contacts do NOT "Make" to shut the generator set off.

If you receive a complaint that the generator set will NOT shut off from the Remote switch on a Winnebago with the solid state control; this remote start/stop switch should be checked.

If the generator set will shut off by jumpering terminals 14 to 13 at this remote switch, then the switch is defective and should be replaced.

The original remote switch is supplied by Winnebago and therefore is NOT covered by the Standard Onan Warranty.

New replacement switches are available from Winnebago. These Winnebago switches can be identified by a strip of paint on the back of the switch housing itself.

Remember these Winnebago switches are NOT available from Onan and are NOT covered by the Onan Warranty under any conditions.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 98
SERVICE/PARTS/PUBLICATIONS

DATE Dec. 18, 19
page 1 **of** 1

SUBJECT: NO AC OUTPUT
(VOLTAGE WILL NOT BUILD UP)

REF. FILE# S-61

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL "YCB" SERIES GENERATORS
(SINGLE & 2-BEARING)

The loss of AC output on "YCB" Generators can be caused by the loss of Residual Magnetism or other component malfunctions.

To restore AC output proceed as follows:

1. Flash the field
2. Check Capacitor C1. Replace if suspected to be defective.
3. Check Diodes CR1 and CR2. Replace if defective.

If none of the above procedures correct the problem, refer to "GENERATOR AND CONTROLS" MASTER SERVICE MANUAL (#922-0502) Section 6 for additional troubleshooting information

The above problem could also be caused by an open, shorted or grounded rotor or stator, loose or broken wiring connections, slip rings, brushes worn excessively, faulty end bell receptacles or an open fuse(s) in separate receptacle box (if equipped)

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN No. 99
SERVICE/PARTS/PUBLICATIONS

DATE Dec. 18, 19

page 1 **of** 1

SUBJECT: CHARGE DISCONNECT RELAY 307-0454

REF. FILE# S-62

MODEL(S) or SERIES:

2.5LK-1R/1330L
2.5LK-3R/1330L

EFFECTIVE: IMMEDIATELY

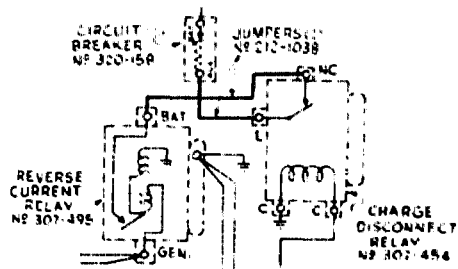
The 307-0454 Charge Disconnect relay is No longer used on the above models and is No longer available from our Supplier. Onan has a small stock available at this time.

This relay was used in Utility Truck Installations when the Truck had a Commutator type DC Generator and one common starting battery for the Truck and the Generator Set. Since Alternators have been standard on Trucks since about 1960, the 307-0454 Charge Disconnect relay is NOT required.

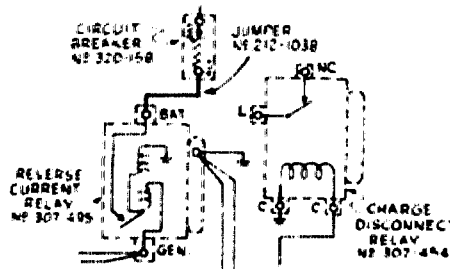
Because this relay cannot be supplied after Onan's current stock is gone, it MUST be bypassed as shown and explained below on any Truck equipped with an Alternator type Charging System.

To bypass the 307-0454 Charge Disconnect relay proceed as follows:

1. Completely remove the lead or jumper which runs from terminal L of the Charge Disconnect relay to the Auxiliary contact of the 320-0158 Circuit Breaker.
2. Next, MOVE the lead or jumper which runs from the NC (Normally Closed) contact of the 307-0454 Charge Disconnect relay to the Auxiliary Contact of 320-0158 Circuit Breaker. Refer to Wiring Diagram #610-0270. See Illustrations below also.



ORIGINAL CIRCUIT



BYPASSED CIRCUIT

On units involving a Truck with the Commutator type DC Generator and one common battery for starting both the Truck and the Generator Set, it will be necessary to provide Separate Batteries for the Truck and the Generator Set after the Charge Disconnect relay (307-0454) is bypassed as explained above.

This bulletin is for informational purposes.



SUBJECT: "EASY TO BUILD"
FIELD FLASHING TOOL

REF. FILE# S-63

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL ONAN ALTERNATORS WITH SOLID STATE EXCITERS

A Service Tool (Easily Built) can be used with any Onan Alternator with a Solid State Exciter. The necessary parts to build this tool are available from Onan:

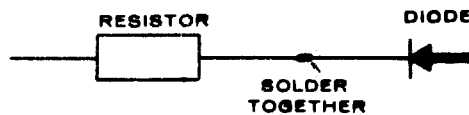
One 353-0053 10-Ohm Resistor and

One 358-0015 Diode

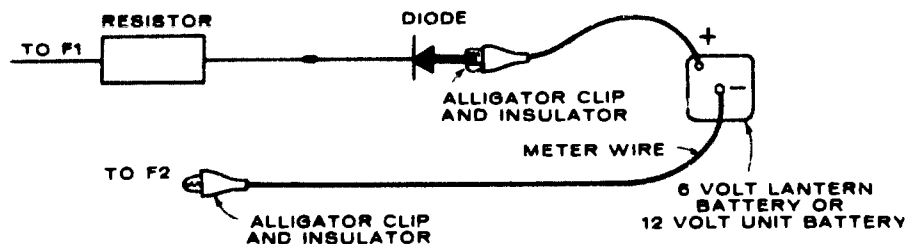
This system prevents the possibility of damage to solid state exciter circuits and field flashing components.

The assembly details and circuit connections for use are shown below.

ASSEMBLY:



CIRCUIT CONNECTIONS FOR FLASHING:



This information was previously published in Onan "TELE-NEWS" No. 85 dated March 17, 1972.

This bulletin is for informational purposes.

SUBJECT: OIL CONSUMPTION

REF. FILE# S-64

MODEL(S) or SERIES:

BF INDUSTRIAL ENGINES

BF RV SETS SPEC 9000 AND 9500 ONLY

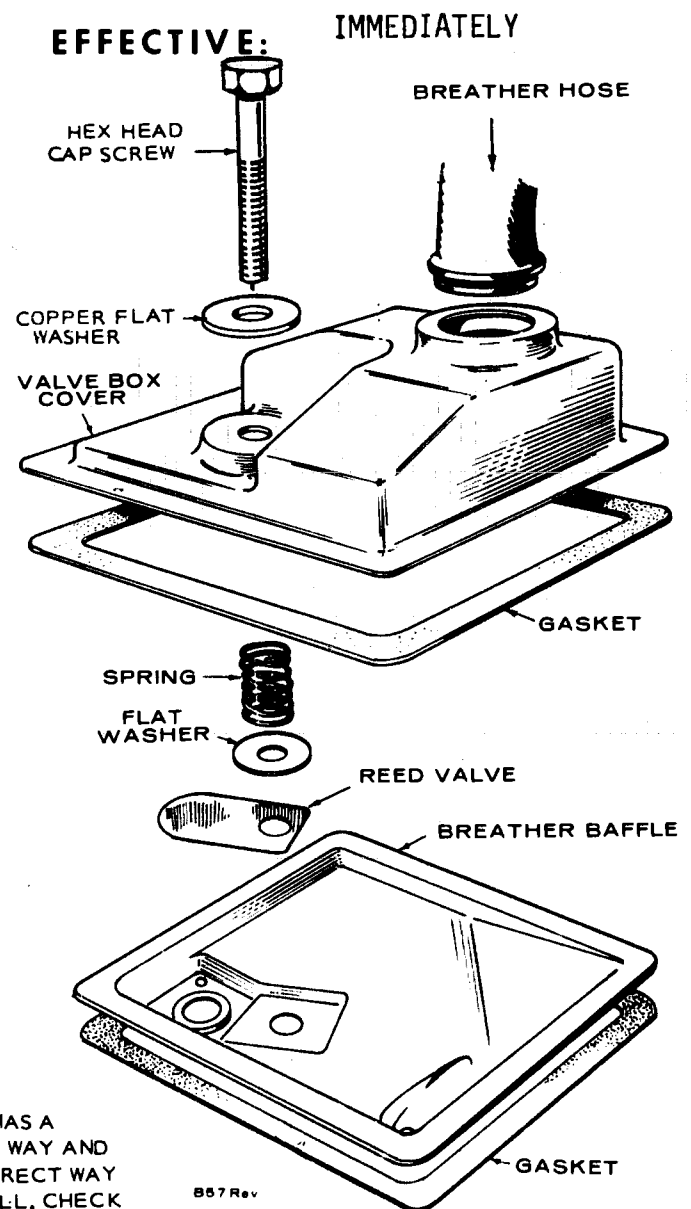
When investigating high oil consumption complaints on older models; check the breather valve to be sure it has been properly assembled.

In some older models it is possible that an extra flat washer is installed between the breather baffle and reed valve.

There should be ONLY ONE flat washer and this should be on the spring side of the reed valve.

The breather should be assembled as shown in illustration.

This bulletin is for information only.



GASKET HAS A CORRECT WAY AND AN INCORRECT WAY TO INSTALL, CHECK CLOSELY FOR PROPER FIT!



PRODUCT SUPPORT BULLETIN NO. 102
SERVICE/PARTS/PUBLICATIONS

DATE Jan. 23, 19
page 1 **of** 1

SUBJECT: HOUSINGS

REF. FILE# S-65

MODEL(S) or SERIES:

EFFECTIVE: 1/1/76

LK, AJ, AK, CCK

JB, JC, DJB, DJC (Air Cooled Only)

Housings for the above models are now being supplied as kits (Not Assembled) for field installation.

This makes it possible to keep several in stock for immediate use without using too much storage space and at a lower cost.

Here is a listing of all the kits that are currently available:

| <u>OLD NO.</u> | <u>NEW NO.</u> | <u>APPLICATION</u> |
|----------------|----------------|--|
| 405-1041 | 405-2244 | LK |
| 405-1131 | 405-2243 | AJ, AK |
| 405-1373 | 405-2250 | CCK (Prior to Spec R) |
| 546-0535 | 405-2252 | CCK (Begin Spec R) Without Meter Panel and Receptacle |
| 546-0536 | 405-2251 | CCK (Begin Spec R) With Meter Panel-Without Receptacle |
| 546-0537 | 405-2253 | CCK (Begin Spec R) Without Meter Panel-With Receptacle |
| 546-0538 | 405-2254 | CCK (Begin Spec R) With Meter Panel and Receptacle |
| 405-1413 | 405-2245 | JB-DJB (Begin Spec H) Without Meter Panel-With Duct |
| 405-1414 | 405-2246 | JB-DJB (Begin Spec H) With Meter Panel-With Duct |
| 405-1415 | 405-2257 | JB-DJB (Begin Spec H) With Meter Panel-With Duct & Shutter |
| 405-1416 | 405-2256 | JB-DJB (Begin Spec H) Without Meter Panel-W/Duct & Shutter |
| 405-1421 | 405-2248 | JC (Begin Spec K) DJC (Begin Spec B) Without Meter Panel- With Duct |
| 405-1422 | 405-2247 | JC (Begin Spec K) DJC (Begin Spec B) With Meter Panel- With Duct |
| 405-1423 | 405-2249 | JC (Begin Spec K) DJC (Begin Spec B) Without Meter Panel- With Duct & Shutter |
| 405-1424 | 405-2255 | JC (Begin Spec K) DJC (Begin Spec B) With Meter Panel- With Duct & Shutter |

This Bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 103
SERVICE/PARTS/PUBLICATIONS

DATE Feb. 6, 1971
page 1 **of** 1

SUBJECT: CARBURETOR MAIN JET ADJUSTMENT
(PACKING NUT)

REF. FILE# S-66

MODEL(S) or SERIES:

AJ, AK, CCK, MCCK, NH and "J" SERIES

EFFECTIVE: IMMEDIATELY

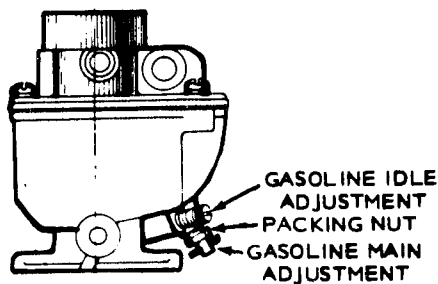
All carburetors with a T-handle type main adjustment (as opposed to the screwdriver slot type main jet), use a packing and packing nut arrangement to lock the main jet adjustment and to prevent fuel leaks.

This packing nut should be loosened before adjusting the carburetor main jet. If it is not loosened, it makes it difficult to use the carburetor adjusting tools. To prevent fuel leakage, the packing nut **MUST** be tightened properly after any adjustment is made on the carburetor. Hold adjustment while packing nut is tightened to be sure it doesn't change.

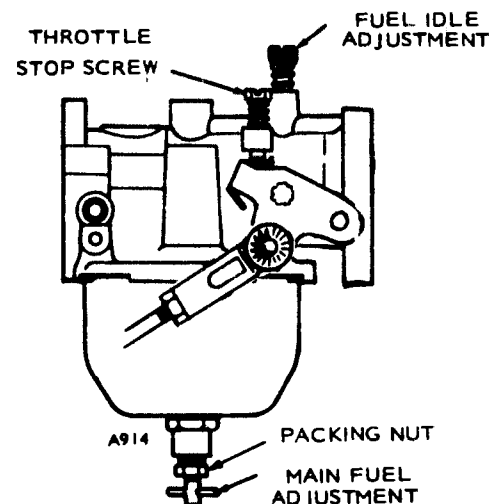
WARNING: Failure to properly tighten the packing nut may result in fuel leakage which presents a serious fire hazard.

This packing nut should be tight enough so that main jet adjustment cannot be turned with adjustment tool. A loose packing nut may cause excessive air draw and rough engine operation. Fuel leakage may show up as a complaint that the unit is hard to start after not being operated for a number of hours.

Refer to typical carburetor illustrations below. This bulletin is for informational purposes.



CCK, CCKA, NHA, NHB and BF (RV)
Carburetor Adjustment



NH, NHC, NB, LKB, CCKB, MCCK and "J" Series
Carburetor Adjustment



PRODUCT SUPPORT BULLETIN NO. 104
SERVICE/PARTS/PUBLICATIONS

DATE Feb. 6, 1976

page 1 of 1

SUBJECT: GENERATOR WIRING AND CONNECTION DIAGRAMS FOR "YD" SERIES GENERATORS **REF. FILE#** S-67

MODEL(S) or SERIES:
 TWO AND FOUR CYLINDER "J"-SERIES
 OPERATOR'S MANUAL (BEGINNING SPEC AA)

EFFECTIVE: IMMEDIATELY

Some confusion exists on several generator wiring and connection diagrams concerning reconnection for 120/240 volt, single phase.

On some of these diagrams the 240 volt connection was labelled as 120 volts, and the 120 volt connection was labelled as 240 volts. Use this portion of the chart (see below) in place of existing portion of the chart in the following manuals:

| <u>MANUAL NUMBER</u> | <u>MODEL OR SERIES</u> | <u>PAGE</u> |
|----------------------|--|-------------|
| 900-0184 | "YD" Generator Service Manual (Section 7, Master Service Manual 922-0500) | 6 |
| 929-0004 | "YD" two-bearing Alternator Manual | 9 |
| 967-0120 | "JC" Operator's Manual | 10 |
| 967-0122 | "DJC" Operator's Manual | 11 |
| 968-0120 | "MDJE" Operator's Manual | 13 |
| 968-0121 | "MDJF" Operator's Manual | 11 |
| 968-0340 | "MJC" Operator's Manual-Page 4 of Supplement 900-0190 | |
| 968-0341 | "MDJC" Operator's Manual | 13 |
| 974-0120 | "RJC" Operator's Manual | 11 |
| 974-0121 | "RDJC" Operator's Manual | 13 |
| Misc. 9 | Service Bulletin | 8 |

GENERATOR WIRING AND CONNECTION DIAGRAMS

| NAMEPLATE VOLTAGE CODE | VOLTAGE | PHASE | FREQUENCY | CONNECT W/10 JUMPER WIRE FROM V4 TO | GENERATOR CONNECTION | GENERATOR CONNECTION SCHEMATIC DIAGRAM | LOAD TO GENERATOR CONNECTION WIRING DIAGRAM |
|------------------------|---------|-------|-----------|-------------------------------------|----------------------|--|---|
| 3C | 120/240 | 1 | 60 | V1 | 240 | | CONNECT X1 TO VR21-5 FOR 50 HERTZ AND X1 TO VR21-6 FOR 60 HERTZ GENERATORS. |
| 53C | 120/240 | 1 | 50 | V3 | 120 | | |
| | 115/230 | 1 | 50 | V2 | 120/240 | | |
| | 110/220 | 1 | 50 | V1 | 240 | | |
| | | | | | 120 | | |
| | | | | | 120/240 | | |

NOTE: Extra copies are available upon request. This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 105
SERVICE/PARTS/PUBLICATIONS

DATE Feb. 10, 1
page 1 **of** 1

SUBJECT: LUBRICATION PROCEDURES

REF. FILE# C-4

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

800 AMP AND LARGER WESTINGHOUSE TRANSFER SWITCHES

Lack of lubrication may cause cycling on 800 amp and larger Westinghouse Transfer Switches.

Cycling will cause the motor to burn out in a very short time. Cycling, caused by lack of lubrication, prevents the breaker internal mechanism from closing properly, which fails to open the micro switch and remove the voltage from the breaker motor. The motor advances to the Open position, but is signaled to Close again.

Onan recommends that periodically or whenever the switch is serviced; remove the circuit breaker covers and lubricate all moving parts. Then manually operate the switch several times to "work in" the lubricant.

WARNING: Be sure power is removed from the transfer switch before covers are removed and lubricant is applied.

A silicon spray (non-conductive type) (readily available at most TV service shops and auto parts stores) is an excellent lubricant for this application.

At the same time, all connections should be checked for tightness (i.e. load cables to lugs, lugs to breaker, etc.). Refer to NFPA #76A, Chapter 9, appendix D for recommended maintenance guide.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 106
SERVICE/PARTS/PUBLICATIONS

DATE Feb. 13, 19
page 1 **of** 1

SUBJECT: MAINTENANCE AND SERVICE TOOL SET REF. FILE# M-10
(420-0285)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

GENERAL (Reference Onan Tool Catalog #900-0019)

Onan has changed to a new supplier for this maintenance and service tool set as shown on page 22 of the 900-0019 Tool Catalog.

The tool set still contains high quality tools as before, but are no longer furnished by Snap-On. This results in a substantial cost reduction to you.

The part number (420-0285) remains the same. Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 107
SERVICE/PARTS/PUBLICATIONS

DATE Feb. 13, 1981
page 1 **of** 1

SUBJECT: SPEC ADVANCE AND PRODUCT
IMPROVEMENTS

REF. FILE# G-9

MODEL(S) or SERIES:

EFFECTIVE: BEGINNING SPEC C

ALL TWO-BEARING (Separate)
"YCB" GENERATORS

The "YCB" generator family has been changed to conform with CSA requirements.

Some changes were made in the type and configuration of the receptacles in the end bell which allow the customer to re-connect the generator output leads for single or dual voltage operation by following the color code of the sleeving.

This can be done without disassembling the generator.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 108
SERVICE/PARTS/PUBLICATIONS

DATE Feb. 17, 19
page 1 **of** 1

SUBJECT: CHANGE IN AUTOMATIC TRANSFER
SWITCH BY-PASS MODULE (300-0927)
USED FOR TIME DELAY START-STOP

REF. FILE# C-5

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

AT SERIES WITH CONTROL ACCESSORY PANEL
(GROUPS 11 through 15)

Do not use bypass plug module 300-0927 to bypass start-stop time delay module 7, because the automatic transfer switch will not start the generator set. For the start-stop delay position 7, use the start-stop bypass plug module #300-1177. The 300-0927 bypass plug module will work in all other situations except start-stop time delay.

When adding Time Delay transfer without a Time Delay retransfer (motor) timer, add a wire jumper between terminal 1 and 6 on the Time Delay transfer board (300-0924).

To bypass both the time delay transfer and the time delay retransfer, remove the time delay transfer module (A8). Close S1 and S2 on the bypass module #300-0927 and then insert in position (A8) where the time delay transfer module was.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 109
SERVICE/PARTS/PUBLICATIONS

DATE Feb. 18, 1
page 1 **of** 1

SUBJECT: ONAN SHORT BLOCK ASSEMBLIES
(Catalog #932-0109)

REF. FILE# S-68

MODEL(S) or SERIES:
SEE BELOW

EFFECTIVE: IMMEDIATELY

Please make the following changes in your short block listing of September 1975.

Page 6 - CCKA-MS/2260 G Change part number to 110-2227

Page 14 - NHC-MS/2302 A Add symbol (*) next to model

Page 14 - NHC-MS/2572 A Change part number to 110-2413

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 110
SERVICE/PARTS/PUBLICATIONS

DATE Feb. 25, 1
page 1 **of** 1

SUBJECT: FOIL NAMEPLATES USED ON
ONAN TRANSFER SWITCHES

REF. FILE# C-6

MODEL(S) or SERIES:

- ALL "AT" 60, 100 and 200 AMP MODELS
- ALL "LT" 60, 100 and 200 AMP MODELS
- ALL 30 AMP MECHANICALLY HELD SWITCHES

EFFECTIVE: IMMEDIATELY

On certain Onan transfer switches there is a conductive foil nameplate on the backplate between the contactors.

Some of these foil nameplates have not been glued on securely and/or in time the ends of the nameplate can come loose, curl up, and make contact with the auxiliary contact screws.

If this happens, and contact is made, it "grounds out" the transfer switch which in turn can cause some of the smaller wires to burn up.

WARNING: Before regluing, be sure to remove AC power from the transfer switch to prevent serious shock hazard.

Onan suggests removing the nameplate or cleaning the metal backplate with a cleaner such as Trichloroethylene and then regluing the nameplate with a good adhesive such as "Pliobond" (Made by the 3M Company).

The newer Onan nameplates are of paper construction and applied with "Locktite" adhesive.

This bulletin is for information purposes.



PRODUCT SUPPORT BULLETIN NO. 111
SERVICE/PARTS/PUBLICATIONS

DATE March 10, 1969
page 1 **of** 1

SUBJECT: PART NUMBER CORRECTIONS

REF. FILE# S-69

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

MDJC OPERATOR'S MANUAL AND PARTS CATALOG
(968-0341) Dated 9A-AA74

The Part Numbers for the Wound Stator as shown on page 58 (Item 1) under the Generator group (Spec AA) are incorrect.

The correct Part Numbers for the Wound Stator are as follows:

| <u>REF. NO.</u> | <u>PART NO.</u> | <u>QTY USED</u> | <u>PART DESCRIPTION</u> |
|-----------------|-----------------|-----------------|---------------------------------------|
| 1 | 220-2025 | 1 | 1 Phase, 50 Hertz (AC) - 12 Volt (DC) |
| | 220-2207 | 1 | 1 Phase, 50 Hertz (AC) - 24 Volt (DC) |
| | 220-2232 | 1 | 1 Phase, 50 Hertz (AC) - 32 Volt (DC) |
| | 220-2017 | 1 | 1 Phase, 60 Hertz (AC) - 24 Volt (DC) |
| | 220-2199 | 1 | 1 Phase, 60 Hertz (AC) - 24 Volt (DC) |
| | 220-2224 | 1 | 1 Phase, 60 Hertz (AC) - 32 Volt (DC) |
| | 220-2050 | 1 | 3 Phase, 50 Hertz (AC) - 12 Volt (DC) |
| | 220-2157 | 1 | 3 Phase, 50 Hertz (AC) - 24 Volt (DC) |
| | 220-2182 | 1 | 3 Phase, 50 Hertz (AC) - 32 Volt (DC) |
| | 220-2042 | 1 | 3 Phase, 60 Hertz (AC) - 12 Volt (DC) |
| | 220-2149 | 1 | 3 Phase, 60 Hertz (AC) - 24 Volt (DC) |
| | 220-2174 | 1 | 3 Phase, 60 Hertz (AC) - 32 Volt (DC) |

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 112
SERVICE/PARTS/PUBLICATIONS

DATE March 12, 1
page 1 **of** 1

SUBJECT: 191-1052 STARTER

REF. FILE# S-70

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

CCK-MS, CCKA-MS and CCKB-MS (Begin Spec "J")

NHA, NHB, NHC, NHAV, NHBV, NHCV, NHP and NHPV (Begin Spec "B")

6.ONH (Units built after November 1974)

There have been some internal parts changes on this starter as used in above models.

The only significant change involves elimination of one negative brush and brush spring from the brush holder assembly (191-1006).

Earlier starters that used two negative brushes can now use either brush holder with one or two brushes.

Onan's present stock of the brush holder (191-1006) contains two brushes, but it can be used as a replacement on the later starters which have just one negative brush instead of two. (Completely interchangeable)

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 113
SERVICE/PARTS/PUBLICATIONS

DATE March 18, 1
page 1 **of** 1

SUBJECT: SPEC ADVANCE AND PRODUCT
IMPROVEMENTS

REF. FILE# S-71

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

4.0 BF-3CR/16000 AND 4.0 BF-3CR/16002
MOTOR HOME MODELS

Effective immediately, the Spec letter on the above models is being advanced from "A" to "B".

The changes involved consist of the following:

1. A different Start Solenoid (K1) without an "I" terminal.
2. An additional Relay (K2) for ignition while cranking only.
3. A different reverse current blocking diode (CR1) in the battery charging circuit.
4. Relocation of control fuses F1 & F2 to control bracket.
5. A different ignition coil assembly with "Push On" Hi-Tension terminals.
6. A revised control.

These product improvements and changes will result in a more reliable and serviceable unit.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 114
SERVICE/PARTS/PUBLICATIONS

DATE March 18,
page 1 **of** 1

SUBJECT: SPEC ADVANCE AND PRODUCT
IMPROVEMENTS

REF. FILE# S-72

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

2.5 LK-3CR/12000
MOTOR HOME MODELS

Effective immediately, the Spec letter on the above model is being advanced from "L" to "M".

The changes involved consist of the following:

A square (rather than round) type generator, focalized mounts, new style gearcase, new governor shaft and governor linkage, different carburetor and fuel filter, dry type air cleaner, new control, standardize on left hand down exhaust and a change in the contents of the accessory kits.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 115
SERVICE/PARTS/PUBLICATIONS

DATE March 26, 19
page 1 **of** 1

SUBJECT: PART NUMBER CORRECTIONS
(Parts Catalog #965-0220)
Date Code 10A75

REF. FILE# S-73

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

4.0 "BF" "RV" SERIES

Item 16 on page 7 of the Fuel System Group (Part #145-0079), in the "BF" "RV" Parts Catalog (965-0220) should be changed to Part #145-0489.

Also item 30 on page 7 of the Fuel System Group (Part #142-0362) in this Parts Catalog should be changed to Part #142-0575. Part #142-0362 is NOT the correct Carburetor for this model.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 116
SERVICE/PARTS/PUBLICATIONS

DATE April 9, 19
page 1 of 1

SUBJECT: CARBURETOR FUEL PUMP CHANGES

REF. FILE# E-19

MODEL(S) or SERIES:

ALL BF/BFV AND BG/BGV INDUSTRIAL ENGINES
WITH INTEGRAL CARBURETOR MOUNTING
FUEL PUMP

EFFECTIVE: BF BEGIN SPEC "E"

"BFV", "BG" AND "BGV" BEGIN SPEC "A"

The 142-0531 and 142-0568 carburetors have been changed beginning with above Spec letter and model.

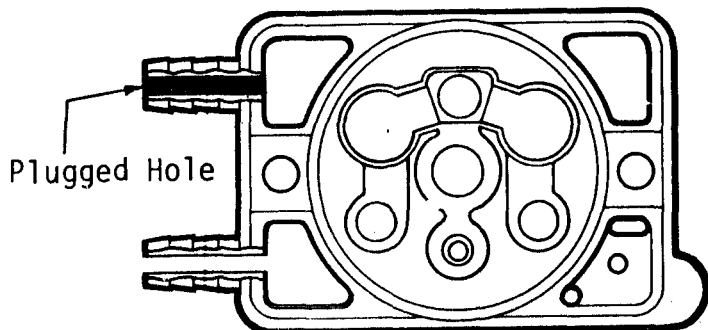
The valve plate no longer has an opening in the fuel return nozzle. This means that those carburetors with the integral mounted fuel pump no longer have one inlet and one return hole. (See old and new style valve plate illustrations below.)

For replacement parts stock, Onan will continue to supply the 142-0537 valve plate assembly with both inlet nozzles open. Onan will include a 149-1321 cap and a 503-0301 clamp with each valve plate (142-0537) to plug one inlet fuel return nozzle when necessary.

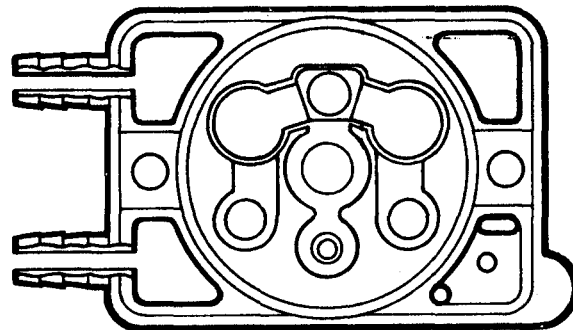
This will permit stocking the same replacement valve plate assembly for the 142-0531 and 142-0568 Carburetor mounted fuel pumps and the 149-1322 remote mounted pulse fuel pump.

A supply of caps (149-1321) and clamps (503-0301) should be kept in Distributor and Dealer stock to cover the 142-0537 valve plates presently in stock when used as a replacement part on the newer models with single fuel inlet nozzle,

This bulletin is for informational purposes.



Green in Color
New Style Valve Plate



Black in Color
Old Style Valve Plate



PRODUCT SUPPORT BULLETIN NO. 117
SERVICE/PARTS/PUBLICATIONS

DATE April 14, 1
page 1 **of** 1

SUBJECT: CHANGE IN STANDARD GOVERNOR
AND SPEC ADVANCE

REF. FILE# S-74

MODEL(S) or SERIES:
DFE, DFP AND DFM (Class "B")

EFFECTIVE: BEGIN SPEC "J"

All engines for above models will use Barber Coleman as the standard governor in place of the present Woodward "SG" governor beginning Spec "J".

The Woodward "PSG" governor will be available as an option for all models listed above.

The Woodward "SG" governor is no longer available.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 118
SERVICE/PARTS/PUBLICATIONS

DATE April 16, 1
page 1 **of** 1

SUBJECT: SERVICE BULLETINS

REF. FILE# M-11

MODEL(S) or SERIES: ALL SERVICE BULLETIN **EFFECTIVE:** IMMEDIATELY
MANUALS

Effective immediately, all individual "Service Bulletin" manuals (Engine, Generator Controls and Miscellaneous) are being discontinued. Bulletins will now be put into the Master Service Manuals #922-0500 and 922-0501.

A list is shown below of the "Current" bulletins in each category. These bulletins should be removed from your service bulletin manual (if you have one) and inserted in the appropriate section of your Master Service Manual as shown below.

All service bulletins which do not appear in this list are Obsolete. The information is now contained in the Master Service Manuals.

This bulletin is for informational purposes.

INSERT THE FOLLOWING BULLETINS IN
SECTION 20 OF 922-0501 (GREEN TABS)

- ENG 9
- 21
- 22
- 24
- 32
- 33
- 34
- 38
- 40
- 45
- 48
- 51
- 52
- 54
- 56
- 57
- 58
- MISC 2
- 5
- 9
- 10
- 13
- 14

INSERT THE FOLLOWING BULLETINS IN
SECTION 12 OF 922-0502 (RED TABS)

- GEN 6
- 7
- 8
- 11
- 18
- MISC 7
- 11
- 12

INSERT THE FOLLOWING BULLETINS IN
SECTION 7 OF 922-0502 (YELLOW TABS)

- CONTROL 2
- 17



PRODUCT SUPPORT BULLETIN NO. 119
SERVICE/PARTS/PUBLICATIONS

DATE May 7, 1971
page 1 **of** 1

SUBJECT: NEW DRY TYPE AIR CLEANER

REF. FILE# E-20

MODEL(S) or SERIES:

CCK AND CCKA INDUSTRIAL ENGINES

EFFECTIVE: BEGINNING WITH
SERIAL NUMBER 927426

A new dry type air cleaner assembly (beginning with production serial number above) is being used in place of the oil bath air cleaner on above models.

Replacement parts for the oil bath air cleaner are still available.

If you desire to convert the oil bath type air cleaners to a dry type air cleaner, order Kit #140-1427.

This Kit contains all necessary parts and assembly instructions for conversion.

The replacement dry type air cleaner element is available under Part Number 140-1216.

Future Parts Catalogs are being updated to include all parts needed for both the oil bath type air cleaners and the dry type air cleaner assemblies.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 120
SERVICE/PARTS/PUBLICATIONS

DATE May 7, 19
page 1 **of**

SUBJECT: FLYWHEEL CHANGES

REF. FILE# E-21

MODEL(S) or SERIES:

CCK, CCKA AND CCKB INDUSTRIAL ENGINES

EFFECTIVE: BEGINNING WITH
SERIAL NUMBER 109022

The flywheel guard (Part #134-2824) will be deleted from future production engines as flywheel stock (with knob) is depleted.

The cast knob on the face of the CCK flywheels used for indexing the rope sheave is being removed also.

The flywheel guard (Part #134-2824) is not required after the knob has been deleted. Testing has shown that the rope sheave will not slip when retained with just the flywheel mounting bolt.

Continue to use the guard (Part #134-2824) where the cast knob is still present.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 121
SERVICE/PARTS/PUBLICATIONS

DATE May 7, 19
page 1 **of** 1

SUBJECT: NEW ALTERNATOR ADJUSTMENT
BRACKET, VEE BELT AND GUARD

REF. FILE# E-22

MODEL(S) or SERIES:
CCK, CCKA AND CCKB INDUSTRIAL ENGINES

EFFECTIVE: BEGINNING WITH
SERIAL NUMBER 992673

A new adjustment bracket and vee belt has been incorporated for top mounted 35 amp alternators used on pressure cooled engines for above models.

The Vacu-Flo models already include these features and remain unchanged.

The new belt (Part #511-0090) and adjustment bracket (Part #191-1168) includes a new guard (Part #191-0725), and this assembly provides a better fit on pressure cooled models.

The 511-0067 belt is too short for pressure cooled models only.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 122
SERVICE/PARTS/PUBLICATIONS

DATE May 7, 1971
page 1 **of** 1

SUBJECT: MULTIPLE SERIES "AT"
AUTOMATIC TRANSFER SWITCHES **REF. FILE#** C-7

MODEL(S) or SERIES: ALL AUTOMATIC TRANSFER SWITCHES
"AT" SERIES **EFFECTIVE:** IMMEDIATELY

When 4 or MORE "AT" style transfer switches are used with one Engine Generator Set, the engine may continue to Run after Commercial Power is restored and the transfer switch has gone through all its timing cycles.

This can be caused by "Leakage" current through the Solid State components of the time delay start-stop modules keeping the ignition energized.

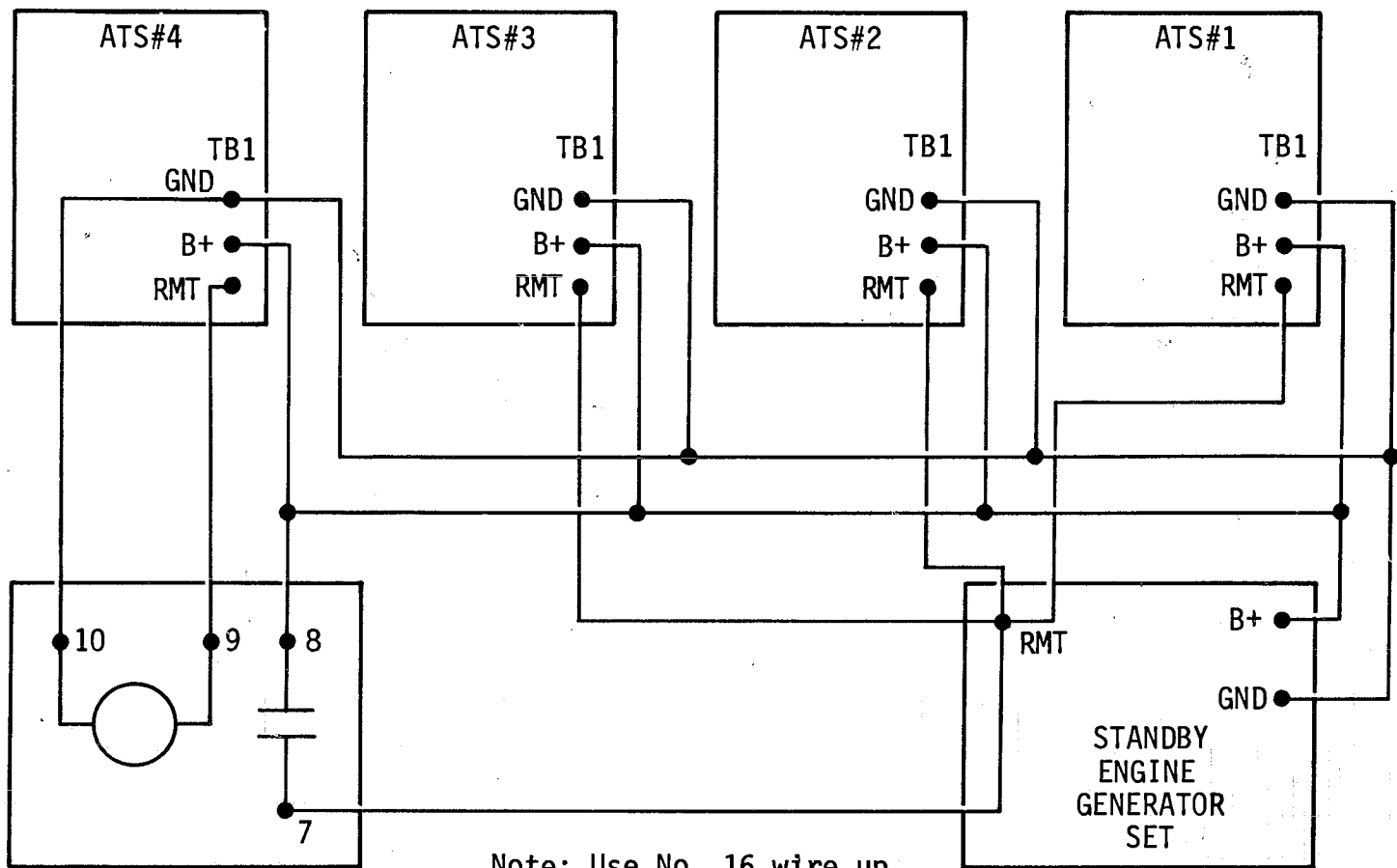
Start-Stop modules with a Different timing circuit that will eliminate this condition will soon be going into production. The New modules will have the same part numbers (300-0921 — 12 volt) (300-0922 — 24 volt) and can be recognized by Light Emitting Diodes on the face of the module. These New modules are completely interchangeable with the old style modules.

If 4 or MORE "AT" controls are being used in a system and stopping problems are encountered, you have three choices to eliminate this condition:

1. Remove the Time Delay Start-Stop modules and replace them with Bypass module Part #300-1177. This will allow set to start, stop and operate, but without the time delay feature.
2. Replace the Time Delay Start-Stop modules with the New Time Delay Start-Stop modules which have the "Light Emitting Diodes" on the face of the module. Order through Parts Dept. Specify module (300-0921 — 12 volt or 300-0922 — 24 volt) with "Light Emitting Diodes."
3. Add an auxiliary relay Part #307-1320 (12 volt) or #307-1321 (24 volt) to each "ATS" control in excess of Three. Wiring details and instructions are included with replacement relays. See illustration on page 2 of this bulletin also.

This bulletin is for informational purposes.

(Over)



RELAY PACKAGE
 307-1320 12V
 OR
 307-1321 24V

Note: Use No. 16 wire up to 100 ft. on DC engine control leads. (Max 0.5 ohms per line)

KEY

- ATS - AUTOMATIC TRANSFER SWITCH
- TB1 - TERMINAL BLOCK 1
- GND - GROUND
- B+ - B+
- RMT - REMOTE TERMINAL

THIS RECONNECTION WIRING DIAGRAM IS SHIPPED WITH EVERY 307-1320 AND/OR 307-1321 RELAY. WIRING CONNECTIONS AS SHOWN ABOVE APPLY ONLY WHEN USED WITH 4 OR MORE MULTIPLE SERIES AUTOMATIC TRANSFER SWITCHES BEING USED WITH 1 STANDBY ENGINE GENERATOR SET. REFER TO STEP #3 ON PAGE 1 OF PRODUCT SUPPORT BULLETIN #122 FOR EXPLANATION AND USE.

SUBJECT: CHECKING FOR SYMMETRICAL FIRING OF RECTIFIER BRIDGE 305-0524 **REF. FILE#** G-10

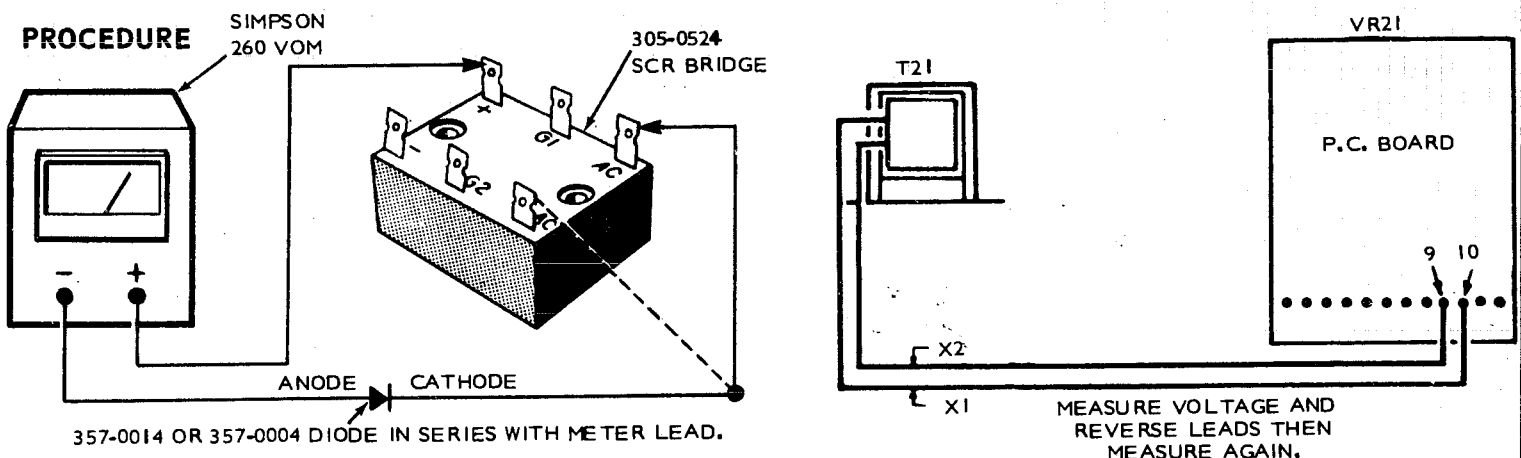
MODEL(S) or SERIES:

"UR" AND "YB" GENERATORS USING 305-0524 RECTIFIER BRIDGE AND 332-1268 OR 332-1704 VOLTAGE REGULATOR BOARD

EFFECTIVE: IMMEDIATELY

Non-symmetrical firing of the SCR's could result in premature bridge failure.

It is recommended that firing symmetry be established whenever servicing an applicable "UR" or "YB" type generator. Use the following procedure and refer to the illustration below:



Proceed as follows with the unit running at no load:

1. Use a Simpson 260 meter set on the 2.5 volt DC (+) positive scale. (If a different meter is used, start on a higher DC positive scale.)
2. Connect positive (+) meter lead to the plus (+) terminal on the 305-0524 module.
3. Connect negative (-) meter lead to the Anode of a diode. Onan Part #357-0014 or #357-0004.
4. Connect cathode end of diode to AC 1 terminal of SCR module. Record reading. (See illustration above.)
5. Connect cathode end of diode to AC 2 terminal of SCR module. Record reading again.
6. Stop engine. Reverse the secondary leads (X1 & X2) of the voltage reference transformer T21, (315-0342) at positions 9 & 10 on the voltage regulator board (332-1268) or (322-1704).

(Over)

7. Start engine. Repeat steps 4 & 5 above and again record each reading.
8. Secondary leads of voltage reference transformer T21 should be connected to the terminal & positions where the Least Voltage Difference is recorded in steps 4 & 5.

Refer to the examples and sample readings below for further explanation of typical readings you may expect when performing this check.

Examples and Sample Readings:

T21-X1 connected to VR21 - 9 (Terminal #9)
T21-X2 connected to VR21 - 10 (Terminal #10)
Step 4 voltage reading recorded .75 VDC (Typical Reading) — Voltage Difference
Step 5 voltage reading recorded 1.65 VDC (Typical Reading) is .9 VDC

T21-X1 connected to VR21 - 10 (Terminal #10)
T21-X2 connected to VR21 - 9 (Terminal # 9)
Step 4 voltage reading recorded 1.2 VDC (Typical Reading) — Voltage Difference
Step 5 voltage reading recorded 1.3 VDC (Typical Reading) is .1 VDC

The above examples show that the correct connections for symmetrical firing is to connect Secondary lead X1 to terminal #10 and lead X2 to terminal #9 as the voltage difference is .1 VDC compared to .9 VDC when secondary leads were connected the other way.

NOTE: Voltage readings will vary with the type of meter used. If a meter other than a Simpson model 260 is used then set meter on the 10 volt DC Positive (+) scale as readings may occur in the 6 volt range.

All units built after Jan. 1, 1976 have been tested and wired at the factory for the lowest voltage difference.

Any and all units prior to Jan. 1, 1976 should be checked in the field whenever servicing the "UR" or "YB" type generator sets.

Please add this information and procedure to your Master Service Manual #922-0502 Part 2 Sections 8 and 9.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 124
SERVICE/PARTS/PUBLICATIONS

DATE May 7, 19
page 1 **of** 1

SUBJECT: PART NUMBER CORRECTIONS
(Operator's Manual & Parts
Catalog #973-0305)
Date Code 12AE75

REF. FILE# S-75

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

DYD (Class "B")
100 and 125 kW

Item 15 on page 43 under the Control Group (Part #322-0004) in the DYD Operator's Manual & Parts Catalog (973-0305) should be changed to Part #322-0017. Part #322-0004 is NOT the correct Lamp for this model.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 125
SERVICE/PARTS/PUBLICATIONS

DATE May 7, 1976
page 1 **of** 1

SUBJECT: PART NUMBER CORRECTIONS
(Service Manual & Parts
Catalog #940-0250)
Date Code 4-76 Spec C

REF. FILE# E-23

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

NHP-NHPV INDUSTRIAL GAS ENGINES

Item 2 on page 48 under the Camshaft Group (Part #105-0075) in the NHP-PV Service & Parts Catalog (940-0250) should be changed to Part #150-0075. The #105 is NOT the correct prefix for this Pin.

Also item 16 on page 51 under the Oil System Group (Part #193-0198) in this same manual should be changed to Part #193-0108. Part #193-0198 is NOT the correct Part Number for the Oil Pressure Sending Unit for this model.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 126
SERVICE/PARTS/PUBLICATIONS

DATE May 7, 19
page 1 of 1

SUBJECT: PART NUMBER CORRECTIONS
(Service Manual & Parts
Catalog #940-0251)
Date Code 11AC75

REF. FILE# E-24

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

NHC - NHCV INDUSTRIAL ENGINES

Item 2 on page 52 under the Camshaft Group (Part #105-0075) in the NHC-NHCV Service & Parts Catalog (940-0251) should be changed to Part #150-0075. The #105 is NOT the correct prefix for this Pin.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 127
SERVICE/PARTS/PUBLICATIONS

DATE May 21, 197
page 1 **of** 1

SUBJECT: SPEC ADVANCE AND PRODUCT
IMPROVEMENTS ON "YCB" SERIES
(1 Thru 6 kW) (60 HERTZ)

REF. FILE# S-76

MODEL(S) or SERIES:

| | |
|-------------|-------------|
| PC-SPEC "E" | TM-SPEC "C" |
| PD-SPEC "C" | TN-SPEC "C" |
| PE-SPEC "C" | TP-SPEC "C" |
| PF-SPEC "C" | TR-SPEC "C" |
| PG-SPEC "C" | TS-SPEC "C" |
| PH-SPEC "C" | TT-SPEC "C" |
| PK-SPEC "C" | |

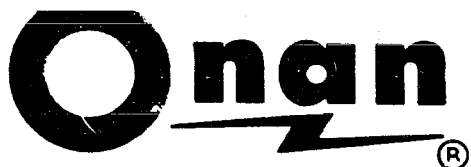
EFFECTIVE: ALL MODELS BEGINNING
SPEC "C" EXCEPT PC
MODEL ONLY SPEC "E"

Effective immediately, as defined above by model and spec, the following changes and improvements have been made:

1. A new receptacle box with 22 different configurations of receptacles and circuit breakers available.
2. A new one piece bridge rectifier block in place of two separate diodes.
3. Fast-on terminals and individual wires for easier interconnection between Stator and End Bell. Replaces 8 place plug connector previously used.
4. New style carrying handle on 1 and 2 kW models.

These major product improvements provide greater versatility in receptacle and circuit breaker combinations and also Standardization with CSA approved models.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 128
SERVICE/PARTS/PUBLICATIONS

DATE May 21, 1976
page 1 **of** 1

SUBJECT: SPEC ADVANCE AND PRODUCT
IMPROVEMENTS ON "YCB" SERIES
(1 Thru 6 kW) (50 Hertz)

REF. FILE# S-77

MODEL(S) or SERIES:
ALL 50-HERTZ MODELS ONLY

EFFECTIVE: ALL MODELS BEGINNING
SPEC "C" EXCEPT "PC"
MODEL ONLY SPEC "E"

| | |
|-------------|-------------|
| PC-SPEC "E" | TM-SPEC "C" |
| PD-SPEC "C" | TN-SPEC "C" |
| PE-SPEC "C" | TP-SPEC "C" |
| PF-SPEC "C" | TR-SPEC "C" |
| PG-SPEC "C" | TS-SPEC "C" |
| PH-SPEC "C" | TT-SPEC "C" |

Effective immediately, as defined above by model and spec, the following changes and improvements have been made:

1. A new side mounted receptacle box with various different configurations of receptacles and circuit breakers available.
2. A new one piece bridge rectifier block in place of two separate diodes.
3. Fast-on terminals and individual wires for easier interconnection between Stator and End Bell. Replaces 8 place plug connector previously used.
4. New style carrying handle on 1 and 2 kW models.

These major product improvements provide greater versatility in receptacle and circuit breaker combinations. In addition the new rectifier block is less likely to get damaged during installation.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 129
SERVICE/PARTS/PUBLICATIONS

DATE May 21, 19
page 1 **of** 1

SUBJECT: NEW SPARK PLUG AND HIGH TENSION LEAD **REF. FILE#** S-78

MODEL(S) or SERIES: 2.7 AJ-1R/12020K "RV" GENERATOR SET **EFFECTIVE:** CURRENT PRODUCTION UNITS

The 2.7 AJ-1R "RV" Set is now being built with a new Bantam resistor type spark plug and a new high tension lead with a smaller spark plug connector than was previously used. The routing of the new style spark plug lead also changed.

These improvements were made to lower engine height and improve noise (radio) suppression.

The new spark plug is available under Onan Part #167-0251.
The new spark plug high tension lead is available under Onan Part #167-1584.

The old style spark plug lead (Part #167-1521) may be used with the new spark plug, but the old spark plug (Part #167-0241) should NOT be used with the new style high tension lead because of loss of radio noise suppression under that configuration.

These improvements were running changes during March 1976 production and no spec advance was made.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 130
SERVICE/PARTS/PUBLICATIONS

DATE May 28, 197
page 1 **of** 1

SUBJECT: MUFFLER REVISION

REF. FILE# S-79

MODEL(S) or SERIES:

EFFECTIVE: BEGINNING WITH SERIAL
NUMBER B76105494

DYC (Class "B") (During Spec "F")

The mounted muffler on this model has been revised to include a rain shield and a better heat shield.

These product improvements will result in better rain protection and prevent paint discoloration due to exhaust system heat.

Muffler installation package number (179-0385) remains the same. Individual parts have changed as follows and these new parts are NOT interchangeable with the old parts:

| <u>DESCRIPTION</u> | <u>PART NUMBER</u> |
|--------------------|--------------------|
| Muffler | 155-1461 |
| Heat Shield | 155-1278 |
| Spacer | 155-1430 |
| Nipple | 505-0824 |
| Flex Tube | 155-1458 |

All of these parts are contained in the updated 179-0385 installation package.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 131
SERVICE/PARTS/PUBLICATIONS

DATE May 28, 19
page 1 **of** 1

SUBJECT: 115-0132 TAPPET

REF. FILE# M-12

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

"JB" - "JC" INDUSTRIAL ENGINES SPEC A-0

"JB" - "JC" GENERATOR SETS SPEC A-N

"MDJA" - SPEC A-Q

"MDJB" - SPEC A-N

"MDJC" - SPEC A-N

"MJB" - SPEC A-P

"MJC" - SPEC A-N

The 115-0132 tappet for early "J"-Series engines was published as Obsolete in supplement #4 to the L-835M Parts Price List effective 12/15/75.

We have since been able to purchase a quantity of the tappets and now have them in stock. The current price is \$6.95A.

Review your present stock status and order for immediate delivery.

This bulletin is for informational purposes.

SUBJECT: 300-1073 PRINTED CIRCUIT CONTROL BOARD (INTERFERENCE PROBLEM)

REF. FILE# S-80

MODEL(S) or SERIES:
4.0 BF-1R/9000 ONLY

EFFECTIVE: IMMEDIATELY

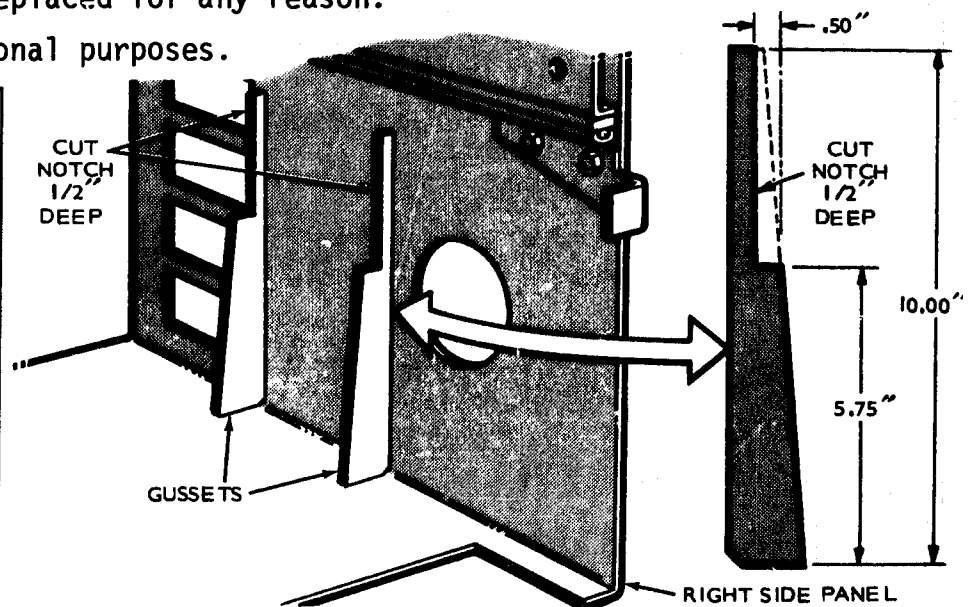
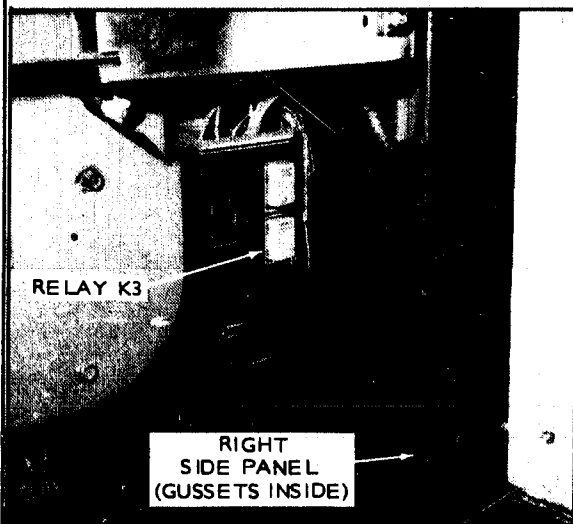
Relay K3 on the 300-1073 printed circuit control board is supplied to Onan from more than one supplier. Although it has the same electrical characteristics, the relay may vary in physical dimensions. This means that in some units, the K3 relay may protrude farther out from the printed circuit board.

When the power drawer is closed the K3 relay gets broken loose from the board by a chassis gusset which is welded inside the right side panel of the power drawer housing. Whether this happens depends on which supplier's relay (K3) was used.

To remedy this problem, whenever replacing the 300-1073 printed circuit control board on the 4.0 BF-1R/9000 models ONLY, be sure to close the drawer slowly and at the same time check to be sure that relay (K3) clears the chassis gussets on the inside of the right side panel of the housing.

If clearance is not sufficient, modify the gussets by filing or cutting a 1/2" deep notch into the center of the gusset as shown in the illustration below. The gussets themselves have been changed on factory production units as of this date. Whenever servicing one of these models in the field, check the side clearance of this printed circuit board whenever it is replaced for any reason.

This bulletin is for informational purposes.





PRODUCT SUPPORT BULLETIN NO. 133
SERVICE/PARTS/PUBLICATIONS

DATE May 28, 19
page 1 **of** 1

SUBJECT: PART NUMBER CORRECTION
(Service Manual & Parts
Catalog #940-0251)
Date Code 11AC75

REF. FILE# E-25

MODEL(S) or SERIES:
NHC-NHCV INDUSTRIAL ENGINES

EFFECTIVE: IMMEDIATELY

Item 8 on page 52 under the Piston and Rod Group (Part #113-0166) (Standard) in the NHC-NHCV Service & Parts Catalog (940-0251) should be changed to Part #113-0165. The 113-0166 Ring Set is NOT correct for Gasoline operated Engines.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 134
SERVICE/PARTS/PUBLICATIONS

DATE June 4, 19
page 1 of 1

SUBJECT: 300-0926 2 TO 3 WIRE
CONVERTER MODULE

REF. FILE# C-8

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL ATUE SERIES FOR 3-WIRE STARTING
STANDBY ELECTRIC GENERATOR SETS

Some of these modules may indicate an "Overcrank" situation (Overcrank lamp comes on), when the automatic transfer switch transfers the load from the line to the standby generator set. This will prevent the generator set from starting on the next power outage. This could also happen during an exercise with load as well as during a power outage.

To correct this condition, install a new 300-0926V converter module and handle under standard warranty. Time allowed will be 15 minutes.

All units from the factory beginning with serial number E760 will have a single 2.7 ohm resistor designated as R1 on the 300-0926 converter modules. Factory units which incorporate this revision will be numbered 300-0926V which indicates R1 value is correct.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 135
SERVICE/PARTS/PUBLICATIONS

DATE June 25, 19
page 1 **of** 1

SUBJECT: SERIAL NUMBER IDENTIFICATION FOR
PROTOTYPE/EXPERIMENTAL OR PILOT
MODEL CLASS "A" UNITS

REF. FILE# M-13

MODEL(S) or SERIES: ALL CLASS "A" ENGINES OR GENERATOR SETS

EFFECTIVE: IMMEDIATELY

Some Onan Distributors have experienced difficulty in identifying various engines and generator sets being field tested by various Onan O E M accounts.

The factory MUST be contacted PRIOR to performing any service or repairs on these units in the field.

The Prototype/Pilot model is assigned a special experimental serial number by Onan. The actual serial number is preceeded by the letters EXP (meaning Experimental). The first two numbers identify the year and the remaining numbers are assigned consecutively in numerical sequence according to the quantity of total Experimental units.

Example: EXP 76214

In addition, the Nameplate has a designation following the model which states that the unit is a Pilot Model.

Example: RCKK-MS/Pilot Model

If you are asked to service one of these Prototype/Pilot models; contact the Onan Service Department immediately, before proceeding with any repairs.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 136
SERVICE/PARTS/PUBLICATIONS

DATE June 25, 19
page 1 **of** 1

SUBJECT: MUFFLER REVISION

REF. FILE# S-81

MODEL(S) or SERIES:

WB (Class "B") SETS

EFFECTIVE: BEGINNING WITH SERIAL
NUMBER E760127823

The mounted muffler on this model has been revised to include a rain shield and a better heat shield.

These product improvements will result in better rain protection and prevent paint discoloration due to exhaust system heat.

Muffler installation package number (179-0397) remains the same. Individual parts have changed as follows and these new parts are NOT interchangeable with the old parts:

| <u>DESCRIPTION</u> | <u>PART NUMBER</u> |
|--------------------------|--------------------|
| Muffler Spacer | 155-1430 |
| Pipe Nipple | 505-0826 |
| Hex Head Cap Screw | 800-0078 |
| NEW PARTS | |
| Rain Shield | 155-1425 |
| Round Head Machine Screw | 813-0105 |
| Lock Nut | 870-0188 |
| Asbestos | 895-0162 |

All of these parts are contained in the updated 179-0397 installation package.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 137
SERVICE/PARTS/PUBLICATIONS

DATE June 25, 197
page 1 **of** 1

SUBJECT: PARTS PRICE LIST
L835N (Effective 3/23/76)
L835P (Effective 7/1/76)

REF. FILE# M-14

MODEL(S) or SERIES:
PART NUMBER 191-0871

EFFECTIVE: IMMEDIATELY

An error has been made in the current L835 Parts Price List.

Part number 191-0871 is listed twice. This item is first described as an Alternator and priced at \$139.40B. The second listing is described as an Armature and priced at \$41.60C.

Part number 191-0871 is an Alternator. The correct price is \$139.40B effective with L835P dated 7/1/76.

Please correct your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 138
SERVICE/PARTS/PUBLICATIONS

DATE June 30, 197
page 1 **of** 1

SUBJECT: L835P PARTS PRICE LIST
SECTION C

REF. FILE# M-15

MODEL(S) or SERIES:
SECTION "C" CODE F17

EFFECTIVE: IMMEDIATELY

All parts coded F17 in section "C" of L835P MUST be recoded as F10 (No Longer Available).

Flaherty Equipment Company in Minneapolis no longer has these parts in their inventory.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 139
SERVICE/PARTS/PUBLICATIONS

DATE July 1, 1976
page 1 **of** 3

SUBJECT: EXHAUST EMISSIONS

REF. FILE# S-82

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ONAN CLASS "B" DIESEL GENERATOR SETS

In hope of making this important environmental concern better understood, the following exhaust emission information is presented for your information and understanding.

At the present time, and for the foreseeable future, the U.S. Environmental Protection Agency (EPA) has not established any exhaust emission levels for any stationary reciprocating internal combustion engines. Only engines in vehicles used in automotive, on-highway applications are regulated by the EPA today.

The most recent regulations dated September 19, 1975, state that the gaseous emission standards for heavy-duty, on-highway vehicle engines are 40 grams per brake horsepower-hour for carbon dioxide (CO) and 16 grams per brake horsepower-hour for the combined totals of oxides of nitrogen plus hydrocarbons (NO_x+HC) as measured on the EPA 13-Mode test cycle. In 1977 the regulation will be further modified to require smoke emission limits for on-highway vehicles as follows:

- 15% opacity during lug-down
- 20% opacity during acceleration
- 50% opacity during the peaks in either mode
- These levels to be measured on the Federal Smoke Test Procedure.

The above figures are of interest, but academic since they do not pertain to engines in stationary applications.

Some local governments have enacted regulations that are applicable to new engines installed in new or existing buildings. These primarily regulate opacity, particulates and sulphur emissions. A typical smoke regulation for New York City has been brought to our attention:

- Less than No. 1 Ringelmann (20% opacity, approximately) except for up to two minutes per hour when the limit is No. 2 Ringelman (40% opacity, approximately).

Typical of the turbo-charged diesel engines Onan is using today is the statement from one of our suppliers which says that their engines are estimated to be in the range of

(over)

10% opacity under steady state conditions. This is under both the anticipated 1977 EPA regulations and the typical local government regulations.

As a matter of interest all of the engines which Onan uses with the exception of the General Motors 12V71T are below even the current on-highway and 1977 EPA vehicle regulations.

The General Motors 12V71T engine is approximately 16.4 grams of combined unburned hydrocarbons and NO_x based on calculated data.

Onan will do whatever is necessary to serve the generator set market by monitoring the requirements in this area and doing whatever is needed to meet the environmental needs of exhaust emission standards.

It is our recommendation that people specifying Onan equipment specify Only the exhaust emission levels needed to meet specific local regulations where they are now mandatory. The Factory should be consulted for this information.

Onan engine suppliers are cooperating with the EPA in their development of emission regulations which may be applicable to stationary reciprocating internal combustion engines in the future. As additional information becomes available to us this position statement will be reissued.

Please refer to page 3 of this bulletin for the contents of a recent letter to the Onan engineering department regarding State and Federal EPA emission standards for new heavy duty diesel engines.

This bulletin is for informational purposes only.



UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
MINNESOTA - WISCONSIN DISTRICT OFFICE
7401 LYNDAL AVENUE SOUTH
MINNEAPOLIS, MINNESOTA 55423

February 5, 1976

Ronald Hansen
Engineering Dept.
Onan Corporation
1400 73rd Avenue N.E.
Minneapolis, MN 55432

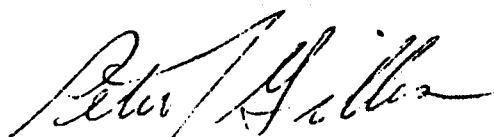
Dear Mr. Hansen:

Please find attached these most recent regulations: Subpart I - Engine Smoke Exhaust Emissions Regulations for New Diesel Heavy Duty Engines and Subpart J - Engine Exhaust Gaseous Emission Regulations for New Diesel Heavy Duty Engines. Please note these regulations pertain to non-stationary, on-road vehicles and engines. They do not pertain to diesel locomotives. There are no Federal regulations that apply to stationary diesel engines.

State regulations may apply to stationary diesel engines, and I suggest you contact Mr. Richard Sandberg at the Minnesota Pollution Control Agency regarding this possibility. His telephone number is 296-7274.

Thank you for your inquiry. Please call again if I can be of further assistance.

Very truly yours,


Peter J. Gillen
Physical Scientist

Enclosures



SUBJECT: TESTING STANDARD UNIJUNCTION TRANSISTORS

REF. FILE# C-9

MODEL(S) or SERIES:

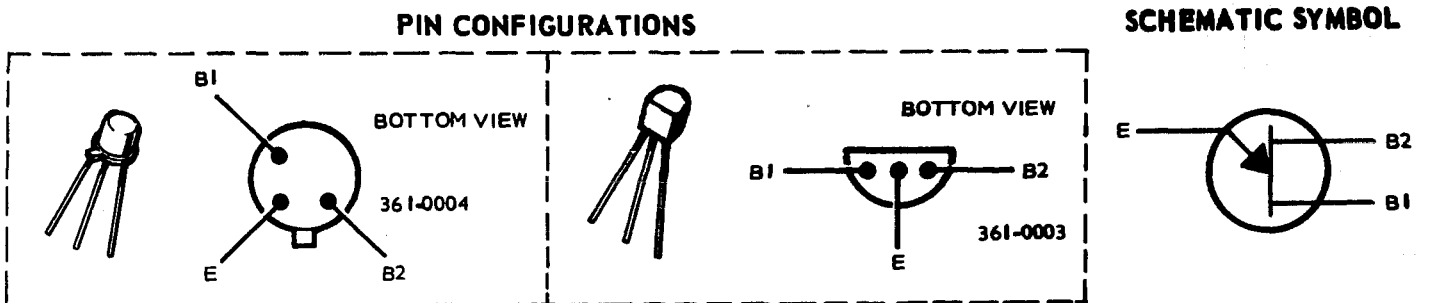
EFFECTIVE: IMMEDIATELY

UR, YD, YB GENERATOR SETS AND
 "AT" TRANSFER SWITCHES

Whenever bench testing and repairing Printed Circuit Boards in above models, a comprehensive check should be given to the Unijunction transistors with a Multi-meter (Simpson model 260 or equivalent).

Procedure and typical resistance values of testing standard unijunction transistors with a multimeter (Simpson model 260 or equivalent) is as follows:

Typical Unijunction Transistor Configurations



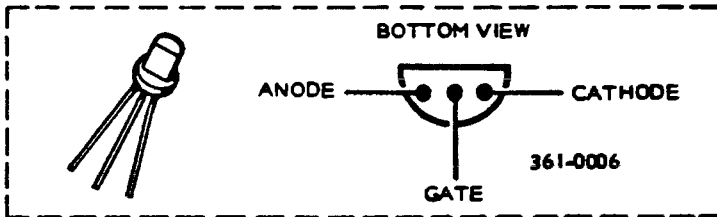
Typical Resistance Values (Meter on R x 10,000 Scale):

| Positive Meter Lead Connected To: | Negative Meter Lead Connected To: | Unijunction # 361-0004 | Unijunction # 361-0003 |
|-----------------------------------|-----------------------------------|------------------------|------------------------|
| B1 | E | Infinity | Infinity |
| B1 | B2 | 5000 Ohms | 4600 Ohms |
| E | B2 | 7000 Ohms | 6300 Ohms |
| B2 | E | Infinity | Infinity |
| B2 | B1 | 5000 Ohms | 4700 Ohms |
| E | B1 | 9000 Ohms | 10,500 Ohms |

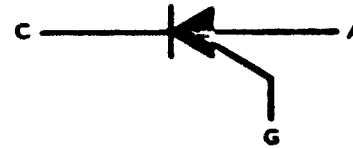
Note: If Resistance values are extremely Higher or Lower than those shown, Unijunction should be replaced.

Procedure and typical resistance values for testing the (PUT) Programmable Unijunction Transistor with a multimeter (Simpson model 260 or equivalent) is as follows on next page.

PIN CONFIGURATION



SCHEMATIC SYMBOL

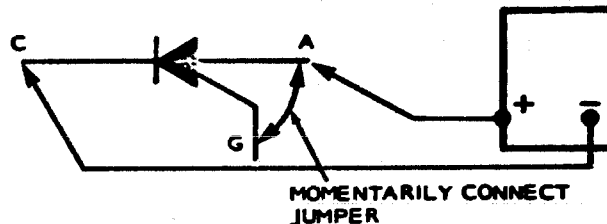


Typical Resistance Values (Meter on R x 10,000 Scale).

| Positive Meter Lead Connected To: | Negative Meter Lead Connected To: | (PUT) Unijunction # 361-0006 |
|-----------------------------------|-----------------------------------|------------------------------|
| A | C | 7500 Ohms |
| A | G | 6700 Ohms |
| C | G | 3.5 Meg. Ohms |
| G | A | Infinity |
| G | C | Infinity |
| C | A | Infinity |

After the resistance has been checked on the "PUT," proceed with the following Test:

1. Place meter on the R x 10,000 Scale.
2. Connect the positive lead to the Anode terminal. See illustration below.
3. Connect the Negative lead to the Cathode terminal. Meter will indicate approximately 10,000 Ohms (10 K Ohms).
4. Momentarily connect jumper between Anode and Gate. Meter will go to Infinity and stay there with the jumper removed. See illustration below.
5. Remove the lead from the Anode and then reconnect it. Meter should again indicate approximately 10,000 Ohms (10 K Ohms).



Unijunctions are used on the following Printed Circuit Boards:

| Unijunction # 361-0003 | Unijunction # 361-0004 | Unijunction # 361-0006 |
|---------------------------|---------------------------|---------------------------|
| 300-0679 | 300-0793 | 300-0921 |
| 300-0680 | 300-0794 | 300-0922 |
| 300-0681 | 300-0926 | 300-0924 |
| 300-0682 | 300-0953 | 300-0973 |
| 300-0730 | 300-1404 | |
| 300-0731 | | |

For repair of units under warranty, Printed Circuit Boards should be replaced and handled under Standard Warranty Procedures.

Please add this information and procedure to your Master Service Manual #922-0502 Part 2 Sections 7, 8 and 9 and Part 3 (Controls) Section 3.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 141
SERVICE/PARTS/PUBLICATIONS

DATE July 28, 19
page 1 **of** 1

SUBJECT: NEW REGULATOR BOARD

REF. FILE# S-83

MODEL(S) or SERIES:

"J"-SERIES SPEC "AA" GENERATORS
"YD" PTO GENERATORS
1 AND 2 BEARING "YD" GENERATORS

EFFECTIVE:

"J"-SERIES BEGINNING SERIAL NUMBER
F760142042
"YD" PTO SERIES BEGINNING SERIAL
NUMBER E760133373
1 AND 2 BEARING "YD" SERIES
BEGINNING SERIAL NUMBER E760133276

A new regulator board (Onan Part #300-1404) is used in above models in place of the 300-1006 regulator board.

This change improves performance and reliability in high temperature ambients and moist or dirty environments. No Spec advance was required.

Note beginning production serial numbers for each model series above.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 142
SERVICE/PARTS/PUBLICATIONS

DATE July 28, 1971
page 1 **of** 1

SUBJECT: NEW STARTER MOTOR

REF. FILE# S-84

MODEL(S) or SERIES:

DDB 50 kW (Class "B")

EFFECTIVE: BEGINNING SPEC "B"

Beginning with Spec "B" production a new starter motor (Onan Part #191-1119) is used in place of the 191-1097 starter motor.

Both starter motors operate on 12 volts and are interchangeable.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 143
SERVICE/PARTS/PUBLICATIONS

DATE July 28, 19
page 1 **of** 1

SUBJECT: IGNITION MISFIRE

REF. FILE# E-26

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

NHC-MS INDUSTRIAL ENGINES

Field complaints regarding failure of the 166-0535 ignition coil on the above model have been traced to an improper air-fuel mixture main jet adjustment.

The symptom of engine (spark plug) misfire when hot and under load appears to be a coil failure. The engine may run on one cylinder and not the other.

Before replacing the coil, check the carburetor main jet for proper adjustment. Normal adjustment is 1-1/2 to 1-3/4 turns open.

NHC-MS engines used in Skid Loader applications have experienced this problem.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 144
SERVICE/PARTS/PUBLICATIONS

DATE July 28, 1971
page 1 **of** 1

SUBJECT: EXHAUST SMOKE AND HIGH OIL
CONSUMPTION

REF. FILE# E-27

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

CCKB-MF 2863J

EZ-GO CAR GT-7 APPLICATION

Field complaints indicate that excessive exhaust smoke and/or high oil consumption in above applications could result from light engine loading and long idling periods.

This problem can be corrected by installing (2) 110-1827 valve guides and (2) 509-0090 valve stem seals.

The valve seats must also be ground after replacing the valve guides. Refer to the Major Service Manual (#927-0404) Engine Disassembly section for this procedure.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 145
SERVICE/PARTS/PUBLICATIONS

DATE July 28, 197
page 1 **of** 1

SUBJECT: FLYWHEEL ALTERNATOR MAGNETIC RING (Onan Part #191-0884)

REF. FILE# E-28

MODEL(S) or SERIES:

BF, NHA, NHAV, NHB, NHBV, NHC, NHCV,
BG, CCKA, CCKB INDUSTRIAL ENGINES

EFFECTIVE: IMMEDIATELY

6.0 NH-1R/9000 GENERATOR SETS

This magnetic ring is used in various flywheel assemblies. This ring is pressed into the flywheel and the roll pins are staked. The magnet is charged before engine installation during production assembly.

Onan has received some complaints from the field from users that have purchased just the magnetic ring (Onan Part #191-0884) and attempted to install it.

Two problems usually occur as a result of field installation of this ring:

1. The magnets usually come loose because they are improperly staked.
2. The ring itself does not get charged before installation.

This magnetic ring is not considered as a field replaceable spare part and is not listed as such in the Parts Catalog for these models.

If replacement is necessary the complete flywheel should be replaced.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 146
SERVICE/PARTS/PUBLICATIONS

DATE July 28, 19
page 1 **of** 1

SUBJECT: HEAD BOLT TORQUE CHANGE

REF. FILE# E-29

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

DJB AND DJC AIR COOLED MODELS ONLY

Because of a problem with breakage of head bolts during production assembly on the above models only, a reduction to 37 to 39 foot pounds (50.16 to 52.88 Newton-Metres) is recommended during any field service or engine overhaul work until further notice.

The current Head Bolt Torque value was 45 foot pounds (61.01 Newton-Metres).

Onan is currently performing test and evaluation work to solve this problem. When the problem is resolved, the torque value may change again, but the new lower value should be used in the interim.

Another bulletin will be issued if and when this value changes.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 147
SERVICE/PARTS/PUBLICATIONS

DATE July 28, 197
page 1 **of** 1

SUBJECT: PART NUMBER CORRECTION
(Service Manual & Parts
Catalog #940-0251)
Date Code 11AC75

REF. FILE# E-30

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

NHC-NHCV INDUSTRIAL ENGINES

Item 23 on page 49 under the Cylinder Block Group (Part #110-2282) in the NHC-NHCV Service and Parts Catalog (940-0251) should be changed to Part #110-1719. The 110-2282 Exhaust Valve is NOT correct for this engine model.

The 110-2282 Exhaust Valve is used in the NHP-NHPV engine models only.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 148
SERVICE/PARTS/PUBLICATIONS

DATE July 28, 19
page 1 **of** 1

SUBJECT: NEW IGNITION COIL
(Onan Part #166-0643)

REF. FILE# S-85

MODEL(S) or SERIES:

BF, NH AND CCK GENERATOR SETS

(Standard Spec 1 and Motor Home units)

EFFECTIVE: IMMEDIATELY

Beginning with March production, a running change was made on above models changing from the 166-0535 ignition coil to the new 166-0643 ignition coil.

This new coil reduces production assembly time and gives us a dual source capability.

Future Parts Catalogs will reflect this change. Please change your records accordingly

This bulletin is for informational purposes.

SUBJECT: SCR Switching Loads

REF. FILE# C-10

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

UR and YB Brushless Generators using
332-1268, 332-1704 or 332-1956
Voltage Regulator Boards.

YD Generator using 300-1006, 300-1404
Voltage Regulator Boards.

In Onan's Synchronous Regulators, the firing circuit is reset at zero crossover or every 180° on the A.C. Sine Wave.

Any high speed load switching, that results in notching of the generator voltage waveform, may disrupt this synchronism and cause the voltage to increase and become unstable. Equipment using S.C.R. controls often produce such conditions, for example, some battery chargers.

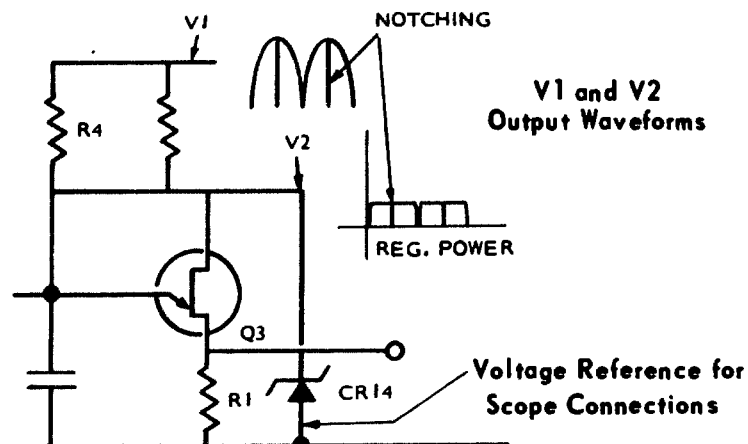
In general, if more than 20% of any rated load is being controlled by phase modulated switches (SCR's, Triacs, etc.) filtering is necessary. Sufficient filtering is required to maintain at least 50 volts, at the regulator power supply, (V1) between 18° and 160° of phase angle.

The YD system uses filter, Onan Part No. 232-2460.

For the UR and YB systems, specify Onan Part No. 232-2692 for notches up to 200 micro-seconds (μ sec) wide, and part number 232-2637 should be specified for anything greater than 200 micro-seconds (μ sec) wide.

These filters are available from Onan in Kit form and all wiring diagrams and installation instructions are included in each kit.

**TYPICAL SCOPE
DISPLAY**





PRODUCT SUPPORT BULLETIN NO. 150
SERVICE/PARTS/PUBLICATIONS

DATE: July 30, 1976
PAGE: 1 of 1

SUBJECT: 149-1304 ELECTRIC FUEL PUMP **REF. FILE#** S-86

MODEL(S) or SERIES: **EFFECTIVE:** IMMEDIATELY

CCK, BF AND NH "RV" MODELS
(Excluding Power Drawer Models)

Two recent changes have been made in subject pump to increase its reliability.

The operating coil resistance has been reduced to 5 ohms to correct Hot Weather operational problems and the diode across the operating coil has been replaced with a capacitor.

Revised fuel pumps can be identified by the date code 7-76 stamped on the top of the pump near the mounting bracket.

These revised fuel pumps are now available through the Onan Parts Department.

Any fuel pumps (149-1304) in your stock with a date code Prior to 7-76 should be returned to Onan. File a Standard Warranty Claim with the Service Department by September 30, 1976 for return authorization.

Warranty applies for replacement of fuel pumps on Sets also. Labor time allowed is 1/2 hour.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 151
SERVICE/PARTS/PUBLICATIONS

DATE August 9, 1976
page 1 **of** 1

SUBJECT: SERIAL NUMBERS

REF. FILE# M-16

MODEL(S) or SERIES:

EFFECTIVE: AUGUST 9, 1976

ALL

Effective August 9, 1976 Onan will show the complete unit serial number on all packing slips and shipping releases for equipment sent to you. See example below.

Onan - Fridley H760140140

Onan - Huntsville H763140141

When receiving the equipment into your stock we suggest that you record the full serial number on your records for future reference and use such as:

- A. Product Recalls
- B. Sales Information
- C. Warranty Claims

The above information is being supplied at the request of several Onan Distributors, Dealers and various OEM accounts as a convenience and time saving suggestion.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 152
SERVICE/PARTS/PUBLICATIONS

DATE August 16,
page 1 **of** 1

SUBJECT: PART NUMBER CORRECTION
(Parts Catalog #927-0221)
Date Code 3-76 Spec A-F

REF. FILE# S-87

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

MCKK GENERATOR SETS

Item 1 on page 3 under the Cylinder Block Group (Part #110-2453) in the MCKK Parts Catalog (927-0221) should be changed to Part #110-2553. Part Number 110-2453 is a production only item and not a replacement part.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 153
SERVICE/PARTS/PUBLICATIONS

DATE August 16, 1
page 1 of 1

SUBJECT: PART NUMBER CORRECTION FOR
IGNITION TUNE-UP KITS

REF. FILE# E-31

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

NHA, NHAV, NHB, NHBV, NHC, NHCV, NHP AND
NHPV INDUSTRIAL ENGINES

The Tune-up Ignition Kit 160-1161 as listed in the Service and Parts Catalog for some of the above models; applies only to models using Side Adjust Points. Parts included are 160-1154 Point Set and 312-0069 Condenser.

On later models using Top Adjust Points the 160-1213 Tune-up Ignition Kit should be used. Parts included are 160-1183 Point Set and 312-0196 Condenser.

Please change the following Service Manuals and Parts Catalogs for your records until these manuals are revised:

MODELS

SERVICE AND PARTS CATALOG

NHA AND NHB INDUSTRIAL ENGINES

#940-0403

NHC AND NHCV INDUSTRIAL ENGINES

#940-0251

NHP AND NHPV INDUSTRIAL ENGINES

#940-0250

These Tune-up Ignition Kits are NOT interchangeable.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 154
SERVICE/PARTS/PUBLICATIONS

DATE Sept. 10, 19
page 1 **of** 1

SUBJECT: SPEC ADVANCE AND PRODUCT
IMPROVEMENTS

REF. FILE# S-88

MODEL(S) or SERIES:

EFFECTIVE: SPEC 16000U

CCK "RV" APPLICATIONS

Beginning with August production the above model includes numerous changes and product improvements over Spec 12000R models.

Some of the major changes and improvements consist of:

1. New Control
2. Standard left hand down exhaust system
3. Three point mount with plate
4. Metal fuel line
5. Onan Electric choke
6. No rope sheave (closed scroll)
7. Different charge resistor in generator assembly (due to new control)
8. No vacuum booster on 4.0 kW sets
9. New style UN generator assembly and engine crankshaft
10. Additional clamp on breather hose.

The Parts Catalog has been revised and supplement #927-1124 has been issued for the 927-0120 Operator's Manual.

Distributors and dealers should consult the revised Parts Catalog and order any replacement parts necessary to perform routine service on Spec 16000U models.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 155
SERVICE/PARTS/PUBLICATIONS

DATE Sept. 10, 19
page 1 **of** 1

SUBJECT: PART NUMBER CORRECTION

REF. FILE# S-89

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

DDA 30kW AND DDB 50 kW
(Class "B" Sets)

Item 41 on page 29 under the Miscellaneous Engine Parts Group (Part #104-0858) in the DDA Operator's manual and Parts Catalog (#944-0301) should be changed to Part Number 104-0859.

Item 9 on page 27 under the Miscellaneous Engine Parts Group (Part #104-0858) in the DDB Operator's manual and Parts Catalog (#944-0302) should also be changed to Part Number 104-0859.

In both cases Part Number 104-0858 is a flywheel (Less Ring Gear) for these models but is NOT available as a standard replacement part.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 156
SERVICE/PARTS/PUBLICATIONS

DATE Sept. 16,
page 1 **of** 1

SUBJECT: NEW STARTER TRANSIENT FILTER
ASSEMBLY (Onan Part #300-1442)

REF. FILE# C-11

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ANY "AT" CONTROL ACCESSORY GROUP

10, 11, 12, 13, 14 or 15 WITH START-STOP TIME
DELAY AND/OR PREHEAT TIME DELAY MODULES
(Spec "A" and "B" Models)

During start-up the battery voltage sometimes drops low enough for a very short time duration (less than 1/10 of a second) to cause certain SCR's to drop out. Engine starter may chatter, drop out or time delay start-stop and/or preheat modules may recycle time delay operation.

To prevent this from occurring, a new filter assembly is available (Onan Part #300-1442) which is easily added to existing "AT" door panel circuitry without any soldering or splicing of wires.

This filter assembly comes complete with all necessary instructions (C138) wiring diagrams and hardware for quick and easy installation.

Standard Warranty policy applies. Maximum allowable labor time for filter assembly installation is One hour.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 157
SERVICE/PARTS/PUBLICATIONS

DATE Sept. 16,
page 1 **of** 1

SUBJECT: 800-0503 BROKEN CYLINDER HEAD
BOLTS (Short Length Only)

REF. FILE# E-32

MODEL(S) or SERIES:
DJB AND DJC AIR COOLED MODELS ONLY

EFFECTIVE: SERIAL NUMBER PREFIX
"C" THROUGH "G"
(March Through July
1976)

Any of the above models being serviced for broken cylinder head bolts (One or More) Must have ALL 800-0503 Bolts replaced even though all bolts may not be broken!

Discard (Scrap) any and all bolts removed.

Standard Warranty policy applies. Maximum allowable labor time is 1/2 hour.

It is Not necessary to remove the valve covers to replace the bolts.

Torque replacement 800-0503 cylinder head bolts to 37 to 39 foot pounds (50.16 to 52.88 Newton-Metres).

Refer to Product Support Bulletin #146 (Dated 7/28/76) for additional information.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 158
SERVICE/PARTS/PUBLICATIONS

DATE Sept. 16, 1981
page 1 **of** 1

SUBJECT: CYLINDER BOLT TORQUE CLARIFICATION **REF. FILE#** E-33

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

NHA, NHB, NHC, NHAV, NHBV AND NHCV
INDUSTRIAL ENGINES

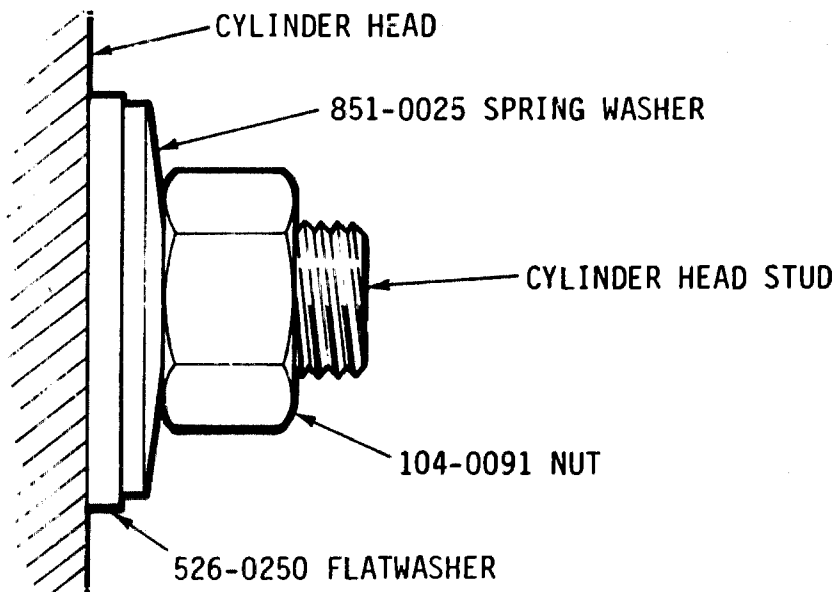
Some of the above model engines use special cylinder head compression washers (Part #851-0025) between the 526-0250 Flat washer and the cylinder head stud nut 104-0091. See illustration below.

Whenever these spring washers (851-0025) are used the cylinder head nut torque Must be reduced to 15 foot pounds (20.34 Newton-Metres) instead of the Standard 18 foot pounds (24.40 Newton-Metres).

Be careful not to over-torque compression washers as this will flatten the compression washer and destroy its purpose which may cause additional engine damage.

The illustration below shows the installation sequence of the flat washer, spring washer and cylinder stud nut.

This bulletin is for informational purposes.





PRODUCT SUPPORT BULLETIN NO. 159
SERVICE/PARTS/PUBLICATIONS

DATE SEPT 30, 19
page 1 **of** 1

SUBJECT: CRANKSHAFT BREAKAGE OR WORN
TORSIONAL DAMPER

REF. FILE# S-90

MODEL(S) or SERIES:
MDJC, MDJF, RJC, RDJC AND RDJF

EFFECTIVE: BEGINNING SERIAL
NUMBER 760138966

Flywheel hub (Onan Part #104-0546) is Obsolete. The New replacement flywheel hub is available under Onan Part #104-0957.

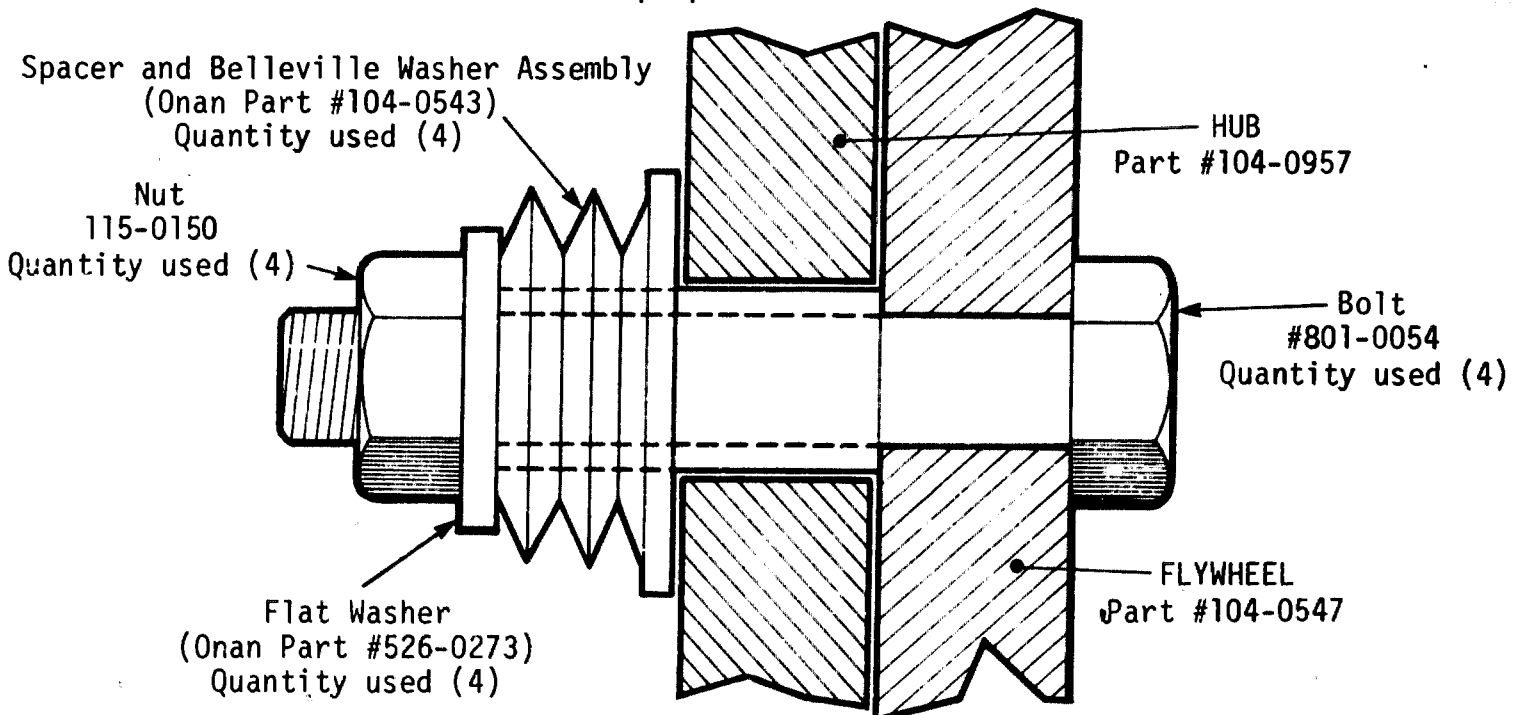
This new ductile iron hub provides added strength and increased clearance. It can be further identified by the number 170-3213 stamped in the casting itself. In cases of crankshaft breakage you must use this new replacement hub to correct this problem.

See illustration below for proper damper assembly.

Torque value on nuts (Part #115-0150) is 17 to 21 foot pounds (23.04 to 28.47 Newton-Metres).

File a warranty claim for any obsolete 104-0546 hubs in your replacement parts inventory by 10-31-76.

This bulletin is for informational purposes.





PRODUCT SUPPORT BULLETIN NO. 160
SERVICE/PARTS/PUBLICATIONS

DATE Sept. 30, 1
page 1 **of** 1

SUBJECT: 191-0761 SOLENOID SWITCH ASSEMBLY
FOR 191-0734 and 191-0790 STARTERS

REF. FILE# M-17

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

DISTRIBUTOR AND DEALER
SERVICE PARTS STOCK

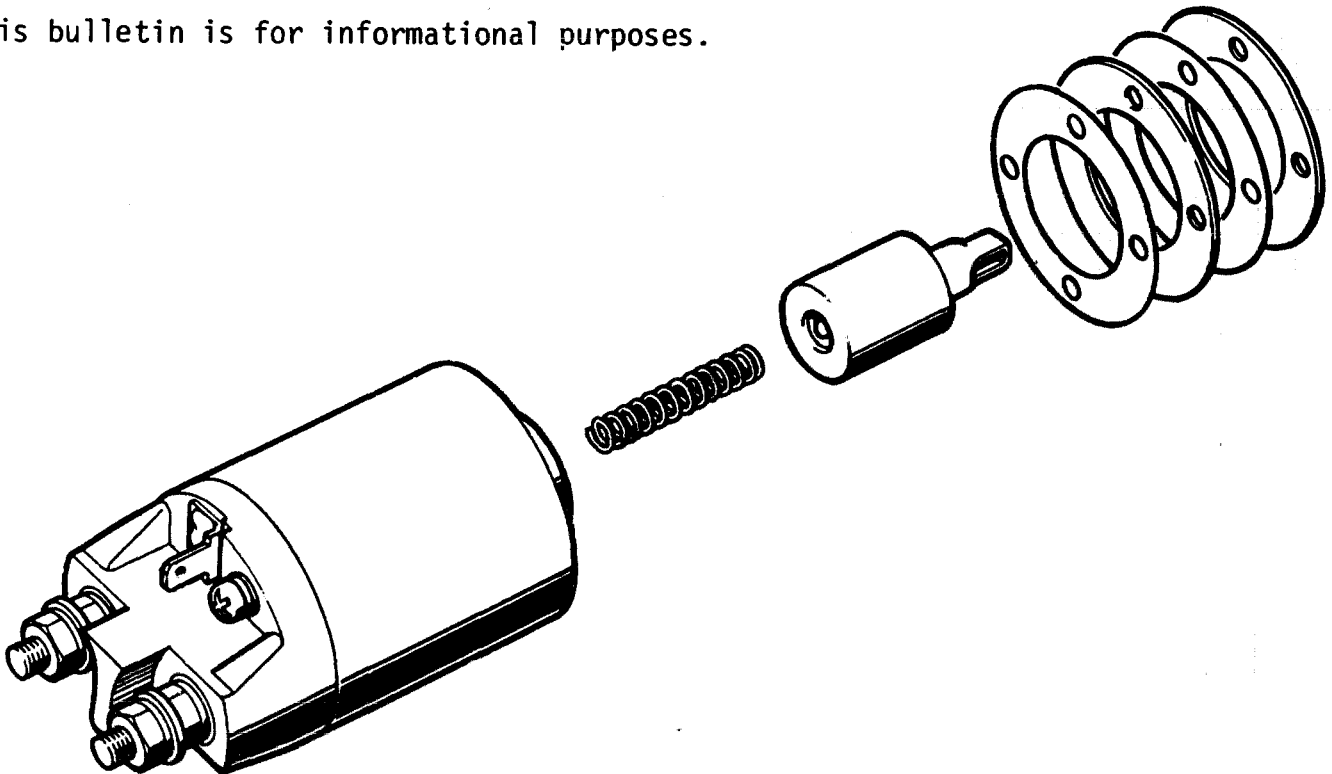
It is possible that some of the 191-0761 solenoid switch assemblies in your service parts stock are incomplete.

All 191-0761 solenoid switch assemblies should include a plunger and washers (shipped loose with solenoid switch assembly) as shown in illustration below.

Check your service parts stock and file a standard warranty claim for those that do NOT have the plunger and washers packaged with the solenoid switch assembly by 10-31-76.

Onan stock has been checked and corrected.

This bulletin is for informational purposes.





PRODUCT SUPPORT BULLETIN NO. 161
SERVICE/PARTS/PUBLICATIONS

DATE Oct. 6, 19
page 1 **of** 1

SUBJECT: RADIO FREQUENCY INTERFERENCE (Spark Plugs and Spark Plug Cables) **REF. FILE#** M-18

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL SPARK IGNITED ONAN-BUILT ENGINES,
WELDERS AND GENERATOR SETS (Except "J"-
Series Units with Shielded Ignition)

Virtually ALL Onan Models have changed over to RFI (Radio Frequency Interference) equipment (Spark Plugs and Spark Plug Cables) as STANDARD equipment on current production units.

All Old and New Spark Plugs and Spark Plug Cables are completely interchangeable within each engine series, generator set family etc.

The main reason for this change was to meet CSA (Canadian Standards Association) requirements for the sale of all Onan equipment in Canada.

The Onan Part Numbers for the three main Spark Plugs involved are:

- | | | |
|---|---|---|
| 1. Standard Plug #167-0241 Resistor Plug #167-0237 | 2. Standard Plug #167-0240 Resistor Plug #167-0247 | 3. Standard Plug #167-0054 and/or #167-0239 Resistor Plug #167-0252 |
|---|---|---|

Future Parts Catalogs will reflect these changes.

ALL Units sold in Canada MUST be equipped with RFI equipment as standard production items.

For additional information refer to Product Support Bulletin #129 (S-78) dated May 21, 1976.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 162
SERVICE/PARTS/PUBLICATIONS

DATE OCT. 12, 1962
page 1 **of** 1

SUBJECT:

SPEC ADVANCE AND PRODUCT
IMPROVEMENTS

REF. FILE#

S-91

MODEL(S) or SERIES:

NH "RV" APPLICATIONS

EFFECTIVE:

SPEC 16000J

Beginning with October production the above model includes numerous changes and product improvements over Spec 12000D models.

Some of the major changes and improvements consist of:

1. New Control
2. Standard left hand down exhaust system
3. Three point mount with plate
4. Metal fuel line
5. Onan electric choke
6. New style UN generator assembly and engine crankshaft
7. New intake valves
8. Addition of intake valve stem seals
9. New walbro carburetor
10. No vacuum booster
11. Complete new cooling system including blower and cylinder air housings, flywheel scroll and a different scroll outlet location.

The operator's manual (#940-0121) has been revised and the new Parts Catalog (#940-0222) will be available soon.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 163
SERVICE/PARTS/PUBLICATIONS

DATE Oct. 12,
page 1 **of** 1

SUBJECT: 160-1154 POINT SET

REF. FILE# M-19

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

DISTRIBUTOR AND DEALER
SERVICE PARTS STOCK

It is possible that some of the 160-1154 Point Sets in your service parts stock are incorrectly packaged as the 160-1154 Point Set.

Refer to the two illustrations below to identify the correct and incorrect point sets

The correct 160-1154 point set has two slotted adjustment holes with a pivot pin on the opposite end.

Incorrect point set has only one slotted adjustment hole with a screw/nut mounting arrangement on the opposite end.

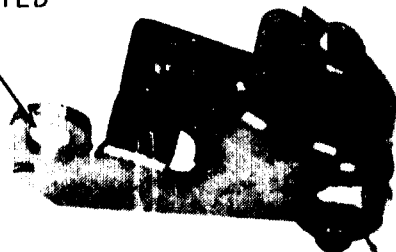
Check your service parts stock and file a standard warranty claim for those that are incorrect by 12-1-76.

Onan stock has been corrected.

This bulletin is for information purposes.

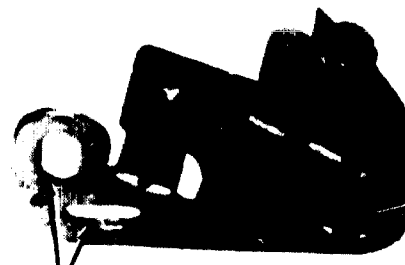
**INCORRECT
POINT SET**

ONE SLOTTED
HOLE



MOUNTING
NUT

**CORRECT
POINT SET**



PIVOT
PIN

TWO SLOTTED
HOLES



PRODUCT SUPPORT BULLETIN NO. 164
SERVICE/PARTS/PUBLICATIONS

DATE OCT. 22, 1981
page 1 **of** 1

SUBJECT: MUFFLER REVISION

REF. FILE# S-92

MODEL(S) or SERIES:

CLASS "B" SETS FT, DDA, DDB, DEF, DEG,
DEH, DFY, DFT, DFU, DFV, DHA, DHB, DYA,
DYB, DYC, DYD, DYG, DYH, DYJ, EK, EM,
EN, KB, KR, WA AND WB

EFFECTIVE: CURRENT SPEC LETTER
DURING NOVEMBER, DECEMBER AND
JANUARY PRODUCTION PERIODS

The mounted muffler on the above models has been revised to include a rain shield and a better heat shield. On FT and DFT models only the heat shield has changed.

These product improvements will result in better rain protection and prevent paint discoloration due to exhaust system heat.

Most systems are available as a muffler installation package under individual Part Numbers. Individual Parts have changed and in most cases the new parts are NOT interchangeable with the old parts.

Future Parts Catalogs and Operator's manuals will reflect these changes as they are reprinted. In some cases Parts Supplements may be issued.

A Serial Number cutoff will be listed in the Parts Catalogs as they become available.

Refer to product support bulletins 130 (S-79) dated 5-76 and 136 (S-81) dated 6-76 for additional information on some models which already use the new muffler and heat shield.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 165
SERVICE/PARTS/PUBLICATIONS

DATE OCT. 22,
page 1 **of** 1

SUBJECT: THERMOSTAT 309-0057

REF. FILE# S-93

MODEL(S) or SERIES:

MAJ, MUK, MTK AND MKH

EFFECTIVE: BEGINNING SERIAL
NUMBER 760161897

The butterfly style cooling water thermostat (Part #309-0057) is NO longer available.

Beginning with serial number 760161897, ONAN will use a new poppet type thermostat Part #309-0298. This change also requires a change in the thermostat cover from Part #309-0003 to new cover Part #309-0301.

On all MAJ units built prior to serial number 760161897 it will be necessary to change the thermostat cover from Part #309-0003 to the new cover (#309-0301) before using the new poppet style thermostat Part #309-0298.

When the new 309-0298 thermostat is used to replace the 309-0057 thermostat on MUK and MTK units, it may be necessary to use a 130-0714 spacer to provide clearance. If the spacer is necessary then use two 130-0066 gaskets and two 800-0030 cap screws for installation.

On MKH units, use a 309-0088 Spring when using the new 309-0298 thermostat.

Use current inventory of 309-0057 thermostats on units built prior to serial number shown above.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 166
SERVICE/PARTS/PUBLICATIONS

DATE OCT. 22, 19
page 1 **of** 1

SUBJECT: CONNECTING ROD

REF. FILE# S-94

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

"CW" GENERATOR SETS

The tooling necessary to make the casting for the 114-0064 connecting rod is NO longer usable and has been scrapped.

Since the "CW" engine has been out of production since 1963 and the cost of replacing the tooling is Prohibitive, the 114-0064 connecting rod is NO longer available.

Please update your L835P Parts Price List accordingly.

The 114-0053 rod inserts are still available in standard and .02, .10, .20 and .30 undersizes.

This bulletin is for informational purposes.

The following catalog has gaps in its page numbers, or doesn't have any numbers. We have chosen to leave the page numbering in the order that Acrobat assigns it.



PRODUCT SUPPORT BULLETIN NO. 167
SERVICE/PARTS/PUBLICATIONS

DATE OCT. 22, 1
page 1 **of** 1

SUBJECT: L835P and CL835P SUPPLEMENT #1
(Effective 10-15-76)

REF. FILE# M-20

MODEL(S) or SERIES:

PART NUMBER 149-0533

EFFECTIVE: IMMEDIATELY

Part number 149-0533 appears as F10 in Section "C" of supplement #1 to the L835P and CL835P Parts Price List.

This is incorrect. The correct Part Number is 148-0533 (Gas Regulator).

Part number 149-0533 (Fuel Line) is currently priced in Section "A" of the Parts Price List.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 168
SERVICE/PARTS/PUBLICATIONS

DATE OCT. 29, 1
page 1 **of** 1

SUBJECT: NEW CARBURETOR AND SPEC ADVANCE **REF. FILE#** E-34

MODEL(S) or SERIES:

ALL "BF" ENGINES

EFFECTIVE: BEGINNING SPEC "F"

STARTING SERIAL NUMBER 1763199218

During October production all "BF" engines are using a new Marvel-Schebler Carburetor. New carburetor (Part #142-0585) replaces the 142-0531 carburetor and new carburetor (Part #142-0587) replaces the 142-0528 carburetor.

The 142-0585 carburetor has the built-in (integral) fuel pump and the 142-0587 carburetor is used with a remote pulse type fuel pump.

The old and new carburetors are completely interchangeable as complete assemblies.

The individual parts which make up the carburetors such as gaskets, jets and repair kits are different and NOT interchangeable.

A new Parts Supplement (965-1011) covering Spec "F" models will be available soon.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 169
SERVICE/PARTS/PUBLICATIONS

DATE NOV. 17, 1976
page 1 **of** 1

SUBJECT: NEW GEARBOX RATIO

REF. FILE# E-35

MODEL(S) or SERIES:

CCK, CCKA, CCKB, RCCK AND NH
INDUSTRIAL ENGINES

EFFECTIVE: 5-16-76

Effective 5-16-76, ALL gear reduction assemblies for the above model engines are rated at 3.3 to 1. The new assembly numbers are as follows:

190-0440 - Gearbox Right Hand Horizontal

190-0444 - Gearbox Left Hand Horizontal

190-0445 - Gearbox Vertical down

The 4.0 to 1 gearboxes are NO LONGER AVAILABLE. ALL 4.0 to 1 gearbox replacements will be made by supplying the appropriate 3.3 to 1 gearbox with the instructions necessary to make the change. Instruction sheet will be supplied with each gearbox.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 170
SERVICE/PARTS/PUBLICATIONS

DATE Dec. 17, 1
page **of**

SUBJECT: LOAD CABLE PLUGS
323-0996 Single Phase
323-0997 Three Phase

REF. FILE# G-11

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

YD "PTO" TRACTOR DRIVE ALTERNATOR
15 and 25 kW

The Operator's manual and Parts Catalog (#929-0002) does not list the part numbers for the individual components (terminal and reducer bushing) used in above load cable plugs.

The part number for the terminal ONLY is 332-1880.

The part number for the reducer bushing ONLY is 332-1881.

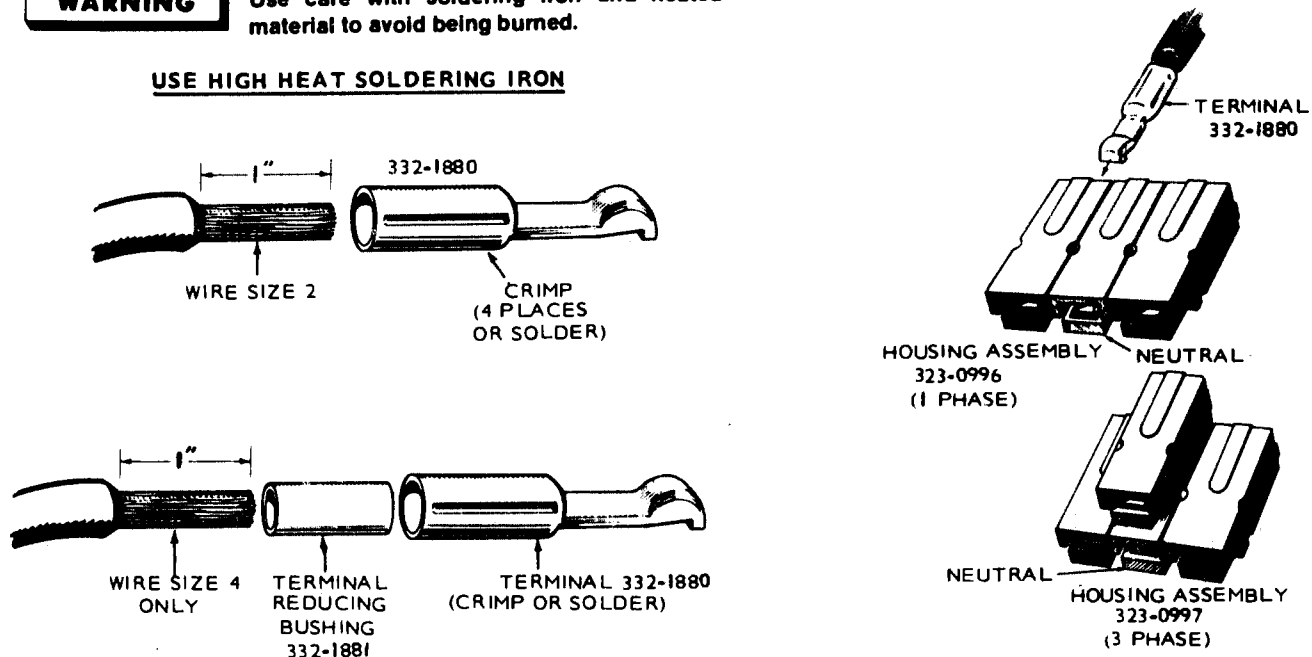
Complete accessory kits are available. Order Part #542-1004 for single phase use or Part #542-1005 for three phase operation. These kits contain all parts necessary (including terminal and reducer bushings) with instructions for complete assembly.

See illustration below for clarification.

This bulletin is for informational purposes.

WARNING Use care with soldering iron and heated material to avoid being burned.

USE HIGH HEAT SOLDERING IRON





PRODUCT SUPPORT BULLETIN NO. 171A
SERVICE/PARTS/PUBLICATIONS

DATE March 15,
page 1 **of** 1

SUBJECT: CAUTIONS CONCERNING USE OF
RECREATIONAL VEHICLE GENERATOR
SETS IN APPLICATIONS OTHER
THAN MOTOR HOMES

REF. FILE# S-95

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL RECREATIONAL VEHICLE MODELS IN
SPEC 16000 AND ABOVE

Recreational vehicle generator sets should not be used for non-RV applications without reviewing the following:

1. The generator is designed primarily for recreational vehicle air-conditioner starting only, which differs from commercial window air-conditioner and standard single phase electric motor starting. It may not be suitable for other commercial applications. What works for one will not necessarily work on the other.
2. The set's battery charging rate (1 to 1.5 amps) is not satisfactory for keeping the starting battery charged in non recreational vehicle applications. Most recreational vehicle units invariably have AC/DC converter-chargers that keep the batteries charged up.
3. These sets do not have a start disconnect circuit, so it may not be suitable for other remote start applications. Improper starting techniques could cause excessive battery gassing and possible explosion.

These are the main reasons which may prevent successful application of recreational vehicle generator sets in non recreational vehicle applications.

This bulletin supercedes bulletin #171 dated January 14, 1977.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 17
SERVICE/PARTS/PUBLICATIONS

DATE Jan. 14, 1
page 1 **of** 1

SUBJECT: LEAKING CAP NUTS ON "PSU"
INJECTION PUMP

REF. FILE# E-36

MODEL(S) or SERIES:

ALL "J" SERIES UNITS (2 and 4 cylinder)
AIR AND WATER COOLED

EFFECTIVE:

We have received some report of fuel leakage by the delivery valve cap nut on the PSU injection pump. This is caused by a crack in the cap nut due to being over torqued.

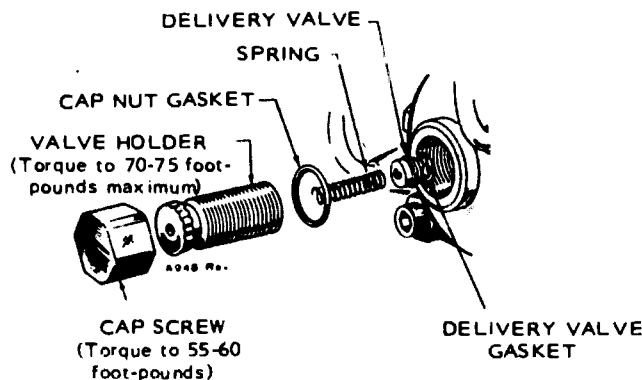
If a cap nut is cracked, it MUST be replaced. The cap nut gasket MUST also be replaced.

Replacement cap nut (Part #147-0253) and cap nut gasket (PART #147-0254) are available from Onan. Order stock as necessary.

To replace leaking part, remove cap nut and cap nut gasket. Loosen delivery valve holder and then re-torque to specifications (70-75 ft. lbs). Install cap nut gasket and cap nut and torque cap nut to specifications (55-60 ft lbs). See illustration below for clarification.

Maximum allowable warranty labor time is 1/2 hour.

This bulletin is for informational purposes.





PRODUCT SUPPORT BULLETIN NO. 173
SERVICE/PARTS/PUBLICATIONS

DATE Jan. 28, 1
page 1 **of** 1

SUBJECT: HYDRAULIC PUMP ADAPTERS

REF. FILE# E-37

MODEL(S) or SERIES:
BF, CCK AND NH INDUSTRIAL ENGINES

EFFECTIVE: IMMEDIATELY

Onan currently offers internally splined crankshafts with hydraulic pump adapter rear bearing plate as an option.

Most of the hydraulic pumps for the engine horsepower range offered by Onan will fit the adaptor/crankshaft.

It MUST be noted that the Sundrand Series 18 pump will NOT mate up to the adaptor surface due to the mismatch of the pump-to-crankshaft spline tooth length. The pump shaft spline is not long enough.

Because it is possible to overload any Onan twin cylinder engine by using the Series 18 pump, we are NOT going to provide a compatible adaptation.

Do NOT use the Sundrand Series 18 pump with any Onan industrial engine.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 174
SERVICE/PARTS/PUBLICATIONS

DATE Feb 10, 197
page 1 of 2

SUBJECT: EXCITER ROTOR HEAT SINKS
 (Part Numbers 363-0049 and 363-0050) **REF. FILE#** S-96

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

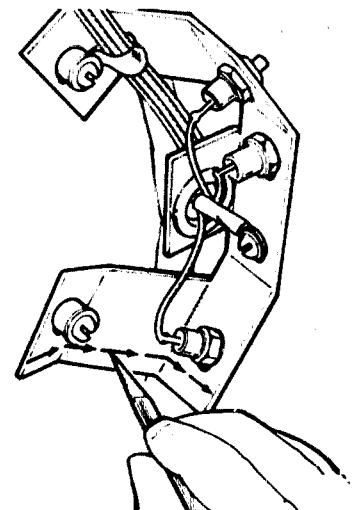
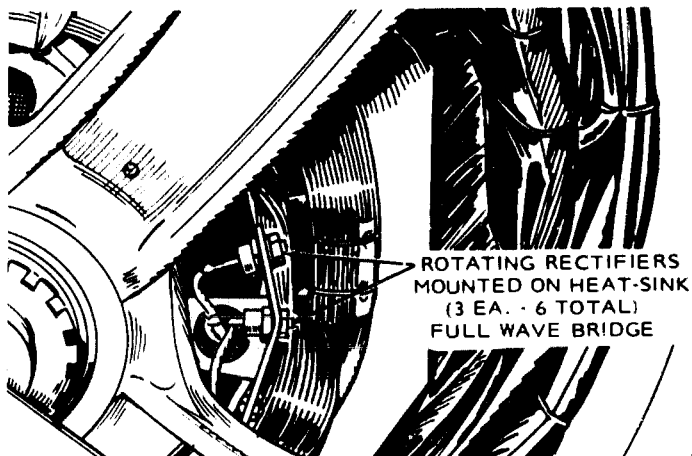
CLASS "B" GENERATOR SETS WITH "YB" GENERATORS
 (200 through 350 kW) See Table Below:

| Model | kW: | 60 hz | 50 hz | Beginning Spec | Effective Date |
|-------|-----|-------|-------|----------------|------------------------|
| DYH | | 200 | 165 | C | 11-30-73 thru 10-30-76 |
| DYB | | 250 | 210 | D | 12-03-73 thru 10-30-76 |
| FT | | 250 | 210 | D | 07-25-73 thru 10-30-76 |
| DFT | | 300 | 250 | E | 04-26-73 thru 10-30-76 |
| DFU | | 350 | 290 | E | 03-30-73 thru 10-30-76 |
| DFP | | 200 | 165 | All Specs | 09-75 thru 10-30-76 |
| DFP | | 230 | 190 | All Specs | 09-75 thru 10-30-76 |
| DFM | | 250 | 210 | All Specs | 09-75 thru 10-30-76 |
| DFS | | 300 | 250 | All Specs | 09-75 thru 10-30-76 |
| DFN | | 350 | 290 | All Specs | 09-75 thru 10-30-76 |
| DHA | | 300 | 250 | All Specs | 10-74 thru 10-30-76 |
| DHB | | 350 | 290 | All Specs | 10-74 thru 10-30-76 |
| WF | | 350 | 290 | All Specs | 05-73 thru 10-30-76 |

Whenever servicing any of the above models for any reason, check the rotating diode heat sinks for a structural condition. All parts stock must be checked and replacement heat sinks should be taken on service calls.

CAUTION: Disconnect batteries on generator set so it will not crank while performing this service

If the heat sink assemblies have SHARP bends instead of a smooth surface at the bends, they MUST be replaced. The condition of the bend can be determined by moving a pencil or small



Page 2 (Continued)

Product Support Bulletin #174

screwdriver across the bends shown on the illustration. If movement ACROSS the bend is smooth, do not replace the heat sink. If the movement is not smooth, remove and replace the heat sink.

Torque the diodes to 20-25 inch pounds. Torque the mounting bolts to 25-30 inch pounds. Be careful not to break the 508-0124 insulator bushing.

Warranty: Inspection allowance: ½ hour. Inspect and replace heat sinks: 3 hours.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 175
SERVICE/PARTS/PUBLICATIONS

DATE Feb. 25, 1975
page 1 **of** 1

SUBJECT: CONNECTING ROD CHANGE

REF. FILE# S-97

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL "LK" GENERATOR SETS ONLY

The part number for the connecting rod used in LK generator sets is being changed from 114-0107 to 114-0254. A different cap screw is now being used also. The cap screw is available under Part #800-0540.

Use up your current stock of 114-0107 connecting rods before ordering the 114-0254 connecting rod.

The 114-0254 connecting rods are available in standard and .010, .020, and .030 undersizes also.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 176
SERVICE/PARTS/PUBLICATIONS

DATE March 11, 1
page 1 **of** 1

SUBJECT: PART NUMBER CORRECTIONS
(Parts Catalog #940-0220)

REF. FILE# S-98

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL "NH" GENERATOR SETS
(Non-RV Models ONLY)

Item 1 on page 2 under the Cylinder Block Group (Part #110-1835) in the NH Parts Catalog (#940-0220) should be changed to Part Number 110-2542.

Item 3 on page 2 under the Cylinder Block Group (Part #123-0645) in this same Parts Catalog should be changed to Part Number 123-0952.

These changes do NOT apply to RV Models covered in Parts Catalog #940-0222.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 177
SERVICE/PARTS/PUBLICATIONS

DATE March 18, 19
page 1 **of** 2

SUBJECT: ADJUSTMENT OF ANTI-DIESELING
SOLENOID ON CLASS "B" SETS

REF. FILE# S-99

MODEL(S) or SERIES:

KB, KR, EK and EM

EFFECTIVE: IMMEDIATELY

The following procedure MUST be used when adjusting the anti-dieseling solenoid on KB and KR generator sets. This procedure supercedes the current information in the 957-0302 Operator's manual for these models.

WHEN SET IS NOT RUNNING:

- A. Turn the anti-dieseling lever counterclockwise and position the adjusting screw so the anti-dieseling plates (upper throttle body) are closed but not binding. Check and see that the lever has approximately 30° travel counterclockwise from the vertical position. Refer to illustrations on page 2 of this bulletin.

WHEN SET IS RUNNING:

- B. After starting the set, the anti-dieseling lever should rotate approximately 60° clockwise from the stopped position due to the pull-in of the solenoid.
- C. Check and see that the solenoid plunger is fully seated in the solenoid.
- D. If the conditions described in paragraph B and C have not been met, you must adjust the distance between the solenoid plunger and the anti-dieseling lever arm. Then repeat steps A through C above.

NOTE: Before set was released for shipment, six starts and stops were performed without further readjustment or chattering of the solenoid plunger.

The procedures for adjustment of the anti-dieseling solenoid on the EK and EM sets is explained in detail in the current Operator's manual for these models. The Operator's manual is #928-0302.

This bulletin is for informational purposes.

(OVER)



PRODUCT SUPPORT BULLETIN NO. 178
SERVICE/PARTS/PUBLICATIONS

DATE March 18, 1
page 1 **of** 1

SUBJECT: PART NUMBER CORRECTION
(RDJE/RDJE A Service Manual
and Parts Catalog #974-0250
Dated 7-76)

REF. FILE# E-38

MODEL(S) or SERIES:

ALL RDJE/RDJE A LIQUID-COOLED
INDUSTRIAL ENGINES

EFFECTIVE: IMMEDIATELY

Item 6 on page 2-12 under the Oil System Group (Part #120-0601) in the RDJE/RDJE A Service manual and Parts Catalog (#974-0250) should be changed to Part Number 120-0551.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 179
SERVICE/PARTS/PUBLICATIONS

DATE March 31, 1
page 1 **of** 1

SUBJECT: GAS CONVERSION KITS

REF. FILE# E-39

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

NH, NHA, NHB, AND NHC INDUSTRIAL ENGINES

Onan offers only two units for gaseous fuel operation in the "NH" engine family. These are the NHP and NHPV models.

Onan does NOT have any field conversion kits for any of the above models due to internal component parts changes of these engines.

Refer to letter below for additional information on other Onan models.

WARRANTY

It has been brought to the attention of Onan that some Distributors, Dealers and/or customers have been purchasing Gas Conversion Kits for Onan engines, direct from the manufacturers of this equipment or through a local source.

While these parts may look the same and/or fit the engine, they have not been tested or approved by Onan.

Onan will not accept or consider warranty repair invoices, or any other claims, when other than Onan supplied parts are used on Onan Manufactured products. (Refer to Onan Warranty Policy Manual PM200 Section 2.3)

Sincerely,

ONAN
A DIVISION OF ONAN CORPORATION

Jerry McCollor
Warranty Administrator

This bulletin is for informational purposes.



TO: DISTRIBUTORS AND DEALERS

REFERENCE: TENNANT COMPANY
NH AND NHC PROPANE-OPERATED ENGINES

In addition to the NHP and NHPV models referred to in PSB #179, The Tennant Company (an OEM) has factory built NH and NHC industrial engines that operate on propane gas.

They may bring these engines to your (distributor) service shop for work.

These units were not mentioned in PSB #179 because they are of special design and not a modification.

Normal warranty does apply to these special units.

ONAN
A DIVISION OF ONAN CORPORATION

A handwritten signature in black ink that reads "Henry Coursolle". The signature is written in a cursive, flowing style.

Henry Coursolle, Chairman
Product Support Bulletin Committee
mj

DISTRIBUTION: (No multiples)
Parts List PB-12
Service List SPB-69
X1, X26, X6A, X6A-X6L, X6R, X6T
Z1, Z6A, Z6A-Z6L, Z6R, Z6T



PRODUCT SUPPORT BULLETIN NO. 180
SERVICE/PARTS/PUBLICATIONS

DATE March 31, 1
page 1 **of** 2

SUBJECT: FIELD FIX CAMPAIGN ON
EXHAUST MANIFOLD BOLTS

REF. FILE# S-100

MODEL(S) or SERIES:

EFFECTIVE: July 6, 1976

ALL "MCCK" GENERATOR SETS

On July 6, 1976, Onan initiated a field fix campaign on "MCCK" generator sets with certain engine exhaust manifold bolts that could, under certain conditions, shear, breaking the integrity of the exhaust system and allow carbon monoxide to be emitted into the living environment of the craft.

Onan DID Notify the Consumer Product Safety Commission and the U.S. Coast Guard.

Onan has contacted the first purchasers of the units affected by certified letter; asking for names and addresses of initial purchasers for use (End User).

Each initial purchaser for use (end user) referred to Onan has been provided with a form to return to Onan, identifying subsequent owners of the craft on which the units are located, thus allowing Onan to identify and contact the present user.

To facilitate communications regarding this program, a special toll free telephone line has been established to answer questions from distributors, dealers, initial purchaser and the end users of the units in question.

The toll free number for the continental U.S. is 1-(800) -328-2416.

Repair kits and installation instructions were sent to selected Onan Distributors and Dealers.

All Onan Distributors and Dealers were instructed to make safety inspections on all service calls.

With all of the preceding action, many owners have not yet been located. Therefore, Onan is using this Product Support Bulletin as a reminder of this potential problem in the hope that it will lead to ALL effected units being inspected and corrected as necessary.

The illustrations on page 2 of this bulletin show the manifold bolts effected and the replacement manifold bolts required to correct any problem units.

If you have any further questions, or there is doubt as to the need to modify any particular unit, CALL our toll free number listed above immediately.

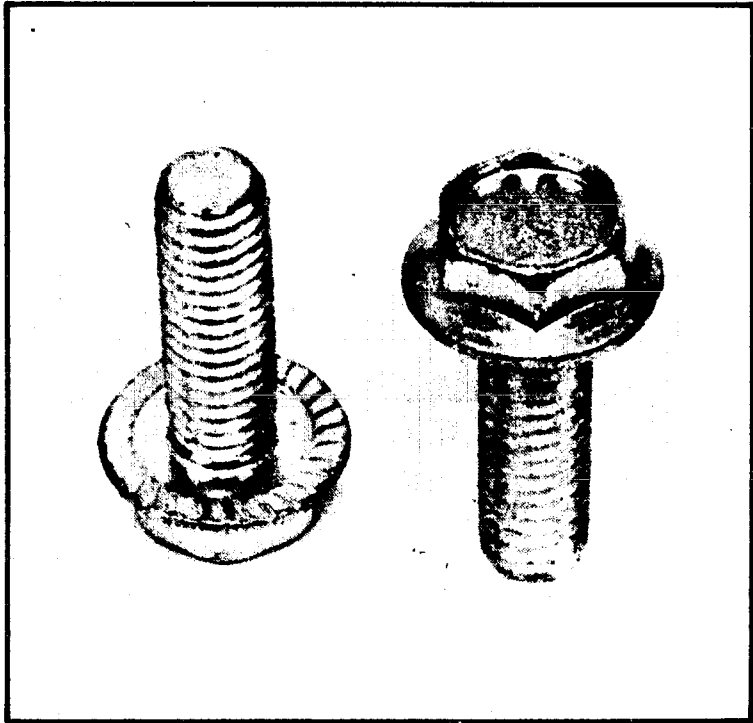


FIG. 1

**REMOVE THESE
SELF LOCKING
CAP SCREW**

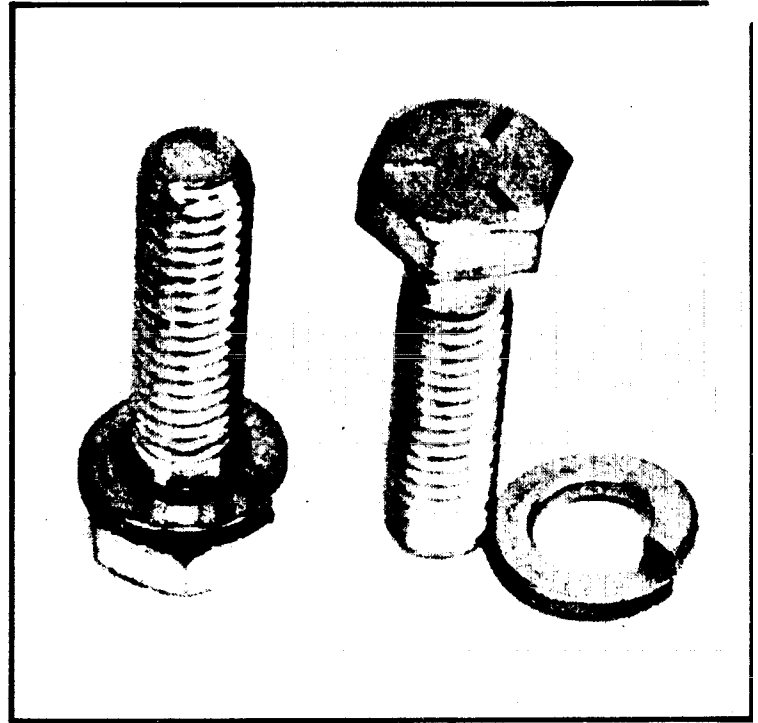


FIG. 2

**INSTALL THESE
CAP SCREW
WITH LOCK WASHER**



PRODUCT SUPPORT BULLETIN NO. 181
SERVICE/PARTS/PUBLICATIONS

DATE May 4, 19
page 1 **of** 1

SUBJECT: 149-1395 REPAIR KIT FOR
149-1304 ELECTRIC FUEL PUMP

REF. FILE# M-21

MODEL(S) or SERIES:
VARIOUS MODELS

EFFECTIVE: IMMEDIATELY

Due to a number of changes made in the 149-1304 electric fuel pump to improve hot weather starting, the 149-1395 repair kits in stock are now obsolete.

Contact the Onan Parts Department for authorization to return all 149-1395 repair kits in your stock for credit.

The 149-1395 repair kits will no longer be offered as a service part. If the pump is faulty, replace the complete pump.

In addition, the critical nature of the pump makes a service repair kit impractical.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 182
SERVICE/PARTS/PUBLICATIONS

DATE May 4, 1
page 1 **of** 1

SUBJECT: FOAM PACKING OF RETURNED PARTS **REF. FILE#** M-22

MODEL(S) or SERIES:
NOT APPLICABLE

EFFECTIVE: IMMEDIATELY

An increasing number of returned parts are found damaged when received at Onan.

These appear to be mostly items that have been packed in foam and removed from the carton and then repacked in the same foam.

The foam is applied in a liquid state and forms around the part and hardens creating a cushion. When the carton is opened and the cushion is disturbed, it loses its effectiveness. Any part repacked and shipped in the same foam is not fully protected

When returning parts to Onan, repack them using some other form of packing if the original foam has been disturbed.

Credit for returned parts cannot be guaranteed if damage results from poor packing.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 183
SERVICE/PARTS/PUBLICATIONS

DATE May 4, 197
page 1 **of** 1

SUBJECT: PART NUMBER CORRECTION
(2.7AJ "RV" Parts Catalog)
924-0220

REF. FILE# M-23

MODEL(S) or SERIES:
2.7AJ Spec 12020 "RV" GENERATOR SET

EFFECTIVE: IMMEDIATELY

Item 4 on page 10 under the Exhaust System Group (Muffler, Exhaust) Part #155-1242 applies only to Spec K through M and NOT K through N as shown. Part number is correct.

The same is true of item 7 under the Exhaust System Group (Tube, Exhaust) Part # 155-1318. Description applies only to Spec K through M and NOT K through N as shown. Part number is correct.

In addition, Item 8 on page 10 under the Exhaust System Group (Part #505-0779) should be changed to Part #505-0840. Both items are pipe nipples but the 505-0779 applies only to Spec K through M sets and the 505-0840 is Beginning Spec N only. The size also varies according to the Spec Letter.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 184
SERVICE/PARTS/PUBLICATIONS

DATE May 4, 1977
page 1 **of** 1

SUBJECT: SPEC LETTER CORRECTION
(DEH Operator's Manual &
Parts Catalog #976-0306)
Cover Date 5-77

REF. FILE# S-101

MODEL(S) or SERIES:
DEH ELECTRIC GENERATING SET

EFFECTIVE: IMMEDIATELY

The Operator's Manual and Parts Catalog for this generator set was recently revised and had a cover date of 5-77. The issue date also specified Spec "H" only.

That Spec letter coverage should be changed to read Spec B-H as the Parts Section applies to units built in Spec B through H.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 181
SERVICE/PARTS/PUBLICATIONS

DATE May 4, 1981
page 1 **of** 1

SUBJECT: MIXTURE AND USE OF ANTI-FREEZE **REF. FILE#** M-24

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL WATER-COOLED UNITS

Any and all ethylene glycol base anti-freeze mixtures should be mixed with water according to the manufacturer's directions.

WARNING Do NOT use straight 100% ethylene glycol base anti-freeze mixture in any radiator cooling system. Always follow anti-freeze manufacturer's directions and mix anti-freeze with water.

Normal mixture ratio is approximately 50% anti-freeze and 50% water. Ratio varies according to ambient temperature variation expected.

Any units using convection type tank heaters will NOT circulate a 100% ethylene glycol base anti-freeze mixture. The heating element is subject to burning out if a water/anti-freeze mixture is not used.

If it is necessary to use ethylene glycol base anti-freeze in heavier than normal mixture concentrations, use a pump type tank heater instead of the normal convection type heaters.

In warm weather operation the cooling capacity is also decreased proportionately if a straight 100% ethylene glycol base anti-freeze mixture is used.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 186
SERVICE/PARTS/PUBLICATIONS

DATE May 6, 19
page 1 **of** 1

SUBJECT: OPERATION AND MAINTENANCE OF
EXHAUST SPARK ARRESTER/MUFFLERS

REF. FILE# M-25

MODEL(S) or SERIES:
ANY SET (Primarily RV) USING
A SPARK ARRESTER/MUFFLER

EFFECTIVE: IMMEDIATELY

Maintenance of any generator set spark arrester/muffler is as important as changing the oil regularly as far as set operation and performance is concerned.

Two main types of spark arrester/mufflers are primarily used:

1. Spin-out type (Internally bypassed) - This type removes carbon particles by centrifugal force, catching the particles in a holding chamber.
2. Screen type (Not bypassed) - This type uses a screen which traps carbon particles as they pass through. This type may cause excessive back pressure and engine damage if it becomes plugged.

If a spin-out type (bypassed) system is used and the spark arrester fills up, set operation will not be adversely effected.

In a screen type (Non-bypassed) system, if the spark arrester becomes plugged, set operation becomes sluggish and eventually will NOT run at all. This type spark arrester MUST be cleaned as often as recommended by manufacturer.

To clean the spin-out (Bypassed) system, remove the pipe plug in bottom of muffler and run the set for 5 minutes. Then replace the pipe plug. This should be done every 50 hours of set operation.

To clean the screen type (Non-bypassed) system, the screen must be removed and scraped clean or replaced. Some can be blown clean with compressed air and this should be done every 50 operating hours. In units using specially designed stainless steel screens, the screen must be replaced every 500 operating hours.

All current Onan "RV" generator sets use a spin-out type, U.S. Forest Service approved spark arrester/muffler on all models. Many State and Federal Parks require spark arresters.

IMPORTANT: Certain states (particularly California) have state ordinances pertaining to the type and usage of exhaust muffler/spark arresters on internal combustion engines or engine driven equipment when used in a recreational vehicle such as electric generating sets. Be sure your installation meets all Federal, State and local codes pertaining to your unit. Failure to provide and maintain a spark arrester may be in violation of the law.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 187
SERVICE/PARTS/PUBLICATIONS

DATE May 6, 19
page 1 **of**

SUBJECT: PRODUCT IMPROVEMENTS AND
SPEC ADVANCE

REF. FILE# S-102

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

CLASS "B" SETS

EK (30kW) Spec "J"

EM (45kW) Spec "J"

EN (55 and 70kW) Spec "B"

KR (70 and 85kW) Spec "T"

WA (115kW) Spec "K"

A number of product improvements have been made on the above models during the Spec Letter as indicated.

Among these improvements are items such as new senders and gauges for oil (pressure and temperature) and water temperature, new voltage regulators, new generator mounting incorporated within the skid base and removal of some trim pieces on various sets.

These changes and product improvements will result in better overall reliability and set operation.

Future Parts Catalogs and Operator's Manuals will reflect these changes as they are reprinted. In some cases, Part's Supplements will be issued.

The old gauges and senders can be used to replace the new ones and vice versa, but ONLY by changing BOTH sender and gauge. The same is true of the voltage regulator but the transformer must be changed also.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 188
SERVICE/PARTS/PUBLICATIONS

DATE May 24, 19
page 1 **of** 1

SUBJECT: PRODUCT IMPROVEMENTS AND
SPEC ADVANCE

REF. FILE# S-103

MODEL(S) or SERIES:
ALL "CLASS B" SETS

EFFECTIVE: IMMEDIATELY

In addition to the sets mentioned in bulletin #187 (Dated 5-6-77), all the remaining Class "B" sets will be changed over to new instrumentation by the last quarter of 1977.

Product Support bulletin #187 referenced improvements such as new senders and gauges for oil (pressure and temperature) and water temperature, new voltage regulators, new generator mounting incorporated within the skid base and removal of some trim pieces on various sets.

These same changes and product improvements apply to all remaining Class "B" sets (not covered in bulletin 187) during the last quarter of 1977.

Refer to bulletin #187 for additional information on Parts interchangeability, Parts Catalog changes etc.

Please change you records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 189
SERVICE/PARTS/PUBLICATIONS

DATE June 4, 197
page 1 **of** 1

SUBJECT: NEW OPERATOR'S FOLDOUT
SEPARATE PARTS CATALOG
AND ENGINE SERVICE MANUAL

REF. FILE# E-40

MODEL(S) or SERIES:
CCK, CCKA AND CCKB INDUSTRIAL ENGINES

EFFECTIVE: IMMEDIATELY

The Operator's/Service manuals and Parts Catalogs for these models have been separated into three individual manuals for each model. The following table lists the current manual numbers for each model:

| <u>MODEL</u> | <u>OPERATOR'S MANUAL</u> | <u>PARTS CATALOG</u> | <u>ENGINE SERVICE MANUAL</u> |
|---------------|--------------------------|----------------------|------------------------------|
| CCK & CCKA | 927-0153 | 927-0253 | 927-0753 |
| CCKB | 927-0151 | 927-0404 | 927-0754 |

The old numbers (927-0253 & 927-0404) were changed to include ONLY the Part's Catalogs and this information will be listed in the new Onan Microfiche system.

Please change your records accordingly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 190
SERVICE/PARTS/PUBLICATIONS

DATE June 3, 19
page 1 **of** 1

SUBJECT: GAS CONVERSION KIT USAGE

REF. FILE# M-26

MODEL(S) or SERIES:
ALL CLASS "A" GENERATOR SETS

EFFECTIVE: IMMEDIATELY

Onan offers many gas conversion kits for most class "A" generator sets as listed in Section D of the L835R Parts Price List.

Onan would like to clarify it's position concerning the application of these kits as follows:

All kits (regardless of model) are intended for use ONLY if the set is for a "Standby" application.

"RV" set applications SHOULD NOT be modified for gaseous fuel operation in motor home usage due to numerous technical requirements and safety regulations which apply.

In conjunction with this, Section D-9 of the L835R Parts Price List for the "NH" series should be changed to read: All (Generator-Standby application only).

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 191
SERVICE/PARTS/PUBLICATIONS

DATE June 8, 1
page 1 of

SUBJECT: OIL PUMP INTAKE CUP ASSEMBLY **REF. FILE#** S-104

MODEL(S) or SERIES: **EFFECTIVE:** IMMEDIATELY
ALL 4-CYLINDER "J" SERIES
INDUSTRIAL ENGINES AND GENERATOR SETS
AIR AND WATER COOLED

The oil pump intake cup assembly has been changed on all 4-cylinder "J" series engines and generator sets. The cup assembly, Onan Part #120-0601, is longer and locates the oil intake in the center of the oil sump instead of toward the front end as before.

This was done to insure an adequate oil supply when the unit is used in mobile application which could result in oil starvation to the oil pump under certain angular conditions of operation.

Units without the longer oil pick-up tube can be converted in the field. Order Kit Part #120-0756. This kit includes the cup assembly, support bracket, screws and all necessary installation instructions.

All 2-cylinder "J" series units will continue to use the 120-0551 oil pump intake cup assembly.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 192
SERVICE/PARTS/PUBLICATIONS

DATE June 22, 197
page 1 **of** 1

SUBJECT: STARTER REPLACEMENT

REF. FILE# E-41 (SERVICE & PARTS)

MODEL(S) or SERIES:

CCKA, CCKB, NH, NHA, NHB AND NHC INDUSTRIAL ENGINES
AND POWER DRAWER (Including Gemini) GENERATOR SETS

EFFECTIVE: IMMEDIATELY

The 191-0734 and 191-0922 starters used on the above models are being replaced by the 191-1052 starter.

Slight modification to the blower housing is required in order to use the 191-1052 starter on the above engine models. This procedure and all necessary instructions are shown on Instruction Sheet E221. See attached copy for reference.

No modification is necessary to use the 191-1052 starter on NH Power Drawer or the Gemini Power Drawer units in place of the current 191-0922 starter.

Future 191-1052 Starters shipped from Onan Parts Stock will include the E221 Instruction Sheet with each starter. It is suggested that a copy of the E221 Instruction Sheet be made and inserted into all 191-1052 starters in your parts stock. Extra copies are available from the Onan Parts Department.

Internal component parts for the 191-0734, 191-0922 and 191-1052 starters are NOT interchangeable. When ordering replacement parts for any of these starters, consult the Parts Catalog for your Engine or Generator Set that applies to the specific starter being repaired.

This bulletin is for informational purposes.



DIVISION OF ONAN CORPORATION
MINNEAPOLIS, MINNESOTA 55432



INSTRUCTION SHEET E221

Printed in U.S.A.

INSTALLATION OF 191-1052 STARTER
(REPLACES 191-0734 and 191-0922)
MODELS NH, NHA, NHB AND NHC (SPEC. A ONLY)
CCKA, CCKB TRACTOR (PRIOR TO SPEC. J.)

6-77

Redesign of the solenoid enclosure necessitates a minor modification of the blower housing.

Below are separate instructions and diagrams for modifying the NH, NHA, NHB, NHC and CCKA, CCKB blower housing assemblies.

(SEE REVERSE SIDE FOR FIGURES AND TEMPLATES)

NH, NHA, NHB, NHC MODIFICATION:

1. Remove blower housing.
2. Lay blower housing on bench or table so that grill-work is face down.
3. Cut out template #1 and lay edge marked with arrow along corner as shown in diagram.
4. Mark the outline of the cuts to be made.
5. Using a hacksaw, cut along the two parallel lines. (Be sure the parallel cuts are made far enough down so that the metal can be bent for making the final cut). See Figure 1.
6. Bend back metal along remaining line to allow for cutting.
7. Cut along remaining line to remove metal piece.
8. For template #2, place along edge indicated in figure. Mark lines and cut.
9. File along edges if necessary.

CCKA, CCKB TRACTOR MODIFICATION:

1. Remove blower housing.
2. Lay blower housing on bench so grill-work is face down.
3. Cut out template and lay edge marked with arrow along corner as shown in diagram.
4. Mark outline of cuts to be made.
5. Use a hacksaw to cut along lines.
6. File along edges if necessary.

NOTE: When replacing 191-0734 and 191-0922 on CCKA and CCKB tractor engines prior to Spec. J, use same mounting bracket. Also retain the two 191-0864 spacers and mounting hardware.

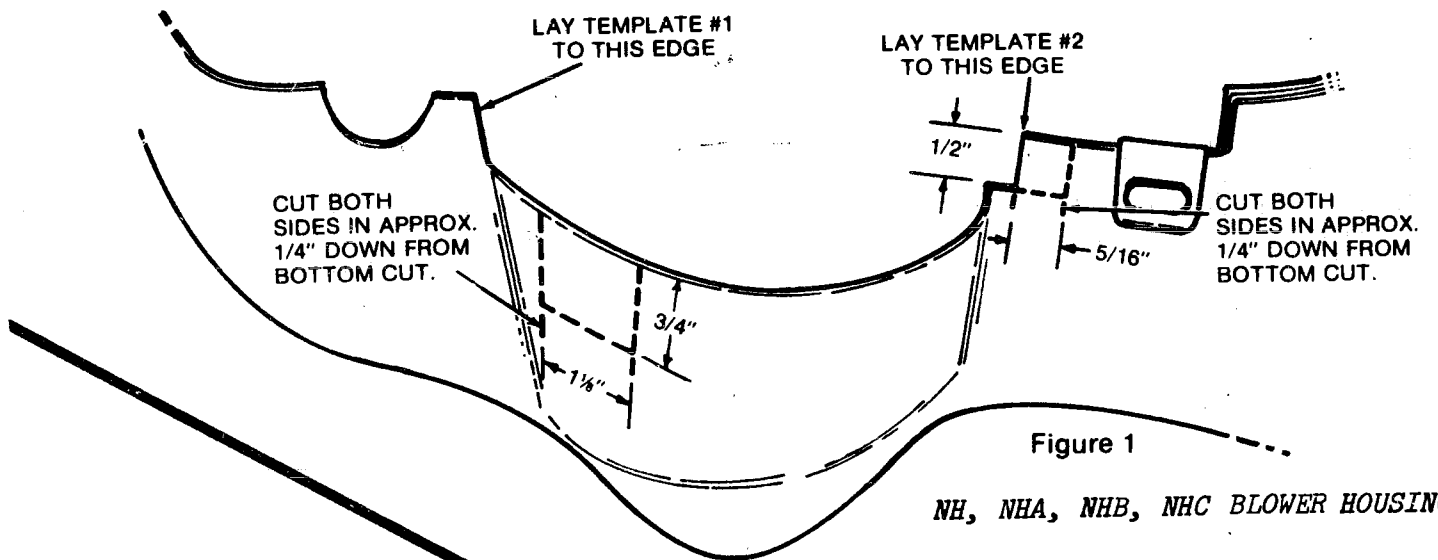
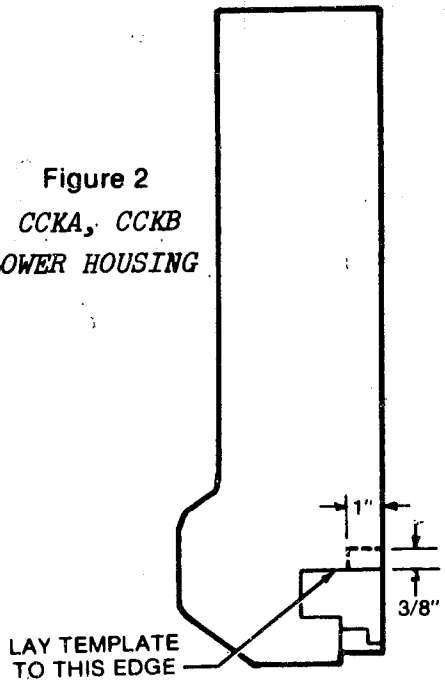
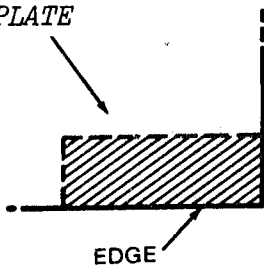


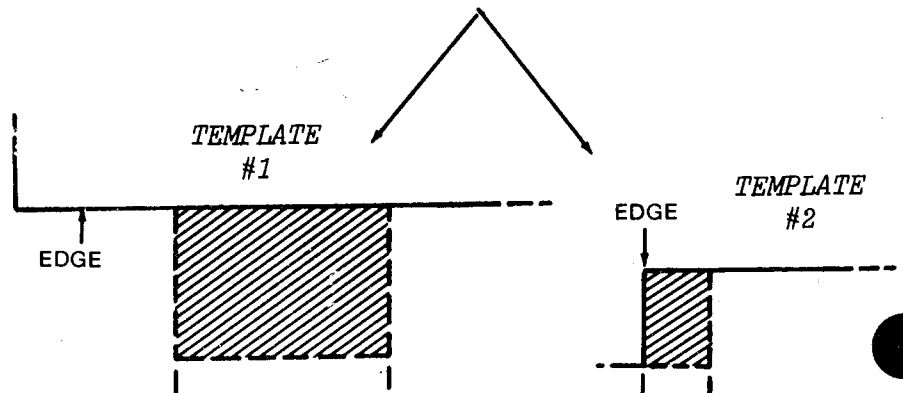
Figure 2
CCKA, CCKB
BLOWER HOUSING



CCKA, CCKB
TEMPLATE



NH, NHA, NHB, NHC TEMPLATES





PRODUCT SUPPORT BULLETIN NO. 193
SERVICE/PARTS/PUBLICATIONS

DATE June 27, 1
page 1 **of** 1

SUBJECT: CARBURETOR ADJUSTMENT

REF. FILE#

S-105
(SERVICE)
(PUBLICATIONS)

MODEL(S) or SERIES:

6.5 NH-3CR/16000J
6.5 NH-3CR/16004J
"RV" GENERATOR SETS

EFFECTIVE: SPEC "J" ONLY

Field reports indicate this down draft carburetor as used on above models, can be improperly adjusted (overly-rich) causing extremely erratic operation or shutdown on various loads during normal operation.

Present adjustment procedure in the 940-0121 NH Operator's manual should be changed as follows:

1. Turn idle mixture screw out (counterclockwise) 3/4 to 1 turn from seated position.
2. Turn main mixture screw 1½ to 1-3/4 turns out (counterclockwise) from seated position.
3. Start set and adjust governor spring setting so engine speed is 1860 RPM at no load (62hz or 130 volts).
4. Hold back governor arm so that throttle lever rests on throttle stop screw. Adjust idle stop screw to 1500 RPM. (50hz or 100 volts) Release governor arm.
5. Adjust idle mixture screw to highest RPM or voltage. Readjust governor spring setting so engine speed is 1860 RPM at no load. (62hz or 130 volts)
6. Apply full load to generator and adjust main mixture screw to highest RPM or voltage. Readjust governor spring setting so engine speed is 1770 RPM at full load. (59hz or 110 volts)
7. Remove and add load several times to check for a governor hunting condition. Readjust governor spring setting if required.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 194
SERVICE/PARTS/PUBLICATIONS

DATE July 1, 197
page 1 **of** 1

SUBJECT: CHANGE IN FUEL LIFT CAPACITY
(All Cummins Diesel Engines)

REF. FILE# S-106 (SALES)
(SERVICE)
(PUBLICATIONS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL CUMMINS POWERED CLASS "B" SETS

| | |
|-----------------|-----------|
| DFE 155 & 180kW | DFV 400kW |
| DFP 200 & 230kW | DFW 450kW |
| DFM 250kW | DFY 500kW |
| DFS 300kW | DFX 600kW |
| DFN 350kW | DFZ 750kW |

The fuel lift capability for the above series is 5 feet (1.52m); instead of 8 feet (2.5m) or 12 feet (3.66m) as previously stated.

The Onan Operator's manuals and all Specification Sheets for these models should be changed accordingly.

Please change your records until these manuals and Specification Sheets are updated by Onan.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 195
SERVICE/PARTS/PUBLICATIONS

DATE July 22, 1
page 1 **of** 1

SUBJECT: FIELD FIX CAMPAIGN ON
EXHAUST MANIFOLD BOLTS

REF. FILE# S-107 (SERVICE)
(WARRANTY)
(LEGAL)

MODEL(S) or SERIES:

EFFECTIVE: July 6, 1976

ALL "MCCK" GENERATOR SETS

This bulletin is being issued as a follow up for Product Support Bulletin #180 (Dated March 31, 1977).

Our records indicate that inspections are being made on units that are not involved in the campaign or have already been repaired!

Information concerning the campaign has been published in Coast Guard and Marine publications to alert owners to the potential problem. These owners may be contacting you for an inspection of their generator set.

When contacted by an owner (or a marina), use the toll free number (800-328-2416) to verify the serial numbers, if the serial number is available prior to making the inspection.

Please review your copy of Product Support Bulletin #180 for additional information and procedures to conduct this campaign.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 196
SERVICE/PARTS/PUBLICATIONS

DATE July 22, 19
page 1 of 2

SUBJECT: IDLEMATIC CONTROL TROUBLESHOOTING (Internal type Control) **REF. FILE#** S-108 (SERVICE) (WARRANTY) (PARTS) (PUBLICATIONS)

MODEL(S) or SERIES:
 ALL "PRIVATE BRAND LABELED" MASTER/KOEHRING DIVISION BRIGGS AND STRATTON POWERED PORTABLE GENERATOR SETS.
 (Manufactured by Onan)

EFFECTIVE: ALL UNITS BUILT PRIOR TO JUNE 15, 1977

CROSS REFERENCE

| <u>Dart/Koehring Model No.</u> | <u>Onan Model No.</u> |
|--------------------------------|-----------------------|
| Eg 12 EG12IDL | = 1.2 YCB-IN/92C |
| Eg 20 EG20IDL | = 2.0 YCB-IN/92C |
| Eg 30 EG30IDL | = 3.0 YBC-3N/93C |
| Eg 45 EG45IDL | = 4.5 YBC-3N/93C |
| Eg 60 EG60IDL | = 6.0 YBC-3N/93C |

Note: IDL Indicates unit is equipped with Idlematic Control.

Many of the above models assembled and sold as Master-Koehring Division or Master-Dart Division Models, (Onan Manufactured), portable generator sets from 1 to 6 kW with Brigg and Stratton engines, are equipped with an Idlematic (solid state internal type) speed control installed.

If a Customer comes to you for service on these models because of Idlematic speed control problems; check the following:

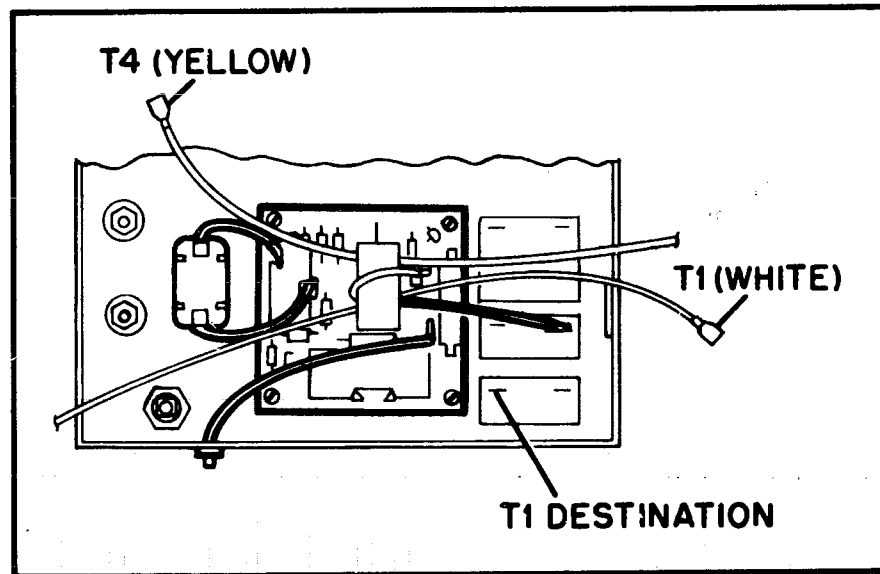
1. The addition of a star washer on the mounting screw for each receptacle to ensure a proper ground for noise isolation.
2. Ensure that a .1 MFD capacitor (Onan Part #355-0062) is across diode CR5 on the idlematic printed circuit board to control load/speed sensitivity.
3. Check the routing and direction of the stator leads through the toroid (Red Coil) on the idlematic printed circuit board. Refer to the attached wiring diagram from the Koehring Owner's manual for assistance in tracing the wiring.

If further assistance is needed, contact the Onan Service Department in Minneapolis.

Onan model and serial numbers may not appear on the set nameplate.

This bulletin is for informational purposes.

(over)



Typical Idlematic Control
Wiring Diagram



PRODUCT SUPPORT BULLETIN NO. 197
SERVICE/PARTS/PUBLICATIONS

DATE July 27, 19
page 1 **of** 1

SUBJECT: PART NUMBER CORRECTIONS
 PARTS CATALOGS
 968-0220 & 968-0222

REF. FILE# M-27 (PARTS)
 (PUBLICATIONS)
 (SERVICE)

MODEL(S) or SERIES:
 MDJC and MDJE

EFFECTIVE: IMMEDIATELY

The part number for the Heat Exchanger End Cap (Onan Part #130-1002), is listed incorrectly in the above Parts Catalogs.

Onan spare parts stock has been incorrectly marked also.

The correct Onan Part Number for the Heat Exchanger End Cap is 130-1031. Please change your Parts Catalogs as follows:

| <u>Model #</u> | <u>Parts Catalog #</u> | <u>Page #</u> | <u>Item #</u> | <u>Correct Part # Is</u> |
|----------------|------------------------|---------------|---------------|--------------------------|
| MDJC | 968-0222 | 24 & 25 | 51 | 130-1031 |
| MDJE | 968-0220 | 17 | 44 | 130-1031 |

Check your spare parts stock of all items marked as #130-1002. If the item stocked under that number appears to be a brass washer, change the part number to 130-1031.

If the item stocked under Onan Part Number 130-1002 is a Radiator Flange and Tube Assembly, the item is marked correctly.

Onan Parts Stock has been corrected.

Please change your records accordingly and check you Parts Stock.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 198
SERVICE/PARTS/PUBLICATIONS

DATE July 29, 19
page 1 **of** 1

SUBJECT: HA DEMAND CONTROL SPEC ADVANCE

REF. FILE# C-12 (MARKETING)
(SERVICE)
(PARTS)

MODEL(S) or SERIES:

ALL HA's (Automatic Demand Controls)

EFFECTIVE: IMMEDIATELY

Effective immediately the "HA" Automatic Demand Control is being advanced from Spec "C" to Spec "D".

A time delay bilge blower (300-0587) has been added to allow time for the blower to clear the bilge compartment of any fuel fumes.

Previous spec HA controls CANNOT be converted to the Spec "D" configuration due to changes in physical size etc.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 199
SERVICE/PARTS/PUBLICATIONS

DATE July 29, 1977
page 1 **of** 1

SUBJECT: FUEL FILTER CHANGE FOR
COMPLIANCE WITH U.S. COAST
GUARD REGULATION 183.

REF. FILE# S-109 (MARKETING)
(SERVICE)
(PARTS)
(LEGAL)

MODEL(S) or SERIES:
MAJ ONLY

EFFECTIVE: IMMEDIATELY

The sediment type fuel filter (Onan Part #149-0282) does NOT comply with U.S. Coast Guard Regulation 183.

A replacement in-line fuel filter (Onan Part #149-1545) Does comply and MUST be on all units installed in vessels after July 30, 1977. Order the new filter for units in your inventory.

A retrofit kit (Onan #149-1548) will be available as of September 1st, and it is recommended that units installed prior to July 30, 1977 be converted.

As this is a recommendation and Not a mandatory requirement, the kit is not covered by warranty.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 200
SERVICE/PARTS/PUBLICATIONS

DATE August 5, 19
page 1 **of** 1

SUBJECT: ARMATURE AND FAN REPLACEMENT

REF. FILE# S-110 (SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

6.5 NH-3CR/16000J, 16002J, 16004J,
17198D and 7789J "RV" SETS

Investigation has shown that field failures of armatures and their replacements could result in damage to the fan and subsequent fan failure.

IMPORTANT

When replacing the armature on any of the above sets, you MUST also replace the generator fan.

Effective July 25, 1977, all armatures shipped as replacements for referenced units have a generator fan included as a kit.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 201A
SERVICE/PARTS/PUBLICATIONS

DATE SEPT. 28, 1
page 1 **of** 1

SUBJECT: REMOTE ANNUNCIATOR PANEL
(MPB Section 8, Page 642)

REF. FILE# C-13 (MARKETING)
(SERVICE)
(PARTS)

MODEL(S) or SERIES:

ALL CLASS "B" SETS

EFFECTIVE: IMMEDIATELY

THIS BULLETIN SUPERSEDES BULLETIN
#201 dated 9/9/77.

All 400 kW and larger class "B" sets must use a 300-1295 remote annunciator panel. All incoming orders will be screened by the sales department. Onan will automatically make appropriate changes to SSP annunciators depending upon kW size for each set.

All 75 through 350 kW class "B" Diesel sets (24 volt cranking) use a 300-0750 remote annunciator panel. Any SSP annunciators will be matched depending on kW size for each set.

All 17.5 through 85 kW class "B" sets (12 volt cranking) remain unchanged as listed in MPB Section 8, page 642.

Please note these changes in your MPB pages until the revised pages are mailed to you.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 202
SERVICE/PARTS/PUBLICATIONS

DATE Sept. 9, 19
page 1 **of** 1

SUBJECT: NYLON CRANKSHAFT THRUST WASHER

REF. FILE# S-111 (SERVICE)
(WARRANTY)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

LK, CCK AND MCCK GENERATOR SETS
(1500 and 1800 RPM Only)

A nylon crankshaft thrust washer is now being used in production of the above models, between Serial #232243 to 250696.

Continue to use the 104-0575 replacement parts thrust washer for field repair.

The 104-0575 thrust washer will continue to be supplied in the 101-0450 and 101-0427 Bearing Kits.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 203
SERVICE/PARTS/PUBLICATIONS

DATE Sept. 9, 19
page 1 **of** 1

SUBJECT: PRODUCT CHANGES

REF. FILE# S-112 (MARKETING)
(SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL CLASS "B" SETS AND WATER COOLED
"J" SERIES MODELS ONLY

All 30 through 100 kW class "B" sets no longer have chassis trim pieces (Edging) or radiator hood extensions.

All sets from 30 through 750 kW no longer have a control panel light.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 204A
SERVICE/PARTS/PUBLICATIONS

DATE Dec. 14, 1
page 1 **of** 1

SUBJECT: NEW CUMMINS DIESEL ENGINES

REF. FILE# S-113 (MARKETING)
(SERVICE)
(PARTS)

(Cummins V12 Series engines NOT discontinued as previously stated.)

MODEL(S) or SERIES:

DFV, DFW and DFY

EFFECTIVE: IMMEDIATELY

THIS BULLETIN SUPERSEDES #204
(Dated 9-9-77)

Cummins has introduced a new engine series referred to as VT1710-GS. In addition, Cummins no longer provides any cooling options.

Refer to Specification sheets and outline drawings for changes in physical size due to larger radiator.

Heat exchanger options per MPB Section 10C, page 605, will NOT be available until July, 1978.

These units will utilize the new universal control as used on the current DFX and DFZ sets.

The former V12-1710-700, 800, etc., series is no longer available. This series has been modified into the VT(12) 1710-GS with a new lower profile which incorporates a redesigned intercooler manifolding. Both engines are V12 configuration engines.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 205
SERVICE/PARTS/PUBLICATIONS

DATE Sept. 14,
page 1 **of** 1

SUBJECT: SPECIAL ENGINE TO GENERATOR
SHAFT ADAPTER (202-0698)

REF. FILE# S-114 (SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

3.0 kW "TR" PORTABLE GENERATOR SET

The above model uses a special engine to generator shaft adapter between the Tecumseh engine and the Onan "YCB" generator rotor shaft. The adapter part number is 202-0698.

This adapter has a tapered fit on the rotor shaft end and the engine crankshaft end.

If the rotor is replaced, this adapter usually stays with the old rotor when the engine and generator are separated. When the replacement rotor is installed this adapter is often overlooked and in some cases gives the servicemen the impression that he has the wrong replacement rotor.

Whenever servicing one of these units, be careful not to lose this shaft adapter as it must be replaced along with any new rotor and is not supplied as a part of the rotor.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 206
SERVICE/PARTS/PUBLICATIONS

DATE Sept. 14, 1
page 1 **of** 1

SUBJECT: SPECIAL ENGINE TO GENERATOR
(SHAFT ADAPTER (202-0699))

REF. FILE# S-115 (SERVICE)
(PARTS)

MODEL(S) or SERIES:

4.0 kW PK
4.5 kW PG PORTABLE GENERATOR SETS
5.5 kW PH

EFFECTIVE: IMMEDIATELY

The above models use a special engine to generator shaft adapter between the Briggs & Stratton engine and the Onan "YCB" generator rotor shaft. The adapter part number is 202-0699.

This adapter has a tapered fit on the rotor shaft end and the engine crankshaft end.

If the rotor is replaced, this adapter usually stays with the old rotor when the engine and generator are separated. When the replacement rotor is installed this adapter is often overlooked and in some cases gives the servicemen the impression that he has the wrong replacement rotor.

Whenever servicing one of these units, be careful not to lose this shaft adapter as it must be replaced along with any new rotor and is not supplied as a part of the rotor.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 207A
SERVICE/PARTS/PUBLICATIONS

DATE OCT. 19, 19
page 1 **of** 1

SUBJECT: NO VOLTAGE BUILD UP

REF. FILE# S-116 (SERVICE)
(PARTS)

THIS BULLETIN SUPERSEDES #207
DATED 9-22-77. Paragraph (B)
has been revised and new dimensions.

MODEL(S) or SERIES:

"P" or "T" SERIES PORTABLE GENERATOR SETS
AND SINGLE OR TWO-BEARING SEPARATE GENERATORS
(ALL "YCB" SERIES GENERATORS)

EFFECTIVE: IMMEDIATELY

When servicing any of the above models with generator problems of no AC voltage build-up or chronic replacement of capacitor C1, check the following (listed in order of most probable to test):

1. Check brushes and slip rings for grease. Remove grease from slip rings and any excess grease from generator shaft with cleaning solution.
2. Diodes or bridge rectifier. Usually one of the two is shorted.
3. Wiring or loose connections. Terminal at C1 capacitor may be loose. If necessary, crimp with pliers.
4. Shorted or grounded rotor. Refer to A and B below.

A. Check for a grounded rotor using a Hi-pot tester. The rotor should be able to withstand 500 volts from winding to lamination. Replace any rotors which fail this test.

B. Check the rotor diameter with a micrometer-the acceptable rotor diameter is 4.420"
All varnish must first be scraped from the rotor at the measuring points but be careful not to remove any steel from the rotor. Replace any rotors measuring 4.415" or less.

Replacing capacitor C1 without making the above checks, may only cure the problem temporarily. The capacitor rarely fails without an external cause, so do NOT replace the capacitor without making the above checks first.

Standard warranty policy applies.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 208
SERVICE/PARTS/PUBLICATIONS

DATE SEPT. 28, 1
page 1 **of** 1

SUBJECT: "OSHA" GROUNDING REGULATIONS

REF. FILE# S-117 (SERVICE)
(LEGAL)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL "CCK" WELDERS, 6.0 "DJB" WELDERS AND
CONSTANT POTENTIAL WELDERS

Beginning with serial number 770221449 (for "CCK") and D770230081 (For "DJB");
above production welders incorporate a new bonding lead to comply with current
"OSHA" grounding regulations.

This bonding lead is a new lead connected from M2 to the frame of the generator.

Current replacement brush rigs will have this lead installed from the factory.

This bonding lead only is available from Onan under Part #336-0164.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 209
SERVICE/PARTS/PUBLICATIONS

DATE OCT. 5, 1
page 1 of 1

SUBJECT: NEW ELECTRIC FUEL PUMP 149-1541 REF. FILE# S-118 (SERVICE)
(PARTS)
(PUBLICATIONS)

MODEL(S) or SERIES: EFFECTIVE: IMMEDIATELY

ALL BF, CCK AND NH ELECTRIC GENERATING
SETS FOR RECREATIONAL VEHICLES

The 149-1304 electric fuel pump is no longer being used as a replacement part for RV electric generating sets as listed above. The New 149K1553 Fuel Pump Kit will be supplied in it's place.

This Kit includes a 149-1541 electric fuel pump and all the necessary fittings and instructions to replace the 149-1304 fuel pump.

All 149-1304 fuel pumps in stock should be returned to the Onan Parts Department for credit immediately. Return shipping costs will be paid by Onan. Only New pumps in their Original prepack carton will be Accepted by Onan.

Distributors and O.E.M. customers should enclose a copy of this bulletin with the fuel pumps being returned.

Dealer returns MUST be processed through the Distributor. All Distributors outside the United States should request Customs Form 3311 (Declaration for Free Entry of Returned American Products) from the Onan Parts Department before shipping.

This Credit Return Program will be in effect until December 31, 1977. After that date the 149-1304 fuel pumps cannot be returned for credit.



PRODUCT SUPPORT BULLETIN NO. 210
SERVICE/PARTS/PUBLICATIONS

DATE OCT. 5, 197
page 1 **of** 1

SUBJECT: CHANGE IN CAPACITY FOR OIL
AND WATER (or Anti-Freeze)

REF. FILE# S-119 (SERVICE)
(PUBLICATIONS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

DFN and DFS CLASS "B" SETS

The Operator's manuals for the above models should be changed as follows:

| <u>MODEL</u> | <u>OPERATOR'S MANUAL NO.</u> | <u>PAGE NO.</u> | <u>OIL CAPACITY WITH FILTERS SHOULD BE</u> | <u>COOLANT CAPACITY SHOULD BE</u> |
|--------------|----------------------------------|-----------------|--|---------------------------------------|
| DFN | 960-0315 | 4 and 21 | 12.5 GALLONS (47 litres) | 22.5 GALLONS (85 litres) |
| DFS | 960-0316 | 4 and 21 | 12.5 GALLONS (47 litres) | 23.5 GALLONS (89 litres) |

In addition, the fuel pump return line as shown in figure 12 on page 16 in both manuals should be deleted as that is no longer necessary.

Please change your manuals accordingly.

Future manuals will reflect these changes when they are revised prior to the next printing.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 211
SERVICE/PARTS/PUBLICATIONS

DATE Oct. 5, 19
page 1 **of** 1

SUBJECT: SPEC ADVANCE AND
PRODUCT IMPROVEMENTS

REF. FILE# S-120 (MARKETING)
(SERVICE)
(PARTS)

MODEL(S) or SERIES:
ALL "P" SERIES AND "T" SERIES
PORTABLE CLASS "A" GENERATOR SETS

EFFECTIVE: BEGINNING SPEC "F"

The above model portable generator sets (available with either Briggs & Stratton or Tecumseh engine power) have been advanced to Spec "F" beginning with September production.

Changes and improvements involved in the spec advance consist of:

1. Color coded flexible leads.
2. Silk screened receptacle boxes with voltage and current designation.
3. CSA approved Spec 1 or Spec 18180 sets.
4. Ground Fault Circuit Interruption label attached to generator set which clarifies GFCI requirements necessary to meet "OSHA" regulations.

Detailed changes are available in the new Specification sheets for these models.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 212
SERVICE/PARTS/PUBLICATIONS

DATE Oct. 12, 1
page 1 **of** 1

SUBJECT: UNITED STATES COAST GUARD
APPROVED MARINE FUEL LINES

REF. FILE# S-121

(MARKETING)
(SERVICE)
(PARTS)
(LEGAL)

MODEL(S) or SERIES:
ALL MARINE SETS

EFFECTIVE: IMMEDIATELY

Effective 9/28/77 a U.S.C.G. Approved Type "A" fuel line WITHOUT a metallic reinforcing braid will be a standard item on all Marine Sets.

This standard 24" flexible fuel line is available under Onan Part #501-0242.

One line is supplied with gasoline sets and two lines are supplied with diesel sets in the accessory package for each model.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 213
SERVICE/PARTS/PUBLICATIONS

DATE OCT. 12, 19____
page 1 **of** 1

SUBJECT: EXERCISER TIMER ADJUSTMENTS

REF. FILE# C-14 (SERVICE)
(WARRANTY)
(PARTS)

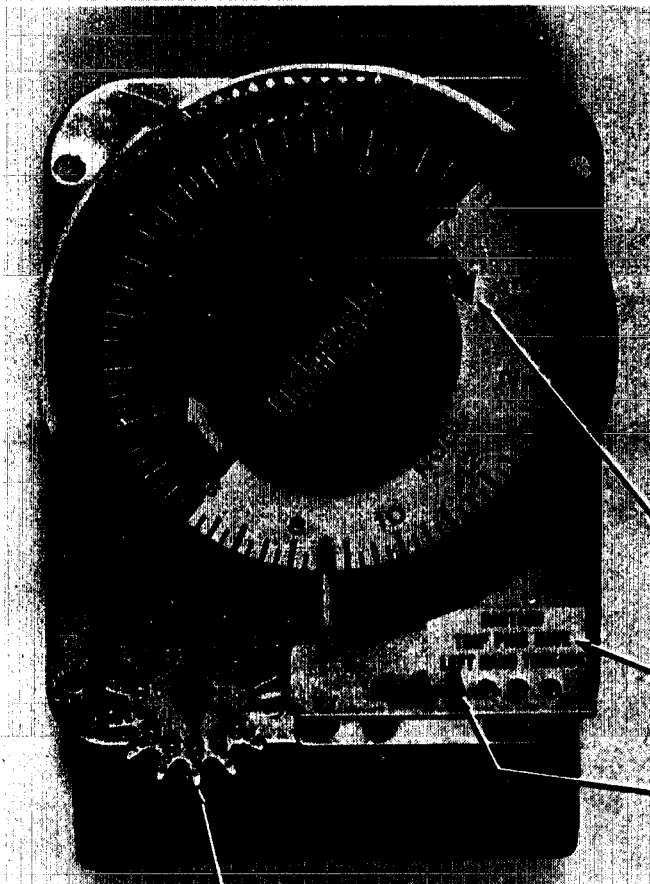
MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL AT'S, LT'S AND OT'S WITH
EXERCISER CLOCKS

Warranty reports indicate these timers are being damaged (stripped gears) as a result of someone turning the small spoked wheel backwards (against direction of normal rotation.)

The trip pins for the timer are LEFT HAND THREAD and the timer rotation is CLOCKWISE ONLY. An arrow on the face of the exerciser clock indicates the direction of rotation.



Future production will have a new silk screen caution on the bottom of the exerciser timer pointer bracket -
CAUTION: LEFT HAND THREAD ONLY

The Operator's manuals show the correct procedure for the initial adjustment of the timer.

Do NOT try to turn the exerciser clock small spoked wheel (by force) against the direction of rotation. Note arrow on face of exerciser clock.

This bulletin is for informational purposes.

CLOCKWISE ROTATION ONLY

CAUTION: LEFT HAND THREADS

TRIP PINS

**SMALL SPOKED WHEEL
COUNTERCLOCKWISE ROTATION ONLY**



PRODUCT SUPPORT BULLETIN NO. 214
SERVICE/PARTS/PUBLICATIONS

DATE Oct. 26, 1
page 1 **of** 1

SUBJECT: LOW OIL PRESSURE CUT-OFF SWITCH
OPERATION ON INITIAL START

REF. FILE# S-122 (SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

2.7 AJ "RV" SETS

Complaints have been received on the above model not starting with the low oil pressure cut-off switch (LOPKO) connected. Disconnecting the wire from the switch allows the unit to start and run on initial start.

This condition may be corrected by removing the oil bypass plunger and spring and cranking the engine until oil flows from the hole for the oil pressure relief valve. Then replace the plunger and spring and the set should start.

If this procedure does NOT correct the problem, remove the low oil pressure cut off switch and check the oil pressure (using an accurate pressure gauge) while cranking. Oil pressure must be 8-10 lbs for proper operation while cranking. Normal oil pressure when running at operating temperature is approximately 20 PSI.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 215
SERVICE/PARTS/PUBLICATIONS

DATE Oct 26, 1
page 1 **of** 1

SUBJECT: EXHAUST PORT INSERT

REF. FILE# S-123 (SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL NH FAMILY INDUSTRIAL ENGINES
AND GENERATOR SETS

The above part is no longer used in current production of the above models.

This exhaust port liner was originally used to isolate heat from the cylinder head bolts and other internal block areas. Further testing indicates the liner is no longer required.

It is suggested that this exhaust port insert (Liner) be removed from units brought to you for repair involving removal of the exhaust or exhaust-intake manifold system.

All other exhaust system parts remain the same as before.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 216
SERVICE/PARTS/PUBLICATIONS

DATE NOV 1, 19
page 1 of

SUBJECT: SPARK PLUG REPLACEMENT

REF. FILE# S-124 (SERVICE)
(PARTS)
(PUBLICATION)

MODEL(S) or SERIES:

6.5 NH-3CR/ "RV" SETS

EFFECTIVE: BEGINNING SPEC "J"

It has been determined through testing that the 167-0247 spark plug used in above model may experience fouling under some load conditions due to it's heat range.

When servicing any of the above models, check the spark plug for carbon build up. If carbon build up is excessive, replace the spark plug with Onan spark plug #167-0292 which is a higher heat range plug.

All Onan #167-0247 spark plugs in your stock should be retained for use in the NHC Industrial Engines. Order the #167-0292 spark plugs for your stock also.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 217
SERVICE/PARTS/PUBLICATIONS

DATE Dec 7, 197
page 1 of 1

SUBJECT: PORTABLE SERVICE CART

REF. FILE# M-2S (SERVICE)

MODEL(S) or SERIES:

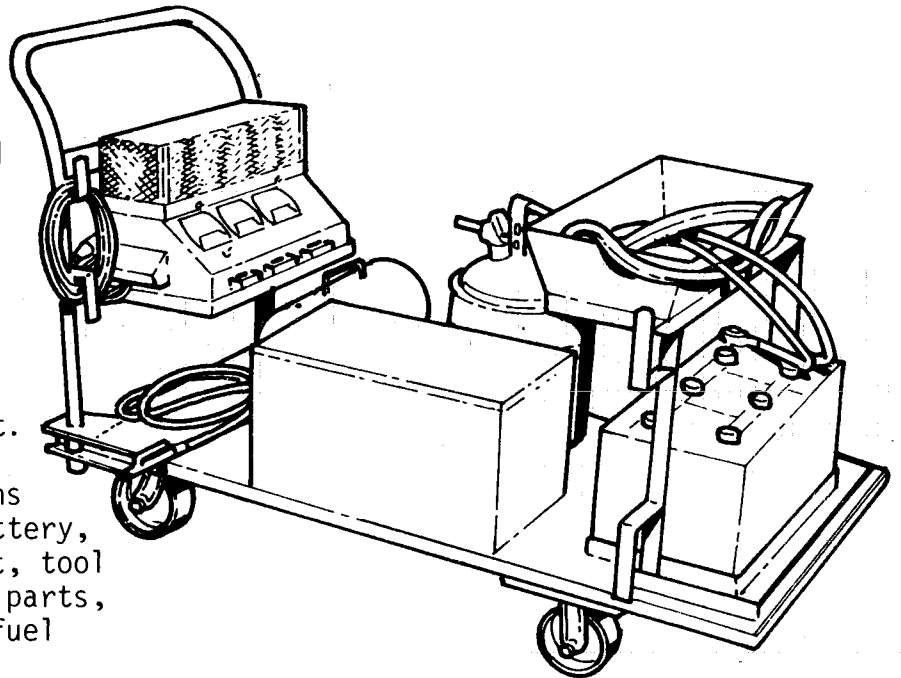
EFFECTIVE: WHEN YOU HAVE TIME!

GENERAL SHOP USE

Illustration shows one of several types of portable service carts that can be built to use around your Onan service shop.

These units are quite easy to build and will be especially useful when servicing "RV" sets within the motor home compartment.

The particular cart shown contains a Load Test Bank with meters, Battery, jumper cables, mechanics tool set, tool box seat, tray for holding loose parts, small air compressor and hoses, fuel source etc.



Some of our distributors and dealers may already be using similar carts, but for those of you who aren't we thought you might want to consider it - Courtesy of California Electric Works in San Diego, California. We appreciate the opportunity to relay this helpful tool idea to the field.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 218
SERVICE/PARTS/PUBLICATIONS

DATE Jan. 18, 1
page 1 **of** 2

SUBJECT: GOVERNOR HUNTING CONDITION ON
SETS WITH ALLIS-CHALMERS ENGINES

REF. FILE# S-125 (SERVICE)

MODEL(S) or SERIES:

DYG and DYH (With Woodward Governors)

EFFECTIVE: IMMEDIATELY

The above models with Allis-Chalmers engines and Woodward governors may "hunt" due to air trapped within the governor.

To eliminate a hunting condition, remove the drain solenoid valve and plug the dump hole in the governor with 1/8" pipe plug (Onan part #505-0057). Plug the sump with a 1/4" pipe plug (Onan Part #505-0054). See illustration on page 2.

Tape up the wires from the ignition harness that are disconnected to remove the drain solenoid valve.

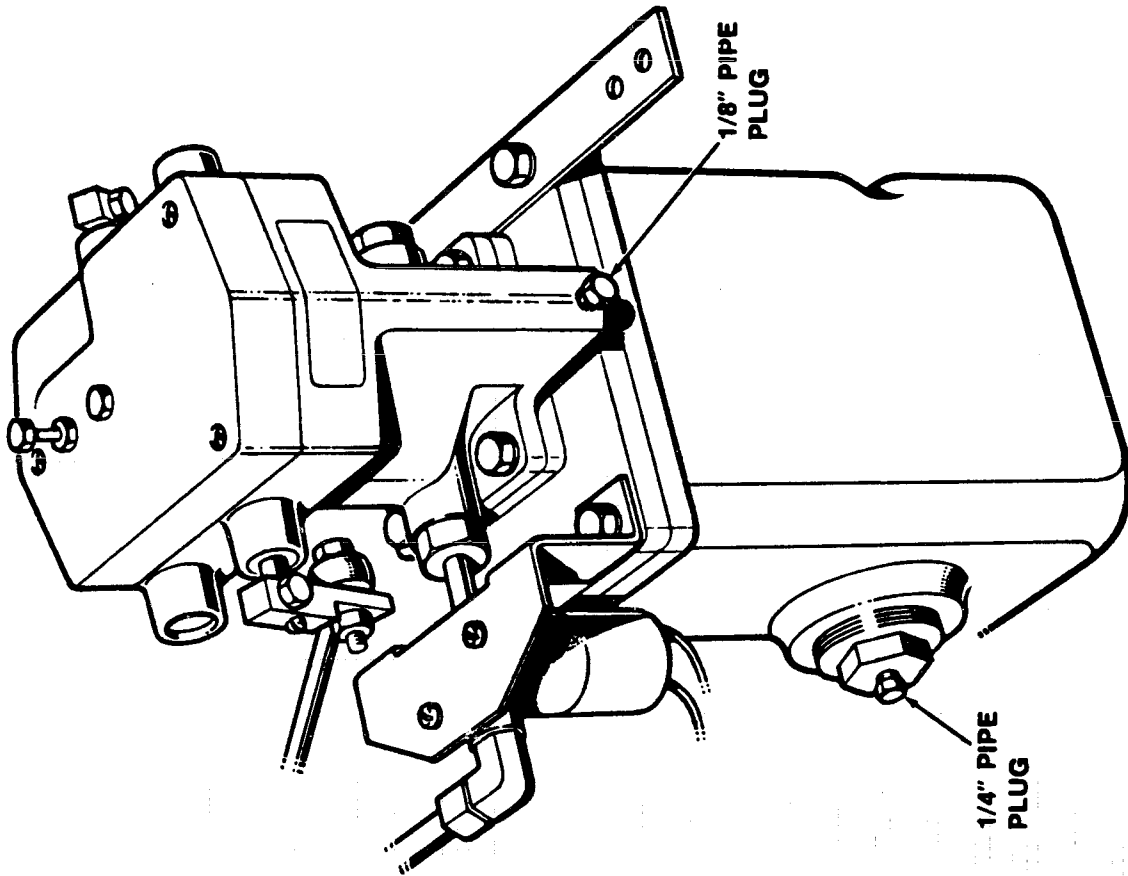
When you remove the drain solenoid valve, you may notice an extended shut down time (approximately 15 seconds). This will not affect over-all unit operation.

Units shipped since July 15, 1977 no longer have the dump solenoid valve.

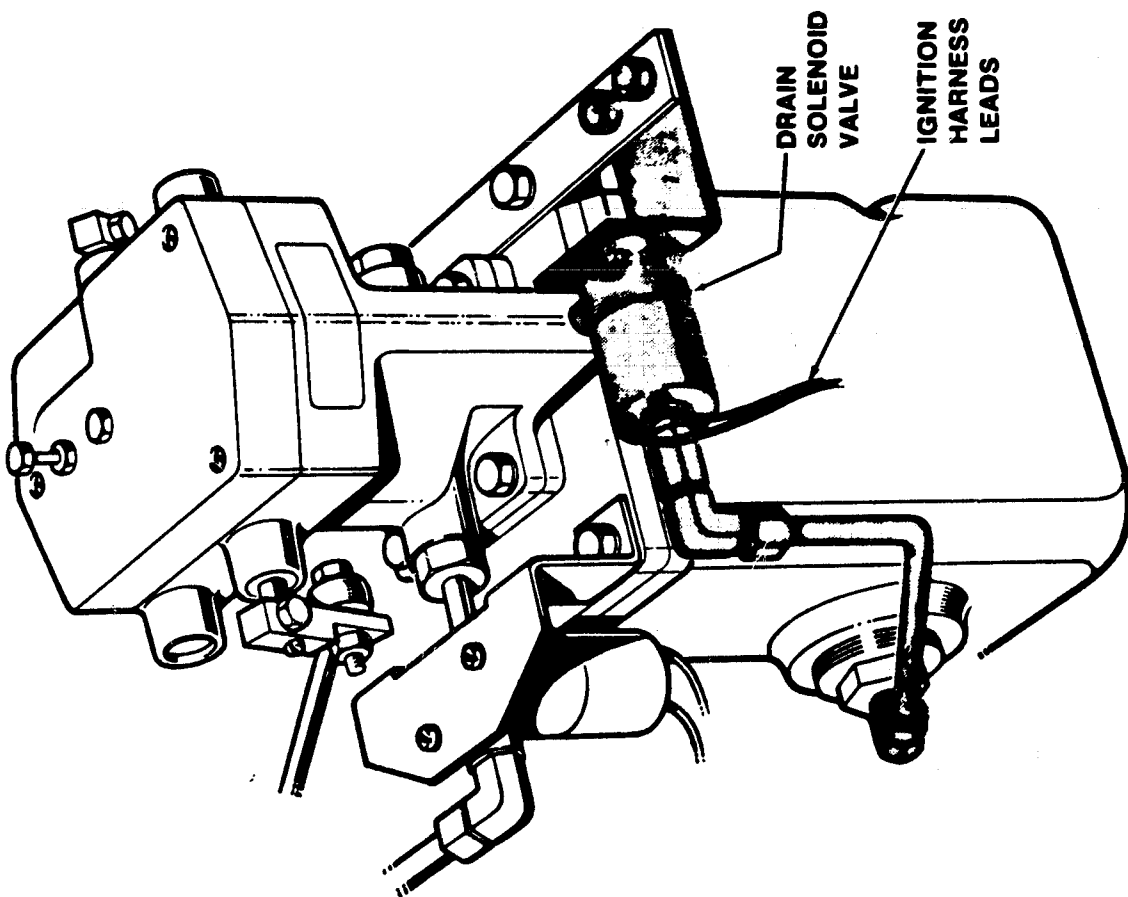
This bulletin is for informational purposes.

(Over)

**MODIFIED GOVERNOR
CONFIGURATION**



**ORIGINAL GOVERNOR
CONFIGURATION**



**NOTE: REMOVE ITEMS THAT ARE
SHADED.**



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE JAN. 10, 1979 PAGE 1 OF 2 BULLETIN NO. 219B

SUBJECT: SEE BELOW

REF. FILE # SEE BELOW

MODEL(S) or SERIES: SEE BELOW

EFFECTIVE: THIS OFFER EXTENDED
NOW GOOD THROUGH OCTOBER 1, 1979*

RV CONTROL 611-1086 USING
300-0859 PRINTED CIRCUIT BOARD

S-126 (SERVICE)
(PARTS)

FEBRUARY 1, 1978

CCK AND NH RV SETS ONLY

Two modification kits have been designed using a relay type control to replace the control on the above RV sets. This control is similar to the control used on the 4.0 BF-3CR/16000B.

Kit #300-1598 must be used on units equipped with an Onan choke.

Kit #300-1599 must be used on units equipped with a Sisson choke.

Installation of these kits can be accomplished on a generator set in the motor home compartment within one hour.

These kits are being offered at a special price when ordered in quantities of 6 or more in any combination. This offer is good for the period of February 1 through October 1 of 1978 inclusive.*

* COST: Kit #300-1598 (Onan choke) \$70.50B

Kit #300-1599 (Sisson choke) \$80.90B

Warranty repair of the 611-1086 control (using the 300-0859 board) is to be corrected by installing the proper kit as required. It is suggested and recommended that the appropriate kit be installed on all RV sets that are out of warranty also (instead of replacing the 300-0859 board).

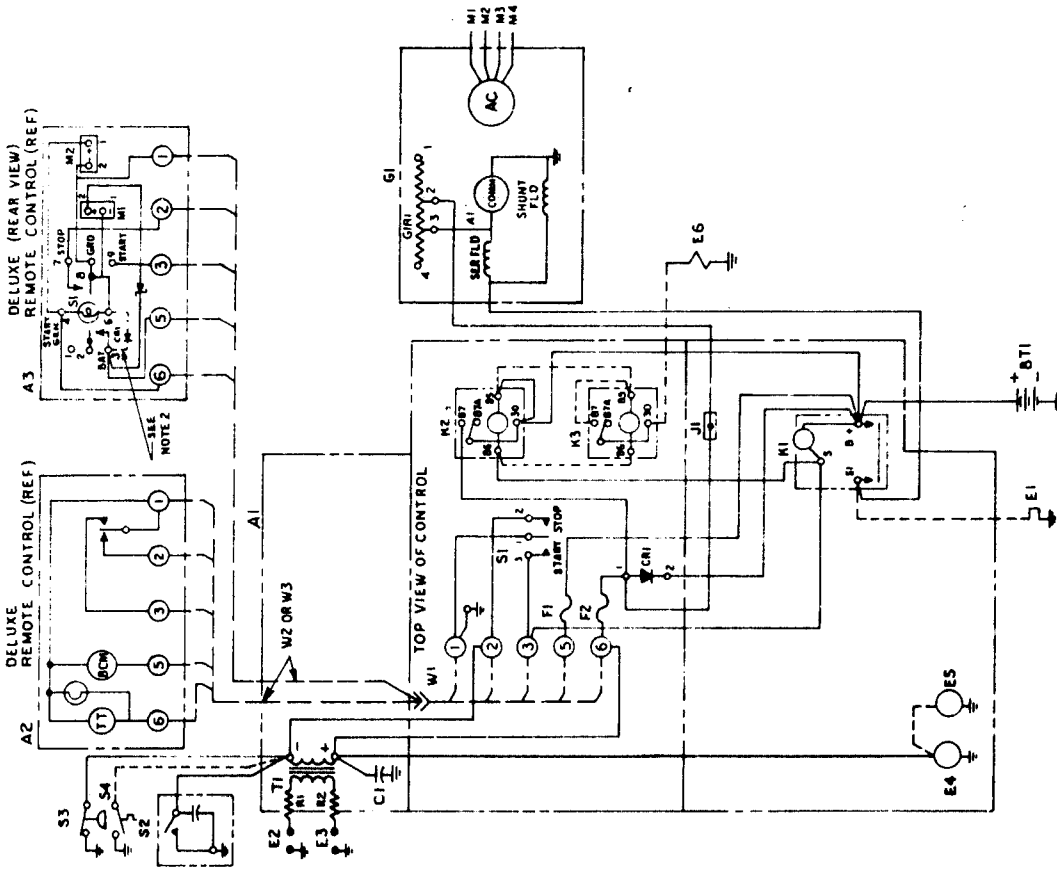
Any 300-0859 boards in your stock should be retained for use on any units requiring 2-step battery charging and/or start-disconnect features.

Refer to 611-1141 schematic wiring diagram on page 2.

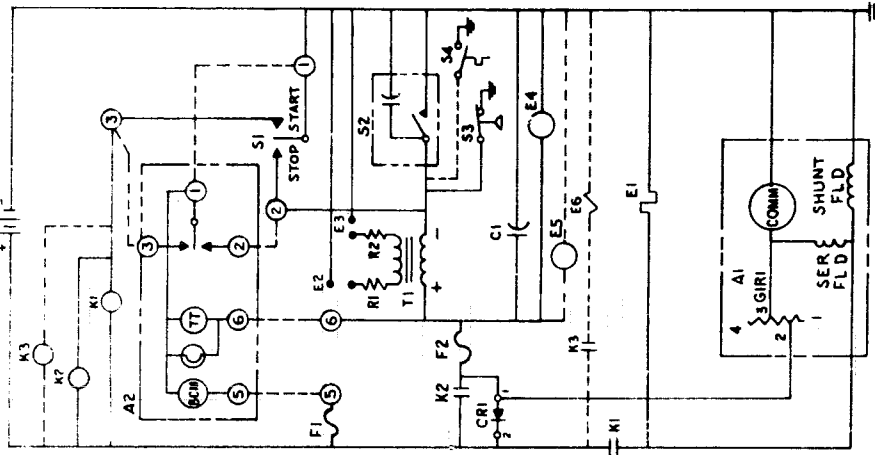
(OVER)

611-1141

WIRING DIAGRAM

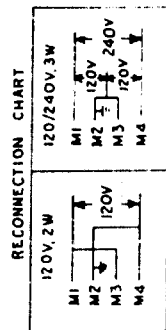


SCHEMATIC



- NOTE:
1. REPLACES PC BOARD CONTROL (300-0859) FOR R.V.
 2. REMOVE CRI FROM 3 & 6
ADD JUMPER FROM 6 TO 8
 3. REMOVE LEAD ASSY FROM HARNESS (338-1120 (D))

| REF DES | PART NO | QTY | DESCRIPTION |
|---------------------------------|----------|-----|--|
| A1 | 300-1595 | D | CONTROL ASSY -01 -02 |
| K3 | 307-1671 | A | RELAY (LEAD ASSY -07 (SEE NOTE 3)) |
| ALL PART NOS BELOW ARE REF ONLY | | | |
| A2 | 300-0986 | B | DELUXE REMOTE CONTROL |
| A3 | 300-0943 | B | DELUXE REMOTE CONTROL |
| B1 | | | BATTERY 17V |
| C1 | | | CAPACITOR |
| CRI | 305-0235 | A | RECTIFIER |
| E1 | | | CHOKE - OHM |
| E2, E3 | | | 2 SPARK PLUG |
| E4 | | | 1 FUEL PUMP |
| E5 | | | 1 CHOKE - SOLENOID - FUEL (WHEN USED) |
| E6 | | | 1 CHOKE - S15508 (-02) |
| F1, F2 | 321-0174 | - | 2 FUSE (5 AMP, 32 V) |
| G1 | | | 1 GENERATOR |
| G1R1 | 353-0047 | - | 1 RESISTOR |
| J1 | 307-1498 | B | SOLENOID - START |
| K1 | 307-1575 | P | RELAY - IGNITION |
| R1 | | | LEAD ASSY - HI TEN |
| R2 | | | LEAD ASSY - HI TEN |
| S1 | | | 1 SWITCH - START STOP |
| S2 | | | 1 BREAKER & CAP ASSY |
| S3 | 300-0837 | P | 1 SWITCH - LOW OIL PRESS |
| S4 | | | 1 SWITCH - HIGH AIR TEMP |
| T1 | | | 1 COLL - IGNITION |
| W1 | 338-1120 | D | 1 WIRING HARNESS |
| W2 | 338-0959 | C | 1 WIRING HARNESS (CABLE - REMOTE CONTROL) (10 FEET LONG) |
| W3 | 338-0960 | C | 1 WIRING HARNESS (CABLE - REMOTE CONTROL) (30 FEET LONG) |



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| REV | DATE |
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| 3 | |
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| 7 | |
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| MODEL NO | 10-3-77 |
| REV | 3C |
| DATE | 10/28/78 |
| BY | JDR |
| CHECKED | |
| APPROVED | |
| DATE | |
| BY | |
| C | |

| | |
|----------|-----|
| MODEL NO | -01 |
| REV | -02 |
| DATE | |
| BY | |
| CHECKED | |
| APPROVED | |
| DATE | |
| BY | |
| C | |

| | |
|----------|--------------|
| MODEL NO | 120/240V, 3W |
| REV | |
| DATE | |
| BY | |
| CHECKED | |
| APPROVED | |
| DATE | |
| BY | |
| C | |

| | |
|----------|----------|
| MODEL NO | 120V, 2W |
| REV | |
| DATE | |
| BY | |
| CHECKED | |
| APPROVED | |
| DATE | |
| BY | |
| C | |

CONTROL - GEN SET
(WIRING DIAGRAM)



PRODUCT SUPPORT BULLETIN NO. 220
SERVICE/PARTS/PUBLICATIONS

DATE Jan 18, 197
page 1 **of** 1

SUBJECT: PART NUMBER CORRECTIONS

REF. FILE# M-29 (PARTS)
(PUBLICATIONS)
(SERVICE)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

CLASS "A" INDUSTRIAL ENGINES
(See Below)

| <u>MANUAL #</u> | <u>MODEL</u> | <u>PAGE #</u> | <u>ITEM #</u> | <u>DESCRIPTION</u> | <u>CORRECT PART #</u> |
|-----------------|--------------|---------------|---------------|-----------------------|-----------------------|
| 927-0404 | CCKB | 49 | 8 | Muffler, Exhaust | 155-0906 |
| 965-0254 | B43M | 3 | 39 | Washer, Flat | 526-0C18 |
| | | 4 | 1 | Case Assembly, Gear | 103-0498 |
| | | 9 | 16 | Filter, Breather Tube | 123-0865 |
| 965-0255 | B48M | 3 | 39 | Washer, Flat | 526-0018 |
| | | 4 | 1 | Case Assembly, Gear | 103-0498 |
| | | 9 | 16 | Filter, Breather Tube | 123-0865 |
| | | 17 | | Gasket Kit, Carbon | 168-014C |
| | | 17 | | Gasket Kit, Engine | 168-C141 |
| 965-0252 | N52M | 8 | 1 | Case Assembly, Gear | 103-0498 |
| | | 11 | | Repai Kit | 149-1552 |

These part number corrections will be reflected in future manuals as they are revised and reprinted.

Please change your manuals as listed above.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 221
SERVICE/PARTS/PUBLICATIONS

DATE Jan 18, 1978
page 1 **of** 1

SUBJECT: 900-0314 RV CONTROL
TROUBLESHOOTING SUPPLEMENT
(OPERATOR'S MANUALS)

REF. FILE# S-127 (SERVICE)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL 1978 RV SETS

The above supplement (issued in Dec 1977) has an error in the remedy column which should be corrected as follows:

| <u>PROBLEM</u> | <u>PROBABLE GAUSE</u> | <u>REMEDY (Correction)</u> |
|--------------------|------------------------|---|
| Set Fails to Crank | #4 Faulty Start Switch | #4 Jumper switch (TB1 #3 terminal) to ground. <u>If Solenoid Energizes, Replace Switch.</u> |

Please correct your copy as stated above.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 222
SERVICE/PARTS/PUBLICATIONS

DATE Jan 24, 19
page 1 **of** 1

SUBJECT: DIESEL FUEL RECOMMENDATIONS
(All Operator's Manuals)

REF. FILE# S-128 (SERVICE)

MODEL(S) or SERIES:

ALL ONAN "J"-SERIES DIESELS ONLY
(Air and Water Cooled)

EFFECTIVE: IMMEDIATELY

Onan recommends the use of ASTM - 2-D or 1-D diesel fuel with a MINIMUM Cetane number of 45.

Number 1-D diesel fuel SHOULD be used when ambient temperatures are below 32°F (0°C) or during long periods of light load or cyclic operation that includes considerable periods of no-load operation.

The use of #1-D fuel under the above conditions will minimize white smoke and provide for easier starting in colder weather.

A revised supplement (#900-0316) has been included in Operator's Manuals until such time as the manuals are revised and reprinted.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 223
SERVICE/PARTS/PUBLICATIONS

DATE Feb 1, 1978
page 1 **of** 1

SUBJECT: COMPLIANCE WITH UNITED STATES
 COAST GUARD REGULATION #183
 (Phase 2 Effective 2/1/78)

REF. FILE# S-129 (MARKETING)
 (SERVICE)
 (LEGAL)
 (PARTS)

MODEL(S) or SERIES:

EFFECTIVE: FEBRUARY 1, 1978

MAJ, MJC AND MCKK (Control-O-Matic ONLY).

Four new field conversion kits will be available (at a special price - Limited time ONLY) for use on above models to convert your stock (inventory) to comply with requirements of U.S.C.G. #183 Phase 2 by 2/1/78 on any unit installed in the hull after that date.

- Changes to the MAJ models include a fuse and fuse holder in the DC control and a new fuel filter bracket.
- Changes to the MCKK Control-O-Matic models only include a fuse in the DC control and a protective boot on the start solenoid positive (+) terminal (Hot side).
- Changes to the MJC models include a fuse and fuse holder, circuit breakers on the alternator output leads, and a new electric fuel pump.

Onan Factory production of these models as listed above will comply with Phase 2 regulations after 2/1/78 (No additional field modification necessary).

The kits (including instructions) are as follows:

| <u>MODEL</u> | <u>KIT NUMBER</u> | <u>SPECIAL PRICE F.O.B. MINNEAPOLIS, MN.</u> |
|-------------------------------------|-------------------|--|
| 3.0 MAJ-IR | 325-0004 | \$8.70C each |
| MCKK-1A/F 51A/F 1A/E 51A/E | 325-0005 | \$3.55C each |
| MJC - 10KW | 325-0006 | \$82.50C each |
| MJC - 15KW | 325-0007 | \$80.65 each |

This special price applies to an order received by March 15, 1978.

Onan recommends that you purchase these kits and install them on any units in your inventory prior to installation in any new hull after 2/1/78.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 224
SERVICE/PARTS/PUBLICATIONS

DATE Feb 8, 197
page 1 **of** 1

SUBJECT: GASOLINE TANK AND
FUEL CONNECTIONS

REF. FILE# S-130 (SALES)
(SERVICE)
(WARRANTY)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL GASOLINE FUELED GENERATOR SETS
USED IN VEHICULAR APPLICATIONS

Most generator set installations or applications (except for portable or contractor models) require a separate fuel tank for gasoline powered fuel systems.

If the fuel tank is shared with another engine (particularly in any vehicle application), use a separate fuel line to avoid starving the generator set.

WARNING: In most vehicle applications since August, 1972, the vehicle uses an Evaporative Emission control system. These systems may become pressurized if the normal venting system becomes plugged. If this occurs when the generating set is not running and especially if the vehicle is moving; gasoline can be forced through the carburetor flooding the generator set. For this reason a separate manual or electrical fuel shut-off MUST be provided in the fuel line between the supply tank and the generator set fuel pump inlet to prevent flooding the generator set when not in use.

A flooding condition can cause dilution of the crankcase oil with gasoline and under certain conditions may cause bent connecting rods, damaged pistons or broken crankshafts due to a hydraulic lock situation.

The above damage is caused by improper installation and is NOT covered by any Onan Warranty.

All current Onan RV sets have a positive fuel shut-off built into their fuel system.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 225
SERVICE/PARTS/PUBLICATIONS

DATE Feb 10, 197

page 1 **of** 1

SUBJECT: PRESSURIZED/VENTED
FUEL SYSTEMS

REF. FILE# E-42

(SERVICE)
(WARRANTY)
(SALES)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL GASOLINE FUELED INDUSTRIAL ENGINES

To prevent fuel from splashing through the vent hole, some welder and garden tractor manufacturers use a vacuum/pressure type cap for the fuel tank.

This cap allows air into the tank but does NOT allow pressure to escape. This minimizes the fuel splashing and possible fire hazard. Fuel systems utilizing this type of cap MUST have a positive fuel shut-off either manual or electric.

Pressurizing the fuel tank due to this vacuum/pressure type cap can cause a flooding condition in the cylinder(s). This flooding may cause bent connecting rods, damaged pistons and/or broken crankshaft due to a hydraulic lock condition of the cylinder(s). (Hydraulic lock means the inability to compress the fuel within the cylinder(s).

The above damage is caused by improper installation and is NOT covered by any Onan warranty.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 226
SERVICE/PARTS/PUBLICATIONS

DATE Feb 15, 19
page 1 **of** 1

SUBJECT: LOW TEMPERATURE OIL
RECOMMENDATIONS

REF. FILE# S-131 (SERVICE)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL ONAN UNITS WITH
SPIN-ON OIL FILTERS

All Onan Operator's manuals list oil recommendations according to ambient temperatures in the Operations section of the manual.

The addition of an oil base heater in colder ambient temperatures does NOT change these oil recommendations.

EXAMPLE: The addition or use of an oil base heater in low ambient conditions (with 30 weight oil) may result in damage to the oil filter and loss of engine oil.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 227
SERVICE/PARTS/PUBLICATIONS

DATE Feb 17, 19
page 1 of 2

SUBJECT: PRINTED CIRCUIT BOARD LIST

REF. FILE# M-30

(SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL TYPES

Phone calls to the Onan Service Department indicate that in numerous cases field service people are sent to repair or start up a unit but do NOT have the correct printed circuit board available. In some cases the test board and/or bypass board is not available either.

The following list is provided for your use in determining the boards necessary for your stock. Quantities will have to be determined by the population of each model or series in your area.

Printed circuit boards applicable to the equipment in your area should be in your parts stock in sufficient quantity for field service people to have with them at the job site.

For the "YD" Generator (6-18kW) the voltage regulator board is 300-1404.

For the "UR" Generator (30-175kW) the following boards are used:

300-0679 Engine Monitor (1 light 12 volt)
300-0680 Engine Monitor (1 light 24 volt)
300-0681 Engine Monitor (5 light 12 volt)
300-0682 Engine Monitor (5 light 24 volt)
300-0714 Cycle Cranker (12 volt)
300-0715 Cycle Cranker (24 volt)
300-0730 Engine Monitor (12 volt Penn State ONLY)
300-0731 Engine Monitor (24 volt Penn State ONLY)
332-1268 Voltage Regulator (Early Specs ONLY)
332-1956 Voltage Regulator (Latest Spec ONLY)
332-0733 Standard Cranker (12 volt)
332-0751 Standard Cranker (24 volt)

For the "YB" Generator (200-350kW) the following boards are used:

300-0953 Engine Monitor
300-0954 Engine Shutdown
300-0955 Remote Indicator
300-0956 Cycle Cranker
300-0957 Overspeed Sensor
300-0958 Start Disconnect

"YB" Generator (200-350kW) continued:

300-0973 Time Delay Start Stop
300-0977 Standard Cranker
300-0987 Bypass Plug
300-0964 Engine Shutdown (Detroit Diesel ONLY)
332-1268 Voltage Regulator (Early Specs ONLY)
332-1956 Voltage Regulator (Latest Spec ONLY)
420-0336 Engine Test Board (YB ONLY)

For the "UV" Generator (400-750kW) the following boards are used:

300-0680 Engine Monitor (1 light)
300-0682 Engine Monitor (5 light)
300-0751 Standard Cranker
300-0715 Cycle Cranker

300-1573 Cycle Cranker (Latest Spec ONLY)
300-1574 Start Disconnect (Latest Spec ONLY)
300-1575 Overspeed (Latest Spec ONLY)
300-1576 Monitor #1 (Latest Spec ONLY)
300-1577 Monitor #2 (Latest Spec ONLY)
300-1578 Shutdown (Latest Spec ONLY)
300-1579 Time Delay Start Stop (Latest Spec ONLY)

332-1160 P. C. Board for 305-0455 Voltage Regulator
332-1288 P. C. Board for 305-0490 Voltage Regulator
332-2031 Voltage Regulator for Current Spec ONLY

The following boards are for Automatic Transfer Switches (ATS):

300-0780 Voltage Module
300-0793 Battery Charger (12 volt)
300-0794 Battery Charger (24 volt)
300-0796 Battery Voltage Monitor (12 volt)
300-0797 Battery Voltage Monitor (24 volt)
300-0847 Voltage Module (12 volt)
300-0848 24 to 12 volt Converter
300-0921 Time Delay Start Stop (12 volt)
300-0922 Time Delay Start Stop (24 volt)
300-0924 Time Delay Transfer ONLY
300-1188 Time Delay Transfer and Retransfer
300-0926 2 to 3 Wire Converter
300-1072 Time Delay Preheat
300-0857 Extension Test Board
300-0927 Bypass Plug Test Board
300-1177 Bypass for Time Delay Start Stop Module (Test Board)

The following boards are for Sequential Paralleling Applications Only:

300-0922 Time Delay Start Stop
300-0780 Voltage Sensor
300-1142 Synchronizer Output
300-1166 Phase Detector
300-1169 First Start Sensor
300-1178 Power Supply
300-1179 Dual Frequency Sensor
300-1314 Synchronizer



PRODUCT SUPPORT BULLETIN NO. 228
SERVICE/PARTS/PUBLICATIONS

DATE Feb 22, 197
page 1 **of** 1

SUBJECT: EXCESSIVE OIL CARRY-OVER

REF. FILE# S-132

(SERVICE)
(PARTS)
(WARRANTY)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL "B" SERIES ENGINES (BF-BG-B43-B48)
AND BF, BFA AND BGA GENERATOR SETS

If any of the above models are plagued with excessive oil carry-over (as evidenced by an oil soaked air cleaner element, excessive oil consumption or heavy exhaust smoke), remove the gearcase cover and check for the presence of the oil by-pass plug (Onan part #510-0045).

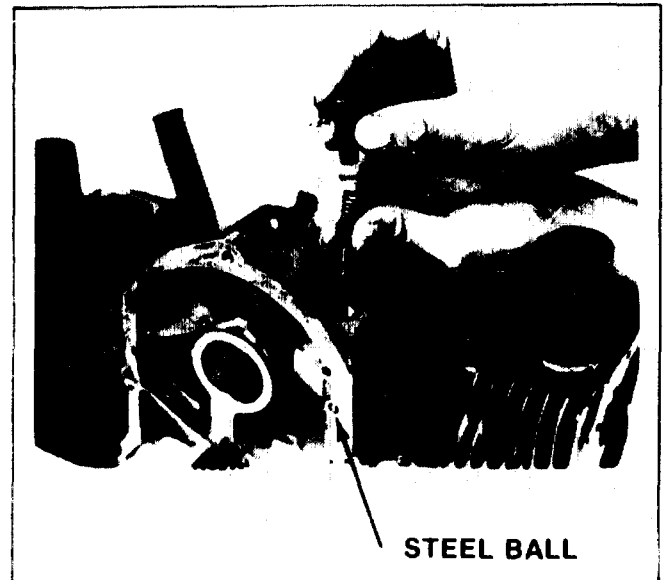
This plug is a 1/4" diameter steel ball which prevents by-pass oil from spilling into the gearcase cover where it can be picked up by the breather. The by-pass plug insures that by-pass oil is directed into the cylinder block.

This ball must be driven flush to the block surface. If driven too deep it will hold the oil pressure valve open causing low oil pressure. If not driven deep enough the gearcase cover will not seal properly.

The hole location for this ball is at the 3 o'clock position from the cam opening. See illustration below.

Standard warranty will apply if installation is made while engine is still in the normal warranty period.

This bulletin is for information purposes.





Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE March 29, 1978 PAGE 1 OF 1 BULLETIN NO. 229A

SUBJECT: PISTON SCUFFING

REF. FILE # S-133 (SERVICE)
(PARTS)

*(THIS BULLETIN SUPERSEDES
BULLETIN 229 DATE 2-22-78)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

2.7 AJ "RV" SETS

Significant power loss can occur from normal lead/carbon build-up and/or valve problems. Normal service procedure is to decarbonize the cylinder head or grind the valves.

If a major power loss persists (approximately 20% of maximum power) or evidence of piston scuffing exists (as noted during decarbonization of the cylinder heads); this requires replacement of internal engine components.

Piston scuffing is evidenced by major material transfer from the piston to the cylinder walls (not to be confused with minor vertical scratches in the cylinder bore).

Units with scuffing problems can be corrected by following normal procedures for piston replacement using the following parts:

| | |
|--------------|----------------|
| Piston | Part #112-0155 |
| *Rod | Part #114-0283 |
| Ring Set | Part #113-0193 |
| *Spacer Ball | Part #510-0043 |

*This Spacer ball must be added to the oil bypass spring for proper pressure when using the 114-0283 Rod. The spacer ball goes on top of the spring under the plug on back side of engine block.

This bulletin is for informational purposes.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE March 22, 1978 PAGE 1 OF 1 BULLETIN NO. 230

SUBJECT: NEW TANK HEATERS

REF. FILE # S-134

(MARKETING)
(SERVICE)
(PARTS)

MODEL(S) or SERIES:
ALL UNITS 30KW AND LARGER

EFFECTIVE: JANUARY 1, 1978

All current production models utilize the new Kim tank heaters with thermostatic control and automatic oil pressure cutoff.

These changes were made to satisfy an ODAC request.

MPB pages reflect these changes.

This bulletin is for informational purposes.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE March 22, 1978 PAGE 1 OF 1 BULLETIN NO. 231

SUBJECT: FALSE SHUTDOWNS

REF. FILE # S-135

(MARKETING)
(SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: FEBRUARY 15, 1978

ALL UNITS 30 THROUGH 180KW

A capacitor has been added to the alternator circuit which provides additional filtering to eliminate nuisance type false shutdowns.

Order Kit #356-0078 to update units already in the field. Older models may require changes in mounting to accommodate this kit. Kit includes complete installation instructions.

This bulletin is for informational purposes.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE March 22, 1978 PAGE 1 OF 1 BULLETIN NO. 232

SUBJECT: NEW ALLIS CHALMERS MODEL
DESIGNATIONS

REF. FILE # S-136

(MARKETING)
(SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: MARCH 1, 1978

DYJ, DYA, DYC, DYD, DYG AND DYH

Allis Chalmers is changing their model designation on engines used to power above model Onan generating sets. The new engine model designations are interpreted as follows:

The first digit represents the number of cylinders.

The remaining digits represent the engine displacement in tenths of Litre.

The absence of a suffix letter denotes a naturally aspirated engine.

Suffix "T" denotes Turbocharged and "I" reflects Turbocharged and Intercooled.

"H" represents high speed and "L" means the engine is lightly Turbocharged.

EXAMPLE: The 2800 and 2900 engines have six cylinders with a displacement of 4.93 Litres (301 Cu. In.). Under the new modeling system 2800 becomes 649 and 2900 becomes 649T.

Refer to the attached table for changes which apply to current Onan models:

| <u>ONAN MODEL</u> | <u>KW</u> | <u>PRESENT ALLIS CHALMERS MODEL</u> | <u>NEW ALLIS CHALMERS MODEL DESIGNATION</u> |
|-------------------|--------------------|-------------------------------------|---|
| DYJ | 45 | 2800 | 649 |
| DYA | 60 | 2900 | 649-T |
| DYC | 90 and 100 | 3500 | 670-T |
| DYD | 125 | 11000 | 685-T |
| DYG | 150-175 and 200 | 17000 | 6138-LT |
| DYH | 250 | 21000 | 6138-T |

Future Spec Sheets will reflect these new model designations for Allis Chalmers engines. This bulletin is for informational purposes.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE March 22, 1978 PAGE 1 OF 1 BULLETIN NO. 233

SUBJECT: NEW IMPROVED HEAT EXCHANGERS
MDJE PART #130-1188 AND
MDJF PART #130-1189

REF. FILE # S-137 (SERVICE
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

MDJE AND MDJF

The design of the above new heat exchangers will reduce problems caused by corrosion and deterioration. This design also incorporates a replaceable zinc element.

On all MDJE models, replace all 130-0904 heat exchangers with Kit #130-1338.

On all MDJF models, replace all 130-0911 heat exchangers with Kit #130-1337.

Replacement heat exchanger kit for MDJB and MDJE Spec A and B models is Kit #130-1336.

For field conversion from raw water cooling to heat exchanger cooling-the following kits are available:

2 cylinder models use Kit #130-1335.

4 cylinder models use Kit #130-1334.

This bulletin is for informational purposes.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE March 24, 1978 PAGE 1 OF 1 BULLETIN NO. 234

SUBJECT: NEW MATERIAL FOR REAR MAIN
BEARING PLATE GASKET

REF. FILE # S-138

(SERVICE)
(PARTS)

MODEL(S) or SERIES:

ALL "J"-SERIES INDUSTRIAL ENGINES
AND GENERATOR SETS

EFFECTIVE: BEGINNING SERIAL #
B780300006

The gasket material for the 101-0336 rear main bearing plate gasket (Part of 101-0386 gasket kit) has changed but the part number remains the same.

The new gasket is gray in color and approximately .002" thicker.

Anytime you replace an old style gasket with the new style; crankshaft endplay must be checked and shimmed as necessary to within specifications. Complete instructions and dimensions are included in 101-0386 gasket kit.

Onan will continue to supply the old style gasket (tan in color) until stock is depleted.

This bulletin is for informational purposes.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE March 29, 1978 PAGE 1 OF 1 BULLETIN NO. 235

SUBJECT: PART NUMBER CORRECTIONS (Parts Catalog #967-0225) REF. FILE # S139 (SERVICE) (PARTS) (PUBLICATIONS)

MODEL(S) or SERIES: ALL "DJE" GENERATOR SETS

EFFECTIVE: IMMEDIATELY

Item 4 on page 5 under the Crankcase and Oil Base Group (Part #101-0359-05) in the DJE Parts Catalog (#967-0225) should be changed to Part Number 101-0359-02. The description (.005 Undersize) should read (.002 Undersize).

Item 1 on page 16 under the Generator Parts Group (Stator Wound) should be changed as follows:

| CORRECT PART # | PART DESCRIPTION |
|----------------|---------------------------------------|
| 220-2022 | 1 Phase, 50 Hertz (AC) - 12 Volt (DC) |
| 220-2014 | 1 Phase, 60 Hertz (AC) - 12 Volt (DC) |
| 220-2047 | 3 Phase, 50 Hertz (AC) - 12 Volt (DC) |
| 220-2039 | 3 Phase, 60 Hertz (AC) - 12 Volt (DC) |

Item 2 on page 16 under the same parts group (Part #201-2155) Rotor Assembly, Wound should be changed to Part #201-2154.

Item 20 on page 16 under the same parts group (Part #520-0795) Generator through Stud should be changed to Part #520-0794.

Item 41 on page 17 under the same parts group (Part #520-0787) Rotor through Stud should be changed to Part #520-0786.

These part number corrections will be reflected in future manuals as they are revised and reprinted.

Please change your manuals as listed above.

This bulletin is for informational purposes.



PRODUCT SUPPORT BULLETIN NO. 236
SERVICE/PARTS/PUBLICATIONS

DATE April 5, 1978

page 1 **of** 1

SUBJECT: INJECTION TIMING ADVANCE TO CORRECT
ROUGH RUNNING IMMEDIATELY AFTER
START-UP

REF. FILE# S-140 (SERVICE)
(PUBLICATIONS)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL 4 CYLINDER "J"-SERIES
DIESEL GENERATOR SETS ONLY

This applies to units with owner complaints of rough running or excessive white smoke immediately after start up (warm up) period ONLY. The timing advance (2 crank degrees) will minimize the rough running and white smoke condition ONLY when caused by a low cetane fuel and/or cool operating temperature conditions.

This change will not correct those complaints when they are caused by low compression pressure, poor nozzle condition or uneven nozzle opening pressure, faulty glow plugs and intake air-heaters, or a defective thermostat. Refer to Product Support Bulletin #222 (Dated 1-24-78) for diesel fuel recommendations.

Timing advance is accomplished by replacing the existing timing button in the pump with a button two sizes thicker, for a 2° PC (Port Closing) advance from 19° to 21° BTC.

CAUTION: Before changing buttons the injection pump should be "flow timed" (Refer to Engine Service Bulletin #34 Dated April 1978) to determine whether it has been advanced or retarded at some previous time. Advancing more than 2° can damage the injection pump.

EXAMPLE: An existing button #1 (or A) .119 thickness would be replaced with a #13 (or N) button .125 thickness. Refer to Section 9 or Engine Service Bulletin #34 (Dated April 1978) in the Engine Master Service Manual #922-0501 for replacement procedures.

IMPORTANT! Observe all "Caution" references regarding injection pump work!

Pumps having a 15 or R button can be advanced ONLY 1°, and pumps with a 16 or S button CANNOT be advanced. These buttons are rarely used for normal engine timing.

This bulletin is for informational purposes.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE May 17, 1978 PAGE 1 OF 1 BULLETIN NO. 237

SUBJECT: CORRECTIONS TO
INSTALLATION DIMENSIONS

REF. FILE #

S-141

(MARKETING)
(SERVICE)
(PUBLICATIONS)

MODEL(S) or SERIES:

6.5 NH-3CR/16004 SPEC "K" RV SETS ONLY

EFFECTIVE:

IMMEDIATELY

Figure 1 on page 4 of the Operator's manual (940-0121), Figure 1 on page 5 of the Installation Guide (940-0610), and the dimension diagram on the Spec sheet (A780-E-178) for the above model; show an incorrect location for the 2.50" diameter exhaust downpipe hole in the floor of the motorhome generator compartment.

The distance from the mounting hole to the center of the exhaust downpipe hole currently shows 8.88". This is incorrect and should be changed to read 8.62".

All manuals should be changed to reflect this dimension correction. If not corrected it's possible the exhaust down pipe could hit the side of the hole and put extra stress on the exhaust pipe flange (and/or exhaust manifold) resulting in an exhaust gas leak within the generator compartment.

This change will be reflected in future printings of all the listed material.

This bulletin is for informational purposes.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE May 17, 1978 PAGE 1 OF 1 BULLETIN NO. 238

SUBJECT: NEW BRUSH RIG

REF. FILE # S-142 (SERVICE)
(PARTS)
(PUBLICATIONS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY (RECONNECT-
ABLE MODELS ADVANCE TO
SPEC "V").

DJA AND MDJA 3CR AND 53CR
(RECONNECTABLE) ONLY

A new brush rig (Onan Part #212-0350) has been designed for use on above models.

Some set mounting configurations cause the brush guides to resonate, which in turn causes the collector rings to fail.

This new brush rig improves collector ring life by providing two brushes per ring instead of one and stiffer ring supports.

The 212-0303 brush rig will continue to be used on other models. The 212-0350 brush rig should be used to replace the 212-0303 brush rig on any applications experiencing ring failure for above models.

This bulletin is for informational purposes.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE May 17, 1978 PAGE 1 OF 1 BULLETIN NO. 239

SUBJECT: SPEC ADVANCE AND
PRODUCT IMPROVEMENT

REF. FILE # G-12

(MARKETING)
(SERVICE)
(PUBLICATIONS)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

45.0, 65.0 AND 80.0 kW
"UR" PTO's.

Effective immediately, above models advanced from Spec "C" to Spec "E".

Changes include new generator ratings, new gearbox and a new style exciter.

80.0 kW PTO's only will continue to use the old style gearbox.

New Operator manuals and Parts Catalogs will reflect these changes.

This bulletin is for informational purposes.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE May 17, 1978 PAGE 1 OF 1 BULLETIN NO. 240

SUBJECT: FUSE PROTECTION IN
CONTROL BOX

REF. FILE # S-143

(SERVICE)
(PUBLICATIONS)
(PARTS)

MODEL(S) or SERIES:

JB, JC, DJA, DJB, DJC AND MDJA

EFFECTIVE: BEGINNING SERIAL NUMBER

| | |
|------|------------|
| JB | B780303986 |
| JC | B780304257 |
| DJA | B780303772 |
| DJB | B780303831 |
| DJC | B780304101 |
| MDJA | B780303391 |

Beginning with serial numbers listed above, these models have a 10 Amp. fuse (Onan Part #321-0146) and fuse holder (Onan Part #321-0175) added to the control box.

This fuse protects the fuel solenoid, ignition and general control components including the wiring harness.

This bulletin is for informational purposes.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE June 1, 1978 PAGE 1 OF 1 BULLETIN NO.241B

SUBJECT: CYLINDER HEAD TORQUE

REF. FILE # E-43

(SERVICE)
(PUBLICATIONS)

*(This Bulletin Supersedes
Bulletins 241 and 241A).

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

N52M-GA019.9

The Operator's manual (#940-0152) and Service manual (#940-0752) for the above model list incorrect cylinder head torque values.

The correct torque value for the cylinder head nut is 13-15 ft. lbs. (18-20 N•M).

*All industrial N52M-GA019.9 engines are fitted with two compression washers on the upper 6 (#'s 9, 7, 5, 3, 2 and 1) cylinder head bolts. See illustrations below for clarification. These washers must be in place to maintain stud retention. When these washers are used, torque in three 5 ft. lb. (7 N•M) steps to 13-15 ft. lb. (18-20 N•M).

Exercise caution to avoid over-torquing these cylinder head nuts as this can result in severe engine damage.

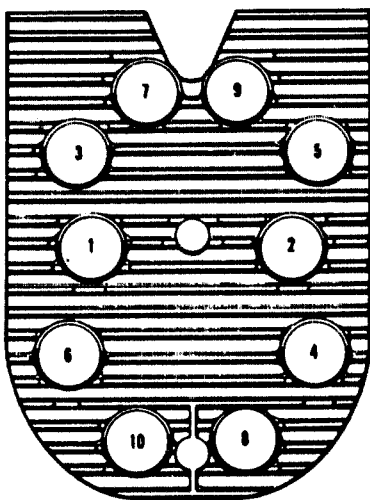


Figure 1. Head bolt Tightening Sequence.

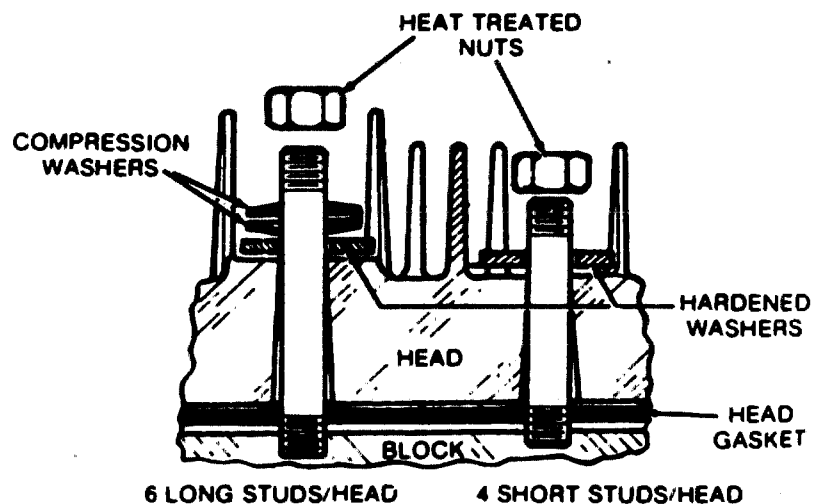


Figure 2. Cylinder Head with Compression Washers.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE May 17, 1978 PAGE 1 OF 1 BULLETIN NO. 242

SUBJECT: ONAN TOOL CATALOG #900-0019 REF. FILE # M-31 (SERVICE)
(PUBLICATIONS)
(PARTS)

MODEL(S) or SERIES: EFFECTIVE: IMMEDIATELY

420-0333 NOZZLE TESTER (Portable)

Our supplier of the 420-0333 portable diesel nozzle tester has advised Onan that they are no longer making this item.

As a result this item is no longer available from Onan as shown in the 900-0019 tool catalog.

Onan will continue to supply the 420-0184 nozzle tester (bench model) for service shop use.

Please note this change in your tool catalog.

This bulletin is for informational purposes.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE May 17, 1978 PAGE 1 OF 1 BULLETIN NO. 243

SUBJECT: REAR BEARING PLATE SHIM

REF. FILE # S-144

(SERVICE)
(PUBLICATIONS)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

CCK, MCCK, RCCK AND NH ENGINES
AND GENERATOR SETS

A .005 thick shim (Onan Part #104-0776), may be added to the rear bearing plate (under the thrust washer) to maintain crankshaft end play in addition to the normal gasket in some of the above models.

Refer to Section 17, page 6 of the Engine Master Service Manual (#922-0501) for information on the installation of this shim.

Record this Part number for future reference. This item is NOT listed in any Parts Catalog for the CCK series models.

This bulletin is for informational purposes.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE May 17, 1978 PAGE 1 OF 1 BULLETIN NO. 244

SUBJECT: IGNITION FAILURE OR
ROUGH RUNNING

REF. FILE # S-145 (SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL GASOLINE SPARK IGNITION
ENGINES (Twin Cylinder)

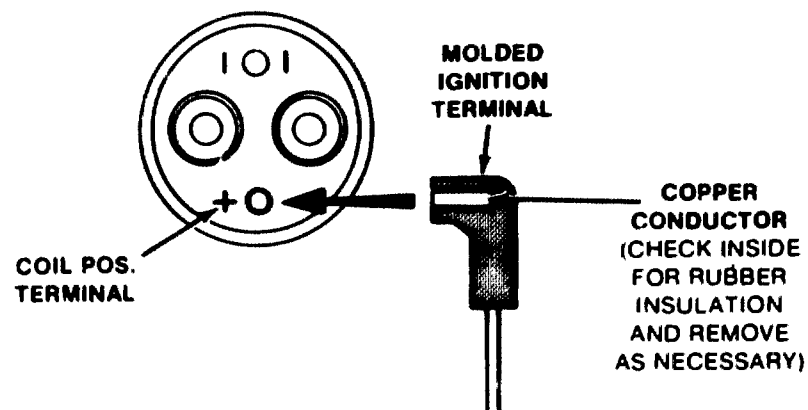
Onan has been receiving numerous warranty claims recently for 166-0535 and/or 166-0643 ignition coils. When these coils are returned to Onan and tested; they check OK.

The push-on connector for the positive and/or negative coil terminal should be checked to be certain they are free of any insulation on the inside of the connector and that they fit tight on the coil terminals.

The molding process of this connector may allow insulation to flow inside the connector creating the symptom of a defective coil.

Refer to illustration below for detail.

This bulletin is for informational purposes.





Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE August 30, 1978 PAGE 1 OF 1 BULLETIN NO. 245A

SUBJECT: SPEC ADVANCE AND PRODUCT IMPROVEMENTS

REF. FILE # C-15 (MARKETING)
*Item #7 New (SERVICE)
(PARTS)
(PUBLICATIONS)

MODEL(S) or SERIES: ATUC, ATUD, ATUE, OTUC, OTUD AND OTUE

EFFECTIVE: IMMEDIATELY

Effective immediately, the above model "AT's" advanced to Spec "C" and the "OT's" advanced to Spec "B". This includes all 10-15 and 20-25 group swinging (relay) panels also.

Changes and improvements include the following:

1. Solid State UL Approved transfer-retransfer timer (Onan Part #300-1188).
2. Isolation contact added to the 2-wire starting circuit.
3. New Molex terminals and housing.
4. Gold edge connector added to all boards to match new Molex terminals.
5. 50-55 Group swinging panels (Relay panels) advanced to Spec "C" with no material changes.
6. Optional start-stop, solid state timer available which provides longer delay times than standard start-stop timer.
- * 7. New card guides (Onan Part #323-1084). See MPB Section 8 Page 611A dated 8/20/78 or later.

Future manuals will reflect these changes.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE June 21, 1978 PAGE 1 OF 1 BULLETIN NO. 246

SUBJECT: PRODUCT IMPROVEMENTS AND
SPEC ADVANCE

REF. FILE # S-146 (SERVICE)
(PARTS)
(PUBLICATIONS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL RJC, RDJC AND RDJF GENERATOR SETS

A number of product improvements have been made on the above models as follows:

1. New senders and gauges for oil pressure and water temperature.
2. New voltage regulator.

These changes and product improvements will result in better overall reliability and set operation.

Future Parts Catalogs and Operator's Manuals will reflect these changes as they are reprinted.

The old gauges and senders can be used to replace the new ones and vice versa, but ONLY by changing BOTH sender and gauge.

Please change your records accordingly.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE June 28, 1978 PAGE 1 OF 1 BULLETIN NO. 247

SUBJECT: 308-0097 SWITCH

REF. FILE # M-32 (SERVICE)
(PARTS)

MODEL(S) or SERIES:
GENERAL USAGE

EFFECTIVE: IMMEDIATELY

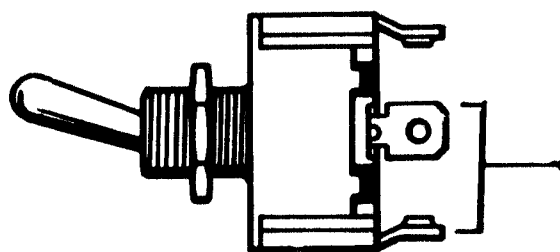
Due to a vendor supply problem, the Onan stock of 308-0097 switches has been temporarily depleted.

In order to fill the requirements for this service replacement; the 308-0037 switch will be supplied with instructions for making the correct connections as shown below.

Please made note of this change in your parts stock.

This is a temporary condition. The 308-0097 switch should be available again in the near future.

INSTRUCTIONS FOR REPLACING SWITCH 308-0097 WITH SWITCH 308-0037



SWITCH 308-0037

USE THESE LEADS FOR
NORMALLY "ON" POSITION



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE June 28, 1978 PAGE 1 OF 1 BULLETIN NO. 248

SUBJECT: UPDATING RV EXHAUST SYSTEMS

REF. FILE # S-147

(MARKETING)
(SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

CCK RV SPEC "A" THROUGH "Q"

LK RV SPEC "A" THROUGH "G"

Two modification kits are available to update the exhaust system on older CCK and LK "RV" generator sets. The purpose of the kits is to replace the set mounted muffler and/or flexible down pipe with components similar to current models.

| <u>MODEL</u> | <u>SPEC LETTER APPLICABLE</u> | <u>KIT NUMBER</u> | <u>PRICE</u> |
|--------------|-------------------------------|-------------------|--------------|
| CCK | A THROUGH Q | 155-1665 | \$77.00B |
| LK | A THROUGH G | 155-1664 | \$79.90B |

Use of these kits will reduce the temperature in the generator compartment and lower the noise level at the same time. Less heat will extend the life of the generating set and improve high ambient temperature operation.

Both kits contain the new Onan spark arrester muffler (end inlet) and left hand down exhaust system.

Order these kits now for your stock. Complete installation instructions are included with the kit.

The following catalog has gaps in its page numbers, or doesn't have any numbers. We have chosen to leave the page numbering in the order that Acrobat assigns it.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE July 18, 78 PAGE 1 OF 1 BULLETIN NO. 249

SUBJECT: GENERATOR GROUNDING
(Potential Shock Hazard)

REF. FILE # -148 (SERVICE) (WARRANTY)
(MARKETING) (PARTS)

| | | |
|------|-------------|--------|
| E780 | 325146 thru | 325442 |
| F780 | 329942 thru | 329943 |
| D780 | 318363 thru | 318796 |
| C780 | 310524 thru | 310864 |
| B780 | 302770 thru | 303082 |

MODEL(S) or SERIES:
3.0 AJ-1R/16017R and 16018R ONLY

EFFECTIVE:

SEE ABOVE SERIAL NUMBERS:

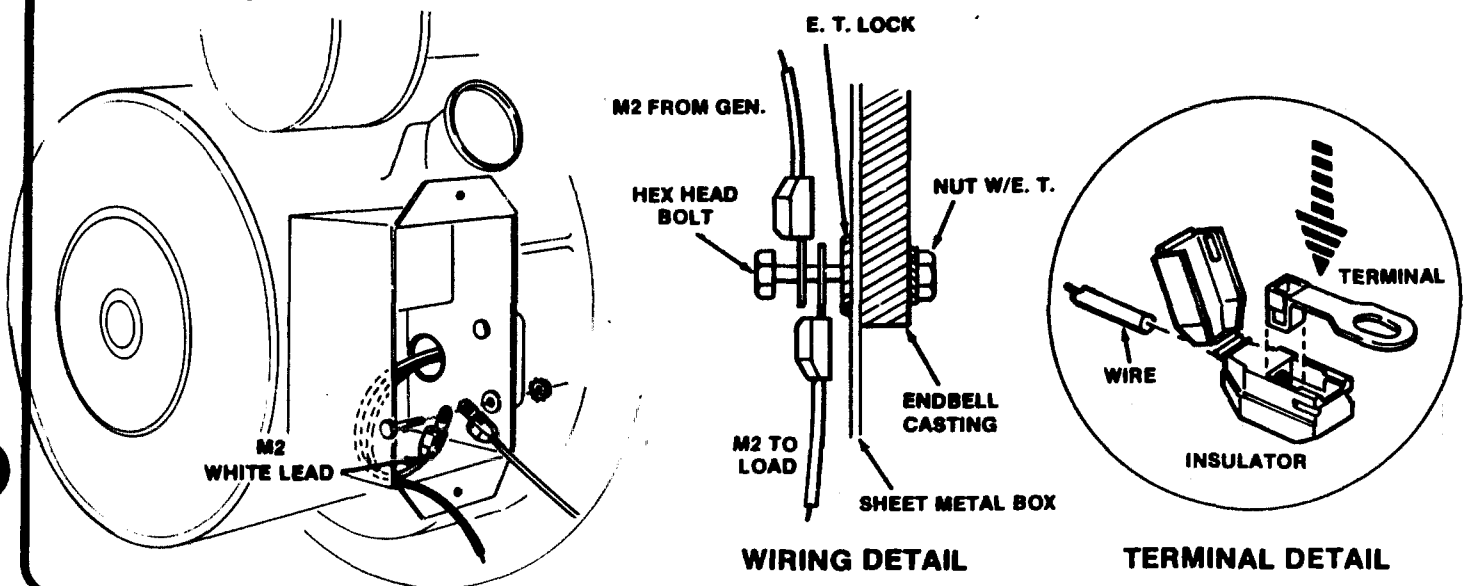
Some of the above models were built with an Ungrounded neutral connection and under certain operating conditions have a potential shock hazard. Any unit in your stock or serviced by you must be checked for this condition and if it is determined to have an ungrounded condition the unit must be corrected.

Use the following procedure to check for grounding and refer to illustrations for clarification. With unit stopped (not running):

1. Remove the cover plate from the side mounted output box.
2. Locate the white wire (M2). Using an ohmmeter check for continuity to ground. Note: If unit is already installed in motorhome, place the power source switch in the commercial power position prior to testing.
3. If unit is properly grounded (Per #2 above) replace cover. Check is complete.
4. If unit is not grounded, cut M2 (White lead) near the output box, strip both ends and add a ring tongue terminal lug to each end.
5. Connect both lugs to output box mounting bolt and fasten securely. Check for continuity to ground using an ohmmeter.
6. Record the serial numbers of all units inspected.

Field retrofit kit (Onan #232-2747) which contains two (2) lugs is available for this repair.

Submit warranty claims to cover parts and labor. Total allowance up to 30 minutes per unit. Production units built after July 1, 1978 will be grounded internally within the generator.





Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE August 30, 1978 PAGE 1 OF 1 BULLETIN NO. 250

SUBJECT: START SOLENOID FAILURE DUE TO
STICKING REMOTE START SWITCHES
ON "RV" SETS

REF. FILE # S-149 (SERVICE)
(PARTS)
(WARRANTY)

MODEL(S) or SERIES:
ALL "RV" SETS

EFFECTIVE: IMMEDIATELY

We have found that many of the start solenoid failures on RV sets are being caused by a sticking remote start switch. Most of the switches involved are not supplied by Onan but vary according to the coach manufacturer as to type and quality.

When you diagnose a problem to be the start solenoid; check the remote switch(s) for proper operation prior to replacing the start solenoid on the generator set.

Operate the remote start switch very slowly and observe for "sticking" operation. If the switch is sticking, replace it and recheck operation before replacing the start solenoid.

If more than one remote switch is used, each should be tested for possible sticky operation in addition to wiring and continuity checks before start solenoid is replaced.

Reference also a July 28th Warranty letter concerning use of the proper start solenoid as listed in the Parts Catalog for the model being repaired.

No substitution is acceptable!



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE August 30, 1978 PAGE 1 OF 1 BULLETIN NO. 251

SUBJECT: GASOLINE IN ENGINE CRANKCASE REF. FILE # E-44 (SERVICE)
(PARTS)

MODEL(S) or SERIES: EFFECTIVE: IMMEDIATELY

ALL B43M, B48M, BF, BG AND N52M ENGINES

While operating these Onan twin cylinder engines at light loads and usually in low temperature conditions, it is possible to foul out a spark plug. Under light load conditions this could go undetected (running on one cylinder) for some time. In turn, this may cause gasoline to enter the crankcase by way of the piston rings on the cylinder which is not firing. Under this condition, the oil level may raise due to fuel entering the oil. Also, the following items may be observed:

1. Air filter becoming oil and fuel soaked.
2. Engine exhausting - black smoke.
3. Engine leaking oil.

This condition does not necessarily mean that the carburetor, piston rings, ignition coil-wires-points, or gaskets are defective.

Proper servicing should include:

1. Change both spark plugs.
On 19.9 H.P. models replace both spark plugs with Part Number 167-0291.
On 16 and 18 H.P. models replace with Part Number 167-0299 or 167-0298
*(Resistor type).
2. Checking air filter element; replace if necessary.
3. Change oil and install proper grade.
4. Advise the customer that running the engine under light loads at low temperatures may cause this condition. The following items, if done, will minimize this condition from happening again:
 - Replacing spark plugs annually/or 75 hours, whichever occurs first.
 - Avoid overchoking when starting and when engine is running.
 - Operate engine at high RPM whenever possible.

Replacing engine parts which are not considered to be defective will not be covered by Onan Warranty.

This bulletin is for informational purposes.

* Resistor type plug not available until after Jan 1, 1979.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE August 30, 1978 PAGE 1 OF 1 BULLETIN NO. 252

SUBJECT: ENGINE BLOWER SCREENS

REF. FILE # E-45

(SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL ONAN ENGINES WITH ROTATING
BLOWER SCREENS

Modifications to any Onan engine blower screen can result in eventual destruction of the rotating screen during engine operation. Do NOT modify the rotating blower screen for any reason on any Onan industrial engine.

WARNING: Destruction of a rotating blower screen during engine operation could cause serious personal injury.

Periodically check the following and make sure:

1. The three bolts on the outer perimeter of the rotating screen are tight and kept in place.
2. The two center bolts for the rotating screen are tight and kept in place.

NOTE: If the two center bolts are removed to install a PTO connection, do NOT modify the screen but make sure the PTO connection "Clamps" the blower screen in place.

Blower screens that are bent or punctured for any reason should also be replaced to avoid the possibility of fatigue failures.

Any damage caused by the above conditions is considered an improper installation and is NOT covered by any Onan warranty.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE Sept 7, 1978 PAGE 1 OF 1 BULLETIN NO. 253

SUBJECT: NEW VOLTAGE REGULATOR BOARD
(Onan Part #300-1540)

REF. FILE # S-150

(SERVICE)
(PARTS)

MODEL(S) or SERIES:

JB, DJB, DJE AND MDJE
GENERATOR SETS

EFFECTIVE:

SPEC ADVANCE TO
JB - Spec "AB"
DJB - Spec "AB"
DJE - Spec "AD"
MDJE - Spec "AC"

A performance and reliability improvement has been made in the above models beginning with the Spec letter shown above for each model.

Changes included removing the "end adjust" 20-turn potentiometers and replacing those with "top adjust" 270° angle potentiometers and more rugged construction of the power resistors on the printed circuit board.

The new 300-1540 voltage regulator board is completely interchangeable with the old 300-1404 voltage regulator board. The old 305-0532 regulator assembly will be replaced with 305-0589 and the old 305-0533 regulator assembly will be replaced with 305-0590.

*Please change your parts records to include the new voltage regulator P. C. Board and regulator assemblies.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE Sept 7, 1978 PAGE 1 OF 1 BULLETIN NO. 254

SUBJECT: NEW STYLE HEAD GASKET

REF. FILE # S-151 (SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

MDJB, MDJE, MDJC, MDJF
RDJF, RDJC, RDJE AND RDJEA

A New head gasket (Onan Part #110-2464) is being used on all above models in place of the 110-1852 gasket.

This new gasket has pre-applied RTV (room temperature vulcanizing silicone compound). This eliminates the messy and time consuming job of applying the RTV compound to each gasket.

All 110-1852 head gaskets in your stock should be used (until depleted) and RTV compound added as outlined in Product Support Bulletin #89 (dated 10/10/75).

Onan will supply ONLY the new style (110-2464) head gasket on any parts order.

Please change your records accordingly.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE Sept 11, 1978 PAGE 1 OF 1 BULLETIN NO. 255

SUBJECT: CHANGE IN ONAN MAILING POLICY
FOR ALL OPERATOR'S MANUALS

REF. FILE # M-33

(SERVICE)
(MARKETING)
(PARTS)

MODEL(S) or SERIES:
ALL OPERATOR'S MANUALS

EFFECTIVE: SEPTEMBER 15, 1978

Beginning September 15, 1978; Onan will mail ONLY one (1) informative copy of any Operator's manuals to our Distributors and Dealers as new manuals are printed and older manuals updated or revised.

Quantity mailings will no longer be made to individuals on the various mailing list as making these multiple mailings is extremely costly... and unnecessary. The manuals are constantly being changed and new material added!

Should you require additional Operator's manuals to sell or supply to your customers, they may be purchased through the Master Price Book. Follow the same procedure as when ordering other printed materials.

One Operator's manual is supplied with each unit when it is shipped.

Thank you for your cooperation.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE October 6, 1978 PAGE 1 OF 1 BULLETIN NO. 256

SUBJECT: FLEXIBLE FUEL LINES

REF. FILE # S-152

(SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

MOBILE UNITS

Onan recommends that Flexible Fuel Lines be checked whenever service is performed on a unit. Look for leaks or potential leaks such as loose clamps, or aging of materials (worn, checked, cracked; etc.) and replace as required. Flexible Fuel Lines should be replaced every five years as a precautionary measure.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE Oct. 18, 1978 PAGE 1 OF 1 BULLETIN NO. 257

SUBJECT: SPEC ADVANCE AND
PRODUCT IMPROVEMENTS

REF. FILE # E-46 (MARKETING)
(SERVICE)
(PARTS)

MODEL(S) or SERIES:
N52M-GA019.9 INDUSTRIAL ENGINES

EFFECTIVE: BEGINNING SPEC "B"

Beginning with October production the above model includes a number of internal component changes and product improvements over Spec "A" models.

These changes include:

1. New lightweight connecting rod and piston assembly.
2. Additional counterweights on crankshaft for smoother running.
3. New flywheel with different balance characteristics.
4. Revised carburetor calibration, venting and adjustments.

These changes will improve engine performance and reduce vibration.

The Operator's manual (#940-0152) and Parts Catalog (#940-0252) are being revised and will be available soon.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE Oct. 18, 1978 PAGE 1 OF 1 BULLETIN NO. 258

SUBJECT: 191-0767 STARTER
191-0780 STARTER
191-1176 STARTER (Replacement for 191-0780)

REF. FILE # S-153 (PARTS)
(SERVICE)

MODEL(S) or SERIES:
ALL "NB" ENGINES AND WELDERS

EFFECTIVE: IMMEDIATELY

Onan stock of the above starters has been depleted due to a vendor supply problem.

We are attempting to find an alternate supplier but have no source at this time.

Until another source for replacement starters is available, we suggest that an effort be made to repair the original starter.

Most of the individual component parts are available. Refer to your "NB" Service and Parts Catalog (#940-0401) for the complete starter parts listing. For Welder applications, refer to the Welder Parts Catalog (#940-1000).

Another bulletin will be issued if new starters become available.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE Nov. 3, 1978 PAGE 1 OF 1 BULLETIN NO. 259

SUBJECT: UNITED STATES COAST GUARD REGULATION 183.410 REQUIREMENTS REF. FILE # S-154 (MARKETING) (SERVICE) (LEGAL)

MODEL(S) or SERIES: ALL ONAN MARINE GENERATOR SETS EFFECTIVE: IMMEDIATELY

The purpose of this bulletin is to identify the major requirements of U.S. Coast Guard regulation 183.410 as applied to all Onan Marine generator sets.

The 183.410 regulation requires ignition protection of all spark producing devices installed in a gasoline fuel atmosphere.

This regulation applies only to gasoline fuel environments and is governed by the date of manufacture on the boat hull; any boat with a hull dated after 2/1/79 **MUST** use a generator set that complies with all requirements in the U.S. Coast Guard 183.410 regulation.

During sales and installation, consider the following major points regarding the application of Onan Marine generator sets:

1. Current Onan MCKK Spec "G" sets DO NOT comply with this regulation which becomes effective 2/1/79. These models should only be installed in boats with hull manufacture dates prior to 2/1/79.
2. Onan models beginning Spec "H" (4.0 MCKK - 6.5 MCKK) have been certified to meet all U.S. Coast Guard requirements of regulation 183 effective 2/1/79. These sets may be installed on any boat and are Required by this regulation after 2/1/79.
3. The MAJ and MJC models DO NOT meet U.S. Coast Guard requirements of regulation 183.410 and should NOT be installed on boats with hull manufacture dates after 2/1/79.
4. Diesel generator sets are NOT required to meet the 183.410 regulations when used in a diesel fuel environment.
5. Onan diesel marine generator sets are NOT certified to operate in a gasoline fuel environment.
6. If a diesel generator set is used or installed in a gasoline powered vessel; it MUST be separated from the gasoline propulsion engine by a bulkhead.
7. Distributors, Dealers, OEM's and installers are responsible to insure full compliance with these regulations.

Please consult your factory sales representative for clarification on any special installations or applications involving the intent of Coast Guard regulation 183.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE Nov. 8, 1978 PAGE 1 OF 1 BULLETIN NO. 260

SUBJECT: NEW CAMSHAFT AND CHANGE IN
FUEL INJECTION TIMING

REF. FILE # S-155 (SERVICE)
(PUBLICATIONS)
(PARTS)

MODEL(S) or SERIES:
DJE (Spec AE)
MDJE (Spec AD)

EFFECTIVE: BEGINNING SERIAL NUMBERS
DJE SN 1780355121
MDJE SN 1780355064

This product improvement will improve cold weather starting and warm-up.

The actual change occurs in the camshaft where the fuel injection cam lobe is advanced 2 degrees.

The replacement Part No. for the new camshaft and pin assembly is 105-0485.

With the new camshaft the installation dimension for the fuel injection pump changes to 3.260" instead of 3.254".

Replacement camshaft comes with complete instructions for timing changes, etc.

This change applies only to generator set engines for above models.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE DEC 1, 1978 PAGE 1 OF 1 BULLETIN NO. 261

SUBJECT: "AT" AND "OT" PRINTED CIRCUIT BOARD CONTACT DIFFERENCES

REF. FILE # C-16

(WARRANTY)
(SERVICE)
(PARTS)

MODEL(S) or SERIES:
ATUC, ATUD, ATUE, - OTUC, OTUD AND OTUE

EFFECTIVE: "AT" BEGIN SPEC "C"
"OT" BEGIN SPEC "B"

BOARDS OR MODULES AFFECTED ARE:

300-0780 Voltage Module
300-0793 Battery Charger 12 Volt
300-0794 Battery Charger 24 Volt
300-0796 Battery Voltage Monitor 12 Volt
300-0797 Battery Voltage Minitor 24 Volt
300-0847 Voltage Module 12 Volt
300-0848 24 to 12 Volt Converter

300-0921 Time Delay Start Stop 12 Volt
300-0922 Time Delay Start Stop 24 Volt
300-0927 Bypass Plug Test Board
300-0924 Time Delay Transfer Only
300-0926 2 to 3 Wire Converter
300-1072 Time Delay Preheat
300-1188 Time Delay Transfer and Retransfer

All boards listed above were changed from tin edge contacts to gold edge contacts in June of this year but the Part Numbers did NOT change. Onan recommends that you check your shelf stock of replacement boards and separate them as follows:

- ALL boards with solid tin contacts should be separated and marked for use with Spec "A" and "B" "AT's" ONLY.
- ALL boards with gold edge contacts should be used with Spec "C" and later "AT's" and Spec "B" and later "OT's".
- When your supply of tin edge contact boards is depleted; the gold edge contact boards should be used exclusively.
- All Parts orders received by Onan will be filled with gold edge contact boards.

Do NOT use any 300-0927 or 300-1188 modules (With Tin Edge Contacts) in your current stock for service or repair. Return all your stock of these two boards (With Tin Edge Contacts) to Onan for Credit by March 1, 1979. File a Standard Warranty Claim with the Service Department by March 1, 1979 for Return Authorization. Mention Product Support Bulletin #261 or include a copy of same along with your claim.

Replenish your stock by ordering new 300-1188 and 300-0927 boards with gold edge contacts as required.

To summarize, all of the above boards with tin edge contacts **MUST NOT** be used in any transfer switches with gold edge contact sockets. This applies to both the boards and the sockets which the boards plug into.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE Jan. 17, 1979 PAGE 1 OF 1 BULLETIN NO. 262

SUBJECT: PART NUMBER
CORRECTIONS

REF. FILE # E-47 (PARTS)
(SERVICE)

MODEL(S) or SERIES: SEE BELOW

EFFECTIVE: IMMEDIATELY

The following part number corrections should be changed in your manuals, as listed below. These corrections have not been published in any supplements, but are being distributed through the Product Support Bulletin to help you keep your records updated until the Parts Catalogs are revised.

| <u>MODEL SERIES</u> | <u>BOOK NO.</u> | <u>PAGE NO.</u> | <u>REF. NO.</u> | <u>CHANGE</u> |
|-------------------------|---------------------|---------------------|---------------------|---|
| CCKA | 927-1103 | 43 43 43 | - - 5 | 142-0528 To 142-0593 Carburetor - Key 5, 6, 7 142-0475 To 142-0371 Repair Kit Should be 142-0486 for Key 1, 2, 3, 4 142-0530 for Key 5, 6, 7 |
| CCKB | 927-0404 | 7 | 2 2 | 102-0508 To 123-0508 102-0674 To 123-0674 |
| N52M | 940-0252 | 7 | 10 | 515-0198 To 515-0103 |
| JB-JC | 967-0462 | 90 | 1 1 1 | Add 103-0277 Magneto Ignition Sets (JB - Column "B") 103-0277 Standard Spec A Through U (JC - Column "C") 103-0366 Standard Begin Spec V (JC - Column "C") |



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE Jan. 17, 1979 PAGE 1 OF 1 BULLETIN NO. 263

SUBJECT: PART NUMBER
CORRECTIONS

REF. FILE # S-156 (PARTS)
(SERVICE)

MODEL(S) or SERIES: SEE BELOW

EFFECTIVE: IMMEDIATELY

The following part number corrections should be changed in your manuals, as listed below. These corrections have not been published in any supplements, but are being distributed through the Product Support Bulletin to help you keep your records updated until the Parts Catalogs are revised.

| <u>MODEL SERIES</u> | <u>BOOK NO.</u> | <u>PAGE NO.</u> | <u>REF. NO.</u> | <u>CHANGE</u> |
|-------------------------|---------------------|---------------------|---------------------|--|
| DFE | 956-0220 | 11 | 36 | 315-0524 To 305-0524 |
| MDJE | 968-0224 | 6 11 | 9 54 | 104-1023 To 104-0510 502-0217 To 502-0017 |
| AJ | 924-0221 | 12 | 9 | 503-0313 To 502-0313 |
| AJ | 924-0301 | 30 | 28 | 350-1126 To 350-1124 (2 Ohm, 100 Watt) |
| JB | 967-0223 | 7 | 16 | 115-0189 Qty. 2 Stud Package, Rocker Arm (Includes 2 Studs, 1 Lock) |
| | | 7 | 24 | Cover Assembly, Rocker (Includes Oil Line) |
| | | | | 115-0134 Qty. 1 Gasoline Sets |
| | | | | 115-0173 Qty. 1 Gas & Gas - Gasoline Sets |
| | | 7 | 39 | 309-0207 To 309-0206 |
| | | 15 | 24 | 153-0391 To 307-1203 |
| | | 15 | 25 | 153-0395 To 153-0391 Core |
| | | 23 | 8 | 220-1626 To 220-0629 (3 Phase) |
| | | 29 | 4 | 301-1964 To 301-1965 |
| | | 29 | 5 | 301-1965 To 301-1964 |
| | | 30 | 52 | 338-0499 To 338-0495 |



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE Jan. 17, 1979 PAGE 1 OF 1 BULLETIN NO. 264

SUBJECT: STARTER MOTOR INSTALLATION
E-Z-GO APPLICATIONS

REF. FILE # E-48 (SERVICE)
(PARTS)
(PUBLICATIONS)

MODEL(S) or SERIES:
B48M-GA018/3450A

EFFECTIVE: IMMEDIATELY

Reports indicate some starter motor pinion gear and ring gear engagement and alignment problems in above applications.

The problem has been identified as being caused by starter mounting bolts working loose due to the many start-stop operations of this application.

If you encounter this problem replace the starter motor mounting bolts with Onan Part No. 800-0552 using the standard washer package originally supplied but increase the torque for these mounting bolts to 24-26 ft. lbs. (32.54 - 35.25 N·M).

Before tightening starter mounting bolts, check ring gear and starter pinion gear to be certain they aren't damaged (broken teeth, bent, misaligned, binding etc.).

Starter gear lash should also be checked and adjusted before final torque of the new starter mounting bolts. Starter gear lash is .020 ± .010.

To check starter gear lash, install starter motor and tighten mounting bolts just enough to hold starter in place (but still allow for shifting of starter housing to accomplish proper gear lash). Temporarily mount flywheel on crankshaft but do not install flywheel mounting bolt. Pull starter motor pinion gear outward (by hand) so that starter pinion gear fully engages flywheel ring gear. Adjust starter gear lash by positioning starter motor (by shifting starter motor housing) for sufficient pinion/ring gear lash of .020 ± .010 (teeth engagement and alignment with no binding)

Torque new starter mounting bolts as specified above. Install flywheel mounting bolt and torque flywheel cap screw to 35-40 ft. lbs. (48-54 N·M).

Refer to B48M-GA018 Industrial Engine Service Manual (Part No. 965-0755) for any additional detailed maintenance information.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE Feb. 7, 1979 PAGE 1 OF 1 BULLETIN NO. 265

SUBJECT: NEW HEAT EXCHANGER KIT
(No. 130-1429)

REF. FILE # S-157

(MARKETING)
(SERVICE)
(PUBLICATIONS)
(PARTS)

MODEL(S) or SERIES:
MCCK SPEC "H" ONLY

EFFECTIVE: IMMEDIATELY

A new heat exchanger kit is now available for the new MCCK Coast Guard Approved Spec "H" models ONLY.

The kit is available under Part No. 130-1429 and comes with step by step installation instructions.

The current kit for Spec "A" through "G" MCCK models (#130-0881), is NOT interchangeable with the new Spec "H" models and these kits should be retained for field conversion of older units.

Both kits will continue to be available from Onan for field installation.

The new Spec "H" MCCK models MUST use the new heat exchanger kit. This kit can be factory ordered on new units if desired.

Kit prices are listed in the Master Price Book under "Cooling Accessories for Marine Models". This kit sells for \$270.00H.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE Feb. 7, 1979 PAGE 1 OF 1 BULLETIN NO. 266

SUBJECT: CHANGE IN SPARK PLUG

REF. FILE # S-158

(SERVICE)
(PUBLICATIONS)
(PARTS)

MODEL(S) or SERIES:
BFA AND BGA "RV" GENERATOR SETS ONLY

EFFECTIVE: IMMEDIATELY

Effective immediately a new spark plug is available for the above models which reduces cold fouling at light loads without affecting plug life at full load.

The new plug is available under Onan Part No. 167-0298.

The previous plug used in above models (Part No. 167-0237) should be retained in your stock for use on CCK models.

Production units will begin using the new plug on February 15, 1979.

Order new replacement plugs for your stock as required.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE FEB. 7, 1979 PAGE 1 OF 1 BULLETIN NO. 267

SUBJECT: NEW CARBURETOR AIR
PREHEATER KIT

REF. FILE # S-159 (MARKETING)
(SERVICE)
(PARTS)

MODEL(S) or SERIES:
BFA (SPEC A), BGA (SPEC A) AND NH (SPEC K)

EFFECTIVE: IMMEDIATELY

A new kit has been designed and is now available to help prevent carburetor icing in cold weather operation (below 40° F) on above models.

This kit is Onan Part No. 140-1673 and comes with complete instructions for easy installation. The kit sells for \$45.00H.

The carburetor air intake source is automatically selected by a Vernatherm (thermostatic) element which operates a shutter door in the air induction stream and varies it's position according to ambient temperature.

Kit prices are listed in the Master Price Book under Accessories for RV models.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE FEB. 7, 1979 PAGE 1 OF 1 BULLETIN NO. 268

SUBJECT: MARINE CONTROL 300-1002 USING
300-0859 PRINTED CIRCUIT BOARD

REF. FILE # S-160

(SERVICE)
(WARRANTY)
(PARTS)

MODEL(S) or SERIES:
4.0 AND 6.5 MCCK REMOTE START
(Spec "E" AND "F" Models ONLY)

EFFECTIVE: IMMEDIATELY

A new modification kit has been designed using a relay type control to replace the printed circuit board control on above Marine sets.

The kit is available under Onan Part No. 300-1796 and comes with complete step by step instructions and new wiring diagram.

A special price of \$84.90K is being offered through January 1980.

Installation of this kit can be accomplished on a generator set in the hull compartment within two hours.

Warranty repair of the 300-1002 control (Using the 300-0859 board) is to be corrected by installing the 300-1796 kit. It is suggested and recommended that this kit be installed on all Marine sets that are out of warranty also (instead of replacing the 300-0859 board).



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE Feb. 14, 1979 PAGE 1 OF 1 BULLETIN NO. 269

SUBJECT: SPEC ADVANCE AND
PRODUCT IMPROVEMENTS

REF. FILE # S-161

(MARKETING)
(SERVICE)
(PARTS)

MODEL(S) or SERIES:
ALL 6.5 NH SPEC "1" MODELS

EFFECTIVE: BEGINNING SPEC "L"

Beginning with February production, the Spec letter on the above model is being advanced from "F" to "L".

The major changes involved consist of the following:

1. New style crankshaft and generator drive tapor.
2. New control
3. Marvel Schebler carburetor.
4. New intake and exhaust manifolds.
5. Top adjust ignition points.
6. New style air cleaner.

These product improvements and changes will result in a more reliable and serviceable unit.

The Specification sheet and Operator's manual should be distributed shortly.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE FEB. 21, 1979 PAGE 1 OF 1 BULLETIN NO. 270

SUBJECT: "UR" VOLTAGE REGULATOR BOARD
REFERENCE VOLTAGES

REF. FILE # G-13 (SERVICE)
(PARTS)

MODEL(S) or SERIES:
"UR" SERIES GENERATOR SETS
(25 through 180kW)

EFFECTIVE: IMMEDIATELY

The 332-1956 regulator board operates on a 240 VAC input and is used in conjunction with a 315-0431 reference voltage transformer.

The 332-1268 regulator board operates on a 120 VAC input and is used in conjunction with a 315-0342 reference voltage transformer.

Some schematics and prints may be marked incorrectly depending upon the regulator board being used.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: MARCH 7, 1979 PAGE 1 OF 1 BULLETIN NO. 271

SUBJECT: SPEC ADVANCE AND PRODUCT IMPROVEMENTS REF. FILE # S-162 (MARKETING)
(SERVICE)
(PUBLICATIONS)
(PARTS)

MODEL(S) or SERIES:

BFA (Spec B), BGA (Spec B) AND
NH (Spec M) "RV" GENERATOR SETS

EFFECTIVE: IMMEDIATELY

All of the above models have advanced in Spec letter indicated above beginning with late February production. The major changes involved consist of the following:

1. Height reduction on all models (Approximately 1-1/2" lower).
2. Vacu-flow scroll extends below mounting plate -
(Requires careful handling in shipment and installation).
3. Mounting hole location changed and 4-point mounting system added.
4. New oil base with 3 quart capacity (plus 1/2 quart for oil filter).
5. Start-Disconnect feature added to start solenoid circuitry in control panel (New Schematic No. 611-1146).
6. Change in mounting of cylinder air housing and location of oil drain hole.

Reference also a January 10th, 1979 notice to all U.S. Distributors from Field Sales including new outline drawings and mounting plate information.

These product improvements and changes will result in a more reliable and serviceable unit.

The Specification sheets have already been distributed.

New Operator's Manuals, Installation Guides and Parts Catalogs or Supplements will be distributed in early March.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: MARCH 14, 1979 PAGE 1 OF 1 BULLETIN NO. 272

SUBJECT: SERVICING OIL PUMPS REF. FILE # S-163 (SERVICE)

MODEL(S) or SERIES: EFFECTIVE: IMMEDIATELY

ALL TWIN-CYLINDER ONAN
GASOLINE ENGINES

When overhauling any twin-cylinder Onan engines, always check the oil pump pick-up tube for any foreign material as part of the servicing procedure prior to reassembly. Some oil pumps returned to us show evidence of having failed due to metal chips passing through the pump.

The oil intake cup and screen and the pick-up tube are one complete assembly which cannot be taken apart.

Because of the design of the oil pick-up tube, (small diameter and bends in the pick-up tube itself) it is impossible to examine by looking through the tube.

Clean the pick-up tube by soaking the complete assembly in solvent. Then blow out the tube using low pressure air from the pick-up tube end first and then from the screen end of the oil cup.

As a final check, shake the oil cup and tube assembly to free any particles which may have become trapped in the oil cup screen area. Then make a visual check using a flash light if necessary.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: MARCH 14, 1979 PAGE 1 OF 1 BULLETIN NO. 273

SUBJECT: C141A INSTRUCTION SHEET CHANGE
FOR 300-1598 AND 300-1599 RV
CONTROL KITS (Eliminating the
300-0859 Printed Circuit Board).

REF. FILE # S-164 (SERVICE)
(PUBLICATIONS)

MODEL(S) or SERIES:

4.0 CCK RV SET ONLY

EFFECTIVE: IMMEDIATELY

These two modification kits were designed using a relay type control to replace the 300-0859 Printed Circuit Board control (611-1086) on the above RV set.

Reference also Product Support Bulletin #219B (Dated 1/10/79) for additional information.

The following change applies to the instruction sheet C141A currently supplied with each of these kits:

After changing to the new control (611-1141) on 4.0 CCK RV sets ONLY, if the set stops when start switch is released; move lead G1R1-2 to G1R1-4 on generator charge resistor. Refer to Figure 2 on C141A instruction sheet (Steps 10 and 19).

This modification applies to the 4.0 CCK Set ONLY.

NOTE: 5.0 CCK and 6.5 kW NH sets should NEVER be changed because battery will be overcharged and could boil dry if this lead is moved to G1R1-4 on those models.

The instruction sheet supplied with these kits (C141A) is being corrected to include this wiring modification and will be re-issued as C141B shortly.

This modification applies to all units in the field (4.0 CCK ONLY) which already have the new control kit installed (with subsequent starting problems) and should be noted for all Kits in Distributor stock (when used on 4.0 CCK ONLY) until new instruction sheet is available.

Contact the Onan Factory Service Department if you encounter further problems with this change.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: MARCH 21, 1979 PAGE 1 OF 2 BULLETIN NO. 274

SUBJECT: NEW CCKA ENGINE FOR
MILLER ELECTRIC COMPANY

REF. FILE # E-49 (MARKETING)
(SERVICE)
(WARRANTY)
(PUBLICATIONS)
(PARTS)

MODEL(S) or SERIES:
CCKA-MS/3670J and CCKA-S/3671J

EFFECTIVE: APRIL 1, 1979

The above Spec numbers relate to changes being made to CCKA engines supplied to Miller Electric Company ONLY. The Operator/Service and Parts Manual is #927-1120.

NEW MODEL DIFFERENCES

Beginning with late March production, the above special models will be changed to incorporate the following product improvements:

1. New carburetor with fixed main jet (Walbro model LUA 11).
2. New "Low Profile" air cleaner assembly.
3. Top adjust points.
4. New ring package (can be used on existing units already in the field).
5. Completely new two-speed governor (Miller Electric Company supplying the high speed solenoid for engine governor).
6. Altitude compensation package available when required.

SURVIVAL PARTS FOR STOCK

The following replacement parts are commonly used for minor field service which are unique to Miller Electric Company (Onan-built) CCKA-MS/3670J and CCKA-S/3671J. These parts should be stocked in addition to parts for previous Miller specs:

1. New LUA 11 Walbro carburetor (Onan Part #146-0273).
2. Complete Top adjust points assembly (Onan Part #160-1287).
3. Ignition points ONLY (Onan Part #160-1183).
4. Ignition Condensor ONLY (Onan Part #312-0196).
5. Ignition tune-up kit (Onan Part #160-1213).
6. New ring package (Onan Part #113-0152).
7. Air Cleaner element ONLY (Onan Part #140-1228).
8. Altitude compensation needle (Onan Part #146-0214).

ALTITUDE COMPENSATION NEEDLE

The following service procedure pertains to altitude compensation ONLY. This adjustment is normally ONLY required for operation in altitudes of approximately 5000 feet or higher above sea level. Lower power is experienced at these higher altitudes because of abnormally rich mixtures.

(OVER)

Compensation is possible by removing the large plug (Onan Part #146-0278) from the side of the carburetor fuel bowl (access to main power jet) and replacing plug with needle assembly #146-0214.

Adjust the new needle by loading the welder to obtain maximum current output. Changes in altitude may require additional adjustment.

If the welder is used at lower altitudes again, remove the needle assembly completely and replace the original plug in the side of the carburetor fuel bowl.

LOW SPEED MIXTURE ADJUSTMENT

The following service procedure pertains to the Low Speed Mixture Adjustment ONLY:

1. Move/Power Weld Switch to power position.
2. Pull the governor arm out manually and hold against low speed stop.
3. While holding governor arm out, adjust throttle stop screw for approximately 1800 RPM.
4. Then adjust low speed idle mixture screw (in or out as required) for maximum RPM (1 $\frac{1}{8}$ turns \pm 1/8 turn approximate). Release governor arm.
5. Back off throttle screw for 1/8" gap (1-2 turns approximate).
6. Adjust governor spring sensitivity for approximately 1850 RPM (No Load).

HIGH SPEED LINKAGE ADJUSTMENT

1. Move Power/Weld switch to WELD position and Automatic Idle switch to OFF position.
2. Adjust high-speed governor solenoid linkage for 3000 RPM.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: May 4, 1979 PAGE 1 OF 1 BULLETIN NO. 275

SUBJECT: PART NUMBER CORRECTIONS REF. FILE # S-165 (PARTS) (SERVICE)

MODEL(S) or SERIES: SEE BELOW EFFECTIVE: IMMEDIATELY

The following part number corrections should be changed in your manuals, as listed below. These corrections have not been published in any supplements, but are being distributed through the Product Support Bulletin to help you keep your records updated until the Parts Catalogs are revised.

| <u>MODEL SERIES</u> | <u>BOOK NO.</u> | <u>PAGE NO.</u> | <u>REF. NO.</u> | <u>CHANGE</u> |
|---------------------|-----------------|-----------------|-----------------|--|
| BGA | 965-0221 | 7 | 17 | Add - Ref. 17 #122-0338 Filter, Oil |
| BFA | 965-0222 | 7 | 17 | Add - Ref. 17 #122-0338 Filter, Oil |
| NH | 940-0222 | 25 | 6 | #154-1528 to 155-1258 |
| BF | 965-0220 | 7 | 25 | #149-1417 Qty. 1 Spec A Only |
| | | | | #149-1554 Qty. 1 Begin Spec B |
| | | 7 | 37 | #149-1553 Qty. 1 Spec A Only (Replaces Walbro) |
| | | | | #149-1541 Qty. 1 Begin Spec B |
| MCCK | 927-0224 | 5 | 11 | #805-0509 to 800-0509 |
| | | 8 | 1 | #123-0527 to 123-1160 |
| | | 8 | 5 | #123-0527 to 123-0508 |
| | | 11 | 26 | #167-0500 to 167-0300 |
| | | 13 | 2 | #150-0016 to 150-0096 |
| | | 17 | 27 | #148-1274 to 148-0274 |
| | | 27 | 27 | #148-1274 to 148-0274 |
| | | 29 | 1 | Delete Ref. 1 #155-0929 Muffler, Exhaust |
| | | 29 | 1 | Ref. 1 should be 155-1004 |
| | | 29 | 12 | Add #309-0162 Switch, Thermostat |
| MDJC | 968-0222 | 15 | 12 | Add #149-0455 Gasket, Fuel Filter, Cartridge To Head - Spec A thru R |
| | | 15 | 13 | Add #149-0428 Cartridge, Fuel Filter - Spec A thru R |



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE May 18, 1979 PAGE 1 OF 1 BULLETIN NO. 276

SUBJECT: OIL BASE REPAIRS IN WARRANTY (Changes in oil base and gaskets) REF. FILE # S-166 (SERVICE) (WARRANTY) (PARTS) (PUBLICATIONS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

- 4.OBFA SPEC 16004B - No Suffix letter after serial number (Prior to SN C793443730C)
- 4.OBFA SPEC 16020B - No suffix letter after serial number (Prior to SN C793447884C)
- 5.OBGA SPEC 16004B - No suffix letter after serial number (Prior to SN C793444311C)
- 5.OBGA SPEC 16020B - No suffix letter after serial number (Prior to SN B793437279C)
- 6.5NH SPEC 16004M - No suffix letter after serial number (Prior to SN C793446442N)
- 6.5NH SPEC 16020M - No suffix letter after serial number (Prior to SN B793438939N)

During initial production of the Spec "B" BFA and BGA RV models and Spec "M" NH RV models, some running changes were made to the oil base assembly and pan gasket to reduce the possibility of oil leaks through the pan gasket and/or the oil base itself. When the change occurred the "B" - series models were advanced to Spec "C" and the NH sets were advanced to Spec "N". Starting serial numbers are listed above.

Any of the above models prior to the serial numbers listed which leak oil must be repaired by using replacement oil base kit Part #102-0957. After repairs are made, stamp the suffix letter "C" after the serial number on 4.OBFA and 5.OBGA models. Stamp the suffix letter "N" after the serial number on 6.5NH models.

The letter at the end of the serial number is used to indicate that the unit involved was converted to a later spec after serial number plate was already fixed to the unit.

A new instruction sheet (E251) is supplied with each 102-0957 oil base replacement kit. A new torque sequence for the oil pan cap screws and the oil base mounting screws MUST be used whenever the oil base or oil pan are removed (along with new gaskets) to prevent any possibility of future oil leaks.

STANDARD Onan Warranty policy applies in all cases.

To summarize: Any of the Spec "C" BFA or BGA models and any of the Spec "N" NH models starting with the serial numbers listed above have the latest oil base modifications and should not leak or require field replacement of any components contained in oil base kit #102-0957.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: June 1, 1979 PAGE 1 OF 1 BULLETIN NO. 277

SUBJECT: CLASS "B" KIM TANK HEATERS REF. FILE # S-167 (WARRANTY)
(SERVICE)

MODEL(S) or SERIES: EFFECTIVE: IMMEDIATELY

ANY STANDBY CLASS "B" GENERATOR SET
WITH THE KIM TANK HEATER OPTION

Recent warranty claims indicate a potential failure of the above tank heaters during the installation of the unit.

The problem is caused by failure to add coolant to the system before energizing the tank heater for the first time.

There is a warning silk screen on the tank heater. This warning should NOT be ignored.

Warranty claims will NOT be paid when tank heaters are energized WITHOUT coolant.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: June 15, 1979 PAGE 1 OF 2 BULLETIN NO. 278

SUBJECT: NEW DIESEL STARTING GUIDE REF. FILE # S-168 (SERVICE)
(PUBLICATIONS)

MODEL(S) or SERIES: EFFECTIVE: IMMEDIATELY
ALL "J" - SERIES DIESEL SETS

A new all inclusive starting guide has been developed as a troubleshooting aid to help the customer with any starting problems he might encounter. See page 2.

This guide will be included in the "Operation" section of all Operator's manuals as each one is revised or reprinted.

It will also be applied to all production sets in the form of a silkscreen decal.

Customers as well as service personnel should find this new guide very helpful in isolating any starting problems in a minimal amount of time.

(Over)

ONAN DIESEL STARTING GUIDE

| | |
|--|--|
| <p style="text-align: center;">IMPORTANT!</p> <p>KEEP ENTIRE FUEL SYSTEM CLEAN AND FREE FROM WATER</p> <ul style="list-style-type: none"> • DIESEL INJECTION PUMPS WILL FAIL IF SYSTEM CLEANLINESS IS NEGLECTED <p>INJECTION PUMPS AND NOZZLES ARE NOT FIELD REPAIRABLE</p> <ul style="list-style-type: none"> • WHEN TROUBLESHOOTING, CHECK ALL OTHER COMPONENTS FIRST <p>WARNING DO NOT USE ETHER STARTING AIDS! ETHER IS EXTREMELY EXPLOSIVE AND MAY CAUSE SERIOUS PERSONAL INJURY. ENGINE DAMAGE IS ALSO LIKELY.</p> | |
|--|--|

BEFORE STARTING:

| | |
|--|---|
| | CHECK FUEL SUPPLY. BE SURE SHUTOFF VALVES ARE OPEN. |
| | PRIME FUEL SYSTEM IF: FUEL FILTERS WERE DRAINED OR CHANGED, SYSTEM WAS JUST INSTALLED, FUEL TANK RAN DRY. |
| | TO PRIME PUMP MOVE PRIMING LEVER UP AND DOWN UNTIL FUEL FLOWS STEADILY FROM RETURN LINE (DISCONNECTED). |
| | PREHEAT COLD ENGINE: PUSH PREHEAT SWITCH AND HOLD — • 30 SECONDS IF ABOVE 55°F (13°C); • 60 SECONDS IF BELOW 55°F (13°C). |

TO START:

| | | | |
|--|-----------------|-------|---------------------|
| PREHEAT | RELEASE PREHEAT | START | ENGAGE START SWITCH |
| | | | |
| | | STOP | |
| LIMIT CRANKING TO 15 TO 20 SECONDS TO CONSERVE BATTERY. ALLOW 1 MINUTE BEFORE RE-CRANKING. | | | |

IF ENGINE DOES NOT START:

| | |
|--|--|
| | IF ENGINE FIRED, REPEAT ABOVE PROCEDURES, INCLUDING PRE-HEAT. IF IT STILL DOES NOT START, PROCEED AS FOLLOWS: |
| | TEMPERATURES BELOW 32°F (0°C): USE NUMBER 1 DIESEL FUEL. USE CORRECT VISCOSITY OIL. KEEP BATTERIES FULLY CHARGED. DO NOT USE ETHER STARTING AID. |

OBSERVE ENGINE EXHAUST "SIGNALS":

| | | |
|--|--|--|
| BLUE-WHITE EXHAUST SMOKE: ENGINE IS GETTING FUEL | LITTLE OR NO EXHAUST SMOKE: ENGINE IS NOT GETTING FUEL. PRIME FUEL SYSTEM AS SHOWN ABOVE: OBSERVE FUEL FLOW FROM RETURN LINE | |
| CHECK PREHEAT SYSTEM: 1. OBSERVE AIR HEATER THRU AIR INLET HOLE OR BY REMOVING AIR CLEANER. 2. ENGAGE PREHEAT. 3. IF HEATER ELEMENT DOES NOT GLOW RED WITHIN 30 SECONDS, CHECK AIR HEATER AND GLOW PLUG WIRING: • CONNECTIONS TIGHT? • FREE FROM CORROSION? | FUEL FLOWS STEADILY | LITTLE OR NO FUEL FLOW |
| | CHECK FUEL SOLENOID: SOLENOID ROD SHOULD PULL IN AND THROTTLE ARM FOLLOW (AS SHOWN) WHEN START SWITCH IS TURNED ON. IF NOT, CHECK FOR • BINDING LINKAGE • LOOSE OR BROKEN WIRES | CHECK FUEL SUPPLY SYSTEM: • FUEL TANK EMPTY? • SHUTOFF VALVES CLOSED? • FUEL LINES KINKED? • LOOSE CONNECTIONS? • CLOGGED FUEL FILTERS? |
| | | |
| IF ENGINE IS STILL NOT GETTING FUEL, CHECK TRANSFER PUMP: 1. CRANK ENGINE AND OBSERVE FUEL FLOW FROM RETURN LINE. 2. IF FUEL DOES NOT SPURT OUT, PUMP MAY BE DEFECTIVE. | | |

IF ENGINE STILL DOES NOT START, CONTACT AUTHORIZED ONAN SERVICE REPRESENTATIVE



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: June 20, 1979 PAGE 1 OF 1 BULLETIN NO. 279

SUBJECT: MCKK CHOKE MODIFICATION

REF. FILE #

S-169

(SERVICE)
(WARRANTY)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE:

BEGINNING SERIAL NUMBER
399168

4.0 AND 6.5 MCKK SPEC "H".

To reduce the possibility of warpage of the bi-metal spring, the voltage to the electric choke was reduced by adding a 7.5 ohm, 25 watt resistor (in the charge circuit) in series with the existing 7.5 ohm resistor.

All models beginning with above serial number have this change incorporated as a running change in factory production.

A new kit (available July 15, 1979) Onan Part #153-0525 includes complete installation instructions (E253).

Any Spec "H" units Prior to serial no. 399168 with choke warpage problems should have the new kit installed.

Standard warranty policy applies.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: June 20, 1979 PAGE 1 OF 1 BULLETIN NO. 280

SUBJECT: ONAN SHORT BLOCK ASSEMBLIES
CATALOG #932-0109

REF. FILE # M-34 (PUBLICATIONS)
(SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL

This catalog was recently revised and distributed. Some errors in part numbers have since been discovered for some models. Please make the following changes in your short block catalog:

| <u>AS SHOWN</u> | | <u>SHOULD BE</u> | |
|-----------------|----------|---------------------|-----------------|
| CCKB-MF/3393J | 110-2680 | CCKB-MF/3393J | <u>110-2082</u> |
| BF-MS/3265F | 110-2631 | BF-MS/3265F | <u>110-2161</u> |
| CCK-MS/1465G | 110-2083 | <u>CCK-MS/1475G</u> | 110-2083 |



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: June 20, 1979 PAGE 1 OF 1 BULLETIN NO. 281

SUBJECT: RECEPTACLE REPLACEMENT

REF. FILE # S-170 (SERVICE)
(PARTS)
(PUBLICATIONS)

MODEL(S) or SERIES:
ALL PORTABLE "YCB" SETS
AND CONTRACTORS MODELS.

EFFECTIVE: IMMEDIATELY

The receptacles used on most of the above models are usually supplied to Onan with two jumper tabs between like terminals which effectively parallel the two individual duplex AC receptacles.

In some cases the jumper tab on the "HOT" side of a receptacle may be removed in production where specified in the individual wiring diagram for that model.

Whenever replacing any receptacle, refer to the wiring diagram or compare the connections on the old receptacle (when removed) to determine if the jumper tab on the "HOT" side should be removed.

An incorrect installation results in a "direct short" on the generator, preventing it from building up any output voltage.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: June 30, 1979 PAGE 1 OF 1 BULLETIN NO. 282

SUBJECT: BATTERY CHARGER FUSE FAILURE (ONAN PART #321-0180) REF. FILE # C-17 (SERVICE) (PARTS)

MODEL(S) or SERIES: EFFECTIVE: From Dec. 1978 to Present.

All OT And AT Transfer Switches Equipped With 2 Amp Battery Chargers

We have received reports of fuse failures on the 2 amp. battery charger used on the "AT" and "OT" Automatic Transfer Switches.

The problem has been investigated and the following conclusions have been drawn.

The fuse originally used was manufactured by Bussman Mfg. Co. However, U.L. component recognition of this fuse was withdrawn. (It has since been reinstated).

When U.L. recognition of the Bussman BBS-2 was withdrawn, we switched to Economy Fuse #EBS-2.

The difference between the two fuses is that the Bussman fuse has an inherent time delay and the Economy fuse does not. This difference was responsible for the nuisance fuse failures.

Future battery chargers will be supplied with either the Bussman BBS-2 fuse or a re-designed Economy EBS-2 fuse.

In the interim, Bussman BBS-2 fuses can be substituted for the Economy EBS-2 fuse. This will eliminate the problem.

With solid-state controls which have battery charging feature, you must reset exerciser after replacing fuse since exerciser also receives power through fuse.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: July 11, 1979 PAGE 1 OF 1 BULLETIN NO. 283

| | | | | |
|----------|---|-------------|-------|-----------|
| SUBJECT: | 191-0767 STARTER | REF. FILE # | S-171 | (PARTS) |
| | 191-0780 STARTER | | | (SERVICE) |
| | 191-1176 STARTER (Replacement for 191-0780) | | | |

| | |
|---------------------|------------------------|
| MODEL(S) or SERIES: | EFFECTIVE: IMMEDIATELY |
|---------------------|------------------------|

ALL "NB" ENGINES AND WELDERS

In October of 1978 Product Support Bulletin #258 was issued to inform you of a vendor supply problem and resulting stock depletion of above starters from Onan.

We have now obtained a new supply of the above starters for Parts and Service replacement parts.

Order stock as needed for your inventory.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: July 18, 1979 PAGE 1 OF 1 BULLETIN NO. 284

SUBJECT: ELECTRIC FUEL PUMP REPLACEMENT REF. FILE # S-172 (SERVICE)
(WARRANTY)
(LEGAL)
(PARTS)

MODEL(S) or SERIES: EFFECTIVE: IMMEDIATELY

ANY ONAN TWIN CYLINDER "RV" SET

We have received inquiries concerning the substitution of automotive type electric fuel pumps in place of the Onan supplied electric fuel pump on all RV generator sets.

Onan does NOT APPROVE of the use of non-Onan supplied electric fuel pumps on any generator set application.

The automotive type electric fuel pump outlet pressure may be as high as 9PSI. The Onan electric fuel pump specifications are from 2-1/2 to 4 PSI Maximum. The automotive type electric fuel pump does NOT have a built in automatic safety shut-off which the Onan pump has.

The higher pressure of the automotive type fuel pump could off-seat the carburetor float valve resulting in gasoline spillage in the generator compartment and a serious fire hazard.

Any problems resulting from the use of non-Onan replacement parts will NOT be covered by Onan warranty.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: July 18, 1979 PAGE 1 OF 1 BULLETIN NO. 285

SUBJECT: DIMENSIONAL ERRORS IN OPERATOR'S MANUAL AND INSTALLATION GUIDES FOR TWIN CYLINDER "RV" SETS. REF. FILE # S-173 (SERVICE) (PUBLICATIONS)

MODEL(S) or SERIES: EFFECTIVE: IMMEDIATELY

4.OBFA-1R/16004C AND 5.OBGA-3CR/16004C

Dimensional errors in set height and length and in minimum compartment length and width clearances have been discovered in the manuals for the above models.

The following supplements have been issued to correct these errors:

| <u>MODEL AND SPEC LETTER</u> | <u>SUPPLEMENT NO.</u> | <u>TYPE OF MANUAL</u> | <u>MANUAL NO.</u> |
|------------------------------|-----------------------|-----------------------|-------------------|
| 4.OBFA/C | 965-1022 | Operator's manual | 965-0122 |
| 4.OBFA/C | 965-1020 | Installation guide | 965-0612 |
| 5.OBGA/C | 965-1023 | Operators's manual | 965-0121 |
| 5.OBGA/C | 965-1021 | Installation guide | 965-0611 |

These supplements contain corrected dimensions and minimum clearances required by UL/CSA for proper installation in a Motor Home generator compartment.

The 6.5NH models were NOT affected.

The above supplements have been inserted into the manuals at Onan for production units and are available from Office Supplies at Onan as required for individual customers and Distributors and Dealers.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE July 18, 1979 PAGE 1 OF 1 BULLETIN NO. 286

SUBJECT: RV EXHAUST SYSTEM INSPECTION REF. FILE # S-174 (SERVICE)
(LEGAL)

MODEL(S) or SERIES: EFFECTIVE: IMMEDIATELY

ANY ONAN "RV" GENERATOR SET INSTALLATION

Maintenance schedules recommend inspection of the exhaust system every eight hours by the owner/operator, but whenever a recreational vehicle is brought in for any service such an inspection should be routine. A trained, experienced serviceman is better able to detect leaks in an exhaust system or to judge deterioration that may soon become a leak. And the best opportunity for a thorough inspection is when the set is out for servicing.

Check the system visually from the intake manifold to the tailpipe. Look for holes, cracks, corrosion. Check the clamps for tightness. Listen for leaks while the set is running. Inspect the generator compartment for any apparent gaps which would allow vapors from the generator compartment into the interior of the motor home.

When inspecting the clamps, examine the saddle and underneath the saddle. At least one coach manufacturer (Vogue) has been inserting self tapping screws into the exhaust pipes with the intention of holding the down pipe to the exhaust manifold and muffler. Onan has not authorized such a modification and does not approve it. If such an installation is found upon inspection, the down pipe should be replaced and the screws discarded.

Spark arresters, whether separate or integral with the muffler, should be cleaned every 50 to 100 hours. A routine cleaning during any servicing is a good safety practice. Spark arresters must be maintained if they are to provide safe and effective operation. (If not properly maintained, a spin out type arrester fails to perform its intended function. A screen type spark arrester, if not properly maintained, may cause exhaust back pressure damaging the engine or increase the risk in the motor home of fire and/or asphyxiation.)



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE August 15, 1979 PAGE 1 OF 2 BULLETIN NO.287

SUBJECT: FLYWHEEL BLOWER SCREENS REF. FILE # E-50 (SERVICE)
(PARTS)
(LEGAL)

MODEL(S) or SERIES: EFFECTIVE: IMMEDIATELY

ALL "BF", "BG", B43M, B48M AND N52M
INDUSTRIAL AND GARDEN TRACTOR ENGINES

Whenever replacing or servicing the rotating screen on any of the above models, make sure the blower screen fits both the inner diameter mounting hole pattern and the outer diameter mounting hole pattern on the flywheel without any distortion.

It is very important that the correct combination of blower screen and flywheel be assembled properly when servicing these engines.

Refer to your microfiche or Parts Catalog to ensure the correct parts are utilized. The interchanging of PTO type components with Non-PTO type components or parts is NOT acceptable.

In some cases it may be necessary to shim (with washers) the outer mounting screws if the screen and the flywheel do NOT mate perfectly. Do NOT attempt to pull the screen into the flywheel by overtorquing mounting bolts on outer mounting holes. Under NO circumstances are shims to be used on the inner diameter (center) flywheel mounting screws.

Run the engine after installation of the blower screen and check for rubbing, binding or any unusual engine noise. It is a good service practice to always check all blower screens for cracks during normal maintenance and always replace any blower screens that show signs of damage or cracks.

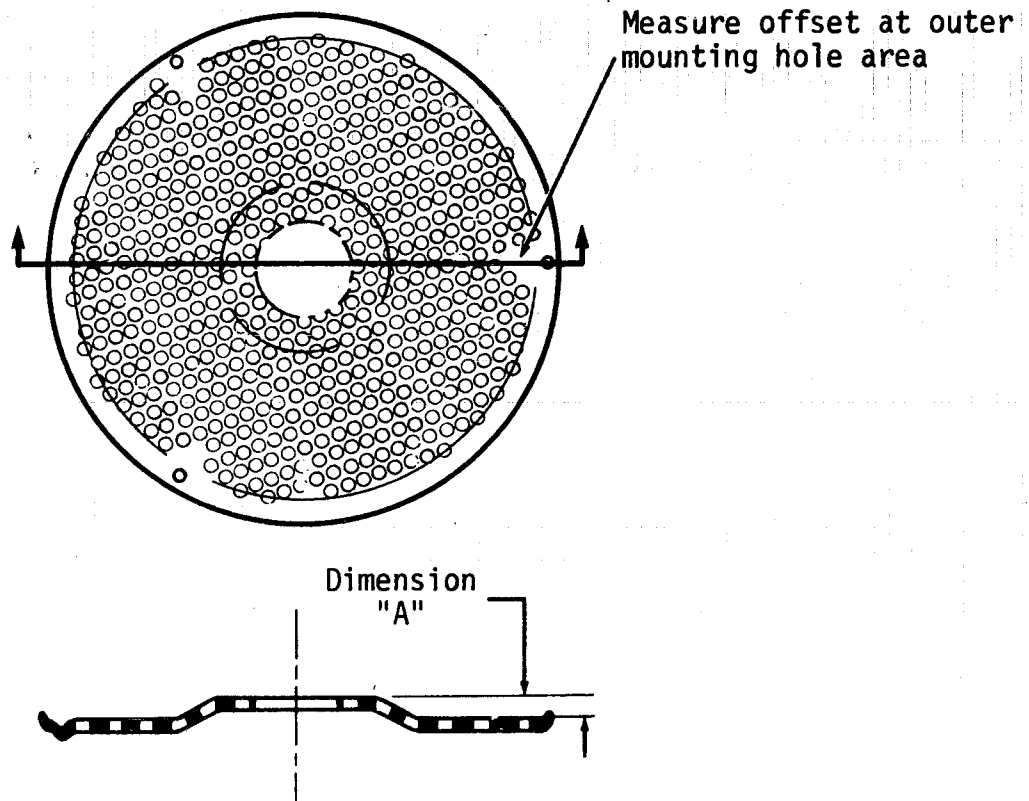
Refer to the illustration on page 2 which clarifies measuring the offset dimension for each engine model. This measurement must be made at the outer mounting hole of the blower screen to be accurate.

Refer to the table on page 2 to determine which blower screen and flywheel combination to use and the correct offset dimension for each engine model.

Contact the Onan Service department if you encounter problems when replacing any engine blower screen.

(Over)

| MODELS | AIRFLOW | POWER TAKE-OFF OPTION | SCREEN PART NUMBER | DIMENSION "A" OFFSET | STANDARD FLYWHEEL PART NUMBER |
|-----------------|---------|-----------------------|--------------------|----------------------|-------------------------------|
| BF | LOW | Yes | 134-2384 | .34" | 134-2432 |
| BF | LOW | No | 134-3495 | .21" | 134-3494 |
| BF-BG-B43M-B48M | HIGH | Yes | 134-3212 | .34" | 134-3209 |
| B43M-B48M | HIGH | No | 134-3508 | .21" | 134-3506 |
| B43M | LOW | Yes | 134-2384 | .34" | 134-3209 |
| B48M | HIGH | No | 134-3508 | .21" | 134-3494 |
| B43M-B48M | HIGH | Yes | 134-3212 | .34" | 134-2431 |
| N52M/A | HIGH | Yes | 134-3212 | .34" | 134-3477 |
| N52M/B | HIGH | Yes | 134-3212 | .34 | 134-3737 |
| N52M/B | HIGH | No | 134-3508 | .21" | 134-3734 |



OFFSET DIMENSION "A" See Table



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: OCT. 1, 1979 PAGE 1 OF 1 BULLETIN NO. 288A

SUBJECT: ANGLE OF OPERATION REF. FILE # E-51 (SERVICE)
GRAVELY GARDEN TRACTOR APPLICATIONS (PARTS)

(* FLOAT LEVEL SETTING
HAS BEEN CHANGED)

MODEL(S) or SERIES: EFFECTIVE: IMMEDIATELY

CCKA INDUSTRIAL ENGINES

The 142-0528 carburetor used on above models has two drillings in the main jet area of the carburetor which provide for a greater angle of operation on banks, slopes etc. Field reports of engines quitting during angle operation (such as a bank, incline etc.) indicate that some carburetors may have been supplied without the two special drillings.

142-0528 carburetors can be identified by the number VD77 stamped on the body. Some carburetors stamped VD65 were substituted and will not have the two drillings, or you may see some carburetors in which the VD65 number has been over stamped with VD77 and may not have the drillings either.

To make a positive check on carburetors stamped VD65 or over stamped VD77, remove the top of the carburetor and look for two 1/8" holes drilled on either side of the main jet. These holes are drilled from the float bowl down into the threaded portion of the carburetor body which holds the main jet adjustment retainer.

If the holes are NOT present and angle operation problems occur, replace the carburetor with a new 142-0528 Onan carburetor stamped VD77.

* A new float level setting will also correct angle operation problems if the correct VD77 carburetor is used. Adjust the float level for 5/16" using a drill bit to measure this distance.

The above procedure should be used to check carburetors in your spare parts inventory also.

Standard Onan warranty policy applies to tractor mounted engines.

Standard Onan Spare Parts warranty applies to carburetors in your inventory.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE August 15, 1979 PAGE 1 OF 1 BULLETIN NO. 289

SUBJECT: 146-0228 CARBURETOR REPAIR KIT REF. FILE # S-175 (SERVICE)
146-0214 MAIN ADJUSTMENT NEEDLE KIT (PARTS)

MODEL(S) or SERIES: EFFECTIVE: IMMEDIATELY

"B" AND "N"-SERIES ENGINES AND GENERATOR
SETS WITH WALBRO "LUA" CARBURETORS AND
SLOTTED HEX HEAD MAIN ADJUSTMENT NEEDLES.

While making casting improvements in the "LUA" series carburetors, our vendor changed the location of the main jet. In addition the length of the main adjustment needle was extended but the part number was NOT changed. If a new style carburetor is overhauled and an older style needle is used, the carburetor cannot be properly adjusted.

To avoid confusion we are asking that the above kits be returned to the factory and the following kits be ordered as replacements:

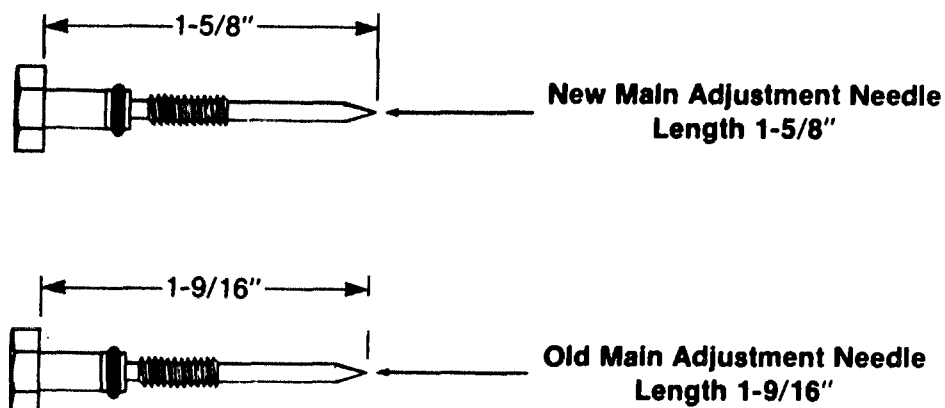
146-0283 Carburetor repair kit
146-0282 Main adjustment needle kit

Standard spare parts warranty will apply.

The new longer adjustment needles will function properly in both older and newer type carburetors.

If you receive complaints on difficulty in getting proper adjustment of the main jet assembly, check the needle length dimension and replace it with the longer length new needle.

The old main adjustment needle length was 1-9/16". The new main adjustment needle length is 1-5/8". See ILLUSTRATION below.





Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: August 15, 1979 PAGE 1 OF 1 BULLETIN NO. 290

SUBJECT: CHANGES IN IGNITION TIMING AND
SPARK ADVANCE SETTINGS

REF. FILE # E-52 (SERVICE)
(PUBLICATIONS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL "NHC" AND "NHCV" ENGINES ONLY

A running change has been made on above models regarding ignition timing and spark advance settings.

The recommended setting is now 0.016" (0.41mm) point gap which equals 20⁰BTC ignition timing and spark advance.

The NHC/NHCV Operator's fold-out (#940-0151) has already been revised. A supplement is being issued to update Section 10 of the Engine Master Service Manual.

All other models in the NH engine family including the N52 and the NHP models remain unchanged.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: August 15, 1979 PAGE 1 OF 1 BULLETIN NO. 291

SUBJECT: FOGGING OF ENGINES AND
GENERATOR SETS

REF. FILE # S-176 (SERVICE)
(PUBLICATIONS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL ONAN CLASS "A" ENGINES
AND GENERATOR SETS

All units currently in stock at Onan's Huntsville facility have been refogged to extend protection time. A heavy coating of protective oil and a rust inhibitor was injected through the intake system to accomplish this.

This is especially true of any models with the Onan "UN" type generator.

These units will smoke excessively at initial start-up for a few minutes until the intake manifold and valve area are purged of the protective oil.

The rust inhibitor may cause spark plug fouling on initial start-up also.

Smoking will be greater on above models during load changes more so than at stable state conditions due to increased turbulence in the intake system.

Fridley units also use rust inhibitor after initial run-in prior to shipping.

Most Operator manuals warn of the smoking and rust inhibitor usage under general or Pre-start information sections.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: August 29, 1979 PAGE 1 OF 1 BULLETIN NO. 292

SUBJECT: CRANKING MOTOR SPARE PARTS REF. FILE # S-177 (SERVICE)
(PARTS)

MODEL(S) or SERIES: EFFECTIVE: IMMEDIATELY

"J"-SERIES CRANKING MOTORS 191-0324 (12-volt)
191-0443 (24-volt)

Two new additional spare parts are being added to the Parts Catalogs for these models as they are revised and reprinted. These are:

| <u>PART NUMBER</u> | <u>DESCRIPTION</u> |
|--------------------|--------------------------------------|
| 191-1134 | Solenoid plunger cover (Rubber boot) |
| 191-0468 | Solenoid end cover (12-volt only) |

The "JB" Parts Catalog (#967-0223) dated 6-78 and the "JC" Parts Catalog (#967-0220) dated 4-78 already contain these parts. Other Parts Catalogs will include the listing of these parts as they are updated.

Some of our Distributors have expressed a desire to obtain these parts for use in rebuilding starter motors in the field.

Order your stock as required for future service use.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE August 29, 1979 PAGE 1 OF 1 BULLETIN NO. 293

SUBJECT: PART NUMBER
CORRECTIONS

REF. FILE # E-53 (PARTS)
(SERVICE)

MODEL(S) or SERIES: SEE BELOW

EFFECTIVE: IMMEDIATELY

The following part number corrections should be changed in your manuals, as listed below. These corrections have not been published in any supplements, but are being distributed through the Product Support Bulletin to help you keep your records updated until the Parts Catalogs are revised.

| CATALOG NO. | MODEL | PAGE NO. | REF. NO. | CHANGE |
|-------------|-------|----------|----------|---|
| 927-0404 | CCKB | 5 | 17 | #101-0367 to 101-0405 |
| | | 11 | 8 | #155-0906 to 155-0916 |
| | | 24 | 1 | #191-0573 to 191-1233 |
| | | 24 | 2 | #191-0574 to 191-1243 |
| | | 33 | 3 | #142-0722 to 141-0722 |
| | | 49 | 8 | #154-0906 to 155-0906 |
| | | 47 | | #144-0744 to 141-0744 |
| | | 7 | 2 | #102-0508 to 123-0508 |
| | | | | #102-0674 to 123-0674 |
| 967-0251 | DJB | 5 | 22 | #123-0865 to 123-1283 |
| | | 7 | 17 | #115-0197 to 115-0134 |
| | | 7 | - | Add #110-2940 Head Assy (Includes Valves) |
| | | 7 | 11 | #509-0090 to 509-0132 |
| | | 18 | 17 | #134-1418 to 134-1419 |
| | | 26 | 1 | #134-1805 to 134-1804 |
| 967-0252 | DJC | 5 | 35 | #123-0865 to 123-1283 |
| | | 7 | 17 | #115-0197 to 115-0134 |
| | | 7 | - | Add #110-2940 Head Assy (Includes Valves) |
| | | 7 | 11 | #509-0090 to 509-0132 |
| | | 8 | 2 | #123-0865 to 123-1283 |
| | | 19 | 41 | #102-0615 to 102-0843 |
| | | 24 | 1 | Delete |
| | | 24 | 2 | #134-1475 to 134-1556 |
| | | 24 | 9 | Delete * |
| | | 24 | 10 | Delete * |
| | | 24 | 11 | Delete * |
| | | 25 | 1 | Delete |
| | | 25 | 2 | #134-1475 to 134-1556 |
| | | 25 | 9 | Delete * |
| | | 25 | 10 | Delete * |
| 25 | 11 | Delete * | | |

* No longer included as part of another assembly.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: OCT. 1, 1979 PAGE 1 OF 1 BULLETIN NO. 294

SUBJECT: ENGINE PARTS CLARIFICATION
(Parts Catalog #946-0220)

REF. FILE # S-178 (SERVICE)
(PUBLICATIONS)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

"SK"-SERIES GENERATOR SETS

Page 5 in this Parts Catalog covers the Chrysler engine and accessories used on this generator set.

All part numbers preceded by this symbol (*) are included in the accessory package supplied with the Chrysler engine.

These parts (preceded by this symbol *) were erroneously assigned Onan part numbers.

These component parts must be ordered directly from Chrysler using the part numbers listed in the Chrysler manual supplied with this engine.

Do NOT use Onan part numbers when ordering any engine component parts.

Onan does NOT stock any Chrysler engine parts under either part number.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: OCT. 1, 1979 PAGE 1 OF 2 BULLETIN NO. 295

SUBJECT: PART NUMBER CORRECTIONS REF. FILE # S-179 (PARTS) (SERVICE)

MODEL(S) or SERIES: SEE BELOW EFFECTIVE: IMMEDIATELY

The following part number corrections should be changed in your manuals, as listed below. These corrections have not been published in any supplements, but are being distributed through the Product Support Bulletin to help you keep your records updated until the Parts Catalogs are revised.

| CATALOG NO. | MODEL | PAGE NO. | REF. NO. | CHANGE |
|----------------------------|-------|--|----------|--|
| 967-0223 | JB | 7 | 1 | HEAD, CYLINDER |
| | | | | 110-1439 1 Gasoline Sets - Less Valves |
| | | | | 110-1217 1 Gasoline Sets - With Valves |
| | | | | 110-1440 1 Gas & Gas-Gasoline Sets - Less Valves |
| | | | | 110-1387 1 Gas & Gas-Gasoline Sets - With Valves |
| | | | | 7 24 COVER, ROCKER (Includes Oil Line) |
| | | | | 115-0134 1 Gasoline Sets |
| | | | | 115-0173 1 Gas-Gas-Gasoline Sets |
| | | | | 29 10 306-0642 to 307-0642 |
| | | | | 307-0028 to 306-0028 |
| 919-0305 | "P" | 35 17 332-1556 to 332-0556 | | |
| | | 33 R3 350-0580 to 350-0560 | | |
| 919-0306 | "T" | 17 14 800-0030 to 800-0031 | | |
| | | 17 23 403-1097 to 403-1259 | | |
| | | 19 7 231-0193 Remove qty. 1 from Column A | | |
| | | 19 6 220-1949 50 Hertz to 60 Hertz | | |
| | | 19 6 220-2474 to 120 Volt and 120/240 Volt | | |
| | | 19 6 220-2475 to 120 Volt and 120/240 Volt | | |
| | | 19 6 220-2476 to 120 Volt and 120/240 Volt | | |
| | | 27 17 332-1556 to 332-0556 | | |
| | | 31 CT1 315-0403 to 315-0414 | | |
| | | 956-0220 | DFE | 9 27 405-2021 to 405-2011 |
| 11 36 315-0524 to 305-0524 | | | | |
| 930-0220 | LK | 21 1 312-0157 to 312-0057 | | |
| | | 13 46 301-1279 to 307-1303 | | |
| | | 16 10 160-0264 to 160-0262 | | |
| | | 16 16 167-1565 to 167-1296 | | |
| 940-0221 | NH | 1 | - | 522-0137 to 522-0262 |

(OVER)

PRODUCT SUPPORT BULLETIN #295
 Page 2 Continued

| <u>CATALOG NO.</u> | <u>MODEL</u> | <u>PAGE NO.</u> | <u>REF. NO.</u> | <u>CHANGE</u> |
|--------------------|--------------|-----------------|-----------------|---|
| 965-0221 | BGA | 5 | 33 | Delete 115-0006-01 .001" Oversize 102-0693 for all Specs Add 153-0499 Qty. 1 Adapter, Choke 304-0161 to 352-0161 304-0160 to 352-0160 332-0694 to 332-0699 |
| | | 7 | 16 | |
| | | 11 | 38 | |
| | | 21 | 20 | |
| | | 21 | 20 | |
| | | 21 | 25 | |
| 965-0222 | BFA | 5 | 33 | Delete 115-0006-01 .001" Oversize 102-0693 for all Specs Add 153-0499 Qty. 1 Adapter, Choke 220-1821 to 220-1823 304-0161 to 352-0161 304-0160 to 352-0160 332-0694 to 332-0699 |
| | | 7 | 16 | |
| | | 11 | 38 | |
| | | 19 | 10 | |
| | | 21 | 20 | |
| | | 21 | 20 | |
| | | 21 | 25 | |
| 933-0220 | | 21 | 35 | 510-0535 to 520-0535 |
| | | 21 | 36 | Add 110-0940 Qty. 1 Gasket, Cylinder Head |



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: OCT. 10, 1979 PAGE 1 OF 1 BULLETIN NO. 296

SUBJECT: START SOLENOID

REF. FILE # S-180 (SERVICE)
(PARTS)

(Parts Catalog #940-0222)
Dated 2-78

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY
BEGINNING SPEC "M"

6.5NH-3CR/16004

The part number for the start solenoid applicable to above model was NOT included in the Supplementary Parts List #940-1024 (dated 3/79) for Spec "M" sets.

The start solenoid for this model is Part Number 307-1617.

The correct start solenoid for 6.5NH-3CR/16004K models is 307-1498.

These two start solenoids are NOT interchangeable.

The 940-0222 Parts Catalog is presently being updated and revised for Spec "N" models and should be released about November 1, 1979.

Please change your manuals accordingly until the new Parts Catalog is released.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: OCT. 15, 1979 PAGE 1 OF 1 BULLETIN NO. 297

SUBJECT: EXHAUST SMOKE AND HIGH OIL
CONSUMPTION IN LIGHT LOAD
APPLICATIONS

REF. FILE # S-181 (MARKETING)
(SERVICE)

MODEL(S) or SERIES:
ALL CCK GENERATOR SETS

EFFECTIVE: IMMEDIATELY

Field complaints in certain applications indicate that excessive light blue exhaust smoke and/or high oil consumption may result from light engine loading and excessive long idling periods.

This problem is caused by high intake manifold vacuum during light loads which draws oil down the intake valve stem.

This problem can be corrected by installing (2) 110-1827 valve guides and (2) 509-0090 valve stem seals.

The valves and valve seats must also be ground after replacing the valve guides. Refer to the Major Service Manual (#922-0501) Engine Disassembly section for this procedure.

Distributor recommendations (at time of sale) regarding light load applications (less than 25% load) for extended periods of time should have sets ordered with MPB Adder #H320. See Master Price Book Section 6, page 601 for additional information and pricing. This is not considered warranty.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: Dec. 19, 1979 PAGE 1 OF 1 BULLETIN NO. 298A

SUBJECT: SPEC ADVANCE AND
PRODUCT IMPROVEMENTS

REF. FILE # S-182 (MARKETING)
(SERVICE)
(PARTS)

ITEM #2 CLARIFIED

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

4.0 and 5.0 CCK SPEC "1" Remote Units
4.0 and 5.0 CCK SPEC "1" Portable Units
4.0 and 5.0 CCK SPEC "2236" Contractor Units
5.0 CCK-3CR/14387V Home Standby Units

All above models have been advanced to Spec "V" beginning with October production.

The major changes consist of:

1. New style control.
2. Addition of LOPKO switch (Low oil pressure cut-off). (Remote units only.)
3. Small taper generator drive.
4. Different gearcase assembly.
5. New blower housing for pressure cooled and Vacu-Flo cooling.

The 5.0 CCK-3CR/8800 models will be replaced with the Spec 14387V model with a combination carburetor.

These product improvements and changes will result in a more reliable and serviceable unit.

New Specification sheets, Operator's Manuals and Parts Catalogs should be available in November.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: JULY 27, 1981 PAGE 1 OF 1 BULLETIN NO. 299A

SUBJECT: 405-1482 MARINE SOUND SHIELD KIT REF. FILE # S-183 (SERVICE)
(PARTS)

* ORIGINAL DOT BUTTON REINSTATED

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

"MDJE" MARINE MODELS

The above optional sound shield kit contains a dot button (Part No. #517-0126), used to plug the air intake hole in the resonator adapter when the resonator is replaced by a direct air duct between the air cleaner and the outside of the sound shield housing.

When installing the 517-0126 Dot button, remove resonator, insert button into air intake and bend prongs to clear manifold heater plug (Reference Instruction Sheet A191d, Item 2). Failure to bend prongs may "short out" the manifold heater.

Product Support Bulletin 299 (Dated 10/24/79) substituted Dot Button 517-0139 in place of original button *517-0126; however, the depth of dot button 517-0139 is the same as the thickness of the intake manifold and will NOT hold in.

Dot Button 517-0139 should be deleted and replaced by button *517-0126.

If you stock sound shield kit No. 405-1482, order adequate dot buttons for replacement in these kits.



DIVISION OF ONAN CORPORATION
MINNEAPOLIS, MINNESOTA 55432



INSTRUCTION SHEET A191d

Made in U.S.A.

INSTALLING SOUND SHIELD AND AIR INTAKE ASSEMBLY

9-76

MDJB AND MDJE SERIES GENERATOR SETS KIT NO. 405-1482 MDJC AND MDJF SERIES GENERATOR SETS KIT NO. 405-1524

The following procedure applies to the 2- and 4-cylinder marine diesel generator sets. Refer to Operator's Manual and Parts Catalog and the field kit for component identification.

SOUND SHIELD HOUSING INSTALLATION

The installation of a sound shield to enclose the generator set (with or without a heat exchanger) must allow for the exhaust outlet being above the load water line. The door panel and generator air outlet must be on the accessory side of the set. See Figure 1. The enclosure measures 40" (1016 mm) long x 24" (610 mm) wide x 29" (737 mm) high (MDJB and MDJE) and 56" (1422 mm) long x 25" (635 mm) wide x 29" (737 mm) high (MDJC and MDJF). Refer to the "J" Marine Operator's Manual and Parts Catalog for generator set details.

INSTALLATION PROCEDURE

1. Remove and discard existing drip pan and belt guard.
2. Install new drip pan.
3. Mount wood base using machine screws. **NOTE:** The generator end and the engine end mounting cushions look alike, but differ in respect to rubber hardness. Read the part number on each cushion. The highest numbers have the hardest rubber and belong under the generator end. The lowest numbers belong under the engine end of the set. See Figure 2. Position at least two stringers under base as close as possible to the mounting bolts.

Additional support may be required under the center of the base, if the mounting bolts are at the ends of the base. Allow adequate wrench space below base where mounting bolts pass through.

4. Attach back panel of the sound shield to base using round head machine screws (1/4-20 x 5/8").
5. Select appropriate end panel, remove required knock-out disks, and install grommets for making the fuel, water, exhaust, and wiring connections that pass through the sound shield. Use the Onan water injection exhaust elbow to reduce the length of the dry exhaust line to a minimum.
6. Install duct adapter band on end of generator (Figure 1). Do not tighten.
7. Install both end panels to base and back panel using sheet metal screws and round head machine screws.
8. Adjust duct adapter band so it extends 1/4" (6.4 mm) into air duct (Figure 1). Tighten adapter band.
9. Install panel door (with air duct) and access panel using sheet metal screws, round head machine screws, and Camloc latches.

AIR CLEANER ADAPTER AND AIR INTAKE INSTALLATION

The air intake assembly and air cleaner adapter, when installed, replace the resonator and provide a direct air duct between the air cleaner and the outside of the sound shield housing.

INSTALLATION PROCEDURE

1. Remove resonator from resonator adapter. Discard resonator.
2. Install plug button in existing air intake hole in the resonator adapter. See Figure 3. Bend ears on plug button so ears are flush with adapter.

CAUTION

Use care not to damage the intake heater.

3. Install air cleaner adapter on resonator adapter using long bolt and copper gasket and short bolt and lock washer.
4. Install air intake assembly through the grommet in existing hole at the top of the end panel on the generator end of the sound shield housing.
5. Connect 2" (51 mm) ID x 6" (152 mm) hose between air cleaner adapter and air intake assembly. Secure hose with two hose clamps.
6. Install sound shield top panel and cover plate.

The covered access hole over the water fill cap is offset to allow space for opening and closing the air bleed valve during filling process.

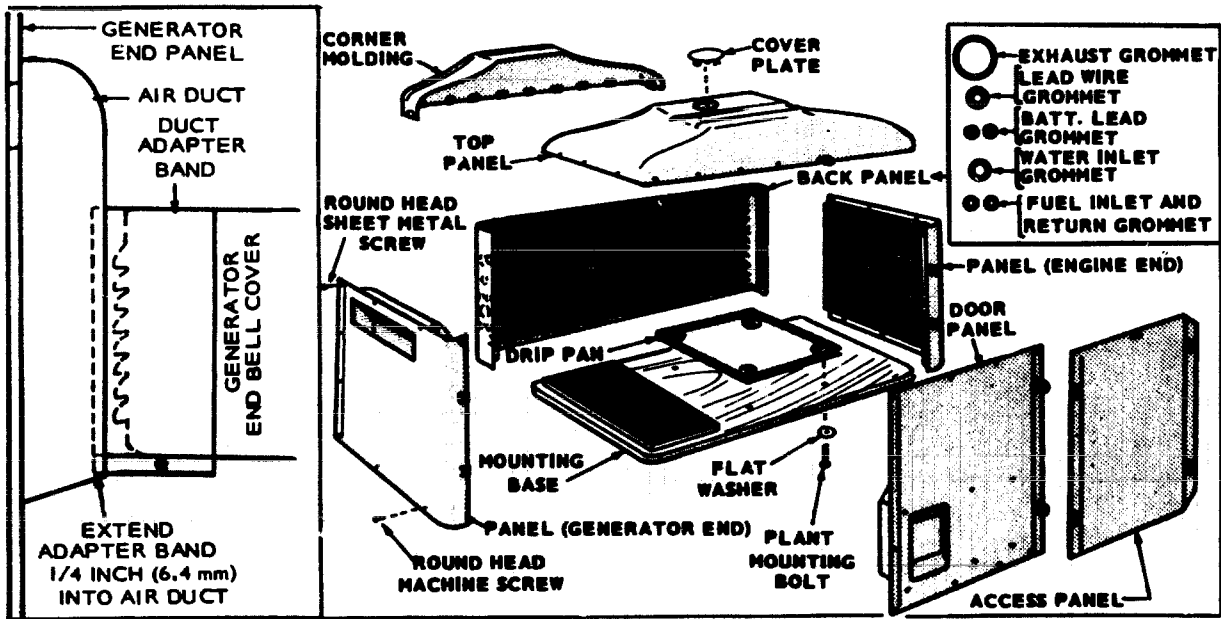


FIGURE 1. SOUND SHIELD COMPONENT ARRANGEMENT

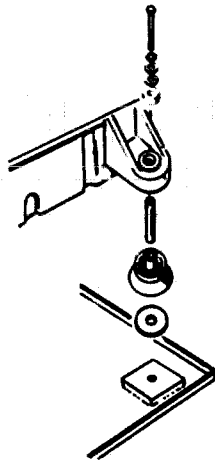


FIGURE 2. MOUNTING CUSHIONS

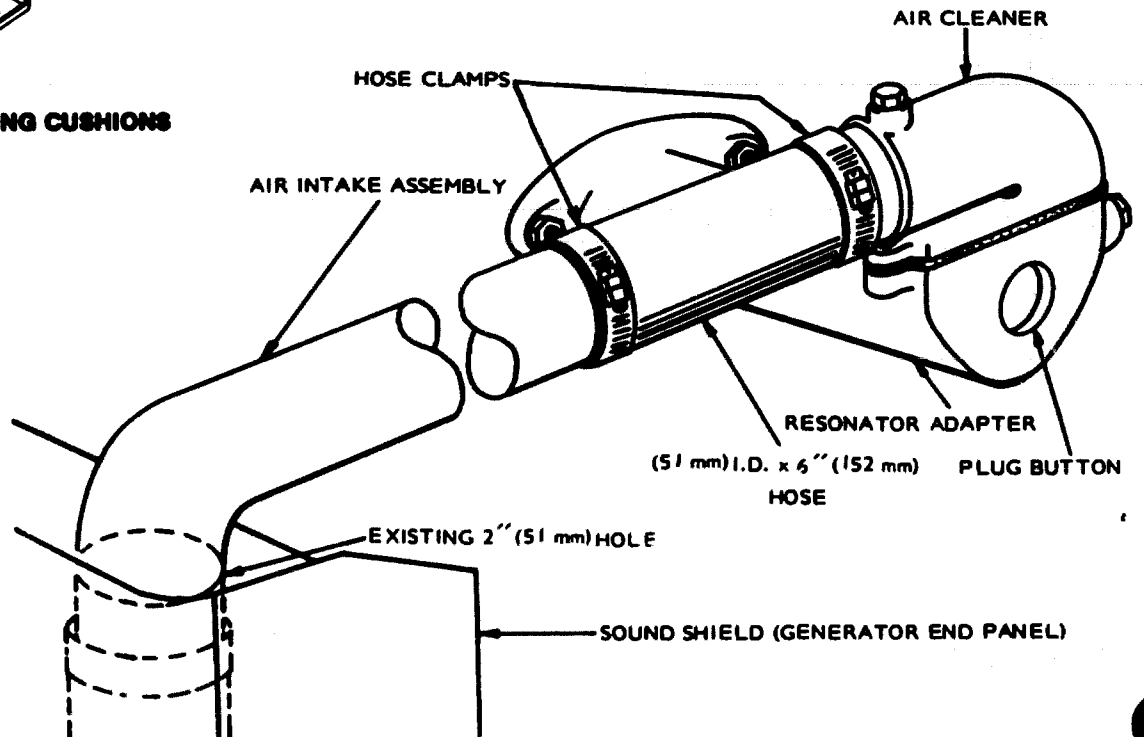


FIGURE 3. AIR INTAKE COMPONENT ARRANGEMENT



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: Oct. 24, 1979 PAGE 1 OF 1 BULLETIN NO. 300

SUBJECT: PART NUMBER CORRECTIONS

REF. FILE # E-54 (PARTS)
(SERVICE)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

SEE BELOW

The following part number corrections should be changed in your manuals, as listed below. These corrections have not been published in any supplements, but are being distributed through the Product Support Bulletin to help keep your records updated until the Parts Catalogs are revised.

| <u>CATALOG NO.</u> | <u>MODEL</u> | <u>PAGE NO.</u> | <u>REF NO.</u> | <u>DESCRIPTION</u> | <u>CHANGE</u> |
|-----------------------------|-----------------|-----------------|---------------------|------------------------|-----------------------|
| 940-0252 | N52M | 10 | 6 | Oil Filter | #122-0323 to 122-0469 |
| MICROFICHE ONLY 927-0404 | CCKB MS/2232 | None | 2A3 Special list | Guide, Intake valve | #110-1828 to 110-1827 |



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: Jan. 16, 1980 PAGE 1 OF 1 BULLETIN NO. 301A

SUBJECT: TORQUE CHANGE

REF. FILE # E-55 (SERVICE)

*Includes All "B" Series Engines

MODEL(S) or SERIES:
*ALL "B" -SERIES INDUSTRIAL ENGINES
(Including Generator Sets)
(ALL SPECS)

EFFECTIVE: IMMEDIATELY

The torque specification for the Connecting Rod Bolts has been changed as follows:

NEW Torque Value
12-14 foot pounds (16-19 N·M)

This change affects all "B" series engines and generator sets.

This revised torque specification reduces the possibility of cracking the connecting rod.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: Jan. 9, 1980 PAGE 1 OF 1 BULLETIN NO. 302

SUBJECT: USING ONAN "AT" OR "OT" TRANSFER SWITCHES WITH NON/ONAN GENERATOR SETS

REF. FILE # C-18 (SERVICE)
(PARTS)
(MARKETING)

MODEL(S) or SERIES:
ONAN "AT" MODELS (Prior to Spec "C")
ONAN "OT" MODELS (Prior to Spec "B")

EFFECTIVE: IMMEDIATELY

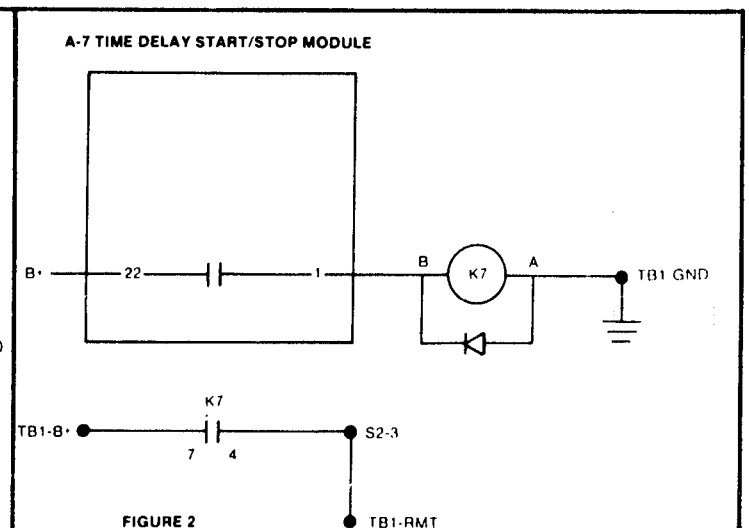
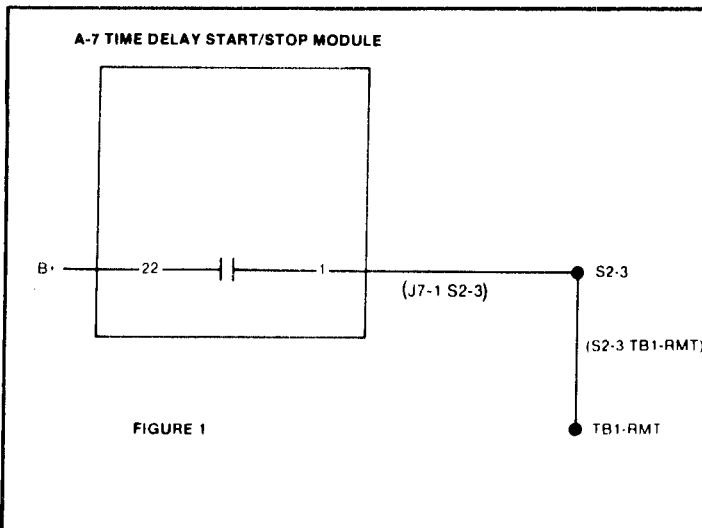
The solid state switch on the time delay start-stop modules (300-0921 or 300-0922) is rated at 800 milliamps maximum.

When using above transfer switches with NON/Onan generator sets, a pilot relay should be added to protect the module from high current requirements. Beginning Spec "C" Onan AT models and Spec "B" OT models have the pilot relay as a standard production item.

Parts required for field modification of early spec models are a socket (Onan Part number 323-0760), diode (Onan Part number 357-0004) and relay (Onan Part number 307-1058 - 12volt or 307-1056 - 24volt).

Figure 1 below shows the standard wiring. Figure 2 shows the wiring with the pilot relay added.

Install relay on rear of swinging panel where it will not interfere with other components with panel closed. Remove wire from printed circuit board module A7-receptacle pin 1 (goes to selector switch S2-pin 3). Reconnect this wire to relay K7-coil contact B. Add a new wire from terminal TB1-B+ to relay K7-pin 7. Add another new wire from relay K7-pin 4 to selector switch S2-pin 3. Add a third new wire from Relay K7-coil contact A to terminal TB1-Ground. Install the diode across coil contacts A and B as shown in Figure 2 below.





Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: Jan. 9, 1980 PAGE 1 OF 1 BULLETIN NO. 303

SUBJECT: INJECTION PUMP MOUNTING BOLT

REF. FILE # E-56 (SERVICE)
(PARTS)

MODEL(S) or SERIES:
RDJA (Thermo-King) and MDJA

EFFECTIVE: IMMEDIATELY

The injection pump mounting hole depth is being shortened approximately 1/8". A shorter mounting bolt (Onan Part #800-0194) will be used to mount the injection pump to the block.

Units in the field built prior to Dec. 31, 1979 have a deeper injection pump mounting hole which uses part #800-0031. This bolt cannot be used on the new block, it will bottom out.

It is acceptable to use the new 800-0194 in both old and new blocks.

Distributor and Dealer stock of 800-0031 bolts should be used up on old style blocks until depleted.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: Jan. 16, 1980 PAGE 1 OF 1 BULLETIN NO. 304

SUBJECT: NEW START DISCONNECT KIT
#300-1959 FOR "RV" SETS

REF. FILE # S-184 (SERVICE)
(PARTS)

MODEL(S) or SERIES:
"BFA" & "BGA" SPEC "A" ONLY
"NH" SPEC "K" ONLY

EFFECTIVE: IMMEDIATELY

A new field modification kit is now available for above models which enables you to add the start disconnect feature to these units.

This feature prevents accidental operation of the cranking circuit after the set is running.

Current production models already have this circuit built into the control.

The kit price is \$11.00C.

The kit contains a new start solenoid, power resistor and minor wiring changes. Instruction sheet C178 provides complete installation details.

Order stock as required.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: Feb. 1, 1980 PAGE 1 OF 1 BULLETIN NO. 305

SUBJECT: VOLTAGE ADJUST RHEOSTAT
ON CONTROL PANEL

REF. FILE #S-185 (SERVICE)
(PARTS)

MODEL(S) or SERIES:

ALL CLASS "B" SETS
30kW and UP

EFFECTIVE: IMMEDIATELY

Any of the above models which exhibit the operating symptom of cycling from zero to rated output voltage should have the voltage adjustment rheostat on the control panel checked before proceeding to replace the voltage regulator board or other generator items.

An open voltage adjustment rheostat will cause this type of cycling or voltage fluctuation.

To check for proper operation, short out the two active terminals on voltage rheostat and observe AC output voltmeter for steady generator output voltage. Cycling should cease and generator should return to rated voltage.

If rheostat is defective (open) replace with Onan Part No. 303-0170.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: Feb. 1, 1980 PAGE 1 OF 1 BULLETIN NO. 306

SUBJECT: SPARK PLUG CARBON FOULING

REF. FILE # E-57 (SERVICE)
(PARTS)

MODEL(S) or SERIES:
CCKA-MS/3671J AND 3718J INDUSTRIAL ENGINES

EFFECTIVE: IMMEDIATELY

Some of the above model engines (in Miller Welder applications) are having spark plug fouling problems which are often caused by an overly-rich carburetor idle mixture jet adjustment. Dry carbon doesn't necessarily harm spark plugs unless there is oil or liquid fuel present; in which case electrical resistance is poor and the spark plug misfires. Under these conditions, spark plug nose temperature is usually low.

The idle mixture control jet on these models is extremely sensitive. Correct initial setting of the idle mixture jet is $1-1/4$ turns open from seated position. Manufacturing tolerances make "optimum" setting in a range of $1-1/8$ to $1-1/2$ turns open from seat when adjusting idle mixture jet. This initial adjustment is critical to proper engine operation.

In Miller welder applications the engines are operating at idle condition for long periods of time. In this situation a hotter spark plug range (Onan Part #167-0130) is recommended.* This plug heat range insures a hotter tip temperature which aids self cleaning and reduces tendency to misfire caused by liquids (gasoline or oil).

All of the above engines used in Miller welders should respond to these adjustments. If some engines are still unstable with idle mixture jet set properly and using new plugs; additional adjustments involving a change in governor spring location and carburetor to governor rod length may be necessary.

If the engine is still unstable at idle speed and the only correction is to richen the idle mixture screw, suspect partial blockage of the carburetor idle system or an air leak.

*Note: Onan spark plug Part Number 167-0262 should be used when available (Approximately 3/15/80).



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: Feb. 27, 1980 PAGE 1 OF 1 BULLETIN NO. 307A

SUBJECT: CONVERSION KIT #403-1661 USED
WITH CARRYING FRAME KIT #
403-1328

REF. FILE # S-186 (MARKETING)
(SERVICE)
(PARTS)

*THIS INFORMATION SUPERCEDES
BULLETIN #307 (Dated 2/ 6/80).
EFFECTIVE: IMMEDIATELY

MODEL(S) or SERIES:
4.0 and 5.0 CCK SPEC "1" REMOTE UNITS
(Beginning Spec "V" or later)

Above models have recently been advanced to Spec "V" which incorporated a new style control. Reference Product Support Bulletin #298A (Dated 12/19/79).

The new control will NOT permit the present battery tray installation because the carrying frame was designed for units with the old style controls.

*Use the new style battery tray and fuel tank conversion kit (Onan Part No. 403-1661) for CCK models in Spec "V" or later.

*Do NOT use the 403-1017 battery rack and fuel tank conversion kit on any Spec "V" CCK models.

*A new battery (Onan Part No. 416-0717) will fit the new battery tray in the new 403-1661 conversion kit.

Future revisions to the Master Price Book will reflect these changes.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: Feb. 13, 1980 PAGE 1 OF 1 BULLETIN NO. 308

SUBJECT: POTENTIAL WEAR OF FLYWHEEL HUB
AND RELATED PARTS ON TORSIONALLY
DAMPED FLYWHEELS.

REF. FILE # S-187 (SERVICE)
(PUBLICATIONS)
(PARTS)

MODEL(S) or SERIES:
ALL 4-CYLINDER "J" - SERIES ENGINES
AND GENERATOR SETS AND "DJB" SETS
WITH VACU-FLOW COOLING

EFFECTIVE: IMMEDIATELY

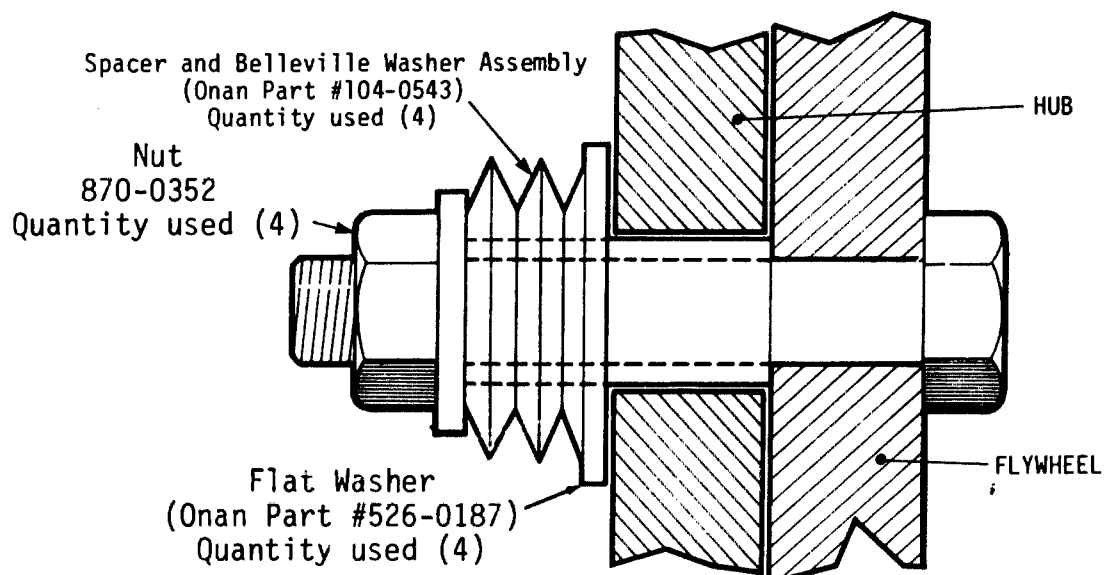
Whenever any of the above models are received for major overhaul or a complaint of excessive vibration or noise coming from the flywheel area at the front of the engine is made; the following parts (illustrated below) MUST be replaced with new parts:

| <u>PART NUMBER</u> | <u>QTY</u> | <u>DESCRIPTION</u> |
|--------------------|------------|---|
| 104-0543 | 4 | Spacer and belleville washer assembly |
| 870-0352 | 4 | Nut, self-locking 9/16" Hex - Torque Value 19 ft. lbs. (26N ^o m) |
| 526-0187 | 4 | Flat washer |

Clean and examine flywheel and hub for excessive wear or damage and if necessary replace these items with new parts ordered from the Parts Catalog for the specific model involved.

CAUTION: All parts MUST be clean and dry. Do NOT lubricate during reassembly.

NOTE: Do NOT order above items listed by part number according to the original Parts Catalog for the model involved. Some of the above parts have been changed or may be listed according to an obsolete part number in your catalog. Use the new numbers listed above and always replace these three items.





Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: March 5, 1980 PAGE 1 OF 1 BULLETIN NO. 309

SUBJECT: REPLACEMENT CYLINDER
HEAD KITS

REF. FILE # S-188 (SERVICE)
(PARTS)

MODEL(S) or SERIES:
DJB, DJBA, DJC AND DJE
ENGINES AND GENERATOR SETS

EFFECTIVE: SEE BELOW

The 110-1853 cylinder head kit is being replaced by the 110-2701 or 110-2941 cylinder head kit for above models.

All 110-1853 cylinder head kits in your stock can be used on DJB, DJBA and DJC Spec "P" and later models.

These new cylinder head kits have an improved valve guide seal package which has a more consistent sealing effect. This reduces oil entering the intake port and valve coking problems.

The correct replacement depends upon the Spec letter of the units as shown below.

Models DJB, DJBA and DJC prior to Spec "P" and DJE models in Spec "AB" and later must use the 110-2701 kit.

Models DJB, DJBA and DJC in Spec "P" or later must use the 110-2941 kit.

Any parts order for cylinder head kits MUST Include the complete model and specification number of the unit involved in order for the correct part to be shipped from Onan without unnecessary delay.

This information supercedes any Parts Catalog listing for the above items.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: MARCH 10, 1980 PAGE 1 OF 2 BULLETIN NO. 310

SUBJECT: "LUA" CARBURETOR FLOAT TRAVEL

REF. FILE # S-189 (SERVICE)
(WARRANTY)
(PUBLICATIONS)

MODEL(S) or SERIES:

4.0 BFA, 5.0 BGA, 6.5 NH Generator Sets and B48G,
N52, NHC and CCKA (Miller) Industrial Engines

EFFECTIVE: IMMEDIATELY

Walbro LUA carburetors used on the above models may have insufficient float travel. LUA carburetors are shown in Figures A and B on the following page; only carburetors with the new body style shown in Figure B are affected.

Should you experience the following symptoms or complaints; low power, speed drift under load or no effect with main jet adjustment, the carburetor float travel should be checked.

With insufficient float travel the engine tends to run out of fuel under load, slows down, refills the carburetor float bowl, and returns to speed. Speed will drift as opposed to hunting which is usually related to governor adjustments.

PROCEDURE: Disassemble the top from the carburetor body and drain the fuel from the bowl. (The carburetor need not be removed from the engine.) Measure the distance from the top of the body to the top of the floats. Fill the bowl with fuel until the fuel level is 1/4 inch from the top of the bowl and repeat the above measurement. Total float travel should be .180 inch minimum (see Figure C). If the travel is less than this, adjust the float level to obtain the proper amount. Float level is adjusted as shown in Figure D; the tab is bent up to increase travel.

NOTE: The floats should not protrude more than .040 inch out of the body after adjusting (see Figure D). If it is necessary to raise the floats higher than this to obtain .180 inch of travel the carburetor should be replaced.

(OVER)

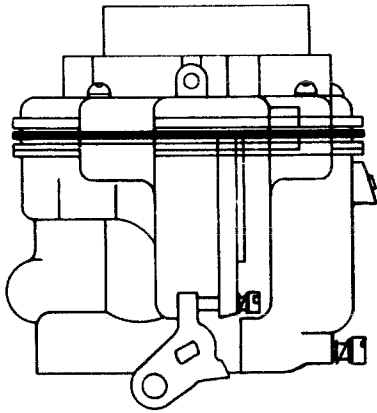


FIGURE A. OLD CARBURETOR BODY

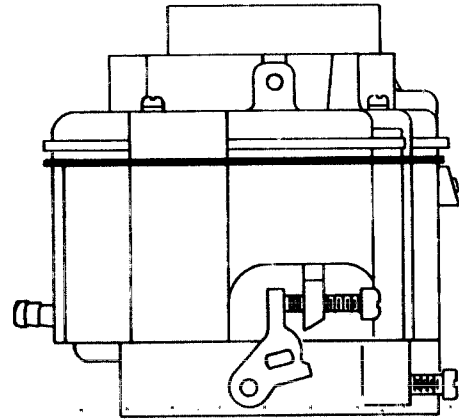


FIGURE B. NEW CARBURETOR BODY

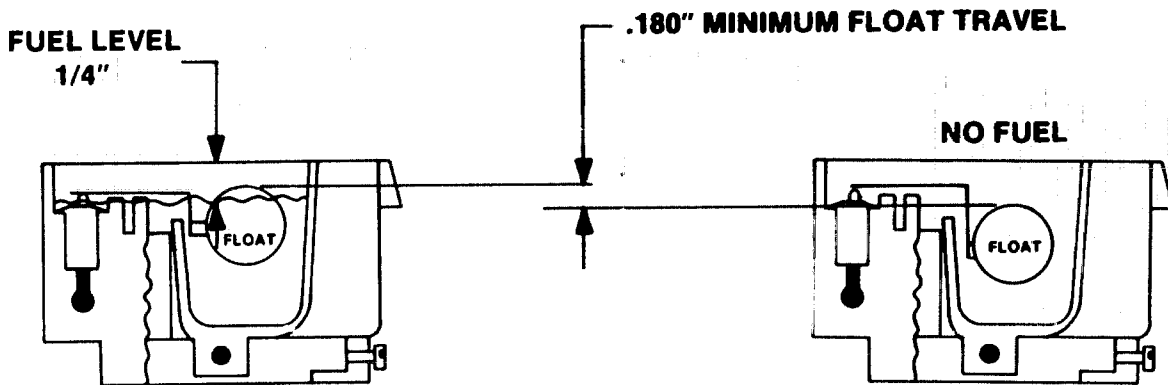


FIGURE C

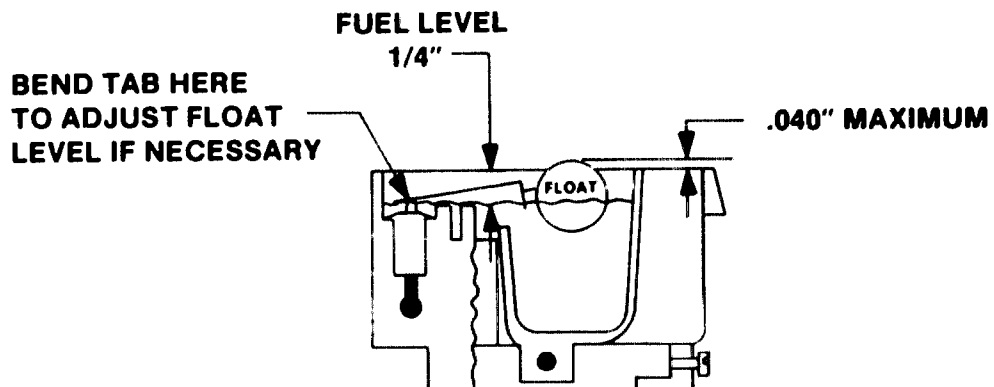


FIGURE D



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: March 21, 1980 PAGE 1 OF 1 BULLETIN NO. 311

SUBJECT: USE OF GASAHOL AND GASOLINE
DE-ICER IN ONAN BUILT ENGINES

REF. FILE # E-58 (MARKETING)
(SERVICE)
(WARRANTY)

MODEL(S) or SERIES:
ALL ONAN BUILT ENGINES

EFFECTIVE: IMMEDIATELY

The use of gasahol and gasoline de-icers could possibly distort the internal parts of carburetors and fuel pumps and deteriorates the binders of the gaskets used on Onan built engines.

Because of the unknown effects of gasahol and gasoline de-icers, ONAN does not recommend their use in ONAN built engines.

Onan intends to do future testing on gasahol fuel and its effects when used in Onan engines in 1980. These test results will be published in a future Product Support Bulletin when available.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: April 2, 1980 PAGE 1 OF 1 BULLETIN NO. 312

SUBJECT: ENGINE SERVICE KIT

REF. FILE # E-59 (SERVICE)
(MARKETING)
(WARRANTY)
(PARTS)

MODEL(S) or SERIES:

NHCV INDUSTRIAL ENGINES USED IN THE
FOLLOWING SKID STEER LOADER APPLICATIONS:

HYDRA-MAC - Model 8C-Series 1
GEHL Company - Model 3000
INTERNATIONAL HARVESTER - Model 4130

EFFECTIVE:

We have recently developed a service kit that allows the engine to run cooler and reduces potential problem of cylinder head "stud pullout" in above applications and models. The ambient temperature conditions in which these engines are operated is a major factor!

Through a joint effort with Onan, Hydra-Mac Inc. is making kits available to servicing dealers of the above companies which include the following:

- New graphoil cylinder head gaskets.
- New graphoil intake manifold gaskets.
- New remote oil cooler - provided by Hydra-Mac, Inc.
- New larger air cleaner package - provided by Hydra-Mac, Inc.

By mutual agreement of the parties involved, the retrofit program will be handled by the O.E.M. dealers which sell the loaders. For this reason the engine service kit will ONLY be available through Hydra-Mac, Inc. who in turn will supply Gehl company and International Harvester.

Should any owner's of the skid steer loader models mentioned above contact you regarding this engine service kit, please refer them to their own servicing dealers.

If you normally do service work for these companies and they prefer that you do the work, they will supply you with the engine service kit along with complete instructions covering the entire installation in the skid steer loader. The kits are NOT available directly from Onan and can ONLY be obtained from the company marketing the loader or from Hydra-Mac, Inc.

Standard Onan warranty policy does NOT apply.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: April 4, 1980 PAGE 1 OF 1 BULLETIN NO. 313

SUBJECT: FUEL RECOMMENDATION

REF. FILE # S-190 (SERVICE)
(MARKETING)
(WARRANTY)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL ONAN "P" -SERIES MODELS
WITH BRIGGS & STRATTON ENGINES

Briggs and Stratton has informed us of the following fuel recommendation for any Briggs & Stratton engine.

USE ONLY LEADED OR LOW-LEAD GASOLINES IN BRIGGS & STRATTON ENGINES.

They do NOT recommend gasohol or unleaded fuel at this time.

Use of gasohol or unleaded fuel in Briggs & Stratton engines could adversely affect engine valve life.

Reference also Product Support Bulletin #311 (Dated 3/21/80) on fuel recommendations in Onan-built engines.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: April 4, 1980 PAGE 1 OF 1 BULLETIN NO. 314

SUBJECT: AMERICAN BUSCH PSU
INJECTION PUMPS

REF. FILE # S-191 (SERVICE)
(PARTS)

MODEL(S) or SERIES:

ONAN PART # 147-0215 AND 147-0229

EFFECTIVE: IMMEDIATELY

Our vendor of the above model injection pumps is having difficulty in supplying our demand.

These pumps are used in four (4) service kits for Onan units which has caused a serious backorder situation on these kits. The kits in short supply are 147-0218, 147-0219, 147-0231 and 147-0232.

In order to alleviate the possibility of service related delays, we are recommending that the PSU pumps be taken to your local authorized Bosch diesel repair facilities and have the pumps tested and rebuilt as required.

Refer to applicable Onan service manual or the Master Service Manual for detailed procedures on removing the PSU pump from the engine. See Engine Service bulletin 59 for troubleshooting American Bosch PSU fuel system.

It is important to determine that the problem is definitely in the PSU pump rather than the nozzle or some other part of the fuel delivery system before removing the pump for repair.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: April 8, 1980 PAGE 1 OF 1 BULLETIN NO. 315

SUBJECT: IGNITION RESISTOR BYPASS
KIT #357-0055

REF. FILE # S-192 (SERVICE)
(WARRANTY)
(PARTS)

MODEL(S) or SERIES:
"JB" GENERATOR SETS
(Begin Spec AA)

EFFECTIVE: IMMEDIATELY

A new ignition resistor bypass kit is now available to improve cold weather starting on above model(s). It is designed to provide a higher ignition voltage during the "start cycle" by allowing the bypass of the ignition resistor during cranking and then switching the resistor back into the circuit after the set starts.

The kit comes with complete installation instructions (C179) and pictorial wiring diagram.

Poor starting and starting problems are often related to improper carburetor or choke settings, fuel condition, fouled spark plugs, burned ignition points etc.

Be sure these items are properly maintained before the new ignition bypass kit is installed. This kit will only improve cold weather starting if all of the items mentioned above are in good working order.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: April 8, 1980 PAGE 1 OF 1 BULLETIN NO. 316

SUBJECT: 101-0361 CENTER MAIN BEARING
SPARE PARTS STOCK CHECK

REF. FILE # M-35 (SERVICE)
(PARTS)

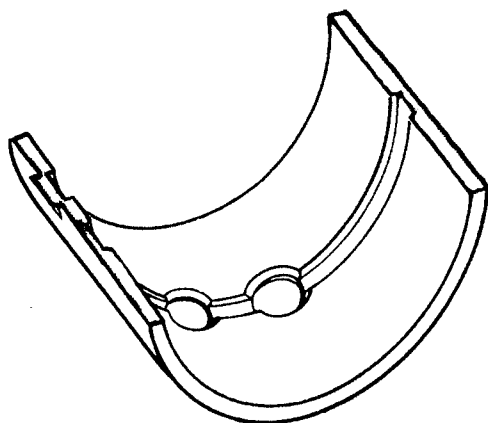
MODEL(S) or SERIES: ALL JC, RJC, DJC, RDJC, RDJF, MDJC AND MDJF ENGINES. EFFECTIVE: IMMEDIATELY

A final machining process was omitted on some of the 101-0361 main bearings in spare parts stock.

If a non-machined bearing is used in the engine, the center main bearing housing will not bolt up flush. To determine whether the bearing has been machined, inspect the mating edges as shown below. They must have a flat smooth finish.

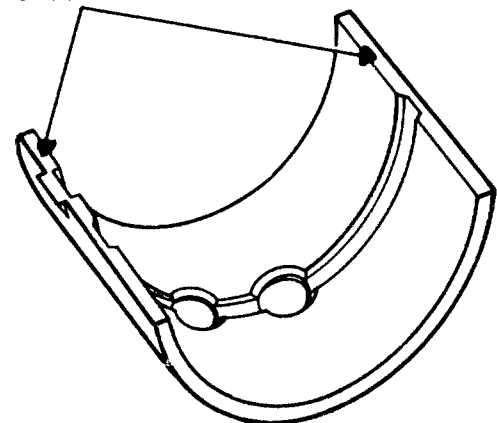
Onan stock has been checked and purged of any non-machined bearings.

Check your service parts stock and return any non-machined bearings to Onan for credit. Standard spare parts warranty will apply on defective bearings.



NON-MACHINED BEARING

INSPECT MATING SURFACE
FOR FLAT SMOOTH FINISH



MACHINED BEARING



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: April 30, 1980 PAGE 1 OF 1 BULLETIN NO. 317

SUBJECT: SERVICING OIL PUMPS

REF. FILE # S-193 (SERVICE)
(WARRANTY)

MODEL(S) or SERIES:

ALL TWIN-CYLINDER ONAN GASOLINE ENGINES

EFFECTIVE: IMMEDIATELY

Inspection of some oil pumps returned to Onan under warranty, have revealed that failure was caused by foreign metal. These engines had failed an oil pump previously.

Orientation of the pump and pick-up tube can allow metal from a previously failed pump to drop down into the pick-up tube or screen. Failure to thoroughly clean the pick-up tube and screen will lead to another oil pump failure.

This bulletin is being issued to reiterate the problem and recommendation to check and clean the oil pump pick-up tube when replacing the oil pump or reassembling the engine using the procedure recommended in Product Support Bulletin #272 (Dated 3/14/79) on servicing oil pumps. The procedure is repeated here as follows:

When overhauling any twin-cylinder Onan engines, always check the oil pump pick-up tube for any foreign material as part of the servicing procedure prior to reassembly. Some oil pumps returned to us show evidence of having failed due to metal chips passing through the pump.

The oil intake cup and screen and the pick-up tube are one complete assembly which cannot be taken apart.

Because of the design of the oil pick-up tube, (small diameter and bends in the pick-up tube itself) it is impossible to examine by looking through the tube.

Clean the pick-up tube by soaking the complete assembly in solvent. Then blow out the tube using low pressure air from the pick-up tube end first and then from the screen end of the oil cup.

As a final check, shake the oil cup and tube assembly to free any particles which may have become trapped in the oil cup screen area. Then make a visual check using a flash light if necessary.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: May 7, 1980 PAGE 1 OF 1 BULLETIN NO. 318

SUBJECT: POTENTIAL OIL LEAK AT
OIL RESERVOIR TANK

REF. FILE # S-194 (SERVICE)

MODEL(S) or SERIES:

5.OPK-3E/20000H
6.5PM-3E/20000H
5.OPK-3E/21590H
6.5PM-3E/21590H

EFFECTIVE: BEGIN SPEC "H"

Field reports indicate that an oil leak may occur at the sight gauge end of the 159-1091 oil reservoir tank on above models.

Should a leak occur through the plastic sight gauge it can be corrected by tightening the allen head bolt used to secure the plastic sight gauge to the oil tank.

Tightening the bolt is accomplished by inserting a 7/16 socket, short extension and 1/4" drive ratchet into the tank through the fill cap opening (on top) to hold the nut on the inside while tightening the 3/16 Allen head bolt from the outside.

This will correct the problem.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: June 11, 1980 PAGE 1 OF 1 BULLETIN NO. 319

SUBJECT: CHECKING TORQUE VALUE
ON ROTOR THRU-STUD

REF. FILE # S-195 (SERVICE)

MODEL(S) or SERIES:

6.5 PM-3P or 3E/H WITH BRIGGS & STRATTON
16 H.P. ENGINE MODELS 326432-0302-01,
326435-0296-01, or 326435-0338-01.

EFFECTIVE: BEGIN SPEC "H"

Whenever any of the 6.5PM Onan "P"-series models (with Briggs & Stratton engines listed above) are received for service that requires generator repair; the rotor thru-stud should be checked and torqued to spec which is 19-23 foot pounds (25.8-31.2 N.M).

Undertorquing will result in severe "fretting" and subsequent failure of the crankshaft.

To obtain access to the rotor thru-stud, it is necessary to remove the control panel, end bell assembly and generator mounting bracket.

Again this torque check should be made anytime related repairs require removal of any of the above mentioned sub assemblies.

Torque data assembly drawing #175-0037D contains the correct values of hardware torque for all "P"-series models and may be ordered from the Onan Parts Department.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: July 15, 1980 PAGE 1 OF 1 BULLETIN NO. 320

SUBJECT: NEW CYLINDER HEAD GASKET
(ONAN PART #110-2944)

REF. FILE # S-196 (SERVICE)
(PARTS)

MODEL(S) or SERIES:
MDJB, MDJC AND RDJC MODELS

EFFECTIVE: IMMEDIATELY

This new gasket is being released exclusively for use on the 3-1/4" bore 2 and 4 cylinder water-cooled diesel models listed above.

This gasket replaces the 110-2464 gasket for these models, however the 110-2464 gasket will continue to be used on the 3-1/2" bore 2 and 4 cylinder water cooled models.

The new 110-2944 gasket also replaces the 110-1211 copper clad gasket for 3-1/4" 2 and 4 cylinder models.

This new gasket is similar to the 110-2464 gasket in that it also has a pre-applied silicone sealant for coolant and push rod passages. However, it's smaller fire ring improves starting characteristics on the small bore models.

Order stock as required to support service requirements.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: Aug. 1, 1980 PAGE 1 OF 1 BULLETIN NO. 321

SUBJECT: 150-1763 IDLEMATIC KIT
300-1801 PRINTED CIRCUIT CONTROL

REF. FILE # S-197 (SERVICE)
(PARTS)

MODEL(S) or SERIES: "P" SERIES GENERATOR SETS EFFECTIVE: IMMEDIATELY

The 300-1801 printed circuit board used in the 150-1763 idlematic kit is being modified to improve reliability. The modification consists of adding a capacitor across the relay contacts.

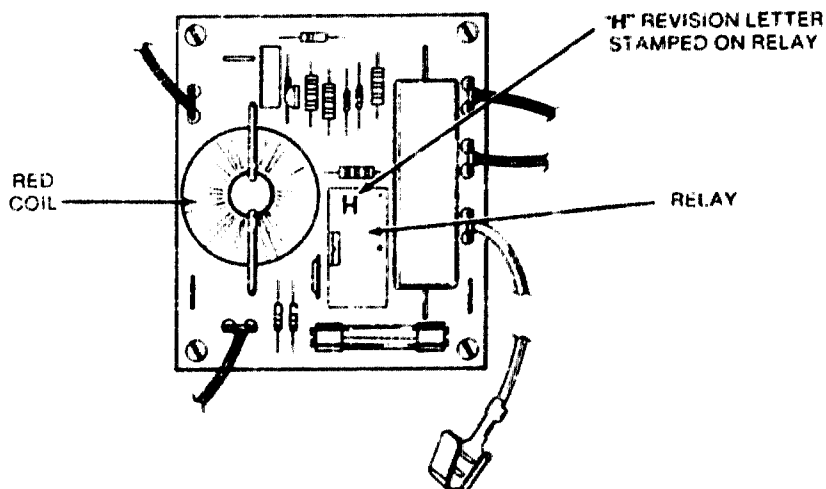
All 150-1763 idlematic kits and 300-1801 replacement boards in stock should be returned to Onan immediately for credit. Return shipping costs will be paid by Onan. Only new kits and boards in their original prepack carton will be accepted by Onan.

Distributors and OEM customers should enclose a copy of this bulletin with the kits and boards being returned.

Dealer returns must be processed through the distributor. All distributors outside the United States should request Customs Form 3311 (Declaration for Free Entry of Returned American Products) from the Onan Parts Department before shipping. The return program will be in effect until November 1, 1980.

The part number of the kit and board will not change when the board is modified. Order 150-1763 idlematic kits and 300-1801 controls through your normal channels to replace those returned.

The new board can be identified by the letter "H" stamped on the top of the Relay. See illustration below.



REVISED 300-1801
PRINTED CIRCUIT CONTROL IDENTIFICATION



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: Aug 6, 1980 PAGE 1 OF 1 BULLETIN NO. 322

SUBJECT: RESTORING RESIDUAL MAGNETISM

REF. FILE # S-198 (SERVICE)

MODEL(S) or SERIES:
MCKK BEGIN SPEC "H"

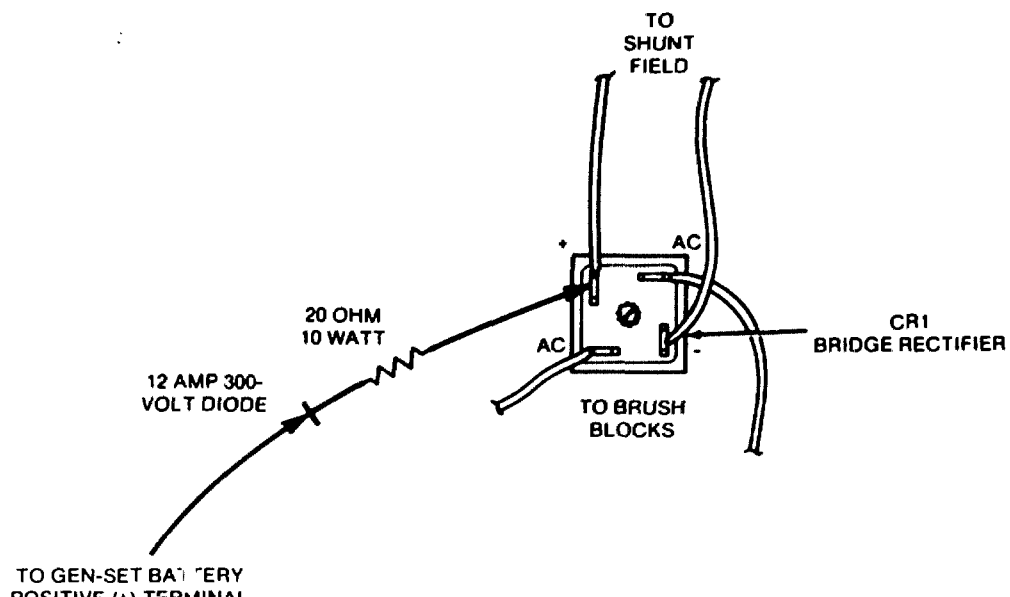
EFFECTIVE: IMMEDIATELY

Loss of magnetism in shunt field F1 may occur if diode bridge CR1 fails, or if the shunt field is replaced. This results in no AC output from the generator. The set will not operate because the start-disconnect relay K3 is not energized.

Residual magnetism is restored by using the following procedure:

1. Remove generator end bell wrapper and locate CR1 bridge rectifier on the top brush holder.
2. Make a jumper lead containing a 12-ampere 300 volt diode and a 20 ohm, 10-watt resistor in series as shown in diagram below. Observe diode polarity. The lead must be long enough to reach from the gen-set starting battery positive terminal to the positive terminal of bridge rectifier CR1. Install clips at each end and insulate bare wires and connection points.
3. Connect the diode end of the jumper lead to the gen-set battery positive terminal and the resistor end to the positive (+) terminal of the bridge rectifier. Maintain connection for a maximum of 5 seconds.
4. Remove jumper lead connections and check set operation. Replace endbell wrapper.

All wiring and connections are illustrated below.





Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: SEPT. 15, 1980 PAGE 1 OF 1 BULLETIN NO. 323A

SUBJECT: "J" SERIES CRANKSHAFT REPLACEMENT

REF. FILE # S-199 (SERVICE)
(PARTS)

THIS INFORMATION SUPERCEDES
BULLETIN #323 (DATED 8/6/80)

MODEL(S) or SERIES:

DJC, MDJC, RDJF AND MDJF DIESEL MODELS
JC AND RJC GAS/GASOLINE MODELS

EFFECTIVE: IMMEDIATELY

The "J" Series crankshaft part numbers for the above models have changed due to a change in our supplier.

Part Number 104-1118 replaces 104-0464 for Diesel models.

Part Number 104-1120 replaces 104-0460 for Gas/Gasoline models.

Distributors and Dealers may want to consider stocking only the 104-1118 for all "J" Series 4-cylinder Gas/Gasoline and Diesel models. This will reduce your inventory requirements.

Any 104-0464 and/or 104-0460 crankshafts in your replacement parts inventory should be used in the applicable models until your stock is exhausted.

The 104-1120 crankshaft can ONLY be used in the "J" Series Gas/Gasoline models listed above.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: Aug. 10, 1980 PAGE 1 OF 1 BULLETIN NO. 324

SUBJECT: NEW REPLACEMENT KITS FOR "RV"
CONTROLS USING THE 309-0859
PRINTED CIRCUIT BOARD.

REF. FILE # S-200 (SERVICE)
(PARTS)

MODEL(S) or SERIES:

ALL "CCK" AND "NH" RV SETS
IN SPEC 12015 OR EARLIER

EFFECTIVE: IMMEDIATELY

Two new modification kits have been designed using a relay type control to replace the original control on the above RV sets. These new controls also incorporate the start-disconnect circuit which prevents accidental operation of the cranking circuit after the engine is running.

The start-disconnect circuit cannot be added to the 300-1598 or 300-1599 kits currently available in the field. You must use the new kit to obtain this feature.

Kit #300-2026 must be used on units equipped with an Onan choke. This kit supercedes kit #300-1598. Complete installation instructions (C180) are included. Reference also Product Support Bulletin # 219B (dated January 10, 1979).

Kit #300-2027 must be used on units equipped with a Sisson choke. This kit supercedes kit #300-1599.

All future parts orders for the 300-1598 or 300-1599 kits will be supplied with the new kits at current prices.

Order stock as required for immediate field service modification.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: Sept. 15, 1980 PAGE 1 OF 1 BULLETIN NO. 325

SUBJECT: TRANSFER SWITCH CONTROL RELAY

REF. FILE # C-19 (SERVICE)
(PARTS)

MODEL(S) or SERIES:
ALL "OT" TRANSFER SWITCHES

EFFECTIVE: IMMEDIATELY

Onan is using a redesigned switch control relay which has screw type terminal contacts instead of faston terminals. This product improvement requires new terminals for use in older units already in the field.

When installing new relay into older wiring harnesses, use relay 307-1671 for 208/240 volt operation or relay 307-1672 for 480 volt operation.

Wiring harness needs to be modified by removing original faston terminals (12-total) and installing ring-tongue terminals prior to installing a new relay in "OT" switch.

Both relays come in kit form with complete installation instructions. Order kit #307-1888 for 208/240 volt models or kit #307-1889 for 480 volt models.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: OCT. 1, 1980 PAGE 1 OF 1 BULLETIN NO. 326

SUBJECT: GASOLINE IN THE OIL AND
SPARK PLUG FOULING

REF. FILE # E-60 (SERVICE)
(WARRANTY)
(PARTS)

MODEL(S) or SERIES:
CCKA MILLER WELDER ENGINE SPECS
3670J, 3671J, 3718J AND 3819J ONLY

EFFECTIVE: IMMEDIATELY

We have reports of spark plug fouling and subsequent gasoline in the oil on some of the subject models used on Miller Electric Company Welder applications.

Check the following items if the above conditions are present:

1. Ask the customer what type of load and duty cycle the welder is subject to?
2. Install Onan spark plug #167-0262 (Champion RH12) if engine originally had Onan #167-0237 (Champion RH8) spark plugs. Reference Product Support Bulletin #306 (Dated 2/1/80) for additional background information.
3. Review Product Support Bulletin #310 (Dated 3/10/80) on LUA Carburetor float travel. Examine carburetor body for porosity or cracks. Check Viton seat to ensure it is secure. If not, replace needle and seat assembly.
4. Have the customer run the welder under load, shorter idle cycles or stop the unit when not needed. Reference Product Support Bulletin #297 (Dated 10/15/79) for additional background information.
5. If after checking steps 1-4 the welder still exhibits signs of spark plug fouling, install the following items:
 - a. (2) Intake Valve Guides - Onan Part #110-1827.
Note: Intake valves and seats must be ground when installing new valve guides.
 - b. (2) Valve Stem Oil Seals - Onan Part #509-0090.
 - c. (2) Intake Valve Guide Gaskets - Onan Part #110-3136.

Miller has added an idlematic control to their welder. This allows engine to idle when unit is not under load. If extended idle conditions are encountered, it is possible to oil foul the spark plugs. This is caused by high intake manifold vacuum during light or no loads, which draws oil down the intake valve stem.

Installation of intake valve guides, seals and gaskets will NOT be considered for warranty reimbursement when the engine is run at light loads.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: NOV. 6, 1980 PAGE 1 OF 1 BULLETIN NO. 327A

SUBJECT: REPLACEMENT KITS FOR 300-0859
PRINTED CIRCUIT BOARD

REF. FILE # S-201 (SERVICE)
(WARRANTY)
(PARTS)

*300-0859-01 DISCONTINUED

MODEL(S) or SERIES:
VARIOUS "CCK" AND "NH" RV MODELS
AND OLDER "MCKK" MODELS

EFFECTIVE: IMMEDIATELY

The availability of the 300-0859 printed circuit board used in various controls (primarily on RV and some older MCKK marine models) has been discontinued as of this date.

If repair or replacement of this board is necessary, substitute the following relay-type control kits for specific applications:

RV models with Onan choke - order Kit #300-2026.

RV models with Sisson choke - order Kit #300-2027.

All Spec "E" and "F" MCKK models - order Kit #300-1796.

All other standard remote start models with Onan choke - order Kit #300-1884.

All other standard remote models with Thermo-magnetic choke - order Kit #300-1885.

This substitution does NOT apply to any home standby models in Spec 8800.

If you cannot identify which kit fits the model in question, tell us the end application, along with complete model and serial number, when ordering.

Reference the following Product Support Bulletins for additional background information.

PSB #268 (Dated 2/7/79) for MCKK models.

PSB #304 (Dated 1/16/80) for NH Spec "K" models ONLY.

PSB #324 (Dated 8/10/80) for CCK and NH RV models.

*Above substitutions also applies to 300-0859-01 repaired printed circuit boards.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: OCT. 15, 1980 PAGE 1 OF 1 BULLETIN NO. 328

SUBJECT: 123-1164 OIL LEVEL INDICATOR

REF. FILE # S-202 (SERVICE)
(WARRANTY)
(PARTS)

MODEL(S) or SERIES:

"BF" SPEC 9000 OR 9500
POWER DRAWER MODELS ONLY

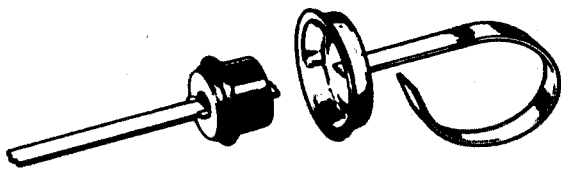
EFFECTIVE: IMMEDIATELY

An unknown quantity of this oil level indicator have been shipped with the neoprene oil stopper incorrectly assembled on the oil dip stick. Units assembled with this defective indicator will blow oil out of the oil fill tube.

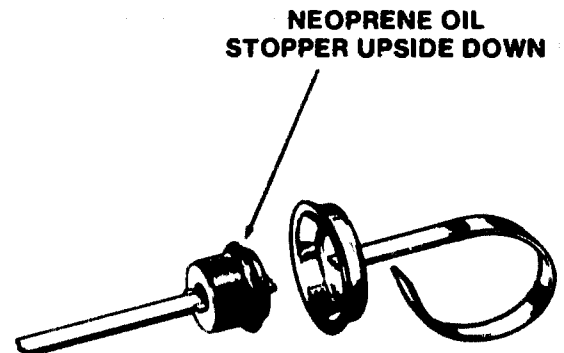
Any 123-1164 oil level indicator shipped from Onan in the past 6 months could be defective. Onan stock has been checked and faulty parts removed.

Please check your inventory for any defective oil level indicators which have the oil stopper assembled upside down under the cap assembly which prevents the stopper from sealing properly. Refer to illustrations below to identify defective stock.

File a warranty claim for any defective stock in your inventory. Reference this bulletin by number when filing a warranty claim. Warranty claims for the above defective part will be accepted until December 1, 1980.



PROPERLY ASSEMBLED
OIL LEVEL INDICATOR



DEFECTIVE OIL LEVEL
INDICATOR



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: NOV. 6, 1980 PAGE 1 OF 1 BULLETIN NO. 329

SUBJECT: 305-0517 BRIDGE RECTIFIER

REF. FILE # S-203 (SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

MCCK SPEC H MARINE GENERATOR SETS

The 305-0517 bridge rectifier that is listed on Parts Lists for the MCCK Spec H has been replaced because of increased field failures.

A new bridge rectifier, 305-0653, must be used when it is necessary to replace the 305-0517 rectifier on MCCK Spec H.

The only application for the remaining 305-0517 bridge rectifiers in your stock will be the BF and NH RV power drawers.

The 305-0517 bridge rectifier has a Bakelite base. The 305-0653 bridge rectifier has a metal base.

Please replace the bridge rectifiers on the above units in your stock.

The normal warranty policy will apply.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: NOV. 26, 1980 PAGE 1 OF 1 BULLETIN NO. 330

SUBJECT: 300-2027 REPLACEMENT CONTROL KIT

REF. FILE # M-36 (SERVICE)
(WARRANTY)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

CCK OR NH "RV" SETS WITH
SISSON CHOKE

The first production run of the above control kits for replacement of the 300-0859 printed circuit board were wired incorrectly for use with Sisson chokes.

These controls supply current to the Sisson choke through the 5-amp ignition fuse, which blows the fuse when attempting to start the set.

To correct this problem, remove the wire from relay K4-pin 85 to relay K3-pin 30. Install a new wire from start solenoid K1-B+ terminal to relay K4-pin 85. This removes the choke from the fuse circuit.

Please modify all 300-2027 control kits in your stock. Warranty will pay one hour labor for each control modified.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: NOV. 26, 1980 PAGE 1 OF 2 BULLETIN NO. 331

SUBJECT: PARTS STOCK CHECK OF 101-0432
FRONT MAIN BEARING

REF. FILE # M-37 (SERVICE)
(WARRANTY)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL "B" AND "N" SERIES ENGINES

Field reports indicate that some of the above replacement front main bearings have an incorrect radius as shown in Figure 1. If a defective bearing is installed, the crankshaft radius will NOT match-up, resulting in a pre-load condition and no end play.

Onan stock has been checked and purged of any faulty bearings.

Check your stock of standard size bearings, both visually and by sliding the bearing onto any "B" or "N" series crankshaft. Proper radius as shown in Figure 2 will allow the thrust surface of the bearing to touch the machined surface of the crankshaft.

Close visual inspection of any Undersize bearings in your inventory is also necessary.

Standard spare parts warranty will apply on any defective bearings found.

(Over)

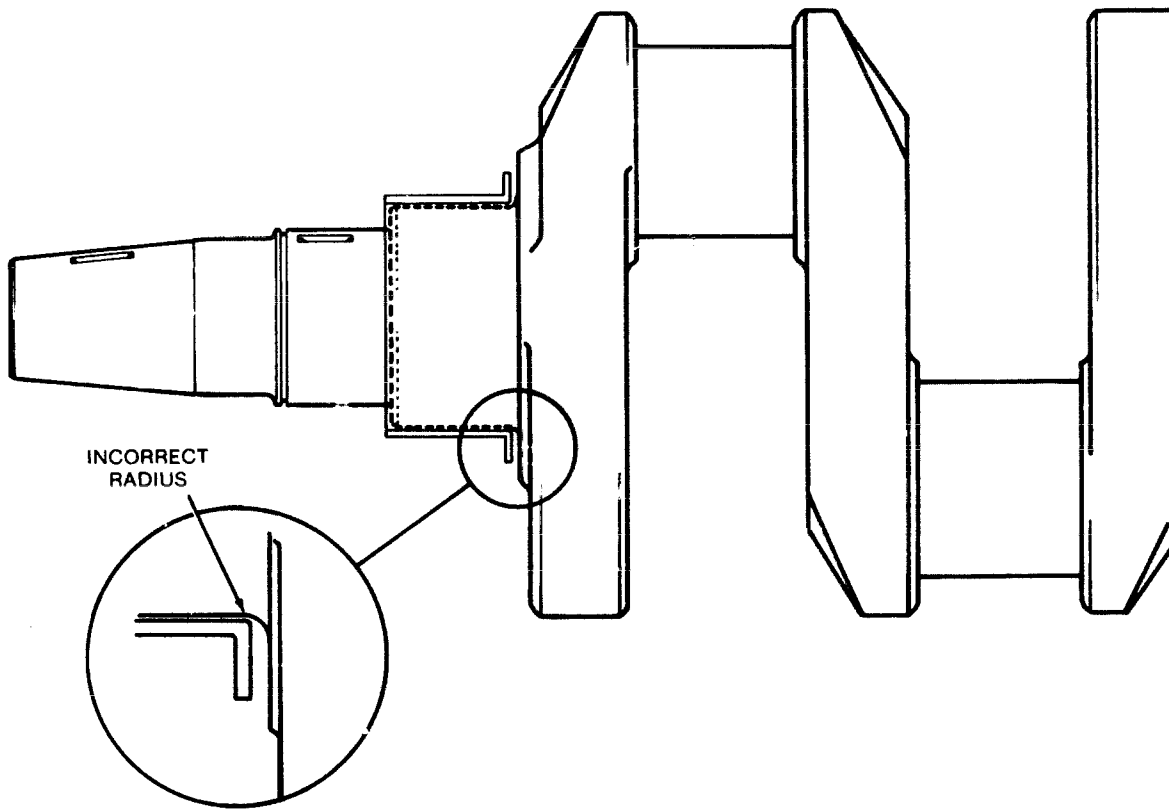


FIGURE 1. FRONT MAIN BEARING AND CRANKSHAFT RADIUS DO NOT MATCH RESULTING IN A PRE-LOAD CONDITION AND NO ENDPLAY

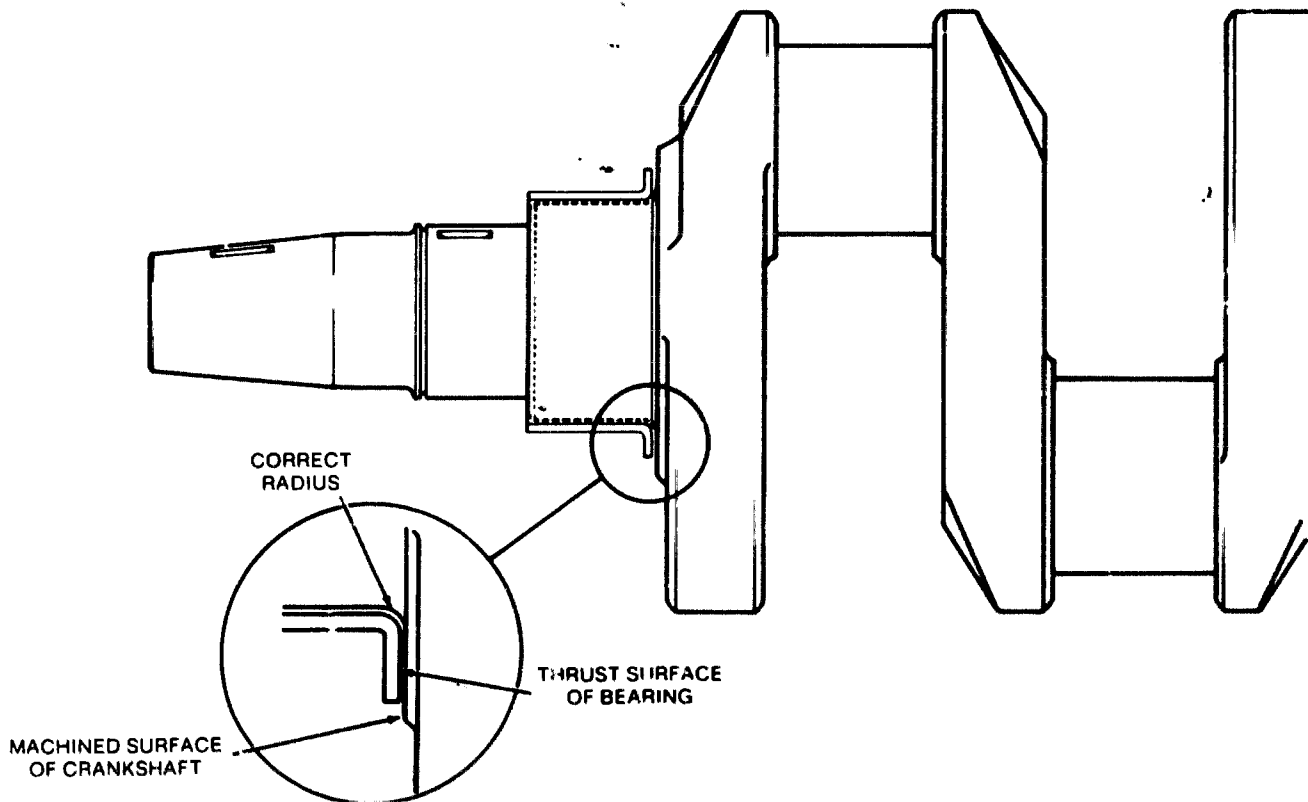


FIGURE 2. FRONT MAIN BEARING AND CRANKSHAFT RADIUS MATCH ALLOWING PROPER ENDPLAY.

The following catalog has gaps in its page numbers, or doesn't have any numbers. We have chosen to leave the page numbering in the order that Acrobat assigns it.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: NOV. 26, 1980 PAGE 1 OF 2 BULLETIN NO. 332

SUBJECT: OIL VISCOSITY RECOMMENDATIONS
FOR CUMMINS ENGINES

REF FILE # M-38 (SERVICE)

MODEL(S) or SERIES

EFFECTIVE IMMEDIATELY

ALL CLASS "B" SETS WITH
CUMMINS ENGINES

Cummins Engine Company has notified us of an important change regarding lubricating oil viscosity recommendations. They now recommend the use of multi-viscosity oil!

The use of multi-viscosity oil in Cummins engines can significantly reduce oil consumption, improve engine cranking in cold weather, and may contribute to improved fuel consumption.

Cummins does not recommend the use of single grade viscosity lubricating oil.

Their oil performance recommendation for turbo-charged engines will continue to be American Petroleum Institute's classifications CC and CD and have no more than 1.85% sulfated ash content. Only the viscosity recommendations have been changed.

The exact viscosity range to use depends on the ambient temperatures in which the generator set is going to be operated. This will vary from set to set; therefore, a compromise viscosity range may be selected. These recommendations are being made to improve engine lubrication and to extend life to time for engine overhaul.

OIL PERFORMANCE RECOMMENDATIONS

Cummins Engine Co., Inc. does not recommend the use of any specific brand of engine lubricating oil.

Cummins recommends the use of oil designed to meet the following API categories:

- * CC for use in naturally aspirated engines.
- * CC/CD for use in turbo-charged engines.
- * CC/SC for use only in engines that operate in a light-duty service (including standby and emergency operation).

Cummins Engine Co., Inc. recommends synthetic lubricating oil for use in Cummins engines operating in areas where the ambient temperature is consistently lower than -25°C (-13°F).

(OVER)

Synthetic lubricating oils may be used at higher ambient temperatures, provided they meet the appropriate API Service categories and viscosity grades.

Cummins recommends the same oil change interval be followed for synthetic lubricating oil as that for petroleum based lubricating oil.

Cummins Recommendations For
Viscosity Grade vs. Ambient Temperature

SAE Viscosity Grade*

Ambient Temperature*

Recommended

| | |
|--------|----------------------------------|
| 10W-30 | -25°C to 35°C (-13°F to 95°F) |
| 15W-40 | -10°C and above (14°F and above) |
| 20W-40 | 0°C and above (32°F and above) |

*SAE-5W mineral oils should not be used.

For standby and emergency engine applications such as electric generators and fire pumps where the engine is located in a heated room or enclosure, use an SAE 10W-30 oil. For unheated standby and emergency applications, consult your Cummins service representative for advice.

Alternate Oil Grades

| | |
|---------|---------------------------------|
| 10W | -25°C to 0°C (-13°F to 32°F) |
| 20W | -5°C to 20°C (23°F to 68°F) |
| 20W-20* | -5°C to 20°C (23°F to 68°F) |
| 20 | -5°C to 20°C (23°F to 68°F) |
| 30 | 4°C and above (39°F and above) |
| 40 | 10°C and above (50°F and above) |

*20W-20 is not considered a multigrade, even though it meets two grades.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: DEC. 10, 1980 PAGE 1 OF 1 BULLETIN NO. 333

SUBJECT: CARBURETOR HIGH TEMPERATURE KIT REF. FILE # E-61 (SERVICE)
142-0607 FOR CCKA INDUSTRIAL (PARTS)
ENGINES USED ON GRAVELY TRACTORS (MARKETING)

MODEL(S) or SERIES. EFFECTIVE IMMEDIATELY

CCKA INDUSTRIAL ENGINES

During high ambient temperatures, a vapor locking condition can occur in the CCKA industrial engine used in Gravelly tractor applications. This situation is aggravated when angle operating conditions (slopes and banks) are encountered.

The new 142-0607 Kit has been developed to eliminate the vapor locking condition. The kit contains a new carburetor body top half which has larger vent holes and a new style baffle gasket.

Before installing this kit, make sure the engine is in proper tune and the carburetor float level is at 5/16". The unit must have an electric fuel pump (supplied by Gravelly) and the fuel pump must be mounted away from engine heat. The proper place for mounting the electric fuel pump is under the tractor hood. If everything checks out properly and the tractor still exhibits the problem, install Kit #142-0607. Reference Product Support Bulletin #288A (Dated 10/1/79) for additional information on carburetor float setting.

Kit #142-0607 can be obtained through the Gravelly factory or your local Gravelly Distributor.

Since this is a modification kit to aid our engine in running at higher ambient temperatures and greater angles of operation that were not specified in the original design, NO warranty will apply.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: DEC. 15, 1980 PAGE 1 OF 1 BULLETIN NO. 334

SUBJECT: "OT" TRANSFER SWITCH
VOLTAGE CONVERSION

REF. FILE # C-20 (SERVICE)
(PARTS)

MODEL(S) or SERIES

EFFECTIVE: IMMEDIATELY

ALL "OT" MODELS

Field reports indicate Distributors are changing "OT" operating voltages without changing all the voltage-sensitive components in the switch assembly. This will result in failure of the "OT" switch.

Interposing relay voltage conversion kits are available to change voltage codes along with the proper voltage actuator kit. These kits MUST be used to convert any "OT" switches in the field. Reference also Product Support Bulletin #325 (Dated 9/15/80) on transfer switch control relays.

Instruction Sheets C161a and C162a are enclosed, giving conversion procedures and kit numbers that apply. Order correct kit part numbers prior to any field conversion.

Allow a minimum lead time of 30 days for delivery.



Instruction Sheet

C 161a

Onan Corporation 1400 73rd Avenue Northeast Minneapolis Minnesota 55432

11-79

SERIES OT TRANSFER SWITCH VOLTAGE CONVERSION LINEAR ACTUATOR REPLACEMENT INSTRUCTIONS

This instruction sheet covers the replacement of the linear actuator and its related components in Series OT transfer switches *with a single linear actuator*. Replacement of the linear actuator with one of different voltage affects a change in the nominal operating voltage of the transfer switch. If the conversion is made to the complete OT transfer switch, the control accessory panel, meter-lamp panel, and interposing relay (K1) are also affected.

The purpose of these instructions is to provide a step-by-step procedure for a bench-top conversion of the transfer switch by an Onan distributor or other qualified person. This instruction sheet applies to eighteen linear actuator replacement kits. Follow the instructions as they are given for a specific kit number.

LINEAR ACTUATOR REPLACEMENT KIT NUMBERS. SINGLE ACTUATOR TRANSFER SWITCH

| Without Programmed Transition | Voltage | 100-150 A | | 225-280 A | | 400-1000 A |
|-------------------------------------|--------------|--------------|--------------|--------------|--------------|------------|
| | | Begin Spec C | Spec A and B | Begin Spec C | Spec A and B | |
| Transition | To 208-240 V | K306-1911 | K306-1945 | K306-1919 | K306-1945 | K306-1923 |
| | To 480 V | K306-1912 | K306-1946 | K306-1930 | K306-1946 | K306-1924 |
| With Programmed Transition | To 208-240 V | K306-1913 | | K306-1917 | | K306-1925 |
| | To 480 V | K306-1914 | | K306-1974* | | K306-1926 |
| | | | | K306-1918 | | |
| | | | | K306-1975* | | |

* High Withstand Transfer Switches Only

A. PRELIMINARY STEPS - ALL KITS

1. Remove all line power from the transfer switch. Disable the generator set by placing the engine control switch at STOP and disconnecting the starting battery.

WARNING

A serious electrical shock hazard is present unless all line power is removed and the generator set is prevented from starting.

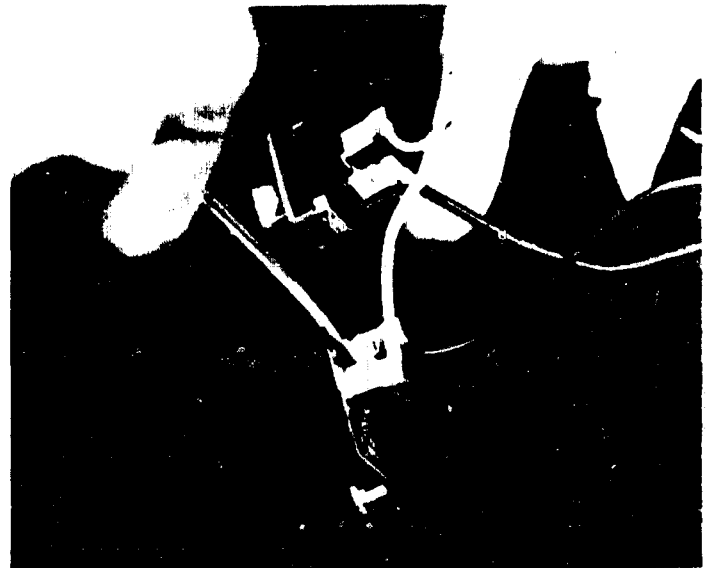


FIGURE 2

2. Remove the auxiliary contact cover after removing the four screws as in Figure 1.
3. Detach the leads from the motor disconnect switch and circuit breaker located on the back side of the auxiliary contact cover. See Figure 2.
4. Clip the wire ties from the linear actuator wire harness.
5. Pull the capacitor(s) from the capacitor brackets as illustrated in Figure 3.
6. Remove the capacitor cap(s) and disconnect the leads.
7. If necessary, remove the plexiglass covers on either side of the linear actuator to make room for a backup wrench on the actuator mounting bolts. It should not be necessary to remove the contact covers.



FIGURE 3

B. LINEAR ACTUATOR REPLACEMENT - ALL KITS

1. Operate the transfer switch manually to become familiar with the action of the switch. Pay attention to the movement of the rod through the linear actuator. The movement should be smooth and free from binding.
2. With both manual handles positioned toward the linear actuator, remove the cap screws from both ends of the actuator rod. See Figure 4.
3. Move the bottom handle away from the linear actuator toward the emergency side. Lift out the rod end assembly as in Figure 5.



FIGURE 4

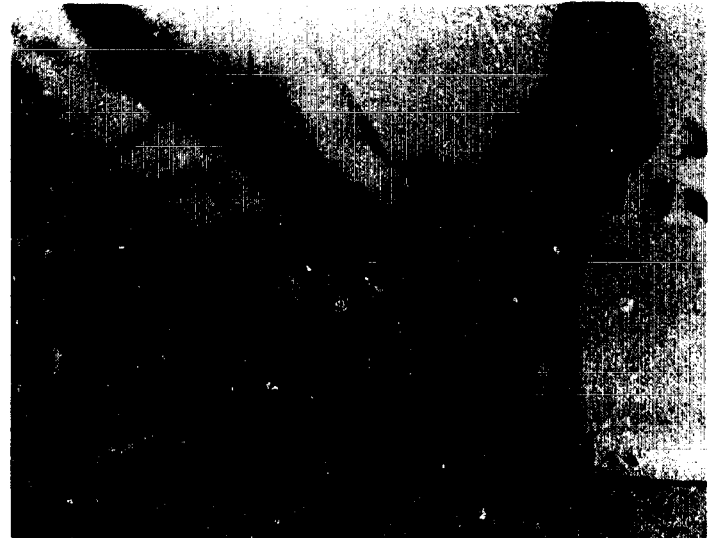


FIGURE 5

4. Pull the actuator rod from the linear actuator as shown in Figure 6.
5. Using a backup wrench, remove the mounting bolts from the linear actuator. See Figure 7. Remember the position of the grounding lead. On 225 and 280 ampere switches, cap screws and spacers are used instead of mounting bolts.



FIGURE 6

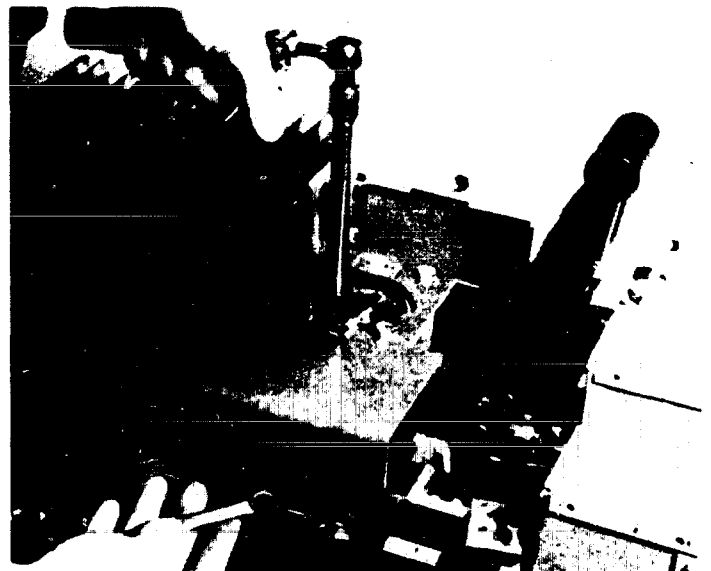


FIGURE 7

6. Pull the linear actuator leads through the routing hole and remove the actuator.
7. Position the replacement linear actuator with the leads toward the emergency side. Route the leads through the routing hole.
8. Replace the mounting bolts being certain to replace the grounding lead. Do not tighten the mounting bolts. Some play will be necessary for adjustment.
9. Replace the actuator rod in the linear actuator while holding the grounding brush aside as shown in Figure 8.
10. With the manual operator handles positioned toward the linear actuator, position the actuator rod midway between the inside edges of the handle. Refer to Figure 9. The proper position of the rod is important to prevent binding. Tighten the mounting bolts to a nominal 70 in. lb.



FIGURE 8



FIGURE 9

11. Move the manual operator handles away from the linear actuator and replace the rod end assemblies. See Figure 5.
12. Move the manual operator handles toward the linear actuator. Replace the end screws and tighten to 120 in. lb. (13.6 N•m) using a screwdriver as a wedge to prevent the rod end assembly from twisting in the handle. See Figure 10.
13. Operate the transfer switch manually checking for smooth operation of the actuator rod in the actuator.



The actuator rod must move smoothly and freely through the linear actuator. No binding or

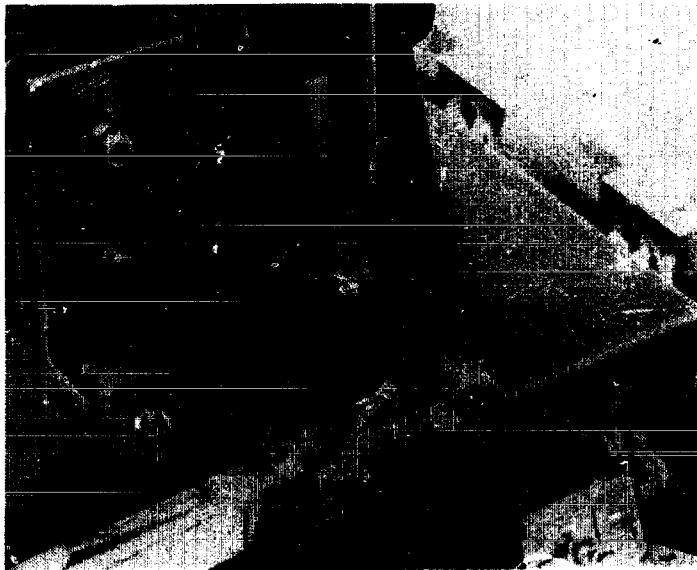


FIGURE 10

C. CIRCUIT BREAKER REPLACEMENT - ALL KITS

1. Replace the circuit breaker mounted on the auxiliary contact cover with the circuit breaker supplied in the kit.
2. Reconnect the short lead from the motor disconnect switch to either terminal of the circuit breaker as illustrated in Figure 11.
3. Connect the lead from terminal block 31, terminal 2 (TB 31-2) to the motor disconnect switch. Be sure that the two leads connected to the motor disconnect switch are on terminals that are approximately perpendicular and on the same side of the switch. See Figure 12.



FIGURE 11



FIGURE 12

4. Connect the black lead from the linear actuator to the vacant terminal of the circuit breaker as shown in Figure 13.

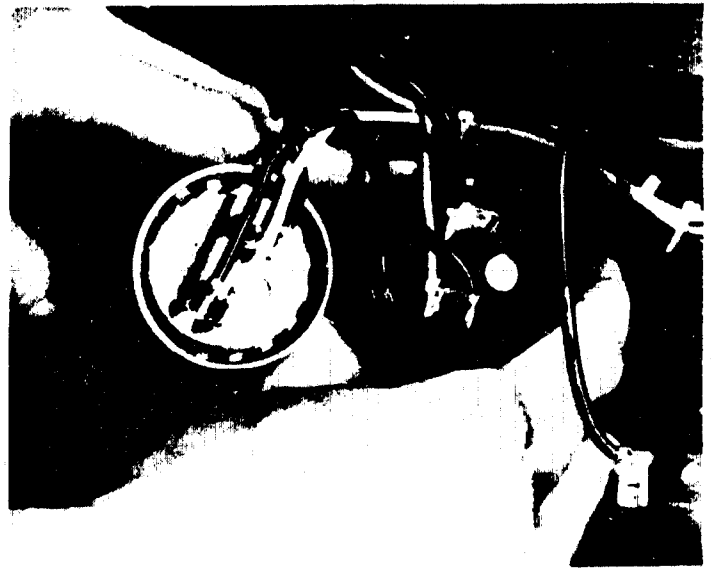


FIGURE 13

D. CAPACITOR REPLACEMENT - KITS K306-1912, -1914, -1918, -1924, -1926, -1930, -1946, and -1975 (to 480 V)

These kits provide two capacitors to replace the single capacitor on the transfer switch (to 480v).

1. Mount the capacitor bracket using the #10-32 screws provided with the kit. The second bracket is located in line with the original bracket.
2. Connect the replacement capacitors. Refer to Figures 14 and 15.
 - a. Connect a 5 inch (127 mm) lead furnished with the kit from one of the terminals on one capacitor to one of the terminals on the other capacitor. See Figure 14.
 - b. Connect the white lead from the linear actuator and the lead from the line side auxiliary switch (S2-N/C) to the vacant terminal on either one of the capacitors. See Figure 15.
 - c. Connect the red lead from the linear actuator and the lead from the emergency side auxiliary switch (S5-N/C on standard; S6-N/C on programmed transition switch) to the vacant terminal on the other capacitor. See Figure 15.



3. Replace the capacitor caps and install the capacitors with caps in the brackets. Use a screw driver to pry the locking tab of the capacitor bracket up as the capacitor is pushed into place. See Figure 16.

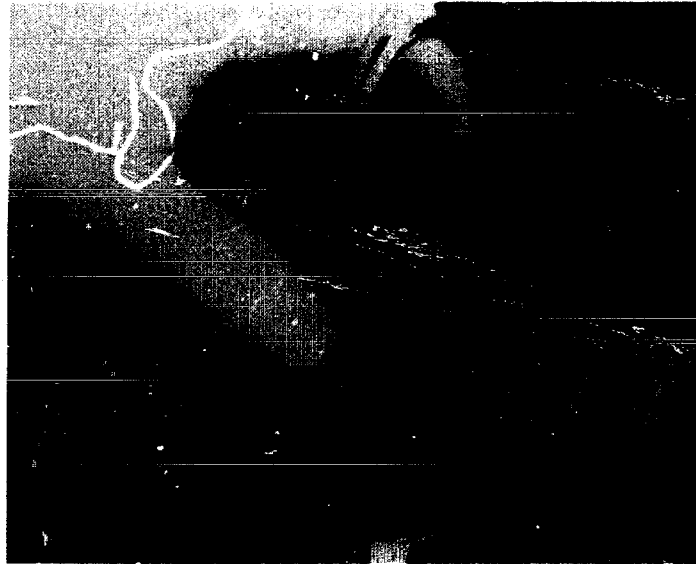


FIGURE 16

E. CAPACITOR REPLACEMENT - KITS K306-1911, -1913, -1917, -1919, -1923, -1925, -1945, and -1974 (to 208-240 V)

These kits provide one capacitor that will replace the two capacitors on the transfer switch.

1. Connect the replacement capacitor. Refer to Figure 17.
 - a. Connect the white lead from the linear actuator and the lead from the normal side auxiliary switch (S2-N/C) to one of the terminals on the capacitor.
 - b. Connect the red lead from the linear actuator and the lead from the emergency side auxiliary switch (S5-N/C on standard; S6-N/C on programmed transition switch) to the vacant terminal on the capacitor.



FIGURE 17

2. Replace the capacitor cap and install the capacitor with cap in the bracket. Pry up on the locking tab of the capacitor bracket while pushing down on the capacitor until it snaps in place. See Figure 16.

F. TIME DELAY RELAY REPLACEMENT - KITS K306-1913, -1914, -1917, -1918, -1925, -1926, -1974, and -1975 (programmed transition only)

1. Disconnect the leads from the programmed transition time delay relay. Make notes for proper reconnection.

2. Remove the time delay relay and bracket as an assembly.
3. Remove the time delay relay from its bracket. The screws pictured in Figure 18 hold the relay to the bracket. Mount the replacement time delay relay on the bracket.
4. Replace the time delay relay and bracket as an assembly on the transfer switch base. Reconnect the leads as marked.



FIGURE 18

G. METER-LAMP PANEL VOLTAGE CONVERSION

1. If the panel has any meters in addition to the battery charging ammeter, change the meter-lamp panel (charging ammeter alone requires no change).
2. To change the operating voltage of the NORMAL and EMERGENCY lamps, reconnect the wires from TB7-8 and TB7-10 to the proper terminals as marked on T11 and T12.

H. CONTROL ACCESSORY PANEL VOLTAGE CONVERSION

Voltage conversions for relay-type control accessory panels in groups 51 through 55 require new panels. For voltage conversions of solid-state control accessory panels, follow the instructions given in the OT service manual.

I. INTERPOSING RELAY (K1) VOLTAGE CONVERSION

This conversion requires one of the following interposing relay kits which includes step-by-step instructions.

| | | |
|-----|--------------|-----------|
| Kit | to 208-240 V | to 480 V |
| | K306-1956 | K306-1957 |

J. FINAL STEPS - ALL KITS

1. Bundle and tie the actuator leads with the wire ties provided.
2. Replace the auxiliary contact cover.
3. Complete and affix the modification label.
4. Replace plexiglass covers.
5. Perform the following Automatic Transfer Test.
6. Restore line power and the generator set to service.

AUTOMATIC TRANSFER BENCH TEST

The purpose of this bench test is to check the operation of a Series OT transfer switch after replacement of the linear actuator(s). Acceptable operation is rapid, smooth and free from binding or interference. Particular attention should be paid to the movement of the actuator rod through the linear actuator.

The requirements for this test are: a single phase voltage source matched to the linear actuator; a three position, single pole, double throw switch; and wire to make connections.

WARNING

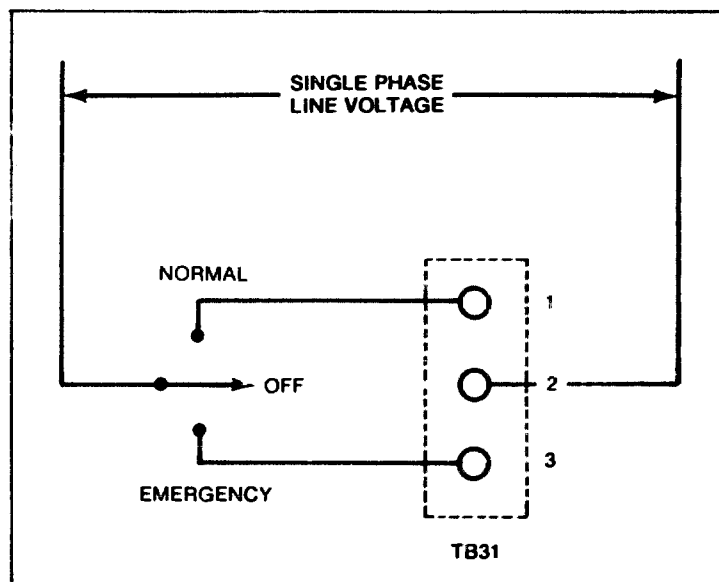
High voltage presents a serious electrical shock hazard. Avoid contact with energized parts.

WARNING

The rapid movement of the manual operator handles can cause personal injury. Stay clear of handles during operation.

The test procedure:

1. Connect the three position switch as shown in the diagram.



2. With the transfer switch closed to the normal side, move the selector switch from OFF to EMERGENCY. Observe the switch as it moves to the emergency side.

Transfer switches with programmed transition will delay in midtransition for the length of the time delay relay setting.

3. Allow 15 to 20 seconds for the linear actuator to cool. Then move the selector switch to NORMAL. Observe the movement of the transfer switch.

4. If binding or interference is present, adjust the actuator rod end assemblies:

Loosen the actuator mounting bolts.

Reposition the actuator rod midway between the inside edges of the manual operator handles.

Tighten the actuator mounting bolts to a nominal 70 in. lb. (7.9 N•m) and repeat steps 2 and 3. Repeat step 4 if necessary until binding or interference is eliminated.



Instruction Sheet

C 162a

Onan Corporation 1400 73rd Avenue Northeast Minneapolis Minnesota 55432

11-79

SERIES OT TRANSFER SWITCH VOLTAGE CONVERSION LINEAR ACTUATOR REPLACEMENT INSTRUCTIONS

This instruction sheet covers the replacement of the linear actuators and their related components in Series OT transfer switches *with two linear actuators*. Replacement of the linear actuators with actuators of different voltage affects a change in the nominal operating voltage of the transfer switch. If the conversion is made to the complete OT transfer switch, the control accessory panel, meter-lamp panel, and interposing relay (K1) are also affected.

The purpose of these instructions is to provide a step-by-step procedure for a bench-top conversion of the transfer switch by an Onan distributor or other qualified person. This instruction sheet applies to eight linear actuator replacement kits. Follow the instructions as they are given for a specific kit number.

LINEAR ACTUATOR REPLACEMENT KIT NUMBERS SWITCHED NEUTRAL TRANSFER SWITCH

| TRANSFER SWITCH SIZE | WITHOUT PROGRAMMED TRANSITION | | WITH PROGRAMMED TRANSITION | |
|----------------------|-------------------------------|-----------|----------------------------|-----------|
| | to 208-240 V | to 480 V | to 208-240 V | to 480 V |
| 100-150A | K306-1947 | K306-1948 | K306-1949 | K306-1973 |
| 225-1000A | K306-1921 | K306-1922 | K306-1915 | K306-1916 |

A. PRELIMINARY STEPS - ALL KITS

1. Remove all line power from the transfer switch. Disable the generator set by placing the engine control switch at STOP and disconnecting the starting battery.

WARNING

A serious electrical shock hazard is present unless all line power is removed and the generator set is prevented from starting.

2. Remove the auxiliary contact cover after removing four screws as in Figure 1.
3. Detach the leads from the motor disconnect switch and circuit breakers located on the back side of the auxiliary contact cover. See Figure 2.



FIGURE 1



FIGURE 2

4. Clip the wire ties from the linear actuator wire harness.
5. Pull the capacitors from the capacitor brackets as illustrated in Figure 3.
6. Remove the capacitor caps and disconnect the leads.
7. If necessary, remove the plexiglass covers on either side of the linear actuators to make room for a backup wrench on the actuator mounting bolts. It should not be necessary to remove the contact covers.

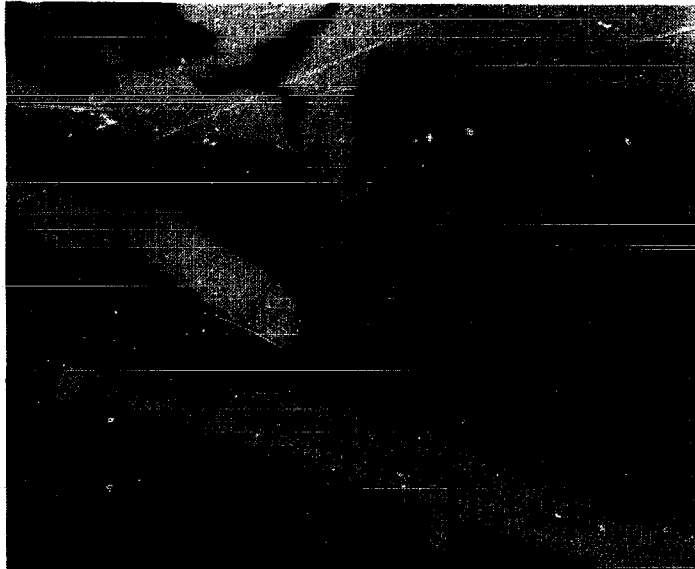


FIGURE 3

B. LINEAR ACTUATOR REPLACEMENT - ALL KITS

1. Operate the transfer switch manually to become familiar with the action of the switch. Pay attention to the movement of the rods through the linear actuators. The movement should be smooth and free from binding. To operate the transfer switch manually:
 - Pull the top power pole handle down.
 - Pull the top neutral pole handle all the way down.
 - Push the lower power pole handle down.
 - Pull the lower power pole handle up.
 - Pull the lower neutral pole handle all the way up.
 - Push the top power pole handle up.
2. With both manual handles positioned toward the linear actuator, remove the cap screws from both ends of the actuator rods. See Figure 4.



FIGURE 4

3. Move the bottom handles away from the linear actuators toward the emergency side. Lift out the rod end assemblies as in Figure 5.
4. Pull the actuator rods from the linear actuators as shown in Figure 6. Remember that the longer rod is for the neutral pole.



FIGURE 5

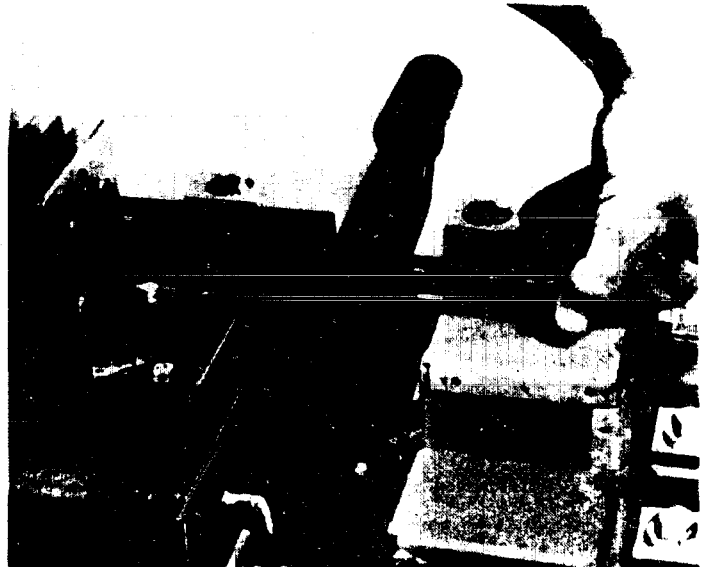


FIGURE 6

5. Using a backup wrench, remove the mounting bolts from the linear actuators. See Figure 7. Remember the position of the grounding leads.
6. Pull the linear actuator leads through the routing hole and remove the actuators.
7. Position the replacement linear actuators with the leads toward the emergency side. Route the leads through the routing hole.
8. Replace the mounting bolts being certain to replace the grounding leads. Do not tighten the mounting bolts. Some play will be necessary for adjustment.
9. Replace the actuator rods in the linear actuators while holding the grounding brush aside as shown in Figure 8.

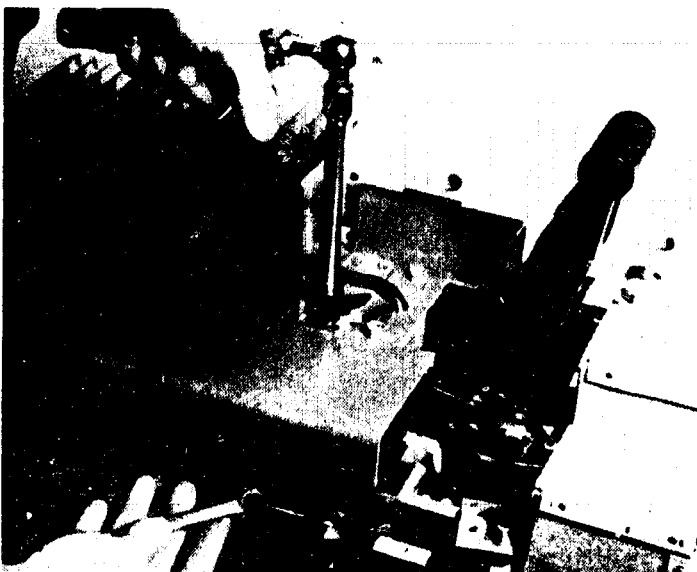


FIGURE 7



FIGURE 8

10. With the manual operator handles positioned toward the linear actuators, position the actuator rods midway between the inside edges of the handles. Refer to Figure 9. The proper position of the rod is important to prevent binding. Tighten the mounting bolts to a nominal 70 in. lb. (7.9 N•m).
11. Move the manual operator handles away from the linear actuators and replace the rod end

12. Move the manual operator handles toward the linear actuators. Replace the end screws and tighten to 120 in. lb. (13.6 N•m) using a screwdriver as a wedge to prevent the rod end assembly from twisting in the handle. See Figure 10.
13. Operate the transfer switch manually checking the smooth operation of the actuator rods in the actuators.



The actuator rod must move smoothly and freely through the linear actuator. No binding or interference should be present.

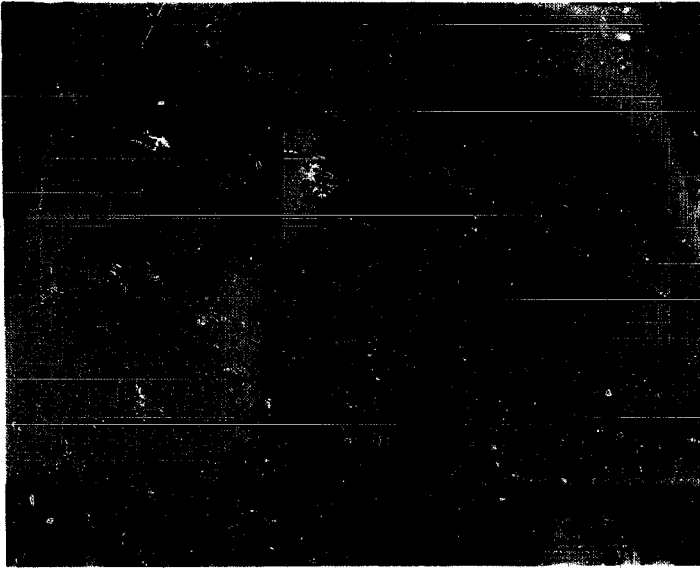


FIGURE 9

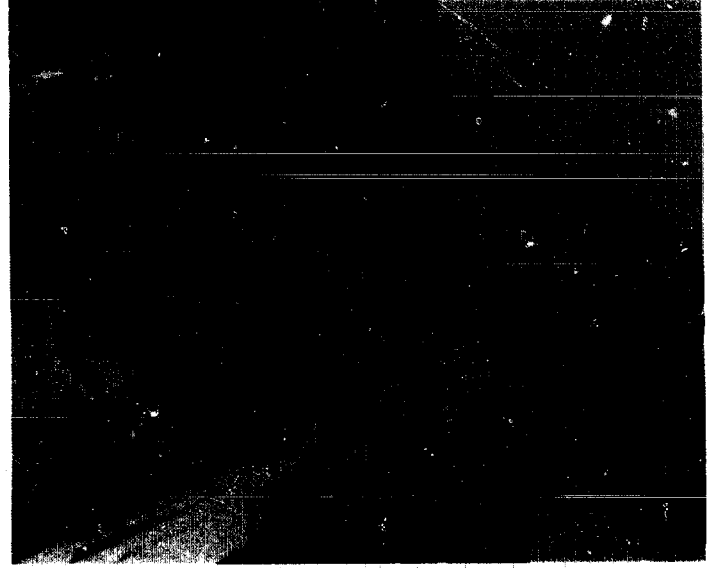


FIGURE 10

C. CIRCUIT BREAKER REPLACEMENT - ALL KITS

1. Replace the circuit breakers mounted on the auxiliary contact cover with the circuit breakers supplied in the kit.
2. Reconnect the motor disconnect switch and the circuit breakers. The motor disconnect switch is a double pole switch and must be connected as follows. See Figure 11. The short jumper wire with a double disconnect terminal is connected across the two poles to make them common. The two remaining jumpers are each brought to a circuit breaker.
3. Connect the lead from terminal block 31 terminal 2 (TB31-2) to the common jumper on the motor disconnect switch.
4. Connect the black leads from the linear actuators to the vacant terminals of the circuit breakers. Refer to Figure 11.

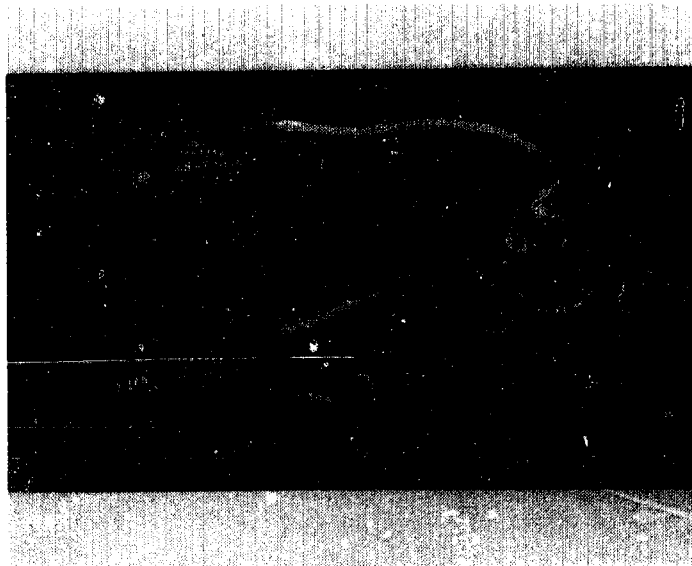


FIGURE 11

D. CAPACITOR REPLACEMENT - KITS K306-1915, -1921, -1947, -1949 (to 208-240 V)

These kits replace the four capacitors on the transfer switch, two for each actuator, with two capacitors, one for each actuator (to 208-240v). See Figure 12.

1. Connect one replacement capacitor (C1) to the power poles' linear actuator (M1).
 - a. Connect the white lead from the linear actuator (M1) and the lead from the normal side auxiliary switch (S3-N/C) to one of the capacitor (C1) terminals.
 - b. Connect the red lead from the linear actuator (M1) and the lead from the normal side auxiliary switch (S2-N/O) to the vacant terminal of the capacitor (C1).
2. Connect the second replacement capacitor (C2) to the neutral pole linear actuator (M2).
 - a. Connect the white lead from the linear actuator (M2) and the lead from the emergency side auxiliary switch (S9-N/O) to one terminal on the capacitor (C2).
 - b. Connect the red lead from the linear actuator (M2) and lead from the normal side auxiliary switch (S8-N/O) to the vacant terminal on the capacitor (C2).
3. Replace the capacitor caps and install the capacitors with caps in the capacitor brackets. Pry up on the locking tab of the capacitor bracket while pushing down on the capacitor until it snaps in place. See Figure 13.

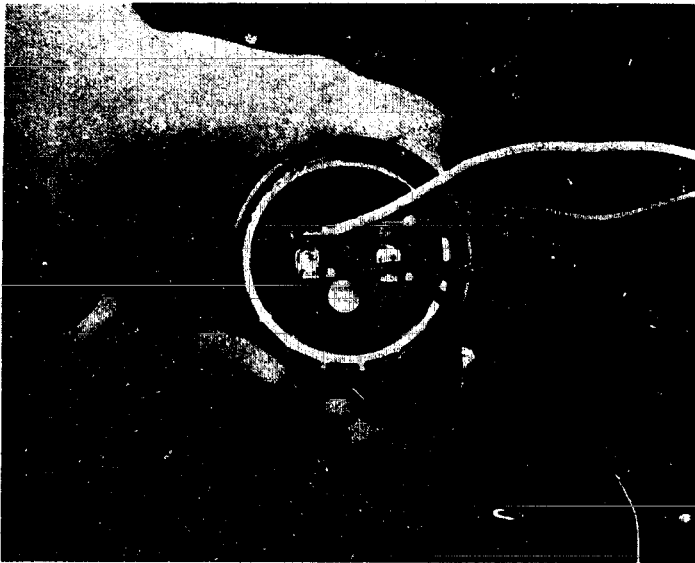


FIGURE 12



FIGURE 13

E. CAPACITOR REPLACEMENT - KITS K306-1916, -1922, -1948, -1973 (to 480 V)

These kits replace the two capacitors on the transfer switch with four capacitors, two for each actuator (to 480v). See Figures 14 and 15.

1. Mount the capacitor brackets using the #10-32 screws provided with the kit.
2. Connect two replacement capacitors (C1) with the power poles' linear actuator (M1). Refer to Figures 14 and 15.
 - a. Connect a 5 inch (127 mm) lead furnished with the kit from one of the terminals on one capacitor to one of the terminals on the other capacitor. See Figure 14.
 - b. Connect the white lead from the linear actuator (M1) and the lead from the normal side auxiliary switch (S3-N/C) to the vacant terminal on one of the capacitors. See Figure 15.
 - c. Connect the red lead from the linear actuator (M1) and the lead from the normal side auxiliary switch (S2-N/O) to the vacant terminal of the other capacitor. See Figure 15.
3. Connect two replacement capacitors (C2) with the neutral pole linear actuator (M2).
 - a. Connect a 5 inch (127 mm) lead furnished with the kit from one of the terminals on one capacitor to one of the terminals on the other capacitor. See Figure 14.
 - b. Connect the white lead from the linear actuator (M2) and the lead from emergency side auxiliary switch (S9-N/O) to the vacant terminal on one of the capacitors. See Figure 15.
 - c. Connect the red lead from the linear actuator (M2) and the lead from normal side auxiliary

4. Replace the capacitor caps and install the capacitors with caps in the capacitor brackets. Pry up on the locking tab of the capacitor bracket while pushing down on the capacitor until it snaps in place. See Figure 13.



FIGURE 14



FIGURE 15

F. RELAY REPLACEMENT - KITS K306-1915, -1916, -1949, and -1973 (programmed transition only)

1. Disconnect the leads from the programmed transition time delay relay. Make notes for proper reconnection.
2. Remove the time delay relay and bracket as an assembly.
3. Remove the time delay relay from its bracket. The screws pictured in Figure 16 hold the relay to the bracket. Mount the replacement time delay relay on the bracket.
4. Replace the time delay relay and bracket as an assembly on the transfer switch base. Reconnect the leads as marked.



FIGURE 16

G. METER-LAMP PANEL VOLTAGE CONVERSION

1. If the panel has any meters in addition to the battery charging ammeter, change the meter-lamp panel (charging ammeter alone requires no change).
2. To change the operating voltage of the NORMAL and EMERGENCY lamps, reconnect the wires from TB7-8 and TB7-10 to the proper terminals as marked on T11 and T12.

H. CONTROL ACCESSORY PANEL VOLTAGE CONVERSION

Voltage conversions for relay-type control accessory panels in groups 51 through 55 require new panels. For voltage conversions of solid-state control accessory panels, follow the instructions given in the OT service manual.

I. INTERPOSING RELAY (K1) VOLTAGE CONVERSION

This conversion requires one of the following interposing relay kits which includes step-by-step instructions.

| | | |
|-----|--------------|-----------|
| Kit | to 208-240 V | to 480 V |
| | K306-1956 | K306-1957 |

J. FINAL STEPS - ALL KITS

1. Bundle and tie the actuator leads with the wire ties provided.
2. Replace the auxiliary contact cover.
3. Complete and affix the modification label.
4. Replace plexiglass covers.
5. Perform the following Automatic Transfer Test.
6. Restore line power and the generator set to service.

AUTOMATIC TRANSFER BENCH TEST

The purpose of this bench test is to check the operation of a Series OT transfer switch after replacement of the linear actuator(s). Acceptable operation is rapid, smooth and free from binding or interference. Particular attention should be paid to the movement of the actuator rod through the linear actuator.

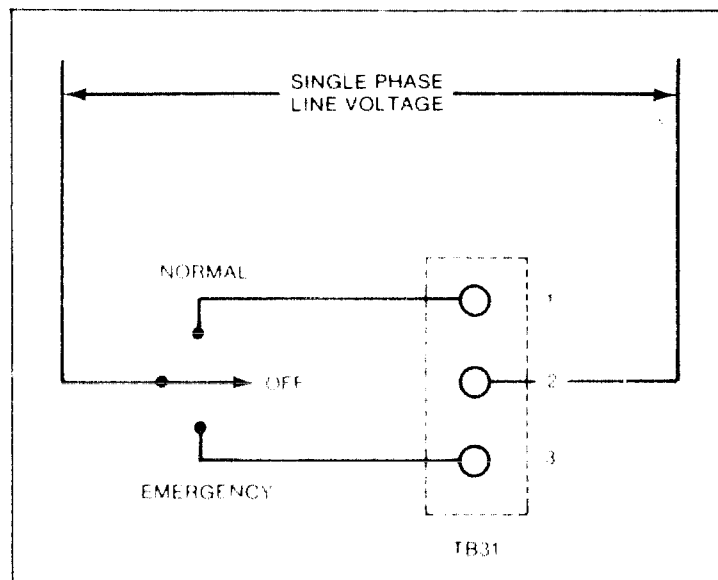
The requirements for this test are: a single phase voltage source matched to the linear actuator; a three position, single pole, double throw switch; and wire to make connections.

WARNING High voltage presents a serious electrical shock hazard. Avoid contact with energized parts.

WARNING The rapid movement of the manual operator handles can cause personal injury. Stay clear of handles during operation.

The test procedure:

1. Connect the three position switch as shown in the diagram.



2. With the transfer switch closed to the normal side, move the selector switch from OFF to EMERGENCY. Observe the switch as it moves to the emergency side.

Transfer switches with programmed transition will delay in midtransition for the length of the time delay relay setting.

3. Allow 15 to 20 seconds for the linear actuator to cool. Then move the selector switch to NORMAL. Observe the movement of the transfer switch.

4. If binding or interference is present, adjust the actuator rod end assemblies:

Loosen the actuator mounting bolts.

Reposition the actuator rod midway between the inside edges of the manual operator handles.

Tighten the actuator mounting bolts to a nominal 70 in. lb. (7.9 N•m) and repeat steps 2 and 3. Repeat step 4 if necessary until binding or interference is eliminated.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: DEC. 23, 1980 PAGE 1 OF 1 BULLETIN NO. 335

SUBJECT: REF. FILE # M-39 (SERVICE)

IDENTIFYING ONAN GENERATOR SERIES
AND
EXCITATION VOLTAGES FOR CLASS "A" GENERATORS

MODEL(S) or SERIES: EFFECTIVE: IMMEDIATELY

GENERAL SERVICE INFORMATION

IDENTIFYING GENERATOR SERIES. Often it is important to be able to identify the generator "Series" of a specific Onan GenSet. Obviously, the Master Service Manual is loaded with information, but the model in question must be identified by series first! The following will prove helpful --

| Series | kW (Electrical Range) | RPM | Physical Size of Gen. |
|--------|-----------------------|------|-----------------------|
| YCB | 1.5 - 10 kW | 3600 | 7" Square |
| UN | 3.0 - 6.5 kW | 1800 | 10" Square |
| YD | 6.0 - 35 kW | 1800 | 13-3/4" Round |
| UR | 30.0 - 180 kW | 1300 | 19-1/2" Round |
| YB | 200.0 - 350 kW | 1800 | 24-1/2" Round |
| UV | 400.0 - 750 kW | 1800 | 32" Round |

D.C. EXCITATION VOLTAGES. We get many requests for information on D.C. excitation voltages for Class "A" Revolving Armature GenSets. Here is a listing of those voltages for the most commonly asked-about models.

| Model | DC Voltage | Model | DC Voltage |
|-------------------|------------|-----------------|------------|
| PC (1P/3P) | 56 - 57 | CCK (Round) | 17 |
| PC (2P) | 106 | CCKB (50 Hz.) | 46 |
| YCB (Short Stack) | 60 - 90 | CCKB (60 Hz.) | 56 |
| YCB (Long Stack) | 100 - 150 | 4CCK (Square) | 27 |
| 1AJ | 21 | 5CCK (Square) | 33 |
| 2.5AJ (STD) | 31 | 6.5NH (Square) | 33 |
| 3.0AJ (RV) | 37 | 3.5MCK (Round) | 33 |
| LK (Round) | 18 | 4MCK (Round) | 31.5 |
| LK (Square) | 17 | 4.5MCK (Square) | 27 |
| BFA | 25 | 4MCK (Spec H) | 120 |
| BG | 30 | 6.5MCK (Round) | 33 |
| J Series (AA) | 7 - 11 | 6.5MCK (Square) | 33 |
| JB | 31.5 | 6.5MCK (Spec H) | 120 |
| DJA | 17 | | |



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: DEC. 30, 1980 PAGE 1 OF 1 BULLETIN NO. 336

SUBJECT: STEAMWAY CARPET CLEANER
MANUFACTURED BY ASSOCIATED ENGINEERS REF FILE # E-62 (SERVICE)
DENVER, COLORADO (WARRANTY)
(PARTS)

MODEL(S) or SERIES

EFFECTIVE: IMMEDIATELY

NHC-MS/3626C in above applications ONLY.

Heat related engine failures have been experienced on subject units due to improper installation. These failures appear as failed head gaskets, pulled head studs, and cylinder bore scuffing.

Onan has reviewed this application and suggests the following installation modifications to reduce compartment heat.

1. Install a baffle plate* mounted at the top of the engine blower housing to prevent hot air from recirculating into the blower wheel from the top of the engine.
2. Provide an exhaust extension tube* to duct exhaust away from the blower wheel to prevent recirculation of exhaust gases. Engine exhaust pipe currently terminates just below and ahead of the blower wheel.
3. An additional duct* must be provided for the boiler exhaust to prevent recirculation of this heat.

*These parts must be supplied by the carpet cleaner manufacturer and are NOT available from Onan.

If the above modifications are not incorporated into the Steamway carpet cleaner, failures as described above will occur due to high engine temperatures. Since the high temperatures are the result of an improper installation, No warranty coverage will apply on the engine repairs.

All heat related failures, even with the above modifications added, must be investigated thoroughly as to when the modifications were performed and whether engine damage occurred prior to the modifications.

Contact the Onan Service Department if you have any questions concerning this application.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: JAN. 15, 1981 PAGE 1 OF 1 BULLETIN NO. 337

SUBJECT: LOW TEMPERATURE OPERATION OF
FAIRMONT RAILWAY CAR APPLICATION
(FAIRMONT RAILWAY MOTORS)

REF. FILE # E-63 (SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE IMMEDIATELY

CCKB-MF/2746J AND/OR 3397J
INDUSTRIAL ENGINES ONLY

Several changes and product improvements have been incorporated into this engine application over the last few years. This bulletin is to advise you of those changes so that units already in service (not having these modifications) and experiencing low temperature operational problems, may be addressed.

Two kits are available from Onan to aid in preventing breather freezing and carburetor icing and two additional modifications may reduce spark plug misfire and improve low temperature engine performance.

| <u>NAME OF KIT OR MODIFICATION</u> | <u>KIT PART NUMBER</u> |
|--|--|
| 1. Insulated Breather Pack | 123-1196 |
| 2. Carburetor Pre-Heater Kit | 140-1268 |
| 3. Change spark plug to: | 167-0130 (Champion H12) or 167-0262 (Champion RH12) |
| 4. For low temperature operation, install a canvas cover that has been approved by the Onan Engineering Department. This canvas cover is available from: | |

Fairmont Railway Motors Company
415 North Main Street
Fairmont, MN 56031

Warranty does not apply.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: MARCH 18, 1981 PAGE 1 OF 1 BULLETIN NO. 338

SUBJECT: SERVICE PROCEDURE FOR REAR
BEARING PLATE AND CRANKSHAFT
INSPECTION

REF. FILE # S-204 (SERVICE)

MODEL(S) or SERIES:

EFFECTIVE IMMEDIATELY

ALL "J" - SERIES 1, 2, AND 4 CYLINDER
INDUSTRIAL ENGINES AND GENERATOR SETS

Whenever a crankshaft failure occurs in the main or connecting rod journal area, it is suggested that you inspect the rear bearing plate for cracks.

The crack (if any) may not necessarily be visible to the eye. Colored dye or kerosene should be used to thoroughly inspect the rear bearing plate for any cracks. Reuse of a cracked rear bearing plate could lead to an early repeat crankshaft failure.

Two previous bulletins have been published on related service procedures in this area. Refer to Product Support Bulletin 159 (Dated 9-30-76) and 234 (Dated 3-24-78) for additional recommendations.

This bulletin is for informational purposes.

Henry Coursolle, Chairman
Product Support Bulletin Committee



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: MARCH 24, 1981 PAGE 1 OF 1 BULLETIN NO. 339

SUBJECT: 191-1351 VOLTAGE REGULATOR

REF. FILE # S-205 (SERVICE)
(WARRANTY)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

4.0BFA AND 6.5NH "AUX" MODELS ONLY

Subject regulator, supplied on first shipments of "Aux" generator sets, can malfunction, resulting in a lower alternator output of approximately 10-amps charging current instead of the maximum 20-amp charge rate.

Should you receive complaints of battery charging problems, a DC ammeter should be used to check the voltage regulator output (see procedure below). Voltage regulators that are susceptible to this malfunction can be positively identified by the lack of a date code stamped on one end of the voltage regulator case.

REGULATOR TESTING PROCEDURE

1. Turn generator set and truck engines off. Connect a DC ammeter in series with the "B+" terminal of the voltage regulator. "B+" terminal is center terminal of the three regulator terminals and it is labelled on the regulator case.
2. Turn on all lights and heater fan of truck to high position for about three minutes with generator set and truck engine still turned off.
3. Start the "AUX" generator set and let it run for a MINIMUM of 15 minutes (truck lights and heater fan still on). The DC ammeter should read approximately 20-amps charging current output if voltage regulator is functioning properly. If ammeter charge rate is approximately 10-amps or less, replace voltage regulator. If ammeter reading is above 15-amperes, voltage regulator is working satisfactorily.

Later voltage regulators have been revised by our supplier to eliminate the possibility of this malfunction. These newer voltage regulators have a 3 or 4-digit date code (Example 7-81) stamped on one end of the voltage regulator case for positive identification.

Standard warranty applies.

Henry Coursole, Chairman
Product Support Bulletin Committee



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: APRIL 22, 1981 PAGE 1 OF 1 BULLETIN NO. 340

SUBJECT: INCORRECT SPEC LETTER COVERAGE
(Parts Catalog 967-0222)

REF. FILE # S-206 (PARTS)
(PUBLICATIONS)

MODEL(S) or SERIES:

EFFECTIVE: PRINT DATE 2-81

DJC GENERATOR SET

This Parts Catalog was recently distributed with an incorrect Spec letter coverage listed on the cover.

Printed Catalog listed Spec A-C.

Catalog should read Spec A-AC.

Please mark your manuals accordingly.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: JULY 1, 1981 PAGE 1 OF 2 BULLETIN NO. 341

SUBJECT: INTERMITTENT SHUTDOWN

REF. FILE # S-207 (SERVICE)
(WARRANTY)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

6.5NH SPEC "P" GENERATOR SETS

Several reports of intermittent engine shutdown have been received at the factory on the above model generator sets.

SYMPTOM: Above models will run between 20 minutes up to 8 hours before they shut down. Set will restart immediately and probably run for another 20 minutes before shutting down again.

CAUSE: The sets shut down because the LOPKO (Low Oil Pressure Cut Out) opens due to a momentary loss of engine oil pressure. The reason for the momentary loss of oil pressure is that oil is NOT being returned to the center oil base cavity fast enough.

REPAIR: The oil base must be removed from the engine. Do NOT remove the sheet metal pan from the oil base. Drill four 3/8 inch diameter holes in the baffle plates per diagram shown on Page 2 of this Bulletin.

Following the measurements given, scribe and center punch four marks on the oil base per diagram on Page 2.

Drill four 1/8 inch diameter holes first, then redrill to 3/8 inch.

Flush and reinstall oil base.

After the oil base has been drilled and reinstalled, stamp an "X" after the unit serial number.

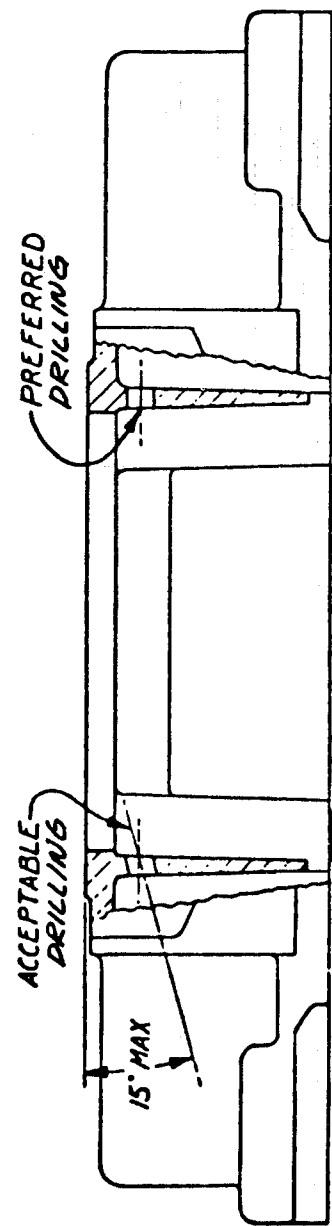
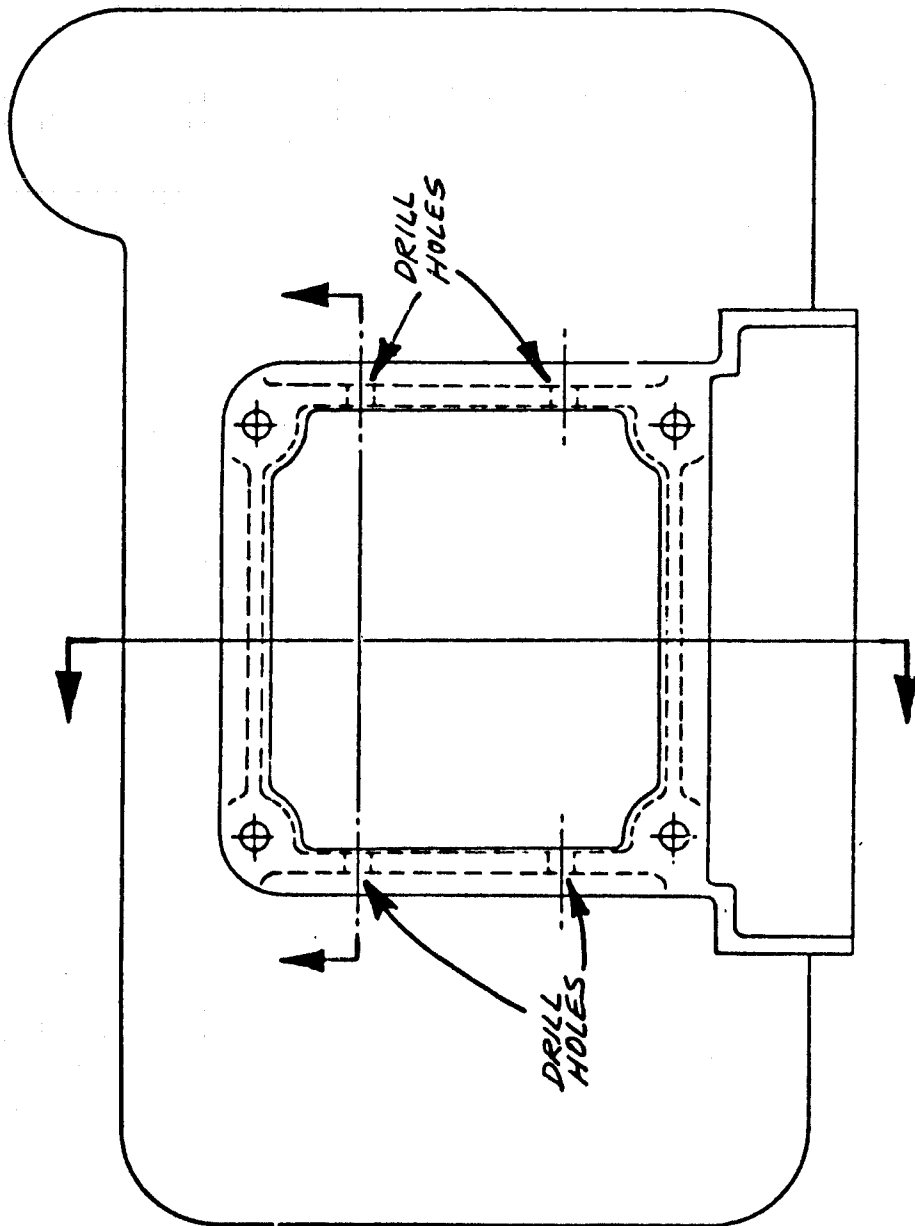
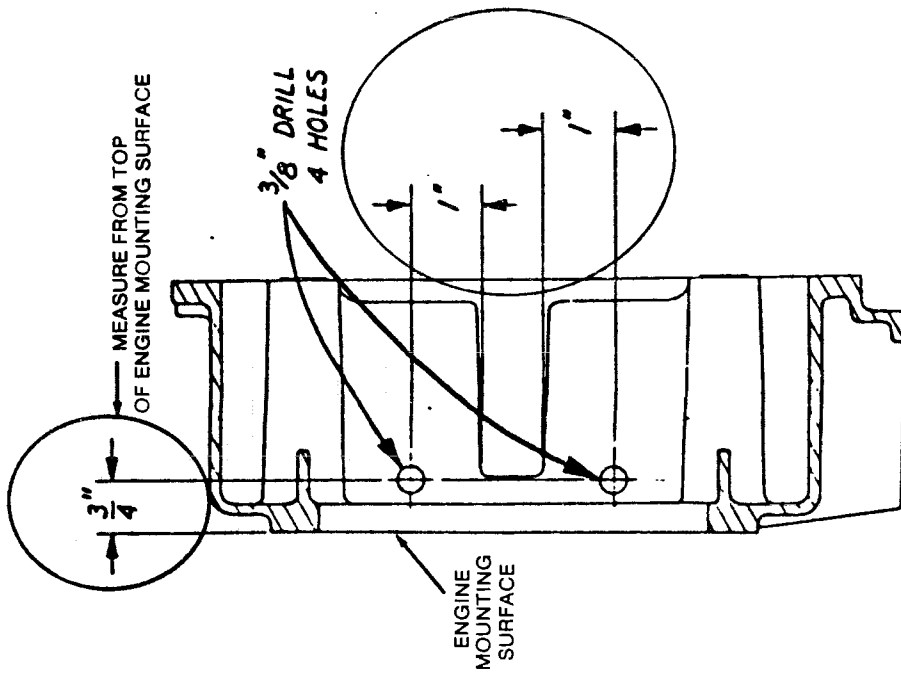
While the failure rate is low, we are informing you of this problem because of the difficulty to properly diagnose the above symptom.

Since this problem does NOT affect all 6.5NH Spec "P" sets, Distributor/Dealer inventory units do NOT need to be drilled.

If you are called upon to service one of these models with this symptom, contact the Onan Factory Service Department PRIOR to drilling any holes.

Standard warranty policy applies.

(Over)





Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: JULY 22, 1981 PAGE 1 OF 1 BULLETIN NO. 342

SUBJECT: IMPROVED CRANKSHAFT OIL SEALS
(509-0040 AND 509-0041)

REF. FILE # S-208 (SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL GASOLINE INDUSTRIAL ENGINES AND
GENERATOR SETS

Above crankshaft oil seals of an improved design have recently been released for production. They are particularly susceptible to damage if an oil seal installation tool is not used.

Onan offers a service tool (420-0313) oil seal guide and driver to aid in placement of gear cover seal 509-0040 during installation and service tool (420-0387) for installing the bearing plate seal 509-0041. These tools MUST be used when installing above oil seals to prevent damage to the oil seal surface resulting in oil leakage.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: AUGUST 3, 1981 PAGE 1 OF 1 BULLETIN NO. 343

SUBJECT: CIRCUIT BREAKER
(PART NO. 320-0505)

REF. FILE # S-209 (SERVICE)
(WARRANTY)
(PARTS)

MODEL(S) or SERIES:
ALL "DJ" SERIES ONAN DIESEL SETS
WITH "YD" GENERATOR

EFFECTIVE: IMMEDIATELY

Subject circuit breakers are prone to tripping when exposed to high temperatures inside the sound shield in Marine generator set applications. Temperatures as high as 190° F. have been measured at the circuit breaker.

The Manufacturer (vendor) has determined that during two production periods in 1980, the wrong steel was used in the Bi-metal plate; this is responsible for the high temperature tripping.

Check your stock and purge those breakers with Date Codes 3080 through 5080 listed on the paper sticker located on the side of the breaker. Standard warranty policy applies. Reorder new replacement circuit breakers for your stock.

Onan stock has been checked and purged of defective circuit breakers.

Circuit breakers installed on field units should be replaced with new circuit breakers with date codes other than those listed above.



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: Aug. 5, 1981 PAGE 1 OF 1 BULLETIN NO. 344

SUBJECT: 101-0450-10 MAIN BEARING KIT REF. FILE # M-40 (SERVICE)
(PARTS)

MODEL(S) or SERIES: EFFECTIVE: 6/1/81 through 7/15/81

PARTS STOCK

An undetermined number of 101-0450-10 bearing kits shipped from Onan during above calendar dates were packaged incorrectly. The boxes marked as -10 undersize actually contain 101-0449 standard size bearings plus the 104-0575 thrust washer and instruction sheet.

We suggest that a visual inspection be made of all 101-0450-10 bearing kits received between above dates. The bearing in the kit is marked with the proper size and can be easily identified. (449 or 449-10 stamped on bearing).

All improperly marked boxes should be remarked and stocked as standard size 101-0449 bearings.

Re-order the -10 undersize bearings as required.

Henry Coursolle, Chairman
Product Support Bulletin Committee



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: SEPT. 21, 1981 PAGE 1 OF 1 BULLETIN NO. 345

SUBJECT: REPLACEMENT CONTROL KITS
FOR 300-0859 PRINTED CIRCUIT
BOARD

REF. FILE # S-210 (SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

CCK AND NH RV MODELS AND MCCK
MARINE MODELS

Some confusion exists in the field as to which wiring diagram to use when servicing above models after original control (using 300-0859 solid state circuit board) has been replaced with a relay type control kit.

The following is a list of the replacement control kits and the appropriate wiring diagram that applies after the conversion is made. A new wiring diagram and parts list is supplied in the installation instructions for each kit. This should be given to the owner for future reference after the kit is installed.

REPLACEMENT CONTROL KIT

WIRING DIAGRAM

| | |
|----------|----------|
| 300-1598 | 611-1141 |
| 300-1599 | 611-1141 |
| 300-1796 | 611-1143 |
| 300-1884 | 611-1152 |
| 300-1885 | 611-1152 |
| 300-2026 | 611-1157 |
| 300-2027 | 611-1157 |

Any wiring diagrams required are available from the Onan Parts Department.

For additional information on which kits fit which model(s), refer to Product Support Bulletin #324 (Dated 8/10/80) for RV models and Bulletin #268 (Dated 2/7/79) for marine models. Also refer to September 1980 Service News Letter.

Henry Coursolle

Henry Coursolle, Chairman
Product Support Bulletin Committee



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: SEPT. 21, 1981 PAGE 1 OF 1 BULLETIN NO. 346

SUBJECT: NEW CYLINDER HEAD GASKET
(ONAN PART #110-2750)

REF. FILE # E-64 (SERVICE)
(PARTS)

MODEL(S) or SERIES:
RCCK INDUSTRIAL ENGINES

EFFECTIVE: IMMEDIATELY

This new head gasket (110-2750) is being used on the RCCK model in place of the 110-1481 head gasket previously used.

Gasket 110-2750 has a pre-applied silicone rubber compound that aids in preventing leaks when used in heavy-duty commercial/industrial applications.

This new gasket should be used when replacing head gaskets on RCCK engines already in service.

Existing stock of the 110-1481 head gasket should be used on MCKK models.

Order stock as required to support service requirements.

Henry Coursolle, Chairman
Product Support Bulletin Committee



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE DEC. 15, 1981 PAGE 1 OF 1 BULLETIN NO. 347A

SUBJECT:
GASKET SETS 168-0080, 168-0092, AND 168-0100

REF. FILE # S-211 (SERVICE)
(PARTS)

MODEL(S) or SERIES:
RDJC AND MDJC SPARE PARTS

EFFECTIVE MARCH 1980 THRU MAY 1981

The above gasket sets packaged and shipped during the above dates, may have contained the wrong head gasket for the above models. Sets packaged incorrectly contained a 110-2464 head gasket; this gasket is used on the RDJF and MDJF engines ONLY. These gasket sets should have contained a 110-2944 head gasket.

If the 110-2464 "big bore" head gasket is used on an RDJC or MDJC, a hard starting, rough running and smoking condition can result. Reference Product Support Bulletin #320 (Dated 7/15/80) for additional information.

The subject gasket sets should be inspected (when used) to ensure that the 110-2944 gasket is in the set. If any 110-2464 head gaskets are found in your spare parts gasket sets, they should be retained in your stock for future use on RDJF and MDJF modes ONLY. (Gasket part number is stamped on gasket.)

Onan stock of these gasket sets has been checked and purged of any incorrect head gaskets as of May 1981.

Al Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE DEC. 15, 1981 PAGE 1 OF BULLETIN NO. 348A

SUBJECT:
CRANKSHAFT AND ROTOR SUBSTITUTION

REF. FILE # S-212 (SERVICE)
(PARTS)

MODEL(S) or SERIES:
CCK SPEC. 16000U, 16001U, AND
16003U "RV" MODELS

EFFECTIVE:
SPEC "U" SETS WITH SERIAL NUMBERS AS
LISTED ON PAGE 2

All units listed by spec. letter and serial number on page 2 were built using a spec. "R" crankshaft (104-0882) and rotor (201-1903-60 Hertz or 201-2323-50 Hertz), but the unit nameplate listed spec. "U". The taper on the crankshaft changed between spec. R and U models and these parts are NOT interchangeable!

The Parts Catalog listing (927-0220) for the crankshaft and rotor is correct for both spec. R and U models.

The 104-1323 crankshaft kit (contains 104-0882 crankshaft) and the 201-1903 rotor-60-Hertz or 201-2323 rotor-50-Hertz, MUST be used as replacement parts for all models listed on page 2 in place of the spec. "U" parts listed in the 927-0220 Parts Catalog.


This Parts Catalog is currently being revised and should be released in the near future.

The same applies to replacement short blocks. Order 110-2170 in place of 110-2658 for all models listed on page 2.

These crankshaft and rotor substitutions apply only to those models, specs, and serial numbers listed on page 2. Any other models or specs in the CCK line are correct as shown in the applicable Parts Catalog.

On all orders calling for 104K1346 crankshaft kit (contains 104-960 crankshaft) for the following models and serial numbers, supply 104K1323 crankshaft kit (contains 104-882 crankshaft). Supply 201-1903 rotor for 60 Hertz and 201-2323 for 50 Hertz. Use 110-2170 short block.

| <u>MODEL</u> | <u>SERIAL NUMBERS</u> |
|--------------------|----------------------------|
| 5.0CCK-3CR/16000U | G760153818 Thru G760154418 |
| 5.0CCK-3CR/16000U | H760157757 Thru H760157887 |
| 5.0CCK-3CR/16000U | H760159764 Thru H760159788 |
| 3.5CCK-53CR/16000U | H760157691 |
| 4.0CCK-3CR/16000U | H760157692 Thru H760157756 |
| 5.0CCK-3CR/16001U | H760158013 Thru H760158026 |
| 5.0CCK-3CR/16003U | H760158027 Thru H760158031 |
| 4.0CCK-3CR/16001U | H760158032 Thru H760158061 |
| 4.0CCK-3CR/16003U | H760158062 |
| 4.2CCK-53CR/16001U | H760158063 |
| 4.2CCK-57R/16001U | H760158064 Thru H760158065 |


Al Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE DEC. 15, 1981 PAGE 1 OF 1 BULLETIN NO. 349A

SUBJECT: NEW IDLEMATIC KITS
150-1904 COMPLETE KIT FOR ALL
MODELS BEGINNING SPEC "H"

REF. FILE # S-213 (MARKETING)
(SERVICE)
(WARRANTY)
(PARTS)

150-1905 REPLACEMENT PRINTED CIRCUIT
BOARD AND LINKAGE FOR SPEC "C" THROUGH "H" MODELS

MODEL(S) or SERIES:
"P" - SERIES PORTABLE GENERATOR SETS IN
SPEC "C" THROUGH "H" (WITH BRIGGS & STRATTON
ENGINES ONLY).

EFFECTIVE: IMMEDIATELY

Two new redesigned Idlematic Kits are available as replacements for above models.

Kit 150-1904 is a complete kit for all models (Beginning Spec "H") and supercedes Kit 150-1763.

Kit 150-1905 contains a new Idlematic Printed Circuit Board and linkage assembly to replace the 300-1801 PC Board previously used. This kit supercedes kit 300-2030 for spec "C" through "H" models ONLY with Briggs and Stratton Engines.

The new 150-1904 complete kit is covered by the standard one year warranty on parts and labor.

the 150-1905 Replacement PC Board Kit is covered by the standard 90 day parts ONLY warranty.


Both kits are supplied with complete step-by-step instructions for field installation.

NOTE: All 150-1763 kits, 300-2030 kits, and/or 300-1801 Printed Circuit Boards in your stock should be returned to Onan immediately for credit. ONLY new kits and boards in their original prepack carton will be accepted by Onan.

Distributors and OEM customers should enclose a copy of this bulletin with the kits and boards being returned. Dealer returns must be processed through the Distributor. All Distributors outside the United States should request Customs Form 3311 (Declaration for Free Entry of Returned American Products) from the Onan Parts Department before shipping. The return program will be in effect for 90 days from the issue date of this bulletin.

Order 150-1904 complete kits and 150-1905 replacement board kits through your normal ordering channels.

Both of these new kits are now available from Onan.


Al Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: PAGE OF BULLETIN NO.

DEC. 15, 1981

1 1

350

SUBJECT:

REF. FILE #

S-214 (SERVICE)
(PARTS)

NEW FUEL SOLENOID KITS

MODEL(S) or SERIES:

EFFECTIVE:

BEGINNING SERIAL NUMBER

"J"-SERIES MARINE SETS ONLY

MDJC 810563539

MDJE 810555280

MDJF 810558209

The current 12-volt and 24/32-volt fuel shut-off solenoids are being replaced with units manufactured by a different vendor.

New field replacement kits are:

| | | | |
|------------|-----------------|----------------------------|----------|
| 12-volt | <u>307-2026</u> | Replaces Fuel Solenoid Kit | 307-0628 |
| 24/32-volt | <u>307-2027</u> | Replaces Fuel Solenoid Kit | 307-0680 |

Each kit contains a new mounting bracket, wiring leads, and step-by-step installation instructions (M-81).

The following part numbers are for replacement solenoids ONLY for the new kits:

| | |
|------------|------------------------|
| 12-volt | 307-1904 Solenoid Only |
| 24/32-volt | 307-1930 Solenoid Only |

Continue to use your stock of 307-0628 and/or 307-0680 fuel solenoid kits on other Onan non-marine "J"-series and Class B sets as listed in the applicable Parts Catalog.

Order stock of these new kits as required to support your marine "J"-series customers.

Al Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

SALES • SERVICE • PARTS • PUBLICATIONS

DATE: PAGE OF BULLETIN NO.

DEC. 15, 1981

1 1

351

SUBJECT:

REF. FILE #

132-0110 WATER PUMP CHANGES

S-215 (SERVICE)
(PARTS)

MODEL(S) or SERIES:

EFFECTIVE:

IMMEDIATELY

MCCK WITH HEAT EXCHANGER COOLING
"J"-SERIES WITH HEAT EXCHANGER OR KEEL COOLING
RADIATOR COOLED "J"-SERIES

The shaft on the 132-0110 water pump has been changed. The flattened surface on the shaft for mounting the drive pulley with a set screw has been replaced with a parallel key slot. This change requires a new drive pulley with a key slot which is NOT interchangeable with the old pulley.

As a result of this change, it is necessary that a new pulley, key and set screw be supplied whenever a replacement water pump, shaft, or repair kit is ordered for units built PRIOR to serial number D810554746. New replacement kits have been established as follows:

| <u>OLD PART NUMBER</u> | <u>DESCRIPTION</u> | <u>NEW PART NUMBER</u> | <u>DESCRIPTION</u> |
|------------------------|--------------------|------------------------|------------------------|
| 132-0110 | Water Pump | 132-0262 | Water Pump With Pulley |
| 132-0111 | Repair Kit | 132-0241 | Repair Kit With Pulley |
| 132-0089 | Pump Shaft | 132-0239 | Pump Shaft With Pulley |

For units built AFTER serial number D810554746, the following replacements should be ordered for stock:

- 132-0110 Water Pump
- 132-0240 Repair Kit
- 132-0225 Pump Shaft
- 132-0252 Pulley and Set Screw Kit

Old parts in your stock should be used to repair or replace pumps on units built prior to serial number D810554746. Inspect your current inventory of 132-0110 pumps, 132-0111 repair kits, and 132-0089 pump shafts, identifying any of these items with flat shafts; to be used ONLY prior to serial number D810554746.

Future Parts Catalogs will list these new parts as they are revised and reprinted.

Order these new parts as required to service your customers.

Al Jacobson, Chairman
Product Support Bulletin Committee

Onan
Parts
Service

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Bulletin

Model(s) or Series: 30.OSK GENERATOR SETS

Bulletin No. 352

Ref. File # S-216 (SERVICE/PARTS)

Date MARCH 19, 1982

Effective: IMMEDIATELY

Page 1 of 1

Subject: HOT RESTART PROBLEMS DUE TO CHOKE OPERATION

Field reports indicate problems when restarting the above model after set is fully warmed up, shut down, and an attempt is made to immediately restart the set.

A new kit is now available to remedy this problem. Order kit 307-2088.

The kit contains a solenoid which closes the choke during cranking. The original choke arm on the carburetor choke shaft must be replaced by a new one (in kit) to allow engagement of the choke solenoid.

Instruction Sheet A275 covers all assembly and installation procedures.

This modification applies to gasoline and gasoline/gaseous generator sets.

Standard warranty policy applies.

Allen C. Jacobson

Al Jacobson, Chairman
Product Support Bulletin Committee

Onan
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Bulletin

Model(s) or Series: AJ, LK, AND CCK GENERATOR SETS

Bulletin No. 353

Date MARCH 19, 1982

Ref. File # S-217 (SERVICE/WARRANTY/PARTS)

Page 1 of 1

Effective: IMMEDIATELY

Subject: REPLACEMENT OF 149-1694 MECHANICAL FUEL SAFETY VALVE

If the 149-1694 mechanical fuel safety valve should fail on any of the above models, it should be replaced by the new 149-1861 kit which is now available from Onan.

This kit contains a new electrical fuel safety valve and the necessary hardware to install it on any of the above models. Instruction Sheet E271 covers all installation procedures.

WARNING: In most vehicle applications since August 1972, the vehicle uses an Evaporative Emission control system. These systems may become pressurized if the normal venting system becomes plugged. If this occurs when the generator set is not running and especially if the vehicle is moving, gasoline can be forced through the carburetor flooding the generator set. For this reason, a separate manual or electrical fuel shutoff **MUST** be provided in the fuel line between the supply tank and the generator set fuel pump inlet to prevent flooding the generator set when not in use.

Submit a standard spare parts warranty claim on any 149-1694 mechanical fuel valves in your stock and return for credit within 90 days from the date of this bulletin.

Standard warranty policy applies.

Allen C. Jacobson
Al Jacobson, Chairman
Product Support Bulletin Committee

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Model(s) or Series: ALL ONAN BUILT "J" SERIES WATER
COOLED MODELS LISTED BELOW

Bulletin No. 354

Date MARCH 19, 1982

Page 1 of 1

Ref. File # S-218 (SERVICE/PARTS)

Effective: IMMEDIATELY

Subject: CORRECT CYLINDER HEAD GASKET USAGE

The various cylinder head gaskets currently used on affected models look very similar but have important differences. They are NOT interchangeable.

Gasket part number 110-2944 is for the 3-1/4 inch "small bore" diesel models ONLY and gasket part number 110-2464 is for the 3-1/2 inch "big bore" diesel models ONLY.

If the "big bore" gasket is used on the "small bore" diesel engines, hard starting, rough running, and excessive smoking conditions will result.

Gasket part number 110-1211 should be used on MJC and RJC gasoline models ONLY.

The gasket part number is stamped on each gasket for identification purposes.

Gasket/Model usage is listed below as follows:

| <u>GASKET #110-2944</u> | <u>GASKET #110-2464</u> | (Copper-clad) <u>GASKET #110-1211</u> |
|-------------------------|-------------------------|--|
| MDJB | MDJE | MJC |
| MDJC | MDJF | RJC |
| RDJC | RDJF | |
| | RDJEA | |
| | RDJE | |

This bulletin supercedes bulletin #254 (Dated 9/7/78) and supplements bulletin #320 (Dated 7/15/80).

These gasket usage recommendations supercede any and all previous listings regardless of when or where published for all above models.

Please POST this bulletin in your Service and Parts departments for a handy quick reference.

Allen C. Jacobson
Al Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

AUG. 25,
Date: 1982 Page 1 of 1 Bulletin No. 355A

Subject:

132-0147 RAW WATER PUMPS

Ref. File # S-219 (SERVICE/WARRANTY/PARTS)

Model(s) or Series:

MDJC AND MDJF MODELS ONLY

Effective: IMMEDIATELY

*CLARIFICATION OF KIT CONTENTS

The full cam used in this water pump is being replaced by a "half cam", to extend impeller, seal, and shaft life. This will extend pump life by reducing back pressure on the pump.

New Part Numbers are:

| | | |
|-----------------|---------------------------------|-------------------|
| <u>132-0258</u> | Half Cam & Wear Plate Assembly* | Replaces 132-0151 |
| <u>132-0256</u> | Gasket | Replaces 132-0149 |
| <u>132-0257</u> | Screw | Replaces 132-0150 |

Cam Replacement Kit 132-0259 includes the new 132-0258 Half Cam and Wear Plate,* 132-0257 screw and 132-0256 gasket.


Onan & Distributor existing stock of 132-0151 Cam & Wear Plate Assemblies and 132-0149 Gaskets should be used until stock is depleted.

Factory production units are currently using the new parts.

This is a product improvement and Warranty does NOT apply. There is NO Parts Return associated with this product improvement.

Future Parts Catalogs will list new parts when revised.

For the sake of clarification, the 132-148 Repair Kit for the 132-147 Raw Water Pump includes the following parts; (1)132-162 Impeller, (1)132-160 Seal, (1)132-152 O'Ring, (1)132-256 Gasket, 1-Spline Seal.


 Allen C. Jacobson
 Product Support Bulletin Committee



Product Support Bulletin

Date: MARCH 26 Page 1 of 1

Bulletin No. 356

Subject: IMPROPER ELECTRIC CHOKE OPERATION

Ref. File # S-220 (SERVICE)

Model(s) or Series: EK, EM, EN, KB, AND SK
GASOLINE MODELS ONLY

Effective: PRODUCTION UNITS BUILT BETWEEN
10/1/80 THROUGH 2/1/82 INCLUSIVELY

Some of the above gasoline models manufactured between the dates listed above may have an electric choke with a heating coil that does not operate properly.

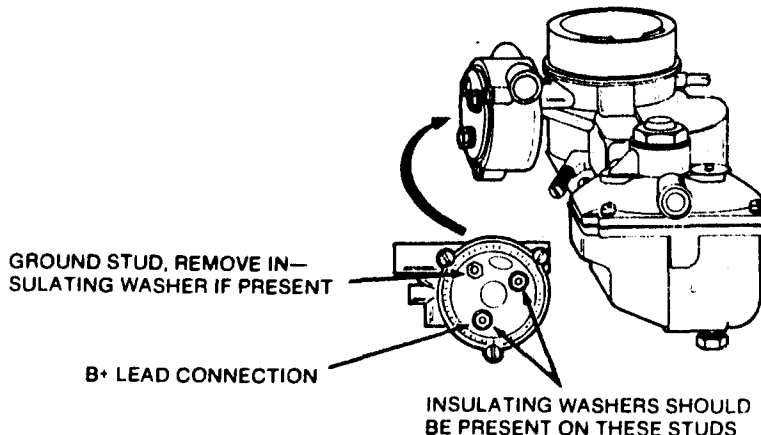
SYMPTOMS: Affected units may exhibit one or more of the following:

1. Will not restart when hot.
2. Unit starts but does not come up to speed.
3. Governor is unstable.
4. Black exhaust smoke.
5. Spark plug fouling.
6. High fuel consumption.

CAUSE: The B+ wire is connected to a stud on the choke cover at the 6 O'clock (bottom) position as shown in the illustration below. It has an insulating washer between the choke cover and the B+ wire. The ground stud located at 10 O'clock position may also have an insulating washer between the choke cover and the nut.

REPAIR: The ground stud located at 10 O'clock position on the choke cover should NOT have an insulating washer between the choke cover and the nut. If it does, REMOVE the insulating washer from this stud and reinstall the nut.

Standard warranty policy applies.



Allen C. Jacobson
Al Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

Date: MARCH 26 Page 1 of 1

Bulletin No. 356

Subject: IMPROPER ELECTRIC CHOKE OPERATION

Ref. File # S-220 (SERVICE)

Model(s) or Series: EK, EM, EN, KB, AND SK
GASOLINE MODELS ONLY

Effective: PRODUCTION UNITS BUILT BETWEEN
10/1/80 THROUGH 2/1/82 INCLUSIVELY

Some of the above gasoline models manufactured between the dates listed above may have an electric choke with a heating coil that does not operate properly.


SYMPTOMS: Affected units may exhibit one or more of the following:

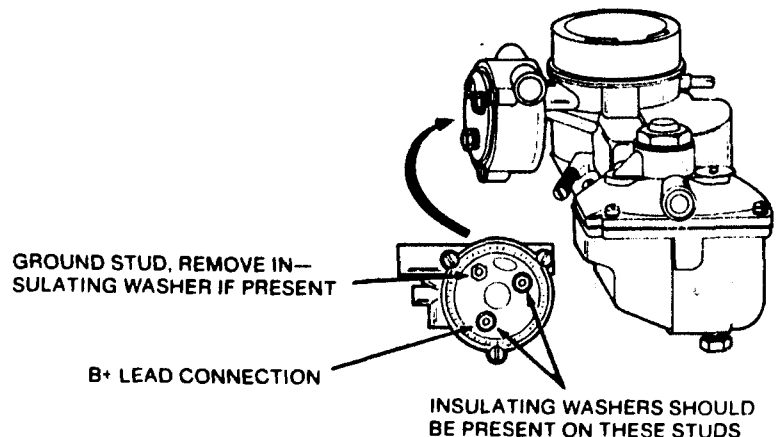
1. Will not restart when hot.
2. Unit starts but does not come up to speed.
3. Governor is unstable.
4. Black exhaust smoke.
5. Spark plug fouling.
6. High fuel consumption.

CAUSE: The B+ wire is connected to a stud on the choke cover at the 6 O'clock (bottom) position as shown in the illustration below. It has an insulating washer between the choke cover and the B+ wire. The ground stud located at 10 O'clock position may also have an insulating washer between the choke cover and the nut.

REPAIR: The ground stud located at 10 O'clock position on the choke cover should NOT have an insulating washer between the choke cover and the nut. If it does, REMOVE the insulating washer from this stud and reinstall the nut.

Standard warranty policy applies.


Al Jacobson, Chairman
Product Support Bulletin Committee





Product Support Bulletin

Date: April 2,
1982

Page 1 of 1

Bulletin No. 357

Subject: MOTOR HOME MUFFLER INSTALLATION

Ref. File # S-221 (SERVICE)
(PARTS)

Model(s) or Series: 6.ONH-1R/9000 POWER DRAWER

Effective: IMMEDIATELY

The 155-1247 muffler (supplied in accessory kit 542-0316), is used in both GMC and Travco Motor Home Installations. In Travco installations only, this muffler does not extend beyond the perimeter of the motor home without the addition of a curved exhaust pipe (155-1265).

The curved exhaust pipe is NOT required on the GMC Motor Home installation, it uses a long straight pipe (155-1235).

WARNING

Do not terminate poisonous carbon monoxide exhaust gas under vehicle. Direct exhaust gases away from window and door openings. Keep all openings above or to the rear of exhaust pipes closed when generator set is operating.


The exhaust system must extend a minimum of one inch beyond the perimeter of the motor home. If the generator set tailpipe is on the same side of the coach as the generator compartment, it should terminate aft of the air intake to prevent recirculation of the exhaust fumes.

Two separate muffler kits have been established to remedy this problem.

Kit 155-1961 is required for all Travco installations.

Kit 155-1962 is required for all GMC installations.

Whenever a customer orders a 155-1247 muffler, the model and serial number of the generator set and the Motor Home manufacturer must be verified to ensure that the correct muffler kit is supplied.


Allen C. Jacobson, Chairman
Product Support Bulletin Committee

**Product Support Bulletin**

Date: 1982 May 7,

Page 1 of 2

Bulletin No. 358

Subject: COOLING SYSTEM AIR LOCK**Ref. File #** E-65 (SERVICE)**Model(s) or Series:****Effective:** IMMEDIATELY

ALL L-SERIES DIESEL ENGINES

When filling the cooling system on all L-series diesel engines, the cylinder head and block MUST be bled to prevent air lock and ensure complete filling of the cooling system. Early engines had a maximum fill rate of approximately 1/2 gpm. All engines manufactured after May 1, 1982 have a 2.3mm (3/32 in.) bleed hole in the thermostat flange which improves the fill rate to approximately 3 gpm.

To bleed off any trapped air in the cylinder head and block, loosen either one of the plugs on the water pump located near the thermostat housing as shown in the illustration on page 2. Fill radiator with proper mixture of ethylene glycol anti-freeze and water (for protection at coldest expected ambient temperature) until coolant bubbles out at loose plug on water pump.

Retorque plug on water pump to 17N·M (150 in. lbs.) Do NOT overtorque or pump housing may crack. Continue filling radiator until coolant level is approximately one inch below the bottom of the radiator filler neck.

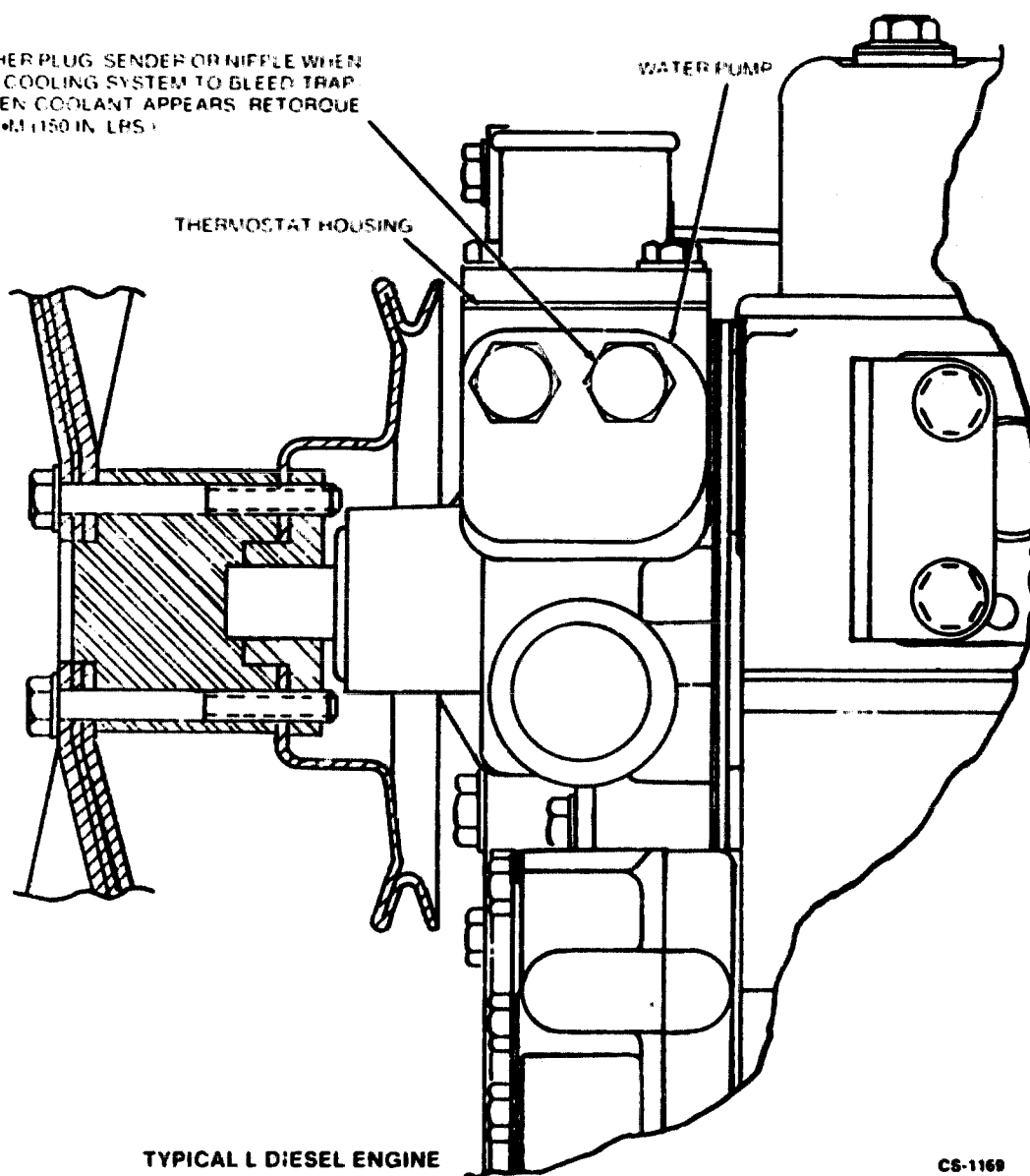
CAUTION: If any trapped air in the cylinder head or block is NOT bled when cooling system is filled, engine damage could occur.

An additional pocket of air will remain in the top of the cylinder head which cannot be bled. This will dissipate after engine is warmed up, consequently the cooling system level should be checked and topped off after initial fill and running of the engine.

In addition, we request that the three water pump mounting bolts be retorqued to 23N·M (17 foot lbs.), because of possible excessive gasket relaxation which may result in broken water pump bolts.

Allen C. Jacobson, Chairman
Product Support Bulletin Committee

LOOSEN EITHER PLUG, SENDER OR NIFFLE WHEN
FILLING THE COOLING SYSTEM TO BLEED TRAP-
PED AIR. WHEN COOLANT APPEARS, RETORQUE
PLUG TO 17 N•M (150 IN. LBS.)



TYPICAL L DIESEL ENGINE



Product Support Bulletin

Date: June 18, 1982 Page 1 of 1 Bulletin No. 359

Subject:
PART NUMBER CORRECTION
(Parts Catalog #965-0260)
(Micro-Fiche #145)

Ref. File #
E-66 (SERVICE)
(PARTS)

Model(s) or Series:
T260G INDUSTRIAL ENGINES


Effective:
IMMEDIATELY

Item 1 (gearcase cover), on page A9 of the above Parts Catalog and Grid A9 of the Micro-Fiche (#145), list an incorrect part number for the gearcase cover.

The gearcase cover assembly for the T260G should be Part Number 103-0701. The part number listed (103-0498) is for a different model engine and must not be used on a T260G engine.

Please change your manual as no supplement will be issued.

This bulletin is for informational purposes.


Allen C. Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

June 18,
Date: 1982 Page 1 of 1 Bulletin No. 360

Subject:

REPLACEMENT THERMOSTAT
KIT 309-0458 (192°F)

Ref. File #

E-67 (SERVICE)
(PARTS)

Model(s) or Series:

ALL L-SERIES DIESEL ENGINES

Effective:

ALL ENGINES MANUFACTURED
PRIOR TO MAY 1, 1982

A new kit is now available to reduce potential air lock problems when filling the cooling system on L-engines built prior to 5/1/82. Reference Product Support Bulletin #358 (Dated 5/7/82) which is still applicable.

This product improvement increases the cooling system fill rate by incorporating a bleed hole in the by-pass thermostat. The 192°F by-pass thermostat is the same for both large and small body water pumps. The large body water pump also uses a 180°F bellows type thermostat (NOT included in this kit) in addition to the 192°F by-pass thermostat.

All L-engines built prior to May 1, 1982 should have the original by-pass thermostat replaced using above kit. Replacement instructions are included in the kit.

All engines manufactured after May 1, 1982 have the new 192°F by-pass thermostat installed.

Allen C. Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

June 24,
Date: 1982 Page 1 of 1 Bulletin No. 361

Subject: DUEL FILTER BASE FITTINGS

Ref. File # E-68 (SERVICE)
(PARTS)

Model(s) or Series: L423 DIESEL ENGINES

Effective: ALL L423 ENGINES
MANUFACTURED PRIOR TO
MAY 1, 1982

The initial production sand cast fuel filter base on the engine block in above models contains steel fittings which are pressed into the filter base during assembly.

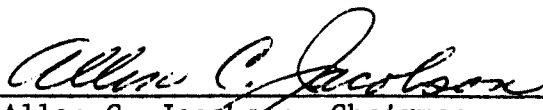
When the nut on the fuel line is tightened, these fittings may rotate in the fuel filter base and cause a fuel flow restriction which could prevent the engine from starting.

If you receive customer complaints of difficult starting or the engine will not start, the fuel filter base may be the problem.

TO ISOLATE THE FUEL FILTER BASE AS THE PROBLEM:

Check fuel delivery to and from the fuel filter. If there is sufficient fuel delivery to and from the fuel filter, check all other fuel system components before replacing the fuel filter base.

If there is sufficient fuel delivery to the fuel filter but NOT from the fuel filter (engine will not start) replace the fuel filter base.


Allen C. Jacobson, Chairman
Product Support Bulletin Committee

**Product Support Bulletin**

Date: July 1, 1982 Page 1 of 1 Bulletin No. 362

Subject:

INSTALLATION OF VALVE GUIDE KIT
#110-3068 AND VALVE STEM SEAL KIT
#110-3236.

Ref. File #

E-69 (SERVICE)
(PARTS)

Model(s) or Series:

ALL "B"-SERIES ENGINES

Effective:

IMMEDIATELY

A valve guide seal protector (Part No. 110-3061) is being supplied with the above kits. This protector fits over the valve stem. After installing the valve through the guide, place the seal protector over the valve stem.

The use of this valve seal protector is **CRITICAL** when installing the valve guide seal (Part No. 110-3056). If the protector is **NOT** used during installation, the teflon valve seal **WILL BE DAMAGED**.

The instruction sheet supplied in above kits refers to the use of the valve guide seal protector during the installation.

Allen C. Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

JULY 20,
Date: 1982 Page 1 of 1 Bulletin No. 363

Subject:
POTENTIAL WIRING ERROR

Ref. File #
S-222 (SERVICE)

Model(s) or Series:
5.0BGA-3CR/ AND 6.5NH-3CR/ "UN" GENERATOR SETS

Effective: ALL UNITS MANUFACTURED AS OF
JANUARY, 1982

Recent field reports indicate the possibility of a ground wiring error in the AC brush block connections on 3CR 120/240 volt "UN" generator models listed above.

SYMPTON: Generator set will crank erratically or slowly and engine will not start.

REPAIR: Assuming the problem is not engine related (fuel or ignition) proceed as follows:

Remove the wrap-around cover on the generator and looking down from the generator end of set (top view) as shown in Figure 1, the M2 generator lead should be grounded at the brush block (see jumper lead).

It is possible that the M4 generator lead may be grounded in addition to M2 if the jumper lead is connected as shown in Figure 2 (generator end top view). If M4 is grounded, this will cause a direct short in any 240 volt application. If only the 120 volt output is being used, the problem would not show up in normal operation of the generator set. M4 should NOT be grounded.

Whenever servicing any of the above models, check the AC brush block connections (M2 and M4) to be sure the ground lead jumper is on M2 and NOT M4.

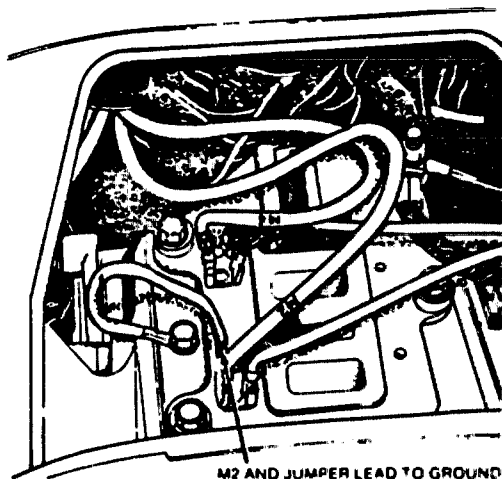


FIGURE 1. M2 PROPERLY GROUNDED

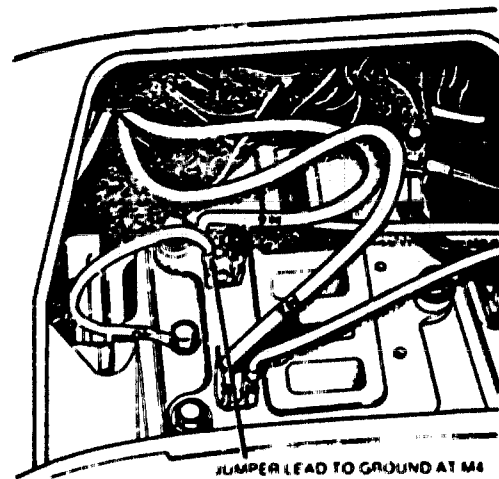


FIGURE 2. M4 IMPROPERLY GROUNDED

ES-1221

Allen C. Jacobson
Allen C. Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

JULY 22,
Date: 1982 Page 1 of 2 Bulletin No. 364

Subject:

FLOAT SWELLING PROBLEMS DUE TO
ETHANOL/METHANOL BLENDED GASOLINE

Ref. File #

E-70

(SERVICE)

Model(s) or Series:

B43M, B48M, BF AND BG INDUSTRIAL ENGINES
USING MARVEL SCHEBLER "DD" STYLE CARBURETOR

Effective:

IMMEDIATELY

We have received sporadic and localized reports of float swelling in the "DD" style carburetor used on above models. The float increases in size to wedge itself inside the carburetor body. Depending in which position the float sticks, the engine could overfuel if the float sticks in the "open" position and no fuel will pass if the float sticks in the "closed" position.

The float failure is caused by ethanol/methanol blended into the gasoline. There are 3 ways ethanol/methanol blended fuels can be introduced into the fuel system:

1. Gasohol: Advise customer (end user) NOT to use; it contains 10% ethanol.
2. Gas-Line De-icer: Gas line de-icer is almost pure methanol. Advise customer (end user) NOT to use de-icers.
3. Direct from the pump: It appears that most states have little or no regulation concerning the blending of ethanol or methanol into gasoline. In most states, gasoline stations are NOT required to post ethanol/methanol blends on the gasoline pumps.

If float swelling occurs, the fuel is the prime suspect. The float must be replaced and the entire fuel system purged. Advise customer to change fuel suppliers if end user claims he did not use de-icers.

To test fuels for alcohol content, put 1 inch of water into a glass container and mark the container. Then add 5 inches of the suspected fuel to the water; allow 10 minutes for separation to occur. If more water appears in the container, then there is alcohol contamination in the fuel.

A more accurate test can be used to find the exact percentage of fuel as follows:

1. Obtain a container graduated in millilitres.
2. Pour 100 millilitres of the suspect gasoline into the container.
3. Add 10 millilitres of water to the gasoline.
4. Allow to separate for 10 minutes.

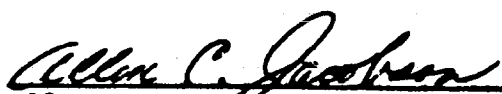
RESULTS:

- A. If 20 millilitres separate, the alcohol level is 10%.
- B. If 15 millilitres separate, the alcohol level is 5%. This is the Maximum allowable.

(Over)

Page 2 - Continued
Product Support Bulletin #364

If the float failure occurs due to ethanol or methanol blended fuels, it is NOT covered under warranty. Onan does NOT recommend the use of gasohol or methanol blended fuels. Reference also Product Support Bulletin #311 (Dated 3/21/80) on this subject.


Allen C. Jackson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

Date: July 17, 1982 Page 1 of 1 Bulletin No. 365

Subject:

CHANGE IN IGNITION TIMING AND
POINT GAP SETTING

Ref. File #

E-71 (SERVICE)

Model(s) or Series:

ALL "B43G" AND "B48G" INDUSTRIAL ENGINES

Effective:

"B43G" BEGIN SPEC "B"
"B48G" BEGIN SPEC "C"

The ignition timing for above model and spec engines should be set at 16° BTDC.
Setting the point gap at .016 inches will equal the desired timing specification.

ALL Operator's manuals and Service manuals for above models should be changed to
reflect this new point gap/timing specification immediately.

Testing at Onan indicates improved engine reliability when timed at the 16° setting
as opposed to the 20° timing originally specified for these models.

Allen C. Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

Date: July 26,
1982

Page 1 of 1

Bulletin No. 366

Subject:
INCORRECT CAMSHAFT BEARING USAGE

Ref. File # E-72 (SERVICE)
(PARTS)

Model(s) or Series:

ANY "N" AND "B" BLOCK ENGINE SERIES AND
ALL "CCK" BLOCK WITH HIGH LIFT CAMSHAFT

Effective: IMMEDIATELY

A few parts orders were received recently for the 101-0391 camshaft bearing. This bearing should NOT be used as a replacement part. It is a semi-finished bearing used by Onan manufacturing ONLY. It must be line reamed to the correct Inside Diameter for the application to be usable.

The 101-0405 bearing must be used as a replacement part in above applications.

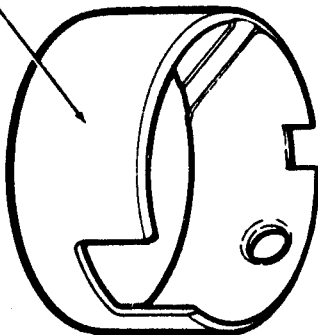
Distributors and Dealers should check your inventory and request return authorization from the Onan Parts Department for any stock on hand of the 101-0391 bearing.

There is a noticeable difference in width between the 101-0391 production bearing and the 101-0405 replacement bearing. The 101-0405 bearing is about half as wide as the 101-0391 bearing but the actual bearing surface used by the camshaft is about the same.

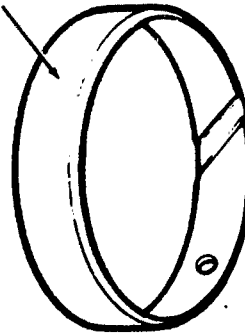
This difference has been questioned by Distributors many times in the past few years. This information should resolve any further questions.

The dimensional differences are illustrated and the bearings identified in the two figures below. Figure 1 is the 101-0391 production bearing which should NOT be used as a replacement part. Figure 2 is the 101-0405 replacement bearing.

5/8 INCH
WIDTH



1/4 INCH
WIDTH



CT-1049

FIGURE 1. 101-0391 PRODUCTION BEARING

FIGURE 2. 101-0405 REPLACEMENT BEARING



Product Support Bulletin

Date: 10/25/82 Page 1 of 1

Bulletin No. 367A

Subject:

CHANGE IN INJECTION PUMP MODEL
USAGE (American Bosch PSU Model)

Ref. File # S-223

(SERVICE)
(PARTS)

*ADDED PUMP PART NUMBERS FOR CLARITY

Model(s) or Series:

ALL "J"-SERIES 2 AND 4 CYLINDER DIESEL
MODELS NOW USING BOSCH "PSU" PUMP

Effective:

IMMEDIATELY

Our supplier (vendor) American Bosch, is NO longer producing the "PSU" model injection pump currently used on many Onan "J"-series diesel models.

The new AMBAC Model 50 injection pump supercedes and replaces the PSU model.

These pumps are completely interchangeable as a complete assembly as are the user servicable component parts.

Onan production will record a serial number cut-off for each model and pump variation prior to switching over to the new model 50 injection pump.

Those spare parts that are servicable by Onan Distributors will be listed in future Parts Catalogs for the applicable model(s) as they are revised.

This change will NOT affect the "J"-series models currently using the Bryce-Kiki injection pump.

The specific fuel pumps and fuel pump kits involved are as follows:

*147-0215 Pump-used in 147-0218 Kit for DJB-MDJB models Prior to Spec "R".

*147-0219 Kit for DJB-MDJB models Begin Spec "R".


*147-0220 Pump-used in 147-0226 Kit for DJBA models Begin Spec "R"-Odd Firing.

*147-0229 Pump-used in 147-0231 Kit for DJC, MDJC and RDJC Prior to Spec "R".

*147-0232 Kit for DJC, MDJC and RDJC Begin Spec "R".

None of the above part numbers will change because of the supplier change in model numbers. New and old pumps are completely interchangeable.

This bulletin is for informational purposes and supercedes bulletin #367 (Dated 8/25/82).


Allen C. Jacobson
Product Support Bulletin Committee



Product Support Bulletin

Date: AUG. 25 1982 Page 1 of 2 Bulletin No. 368

Subject:

BATTERY DISCHARGE WHEN USING
"HA" AUTO DEMAND CONTROL

Ref. File #

S-224 (SERVICE)
(PARTS)

Model(s) or Series:

MCCK SPEC "H" ONLY

Effective:

IMMEDIATELY


Refer to wiring diagram #611-1145 on page 2. This shows relay K4 with B+ wired to coil terminal #86. The other side of the coil (Terminal #85) connects to TB1-2. The normally closed contacts of relay A1K1 in the HA control panel connect ground to terminal #2 when the panel is in "AUTO" mode of operation.

Connecting the HA auto demand control panel to the MCCK Spec "H" models ONLY, completes circuitry to energize relay K4 which places a constant 140 milliamp drain on the starting battery of the generator set. If the boat is left unattended for a week or more, the battery will discharge to a point where it will NOT crank the generator set engine.

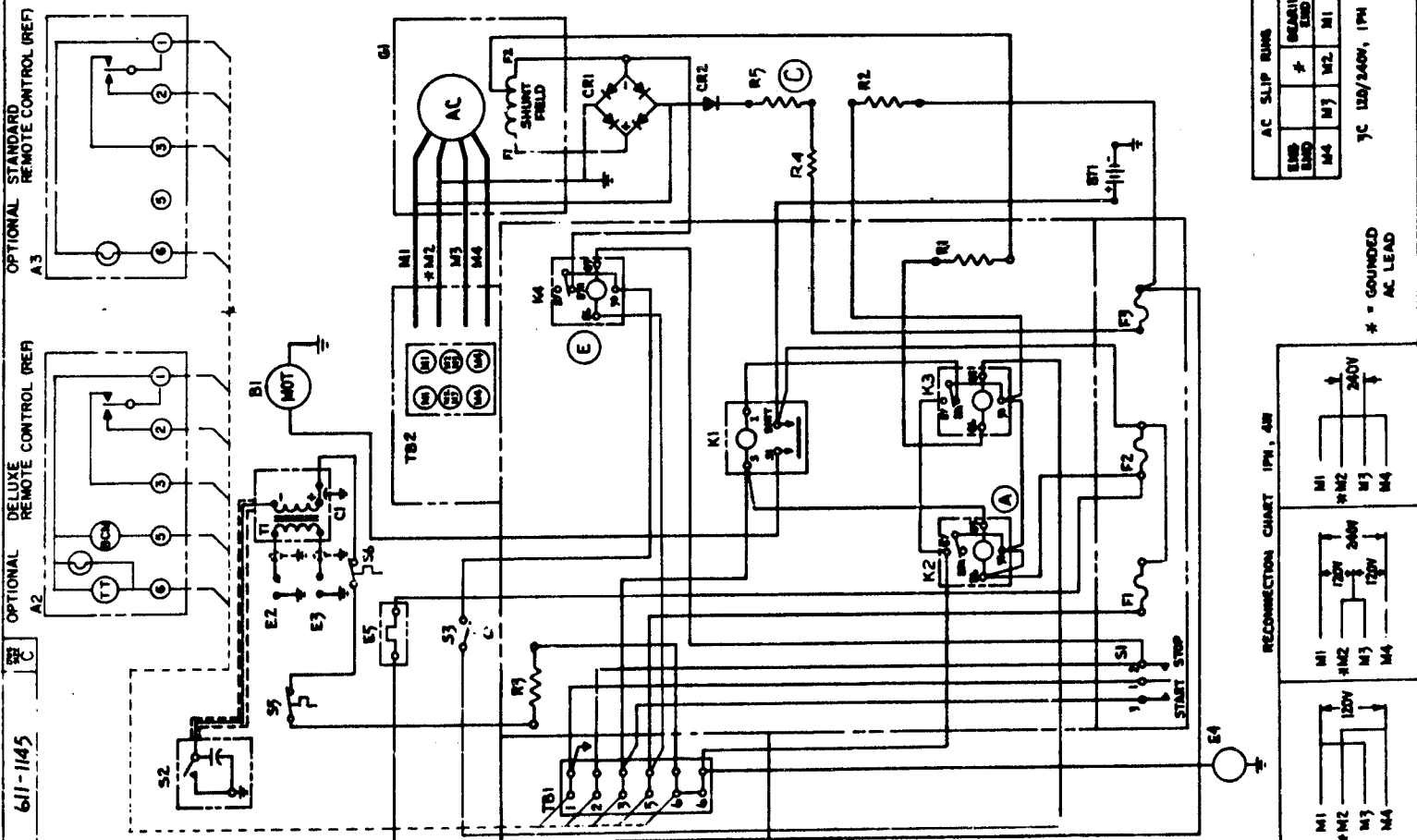
The solution to this problem is to connect K4 relay coil to TB1-6, and add relay K5 to the circuit so that there can be no drain on the battery if the HA auto demand control is used on this model.

Order Kit #307-2107 to make the conversion adding relay K5. Instruction sheet M-82 includes a new wiring diagram (611-1165).

This modification is NOT necessary unless the Spec "H" MCCK set is connected to the "HA" auto demand control panel.


Allen C. Jacobson
Product Support Bulletin Committee

611-1145



SCHEMATIC

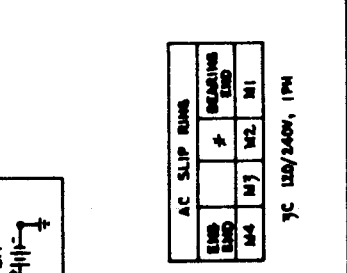
| REF. DES. | QTY | PART NO. | DESCRIPTION |
|-----------|-----|----------|------------------------------------|
| B1 | 1 | 300-1781 | BATTERY-12V |
| B2 | 1 | 300-1781 | MOTOR-STARTER |
| C1 | 1 | 312-0083 | CONDENSER-ASSY (4.25 ufd, 100 VDC) |
| C2 | 1 | 305-0633 | RECTIFIER-BRIDGE |
| C3 | 1 | 357-0030 | RECTIFIER-SILICON (E-12A, 200V) |
| E1 | 2 | | PLUG-SPARK |
| E2 | 1 | | PUMP-FUEL |
| E3 | 1 | | CHORE-ELECT (ONMAN) |
| F1 | 2 | 321-8174 | FUSE-5 AMP, 32V |
| F2 | 3 | 321-8175 | HOLDER-FUSE |
| F3 | 1 | 321-0153 | FUSE-3 AMP |
| G1 | 1 | | GENERATOR |
| K1 | 1 | 307-1817 | RELAY-START-SOLENOID |
| K2 | 1 | 307-1575 | RELAY-CRANK-IGNITION |
| K3 | 1 | 307-1575 | RELAY-RUN-IGNITION |
| K4 | 1 | 307-1575 | RELAY STOP |
| R1 | 1 | 352-8181 | RESISTOR-100Ω, 1/2W |
| R2 | 1 | 352-8181 | RESISTOR-250Ω, 1/2W |
| R3 | 1 | 304-0080 | RESISTOR-ATTENED 1.72Ω, 25W |
| R4 | 2 | 304-0080 | RESISTOR-75Ω, 25W |
| S1 | 1 | 308-0383 | SWITCH-START STOP |
| S2 | 1 | | SWITCH-BREAKER & CAP ASSY |
| S3 | 1 | | SWITCH-LOW OIL PRESSURE |
| S5 | 1 | | SWITCH-HIGH WATER TEMP |
| S6 | 1 | | SWITCH-HIGH EXH. TEMP |
| T1 | 1 | | COIL-IGNITION |
| T2 | 1 | 332-4618 | TERMINAL BLOCK |
| T3 | 1 | 332-2183 | MARKER STRIP |
| T4 | 1 | 332-8728 | TERMINAL BLOCK |
| T5 | 1 | 332-2111 | MARKER STRIP |
| A2 | 1 | 300-0908 | CONTROL-DELUXE REMOTE |
| A3 | 1 | 300-0908 | CONTROL-REMOTE (STANDARD) |

NOTE:
 1. TB-3 IS FOR 8- OR REMOTE BATTERY CONDITION METER
 TB-4 IS FOR REMOTE RUNNING TIME METER OR RUNNING LIGHT

| QTY | PART NO. | DESCRIPTION |
|------|----------|---------------------------|
| 6804 | B | WAS TB1-8 TO K4-86 |
| 6875 | F | CRI WAS 305-0517 |
| 6647 | E | WAS K4-86 TO E5 |
| 2508 | D | ADDED S6 |
| | C | ADD R7, CHG QTY/12 P1 |
| | B | ADDED RINT CONTS AS SHOWN |
| | A | CORRECTED K2 WIRING |
| ER | | REVISION |

| | | | |
|-------------------|-----|----------|----|
| IPM | 1PH | 120/240V | 4W |
| LO/ME | | | |
| MCKK/H | | | |
| CONTROL - GEN SET | | | |
| (WIRING DIAGRAM) | | | |
| 611-1145 | | | |

| | | | |
|------------------|---------|----------|-----|
| AC SLIP RINGS | BRUSHES | BEARINGS | END |
| M1 | M2 | M3 | M4 |
| 7C 120/240V, 1PH | | | |



* = GROUND
 AC LEAD

| | | |
|----------|---|---|
| 611-1145 | OPTIONAL DELUXE REMOTE CONTROL (REF) A2 | OPTIONAL STANDARD REMOTE CONTROL (REF) A3 |
|----------|---|---|



Product Support Bulletin

AUG. 30,
Date: 1982 Page 1 of 1 Bulletin No. 369

Subject:

PART NUMBER CORRECTION
(Parts Catalog #965-0260)
(Micro-Fiche #145)

Ref. File # E-73

(SERVICE)
(PARTS)

Model(s) or Series:

T260G INDUSTRIAL ENGINES


Effective: IMMEDIATELY

Item #14 (cap assembly, drive end), on page B3 of the above Parts Catalog and Grid B3 of the Micro-Fiche (#145), list an incorrect part number for the cap assembly drive end.

The cap assembly for the T260G starter (#191-1294) should be Part Number 191-1287. The part number listed (191-1223) is for a different starter motor that is NOT used on the T260G engine.

Please change your Parts Catalog as no supplement will be issued.

This bulletin is for informational purposes.


Allen C. Jacobson
Product Support Bulletin Committee

**Product Support Bulletin**AUG. 30,
Date: 1982 Page 1 of 1 Bulletin No. 370**Subject:**GOVERNOR SPRING CHANGE
(Part Number 151-0579)Ref. File # S-225 (SERVICE)
(PARTS)**Model(s) or Series:**ALL 50 HERTZ "EK" AND "EM" MODELS ONLY**Effective:** IMMEDIATELY

A running change is being made, effective 6/24/82, to all of the above model generator sets on 50 Hertz models ONLY. This change is a result of the inability to maintain governor droop tolerances consistently.

The change involves replacing the standard governor spring, supplied with the Hoof governor (part number 151-0312, to a new governor spring (part number 141-0579). This new spring provides better droop regulation on 50 hertz models only.

If this droop problem is encountered in the field on above models using the 151-0312 Hoof governor with serial numbers PRIOR to an H82 Production date, this new governor spring (151-0579) should be installed.

Standard Warranty policy applies to this product improvement.

Allen C. Jacobson
Product Support Bulletin Committee



Product Support Bulletin

SEPT. 3,

Date: 1982

Page 1 of 1

Bulletin No. 371

Subject:

PART NUMBER CORRECTION
(Parts Catalog #927-0255)
(Micro-Fiche #17)

Ref. File # S-226

(SERVICE)
(PARTS)

Model(s) or Series:

CCK WELDER ONLY

Effective: IMMEDIATELY

Item #36 page B9 of above catalog and file (304-0553) Element, Resistor (Begin Spec H) should be Changed to Item #37, same part number and description.

Item #36 (Element, Resistor-304-0355-Spec "F" ONLY) should be added to page B9 of the above Parts Catalog and Parts-Fiche Card #17.

On page B8 of the above Parts Catalog, add reference #37 to the resistor element located between reference numbers 35 and 39.

Please change your records accordingly.

Allen C. Jacobson
Product Support Bulletin Committee



Product Support Bulletin

Date: SEPT. 14, 1982, Page 1 of 1 Bulletin No. 372

Subject:

PART NUMBER CORRECTION
(Parts Catalog #928-0221)
(Micro-Fiche #566)

Ref. File # S-227 (SERVICE)
(PARTS)

Model(s) or Series:

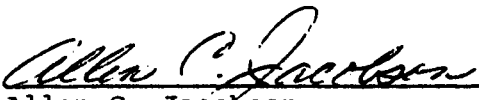
EN GENERATOR SET

Effective: IMMEDIATELY

Item #9 (Under Radiator Installation) on page 39 of the above Parts Catalog, and Grid D3/D4 on Micro-Fiche #566, lists an incorrect Part Number for the fan belt.

The correct Part Number for the fan belt is 511-0084.

Please change your Parts Catalog as no supplement will be issued.


Allen C. Jacobson
Product Support Bulletin Committee

**Product Support Bulletin**

Date: SEPT. 14, 1982 Page 1 of 1 Bulletin No. 373

Subject:

PARTS CATALOG REFERENCE TO #900-0234

Ref. File #

S-228

(SERVICE)

(PARTS)

Model(s) or Series:

NOT APPLICABLE

Effective:

IMMEDIATELY

Several Onan Parts catalogs have a statement following the description of various printed circuit boards which says:

"See 900-0234 Parts Catalog".

This statement should be **DISREGARDED!**

This printed circuit board Replacement Parts Catalog has **NEVER** been printed and there are **NO** plans to print this in the future at this time.

Please change your records accordingly.

This bulletin is for information purposes.

Allen C. Jacobson

Product Support Bulletin Committee



Product Support Bulletin

Date: 10/8/82 Page 1 of 1 Bulletin No. 374

Subject: SERVICING AIDS FOR SOLID STATE CONTROLS

Ref. File # S-229 (SERVICE) (PARTS)

Model(s) or Series:

Effective: IMMEDIATELY

AT, OT, YB, YD AND UV

Various plug-in type modules are available to aid the service person in trouble shooting the solid state transfer switches and engine/generator controls listed above. The following table lists bypass PC boards for troubleshooting AT and OT models and the circuits being tested.

| TRANSFER SWITCH BYPASS BOARDS AND CIRCUITS | | | | |
|--|------------------------|----------------------------|--------------------------------------|-------------------------|
| Models and Spec | Voltage Sensors (A1-3) | Time Delay Start-Stop (A7) | Time Delay Transfer-Retransfer (A-8) | Frequency Sensor (J-11) |
| AT Spec A, B | 300-0927 | 300-1177 | 300-0927 or 300-1675 | 300-1866 |
| AT Spec C | 300-0927 | 300-1648 | 300-0927 or 300-1675 | 300-1866 |
| OT Spec A | 300-0927 | 300-1177 | 300-0927 or 300-1675 | 300-1866 |
| OT Spec B, C | 300-0927 | 300-1648 | 300-0927 or 300-1675 | 300-1866 |

An extension board (#300-0857) can be used on all models to extend the PC Board out for voltage measurements.


A PC board puller (420-0348) enables easy removal of PC boards on YB, UV and YD (SK) controls without damaging PC board.

The following table lists engine control test modules which enable testing of engine controls without starting or cranking the engine.

| Gen Set Model | Test Module | Test Procedure (Where Found) |
|---------------|-------------|---|
| YD (SK) | 420-0388 | SK Service Manual #900-0328 (Dated 8-81, Page 17) in 922-0502 Master Service Manual, Section 7 (YD). |
| YB | 420-0336 | YB Service Manual #900-0181 (Dated 11-81, Page 29) in 922-0502 Master Service Manual, Section 9 (YB). |
| UV | 420-0350 | UV Service Manual #900-0192 (Dated 9-80, Page 65) in 922-0502 Master Service Manual, Section 10 (UV). |

The YB generator set time delay start-stop circuit bypass PC board is #300-0987.

Index this information into all of the above service manuals in the appropriate section(s) for future reference.


 Allen C. Jacobson
 Product Support Bulletin Committee
 900-0191D



Product Support Bulletin

Date: 10/25/82 Page 1 of 1 Bulletin No. 375

Subject:

PART NUMBER CORRECTIONS
(Class "B" Sets)

Ref. File #

S-230 (SERVICE)
(PARTS)

Model(s) or Series:

DYG, DYH, DFP, DFM AND 350 DFN

Effective:

IMMEDIATELY


Some incorrect part numbers are listed in the current parts catalogs for certain items in the bus bar assembly. The following table is self explanatory. Mark these corrections in your parts catalogs as no supplement will be issued.

| <u>MODEL</u> | <u>PARTS CATALOG</u> | <u>PAGE</u> | <u>REFERENCE ITEM</u> | <u>DESCRIPTION</u> | <u>INCORRECT PART NO.</u> | <u>CORRECT PART NUMBER</u> |
|--------------|----------------------|-------------|---------------------------|---------------------|-------------------------------|--------------------------------|
| DYG | 973-0224 | C8 | 13 | Bus Bar | 232-2341 | <u>232-2241</u> |
| | | | 25 | Reconnection Bar | 232-2348 | <u>232-2248</u> |
| | | | 26 | Reconnection Bar | 232-2346 | <u>232-2246</u> |

NOTE: The same part numbers are incorrect in all of the following parts catalogs listed and should be changed as listed above.

| | | |
|-----|----------|----|
| DYH | 973-0225 | B8 |
| DFP | 960-0222 | B8 |
| DFM | 960-0220 | B8 |
| DFN | 960-0221 | C6 |

Please change your records accordingly.


 Allen C. Jacobsen
 Product Support Bulletin Committee



Product Support Bulletin

Date: 12/3/82 Page 1 of 1 Bulletin No. 376

Subject:

MANDATORY RADIATOR HOSE AND
AND FAN BELT GUARD CHANGE

Ref. File #

E-74 (SERVICE)
(PARTS)

Model(s) or Series:

"ALL L423D AND L634D "OPEN" AND
"CLOSED" POWER UNITS

Effective:

ALL UNITS SHIPPED PRIOR
TO DECEMBER 1, 1982

The potential exists for the fan belt guard to fracture (due to vibration) after relatively few hours of operation.


In addition, replacement of the lower radiator hose is required. Present routing of this hose can lead to premature wear due to contact with the fan guard support bracket.

A new kit is available to strengthen the belt guard by adding a support brace between the belt guard and the fan guard. Order kit #130-2212 which contains all necessary components (except radiator hose) hardware and installation instructions (E281) for all models.

Order new lower radiator hose (Onan Part Number 503-1192 for L423D and Part Number 503-1193 for the L634D) in addition to the 130-2212 kit. The belt guard support kit does NOT contain the new style lower radiator hoses.

STANDARD WARRANTY POLICY APPLIES. Installation of the 130-2212 kit and replacement of the lower radiator hose is a MANDATORY field modification.

Distributor stock of the existing lower radiator hoses (503-1090 and/or 503-1096) should be checked and purged of these hoses. Submit a standard spare parts warranty claim on either of the above hoses in your stock and return for credit within 90 days from the date of this bulletin. Reference this Product Support Bulletin by number or include a copy with all hoses being returned.


Allen C. Jacobson, Chairman
Product Support Bulletin Committee
FR#5324



Product Support Bulletin

Date: 12/6/82 Page 1 of 1 Bulletin No. 377

Subject: CARBURETOR FLOAT AND PART NUMBER CHANGE

Ref. File # E-75 (SERVICE)
(PARTS)

Model(s) or Series:

Effective: IMMEDIATELY

"B"-SERIES ENGINES USING MARVEL SCHEBLER "DD" STYLE CARBURETOR MODELS LISTED:
 DD-11R (142-0431)
 DD-13 (142-0568)
 DD-14 (142-0569)
 DD-15 (142-0585)
 DD-16 (142-0587)

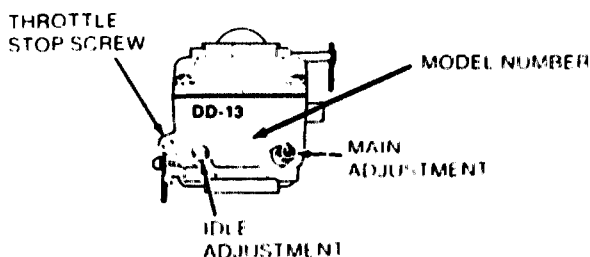
The 142-0547 float previously used in above model engines and carburetors, has been changed to part number 142-0652. The 142-0652 float is a higher density float. This float material density change was made to prevent float expansion (swelling) when gasoline contaminated with ethanol or methanol is used.

The higher density float can be identified by an extra .035 inch diameter hole drilled in the float lever itself as shown in the illustration below.

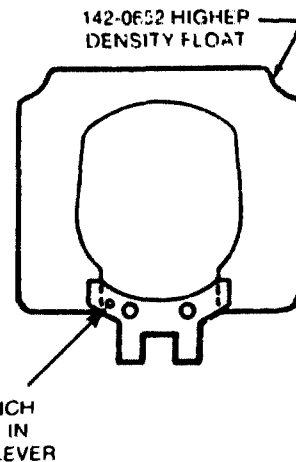
If your customer encounters a float swelling problem, refer to Product Support Bulletin #364(Dated 7/22/82)for testing procedures for contaminated fuels. If the 142-0547 float is swelling, replace this float with the 142-0652 float and have customer change fuel suppliers.

Since Onan does NOT recommend the use of ethanol or methanol blended fuels, warranty replacement will NOT apply. Existing stock of 142-0547 floats should be used until your supply is exhausted.

All Onan stock of the 142-0547 float has been removed from replacement parts stock and current production engines using any of the above model carburetors have the new 142-0652 high density float. All carburetors using the new float will have the suffix letter "A" stamped into the body of the carburetor after the model identification number. Example: DD-13A.



MARVEL SCHEBLER MODEL DD CARBURETOR



Allen C. Jacobson

Allen C. Jacobson
 Product Support Bulletin Committee
 FR#10,161



Product Support Bulletin

Date: 12/15/82

Page 1

of 1

Bulletin No. 378

Subject: ENGINE TO GENERATOR ADAPTER
USAGE AND FIT.

Ref. File # S-231 (SERVICE)
(PARTS)

Model(s) or Series:

"P" OR "T"-SERIES (YCB) PORTABLE GENERATOR SETS
(Briggs & Stratton or Tecumseh Engines)
AND SEPARATE TWO-BEARING ALTERNATORS

Effective: ALL UNITS MANUFACTURED
PRIOR TO JANUARY 1, 1976

The above adapter used on all subject models was changed from a sand cast part to a die cast part effective 1/1/76. The part number did NOT change and the numbers listed in the Parts Catalog(s) are correct.

However, the shape of the adapter changed slightly and when replacing the stator on any models built prior to the effective date listed, it may be necessary to replace the original sand cast adapter with the current die cast adapter to accommodate the end turns of the stator without damaging the stator during installation.

All Onan stock of the engine -to-generator adapters are of the die cast type.

Whenever replacing the stator, if excessive pressure(force)[due to interference from stator end turns] is necessary to seat the stator into the adapter, replace the engine-to-generator adapter also.

Allen C . Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

Date: 12/15/82 Page 1 of 1

Bulletin No. 379

Subject: NEW BREATHER ICING KITS

Ref. File # S-233 (SERVICE)
(PARTS)
(MARKETING)

Model(s) or Series:

Effective: IMMEDIATELY

BFA AND NH "RV" OR "AUX" MODELS
AND CCK "HOME STANDBY" SETS ONLY

Three separate new breather icing kits are now available to aid in preventing a breather icing situation on the above models. Breather icing usually occurs during colder temperature operation (approximately 30°F and colder). It is caused by moisture condensation when operating within this temperature ambient. The moisture forms ice crystals which cause the breather flapper valve, or balls and rubber breather tube to freeze; pressurizing the engine crankcase. High humidity conditions during these cold temperatures increases the potential for breather icing to occur. Oil leakage into the breaker point box and leaking oil seals (caused by the pressurized crankcase) are two primary indications of a breather icing condition.

The three new kits are:

1. Kit number 123-1600 for CCK models ONLY with standard breather system.
2. Kit number 123-1599 for BFA "RV" and/or "AUX" models ONLY.
3. Kit number 123-1595 for NH "RV" and/or "AUX" models ONLY.

Each kit contains specific installation instructions and all necessary components.

Order stock as required to service your customers for the cold weather season ahead.



Product Support Bulletin

Date: 12/15/82

Page 1 of 1

Bulletin No. 380

Subject:

NEW MARINE EXHAUST TEMPERATURE SWITCH PROTECTIVE SHIELD AND KIT

Ref. File #

S-233 (SERVICE)
(PARTS)

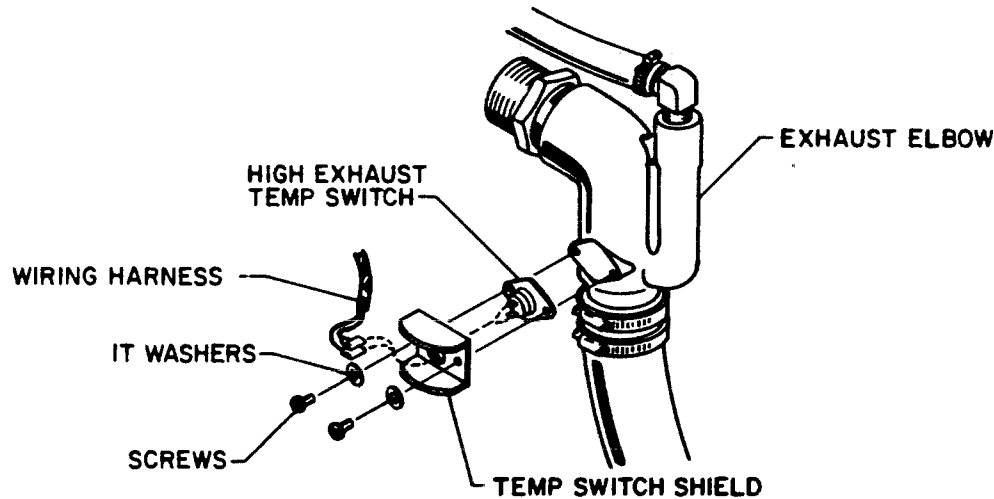
Model(s) or Series:

ALL ONAN MARINE SETS WITH NEW EXHAUST ELBOW ASSEMBLY

Effective:

IMMEDIATELY

A new protective high exhaust temperature switch shield(309-0501)is now available which fits any Onan marine model which already has the switch installed on the exhaust elbow. New 6-32 x 5/16 inch mounting screws(815-0569-quantity 2)and internal tooth lock washers(854-0008)should be used to install the switch shield as shown in the illustration below.



TYPICAL MCKK SWITCH INSTALLATION ON ELBOW

MCKK MODELS ONLY

A complete kit(Onan part number 309-0421)is available for MCKK models that do NOT have the switch or the new design exhaust elbow with the flat surface mounting boss and two tapped holes for switch mounting. The elbow, switch, shield, wire leads, mounting hardware and installation instructions(M80a)are all included in this kit. This additional exhaust cutoff switch(S6)is wired "in series" with the existing high engine temperature switch(S5)on MCKK models. The schematic wiring diagram is included with the installation instructions.

This is NOT A MANDATORY FIELD MODIFICATION and field installations are NOT covered under warranty. Order sufficient stock of the protective shield, mounting hardware and complete kits to service customer units.

Subject: CHANGE IN OIL PRESSURE SWITCH
MOUNTING BRACKET(333-0142)

Ref. File # S-234 (SERVICE)
(PARTS)

Model(s) or Series:

Effective: IMMEDIATELY

ALL SETS WITH HORIZONTAL (KIM)
TYPE TANK HEATERS

Production of switch mounting bracket #333-0142 has been discontinued and replaced by a new improved version. For field replacement of the 333-0142 bracket, order Kit #333-0229. This kit includes a new bracket, plumbing fitting and all hardware required for installation. All parts orders for the 333-0142 bracket will be supplied with the new kit.

Field installable horizontal(Kim) tank heater kits will include the new bracket and related parts. Refer to instructions below for changing or installing the new switch mounting bracket(333-0224).

FIGURE "A"

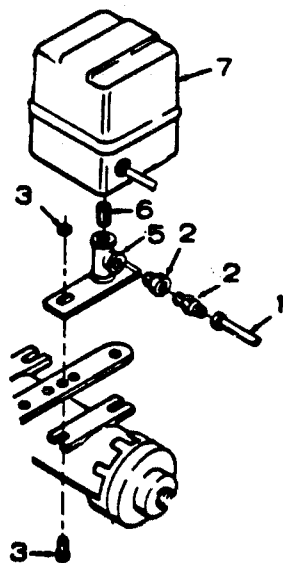
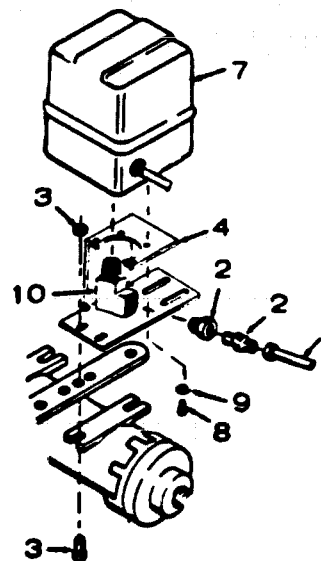


FIGURE "B"



- FIGURE "A".
1. Disconnect oil pressure line(#1).
 2. Remove and save oil line fittings for reuse(#2).
 3. Remove and save installation hardware for reuse(#3).
 4. Remove and discard pipe tee support bracket(#5) and pipe nipple(#6).

- FIGURE "B"
1. Install bracket(#4)to pressure switch(#7)using screws(#8) and lockwashers(#9).
NOTE: It may be necessary to remove existing screws and lockwashers from some switches.
 2. Install street elbow(#10)into pressure switch(#7).
 3. Attach bracket and switch to heater using item#3.
 4. Install fitting(s)[#2]into elbow(#10).
 5. Install oil pressure line(#1)into fitting(s).



Product Support Bulletin

Date: 12/30/82 Page 1 of 3 Bulletin No. 382

Subject:

CORRECTION OF AUXILIARY
CONTACT PROBLEM

Ref. File #

C-21 (SERVICE)

Model(s) or Series:

"OTSAL" AND "OTSAK" SPEC16941B OR SPEC16941C
TRANSFER SWITCHES ONLY

Effective:

IMMEDIATELY

On certain transfer switches manufactured for Western Electric, we have encountered some auxiliary contact problems which may require changing the physical location of certain microswitches. These switches are designated as S10 and S11 or S8 and S9. Regardless of switch designation, the physical location is always the same. See Figure 1 on page 2.

Because of the force required to actuate the microswitches in their present location, it is possible that the microswitch actuating arm can be flexed so that the switch will fail to actuate. If this occurs, the microswitch must be physically relocated from the outside position(i e S10)to the inside position(i e S2).

This moves the switch closer to the power pole contacts so the actuating arm does not "flex" as much during operation. The following procedure is necessary to physically relocate the microswitch:

ALL TRANSFER SWITCHES

1. Disable the stand-by generating set to prevent start-up during this modification procedure. Remove commercial(line)power from the transfer switch.
2. Remove the four screws which secure the mounting assembly control package to the transfer switch. Also remove the auxiliary contact cover from the microswitches.

LINE SIDE

1. Remove the four mounting screws which secure the microswitch mounting brackets to the transfer switch base.
2. Remove the two outside nuts which hold the double pole, double throw outside microswitch to the outside mounting bracket. See Figure 1.

NOTE It is NOT necessary to disconnect any wiring from any of the microswitches. Some wire ties can be removed to allow repositioning of the outside double pole, double throw microswitch to the inside position.

3. Loosen and remove the two screws holding the microswitches to their mounting brackets.

NOTE: On 400 amp and larger transfer switches, it is necessary to remove two additional nuts on outside of outer microswitch mounting bracket to complete step 3.

4. Reassemble microswitches to mounting brackets by repositioning the double pole, double throw microswitch (removed in step 2)to the inside position(closest to the power pole)as shown in Figure 2. All three* remaining microswitches must be moved over one position toward outside(away from power pole). Switch barriers(insulators) must be reassembled on both sides of each microswitch during reassembly. Do NOT tighten microswitch mounting screws.

*The third single pole, single throw microswitch will be on the outside of the outside microswitch mounting bracket after relocation.

(Over)

5. Reassemble microswitch mounting brackets to the transfer switch base.
6. Adjust microswitches as required and check for proper operation. Refer to Major Service manual #962-0503, page 41 for microswitch adjustment procedure.

EMERGENCY SIDE

7. Repeat steps 1 through 5 (Line-Side) for the emergency side microswitches.
8. Reinstall auxiliary contact cover and mounting assembly control package.
9. Reconnect commercial (line) power to the transfer switch.

Standard warranty policy applies to this field modification.

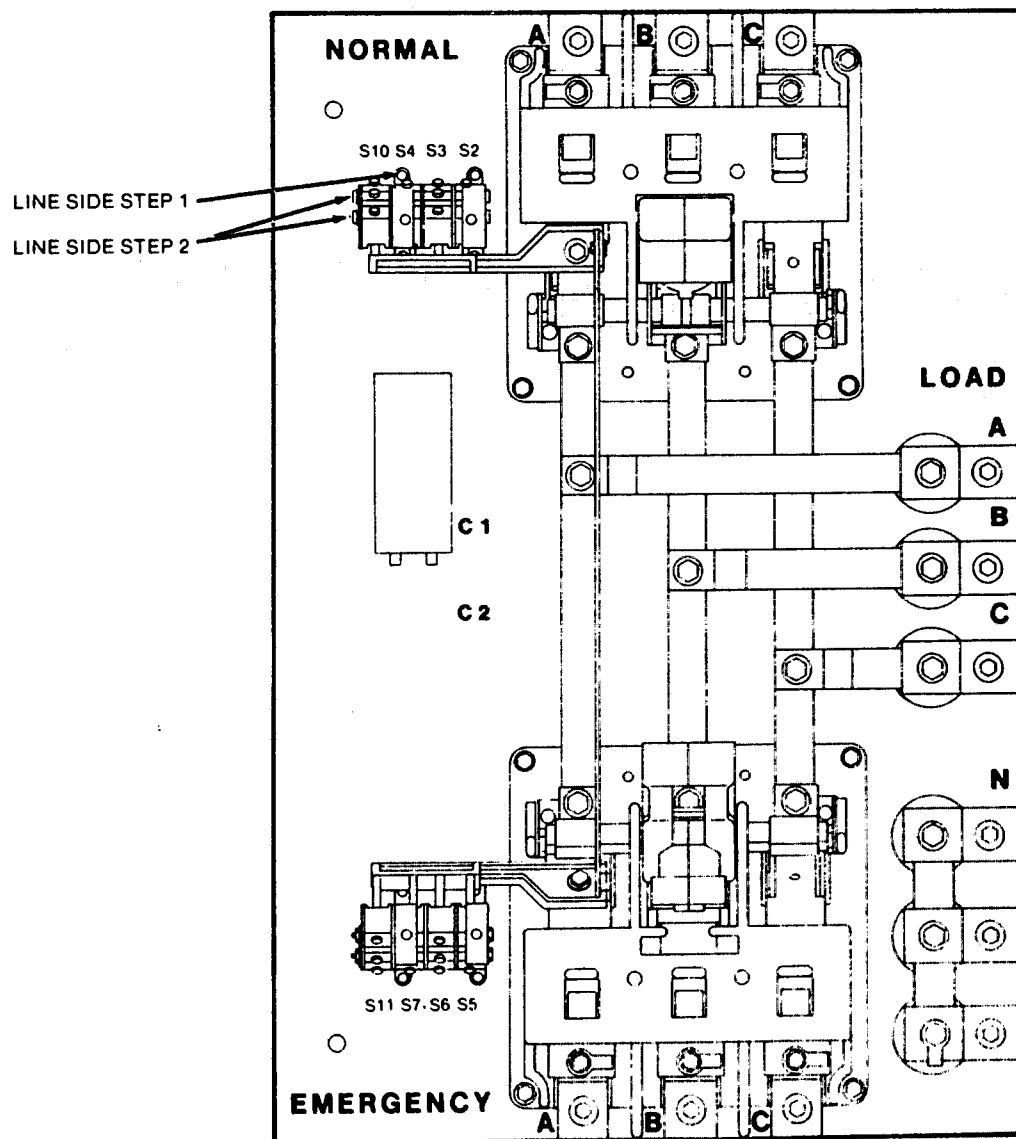
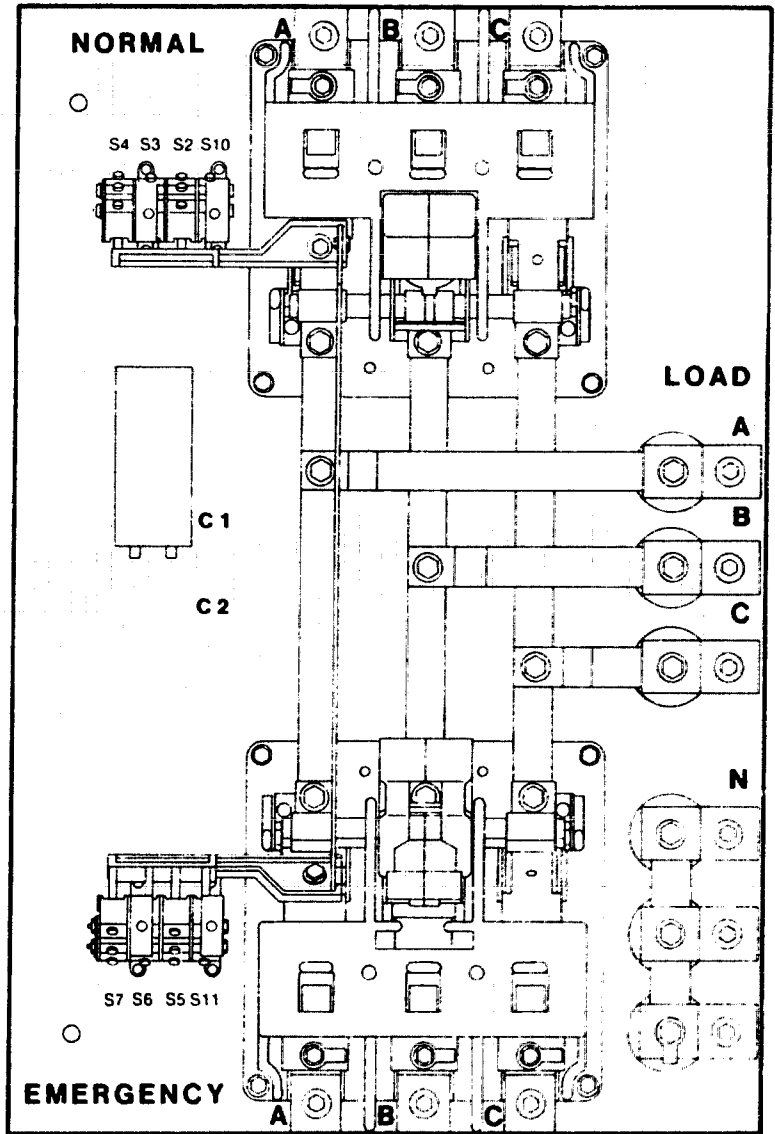


FIGURE 1. Original Transfer Switch Microswitch Configuration
Refer to Figure 2 on page 3 which shows the modified microswitch configuration.



XSC 1348

FIGURE 2. Modified Microswitch Configuration

Allen C. Jacobson
Allen C. Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

Date: 12/30/82 Page 1 of 1 Bulletin No. 383

Subject: POTENTIAL WIRING ERROR

Ref. File # S-235 (SERVICE)

Model(s) or Series:

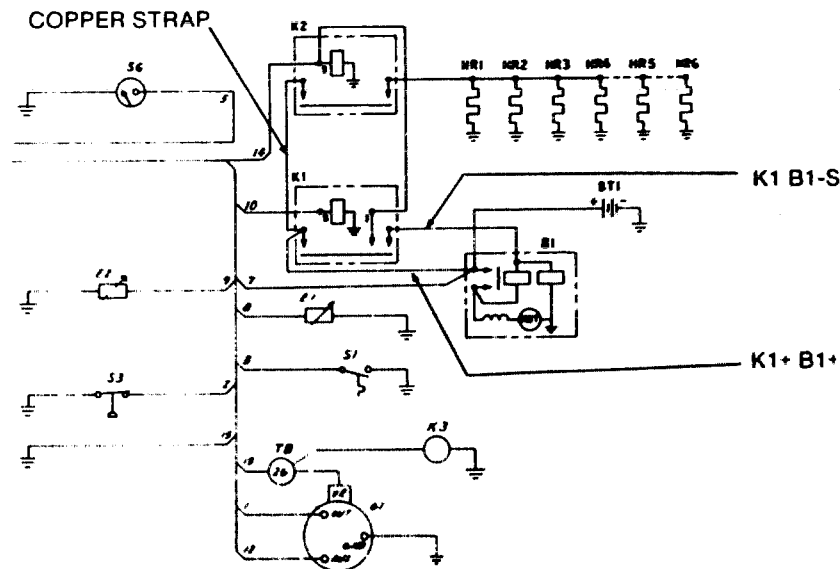
Effective: IMMEDIATELY

"L"SERIES GENERATOR SETS

Some of the first "L"series generator sets had two wires reversed which could prevent operation of the preheat circuit. On models affected, heaters will be energized along with the starting circuit, but NOT prior to cranking.

When performing an initial start-up or if a customer complains about slow or erratic starting, check the wiring to the K1 starter pilot solenoid. The larger wire(K1+ to B1+)MUST go to the side of the solenoid that is common to the heater solenoid(side with the copper strap connecting K1 and K2 contacts together). The smaller gauge wire(K1 to B1-S)goes to the side of the solenoid without the copper strap. Refer to the wiring diagram below for proper connections.

Standard warranty policy applies.



Correct Wiring Connections

Allen C. Jacobson

Allen C. Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

Date: 1/14/83 Page 1 of 1 Bulletin No. 384

Subject: UNUSUAL CRANKSHAFT GEAR FAILURE

Ref. File # E-76 (SERVICE)

Model(s) or Series:
"J"-SERIES ENGINES

Effective: UNITS WITH SERIAL
NUMBER PREFIX "F82"
OR "G82" ONLY

A limited number of "specially treated" camshaft gears were inadvertently released into production during build schedules in June and July of 1982.

Some of these gears may exhibit characteristics that will cause the (mating) crankshaft gear to fail prematurely.

When the failure of a crankshaft gear in an engine within the serial range specified above is identified, the camshaft gear should be replaced along with the crankshaft gear. This will eliminate the possibility of a re-occurrence of this failure.

The engine oil pump and start-disconnect assemblies, being gear driven, should also be replaced to prevent premature failure of these items.

Standard warranty policy applies.

Allen C. Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

Date: 1/14/83 Page 1 of 1 Bulletin No. 385

Subject: ALTERNATOR DRIVE BELT TOO LONG

Ref. File # 5-236 (SERVICE)
(PARTS)

Model(s) or Series:

Effective: IMMEDIATELY

"DL4" AND "DL6" GENERATOR SETS ONLY

Field reports indicate that in some cases the present alternator drive belt is "too long" to obtain proper belt tension within the physical limitations of the adjustment strap and belt guard.

Current production has been changed to a new drive belt (Onan Part #511-0124).

Please change your Parts Catalogs and Microfiche as follows:

Delete Alternator Drive Belt Part #511-0107

Add new Alternator Drive Belt Part #511-0124.

Standard warranty policy applies.

Allen C. Jacobson, Chairman
Product Support Bulletin Committee
FR#21.161



Product Support Bulletin

Date: 1/14/83 Page 1 of 1 Bulletin No. 386

Subject: AIR CLEANER COVERS/MOISTURE IN ENGINE **Ref. File #** E-77 (SERVICE)
(PARTS)

Model(s) or Series: "B43M" AND "B48M" INDUSTRIAL ENGINES ONLY **Effective:** IMMEDIATELY

The "standard" air cleaner cover for most "B" series industrial engine models is designed for low profile use (installation) and is "concave" in shape. If the engine is NOT protected by a hood or some other type of cover, moisture (rain) can collect on the cover and enter the engine causing severe damage.

Where there is "marginal" protection from the elements and a "low profile" is not necessary, another air cleaner cover style is available.

It has a "convex" shape which adds approximately "one" inch (25mm) in height to the engine. This air cleaner cover MUST be ordered in conjunction with a special size plastic air cleaner cover knob. The part numbers are:

Convex Air Cleaner Cover (Onan Part #140-1747).

Plastic Cover Knob (Onan Part #140-1750).

The addition of these parts will change the spec number of the engine when ordered directly from the factory on a new engine.

Standard warranty policy will NOT apply to this modification on engines originally shipped with the "standard" concave air cleaner cover.

This bulletin is for informational purposes.

Allen C. Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

Date: 1/14/83 Page 1 of 1 Bulletin No. 387

Subject:
VINYL AND RUBBER HOSE STANDARDIZATION
("ONE" INCH I.D. AND SMALLER)

Ref. File #
M-41 (PARTS)

Model(s) or Series:

NOT APPLICABLE

Effective:
IMMEDIATELY

In order to improve availability and to reduce the number of "cut lengths" of hose stocked, Onan has started to consolidate part numbers by stocking the nearest closest length in one foot increments. As an example, one foot of hose will serve as a replacement for all cut lengths requiring one foot or less. A two foot length will replace all cut lengths from 13 inches to 24 inches and so on. The end user must cut the hose to the desired length required.

The new part number substitutions will appear in the next update of the Service Parts Price List. Where this substitution is already in effect, parts orders for the obsolete hose part numbers will be changed to the new number and length when the order is processed at Onan.

This bulletin is for informational purposes.

Allen C. Jacobsen, Chairman
Product Support Bulletin Committee



Product Support Bulletin

Date: 2/11/83 Page 1 of 1 Bulletin No. 388

Subject: IGNITION TIMING ADJUSTMENT
AND DIAPHRAGM REPLACEMENT

Ref. File # S-237 (SERVICE)
(PARTS)

Model(s) or Series:

"JB" INDUSTRIAL ENGINES
AND GENERATOR SETS

Effective: IMMEDIATELY

Field reports indicate the possibility of ignition point diaphragm(160-0718) "stiffening" in colder ambients. This causes restricted ignition breaker plunger movement resulting in difficult or NO starting. This diaphragm may also deteriorate from exposure to heat and oil.

If you encounter starting problems, examine the plunger diaphragm. Onan has changed the material of the diaphragm. The new diaphragm(Same Onan Part No.) can be identified by it's RED color verses the old diaphragm which was black.

Diaphragm replacement requires removal of diaphragm cup, diaphragm and plunger. Use caution when removing diaphragm cup. If damaged, replace diaphragm cup(160-0717). During assembly of new diaphragm, place diaphragm over plunger before installing in breaker plate. Refer to Engine Master Service Manual(922-0501), Section 10, Page 10-33 for replacement illustration and procedures. The correct ignition point setting is .020 inch(0.51mm) on all models.

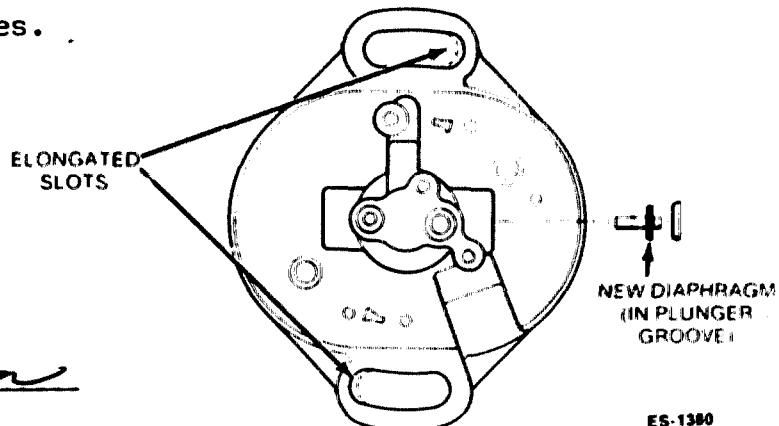
The timing adjustment is sometimes difficult on these models due to "limited" travel in the slotted holes of ignition breaker plate.

If proper timing cannot be obtained by rotating the breaker plate assembly, the slotted holes on the breaker plate must be elongated.

File(remove)approximately 1/16 inch of material as indicated in illustration.

Production units are using the new RED plunger diaphragm and breaker plate with elongated timing adjustment slots. Onan Parts stock has been purged of the obsolete(black)plunger diaphragm.

Standard Warranty Policy applies.



Allen C. Jacobson
Allen C. Jacobson, Chairman
Product Support Bulletin Committee

ES-1380

IGNITION BREAKER PLATE



Product Support Bulletin

Date: 3/1/83 Page 1 of 1 Bulletin No. 389

Subject: INCORRECT CONNECTING ROD LISTING IN PARTS CATALOG (965-0261)

Ref. File # E-78 (SERVICE) (PARTS)

Model(s) or Series:

R48M-GA018/4107A ONLY
(Miller Electric Mfg. Co.)

Effective: IMMEDIATELY

Item 5 on page 7 in above Parts Catalog has an incorrect part number(114-0300) listed for the connecting rod and all undersizes. The correct connecting rod for this model is 114-0257. Please change your manuals immediately as no supplement will be issued.

The 114-0257 connecting rod can be identified by a casting number(170-3286)stamped on the rod. The 114-0300 connecting rod is identified by casting number(170-3439) stamped on the connecting rod. These connecting rods are NOT interchangeable.

All undersizes listed(example 114-0300-10)should have the suffix number changed to -0257-10 etc. Please change these suffix numbers in your catalog for all undersizes.

This bulletin is for informational purposes.

Allen C. Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

Date: 3/1/83 Page 1 of 1 Bulletin No. 390

Subject: VALVE REPLACEMENT RECOMMENDATIONS

Ref. File # E-79 (SERVICE)
(PARTS)

Model(s) or Series:

Effective: IMMEDIATELY

R43M-GA016/3418A OR 3842A ENGINES USED BY PRIME MOVER CO.(Oakes Mfg) IN L-600 "ROUNDER" SKID STEER LOADER. ALSO MARKETED BY GEHL CO. AS A "HL-360" SKID STEER LOADER

R48M-GA018/3417A OR 4087A ENGINES USED BY PRIME MOVER CO.(Oakes Mfg) IN L-700 "ROUNDER" SKID STEER LOADER

Whenever replacing the valves in either of the above engines used in subject skid loaders, Onan recommends replacement of the economy valve package in these models with the premium valve package. The premium valve package is better suited for the environments in which these skid steer loaders operate. The premium valve package component parts are listed below.

| <u>REMOVE</u> | | | <u>INSTALL</u> | | |
|---------------|-----------------|------------------------------|----------------|-----------------|---------------------|
| <u>Qty</u> | <u>Part No.</u> | <u>Description</u> | <u>Qty</u> | <u>Part No.</u> | <u>Description</u> |
| 2 | 110-1809 | Exhaust Valve | 2 | 110-1955 | Exhaust Valve |
| 2 | 110-1808 | Intake Valve | 2 | 110-2368 | Intake Valve |
| 2 | 110-0245 | Exhaust Valve Seat | 2 | 110-1824-02 | Exhaust Valve Seat* |
| 2 | 110-0893 | Valve Spring Retainer washer | 2 | 110-0904 | Valve Rotators |

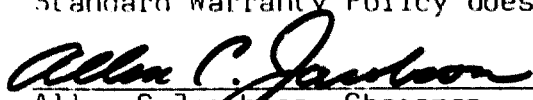
*(Oversized valve seal will probably have to be used because of the material being removed when the old valve seat is removed).

A one inch tap is required to remove the old exhaust valve seal(110-0245)and valve seat driver(420-0071)is required to install the new exhaust valve seal(110-1824-02*).

A complete short block is available for the R43 engine specs listed above. Order Onan Part Number 110-3118.

For additional service procedures, refer to the Engine Master Service Manual(922-0501), Section 15, Page 10.

Standard Warranty Policy does NOT apply.


Allen C. Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

Date: 4/1/83 Page 1 of 1 Bulletin No. 391

Subject: KIM "HOT START"
TANK HEATERS

Ref. File # S-238 (SERVICE)
(PARTS)

Model(s) or Series:

ANY STANDBY UNIT EQUIPPED
WITH A KIM TANK HEATER

Effective: IMMEDIATELY

The service department has received several reports of inoperative Kim "hot-start" tank heaters during start-up on some stand-by generator sets.

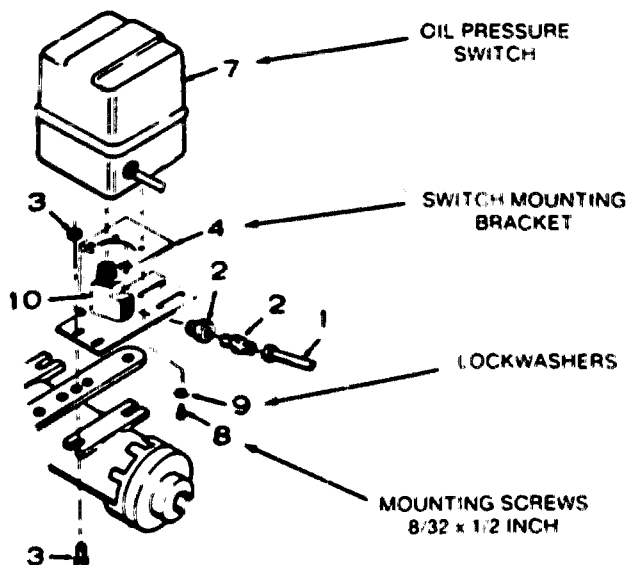
Some recent production sets with Kim tank heaters in the configuration shown below were built with improper hardware. The mounting screws shown below (Item 8) were inadvertently called out as an 8/32 x 5/8 inch screw. These screws were too long and will cause the oil pressure switch to remain open, leaving the heater in an "off" position.

Current Production sets with heaters have been changed and now use an 8/32 x 1/2 inch screw (Onan Part No. 812-0079) which provides proper clearance between the screw tip and the oil pressure switch.

All Onan inventory has been checked and corrected as required.

If the tank heater fails to operate properly on any new installations during start-up, remove the screws (Item 8) and check for proper length. Replace as required.

Standard warranty policy applies.



Allen C. Jackson
Allen C. Jackson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

Date: 4/11/83 Page 1 of 1 Bulletin No. 392

Subject: FREQUENT SPARK PLUG FOULING

Ref. File # S-239 (SERVICE)
(PARTS)

Model(s) or Series:
6.5NH SPEC "P" RV GENERATOR SETS


Effective: IMMEDIATELY

Recent field reports indicate an increased number of problems concerning "fouled" spark plugs on subject models. Further investigation reveals that Onan Plug Part No. 167-0291(Champion RBN13Y)has often been changed to another Champion plug (Champion No. RS12YC).

The Champion RS12YC spark plugs have been tested in our engineering laboratories and found NOT SUITED for this generator set application.

In some instances Champion dealers may substitute the RS12YC for the RBN13Y as listed in Champion's Cross-Reference Index.

Be sure to use the Onan Part No. 167-0291 spark plug whenever changing plugs on this particular generator set. Do NOT accept RS12YC as a replacement.


Allen C. Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

Date: 6/17/83 Page 1 of 1 Bulletin No. 393

Subject: EXHAUST MANIFOLD PLUG **Ref. File #** S-240 (SERVICE)
(PARTS)

Model(s) or Series: **Effective:** IMMEDIATELY

4.0 BFA-IR/16004C RV SETS ONLY

Some of the above models may contain a plastic plug in the exhaust manifold. The use of this plug was discontinued June 13, 1983.

Be sure to check for and remove this plug from the manifold prior to connecting the exhaust system and before attempting to start the unit.

Advise your customers and O.E.M's to check for and remove this plug prior to installation.

This bulletin is for informational purposes.

Allen C. Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

Date: 11/1/83 Page 1 of 1 Bulletin No. 396

Subject: L SERIES STATIC TIMING SPECIFICATIONS FOR REPLACEMENT INJECTION PUMPS
Ref. File # E-82 (SERVICE) (PARTS)

Model(s) or Series: ALL L SERIES DIESEL ENGINES
Effective: IMMEDIATELY

In February 1983 a change was made in the internal timing of the fuel injection pump and to the pump part numbering system. As a result of these changes, it may be necessary to change the engine static timing when installing a replacement fuel injection pump.

All fuel injection pumps built before February 1983 are marked with a seven digit (Example: 147-0453) Onan part number. Fuel injection pumps built after February 1983 are marked with a nine digit (Example: 147-0462-02) Onan part number. The Onan part number is stamped on the injection pump name plate. Engine performance is the same for both injection pumps when engine static timing is correctly set.

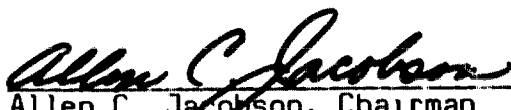
Find the seven or nine digit Onan part number stamped on the replacement pump and refer to Table 1 for the correct static timing specification.

Refer to *L SERIES DIESEL ENGINE SERVICE MANUAL (934-0750)* for complete fuel injection pump installation instructions.

TABLE I. STATIC PUMP TIMING SPECIFICATIONS

| Replacement Pump | Original Pump | Static Timing |
|------------------|---------------|--|
| 9 digit | 7 digit | 15° BTDC* All engine applications. |
| 9 digit | 9 digit | 15° BTDC All engine applications. No change to engine model label required. |
| 7 digit | 9 digit | 14.5° BTDC* 4 cylinder (700-3600 rpm) 15° BTDC* 6 cylinder (700-3600 rpm) 19° BTDC* 4 and 6 cylinder (1500 and 1800 rpm) |
| 7 digit | 7 digit | Refer to engine model label for correct static timing specification |

* - Change static timing specification on engine model label


 Allen C. Jacobson, Chairman
 Product Support Bulletin Committee
 FR # 5387

**Product Support Bulletin**

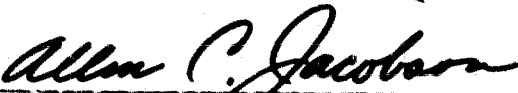
Date: 11/1/83 Page 1 of 3 Bulletin No. 397

Subject: AIR BAFFLE SHEET METAL CHANGES**Ref. File #** E-83 (SERVICE)
(PARTS)**Model(s) or Series:****Effective:** IMMEDIATELYALL "B" SERIES INDUSTRIAL ENGINES
AND GENERATOR SETS

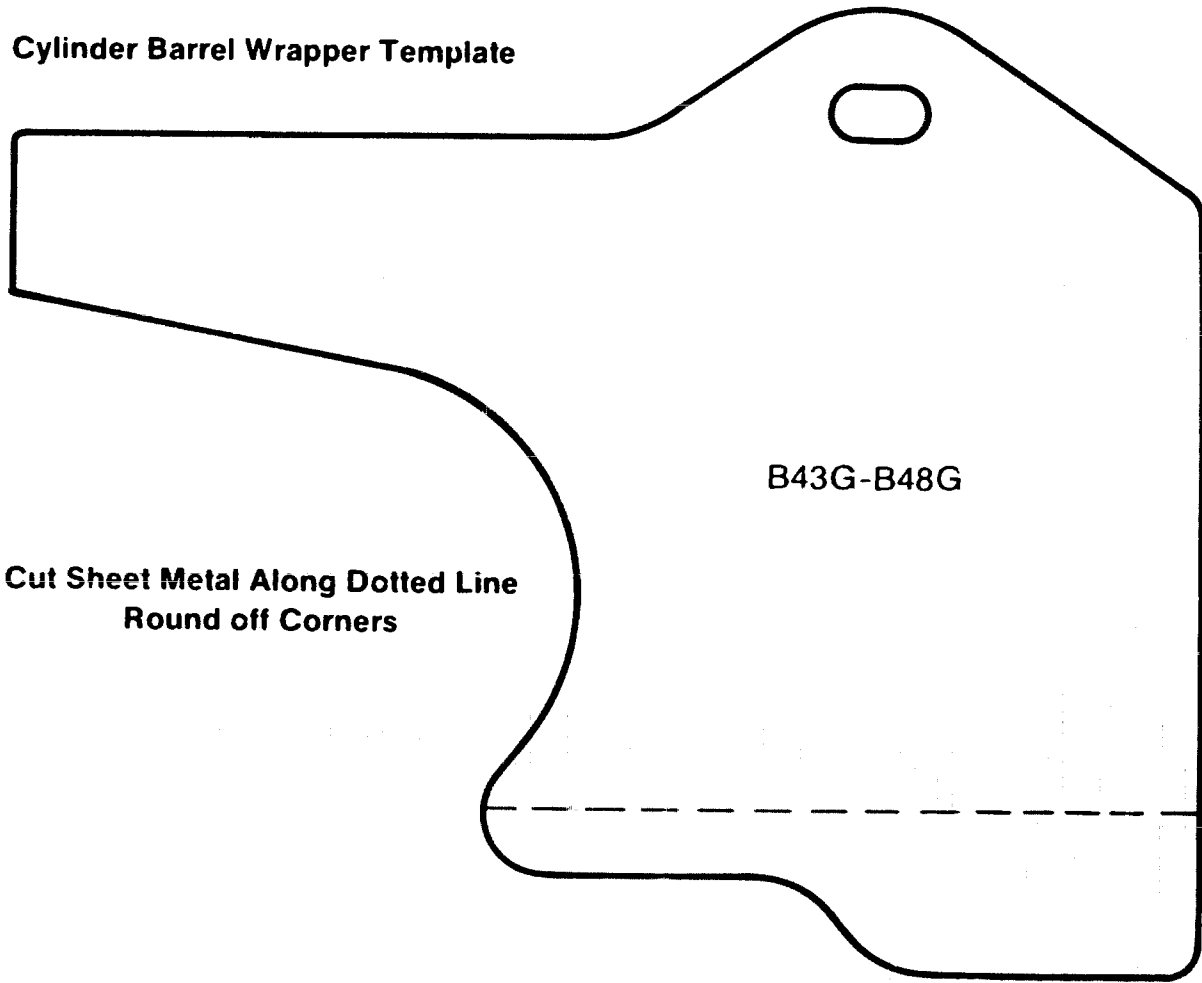
Onan has made a running change in production to the cylinder block on all "B"-series engine blocks. This product improvement will affect the re-installation of the old style left-hand air housing assembly, Onan part numbers 134-2989(B43M- & B48M), 134-3803, 134-4266 and 134-4268(B43G & B48G respectively).

When using a new B-series short block or installing any old style left-hand air baffles in your inventory on a new style B-block engine, it will be necessary for you to modify the sheet metal as shown on the templates on pages 2 and 3. Template usage varies depending on which engine models are involved. The templates on pages 2 and 3 are Actual Dimensions for your use in simplifying this modification.

Warranty coverage does NOT apply.


Allen C. Jacobson, Chairman
Product Support Bulletin Committee

Cylinder Barrel Wrapper Template



B43G-B48G

**Cut Sheet Metal Along Dotted Line
Round off Corners**



Product Support Bulletin

Date: 11/1/83 Page 1 of 1 Bulletin No. 398

Subject: FUEL PUMP CRACKING - VACUUM PULSE
PUMP PART NUMBER 149-1322

Ref. File # E-84 (SERVICE)
(PARTS)

Model(s) or Series:
B43M, B48M, BG AND BF INDUSTRIAL ENGINES
USING A BLOWER HOUSING MOUNTED FUEL PUMP

Effective: IMMEDIATELY

A very limited amount of B48M-GA018/4107A engines(used in Miller Welder applications)may experience a small crack in the fuel pump base(Onan Part Number 149-1324). This crack can be caused by over-tightening the two sheet metal mounting screws.

Whenever replacing or servicing the remote blower housing mounted fuel pumps on the above models, it may be necessary to shim the pump mounting pads if the fuel pump base has developed a crack. Place a 3/16 inch I.D. washer(thickness NOT to exceed 1/16 inch)between the blower housing and fuel pump base mounting pads to relieve stress on the flat fuel pump base and the slightly curved blower housing. Shim pump pads until it just clears the blower housing, more than one shim may be necessary. Start both sheet metal mounting screws and alternately tighten until snug.

You may be approached by a Miller Welder dealer or customer with a letter indicating the fuel pump is to be replaced. Please replace the pump using the procedure stated above.

Standard warranty policy applies. Please attach the Miller letter(or a copy)to your warranty claim to expedite claim processing.

Allen c. Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

Date: 1/18/84 Page 1 of 1

Bulletin No. 399

Subject: STUMBLE AND HESITATION
DURING ANGLE(INCLINE) OPERATION

Ref. File # E-85 (SERVICE)
(PARTS)

Model(s) or Series:

Effective: IMMEDIATELY

"B" SERIES INDUSTRIAL ENGINES ONLY
USING "NIKKI" CARBURETORS

Field reports indicate that some engines may stumble or hesitate when operated at an angle or on an incline when equipped with a Nikki carburetor. This may be caused by an incorrect float level or float drop adjustment. Be sure carburetor linkages and governor speed are properly set prior to adjusting float level or float drop.

Float Adjustment

1. Drain as much fuel as possible from carburetor by starting engine and shutting fuel supply off.
2. Remove and insulate the B+ lead at ignition coil. Remove air cleaner and top half of carburetor.
3. Gently push float tang down until needle just seats, measure float level as shown in Figure 1. Adjust float level if necessary. Release float tang and measure float drop as shown in Figure 2 which is (the distance from top of carburetor body to top of float).

WARNING: IGNITION OF FUEL MIGHT CAUSE SERIOUS PERSONAL INJURY OR DEATH BY FIRE OR EXPLOSION. DO NOT PERMIT ANY FLAME, CIGARETTE OR OTHER IGNITER NEAR THE FUEL SYSTEM.

4. Place carburetor top on bowl and fasten, turn fuel supply on and crank engine for 45 seconds (This must be done in 15 second intervals-allow starter to cool for one minute after each 15 second cranking interval). Remove carburetor top to make sure carburetor bowl is full. Measure fuel level in carburetor bowl as shown in Figure 3.

5. Replace top of carburetor and air cleaner. Remove insulation and reconnect B+ coil lead. Start engine and check for proper operation on inclines or at angles.

Standard Warranty policy applies.

When checking float level and float drop, measure to float body, not seam.

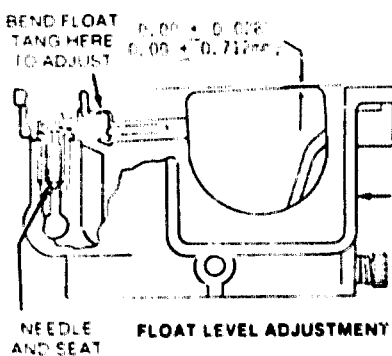


FIGURE 1.

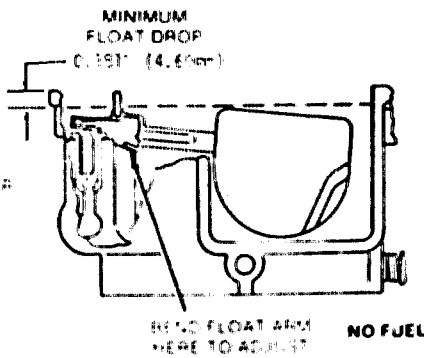


FIGURE 2.

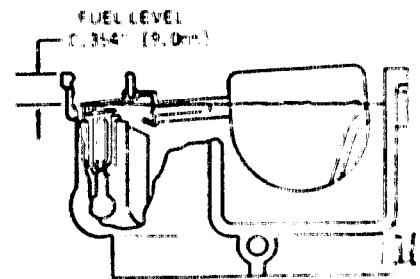


FIGURE 3.

Allen C. Jacobson
Allen C. Jacobson, Chairman
Product Support Bulletin Committee
900-81910

The following catalog has gaps in its page numbers, or doesn't have any numbers. We have chosen to leave the page numbering in the order that Acrobat assigns it.

Onan**Product Support Bulletin**

Date: 1/18/84 Page 1 of 1 Bulletin No. 400

Subject: POTENTIAL FIELD PROBLEMS
WITH FUEL SYSTEM AIR LEAKS

Ref. File # S-241 (SERVICE)
(PARTS)

Model(s) or Series:

Effective: IMMEDIATELY

ALL L SERIES ENGINES AND GENERATOR SETS

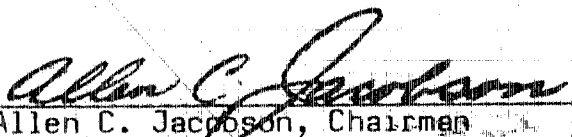
Field reports indicate a potential problem with air leaks within the fuel system plumbing on L series engines. Symptoms are: Engine failing to start, running rough, white smoke and/or misfiring or engine shutdown shortly after starting.

This problem could be caused by improperly installed fuel supply lines and fittings allowing air leaks within the fuel system. When experiencing any of these symptoms, caused by air entering the fuel system, the first step should be to re-seal all fuel inlet fittings and lines.

The proper way to install fuel fittings and fuel supply line plumbing is with a high grade of sealant such as Onan Part Number 518-0452 (Loctite#592). Clean both the male and female thread connections with a clean shop cloth to remove any oil, grease or metal chips. Apply sealant behind the leading thread. Avoid filling the first thread (closest to the end of the fitting). Then reassemble all connections.

Start at the fuel supply tank, and step by step, work towards the injection pump, checking at each joint for air leaks into the fuel system. This process will eliminate each component in the fuel system as you go. If you pass the fuel filter with no identified source of trouble, a separate in-line fuel filter MUST be used to prevent potential damage to the injection pump. If this does not resolve the problem, the next step is to use a separate source of fuel.

This bulletin is for informational purposes. Potential problems related to air leaks within the fuel system are NOT covered under warranty.


Allen C. Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

Date: 1/18/84 Page 1 of 1 Bulletin No. 401

Subject:

CARBURETOR-FLOAT ASSEMBLY
ONAN PART NO. 142-0652

Ref. File #

E-86 (SERVICE)
(PARTS)

Model(s) or Series:

ALL "B" SERIES INDUSTRIAL ENGINES

Effective:

IMMEDIATELY

Some customers have experienced float swelling problems on the 142-0652 float assembly when used in fuels blended with methanol. Because neither Onan nor the end user can control what is being blended into gasoline, we have developed a new brass float kit (Onan Part No. 146-0380) to be used in the "DD" style carburetor.

The 142-0652 carburetor float is superseded by the new brass float kit (146-0380). Onan will replace your present stock of the 142-0652 floats with the new 146-0380 kits on a one-for-one basis. Use the following procedure for ordering and obtaining reimbursement for your carburetor floats (142-0652) now in your stock:

1. Order the quantity of 146-0380 brass float kits needed to replace your present inventory of 142-0652 carburetor floats through your normal channels for replacement service parts stock.
2. Submit a spare parts warranty claim for the quantity of 142-0652 carburetor floats you have in stock. Do NOT use the 146-0380 price!
3. HOLD all 142-0652 floats until you receive a warranty return authorization form from Onan.
4. You may wish to replace the floats in complete carburetors you have in stock. If so, use the same procedure outlined above.

Standard spare parts warranty policy applies. Please attach a copy of this bulletin to your spare parts warranty claim form.

This policy and procedure will be in effect for 90 days from the date of this bulletin.

Allen C. Jacobson
Allen C. Jacobson, Chairman
Product Support Bulletin Committee



Product Support Bulletin

Date: 1/18/84 Page 1 of 1 Bulletin No. 402

Subject: COLD STARTING IMPROVEMENT OR
CHOKE PLATE MODIFICATION

Ref. File # E-87 (SERVICE)
(PARTS)

Model(s) or Series:

Effective: IMMEDIATELY

ALL B43E, B43G AND B48G INDUSTRIAL ENGINES
USING "NIKKI" CARBURETORS

If experiencing starting problems in colder ambients on the subject models listed above, it may be necessary to replace the choke plate on the Nikki carburetor. Before replacing this choke plate be sure you check the following:

1. Does the present carburetor choke plate close fully?
2. Is the float and fuel level correct? Refer to Product Support Bulletin No. 399, dated 1/18/84, for this information and adjustment procedures.
3. Check the battery condition and make sure all connections are clean and tight.
4. Make sure ignition points are set properly.
5. Check for fouled spark plugs.
6. Be sure the correct engine oil is being used for colder ambients and also in the hydrostatic drive if applicable.
7. Be sure winter fuel is used.

After checking everything listed above, if the engine continues to be hard to start in colder ambients, measure the hole in the choke plate using a 3/8 inch drill bit. If it fits in the hole, replace it with an Onan Part No. 146-0376 choke plate which has a .246 inch (D size drill bit) hole in the choke plate. You can reuse old choke shaft and mounting screws. Coat choke plate screws with Loctite #242 before re-installing.

CAUTION: Close throttle plate when removing and reinstalling choke plate mounting screws.

Standard warranty policy applies.

Allen C. Jacobson

Allen C. Jacobson, Chairman
Product Support Bulletin Committee
FR#10605



Product Support Bulletin

Date: 1/25/84 Page 1 of 2 Bulletin No. 403

Subject: ERRATIC GOVERNOR, OPERATION
OR ENGINE SURGE

Ref. File # S-242 (SERVICE)
(PARTS)

Model(s) or Series:

Effective: IMMEDIATELY

ANY "B" OR "N" SERIES INDUSTRIAL ENGINES AND/
OR GENERATOR SETS WITHIN SERIAL NUMBER RANGE
H833695401 to I833708998

If any of the above models within the serial number range listed above demonstrate erratic governor operation, engine surge and on generator sets, overvoltage, it may be necessary to replace the governor yoke (Onan Part No. 150-1187). The governor yoke in some of these engines do not meet the hardness specification and may yield when subject to operating pressures. Onan has reworked a large percentage of the subject engines at our factory, at OEM plants and through selective field campaigns, but there could be a small number of engines that were missed. Before inspecting and replacing the governor yoke with a new yoke (Onan Part No. 150-1187) make sure you check the following items (refer to specific applicable individual service manuals):

1. Make sure governor linkage is free and set properly.
2. Check carburetor adjustments, float levels and be sure carburetor is clean.
3. Check intake manifold and carburetor mounting gaskets for any leaks.
4. Make sure ignition timing is properly set and that both spark plugs are firing.
5. Make sure all OEM safety shutdown devices are in proper working condition.

If these checks do not resolve the problem, there are two methods of checking for soft governor yokes:

Method #1: Using a dial type torque wrench (do not use the click or snap type torque wrench) you may test for soft governor yokes by using instructions outlined on instruction sheet A295 attached. To replace soft yoke, follow instructions outlined in text of method #2.

Method #2: Remove the engine gearcase cover and examine the yoke. In most instances the yoke will appear thinner and have surface irregularities. If useability is still unclear, measure the yoke thickness as shown in Figure A. This thickness should be .1046 inches \pm .005 inches. If the yoke does not meet this specification, replace yoke with a new Onan Part No. 150-1187. It is necessary to replace the two yoke screw Onan Part No. 815-0046. Use Loctite #242 on screw threads. You MUST also support the governor shaft when removing the yoke screws. This can be done by wedging a small block of wood (approximately 3/16 inches thick) under the governor arm directly under the yoke screws as shown in Figure B. Before reinstalling gearcase cover, visually inspect the governor hub for wear. If it shows signs of premature wear, replace it with a new 150-1519 governor hub (refer to Figure B).

(over)



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 1400 73rd Avenue N.E.
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 612 574-5000

Instruction Sheet

A295 11-83

Governor Yoke Test Procedure For BFA, BGA, NH, BGAL, and NHL Generator Sets

Between September 27, 1983 and October 17, 1983, a number of twin cylinder generator sets were assembled with a weakened governor yoke. During operation, the yoke might bend causing unstable governor action. All sets that might have this part must be tested as described in this instruction sheet.

This Instruction Sheet specifies the correct procedures for testing the governor yoke on B and N series generator sets. If the test indicates the need for governor yoke replacement, the following parts are required:

| Description | Part Number | Qty. |
|----------------------------|-------------|------|
| Governor Yoke | 150-1187 | 1 |
| Yoke Screws | 815-0046 | 2 |
| Gearcase Cover Gasket | 103-0408 | 1 |
| Exhaust Manifold Gaskets | 154-1725 | 2 |
| Exhaust Downpipe Gasket | 154-2061 | 1 |
| Locktite (for yoke screws) | - | - |

A weakened governor yoke will be black in color with an etched appearance, and will be noticeably thinner than the replacement part. Refer to current service manual for the yoke replacement procedures.

TEST PROCEDURE

1. Push downward on the throttle linkage to separate it from the governor arm as shown in Figure 1.
2. Move the sensitivity adjustment clip over about 1/2 inch (13-mm) to the position shown in Figure 1.

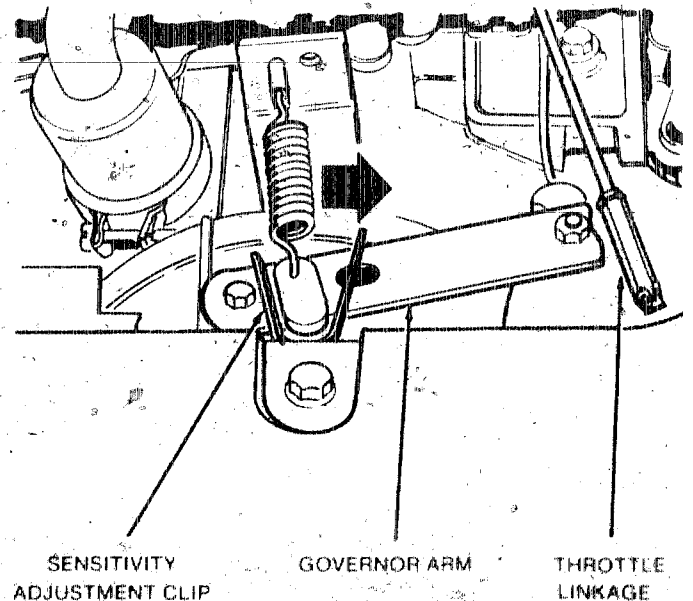


FIGURE 1. GOVERNOR ARM



Product Support Bulletin

Date: 2/29/84 Page 1 of 1 Bulletin No. 404

Subject: NEW L SERIES ROCKER ARM ADJUSTMENT
NUT AND ROCKER COVER CAPNUT

Ref. File # E-88 (SERVICE)
(PARTS)

Model(s) or Series:

L ENGINES

Effective: IMMEDIATELY

Onan has designed a new improved rocker arm adjustment nut (Onan Part No. 115-0315) and related rocker cover cap nut (Onan Part No. 115-0320). The new adjustment nut has additional threads for improved adjustment retention and is easily identified by its black zinc phosphate coating.

The new rocker cover capnut is shorter in length (approximately 20mm overall) than the existing nut (approximately 24mm overall) previously used. Both hardware items MUST be used in conjunction with each other when replacement is necessary.

Onan has purged its stock of the obsolete rocker arm nut (115-0290-silver in color) and the obsolete (longer) rocker cover capnut (115-0231). All inventory and current production L engines are using the new hardware.

Distributors should check and purge their stock of all obsolete 115-0290 (silver) rocker arm adjusting nuts and 115-0231 (longer) rocker cover capnuts. Submit a spare parts warranty claim for the quantity of parts you wish to return and attach a copy of this bulletin to your claim. Hold the parts until you receive a warranty return authorization. This return will be in effect for 90 days from the date of this bulletin.

Whenever the rocker arm adjustment nuts are removed for any reason (i.e. rocker arm replacement, cylinder head rebuilding, engine overhaul etc) on engines with the obsolete parts, both the rocker arm adjustment nuts and rocker cover capnuts MUST be replaced with new parts. In addition, thoroughly inspect the rocker arm studs for any thread damage due to excessive wear any time the rocker arms are removed. Damaged studs should be replaced.

Standard Warranty policy applies.

Allen C. Jacobson, Chairman
Product Support Bulletin Committee

**Product Support Bulletin**

Date: 4/12/84 Page 1 of 1 Bulletin No. 405

Subject: INCORRECT BRACKET ORIENTATION
ON SOUND SHIELD HOUSING DOORS
(Door Part No. 405-3286)

Ref. File # S-243 (SERVICE)
(PARTS)

Model(s) or Series:**Effective:** IMMEDIATELY

4.0MDKC AND 8.0MDKD SOUND SHIELD
HOUSING KITS (405-3259)

Subject doors have an L-shaped bracket spotwelded to the bottom center inside edge of both access doors. These brackets contain two slotted, white, nylon clips positioned on each end of the bracket. They are prepositioned and oriented (open slot facing down) to engage a pair of corresponding hinge pins on each side of the sound shield housing base.

An unknown quantity of these doors were assembled with the L-shaped bracket incorrectly positioned on each door. As a result, the slotted nylon clips face sideways (inward toward the GenSet) making it impossible to engage the corresponding hinge pins bolted to the housing base during assembly.

Inspect the doors in all 405-3259 sound shield kits in your inventory. If the nylon clips on the door brackets face sideways (inward rather than straight down towards the bottom of each door) - remove the door(s) from your stock.

Order replacement doors (Onan Part No. 405-3286) as required for your inventory. Left and right hand doors are interchangeable and have the same part number.

Submit a standard Onan warranty claim for the defective doors in your inventory. Reference this bulletin or include a copy with your claim. This program will be in affect for 60 days from the date of this bulletin.


Allen C. Jacobson, Chairman



Product Support Bulletin

Date: 8/28/84 Page 1 of 1 Bulletin No. 406

Subject: COMPLAINTS OF ENGINE SURGE, STUMBLE,
HESITATION OR HARD STARTING ON "B"
BLOCK MODELS

Ref. File # E-89 (SERVICE)
(PARTS)

Model(s) or Series:

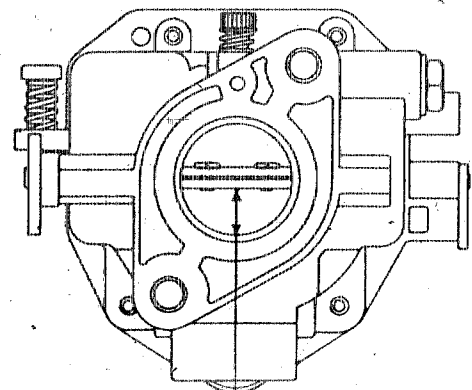
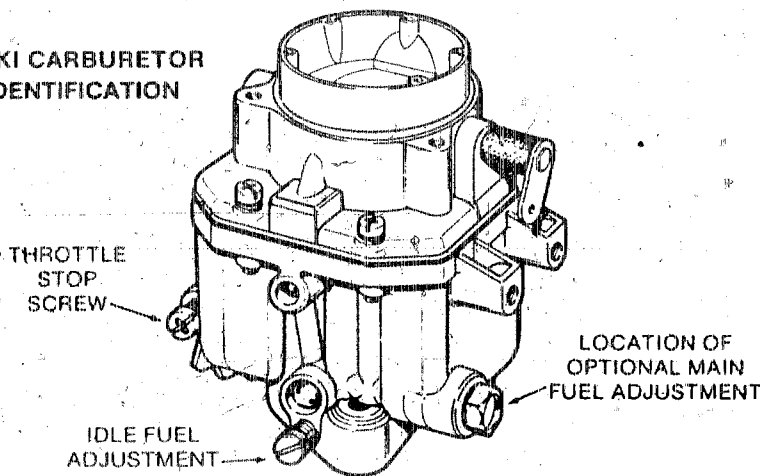
Effective: IMMEDIATELY

ALL "B" SERIES INDUSTRIAL ENGINES
USING "NIKKI" CARBURETORS

Field service has received complaints of engine surging, stumble, hesitation and/or hard starting on B-block models using "Nikki" carburetors. We have determined that most of these problems could be caused by one or more of the following items:

1. Incorrect float level or float drop, refer to Product Support Bulletin #399 (dated 1/18/84) for correct settings and procedures.
2. Incorrect governor linkage adjustment or settings, refer to the 965-0757 engine service manual for proper adjustment procedure.
3. Debris in the carburetor jets, either the high speed or idle jet. Both jets must be removed and cleaned to ensure they are not obstructed. Refer to the 965-0757 engine service manual for proper procedures.
4. Throttle shaft offset. A small number of carburetors may have the throttle shaft offset in the carburetor body. This can be checked by measuring the distance between the carburetor body and throttle shaft. Follow procedures in the 965-0757 engine service manual to remove carburetor from intake manifold. Turn carburetor upside down. Using a dial caliper, measure the inside diameter of the carburetor throat to the throttle shaft as shown in the illustration below. This measurement should be $.425 \text{ inches} \pm .006 \text{ inches}$. If the measurement does not meet this specification, the carburetor must be replaced.
5. Check the choke plate as outlined in bulletin #402 (dated 1/18/84).

NIKKI CARBURETOR
IDENTIFICATION



MEASURE HERE
 $.425 \pm .006$

Allen C. Jacobson
Allen C. Jacobson, Chairman



Product Support Bulletin

Date: 4/12/84 Page 1 of 1 Bulletin No. 407

Subject: INTERCHANGEABILITY OF OIL FILTERS ON ONAN TWIN CYLINDER GASOLINE ENGINES
Ref. File # S-244 (SERVICE) (PARTS)

Model(s) or Series:

Effective:

IMMEDIATELY

B, C, N, AND T SERIES TWIN-CYLINDER OPPOSED GASOLINE ENGINES AND GENERATOR SETS

Listed and illustrated below are the five oil filters commonly used on subject Onan models. Note that the 122-0323 oil filter is obsolete and replaced by the 122-0445 oil filter.

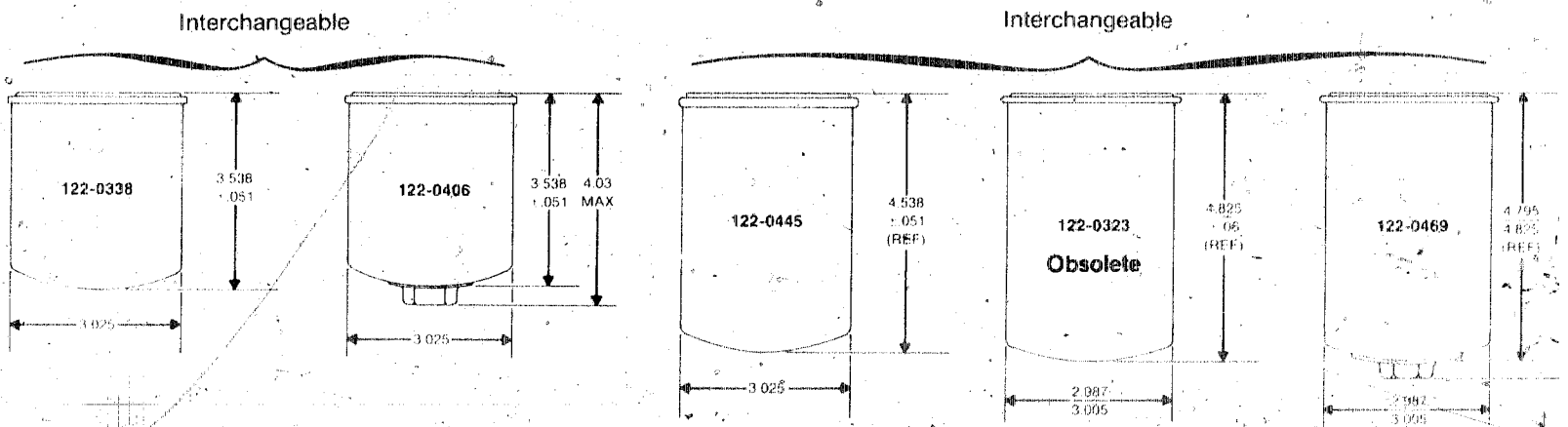
Substitution Example

The 122-0338 oil filter can be replaced by the 122-0406 oil filter and the 122-0445 filter can be replaced with the 122-0469 oil filter provided there is enough clearance in the application for the additional length of the replacement filters in these examples. The reverse substitution can also be made, providing the customer will accept an oil filter without the convenience of the removal nut.

Installation clearance is critical whenever substitutions are made. The illustrations below clarify interchangeability and overall dimensions.

The "NH" Power Drawer RV sets require a 122-0445 oil filter and the "BF" Power Drawer RV sets require a 122-0338 oil filter. NO substitution between these oil filters is acceptable in either of these applications.

The relationship between the oil filter used (or substituted) and the resulting fit or clearance with respect to the engine cylinder shrouds is critical to maintain proper engine cooling air flow as well as adequate installation clearances.



Allen C. Jacobson
 Allen C. Jacobson, Chairman
 Product Support Bulletin Committee



Product Support Bulletin

Date: 4/12/84 Page 1 of 1 Bulletin No. 408

Subject: CIRCUIT BREAKER SIZE VERSUS
BATTERY CHARGING RATES IN
TRANSFER SWITCH APPLICATIONS.

Ref. File # C-22 (SERVICE)
(PARTS)

Model(s) or Series:

Effective: IMMEDIATELY

"ES", "DTA" AND "L" GENERATOR SETS

The subject models using the 300-2510(2-light) or 300-2453(9-light) engine monitor, will have a 5 amp or 7 amp circuit breaker in series with the remote B+ circuit.

If a 10 amp battery charger is installed in a transfer switch used in conjunction with any of the above models, the charging current will flow through the remote B+ circuit breaker causing it to trip.

If a 10 amp battery charger is used in these applications, the B+ lead from the transfer switch MUST be connected to the DC ammeter instead of the remote B+ position.

This bulletin is for informational purposes only.

Allen C. Jacobson
Allen C. Jacobson, Chairman



Product Support Bulletin

Date: 4/12/84 Page 1 of 2 Bulletin No. 409

Subject: 191-1052 STARTER REPLACEMENT BRUSHES
Ref. File # E-90 (SERVICE) (PARTS)

Model(s) or Series: NH INDUSTRIAL ENGINES
Effective: IMMEDIATELY

Field reports have been received requesting information on how to solder the 191-1005 positive replacement brush to the field coils on the subject starter.

The negative replacement brushes are supplied with pigtail leads and are ready for installation. The positive brushes are shipped without pigtail leads because it is impossible to solder copper pigtail leads to the aluminum field coil.

CAUTION: Do NOT cut the positive pigtail leads at the field coils. Doing this makes it impossible to replace the positive brushes.

Refer to Instruction Sheet E-296 (dated 1/84) on the reverse side of this bulletin for complete details on brush replacement.

Allen C. Jacobson
Allen C. Jacobson, Chairman

(Over)



Onan Corporation
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 McGraw-Edison Company
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 612 574-5000

Instruction Sheet

E-296 1-84

Installing Starter Replacement Brushes

Read through these instructions completely before beginning the actual installation. Perform the following steps in the order listed and refer to the illustrations for clarification as required.

WARNING This symbol is used throughout this instruction sheet to warn of possible serious personal injury or death.

CAUTION This symbol refers to possible equipment damage.

Negative brush is supplied with pigtail lead attached and is ready for installation. Positive brush is supplied without pigtail lead because of difficulty of field-soldering dissimilar metals (copper pigtail lead and aluminum field-coil frame).

Recommended procedure for removing old brush and installing replacement brush on pigtail lead is as follows:

1. Remove starter from engine.

WARNING Accidental starting of the engine might cause severe personal injury or death. Disconnect the battery cables when repairs are made to the engine, controls, or housing.

2. Break away old positive brush from pigtail attached to field-coil frame. Be careful not to damage.
3. Clean brush end of pigtail lead with sand paper or emery cloth to provide a clean soldering area, 1/4 to 3/8 inch in length (6.5 to 9.5 mm). See Figure 1.

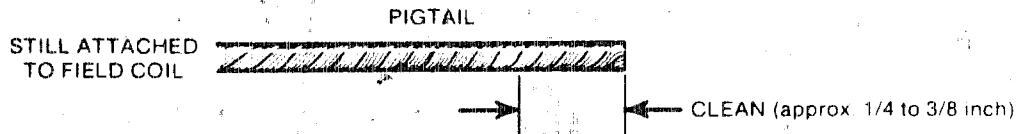


FIGURE 1.

4. Push prepared end of pigtail lead into hole in replacement brush from the small chamfered side. See Figure

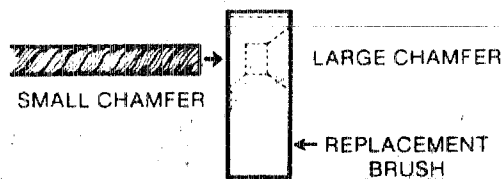


FIGURE 2.

5. Solder the pigtail lead to the replacement brush on the large chamfered side, using 50/50 tin/lead, rosin core solder and a standard 240/325-Watt, trigger soldering iron.

CAUTION Pigtail lead must not protrude from surface on the soldered side of brush. To prevent stiffening pigtail lead do not use excessive amount of solder and heat.

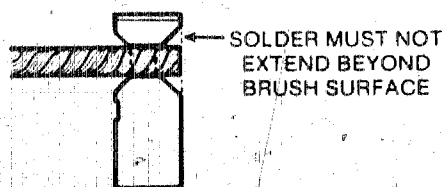


FIGURE 3.

**Product Support Bulletin**

Date: 4/12/84 Page 1 of 1 Bulletin No.410

Subject: OIL FILTER PART NUMBER CORRECTION **Ref. File #** S-245 (SERVICE)
Parts Catalogs 977-0222(MDEG Spec K-12/83) (PARTS)
976-0222(MDEH Spec L-12/83)

Model(s) or Series:**Effective:** IMMEDIATELY


MDEG AND MDEH MARINE MODELS ONLY

The replacement oil filter listed in both of the above Parts Catalogs(122-0193) is INCORRECT for these models.

Please change Item 23 on page A9 of the 976-0222 Parts Catalog to list the oil filter as part number 122-0644.

Please change Item 23 on page A9 of the 977-0222 Parts Catalog to list the oil filter as part number 122-0644.

The 122-0193 oil filter listed will NOT fit either application.


Allen C. Jacobson, Chairman



Product Support Bulletin

Date: 4/12/84 Page 1 of 1 Bulletin No. 411

Subject: "B"-SERIES GEARCASE COVER
PART NUMBER CORRECTION AND
CLARIFICATION.

Ref. File # E-91 (SERVICE)
(PARTS)

Model(s) or Series:
"B43" AND "B48M" INDUSTRIAL ENGINES

Effective: IMMEDIATELY

The L835AB Parts Price Book (dated 1/1/84) incorrectly substitutes some of the gearcase covers listed below to the wrong gearcase kit. We have also found errors in some of the hardcover Parts Catalogs and microfiche listed below.

The Parts department has corrected the substitutions in the L835 Price Book and the Parts Catalogs. The microfiche will be updated in the near future.

The following table clarifies correct substitutions, kits and Parts Catalog listings:

| Parts Catalog and/or Microfiche Number | Engine Model | Parts Catalog Gearcase Part Number Listed | Part Number INCORRECTLY SUBSTITUTED IN L835AB | CORRECT Gearcase Cover Part Number |
|--|--------------------|---|--|--|
| 965-0254 | B43M | 103-0498 | 103-0701 | 103-0738(Kit) |
| Microfiche 103#G-9 | B43M Spec 3920A | 103-0701 | | 103-0738(Kit) |
| 965-0255 | B48M | 103-0701 | | 103-0738(Kit) |
| 965-0261 | B48M (Miller) | 103-0736 | 103-0701 | 103-0737 |
| 965-0251 | BG | 103-0498 | 103-0701 | 103-0738(Kit) |
| 900-0113 (Turf-Grass Equip) (Reference) (Chart) | ALL B43-B48M | 103-0701 | | 103-0501 or 103-0738(Kit) |

NOTE: The 103-0701 gearcase cover is used on the B43E, B43G, and B48G. If the 103-0701 is used on the B43M and/or B48M, it will cause a low voltage output from the flywheel alternator. Use your existing inventory of gearcase covers on appropriate models as listed above.

Allen C. Jacobson
Allen C. Jacobson, Chairman



Product Support Bulletin

Date: 4/12/84 Page 1 of 2 Bulletin No. 412

Subject: ENGINE SURGE B48M (Miller Welder Applications)
Ref. File # E-92 (SERVICE) (PARTS)

Model(s) or Series: "B48M-GA-018/4107A"
Effective: IMMEDIATELY

We have received field complaints of engine surge at 1800 RPM on some B48M engines used in Miller welders. This surge is probably caused by the governor arm being out of adjustment. To properly adjust the governor, follow procedure outlined below. Adjustments to the engine are NOT covered under warranty.

GOVERNOR LINKAGE ADJUSTMENTS

The tension of the governor spring controls engine speed. The governor spring is factory set in the hole of the governor arm nearest the pivot point or shaft. To decrease sensitivity, move spring to the hole farthest from pivot. When an AC power load is applied, the throttle opens proportionally under governor control to provide more engine power.

When the weld(high) speed solenoid is energized for welding, the tension of the spring controls the engine speed at about 3000 RPM. Sensitivity control is determined by the position of the solenoid spring in the governor arm hole. The throttle opening will vary depending on the load current demands of the welding operation.

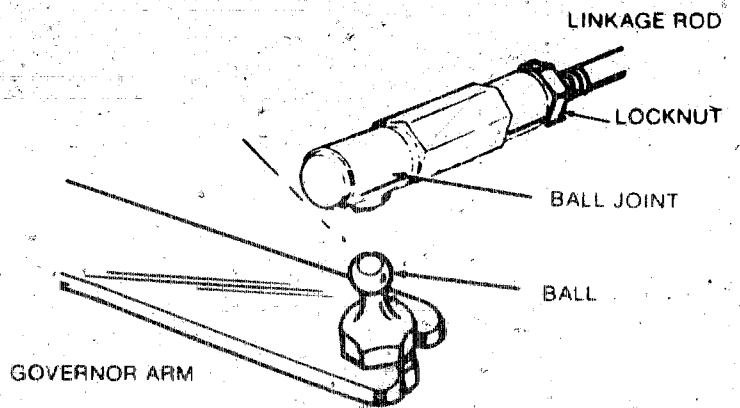
The governor linkage rod connects the governor arm to the throttle shaft lever so they function properly when the engine starts and runs. The linkage rod is adjusted with the engine stopped and the throttle plate at wide open position. The engine will also crank and start in this condition. Refer to the illustration on page 2 and adjust the linkage rod as follows:

1. Loosen lock nut on linkage rod and disconnect linkage at ball joint with engine stopped.
2. Place speed control in the weld position.
3. Move governor arm toward carburetor as far as it will go and hold it there.
4. Move linkage rod in the same direction as far as it will go and hold it there.
5. With governor arm and linkage rod held in position, rotate ball so that socket center line is one turn short of the ball centerline.
6. Move ball joint over the ball and snap in place.
7. Tighten lock nut against ball joint.
8. The throttle plate should now almost touch the throttle stop.

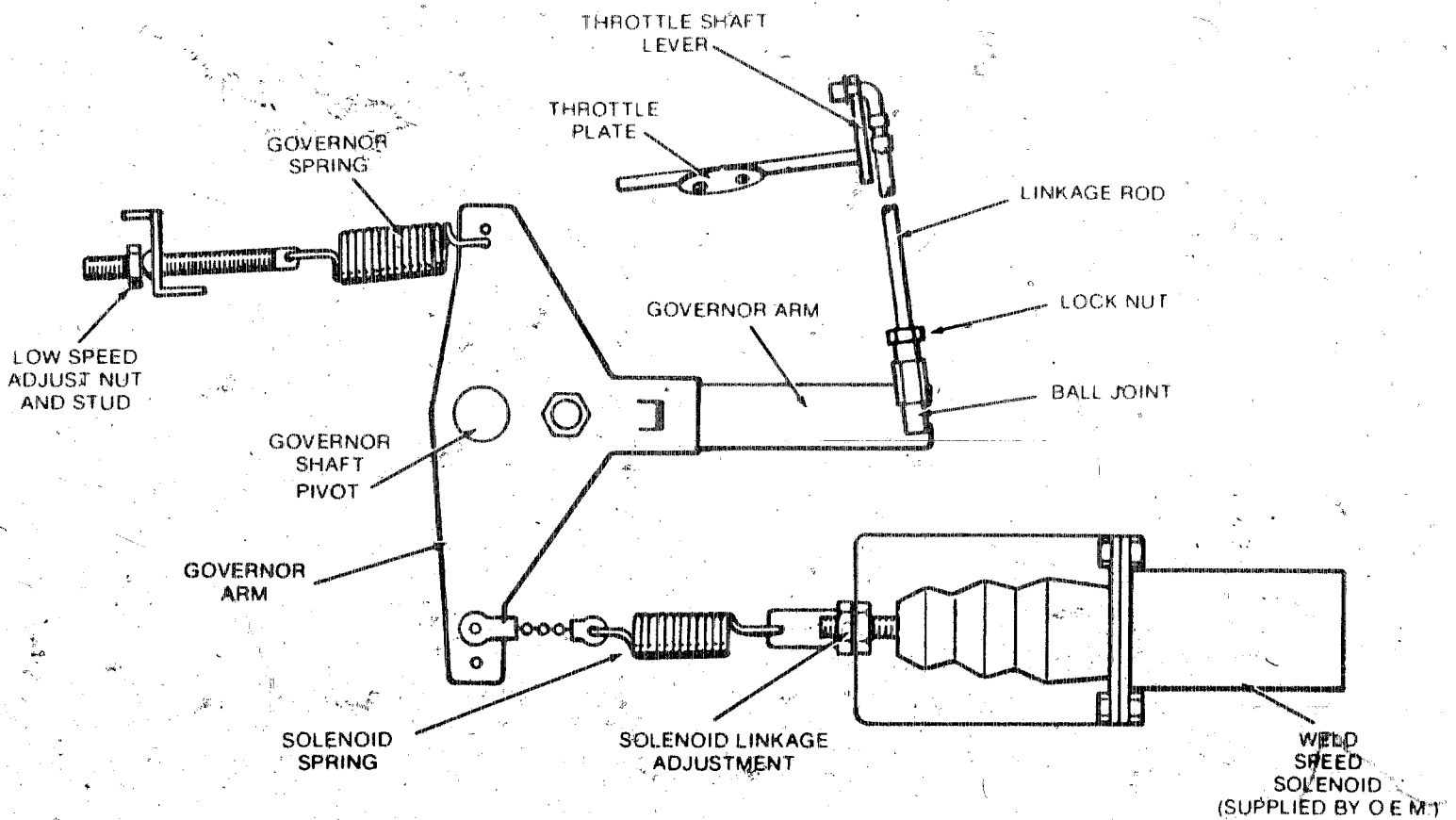
For additional troubleshooting and adjustment information, refer to the Operator/Service manual #965-0161 for this model.

(Over)

Allen C. Jacobson
 Allen C. Jacobson, Chairman



BALL JOINT



TWO SPEED GOVERNOR MECHANISM



Product Support Bulletin

Date: 4/12/84 Page 1 of 2 Bulletin No. 413

Subject: EXCESSIVE HIGH-LOW CHARGING RATES ON 20.OMDL4 MARINE SETS
Ref. File # S-246 (SERVICE) (PARTS)

Model(s) or Series:
 20.OMDL4 MARINE MODELS ONLY

Effective: IMMEDIATELY

We have received complaints of excessive (high) battery charging rates on subject marine generator sets.

Excessive gassing from the GenSet battery or the need to add water frequently may indicate an excessive charge rate. A battery that is extremely warm (almost hot to touch) may also indicate an excessive charge rate.

If your customer(s) are experiencing any of these symptoms, the control panel wiring should be changed as follows:

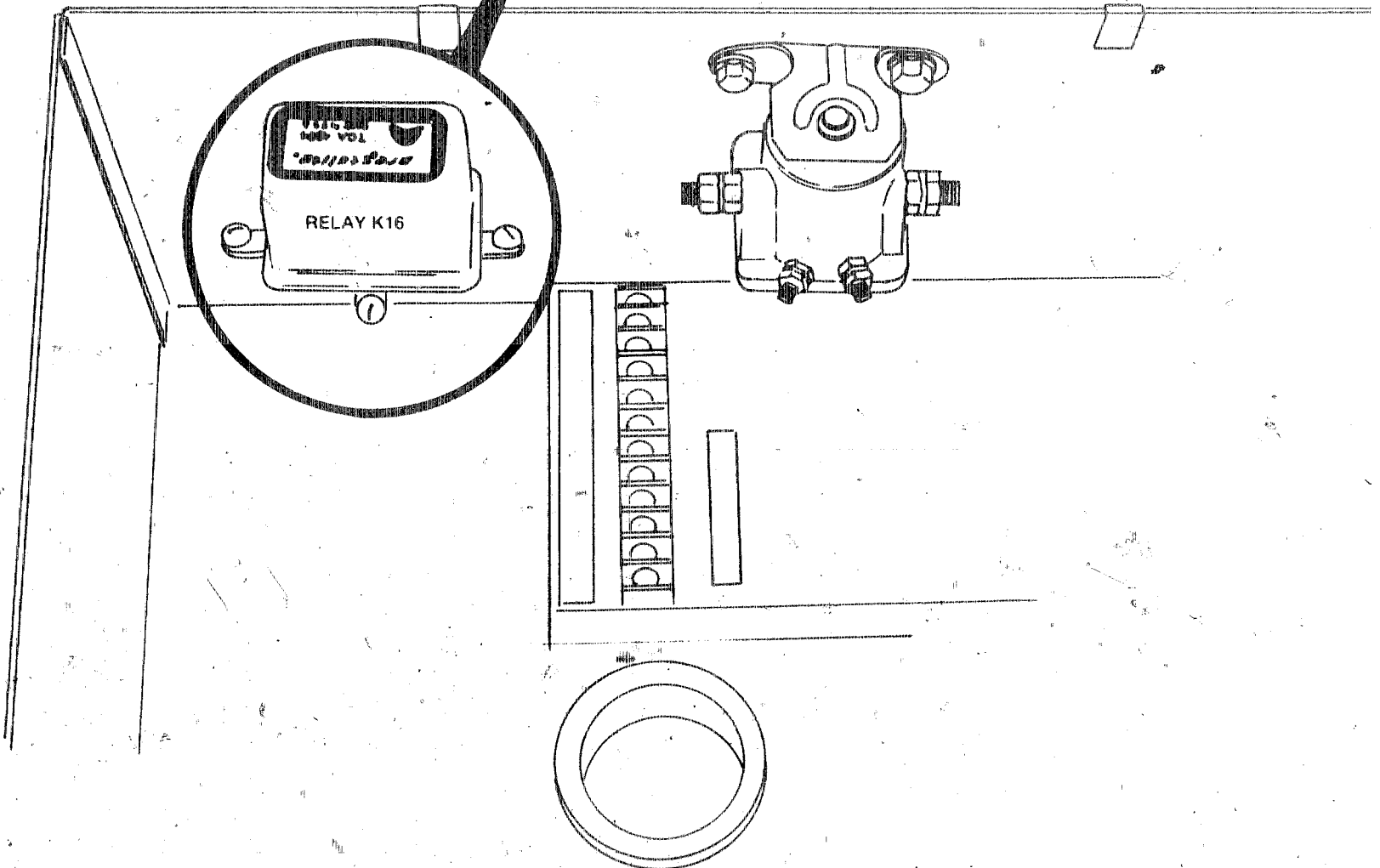
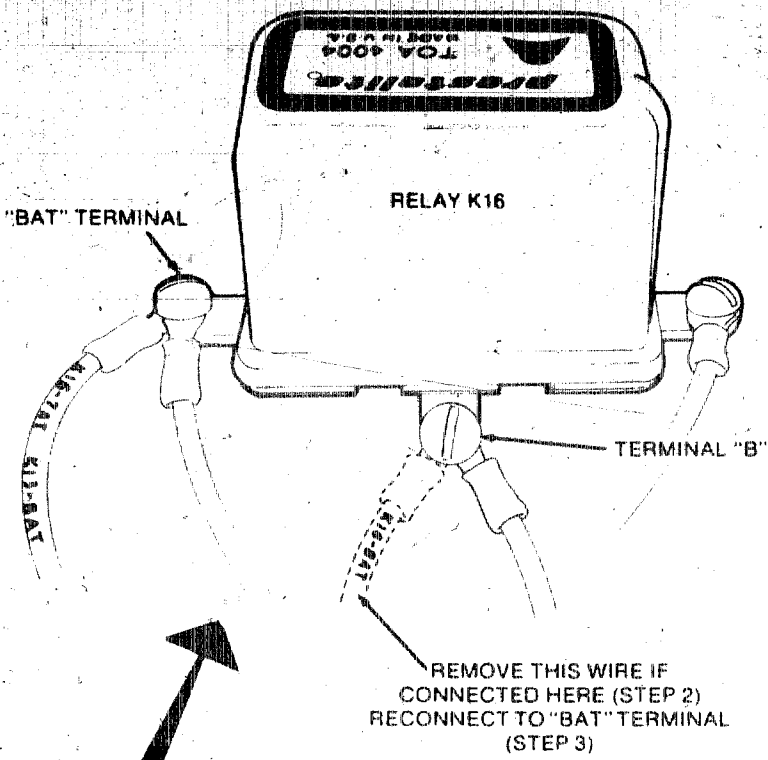
1. Remove the control panel top cover on the generator set.
2. Locate and disconnect the wire labelled "Bat" on terminal B (center terminal) of relay K16 (2-step Voltage Regulator relay). Refer to illustration on page 2.
3. Reconnect this same wire (labeled K13-Bat) to the "Bat" terminal (end terminal) of the same relay (K16) as shown in the illustration on page 2.
4. Replace control panel cover.

1/2 hour of warranty time will be allowed for this modification. Reference this Product Support Bulletin on the claim form.

Do NOT perform this modification unless customer complaint(s) indicate this problem. This is NOT a mandatory field modification.

Allen C. Jacobson
 Allen C. Jacobson, Chairman

Product Support Bulletin Committee



TYPICAL SET CONTROL PANEL



Product Support Bulletin

Date: JAN. 1985 Page 1 of 1 Bulletin No. 414

Subject: BRASS FLOAT & BUOYANCY SPRING
ONAN PART #146-0380 USED IN
MARVEL SCHEBLER MODEL DD CARBURETOR

Ref. File #: E93

Model(s) or Series: B SERIES INDUSTRIAL ENGINES

Effective: IMMEDIATELY

Field reports indicate that some customers may complain of poor angle and/or high temperature performance.

PSB #401 introduced kit #146-0380 float package, which includes a brass float, buoyancy spring and Instruction Sheet #292. This brass float was to correct float swelling problems when methanol/ethanol blended fuels were used.

Originally, the float buoyancy spring was installed as illustrated in Figure #1 (Instruction Sheet #292). Engineering has determined that reversing the buoyancy spring as illustrated in Figure #2 (Instruction Sheet #292a) increases angle and high temperature performance.

Note

Instruction Sheet #292, Figure #1, has the float needle valve retaining clip illustrated incorrectly. Instruction Sheet #292a, Figure #2, has the needle valve retaining clip illustrated correctly.

The purpose of this Product Support Bulletin is for information only. Standard warranty policy applies.

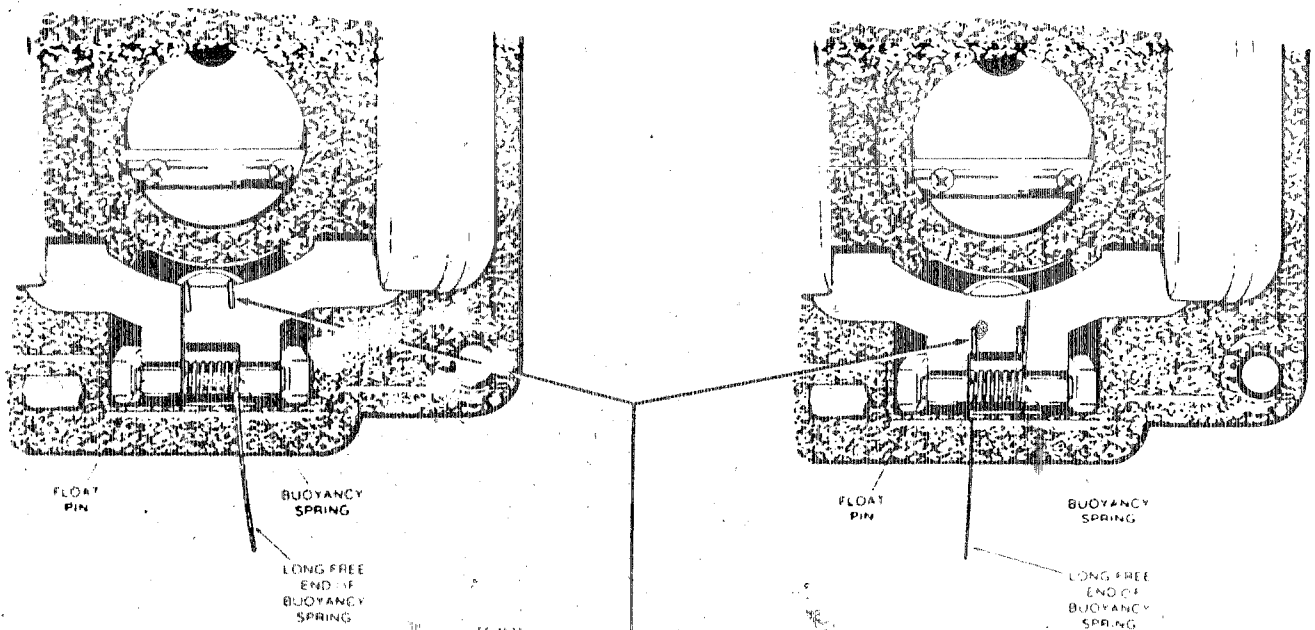


Fig 1
Incorrect

Float needle valve
retaining clip

Fig. 2
Correct

R. Dan Hoffman
D. Dan Hoffman Manager



Product Support Bulletin

Date: JAN. 1985 Page 1 of 1 Bulletin No. 415

Subject: HOUSING DOOR INTERFERENCE

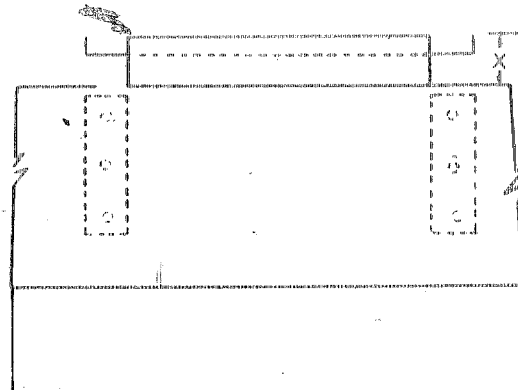
Ref. File # S247 SERVICE PARTS

Model(s) or Series: 33DL4B, 50DL6B HOUSED

Effective: IMMEDIATELY

Early versions of the L powered TechStar generator sets equipped with a housing may have an interference problem between the housing door and the skid mounted battery rack. This interference makes it difficult to install the housing door.

The battery rack 416-0847 has been increased in height to eliminate this interference and allow the door to be installed easier. The difference between the early version of the battery rack and the new battery rack is illustrated below.



X = 2 1/4" Old Style
X = 3 7/8" New Style

This is not a mandatory change, as it does not affect operation of the unit. For those units within the warranty period, a claim will be honored for the cost of the battery rack and one hour labor for installation. No travel time or mileage will be allowed.

Chuck Babcock
Supervisor Field Service
Electrical Products Div.



Product Support Bulletin

Date: JAN. 1985 Page 1 of 1 Bulletin No. 416

Subject: RELAY HOLD DOWN TIE WRAPS
300-2759 MOTHER BOARDS

Ref. File # C-23 SERVICES

Model(s) or Series: LT26K TRANSFER SWITCHES

Effective: 12/1/84

The purpose of this bulletin is to instruct service personnel in the proper procedures for removal and reinstallation of relays on the 300-2759 mother board.

When removal or replacement of any relay is necessary, DO NOT cut the hold down, tie wrap around the relay. Simply push the tie wrap over the nearest edge of the relay and remove. After reinstalling the relay, slide the same tie wrap over the relay again.

Cutting the tie wrap necessitates installing a new one which is difficult without removal of the mother board.

This bulletin is for informational purposes only.

Chuck Babcock
Supervisor Field Service
Electrical Products Div.



Product Support Bulletin

Date: JAN. 1985 Page 1 of 1 Bulletin No. 417

Subject: 10 AMP DC CIRCUIT BREAKER TRIPPING
(BATTERY CHARGING ACCESSORY)

Ref. File # S248 SERVICE SALES

Model(s) or Series: K-SERIES PORTABLES
1000W TO 3500W

Effective: 12/1/84

Service Department has received complaints from the field that the 10 amp DC battery charging circuit breaker on the subject units can trip out when charging a battery.

As the battery charging circuit of the subject units are not regulated, output current from the generator will be determined by the condition of the battery being charged. A battery with a very low charge could possibly draw a current above the 10 amp rating of the circuit breaker, causing it to trip.

Should this condition exist, the following steps should be followed:

1. Disconnect all AC loads from the generator.
2. Slow the generator down to idle speed with the manual speed control lever on the side of the engine.
3. Reset the 10 amp DC circuit breaker.
4. Reconnect the charging leads to the battery.
5. Charge the battery at the reduced speed for 1/2 hour before returning to full speed.
6. If the breaker trips again, repeat steps 2 & 3.

Reducing the speed will cut the charge rate to the battery in half, allowing the battery to be charged without tripping the breaker. After partially recharging the battery in this manner, the generator can be returned to full speed for faster charging without tripping the breaker.

The time required to charge at the reduced rate will vary, depending on the battery size and state of charge.

Running AC loads while charging at low speeds can result in damage to the generator and loads both.

This bulletin is for informational purposes.

Chuck Babcock
Supervisor Field Service
Electrical Products Div.



Product Support Bulletin

Date: JAN. 1985 Page 1 of 1 Bulletin No. 418

Subject: CAUTION TAG FOR
OTII CONTROLS

Ref. File # C-24 SERVICES

Model(s) or Series: ALL OTII TRANSFER SWITCHES

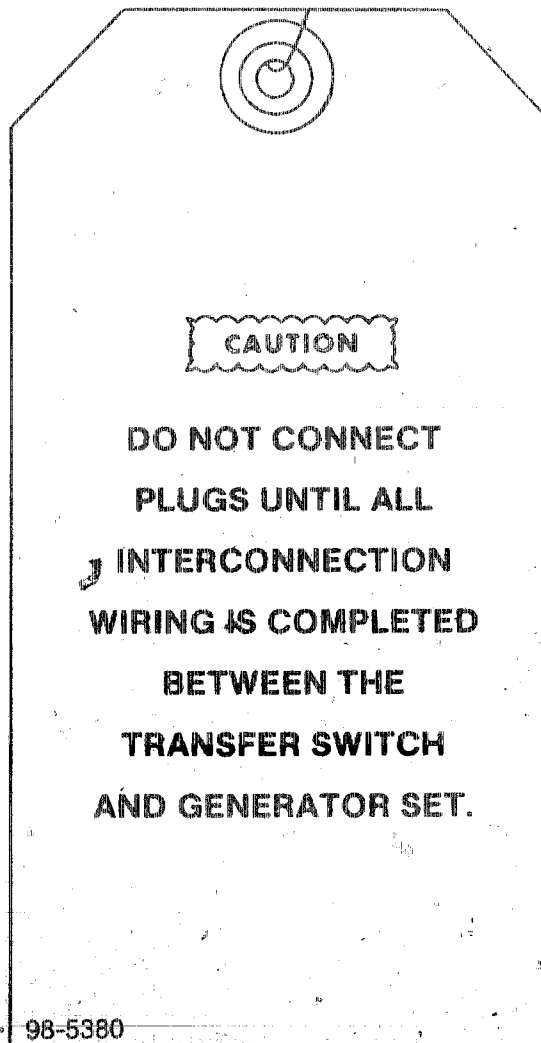
Effective: JANUARY 1, 1985

Effective January 1, 1985, all OTII transfer switches will be shipped with control plugs disconnected and the tag shown below attached to the plug.

This procedure is being instituted to reduce failures to the 300-2109 mother board, due to careless or incorrect DC interconnect wiring at installation. Burned foil paths on the mother board prior to start-up is evidence that the information on the tag has not been followed.

Failures of the 300-2109 mother board as described will not be warranted on switches shipped after January 1, 1985.

This bulletin is for informational purposes only.



Chuck Babcock
Supervisor Field Service
Electrical Products Div.



Product Support Bulletin

Date: JAN. 1985 Page 1 of 2 Bulletin No. 419

Subject: C-MOS LATCH-UP ON
300-2109 MOTHER BOARDS

Ref. File # C25 SERVICE

Model(s) or Series:

Effective: 9/26/84

OTII TRANSFER SWITCHES
CONTROL GROUPS 31 THROUGH 34 (SPEC E)

U1 and U2 on the 300-2109 mother boards are used as drivers for the diagnostic LED's. Being a C-Mos component, they are susceptible to a condition called latch-up when exposed to electrical noise.

When this condition occurs, the following symptoms will be observed in the transfer switch.

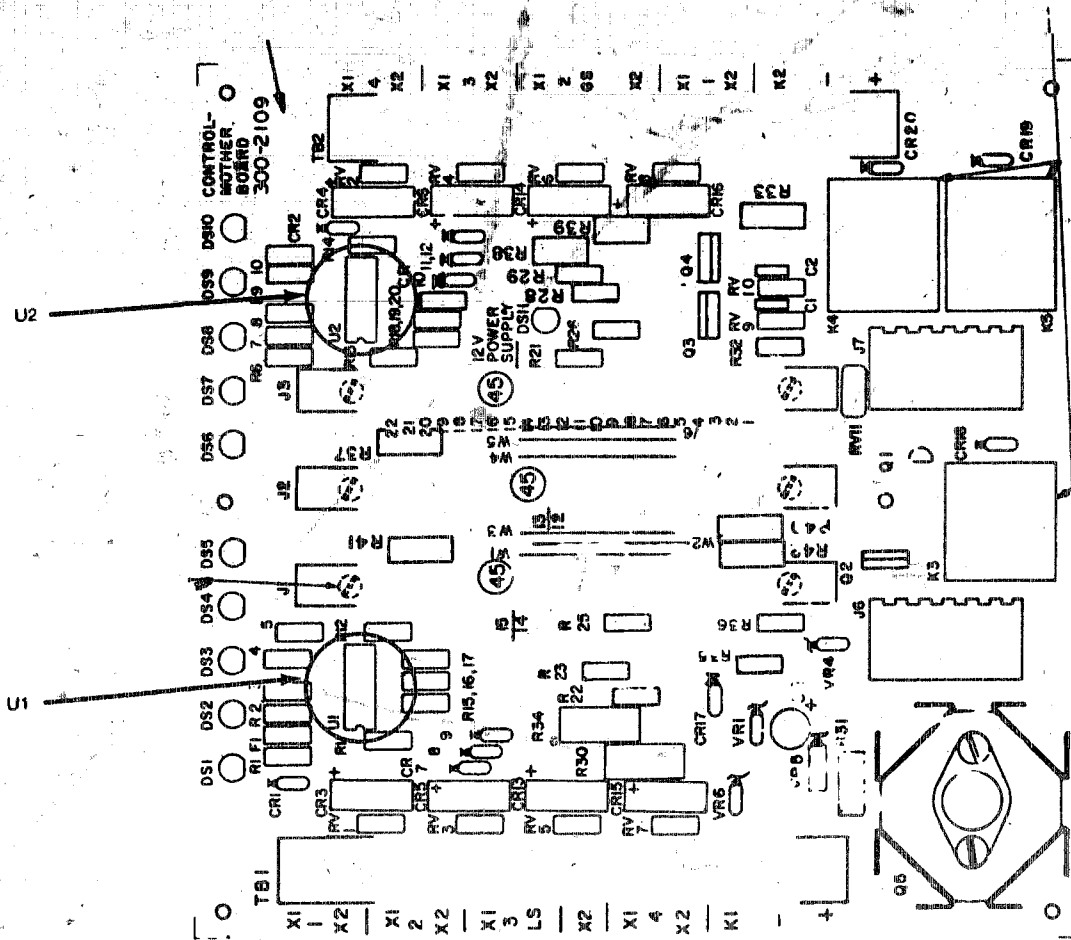
1. All the diagnostic LED's will be very dim or completely out with the possible exception of the 2 wire run LED.
2. V1 which is normally 12 volts DC will fail to 5 VDC.
3. All transfer switch functions will cease.
4. Unplugging the J-3 plug from the transfer switch assembly and reinstalling it will generally clear the condition.

When servicing a transfer switch which exhibits any of these symptoms, the following procedure should be followed.

1. Turn off motor switch on the transfer switch assembly.
2. Disconnect J-4 and J-5 plugs from the bottom of the control box.
3. Remove the cover from the control box.
4. Locate and identify U1 and U2 on the 300-2109 mother board.

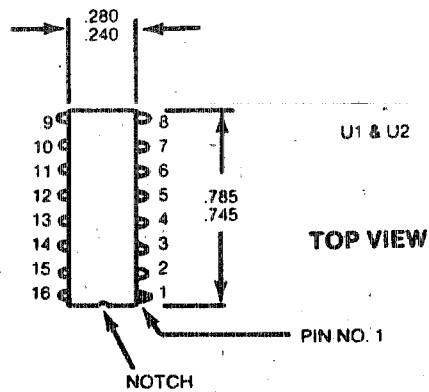
Chuck Babcock
Supervisor Field Service
Electrical Products Div.

FIGURE 1.



5. Cut Pin No. 1 on both components as shown in Figure 2.

FIGURE 2.



6. Replace control cover and the connect J-4 and J-5 plugs.
7. Test switch for normal operation.

Diagnostic LED's may be slightly dimmer after modification.

This bulletin is for informational purposes only.

Standard warranty policy applies to this modification.

Subject: EXCESSIVE OIL CARRY-OVER

Ref. File # E94

Model(s) or Series:

ALL B SERIES ENGINES (BF-BG-B43M-B48M-
B43E-B43G-B48G) AND BF, BFA, BGA AND B
SERIES EMERALD GENERATOR SETS

Effective: IMMEDIATELY

If any of the above models are plagued with excessive oil carry-over (as evidenced by an oil soaked air cleaner element, excessive oil consumption or heavy exhaust smoke), remove the gearcase cover and check for the presence of the oil by-pass plug. (On early models this is a 1/4" diameter steel ball, part #510-0045. On later models it is a cup plug, part #517-0067 - either will work.)

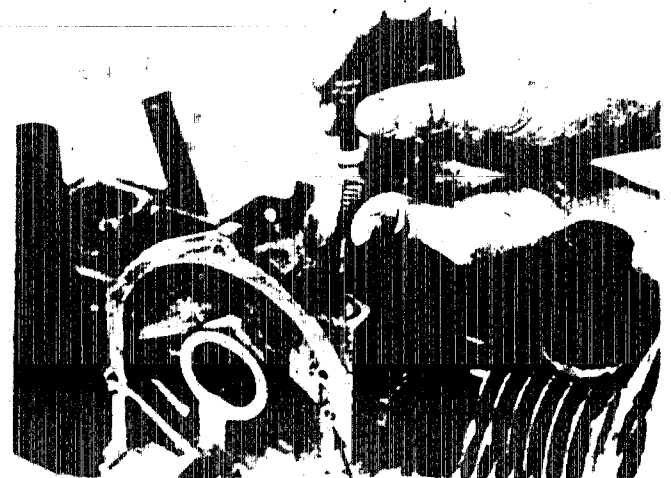
This plug prevents by-pass oil from spilling into the gearcase cover where it can be picked up by the breather. The by-pass plug insures that by-pass oil is directed into the cylinder block.

The plug must be driven flush to the block surface. If driven too deep it will hold the oil pressure valve open causing low oil pressure. If not driven deep enough the gearcase cover will not seal properly.

The hole location for this plug is at the 3 o'clock position from the front camshaft opening on the block. See illustration below.

Standard warranty will apply if installation is made while engine is still in the normal warranty period.

This bulletin is for information purposes.



CUP PLUG
OR
STEEL BALL

R. Dow Hoffman

R. Dow Hoffman, Manager
Distribution Development & Service
Engine Division

**Product Support Bulletin**

Date: Feb. 85 Page 1 of 1

Bulletin No. 421

Subject: FIELD FLASH KIT 300-2999

Ref. File #

Model(s) or Series: P SERIES - SPEC J

Effective:

A kit is available to provide automatic field flashing for P series generators. The kit consists of a wiring harness which contains a rectifier and diode to provide field flashing from the engine magneto.

Should generator fail to build-up complaints occur after the normal checks are made, the subject kit should be installed.

Normal warranty policy applies.

Chuck Babcock
Supervisor Field Service
Electrical Products Division

**Product Support Bulletin**

Date: Feb. 85 Page 1 of 1

Bulletin No. 422

Subject: NEW OIL BASE GASKET

Ref. File #

Model(s) or Series: RV GENERATORS WITH TWO PIECE
OIL BASE, 4BEA, 5BCA, 6.5NH

Effective: S/N K843845969

The gasket between the oil pan and oil base was changed in production to a 102-1275 gasket, beginning with S/N K843845969. The new gasket provides a better seal without the use of RTV sealant.

The old style gasket 102-0953 is black and the new style 102-1275 is grey.

Parts has changed their records to supply the 102-1275 when the 102-0953 is ordered.

Check your stock of kits 168-0143, 168-0145, and 168-0169 for the proper gasket. It is not necessary to replace the kit, just the gasket if necessary.

Submit a standard Onan spare parts warranty claim for any old style 102-0953 gasket in your stock and reorder the new style 102-1275 gasket.

Chuck Babcock
Supervisor Field Service
Electrical Products Division



Product Support Bulletin

Date: 4/1/85 Page 1 of 1

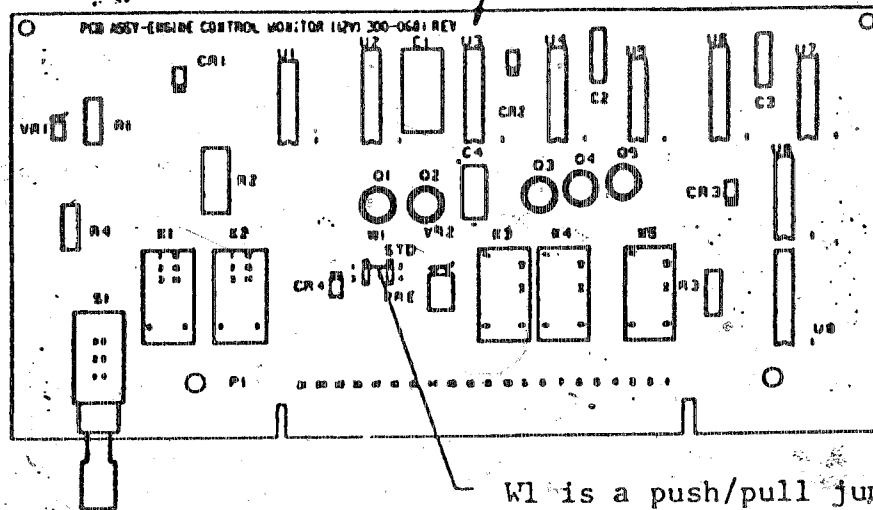
Bulletin No. 423

Subject: ENGINE MONITOR BOARDS (300-0681 Revision Ref. File # S248 (Service) R and 300-0682 Revision U)

Model(s) or Series: UR FIVE LIGHT CONTROL WITH PRE-ALARMS FOR LOP and HET

Effective: 3/85

When installing new engine monitor boards with the above revision letters and later on units with pre-alarms, it will be necessary to move W1 from the STD position to the PRE position. (See figure). Failure to move W1 will result in an engine shut-down when a pre-alarm exists.



This bulletin is for informational purposes only.

Chuck Babcock

Chuck Babcock
 Supervisor Field Service
 Electrical Products Division



Product Support Bulletin

Date: 5/85 Page 1 of 1

Bulletin No. 424

Subject: 307-2196 TIME DELAY RELAY (K-4)

Ref. File # C-26 SERVICE PARTS

Model(s) or Series: LT26 K SERIES
TRANSFER SWITCHES

Effective: IMMEDIATELY

The purpose of this bulletin is to inform the field of the availability of a new replacement time delay retransfer relay. The new relay is manufactured by NCC (National Controls Corporation) and will be available under Kit #307-2400.

Kit #307-2400 will contain the following items:

1. (1) 307-2196 NCC Relay
2. (1) 332-2774 Tie Wrap
3. (1) Instruction Sheet

Old relays bearing the Magnecraft brand name, currently in parts stocks, should be returned to Onan via a spare parts warranty claim. Please make all claims against part number 307-2196, not the new kit part number.

Standard warranty applies to all relays currently installed in transfer switches.

Figure 1 should be used to differentiate between the old and new style relay.



OLD STYLE RELAY

FIGURE 1



NEW STYLE RELAY

This bulletin for informational purposes only.

Huck Babcock
huck Babcock



Product Support Bulletin

Date: July 1985 Page 1 of 1

Bulletin No. 425

Subject: PREMATURE FAILURE OF ONAN CONDENSER
PART NUMBERS 312-0244 AND 312-0246

Ref. File #

Model(s) or Series: ALL B, N AND T SERIES
INDUSTRIAL ENGINES AND B AND
N SERIES GENERATORS USING THE
312-0244, 312-0246 PHELON IGNITION CONDENSERS

Effective: IMMEDIATELY

Onan Service Department has been receiving reports of erratic engine operation caused by premature ignition condenser failure. The symptoms are:

- 1) Engine backfires or misfires
- 2) Engine quits or will not start.
- 3) Ignition points arcing excessively/continuously.

There are two causes of premature condenser failure:

- 1) Some 312-0244 condensers manufactured by E.U.C. (identified by E.U.C. stamped on the bottom of the condenser can) have an improperly soldered condenser lead.
- 2) 312-0244 and 312-0246 condensers manufactured by Phelon can breakdown in applications when condenser temperature exceeds manufacturer's guidelines.

To eliminate potential field problems with these condensers, upon receipt of this bulletin initiate the following action:

- 1) Remove all 312-0244 condensers from your stock.
- 2) Remove all 312-0244 condensers manufactured by E.U.C. and Phelon, and 312-0246 condensers manufactured by Phelon only (figure 1) from spare parts ignition kits 160-1311 and 160-1328.
- 3) Submit a warranty claim for the number of condensers to be returned to Onan. Hold the condensers until you receive a warranty return authorization. Attach a photocopy of this P.S.B. to the warranty claim.
- 4) Install only 312-0246 condensers manufactured by E.U.C. (figure 2) in the 160-1311 and 160-1328 ignition kits. Relabel 160-1311 kits as 160-1328 ignition kits. Reseal the packages and put them back into your spare parts stock. All other kits (ie. overhaul or RV maintenance) should be checked at point of sale to ensure the 312-0246 E.U.C. condenser is in the kit.
- 5) Order a sufficient quantity of 312-0246 E.U.C. condensers to replenish your stock of returned condensers.



Product Support Bulletin

Date: July 1985 Page 1 of 1

Bulletin No. 426

Subject: THERMOSTAT DIAGNOSIS
L SERIES ENGINES

Ref. File # E96

Model(s) or Series: L SERIES, ALL

Effective: IMMEDIATELY

Onan L Series diesel engines use a bypass type thermostat for maximum cooling efficiency. In the warm-up position, the thermostat routes all coolant to the inlet of the water pump (bypasses the radiator). In the normal running position, the bypass is closed, and coolant circulates through the radiator.

Some engines also use a second non-bypass thermostat (shorter in length), some do not. Each thermostat must be returned to its proper position to avoid engine damage. For more detail, refer to the 934-0750 Service Manual, Pages 9 - 5, and 9 - 6.

If the thermostat is removed for any purpose, such as diagnosis of a thermostat or cooling problem, coolant will bypass the radiator and engine damage will likely result.

CAUTION: DO NOT RUN AN L SERIES ENGINE WITHOUT THE BYPASS THERMOSTAT IN PLACE.

To diagnose thermostat operation:

Nominal operating temperature of the thermostat is stamped on thermostat body. Note this nominal temperature before testing.

- 1) Suspend thermostat in a pan of clean water. Thermostat must be completely immersed but not touching bottom of pan.
- 2) Heat water gradually and stir so heat is evenly distributed. Check water temperature with a reliable thermometer.
- 3) Observe thermostat as temperature of water rises. If it is functioning properly, it should begin to open when the water temperature is within plus or minus 3°C (5°F) of the nominal temperature. Thermostat should be fully open at about 12°C (22°F) above the nominal temperature.
- 4) The thermostat is not adjustable. If it does not operate within the above limits, it must be replaced.



Product Support Bulletin

Date: Aug. 1985 Page 1 of 1 Bulletin No. 427

Subject: VALVE TAPPET CLEARANCE SPECIFICATIONS Ref. File # E97

Model(s) or Series: ALL B, N AND T SERIES ENGINES Effective: IMMEDIATELY

New valve clearance specifications for all B, N and T series engines (both factory and service) are:

Intake valves 0.005 inch (0.127 mm)
Exhaust valves 0.013 inch (0.330 mm)

These new specifications will provide more consistency between models and, in some cases, reduced engine noise. The method of adjustment has not changed (set at ambient temperature) and is described in the "Engine Disassembly" section of the various Service Manuals. This change is effective for all fuel types and does include generator sets.

Warranty coverage does not apply, as this change is not necessary until the next scheduled maintenance interval (every 200 hours of engine operation).

This bulletin is for informational purposes only.



Product Support Bulletin

Date: 8/85 Page 1 of 1 Bulletin No. 428

Subject: OIL IN BREAKER BOX

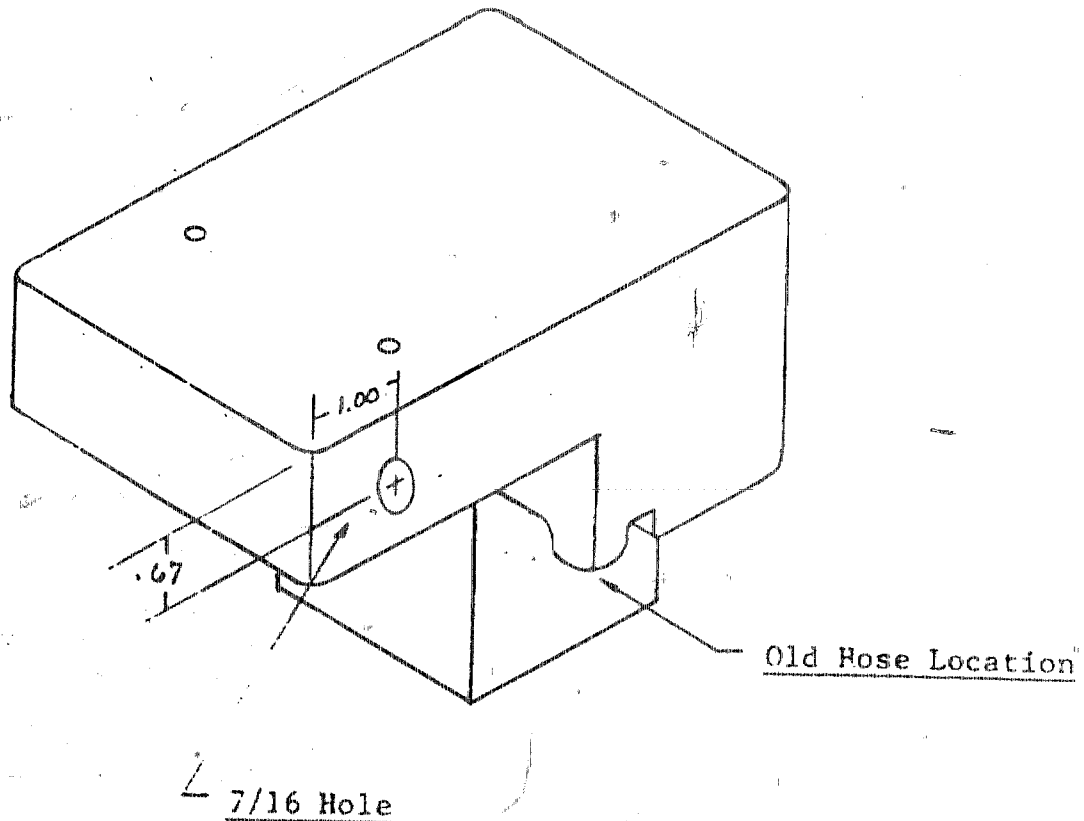
Ref. File # S249 - SERVICE

Model(s) or Series: MAJB

Effective: IMMEDIATELY

Recent reports of oil in the breaker box have been determined to be the result of a sharp bend in the breather hose. If you should experience this, check the breather hose for a sharp bend or kink.

The correction is to shorten the hose from 12" to 9-1/2" and relocating it as shown below. Insert approximately 1" of the hose into the new hole. It is not necessary to plug the old hole.



Charles Babcock
Supervisor, Field Service

Onan**Product Support Bulletin**

Date: 8/85

Page 1 of 1

Bulletin No. 429


Subject: SHORTED C-12 CAPACITORS
(356-0035)**Ref. File #** C27 - SERVICE**Model(s) or Series:** OTII SOLID-STATE CONTROLS
CONTROL GROUPS (31-34)**Effective:** 8/1/85

Field Service Technicians should be aware that a shorted C-12 capacitor in OTII Power Sentry Controls will cause R-37, R-38, R-39 resistors and/or R-40, R-41, R-42 resistors on the 300-2109 mother board to burn up.

Whenever you encounter any mother board with these resistors burned, the C-12 capacitor should be changed, whether it checks good with a multi-meter or not.

Standard warranty applies to all failures.

This bulletin is for informational purposes only.



Chuck Babcock
Supervisor, Field Service
Electrical Products



Product Support Bulletin

Date: 9/27/85 Page 1 of 1 Bulletin No. 430

Subject: 132-0147 WATER PUMP SUPPLIED
IN KIT 132-0251

Ref. File # S-250 **SERVICE**
PARTS

Model(s) or Series: MDJC-MDJF

Effective: IMMEDIATELY

The 132-0147 pump is being replaced by a 131-0430 pump. The kit number remains the same.

The pumps are the same with the exception of the adapter ring, which protrudes into the gear cover, piloting the pump.


New adapter ring 131-0429 provides 5/16 protrusion, compared to 5/64 for the old pump.

132-0147 pumps in your stock can be converted to 131-0430 pumps by replacing the ring adapter with a 131-0429 ring adapter. Installation requires pressing out the shaft assembly, driving out the old adapter, and pressing in the new one.

It is suggested that the new adapter be installed in any pumps that you rebuild.

The new adapter provides better pump alignment, reducing the possibility of pump shaft breakage or start disconnect assembly failure.

This bulletin is for informational purposes.


Charles L. Babcock
Supervisor, Field Service



Product Support Bulletin

Date: 11/7/85 Page of Bulletin No. 431

Subject: L SERIES ENGINES FAILURE TO START OR SHUT OFF WHEN START/STOP SWITCH IS ACTIVATED Ref. File # E-98

Model(s) or Series: ALL L SERIES WITH STANADYNE INJECTION PUMP **Effective:** IMMEDIATELY

Onan Service Department has received reports of L series engines continuing to run after the key is turned to the OFF position. Also, some reports indicate the engine fails to start even though cranking speed is sufficient and 12V is being supplied to the injection pump.

If either of these problems is being experienced, a possible cause could be the fail of the ESO (electric shut off) solenoid located in the cover of the injection pump.

Stanadyne has developed a new ESO which will correct these problems. The Stanadyne part number of the new solenoid is 22315. The Onan part number for this solenoid is 147-0593. Installation of this solenoid should correct the above-mentioned problems.

To avoid confusion and to purge obsolete solenoids from the field, please take the following action:

- 1) Remove all 147-0593 kits from stock and inspect the solenoid. If the solenoid does not have "22315" stamped on the side opposite the plunger, return the kit to Onan.
- 2) Inspect all 147-0465-13 and 147-0465-17 injection pumps in your stock. If any are fitted with the incorrect solenoid, replace the incorrect solenoid with the 147-0593 (Stanadyne P/N 22315).

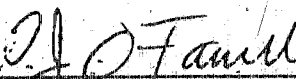
NOTE: The incidence of this problem has been predominately on automotive engines. It is imperative that all automotive injection pumps, identified by P/N 147-0465-13 and 147-0465-17, be inspected and fitted with the correct solenoid.

- 3) Submit a warranty claim for the number of solenoids to be returned to Onan. Hold the solenoids until you receive a Warranty Return Authorization. Attach a photo copy of this P.S.B. to the warranty claim.

NOTE: This return program will be in effect for 90 days from the date of this bulletin.

4. Order a sufficient quantity of 147-0593 solenoid kits to replenish your stock of returned solenoids.

Refer to 934-0750 Service Manual Page 10-18, for the recommended replacement procedure. Standard warranty policy applies.


P. D. Farrell, Manager
Distribution Development & Service



Product Support Bulletin

Date: 11/7/85 Page of Bulletin No. 432

Subject: TURBOCHARGED L SERIES CRANKCASE
BREATHER ELEMENTS

Ref. File # E-99

Model(s) or Series ALL L SERIES TURBOCHARGED ENGINES **Effective:** IMMEDIATELY

Onan has released a new style breather element for turbocharged engines to replace the 123-1586 element. The 123-1586 element was constructed of layers of expanded aluminum mesh. The new element is constructed of stainless steel coil spring mesh. The part number for the new style element is 123-1675. The elements are completely interchangeable.

If complaints are received of high oil consumption or heavy oil carryover through the crankcase breather, check the breather element in use. If the element is aluminum mesh (P/N 123-1586) replace it with the stainless steel mesh (P/N 123-1675). Refer to Service Manual 934-0750, Page 7-4, for replacement procedure.

Note: If the element replacement does not cure the problem, or if the stainless mesh element was being used when symptoms occurred, there may be another cause of the problem. Check the cylinder leak down rate. See Service Manual 934-0750, Page 5-5, for test procedure.

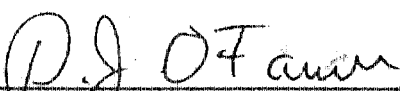
Onan has purged its stock of the obsolete elements. To purge field stock, please take the following action:

- 1) Remove all 123-1586 elements from stock.
- 2) Submit a warranty claim for the number of 123-1586 elements to be returned to Onan. Hold the elements until you receive a Warranty Return Authorization. Attach a photocopy of this P.S.B. to the warranty claim.

NOTE: This return program will be in effect for 90 days from the date of this bulletin.

- 3) Order a sufficient quantity of 123-1675 elements to replenish your stock of returned elements.

Standard warranty policy applies.


Pat O'Farrell, Manager
Distribution Development & Service
Engine Products

Subject: REPLACING WATER PUMP ADAPTERS
IN L SERIES CYLINDER HEADS

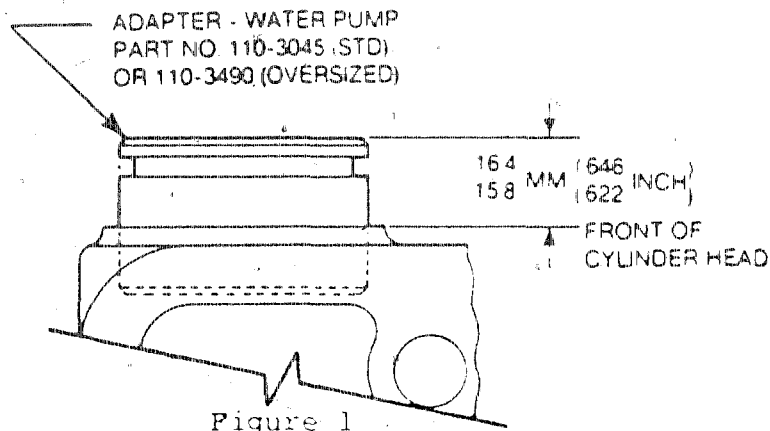
Ref. File # E-100

Model(s) or Series: ALL L SERIES

Effective: IMMEDIATELY

Replacement L Series engine water pump adapters (tube from cylinder head to water pump body) must be installed correctly to assure leak-free operation. The correct procedure is:

1. Clean adapter and adapter bore thoroughly.
2. Apply Part No. 518-0306 retaining compound (Loctite RC/609) to outside diameter of adapter and inside diameter of bore.
3. Press adapter into cylinder head to depth shown in Figure 1.



| Part No. | ADAPTER | |
|----------|----------------------|----------------------|
| | STANDARD 110-3045 | OVERSIZE 110-3490 |
| Adapter | 47.549/47.523mm | 48.050/48.076mm |
| O.D. | 1.872/1.871 inches | 1.892/1.893 inch |
| Bore | 47.447/47.498mm | 47.974/48.026mm |
| I.D. | 1.868/1.870 inches | 1.889/1.89/inche |

Figure 2

A 0.5mm (.020") oversized water pump adapter, Part No. 110-3490, is available to repair cylinder heads when the pump adapter bore has been damaged. To use this adapter, remachine the cylinder head adapter bore per Figure 2. Clean the head thoroughly to remove chips which might damage the water pump or internal engine components. Installation procedure is the same for standard and oversized adapter

NOTE: About 140 L423D and L634D engines were built between November 30 and December 31, 1984 with oversized water pump adapter bores. These engines must be serviced with the oversized water pump adapter (110-3490). Identify affected engines by measuring the large end of the adapter and/or the adapter bore in the cylinder head, per Figure 2.

This PSB is for information only.

P. J. O'Farrell
Pat O'Farrell, Manager
Distribution Development & Service
Engine Products



Product Support Bulletin

Date: Dec. '85 Page 1 of 1 Bulletin No. 434

Subject: "HIGH SPEED" CYLINDER HEADS
INSTALLED ON "LOW SPEED" L SERIES ENGINES

Ref. File # E-101

Model(s) or Series: L634D-I & L423D-I

Effective: S/N H843820510

A quantity of low speed, naturally aspirated L423D and L634D engines were built using the high speed cylinder head.

High Speed Engines - are designed to operate above 2600 rpm
- are equipped with an engine mounted oil cooler
- have replaceable intake and exhaust valve seat inserts

Low Speed Engines - are designed to operate at 2600 rpm or below
- are not equipped with an engine mounted oil cooler
- have replaceable exhaust valve seat inserts (intake valve seats are machined into the cylinder head)

While performing cylinder head service work, you may find replaceable intake valve inserts on low speed engines. This does not hamper engine performance. It is a premium feature in place of the standard design.

Refer to the L Series Service Manual (P/N 934-0750), Section 10, for repair procedures.

Respective parts manuals list the required components to service the cylinder head.

This bulletin is for information only.

Pat O'Farrell, Manager
Distribution Development & Service
Engine Products



Product Support Bulletin

Date: Jan, '86 Page 1 of 1 Bulletin No. 435

Subject: THERMOSTAT TEST DATA AND PROCEDURES FOR J SERIES ENGINES
Ref. File # E-102

Model(s) or Series: MDJA, MDJB, MDJC, MDJE, MDJF **Effective:** IMMEDIATELY

The Service Manual (#974-0750, 8-84) for the models listed above, and the earlier Master Service Manual (Section 6, Cooling System, Liquid) contain incorrect data a test instructions for cooling system thermostat part #309-0054.

Checkout data for part #309-0054 is incorrectly listed as follows in those manuals

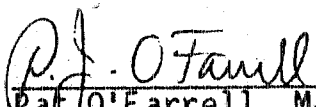
| <u>Opening Temp</u> °F | <u>Wide Open Temp</u> °F/Min.Stroke |
|-------------------------------|--|
| -3° to +4° (-20° to -16°C) | +24°/0.36 in. -5°C/9.14mm |

The correct checkout data is:

| <u>Opening Temp</u> °F | <u>Wide Open Temp</u> °F/Min.Stroke |
|------------------------------|--|
| 147 to 154° (64° to 68°C) | 174°/0.36 in. (79°C/9.1mm) |

"Testing" instructions in the manuals state that thermostat #309-0054 cannot be tested using the procedures outlined for the other thermostats. This is also incorrect---Part #309-0054 can be tested using those procedures.

This PSB is for information only. Engine operation and service are not affected.

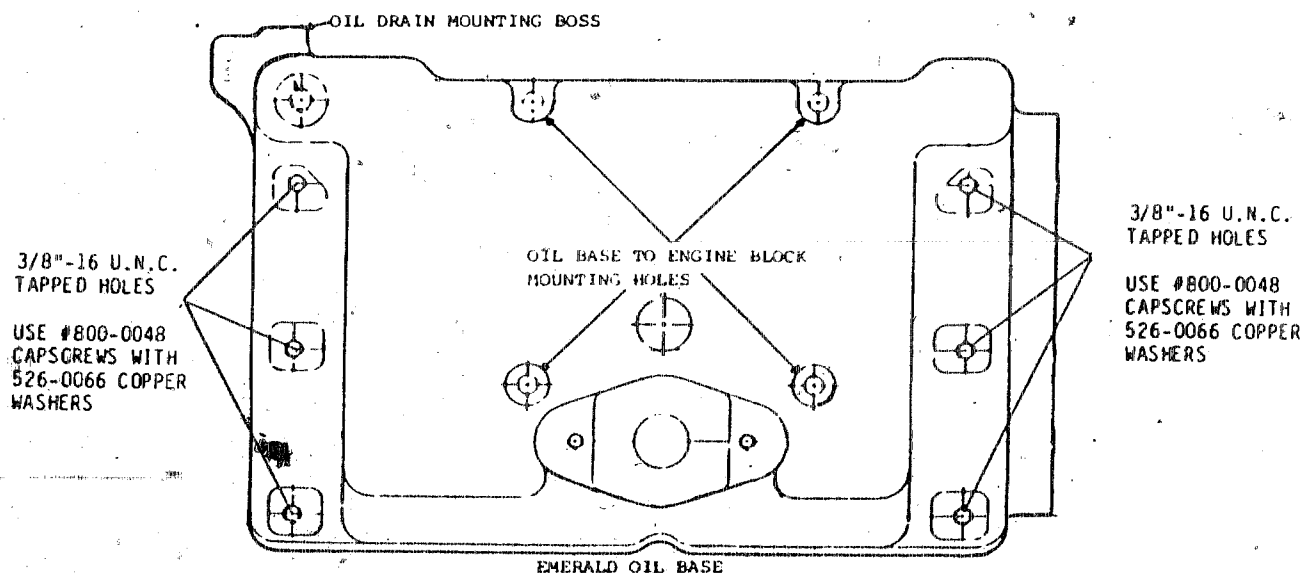

Pat O'Farrell, Manager
Distribution Development & Service
Engine Products

Subject: OIL BASE LEAKS EMERALD GENERATOR SETS Ref. File # E103

Model(s) or Series: 4.OBGE-Emerald Generator Sets Effective: IMMEDIATELY

The Service Department has received complaints of Emerald oil bases leaking. Our investigation indicates there are 3 potential problem areas; listed below are the problems and what is required to correct each problem.

- 1) Oil leaking at (#504-0150) shutoff valve mounting boss. This valve may have been over-tightened at the factory causing oil base to crack. The only repair is to replace the (102-1242) oil base.
- 2) Oil leaking at oil base to engine block mounting holes. Check the base-to-block mounting gasket (102-1200). Replace gasket if damaged or not sealing properly. If no gasket or mounting surface damage is apparent, fill oil base with solvent and check for porosity. If oil base is porous, replace the oil base.
- 3) There are six 3/8" -16 U.N.C. tapped holes on the bottom of the oil base (3 on each side). If oil leaks occur at any one of these holes they can be repaired by installing a capscrew with copper washer, see figure. Apply Teflon pipe thread sealer to capscrew threads.



Standard warranty policy applies.

P.J. O'Farrell
Pat O'Farrell, Manager
Distribution Development & Service
Engine Products



Product Support Bulletin

Date: Jan. '86 Page 1 of 1

Bulletin No. 437

Subject: EXHAUST MANIFOLD GASKET LEAKAGE
ON L SERIES TURBOCHARGED ENGINES

Ref. File # E 104

Model(s) or Series: ALL SPEC A, B & C L SERIES
TURBOCHARGED ENGINES

Effective: IMMEDIATELY

Onan Service Department has received complaints concerning exhaust manifold gaskets leaking, manifold bolts breaking or falling out, and/or exhaust manifolds cracking.

These types of failures have been linked to the joint between the cylinder head and the exhaust manifold failing to retain sufficient clamp load.

Manifold bolt locktabs have been supplied on an as-required basis. A production style repair procedure is now available. It involves:


- 1) Drilling out the manifold bolt holes to 10 mm (.394").
NOTE: A 13/32" drill (.406") may be used if a 10mm drill bit is not available.
- 2) Installing a hardened M8 flat washer (P/N 740-1006) under the head of all manifold bolts
- 3) Installing a locktab (P/N 154-2648) between the manifold and the hardened flat washer.

Components should be installed using a lubricant designed to reduce seizing.

Service Parts Kit #154-2656 is available which includes locktabs and installation instructions.

Locktabs are not reusable and should be replaced whenever the bolt is removed.

Installation instructions are included in the kit and will be placed in the 934-0750 service manual at its next update.



P. J. O'Farrell, Manager
Distribution Development & Service
Engine Products

Subject: STOP LEVER
SHAFT CORROSION

Ref. File # E105 (PARTS)
(SERVICE)

Model(s) or Series: DKC, MDKC, DKD, MDKD

Effective: JANUARY 1, 1986

ENGINE S/N's PRIOR TO 372135 (DKC, MDKC)

ENGINE S/N's PRIOR TO 453085 (DKD, MDKD)

Should any of the above referenced generators exhibit a problem with failure of the K-1 stop solenoid or frequent tripping of CB-11 control breaker, the stop lever shaft should be checked for corrosion. (Ref. Item 22, Fig. 1.) Corrosion of this shaft causes it to stick, and may overload the stop solenoid.

Access to the shaft requires removal of the injection pump cover assembly (Item 20). Removal and reinstallation instructions are provided with the new cover assembly.

Should corrosion be evident, replace the injection pump cover assembly (Item 20). New pump cover assemblies have a stainless steel shaft instead of cast iron shafts (Item 22). Consult the Parts Book for the correct part number.

This Bulletin is for informational purposes and standard warranty applies.

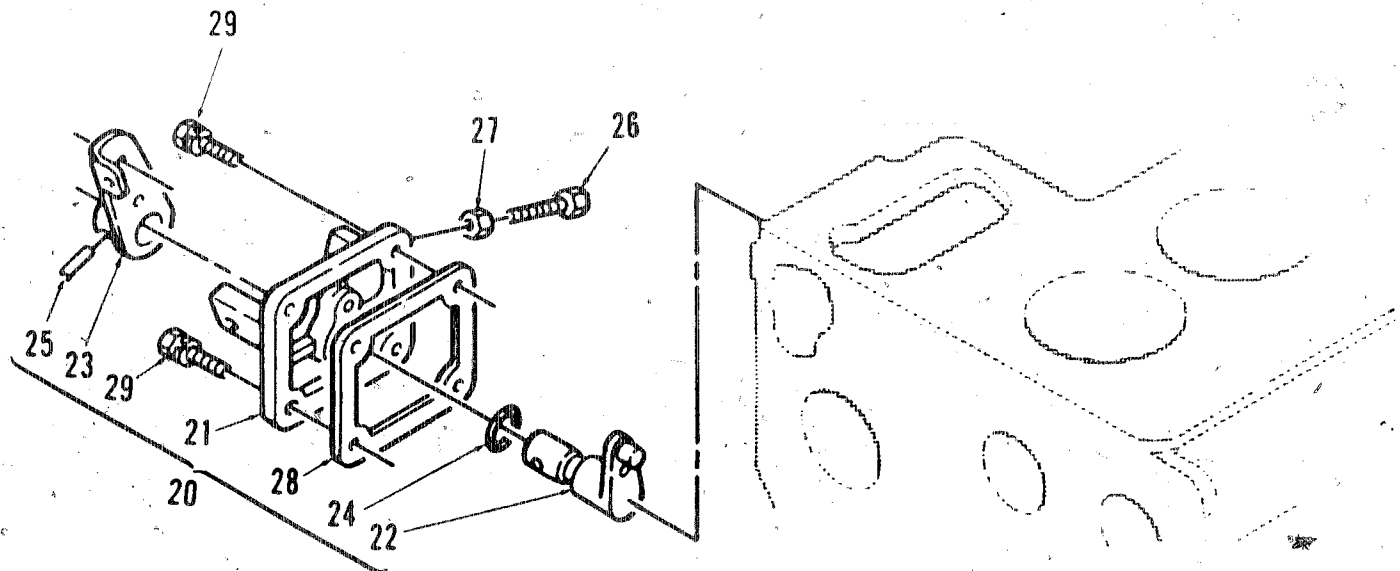


Fig. 1

Charles L. Babcock
Charles L. Babcock



Product Support Bulletin

Date:

Page 1 of 1

Bulletin No. 439

Subject: EMERALD UNDERFLOOR MOUNT
LOCKUP KITS

Ref. File # S251 (SERVICE)
(PARTS)
(WARRANTY)

Model(s) or Series: EMERALD UNDERFLOOR MOUNTED
GEN SETS

Effective:

Emerald underfloor generator sets have soft vibration mounts which can allow the #1 spark plug to contact the rear of the generator compartment and break. The oil filter can also contact the high lip on the drip tray and support bracket.

The problem is due to the tray flexing permitting greater movement of the set on its mounts, and not the mounts themselves.

The purpose of this bulletin is to inform the field of the new underfloor lockup kits designed to correct this problem. The kit consists of three braces and appropriate hardware to strengthen the compartment.

Use Kit #405-3610 on the Emerald III (6.5NHE).

Use Kit #405-3613 on the Emerald I (4.0BGE).

Future Underfloor Housing Accessory Kits will contain the three additional braces and will not require modification.

When servicing an underfloor Emerald gen set, be sure and check the compartment for the additional support brackets. Refer to Instruction Sheet A311 (attached) for identification of the required parts.

Warranty will allow one hour for installation of the lockup kit on any gen set which does not presently have it.

Charles L. Babcock
Manager, Field Service

1400 73rd Avenue N.E.
Minneapolis, MN 55432
612 574-5000

Instruction Sheet

A311

9-85

Assembly Instructions for Installation of Underfloor Lockup Kits 405-3610 and 405-3613 for Emerald Recreational Vehicle Generator Sets

The following instructions cover the instructions for adding the lockup kit to only the underfloor mount Emerald generator sets. Follow the procedure carefully noting any warnings or cautions.

1. Park the recreational vehicle on as level a surface as possible.
2. Put the vehicle in park position, lock the brakes, and remove the ignition key. Make sure no one moves the vehicle while performing this procedure.

▲WARNING

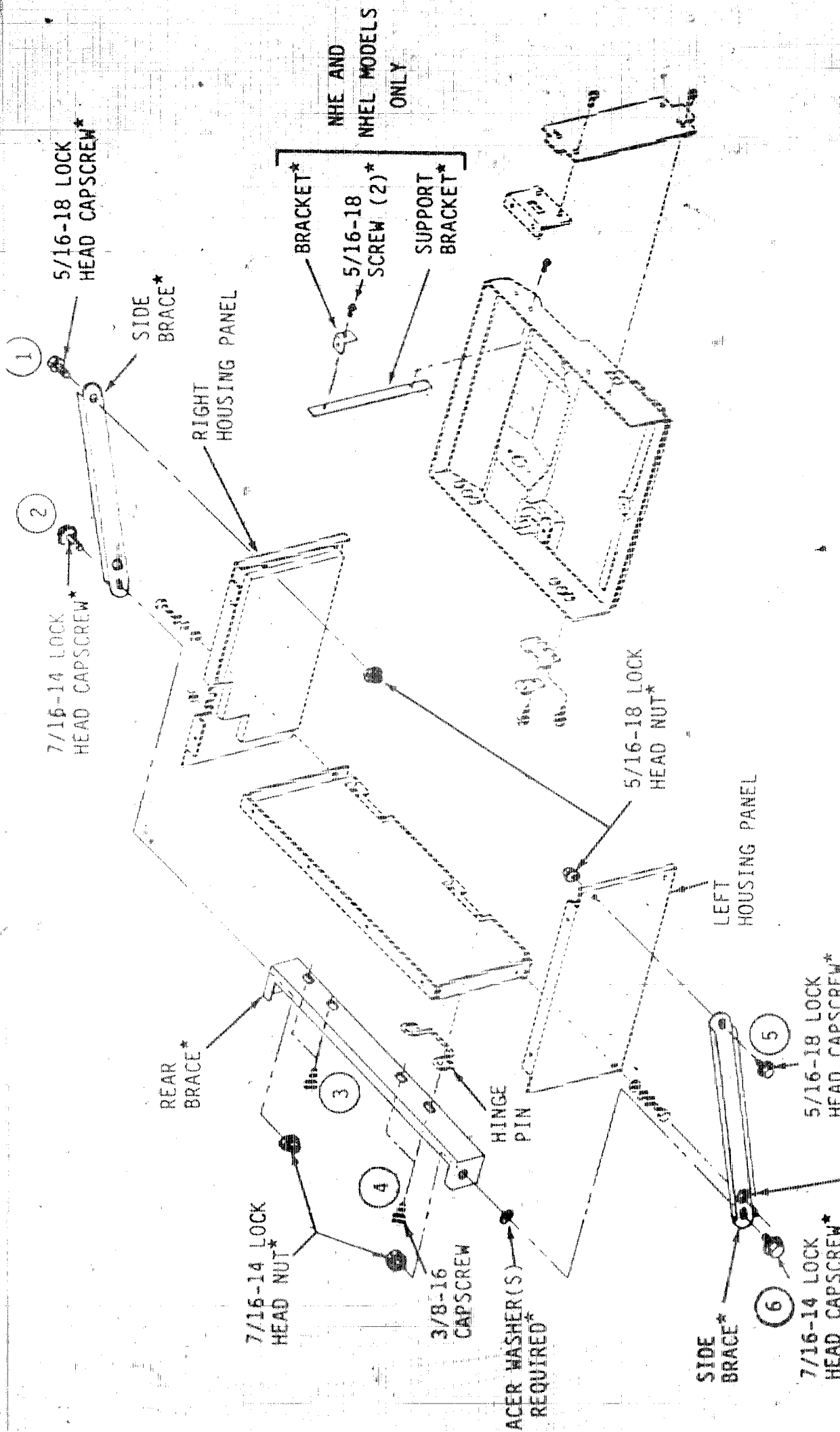
Dropping the generator set can result in severe personal injury or death. Make sure no one moves the vehicle during this procedure and that the procedure is performed very carefully and only as instructed.

3. Disconnect the generator set starting battery ground (-) cable at the generator set.
4. Support the underside of the drip tray with a floor jack and support blocks.
5. Remove the four 3/8-16 capscrews holding the hinge pins to the rear panel. See Figure 1. If necessary, adjust the floor jack slightly so you can easily remove the capscrews.
6. Install the rear brace from the kit over the hinge pins as shown in Figure 1, line up the holes, and reinstall the 3/8-16 capscrews finger-tight (do not tighten at this time). Center the rear brace as much as possible.
7. Install the side brace on the right side (generator side) by installing the 5/16-18 capcrew and nut provided in the kit through the brace and upper front hole of the panel and secure finger-tight only. Secure the other end of the right brace to the rear brace with the 7/16-14 screw and nut provided finger-tight only.
8. Install the side brace on the left side (engine side) by installing the 5/16-18 capcrew and nut provided in the kit through the brace and upper front hole of panel and secure finger-tight only. Secure the

other end of the left brace to the rear panel with the 7/16-14 screw and nut provided finger-tight only.

NOTE: To clarify side brace mounting, see the following.

- a. For BGE/BGEL only: The notch in the side brace used on the left side only goes over grommet of left housing panel. On the right side, the grommet goes through the hole cutout of that side brace.
 - b. For NHE/NHEL only: For side brace used on the left side, grommet of housing panel goes through brace hole cutout. The right brace goes completely above grommet of panel.
8. Tighten the capscrews and nuts in the order indicated in Figure 1. Be sure to follow this order (1 through 6). Use the following torques.
 - A. 5/16-18 capscrews and nuts..... 14 ft lb (19 N•m)
 - B. 3/8-16 capscrews and nuts..... 25 ft lb (34 N•m)
 - C. 7/16-14 capscrews and nuts..... 40 ft lb (54 N•m)
 9. If there is excess clearance between the rear brace and the left side (engine side) brace by area "5" noted in Figure 1, fill the gap with the spacer washers provided. Tighten the capscrew and nut to the specified torque as noted.
 10. NHE/NHEL Only: Add the support bracket and bracket to the generator set mounting as shown in Figure 1. Secure with two 5/16-18 screws. Slight upward pressure by a floor jack might be necessary for hole alignment.
 11. Remove the support blocks and the floor jack from under the generator set drip tray. The installation is complete.



*Lockup Kit Parts

BGE AND BGEI ONLY: NOTCH IN SIDE BRACE GOES OVER GROMMET OF LEFT HOUSING PANEL ONLY.



Product Support Bulletin

Date:

Page 1 of 1

Bulletin No. 440

Subject: EMERALD CONTROL CIRCUIT BOARD
SERVICE CAUTIONS (300-2784)

Ref. File # C-28 (SERVICE)
(WARRANTY)

Model(s) or Series: ALL EMERALD RV GEN SETS

Effective: MARCH 1, 1986

Recent analysis of returned 300-2784 control boards has revealed three possible causes for failures of circuit paths and relay contacts.

1. The recommended fuse for this board is a 5 amp (P/N 321-0174).
Do not use any fuse which exceeds this rating.
2. When replacing the F1 fuse on the control board, never extend a conductive tool, such as a screwdriver, through the fuse slot in the cover to bend the fuse clips. Shorting the clips to the metal cover will burn circuit paths on the back of the board. If the clips become loose, the following procedure should be followed:
 1. Disconnect the battery.
 2. Remove the fuse.
 3. Remove the control cover.
 4. Bend clips to provide snug fit for the fuse.
3. When installing an Emerald generator in conjunction with a remote start/stop switch, make absolutely sure the interconnect wiring is correct. Incorrect wiring will result in a blown F1 fuse. Substituting a larger fuse as a fix will result in damage to the K-3 relay contacts requiring replacement of the board.

Any failure of a board, directly attributable to any of the above causes will not be covered by warranty. Standard warranty applies to all other failures.

This bulletin is for informational purposes only.

Charles L. Babcock
Manager, Field Service



Product Support Bulletin

Date: Feb. '86 Page 1 of 1

Bulletin No.441

Subject: HIGH TEMP THERMOSTATS FOR L634T-A ENGINES Ref. File # E 105

Model(s) or Series: ALL L634T-A ENGINES

Effective: IMMEDIATELY

The current production thermostats used in L634T-A engines may cause "lack of heat" complaints in some automotive repower situations because:

- 1) The thermostat opening temperature is lower than that of typical gasoline engines and
- 2) The thermostat vent hole bleeds coolant to the radiator which is especially detrimental in light load and idle situations. Both situations reduce the heater air out temperature and the heat transferred to the cab.

New improved high temperature ball-check thermostats have recently been released for cold ambient locations. These thermostats have a higher opening temperature. They also include a unique ball-check valve which opens for static venting (engine fill) purposes but closes in engine operation to conserve engine heat for cab heating purposes.

These new thermostats are intended for year around use in automotive applications only; they are not recommended for use in industrial L series engines.

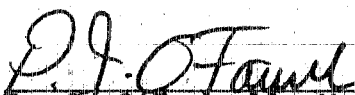
| | EXISTING THERMOSTATS | | NEW STYLE | |
|--------------|----------------------|------------|-----------------|------------|
| P/N | 309-0500 | 309-0427 | 309-0536 | 309-0535 |
| Opening Temp | 192° | 180° | 195° | 195° |
| Vent Style | Bleed hole | Bleed Hole | Ball Check | Ball Check |
| Type | Bypass Blocking | Choke | Bypass Blocking | Choke |

A new kit, P/N 309-0541, includes both new thermostats and the gasket needed to replace them.

Heater efficiency may be improved if the coolant flow enters the heater core at the bottom and exits at the top. The heater core should always be bled when working on the cooling system. A temperature indicating probe placed between the fins of the heater core should register the thermostat opening temperature on a thermally-stabilized system.

This bulletin is information only. Standard warranty policy applies. Thermostats are not covered under warranty unless a defect in material or workmanship is involved.

NOTE: Engine failures linked to cooling system modification, i.e. use of a "winter front" to block airflow to the radiator or removal of or changing the cooling fan will not be covered under warranty.


 P. J. O'Farrell, Manager
 Distribution Development & Service
 Engine Products



Product Support Bulletin

Date: Feb. '86 Page 1 of 1 Bulletin No. 442

Subject: HARDENED RING GEAR FOR L SERIES ENGINES Ref. File # E 106

Model(s) or Series: ALL L SERIES ENGINES IN HIGH START CYCLE APPLICATIONS **Effective:** IMMEDIATELY

Recent reports indicate a problem with the ring gear on high start cycle L series engines adapted to automotive transmissions. The normal failure mode is the milling away of ring gear teeth with little damage to the starter pinion gear.

A new ring gear has been tested and met our goal of 40,000 starts without a failure. It is being released to replace the present ring gear on applications where the engine is stopped and restarted frequently.

There are two basic differences between the old and new style ring gears.

- 1) A six point increase in the hardness specification.
- 2) The lead-in chamfer on the teeth is 15° from the vertical centerline of the tooth on the new gear and at the vertical centerline of the tooth on the old gear.

These two changes permit improved engagement between the pinion and ring gear and more evenly matched material hardness.

The new ring gear is P/N 104-1666 which replaces 104-1185. The new ring gear is currently to be used only on high start cycle applications.

| | RING GEAR | | FLYWHEEL W/GEAR | | FLEX PLATE ASSY | |
|------------------------|-----------|----------|-----------------|-------------|-----------------|----------|
| | OLD | NEW | OLD | NEW | OLD | NEW |
| FORD -Manual (Lt.Duty) | 104-1185 | 104-1666 | 104-1563-XX | 104-1671-XX | --- | --- |
| FORD -Manual(Hvy.Duty) | 104-1185 | 104-1666 | 104-1555-XX | 104-1670-XX | --- | --- |
| GM -Manual | 104-1185 | 104-1666 | 104-1568-XX | 104-1672-XX | --- | --- |
| FORD -Automatic (C6) | --- | --- | --- | --- | 104-1574 | 104-1667 |
| GM -Auto. (THM 400) | --- | --- | --- | --- | 104-1579 | 104-1668 |

Standard warranty policy applies.

V. J. O'Farrell, Manager
Distribution Development & Service
Engine Products



Product Support Bulletin

Date: May '86 Page 1 of 3

Bulletin No. 443b

Subject: INJECTION PUMP INSTALLATION AND TIMING PROCEDURE, L634T-A ENGINES WITH BOSCH VE-6 INJECTION PUMP

Ref. File # E 107

Model(s) or Series: L634T-A

Effective: IMMEDIATELY

Beginning with 1985 EPA certified L634T-A engines, a Bosch VE-6 injection pump is used. This pump has an aneroid integral with the pump as opposed to the Stanadyne DB2 pump with the aneroid bracket mounted. The Bosch VE-6 and the Stanadyne DB2 pumps are not interchangeable.


A special dial indicator and adapter are required to properly time a Bosch VE-style injection pump. Tools which work very well are available from two sources:

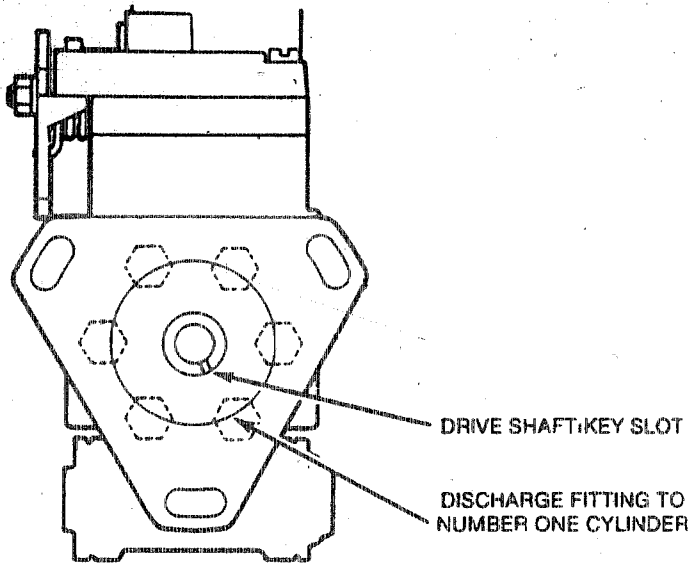
| | | | | | |
|---|----------------|--------------|--|---------------|--------------|
| Owatonna Tool Co. Division Sealed Power Corp. 2013 4th Street, NW Owatonna, MN 55060 1-800-533-5338 except Minnesota 1-507-451-0514 Minnesota only | | | Assenmacher Specialty Tools 6440 Odell Place Boulder, CO 80301 1-800-525-2943 | | |
| <u>P/N</u> | <u>Item</u> | <u>Price</u> | <u>P/N</u> | <u>Item</u> | <u>Price</u> |
| NU11014 | Adapter | \$24.00 | 2066-GROUP03-CODE033010 | Gage Holder | \$24.8 |
| NU10266 | Dial Indicator | \$48.50 | 2066-GROUP03-CODE033015 | Ext. Pin | \$ 4.2 |
| | | | UZ-GROUP06-CODE064000 | Dial Indictor | \$48.5 |

These tools may be ordered directly from OTC or Assenmacher. Identify yourself as an Onan service center and supply a P.O. number.

Installation instructions and timing procedure will be included in the next update of the L Series Service Manual (P/N 934-0750). Please refer to the instructions included with this PSB until the new material is received.

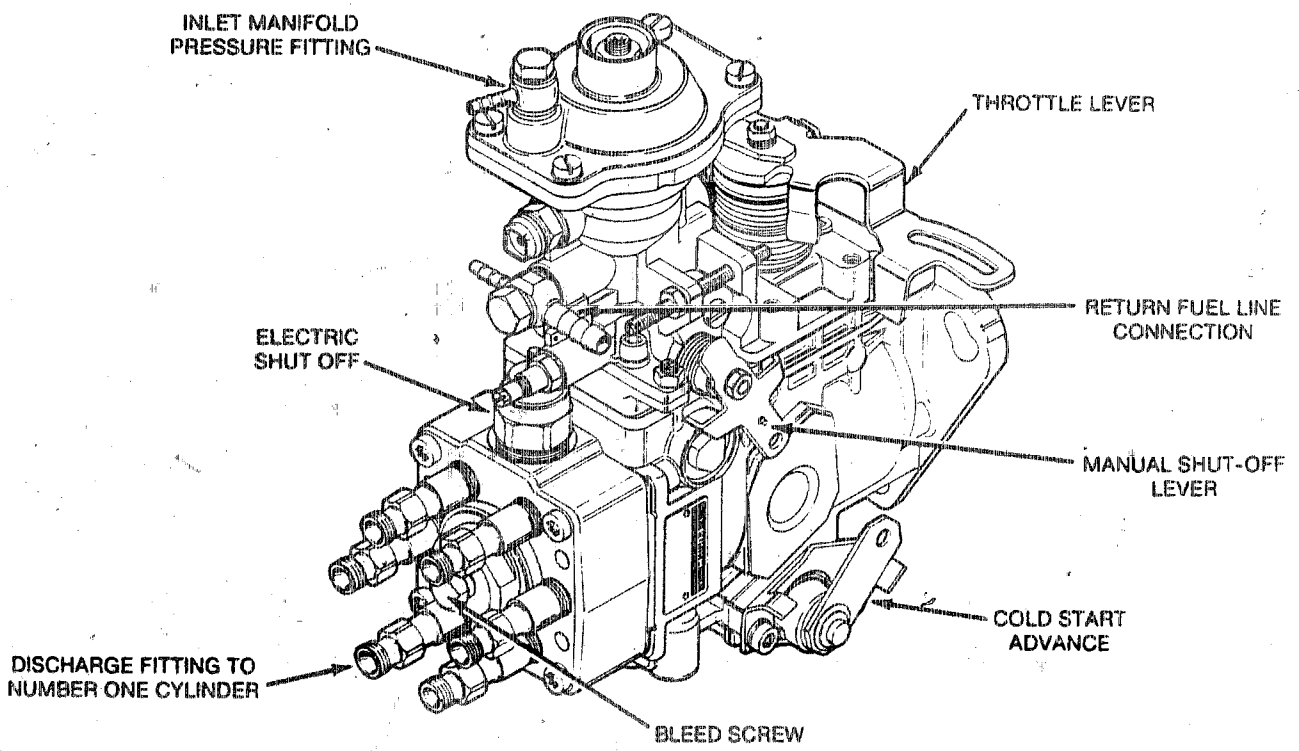
This bulletin is for information only.


P. O. Farrell, Manager
Distribution Development & Service
Engine Products



FS-1639

FIGURE 1. FRONT VIEW



FS-1645

FIGURE 2. REAR VIEW

ROBERT BOSCH VE6 INJECTION PUMP INSTALLATION AND TIMING PROCEDURE

1. Inspect injection pump O-Ring on pump mounting flange for damage or wear. Replace if necessary.
2. Position injection pump on mounting studs with the studs centered in the mounting slots. Install flat washers and hex nuts on mounting studs to secure pump to engine. Draw up snugly, but do not fully tighten.
3. Rotate crankshaft until cylinder number 1 begins its compression stroke. Both valves of cylinder number 1 will be on their seats during the compression stroke. Continue to rotate crankshaft until the 15 degree marking on the crankshaft pulley is properly aligned with the pointer attached to the gearcase cover. Degree markings are stamped with their value on the front face of the crankshaft pulley.
4. Position injection pump driveshaft key slot so that it points to the discharge fitting for cylinder number 1 (see Figure 1). If shaft needs to be turned, use gear retaining nut.

CAUTION: Fuel discharged from high pressure fittings can penetrate skin and cause severe injury or death. Be certain that discharge fittings are not aimed at anyone when rotating injection pump driveshaft.

5. Remove bleed screw (see Figure 2) and install proper timing holder and dial indicator. Adjust dial indicator for 1 to 2 mm travel and secure.
6. Use gear retaining nut to turn the injection pump drive shaft clockwise as viewed from the front of the engine until dial indicator shows the start of plunger lift. Remove nut with sharp blow to wrench handle and install injection pump timing gear on pump drive shaft. Install hex nut and torque to 80 N-m (58 ft-lb).
7. Rotate crankshaft counter-clockwise (as viewed from front), then clockwise to determine minimum dial indicator reading. Zero the dial indicator at this crankshaft position. Total indicator lift should be 2.2 mm.
8. Rotate crankshaft clockwise to TDC. Loosen the three hex nuts that retain the injection pump and rotate injection pump on mounting studs as required to obtain plunger lift of 1.050 ± 0.050 mm at TDC.
9. Re-check dial indicator zero and plunger lift at TDC by rotating the crankshaft counter-clockwise, then clockwise. Repeat preceding steps as necessary to obtain proper timing of 1.050 ± 0.050 mm at TDC. If injection pump gear needs to be removed to obtain proper timing, refer to L series service manual (P/N 934-0750).

CAUTION: Do not strike end of injection pump driveshaft to drive it out of the gear. Internal injection pump damage will result.

ROBERT BOSCH VE6 INJECTION PUMP INSTALLATION AND TIMING PROCEDURE
(continued)

- 10. Torque hex nuts on mounting studs to 23 N-m (17 ft-lb). Remove dial indicator.
- 11. Install bleed screw and sealing washer. Torque to 8-10 N-m (6-7.5 ft-lb).
- 12. Install fuel return line fitting (double-barbed) and special hollow screw with overflow restriction orifice, marked "OUT" (see Figure 2), using a copper sealing washer on each side of the barbed fitting. Large barb points away from engine. Torque hollow screw to 20-25 N-m (15-18.5 ft-lb). Install nozzle overflow line to small barb and tank return line to large barb. Install hollow screw through the banjo fitting on the filtered fuel supply line, using a copper sealing washer on each side of the banjo fitting. Torque hollow screw to 20-25 N-m (15-18.5 ft-lb).
- 13. Install high pressure lines. Torque to 24 N-m (18 ft-lb).
- 14. Connect switched 12 V DC lead to ESO (Electrical Shut Off) terminal.
- 15. Connect flexible line from intake manifold to intake manifold pressure fitting on injection pump (see Figure 2).

PRIMING THE FUEL SYSTEM

The Bosch system is similar to the Stanadyne system in priming procedure. Refer to the L Series Service Manual (P/N 934-0750), Section 10.

TORQUES - BOSCH INJECTION PUMP

| Description | TORQUE SPECIFICATION | |
|------------------------------|----------------------|---------|
| | N-m | Ft.-Lb. |
| Injection Pump Mounting | 23 | (17) |
| Injection Pump Gear | 80 | (58) |
| Bleed Screw | 9 | (7) |
| Hollow Screw (Banjo Fitting) | 23 | (17) |



Product Support Bulletin

Date: 4/1/86 Page 1 of 1 Bulletin No. 444

Subject: NEW STYLE MOUNTING HARDWARE
(TORX HEAD SCREWS)

Ref. File # S-252 (SERVICE)


Model(s) or Series: ALL EMERALD GENSETS

Effective: AUGUST 1, 1986

The purpose of this bulletin is to inform Service Technicians of the anticipated use of Torx head screws on Emerald generator sets. The new style fastener will be used in place of slotted or hex head cap screws for attaching components such as the fuel pump and control box cover to the generator. The two sizes to be used will require a T-25 and a T-30 Torx head screwdriver to remove and reinstall.

We advise you to plan ahead and acquire these tools prior to August, 1986.

This bulletin for informational purposes only.


Chuck Babcock
Manager, Field Service



Product Support Bulletin

Date: MAY 1986 Page 1 of 1

Bulletin No. 445

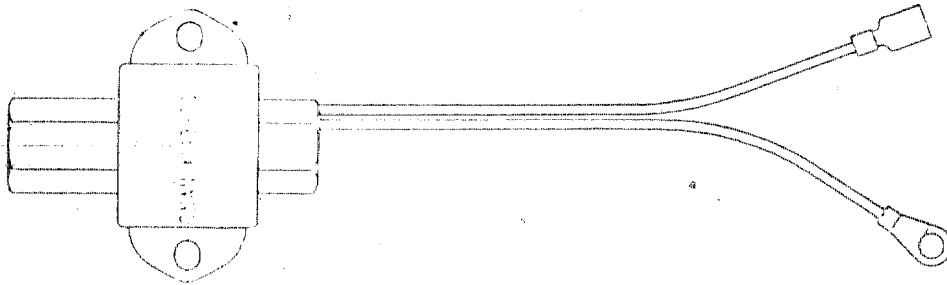
Subject: NEW EMERALD FUEL PUMP

Ref. File #: SERVICE S-253
PARTS
WARRANTY

Model(s) or Series: ALL EMERALD GENSETS.

Effective: MAY 1, 1986

Onan Emerald RV gensets will use a new style fuel pump beginning in early June, 1986.



NEW STYLE FUEL PUMP

This new style pump (P/N 149-2036) is not interchangeable with the old facet style pump and distributors and dealers are advised to stock both style pumps.

Conversion from one style pump to another should not be done due to bracket, fuel line and mounting hole changes.

This Bulletin for informational purposes only.

Charles L. Babcock



Product Support Bulletin

Date: MAY 1986 Page 1 of 1 Bulletin No. 446

Subject: RACK/PLUNGER SEIZURE ON 147-0355
INJECTION PUMPS

Ref. File # S-254 (PARTS)
(SERVICE)

Model(s) or Series: DJE/MDJE

Effective:

During long term storage (Over six months) of the 147-0355 injection pump, fuel remaining in the pump after test can evaporate, causing the Rack/Plunger to stick or seize. To remedy this situation requires that the pump be lubricated every six months while in your parts inventory and prior to installing on a generator set.

The procedure for lubricating these pumps is to apply preservative oil or diesel fuel to the rack and gears and moving the rack back and forth until free. Stubborn pumps may require injecting a small amount of diesel fuel into the ports or soaking the entire pump in diesel fuel or preservative oil.

Pumps received after 4/15/86 will be vacuum packed and will not require periodic relubrication.

This bulletin is for informational purposes.

Charles L. Babcock
Manager, Field Service



Product Support Bulletin

Date: 5/27/86

Page 1 of 1

Bulletin No. 447

Subject: BRUSH CORROSION ON EMERALD GENSETS

Ref. File # S-254 (SERVICE)

Model(s) or Series: ALL EMERALD GENSETS

Effective: JANUARY 1, 1986

The Service Department has received repeated complaints from the field on Emerald gensets that fail to stay running after the start button is released. In many cases, the cause has been found to be corroded brushes and residue or film on the generator slip rings, which prevents the generator from building up.

Any Emerald generator which exhibits the above symptoms should be checked for corrosion around the brushes and film on the slip rings. Consult the Service Manual for proper slip ring and brush service procedures.

This Bulletin is for informational purposes only.

Standard warranty applies.


Chuck Babcock



Product Support Bulletin

JUNE 1986

Date:

Page

of

Bulletin No.

448

Subject: ONAN "4C" CARBURETOR AND
COMBUSTION CHAMBER CLEANER

Ref. File #

T-1

ALL ONAN GASOLINE ENGINES

MAY 1, 1986

Model(s) or Series:

Effective:

Onan Service Parts has recently announced the sale and distribution of Onan 4C Carburetor and Combustion Chamber Cleaner (P/N 326-5278).

This new product should not be considered an across-the-board replacement for present decarbon procedures, but as a maintenance procedure that can significantly reduce the frequency of the conventional decarboning method.

Both the Engine and Electrical Products Division Service Departments recommend the use of this product in gasoline industrial engines and generator sets, at a service interval of every 200 hours of operation, or when any of the following symptoms are observed:

1. Loss of power.
2. Engine knock or pre-ignition.
3. When switching from leaded to unleaded fuel.

Use one can of 4C for all 1 and 2 cylinder gasoline engines and two cans for 4 cylinder gasoline engines.

DIRECTIONS:

1. Warm up engine to operating temperature.
2. Run the engine at approximately 1800 RPM.
3. Spray contents of the can directly into the carburetor without stalling the engine until approximately 1 oz. of 4C remains. Spray the remaining ounce as quickly as possible until the engine floods and stalls.
4. Allow the engine to stand for 15 minutes.
5. Restart procedure --

For Industrial Engines: Restart and use the throttle to rev the engine and enhance carbon removal.

For gensets: Using a load bank, restart the engine and cycle the genset from no load to full load to enhance carbon removal.

CAUTION: Do not overspeed the generator as damage may occur.

Along with the listed instructions and safety precautions on the can, WE RECOMMEND THE USE OF EYE PROTECTION AND PAINTERS MASK OR OTHER RESPIRATION FILTER.

This Bulletin is provided for informational purposes.

Chuck Babcock
Manager, Field Service
Electrical Products Division

Pat O'Farrell
Dist. Development
& Service Manager
Engine Division



Product Support Bulletin

Date: AUG 1986 Page 1 of 1 Bulletin No. 449

Subject: FUEL SUPPLY PROBLEMS ON MOBILE
AND RV GENSETS USED ON LATE
MODEL FORD TRUCK CHASSIS'S

Ref. File # S-256

Model(s) or Series:- ALL MOBILE AND RV GENSETS

Effective: JULY 1, 1986

It has recently come to Onan's attention that Ford trucks have been equipped with a tank mounted electric fuel pump since the 1985 model year. Several OEM customers who use the Ford chassis have been teeing into the pressurized fuel line to supply fuel to the Onan generator.

WARNING

Connection of a pressurized fuel line to the generator can result in engine flooding and spillage within the generator compartment, presenting a serious fire hazard.

When servicing any Onan RV or mobile genset used on a Ford chassis, examine the generator fuel line to see if a separate fuel fitting is provided on the tank for the generator. Teeing into a pressurized fuel line is not recommended.

Customers should be advised of the problem and instructed to have the tank modified if necessary.

Ford does offer an optional fuel supply fitting on their tank, and this option should be ordered when a generator is to be installed.

Onan warranty does not cover modifications to the fuel system or damage resulting from this installation practice. This Bulletin is for informational purposes only.

Charles L. Babcock



Product Support Bulletin

Date: JULY 1986 Page 1 of 1

Bulletin No. 450

Subject: OVERCHARGING OF BATTERIES ON
KUBOTA POWERED GENSETS

Ref. File # S-257

Model(s) or Series: DKC, DKD, MDKC, MDKD
REMOTE START ONLY

Effective:

Any remote start Kubota powered genset which exhibits symptoms of overcharging its starting battery should be modified as follows:

1. Remove the lead attached to CR11 - B+.
2. Cut the lead off just before the first wire tie in the Harness.

This modification will effectively eliminate the DC start disconnect circuit. The presence of this circuit connected across the output of the alternator may prevent the regulator from operating properly. Start disconnect will still be provided via the AC output start disconnect circuit.

This Bulletin for informational purposes. Standard warranty applies.


Charles L. Babcock
Field Service



Product Support Bulletin

Date: JULY 1986 Page 1 of 1

Bulletin No. 451a

Subject: AIR CONDITIONER MOTOR STARTING PROBLEMS ON 6.5NHE (EMERALD III's)

Ref. File # S-258

Model(s) or Series: 6.5NHE RV GENSETS
PRIOR TO S/N 822017

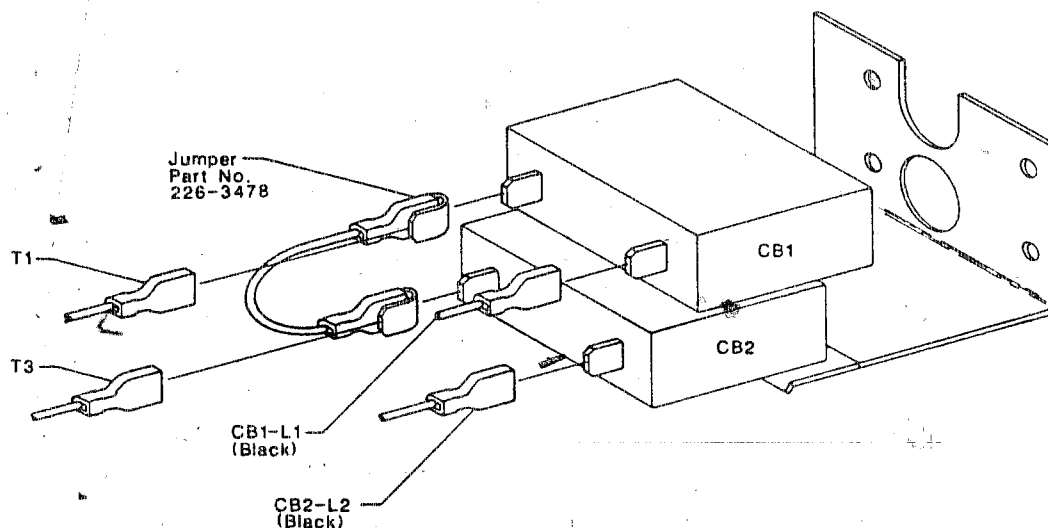
Effective:

Onan has received complaints from the field that (Emerald III) gensets may have trouble starting air conditioners in hot weather. Symptoms include low voltage, air conditioners not operating properly, and tripping of load breakers.

If you encounter this problem, you may add a jumper lead to parallel the generator windings and improve motor starting capability.

This jumper lead should be connected across the input side of CB1 and CB2 (see Fig. 1).

This jumper will be added to factory built units starting with serial number 822017, in an effort to eliminate a potential problem.



Warranty does not apply. This Bulletin is for informational purposes only.

Charles L. Babcock
Charles L. Babcock
Manager, Field Service



Product Support Bulletin

Date: 10/1/86 Page 1 of 1

Bulletin No. 452

Subject: CARBURETOR ICING PROBLEMS
ON EMERALD RV GENSETS

Ref. File # S-259

Model(s) or Series: 4.0BGE and 6.5NHE

Effective:

Service Department has received complaints from the field of surging and overspeed conditions in Emerald RV gensets. These problems have been linked to carburetor icing which can occur under certain atmospheric conditions. To reduce the chances of carburetor icing, a change was made to the air inlet cover and rod, located in the air cleaner box (See Figure 1). The new style cover and rod can be identified by the revision letter (D) stamped on the inside of the inlet cover (See Figure 2).

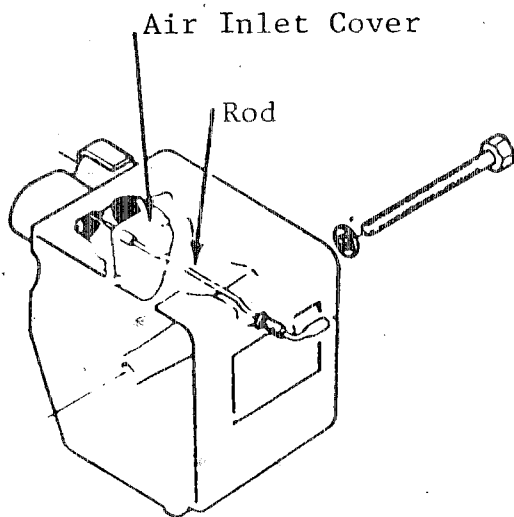


FIG. 1

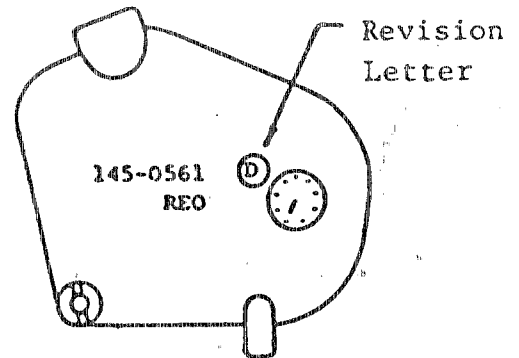


FIG. 2

When servicing an Emerald genset which exhibits the symptoms of surging or overspeeding, remove the air cleaner and check the revision letter on the inside of the air inlet cover. Any genset with revision (C) or earlier cover and rod, should be updated to revision (D) parts.

Onan's parts stock has been updated and the new style parts are available under the same part numbers as before.

145-0561 Air Inlet Cover
145-0562 Air Inlet Rod

Standard warranty applies. This bulletin is for informational purposes only.

Charles L. Babcock
Charles L. Babcock



Product Support Bulletin

Date: 10/10/86 Page 1 of 1

Bulletin No. 453

Subject: CALIBRATION OF 300-0780
VOLTAGE SENSORS

Ref. File # C-29

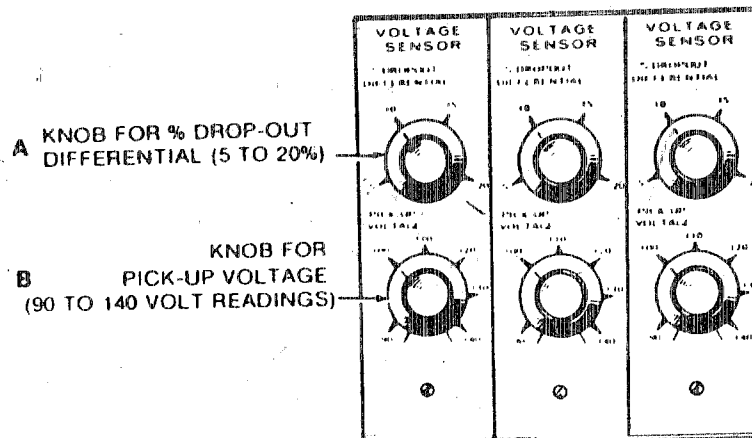
Model(s) or Series: OT TRANSFER SWITCHES
(SPEC A - C)

Effective:

This Product Support Bulletin is to reinform you of the proper way to calibrate the 300-0780 voltage sensors.

It was written due to the high percentage of relay-type voltage sensors being returned under warranty which operate properly. We believe the cause may be related to an improper calibration procedure/technique being used.

When calibrating the Pickup Voltage (Knob B, see diagram), set the % Dropout Differential Knob (A) at 5%. Then turn the Pickup Voltage Knob (B) fully clockwise until the K-3 relay drops out (and/or the LED on the voltage sensor goes out). Continue the calibration procedure per the operator's manual by rotating the Pickup Voltage Knob (B) slowly counterclockwise and the calibration screw (if needed) slowly in the appropriate direction.



The board may not and was not designed to pickup and dropout by turning the calibration screw back and forth while at various % Dropout Differential Knob (A) settings. The proper method for distinguishing between pickup and dropout is to set the % Dropout Differential Knob (A) at 5% and then turn the Pickup Voltage Knob (B) back and forth while observing and hearing the difference.

Again, please follow the above steps and procedures in the operator's manual if calibration of the voltage sensor(s) is needed. Subject boards sent to Onan and found not to be functionally defective will be returned and the warranty claim disallowed.

This Bulletin for informational purposes.

Charles L. Babcock

Field Service



Product Support Bulletin

454

Date: Page 1 of 2 Bulletin No.

Subject: OIL BASE GASKETS AND ENGINE MOUNTING FEET Ref. File # E 108

Model(s) or Series: NHC-MS/3977D IN DITCH WITCH V252 CABLE PLOW Effective: IMMEDIATELY

Some Ditch Witch customers have experienced oil base gasket failures and engine mounting foot breakage in this application. Factors contributing to this include: 1) oil base bolts over-stressed by the plow vibration, 2) engine mounting plate on the chassis not flat, 3) engine mounting bolts installed without flat washers loosen.

These problems can be corrected as follows:

1. Upgrade original oil base attaching bolts and washers:

a. Obtain the following parts:

| Part No. | Description | Quantity |
|----------|---|----------|
| 800-0053 | Cap Screw (3/8-16 x 1-3/4", grade 5, plated) | 4 |
| 851-0025 | Washer-Compression (.391"ID x .938"OD, plated) | 24 |
| 526-0174 | Washer-Flat (.406"ID x .781"OD x .134"thk, steel, plated) | 4 |
| 102-1200 | Gasket-Oil base | 1 |

- b. Remove and discard original oil base bolts, washers, studs, etc.
c. Clean all Loctite, sealant, etc. from tapped holes in engine block. If threads are stripped, replace block. Clean gasket surfaces.
d. Inspect oil base. If bolt holes in upper flange are elongated to more than 1/2", or if mounting feet are broken replace oil base. If bolt head bearing surfaces are gouged or grooved, file smooth.
e. Install new oil base gasket. Install new bolts and washers per Figure 1. Do not use sealants. Loctite may be used on bolts, but is not required. Torque bolts first to 15 ft-lb and then to 21-23 ft-lb, in an "X" pattern.

CAUTION: Too much torque will flatten compression washers and could cause engine damage.

f. If a torque wrench is not available, the following procedure may be substituted to properly tighten bolts:

- i. Run bolts in by hand until they just become snug.
ii. Tighten bolts about 1/2 turn, in an "X" pattern.
iii. Continue tightening bolts until they just become "hard", (about 3/8 turn) indicating the compression washers are fully flattened.
iv. Loosen bolts 1/6 turn to achieve proper loading.

CAUTION: THIS PROCEDURE MUST BE DONE VERY CAREFULLY OR ENGINE MAY BE DAMAGED.



Product Support Bulletin

Date: July '86 Page 1 of 1

Bulletin No. 455

Subject: ENGINE SPEED SETTINGS

Ref. File # E 109

Model(s) or Series: L634T ENGINES IN
AIR-A-PLANE AIR
CONDITIONING UNITS

Effective: IMMEDIATELY

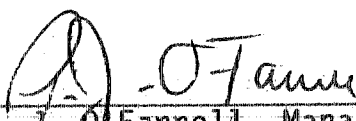
Low idle and high idle engine speeds must be set correctly on Air-A-Plane model 4420 and 4490 aircraft air conditioning units to avoid refrigeration compressor damage. The correct settings are:

Low idle: 2000 RPM
High idle: 3780 to 3820 RPM, No Load
3700 to 3750 RPM w/Blower Wheel Only

The low idle setting is somewhat different from standard values, and may conflict with data provided on engine nameplates and/or in Onan manuals. It is, however, correct and approved for this application. The high idle setting conforms to standard values.

Air-A-Plane is installing tags on these units specifying the correct engine speed settings. Please follow instructions provided thereon. If further information is needed, please contact the Air-A-Plane Service Department, phone number (804) 622-5761.

This PSB is for information only. Engine speed adjustments are not covered by Onan Engine Warranty.


P. J. O'Farrell, Manager
Distribution Development & Service
Engine Products



Product Support Bulletin

Date:

Page 1 of 2

Bulletin No. 456

Subject: FUEL DILUTION OF THE ENGINE
OIL ON APPLICATIONS WITH
OVERHEAD FUEL TANKS

Ref. File # E 110

Model(s) or Series: ALL INDUSTRIAL
GASOLINE ENGINES

Effective: IMMEDIATELY

The Onan Service Department has received complaints of gasoline in the engine oil on applications that have overhead fuel tanks. We believe the fuel dilution is caused by one or a combination of the following:

- 1) Debris in the inlet needle and seat assembly can hold the needle off the seat allowing the fuel to drain from the tank if the tank shutoff valve is left open. We recommend you flush the fuel system and install an in-line fuel filter, part number 149-2005. If the fuel tank has a sediment bowl, install a fuel filter to supplement its filtering ability.
- 2) Improper float level; if the float is misadjusted it may not allow needle to seat properly. Make sure float is set at factory specs.
- 3) Transporting applications with overhead fuel tanks; caution the customer to turn the fuel tank shutoff valve to the off position during transport. If the customer cannot assure that the valve will be turned off during transport, then recommend an in-line 12 v. D.C. electric fuel shutoff valve (Onan part number 307-1279) be installed.

Installation instructions and parts needed to install an electric shutoff valve:

| Parts Needed: | Quantity | Part Number | Description |
|---------------|----------|-------------|------------------|
| 1) | 1 | 307-1279 | Shutoff Valve |
| 2) | 2 | 502-0395 | Fuel Fittings |
| 3) | 2 | #10 | Terminals |
| 4) | 2 | 503-0301 | Fuel Line Clamps |

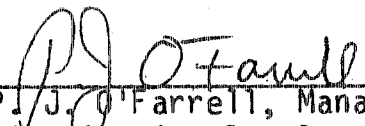
Installation of the #307-1279 shutoff valve:

- 1) Turn fuel tank valve off.
- 2) Disconnect battery negative (-) cable.
- 3) Using the 2 fuel fittings #502-0395 install them into the #307-1279 electric shutoff valve.
- 4) Find a location as close to the fuel tank as possible and mount the #307-1279 valve using a 1-3/16 insulated clamp. Cut the fuel line and install the lines onto the fittings on the shutoff valve. Use 2 part #503-0301 (7/16 fuel line clamps) on the lines.
- 5) We suggest one lead of the #307-1279 be attached to the positive (+) post of the coil. Depending on the location of the electric valve you will have to splice in a length of #10 gauge wire and using the #10 terminal lead attach this lead to the positive (+) post of the coil. Attach the other electric shutoff valve lead to a good ground.

FUEL DILUTION OF THE ENGINE
OIL ON APPLICATIONS WITH
OVERHEAD FUEL TANKS (continued)

- 6) Reconnect the negative (-) cable of the battery.
- 7) Turn fuel tanks shutoff valve on.
- 8) Start engine and run for 5 minutes to test operation of valve.

This bulletin is for informational purposes only. Cleaning the fuel system and installing the electric shutoff valve and/or fuel filter is not covered by Onan Engine Warranty.


P. J. O'Farrell, Manager
Distribution Development & Service
Engine Products



Product Support Bulletin

Date: NOV. 1986 Page 1 of 1

Bulletin No. 457

Subject: IMPROPER POLARITY RECEPTACLES

Ref. File # S-260

Model(s) or Series: ALL 5.0KQ PORTABLES

Effective: 11-1-86

The purpose of this Bulletin is to inform the field of a possible safety hazard on all model 5.0KQ portable gensets.

The possibility of electrical shock may exist from an improperly wired 120 V duplex receptacle on the side receptacle panel.

▲WARNING

Operation of a 5.0KQ which has not been checked for proper polarity on the 120 V duplex receptacle may result in severe personal injury or death from electrical shock!

When servicing any 5.0KQ portable generator, be sure to check the polarity of the 120 V duplex receptacle per the attached Instruction Sheet, C267.

After correcting the polarity on any unit found to be incorrect, file a standard warranty claim through normal channels.

A field campaign is currently in progress and all distributors who have sold 5.0KQ's have been contacted by registered mail. All 5.0KQ generators sold to date will be located and repaired as necessary under this campaign.

This Bulletin is for informational purposes only.

Charles L. Babcock
Manager, Field Service

Jerry McCollor
Warranty Administrator



457

Onan Corporation
1400 73rd Avenue N.E.
Minneapolis MN 55432
612 574-5000

Instruction Sheet

C267 9-86

K-5000 120 Volt, 15 Amp, Output Receptacle Modification Instructions

The 15-amp output receptacle on the K-5000 generator set may be wired incorrectly. The hot and neutral leads have been reversed on some units.

To test the polarity of the receptacles:

If the generator set is in service and a polarity tester is available, use the polarity tester. If the set is not in service or a tester is not available, use the following procedure.

1. Turn the generator set off.

▲WARNING *Accidental starting of the generator set during this procedure can cause severe personal injury or death. Disconnect the battery cable before continuing.*

2. Place the voltage selector toggle switch in the AC 120V position.
3. Connect the ground lead of an ohmmeter to the grounding terminal on the control box (Figure 1).
4. Connect the positive lead of the ohmmeter to the larger slot in one of the 15-amp receptacles.
5. Measure the resistance. The resistance should be less than 1 ohm.
6. Leave the ground lead of the ohmmeter on the grounding terminal and connect the positive lead of the ohmmeter to the smaller slot in the 15-amp receptacle.
7. Measure the resistance. The resistance should be about 5 to 6 ohms.
8. Repeat steps 2 through 7 at the other 15-amp receptacle.

If your results are the opposite of the correct values, then the polarity of the receptacles is incorrect and must be switched.

To correct the polarity of incorrectly wired receptacles:

1. Turn off the generator set.

▲WARNING *Accidental starting of the generator set during this procedure can cause severe personal injury or death. Disconnect the battery cable before continuing.*

2. Remove the six faceplate mounting screws (Figure 1).
3. Gently pull the faceplate out from the control box taking care not to disconnect or strain the wires.
4. Remove the four mounting screws that hold the receptacles in place (Figure 1).
5. Disconnect the single wire (white on one receptacle and red on the other) and the two blue wires on the other receptacle. Do not disconnect the green (ground) wires (Figure 2).
6. Rotate each receptacle 180 degrees and connect the white, red, and blue wires in their original physical positions (Figure 3). With the receptacle rotated 180 degrees, the wires are now connected in opposite electrical polarity.
7. Re-install the receptacle mounting screws.
8. Position the faceplate on the control box and secure it, using the six mounting screws.
9. Test for correct receptacle polarity as described in the polarity testing procedure.

Warranty will allow up to thirty minutes for inspection and re

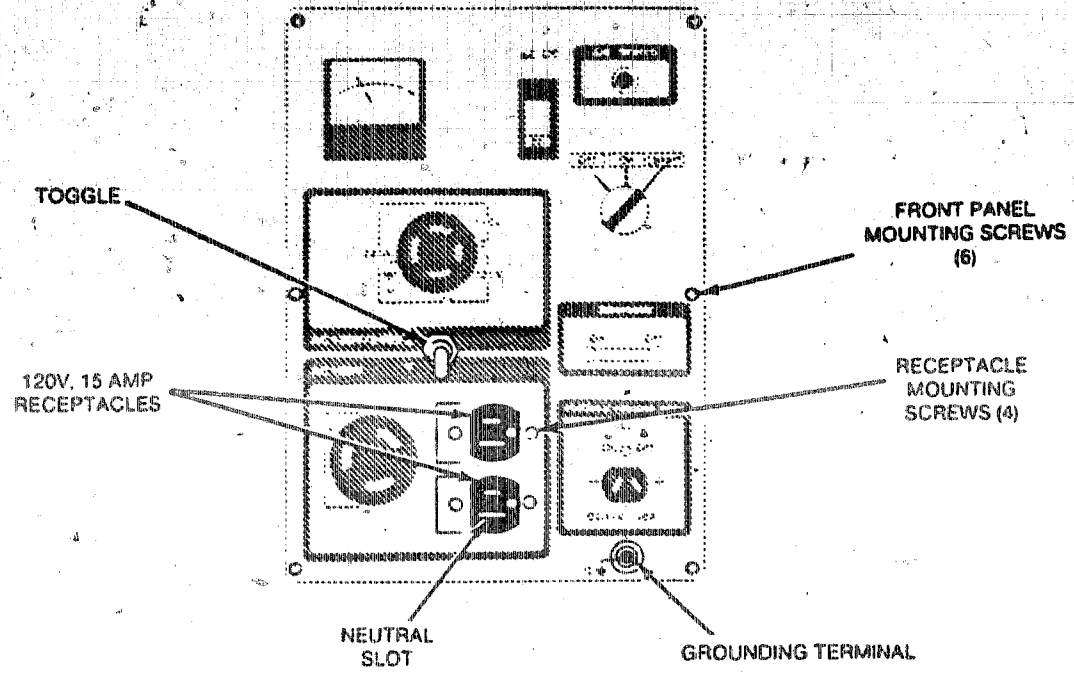


FIGURE 1. FACEPLATE

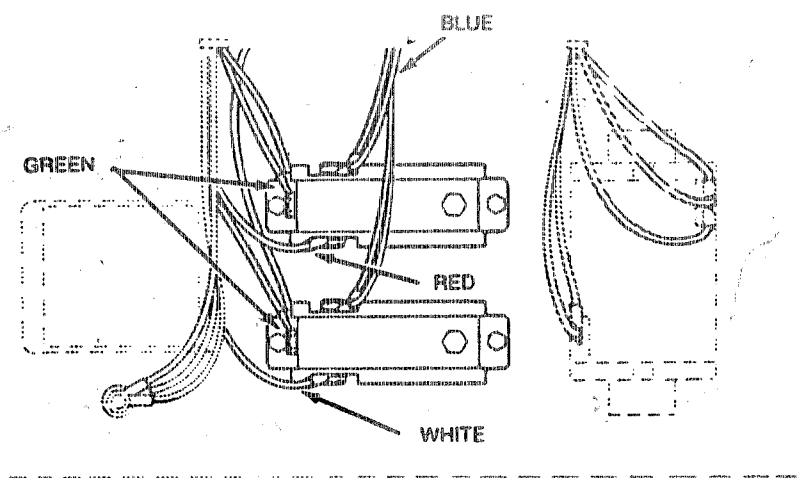


FIGURE 2. BEFORE

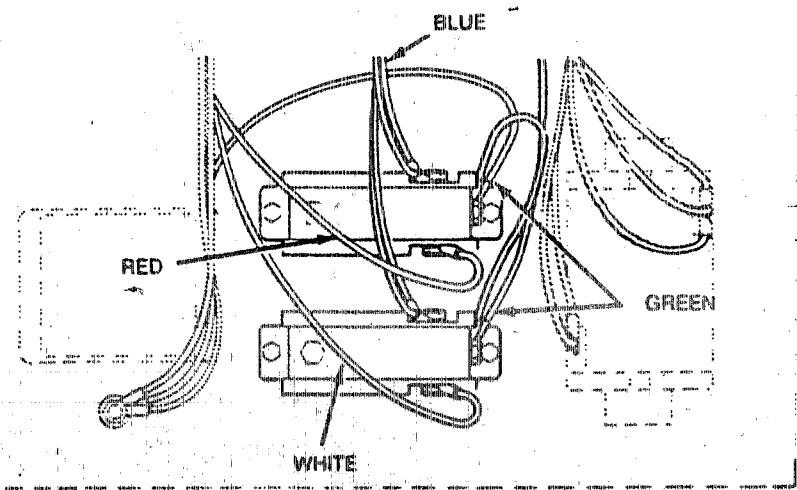


FIGURE 3. AFTER



Product Support Bulletin

Date: DEC 1986 Page 1 of 1

Bulletin No. 458

Subject: ONAGARD SEASONAL/LONG TERM
ENGINE STORAGE FOGGING SPRAY

Ref. File # T-2

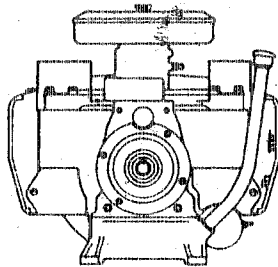
Model(s) or Series: ALL GASOLINE ENGINES

Effective: 12/10/86

Onan Service Parts is pleased to announce the sale and distribution of "ONAGARD" Seasonal/Long Term Storage Fogging Spray. A promotional mailing has already been made to all Distributor Parts and Service Managers.

Onagard protects all internal and external parts of RV and marine generators, garden tractors, snowmobiles, chain saws, motorcycles, rototillers, lawn mowers, and other 2 and 4 cycle gasoline engines.

Onagard is available by the case under Part #326-5288-99. Contact the Onan Parts Department to place your order.



OnagardTM

**SEASONAL/LONG TERM
ENGINE STORAGE
FOGGING SPRAY**

This Bulletin for informational purposes only.

Charles L. Babcock

Charles L. Babcock



Product Support Bulletin

Date: DEC, 1986 Page 1 of 1 Bulletin No. 459

Subject: BREATHER TUBE BYPASS KIT

Ref. File # S-261

Model(s) or Series: BGE COMMERCIAL GENSETS (ONLY)

Effective: IMMEDIATELY

When operating a commercial generator set in low temperatures (below 32° F), the moisture content of the crankcase vapors being expelled through the breather tube may cause carburetor components to freeze up after the generator is shut down.

If operation of the genset is required in temperatures below 32° F, install breather tube bypass kit #541-0208. Installation of this kit will reduce the incidence of carburetor freeze-up by venting the crankcase vapors directly to the atmosphere.

Operators should be advised to reconnect the breather tube to the air cleaner when the generator is being operated in higher temperatures (above 32° F).

This Bulletin for informational purposes only.

Warranty does not apply.

Charles L. Babcock
Manager, Field Service



Product Support Bulletin

Date: JAN 1987 Page 1 of 1

Bulletin No. 460

Subject: TV/VCR USAGE WITH ONAN GENSETS

Ref. File # S-262

Model(s) or Series: ALL RV, MARINE, PORTABLE
AND COMMERCIAL GENSETS

Effective: IMMEDIATELY

CAUTION

Before attempting any carburetor/governor adjustments, disconnect all devices which are voltage or frequency sensitive. Some solid-state devices, such as TV's or VCR's, are powered whenever connected to an AC outlet even if the device is not in actual operation. If disconnecting the devices is not possible, open the circuit breaker(s) at the distribution panel or at the genset, if so equipped.

Failure to heed this advisory may result in consequential damage to voltage/frequency sensitive equipment such as VCR's, TV's, computers, etc. Repair/replacement of damaged devices is not covered under Onan warranty policy.

Chuck Babcock
Manager, Field Service



Product Support Bulletin

Date: 3/18/87 Page 1 of 1

Bulletin No. 461

Subject: FAILURES OF DETECTOR CONTROL
ENGINE MONITOR BOARDS
(300-2807 THROUGH 2812)

Ref. File # C-30

Model(s) or Series: ALL MODELS AND SPECS
USING DETECTOR CONTROL

Effective: 3/1/87

Failure analysis of the subject boards returned under warranty has revealed the follow

1. Many returned boards work properly, and were not found to be defective.
2. Others have only a fuse blown, which should have been diagnosed and repaired in the field.
3. Some boards have burned circuit paths attributable to errors in installation wiring or connection of non-factory modifications which overload circuit paths. Examples of these failures are:

TB1-5 to P4-8
F-4-8 to GND
P1-8 to P4-3
K4-13 to GND

F2 to F5
TB1-3 to K10-2
TB1-4 to K6-5

The following procedure is recommended when servicing detector control boards. Please check all electrical connections to the board first, and then replace all blown fuses (using proper size) after locating and correcting its cause if external to the board (i.e. shorts, overloads).

Please be advised that any board returned under warranty with blown foil paths directly attributable to improper wiring will be denied and returned.

Standard warranty applies to all other failures.

This bulletin for informational purposes only.

Charles L. Babcock
Manager, Field Service



Product Support Bulletin

Date: JAN 1987 Page 1 of 2

Bulletin No. 462

Subject: IMPROPERLY PLUMBED TANK HEATERS

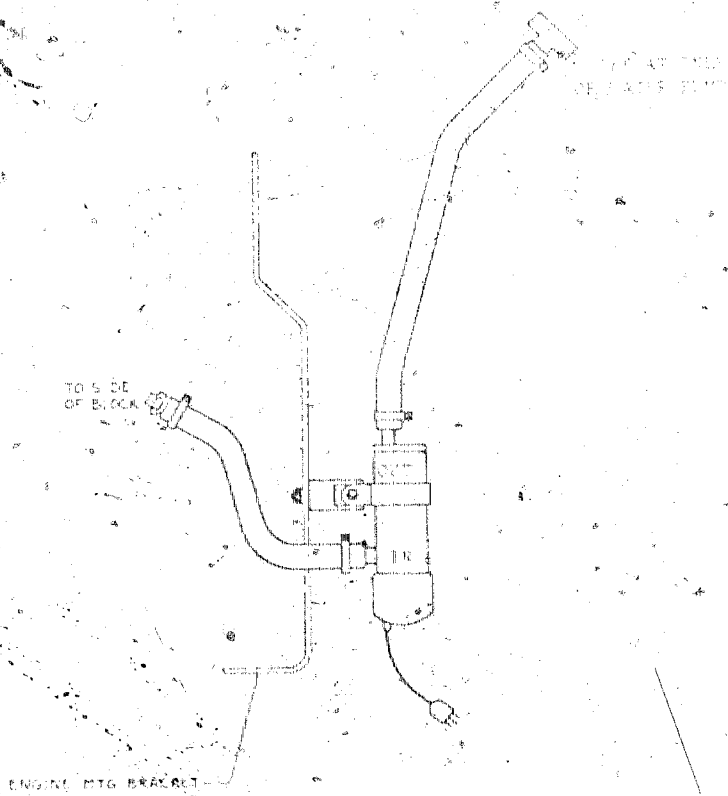
Ref. File # S-263

Model(s) or Series: 20.0 ES. GENSETS

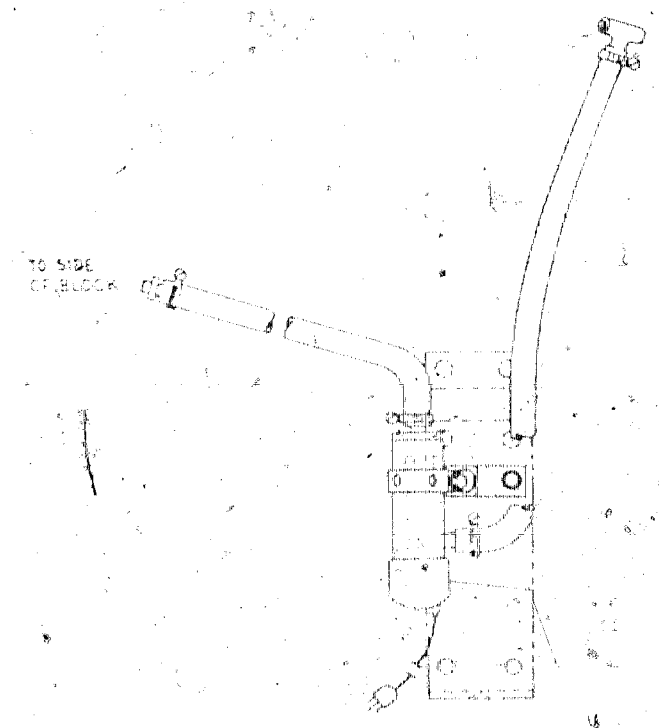
Effective: JANUARY 1, 1983

It has recently been discovered that tank heaters on 20.0ES gensets may be plumbed backwards as a result of a change made in the cooling system by Ford. Any unit built as of January 1, 1983 found to be plumbed incorrectly should be replumbed.

The following illustrations show both the incorrect and correct plumbing for the tank heater. Units built prior to January 1, 1983 do not require corrective action.



Incorrect

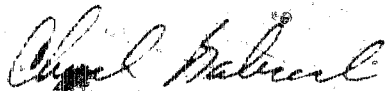


Correct

Bulletin #
Page 2 of 2

New hose will be required to accommodate changes in length. You may use (2) 14" sections of .62" I.D. x .94" O.D. engine coolant hose acquired locally, or order (2) 503-1552-01 hoses through the Onan Parts Department.

Standard Warranty applies. This bulletin is for informational purposes only.



Chuck Babcock
Manager, Field Service



Product Support Bulletin

Date: May 87 Page 1 of 1 Bulletin No. 4

Subject: BF CYLINDER BORE RESIZING Ref. File # E-111

Model(s) or Series: BF Industrial Engines, and 4.0 BF Gensets. Effective: Immediately.

The standard and oversized pistons #112-0178-10, 20, 30 and 40 are no longer available (refer to S.P.B. #33) for the BF industrial engines & 4.0 BF gensets. The BF use the same cylinder liner (O.D. 3.5630") currently in use on the B43 engines. The difference is that the BF bore should be 3.125" and the B43 bore is 3.250". There is enough material on the BF engine cylinder liner so that it can be resized to 3.250" without causing any overheating problems or adverse performance effects. This means that you can resize the BF engine cylinder bore from 3.125" to 3.250" and rebuild the engine using B43 standard pistons, rings and headgaskets. Onan part number 110-2

We also strongly recommend that the BF industrial engine breather system be upgraded to the current B series breather system after BF cylinder bores have been resized.

| QTY | PART # | DESCRIPTION |
|-----|----------|-------------------------|
| 1 | 123-1429 | Tube Crankcase Breather |
| 1 | 123-1417 | Filter Breather Tube |
| 1 | 332-1567 | Tie Strap Breather Tube |
| 1 | 110-2274 | Valve Cover Plate |
| 2 | 110-1921 | Gaskets Valve Cover |

This bulletin is for informational purposes only.

Mark LaDouceur
Mark LaDouceur
Field Service Manager
Engine Division

ML:sas



Product Support Bulletin

Date: 6/18/87 Page 1 of 1 Bulletin No. 464

Subject: NUISANCE FAULTS ON 1-LIGHT
UR ENGINE CONTROLS

Ref. File #: S-264

Model(s) or Series: ALL UR GENSETS WITH
300-0679, 300-0680
ENGINE MONITOR BOARDS

Effective: 5/10/87

Onan Service Department is pleased to announce the release of a revised UR engine control board. This new board is immune to voltage spikes and RF noise which may cause nuisance faults on initial daily starts.

Improvements to the board include a sealed fault relay, fewer components, and Tinnerman clips for easier removal and reinstallation.

The Parts Department has purged their stock of earlier revision 300-0679 and 300-0680 boards to assure of distributing only the latest revision (AE). 300-0679-81 and 300-0680-81 repaired boards, as well as new boards built prior to revision AE, are still acceptable for use on units which do not suffer from the nuisance fault condition.

Use Figure 1 to identify the new boards (Rev. AE) whenever you encounter a UR generator which has a nuisance fault problem.



Fig. 1

Standard Warranty applies. This Bulletin for informational purposes.

Chuck Babcock
Chuck Babcock
Manager, Field Service



Product Support Bulletin

Date: 6/18/87 Page 1 of 1

Bulletin No. 465

Subject: MALFUNCTION OF NORMAL/EMERGENCY
LAMPS

Ref. File # C-31

Model(s) or Series: LTII (SPEC G) TRANSFER
SWITCHES

Effective: ALL SWITCHES BUILT PRIOR
TO JANUARY, 1987

LTII transfer switches built prior to January, 1987, may be wired incorrectly due to a mis-marked lead in the wiring harness. This error can result in both position indicator lamps being lit at the same time, if the mis-labeled wire was inserted into the correspondingly incorrect plug hole. Non-metered switches are more susceptible to this wiring error.

If the switch was improperly wired, both position indicator lamps will be lit anytime the load is connected to the line source, and generator is running. The three corresponding operating modes are as follows:

1. During TD transfer in the test mode (test switch).
2. During the exercise period.
3. During the TD stop period.

Normal switch function is not effected by this error. The following procedure should be followed on any LTII (Spec G) switch which exhibits these symptoms:

1. Remove all power sources from the switch.
2. Unplug P-8.
3. Remove the wire in location P8-4. (Use Onan pin removal tool P/N - 420-0487).
4. Relabel the wire to correspond to the P8-6 location.
5. Reinstall the wire in the P8-6 location.

Standard warranty applies.

This bulletin for informational purposes only.


Charles L. Babcock



Product Support Bulletin

Date: 6/18/87

Page 1 of 1

Bulletin No. 466

Subject: TROUBLESHOOTING PROCEDURE FOR EMERALD
RV GENERATOR SETS THAT FAIL TO STAY
RUNNING AFTER THE START SWITCH IS
RELEASED

Ref. File # S-265

Model(s) or Series: ALL EMERALD RV GENSETS

Effective:


The Onan Service Department has received numerous complaints of Emerald gensets which fail to stay running after the start switch is released.

Many technicians are replacing printed circuit boards unnecessarily. The following checklist is provided to assist the technician in locating the exact cause of such failures.

1. Check for corrosion or film on brushes and slip rings. Consult the Service Manual for proper slip ring and brush service - pg. 8-12. If brush and slip ring service corrects the problem, install new brush springs (part number 212-1276-03) to prevent further problems.
2. Check for good connections at P1, Pins 1-7 of printed circuit board.
3. Check to see if the low oil pressure switch is closing (refer to Service Manual for test and service procedure, pg. 9-7).
4. Check for generator AC output voltage. If low or 0, check for B+ at P1-5 while cranking. Check for defective bridge rectifier assembly.
5. If generator has normal NL voltage of 127 ± 4.5 VAC while running, check P1-1 for 16-18 VAC. If not, check R6 2.5 ohm charge resistor at P1-1 to R6-1 for proper resistance and connection. The resistor mounts between the left cylinder and the engine adapter as viewed from the flywheel.
6. Check B1 and B2 winding for proper resistance. Page 8-17 in the Service Manual.
7. Check for proper operation of K5 in gaseous fuel units (BGEL and NHEL).

Standard warranty policy applies.

This Bulletin is for informational purposes only.


Charles L. Babcock
Manager, Field Service



Product Support Bulletin

Date: JULY '87 Page 1 of 1 Bulletin No. 467

Subject: T260G REPLACEMENT OIL FILTER **Ref. File #** E-112

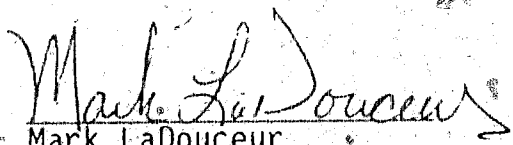
Model(s) or Series: T260G INDUSTRIAL ENGINES **Effective:** IMMEDIATELY

The P/N 122-0445 Service Parts oil filter is being obsoleted and superceded by the revised version of P/N 122-0323. The new filter (122-0323) is being used now on current production engines and is .28 inches shorter than the 122-0445. The new filter has the 14 flute design for use with the oil filter cup wrench P/N 420-0502.

Because of the shorter length protruding from the sheet metal on T260 engines, the removal of the filter without cup wrench 420-0502 will be difficult.

Be sure to specify P/N 122-0323 when ordering oil filters for T260G engines. Your existing supply of P/N 122-0445 can continue to be used on N and C Series engines until supplies are exhausted.

This bulletin is for information only.


Mark LaDouceur
Manager, Field Service
Engine Division



Product Support Bulletin

Date: May '87 Page 1 of 1 Bulletin No. 468

Subject: INJECTION PUMP MOUNTING WASHER
PART NUMBER CHANGE.

Ref. File # E 113

Model(s) or Series: ALL L-SERIES AUTOMOTIVE
ENGINES

Effective: IMMEDIATELY

The following part number change applies only to the injection pump mounting flange washer.

OLD PART NUMBER

NEW PART NUMBER

740-1006

526-2106

The above new part number is a larger diameter flatwasher to provide increased surface area and clamping load over the injection pumps mounting flange.

CAUTION

Remove single washer at a time and reinstall new larger flatwasher and retorque. The purpose of this procedure is to prevent changes in injection pump timing while removing and replacing flatwashers.

This bulletin is for information only.

Mark LaDouceur
Mark LaDouceur
Manager, Field Service
Engine Division



Product Support Bulletin

Date: May '87 Page 1 of 1 Bulletin No. 469

Subject: INSTALLATION OF ENGINE BLOCK
HEATER KIT NO. 541-0020

Ref. File # E 114

Model(s) or Series:

ALL AUTOMOTIVE & INDUSTRIAL
L-SERIES DIESEL ENGINES.

Effective:

IMMEDIATELY

A new Instruction Sheet for installing Engine Block Heater, kit no. 541-0020 has been reissued, the new number is E-284 b.

The recommended location for the block heater has been changed to alleviate a potential interference problem with the fuel filter mounting boss.

This bulletin is for information only.

Mark LaDouceur
Mark LaDouceur
Manager, Field Service
Engine Division



Product Support Bulletin

Date: May '87 Page 1 of 1 Bulletin No. 470

Subject: INJECTOR ASSY - FUEL, RETAINING NUT TORQUE SPECIFICATION CHANGE.

Ref. File # E 115

Model(s) or Series: ALL L-MARINE PROPULSION & L-MARINE GENSETS

Effective: IMMEDIATELY

The new torque specification for the retaining nut (P/N 147-0780) on the Injector Banjo fitting is (P/N 147-0766) as follows:

OLD SPEC

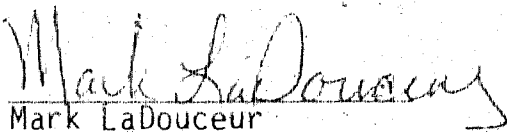
30 Ft. - lb (40 NM)

NEW SPEC

40 Ft. - lb + 4 (55 NM + 5)

The above new specification is to reduce the potential of leaking banjo fittings found through a QA study.

This bulletin is for information only.


Mark LaDouceur
Manager, Field Service
Engine Division



Product Support Bulletin

Date: NOV '87 Page 1 of 1

Bulletin No. 471

Subject: OIL VISCOSITY RECOMMENDATIONS

Ref. File # E 116

Model(s) or Series:

Effective: IMMEDIATELY

ALL ONAN INDUSTRIAL GASOLINE ENGINES
ALL ONAN BUILT GASOLINE GENERATOR ENGINES

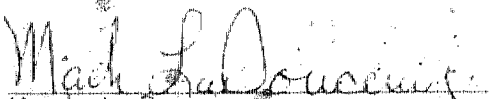
Recent field testing has indicated that the use of straight weight lube oils resulted in significantly lower oil consumption rates than those achieved with multi-viscosity oils.

Subsequent laboratory testing confirmed this difference. The actual improvement in oil consumption between 30 weight and 10-30 multi-viscosity can be 60% or higher. The testing was more representative of commercial/industrial load factors. Under less demanding consumer usage, the difference in oil consumption level would be less.

The use of multi-viscosity oils, however, does not jeopardize or reduce the life of the engine.

Industrial engine operators manuals are being revised at update to indicate a preference for straight 30 weight oil for severe duty use and at temperatures above 32°F (0°C) for minimum oil consumption.

This bulletin is for information only.


Mark LaDouceur
Manager, Technical Service
Engine Division



Product Support Bulletin

Date: NOV 87 Page 1 of 1 Bulletin No. 472

Subject: REPLACEMENT PISTON P/N 112-0186

Ref. File # E 117

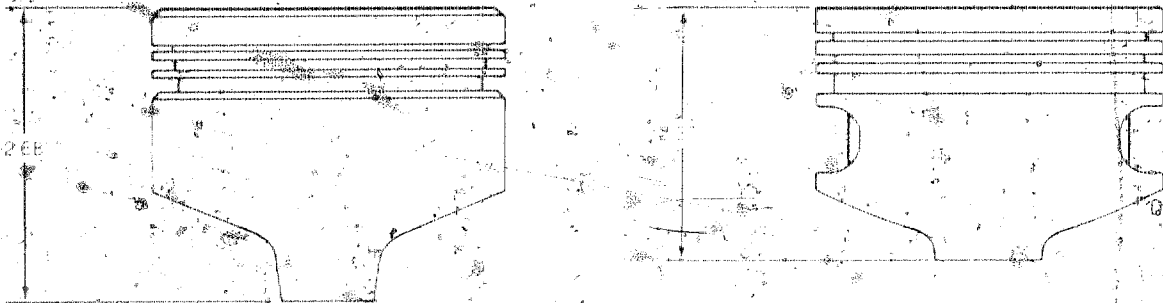
Model(s) or Series:

Effective: IMMEDIATELY

INDUSTRIAL ENGINES - B43, B48, P216, P218, P220
GEN ENGINES - BFA, BFAB, BGA, BGAL, BGE, BGEL

The pistons used in the above model engines are purchased from two vendors and they not look alike. Both are considered interchangeable and, in the unlikely event both types are supplied with your parts order, they may both be used in the same engine without jeopardizing or reducing engine life. Piston rings P/N 113-0189 plus overs rings service both pistons.

This bulletin is for information only. The illustration below highlights the difference in pistons.



Mark LaDouceur
Mark LaDouceur
Manager, Technical Service
Engine Division

The following catalog has gaps in its page numbers, or doesn't have any numbers. We have chosen to leave the page numbering in the order that Acrobat assigns it.



Product Support Bulletin

Date: DEC '87 Page 1 of 2

Bulletin No. 473

Subject: ENGINE COOLING SYSTEM
FILL PROCEDURES

Ref. File # E 118

Model(s) or Series:

Effective: IMMEDIATELY

ALL AUTOMOTIVE
L SERIES ENGINES

Service Department has received complaints from the field of engines overheating, frequently caused by trapped air or improper coolant levels.

The following mandatory fill procedure will help to assure complete filling of the total cooling system. It is recommended that the cab heater circuit have a bleed at the highest point to allow the purge of trapped air. If heater core is not equipped with a bleed valve, install appropriate valve (ie. Onan P/N 502-1047; Weatherhead valve #6783A).

▲WARNING

Contact with hot coolant can result in serious burns. Do not bleed hot pressurized coolant from a closed cooling system.

▲CAUTION

Never pour cold water into a hot engine. Serious engine damage can result. Never operate the unit without coolant.

- 1) Pull cab heater control lever to maximum heat position and fill the cooling system with the appropriate mixture of antifreeze. Use a 50-50 mix of ethylene glycol antifreeze and softwater, whenever available, in the cooling system.
 - 1.1 Cooling systems equipped with a deaeration system surge tank, the radiator is to be filled to the bottom of filler neck. Install the properly specified pressure cap.
 - 1.2 Fill deaeration surge tank to the bottom of filler neck with the appropriate coolant mixture.
- 2) Using a Cooling System Pressure Tester, (i.e., Snap-ON SVT 262 or equivalent), pressurize cooling system to its rated specification.
- 3) Open the bleed passage of the cab heater core circuit, to allow air to purge from system. The bleed passage should be left open until a minimum of two quarts, continuous flow, of antifreeze has been expelled to assure the purging of trapped air in the cab heater core.

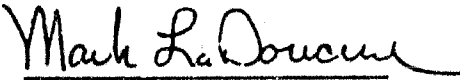
PSB 473 Continued

- 4) Close bleed and remove the Pressure Tester and fill with additional coolant as required to bring coolant level to bottom of radiator fill neck.
 - 4.1 Cooling systems equipped with a deaeration surge tank, check that the coolant level in surge tank is half full, add additional coolant as required.
- 5) Clean the sealing surfaces on the radiator or deaeration surge tank filler neck and install properly specified pressure cap.
- 6) Fill the coolant recovery bottle to the COLD mark with the appropriate coolant mixture.

After the cooling system is completely filled refer to OPERATORS MANUAL, L SERIES, AUTOMOTIVE DIESEL ENGINES for Prestart and Preheating - starting procedures.

NOTE: Disregard Step B, under section of OPERATION, in the OPERATORS MANUAL, L SERIES, AUTOMOTIVE DIESEL ENGINES, when using the above pressurized fill procedure. Do not bleed heater core while running engine. This Bulletin shall be followed in the interim of Manual Up-dates.

This bulletin is for information only.


Mark LaDouceur
Manager, Field Service
Engine Division



Product Support Bulletin

Date: DEC 187 Page 1 of

Bulletin No. 474

Subject: OIL COOLER TORQUE
SPECIFICATION

Ref. File # E 119

Model(s) or Series:

Effective: IMMEDIATELY

ALL L SERIES DIESEL ENGINES

A discrepancy in the torque specification for the engine oil cooler sockethead capscrews has been found published in the L SERIES DIESEL ENGINE SERVICE MANUAL. (PN: 934-0750, date 6-86). The new corrected torque specification is as follows:

INCORRECT SPEC

23NM (17 ft - lb)

CORRECT SPEC

35 NM (26 ft - lb)

The location of the above torque specification to be updated can be found in the following manual sections:

1. TORQUES - ENGINE ASSEMBLY TORQUES

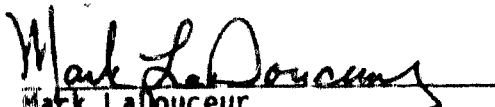
Table 1. - Oil cooler, torque specification should be listed as:
35 NM (26 ft - lb)

2. OIL SYSTEM - OIL COOLER - Installation section should read:

Using the torque sequence (Figure 9), gradually and uniformly tighten oil cooler sockethead capscrews to a torque of 35 NM (26 ft - lb). This sequence should be repeated three consecutive times.

The sentence; Retorque oil cooler sockethead capscrews after two hours of operation - should be eliminated.

This bulletin is for information only.


Mark LaDouceur
Manager, Field Service
Engine Division



Product Support Bulletin

Date: MAY '88 Page 1 of 1

Bulletin No. 475

Subject: IGNITION COIL BRACKET CHANGE

Ref. File # E-200

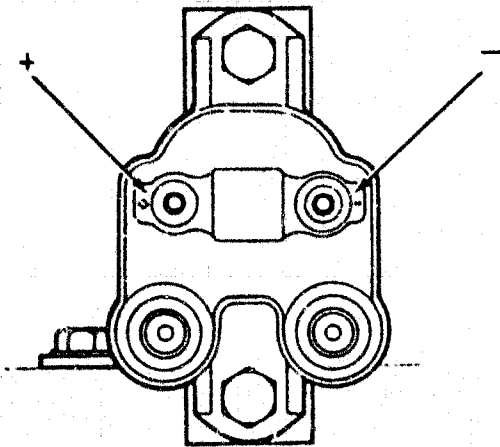
Model(s) or Series: T260-P-224

Effective: IMMEDIATELY

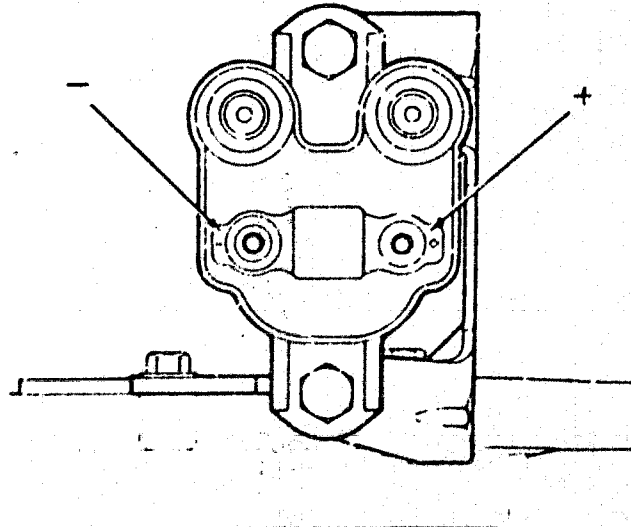
The T-260 Ignition Coil Bracket P/N 166-0775 is being replaced with Coil Bracket P/N 166-0787. This change requires the Ignition Coil to be turned 180° in the Bracket.

CAUTION: Permanent Ignition Module damage could result if the Ignition Coil Terminals are reversed. Care should be taken when installing Ignition wires.

Old Coil Assembly Orientation
Part #166-0775



New Coil Assembly Orientation
Part #166-0787



This bulletin is for informational purposes only.
Standard Warranty applies.

Mark LaDouceur
Mark LaDouceur
Manager, Field Service
Engine Division



Product Support Bulletin

Date: 4/88 Page 1 of 1 Bulletin No. 476

Subject: 9MME OIL CAPACITY CORRECTION

Ref. File # S-266

Model(s) or Series: ALL 9MME GENSETS

Effective: IMMEDIATELY

The information in the Operator's and Service Manual for the 9MME incorrectly lists the oil capacity as 3 quarts. The correct amount is 2.5 quarts with filter change.

This bulletin is for informational purposes only.

Charles L. Babcock
Manager, Field Service



Product Support Bulletin

Date: 4/88 Page 1 of 1

Bulletin No. 477

Subject: POTENTIAL 9MME T21 WIRING ERROR

Ref. File # S-267

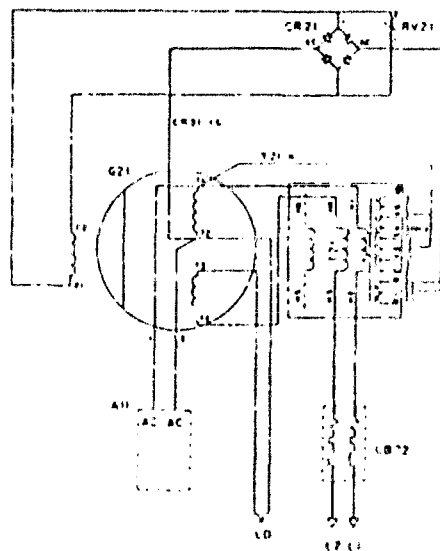
Model(s) or Series: ALL 9MME GENSETS

Effective: IMMEDIATELY

When changing voltage taps on T21, or if you experience a blown suppressor assembly and/or high output voltage, inspect the connections of leads T21-X and TX for proper placement on taps X1 through X6. The correct normal connection is TX to X2 and T21-X to X5. Refer to Wiring Diagram 612-6434 for additional information.

This bulletin is for informational purposes only. Standard warranty applies.

AC SCHEMATIC
SINGLE PHASE TRANSFORMER REG

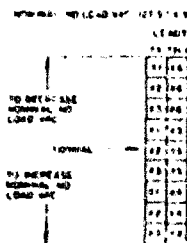


COMPONENT IDENTIFICATION

| REF | DESCRIPTION |
|------|---------------------------|
| A11 | PCB Assy - Engine Monitor |
| CR22 | Circuit Breaker Load |
| CR21 | Circuit Breaker |
| G21 | AC Generator |
| F221 | Suppressor Assy |
| T21 | Standoff Insulator |
| T21 | Transformer Regulation |

NOTES

- TO ADJUST TO 115VAC MOVE TAP ON T21 TO X5.
- TO ADJUST TO 120VAC MOVE TAP ON T21 TO X6.
- TO ADJUST TO 125VAC MOVE TAP ON T21 TO X7.
- TO ADJUST TO 130VAC MOVE TAP ON T21 TO X8.
- TO ADJUST TO 135VAC MOVE TAP ON T21 TO X9.
- TO ADJUST TO 140VAC MOVE TAP ON T21 TO X10.
- TO ADJUST TO 145VAC MOVE TAP ON T21 TO X11.
- TO ADJUST TO 150VAC MOVE TAP ON T21 TO X12.
- TO ADJUST TO 155VAC MOVE TAP ON T21 TO X13.
- TO ADJUST TO 160VAC MOVE TAP ON T21 TO X14.
- TO ADJUST TO 165VAC MOVE TAP ON T21 TO X15.
- TO ADJUST TO 170VAC MOVE TAP ON T21 TO X16.
- TO ADJUST TO 175VAC MOVE TAP ON T21 TO X17.
- TO ADJUST TO 180VAC MOVE TAP ON T21 TO X18.
- TO ADJUST TO 185VAC MOVE TAP ON T21 TO X19.
- TO ADJUST TO 190VAC MOVE TAP ON T21 TO X20.
- TO ADJUST TO 195VAC MOVE TAP ON T21 TO X21.
- TO ADJUST TO 200VAC MOVE TAP ON T21 TO X22.
- TO ADJUST TO 205VAC MOVE TAP ON T21 TO X23.
- TO ADJUST TO 210VAC MOVE TAP ON T21 TO X24.
- TO ADJUST TO 215VAC MOVE TAP ON T21 TO X25.
- TO ADJUST TO 220VAC MOVE TAP ON T21 TO X26.
- TO ADJUST TO 225VAC MOVE TAP ON T21 TO X27.
- TO ADJUST TO 230VAC MOVE TAP ON T21 TO X28.
- TO ADJUST TO 235VAC MOVE TAP ON T21 TO X29.
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- TO ADJUST TO 260VAC MOVE TAP ON T21 TO X34.
- TO ADJUST TO 265VAC MOVE TAP ON T21 TO X35.
- TO ADJUST TO 270VAC MOVE TAP ON T21 TO X36.
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- TO ADJUST TO 485VAC MOVE TAP ON T21 TO X79.
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- TO ADJUST TO 500VAC MOVE TAP ON T21 TO X82.
- TO ADJUST TO 505VAC MOVE TAP ON T21 TO X83.
- TO ADJUST TO 510VAC MOVE TAP ON T21 TO X84.
- TO ADJUST TO 515VAC MOVE TAP ON T21 TO X85.
- TO ADJUST TO 520VAC MOVE TAP ON T21 TO X86.
- TO ADJUST TO 525VAC MOVE TAP ON T21 TO X87.
- TO ADJUST TO 530VAC MOVE TAP ON T21 TO X88.
- TO ADJUST TO 535VAC MOVE TAP ON T21 TO X89.
- TO ADJUST TO 540VAC MOVE TAP ON T21 TO X90.
- TO ADJUST TO 545VAC MOVE TAP ON T21 TO X91.
- TO ADJUST TO 550VAC MOVE TAP ON T21 TO X92.
- TO ADJUST TO 555VAC MOVE TAP ON T21 TO X93.
- TO ADJUST TO 560VAC MOVE TAP ON T21 TO X94.
- TO ADJUST TO 565VAC MOVE TAP ON T21 TO X95.
- TO ADJUST TO 570VAC MOVE TAP ON T21 TO X96.
- TO ADJUST TO 575VAC MOVE TAP ON T21 TO X97.
- TO ADJUST TO 580VAC MOVE TAP ON T21 TO X98.
- TO ADJUST TO 585VAC MOVE TAP ON T21 TO X99.
- TO ADJUST TO 590VAC MOVE TAP ON T21 TO X100.



Charles L. Babcock
Charles L. Babcock
Manager, Field Service



Product Support Bulletin

Date: MAY '88 Page 1 of 1 Bulletin No. 4/8

Subject: PULSE FUEL PUMP CONTAMINATION **Ref. File #** E-201

Model(s) or Series: All Industrial Engines **Effective:** IMMEDIATELY

Recent complaints of fuel pump malfunction have been traced to contamination of the fuel pump with debris. This problem is more prevalent on systems which do not have an outlet screen in the fuel tank. Partial contamination may degrade performance of the fuel pump, causing fuel drainback, or long cranking times before the engines starts.

The current production pump with the fuel filter between fuel pump and carburetor will also function properly with an additional fuel filter between the tank and pump inlet. Onan recommends a filter be added at the inlet side of the pump at the 200 hr. service interval or if contamination is suspected. Prior to replacing the fuel filter, check the following.

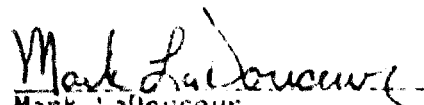
WARNING: Ignition of fuel can cause serious personal injury or death by fire or explosion. Do not permit any flame, spark pilot light, arc-producing equipment, cigarette, or other igniter near the fuel system.

1. Check pump pressure to ensure a minimum of 1.7 PSI deadhead outlet pressure.
2. Clear the fuel lines of any debris.
3. Check and clean all fuel fittings.
4. Check fuel tank fittings for restrictions.
5. Check to insure fuel tank filter, check for fuel leakage.

Onan fuel filter part number 149-2005 is recommended. The fuel filter on the outlet side of the pump can be eliminated at your discretion.

This bulletin is for informational purposes only.
Standard Warranty applies.

Warranty Coverage for installing the fuel filter between tank and pump does NOT apply.


Mark LaDouceur
Manager, Field Service
Engine Division



Product Support Bulletin

Date: June '88 Page 1 of 1

Bulletin No. 479A

Subject:

SHORT BLOCK WET HOLES
MODEL AND SERIES:
ALL B AND P SHORT BLOCK ASSY.

Ref. File #

E 202

Model(s) or Series:

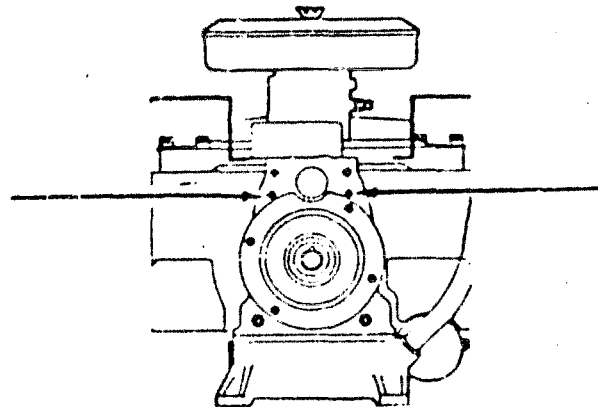
Effective:

IMMEDIATELY

The short block standardization has changed the depth of two holes above the bearing plate. These holes are now through drilled, and must be plugged if not used in your application.

Use an appropriate Allen set screw, Onan part No. 803-00/1 or cap screw 3/8"-16 x 1/2" with 3/8" copper flat washer. Thread sealer must be used in both applications.

WARNING: Oil leakage causing permanent engine damage or personal injury may result from failure to appropriately plug these holes.



This bulletin is for informational purposes only.
Standard warranty applies.

Mark LaDouceur
Mark LaDouceur
Manager, Field Sales
Engine Division



Product Support Bulletin

Date: 5-5-88 Page 1 of 1

Bulletin No. 480

Subject: New Adjustment Procedure for
9MME Automatic Choke

Ref. File # 268

Model(s) or Series: 9MME

Effective: 5-1-88

These adjustment procedures are necessary to insure that the engine will start and run satisfactorily under normal ambient temperature or engine condition without operator assistance.

This specification describes the procedure for adjusting the choke pulloff diaphragm and choke thermostat element used on the MME generator sets.

PURPOSE

These adjustment procedures are necessary to insure that the engine will start and run satisfactorily under normal ambient temperature or engine condition without operator assistance.

PROCEDURE

I. Adjustment for choke pulloff diaphragm

NOTE: Adjustment to be made prior to assembly of air cleaner adapter.

- A. Apply 4-18 in. Hg vacuum diaphragm.
- B. Apply light finger pressure against choke lever.
- C. Check proper alignment (as viewed from top) of diaphragm stem, pulloff linkage and slot in choke lever. Correct alignment as required.
- D. Check dimension "x" (see Figure 1) between lower edge of choke plate and bottom of carburetor. If necessary, bend diaphragm mounting bracket to obtain .39 - .43 dimension.
- E. Remove vacuum.
- F. Move choke lever back and forth to check for free movement.

NOTE: No binding or sticking permitted.

II. Adjustment for choke thermostat element.

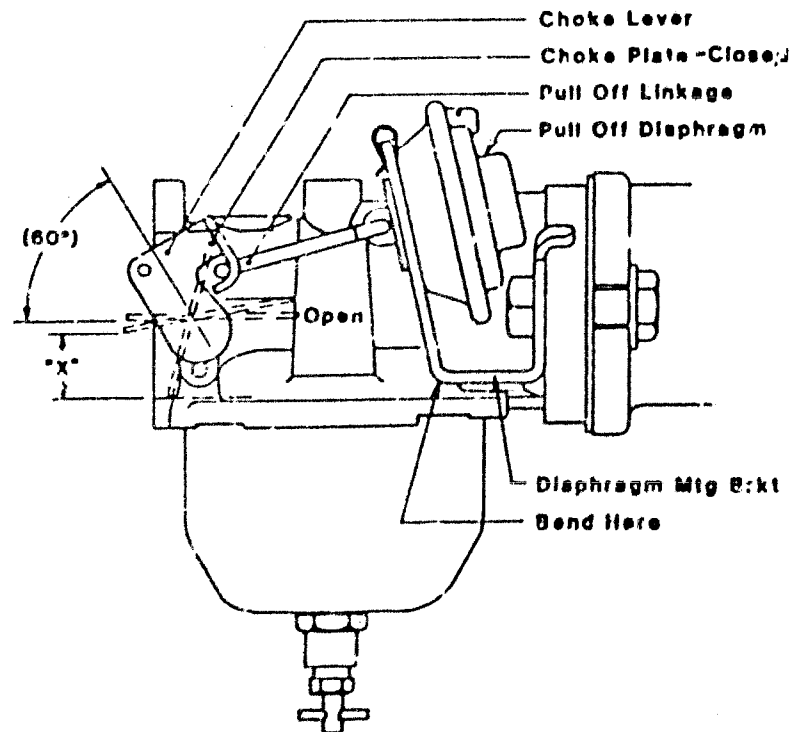
- A. Loosen choke cover mounting screws and rotate cover until choke plate (153-0612) is approximately half open.
- B. Slowly rotate cover clockwise (rich) while lightly "bouncing" the carburetor choke lever by tapping it with one finger. Rotate cover until the choke plate is fully closed (will no longer bounce when tapped). This will be reference point.
- C. Verify reference point by going beyond and returning to it.

- D. Use Table 1 to find the rotation from reference point for the current ambient temperature in assembly area.
- NOTE. Lean is counterclockwise (CCW), Rich is clockwise (CW) on this series.
- E. Rotate cover to proper position and retighten cover mounting screws.
- F. Move choke lever back and forth to check for smooth operation. Choke lever should return automatically to free position when moved to choke position and released.
- NOTE: No binding or sticking allowed.

TABLE 1
CHOKE ADJUSTMENTS

| Ambient Air Temperature | Rotation From Reference Point* |
|-------------------------|--------------------------------|
| 40°F (4°C) | 0° |
| 45°F (7°C) | 4° |
| 50°F (10°C) | 8° |
| 55°F (13°C) | 12° |
| 60°F (16°C) | 16° LEAN |
| 65°F (18°C) | 20° (CCW) |
| 70°F (21°C) | 24° |
| 75°F (24°C) | 27° |
| 80°F (27°C) | 32° |
| 85°F (29°C) | 35° |
| 90°F (32°C) | 39° |
| 95°F (35°C) | 43° |
| 100°F (38°C) | 47° |

* Each point on choke housing equal 5° angular rotation.



This Bulletin for informational purposes.

Standard warranty applies.

Chuck Babcock

Figure 1

Chuck Babcock
Manager, Field Service



Product Support Bulletin

Date: 5-5-88 Page 1 of 1 Bulletin No. 481

Subject: Remote Meter Panel Kits

Ref. File # 269

Model(s) or Series: MME, MDKC, MDKD, MDL3,
MDL4, MDL6

Effective:

Remote meter panel kits 300-3262, 300-3263, 300-3264, and 300-3268 received prior to 4/20/88 may be wired incorrectly. Prior to installing these kits verify that wires P4-7 goes to M12-S and P4-8 goes to M13-S. If wired incorrectly you should make corrections at the connector. Pin connector removal tool 420-0487 is necessary to make this change.

The symptoms you will see if the wiring is incorrect will be that the water temperature gauge will go up right away and the oil pressure gauge will not read for a while.

This bulletin is for information only.

Charles L. Babcock
Manager, Field Service



Product Support Bulletin

Date: Aug '88 Page 1 of 1

Bulletin No. 482

Subject: OIL LEVEL CHANGE

Ref. File #

Model(s) or Series: PERFORMER SERIES
P216 MELROE
P218 GENIE

Effective: IMMEDIATELY

Effective immediately, the recommend oil level for the high capacity oil base (Sales code 17CM) is being changed from 3.0 to 2.5 quarts (including filter).

Whenever a Melroe trencher or Genie manlift is brought into your shop for service, confirm that it has the proper dipstick that is calibrated for 2.5 quarts of oil (P/N 123-1850 for Melroe, P/N 123-1849 for Genie).

Standard Warranty Applies.
This bulletin is for information only.

Mark LaDouceur
Manager, Field Service
Engine Division



Product Support Bulletin

Date: 7/88 Page 1 of 1 Bulletin No. 483

Subject: REPLACEMENT FUEL PUMP KIT 149-2186 **Ref. File #** S-271

Model(s) or Series: MCKK, SPEC II **Effective:** 7/88

Increased fuel volatility and higher engine room temperatures have resulted in some vaporlock problems with marine generators and propulsion engines. These conditions result in vaporization of the fuel in the fuel line before the carburetor and fuel pump.

A new fuel pump (149-2159) has been approved for marine use that will better pump vapor, thus reducing the possibility of vaporlock. This new pump is contained in Kit 149-2186, which is available as a replacement for the pump presently used on Spec II MCKK gensets.

Complaints of intermittent shutdown should be discussed with the owner or boat user to better understand whether vaporlocking is occurring or not. Generally, vaporlock will occur when the boat is not underway or at very low speeds, as engine room ventilation is reduced under these circumstances.

This pump kit should also be used as a replacement part for the original pump, should a pump failure occur.

Standard warranty policy applies to pump replacements. Distributors in the On The Spot Claim Settlement Program should consider past history of the set when making out of warranty decisions.

Charles L. Pabcock
Manager, Field Service



Product Support Bulletin

Date:

Page 1 of 1

Bulletin No. 484

Subject:

L.P. MAIN JET QUALITY CHECK

Ref. File #

203

Model(s) or Series: L.P. CARBURETOR CONVERSION KITS Effective: IMMEDIATELY
LPG CONVERSION ONAN P/N 541-0218
DUAL FUEL CONVERSION ONAN P/N 541-0220

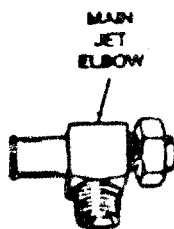
It has come to our attention that the main jet elbow (P/N 148-0907) in our L. P conversion kits may contain a needle that does not seat properly in the main jet body.

A quality check must be done on all the conversion kits in your stock, and any units that come into your shop for service that have been converted using the above kits. If these kits are installed on units, note the following warning carefully.

WARNING: Ignition of fuel can cause serious personal injury or death by fire or explosion. Do not permit any flame, cigarette, spark, pilot light, arcing equipment or other igniter near the fuel system.

Quality testing of the main jet must be done as follows.

1. Shut off L.P. gas supply.
2. Turn the main jet needle into the seated position.
3. Turn the main jet needle out seven turns, the needle should not fall out of the main jet body.
4. If the main jet needle falls out of the main jet body, elbow assembly (P/N 148-0907) must be replaced.
5. A standard warranty claim must be filed for replacement of the main jet elbow



This bulletin is for informational purposes only.
Standard warranty applies.

Mark LaDouceur
Mark LaDouceur
Manager, Field Service
Engine Division



Product Support Bulletin

Date: Oct. '88 Page 1 of 2

Bulletin No.485

Subject: WATER PUMP IMPROVEMENT

Ref. File # E-204

Model(s) or Series: RADIATOR COOLED J SERIES

Effective:

An improved water pump has been developed for liquid cooled J series engines which contains a modern style water seal and a heavier duty bearing. These new pumps can be used on older engines.

OLD PUMP KIT

P/N 132-0105
132-0250

NEW PUMP KIT

P/N 132-0322
132-0323

Current production water pump housings (P/N 131-0186) have a tapped, plugged hole at the top of the housing for bleeding trapped air and for easier priming of the water pump. Water pump housings of older engines can be easily reworked to be like current production housings by adding a tapped hole and 3/8" pipe plug at the top of the housing.

Please follow the steps below for proper pump installation and priming of the cooling system:

1. Allow engine to cool. **WARNING: CONTACT WITH HOT ENGINE COOLANT CAN CAUSE SEVERE BURNS. ALLOW ENGINE TO COOL BEFORE DRAINING COOLANT.**
2. Drain cooling system.
3. Install new pump and new housing (or modify existing housing by adding a tapped hole and plug as outlined above).
4. Connect all belts, hoses and water by-pass lines.
5. Fill radiator (see operators manual for appropriate coolant).
6. Remove plug or sender from water manifold on top of engine to vent trapped air (plug 'A').
7. Replace plug or sender as water emerges from hole.

Oct. '88

2

2

485

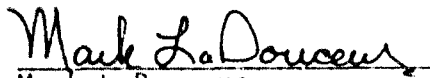
WATER PUMP IMPROVEMENT

E-204

RADIATOR COOLED J SERIES

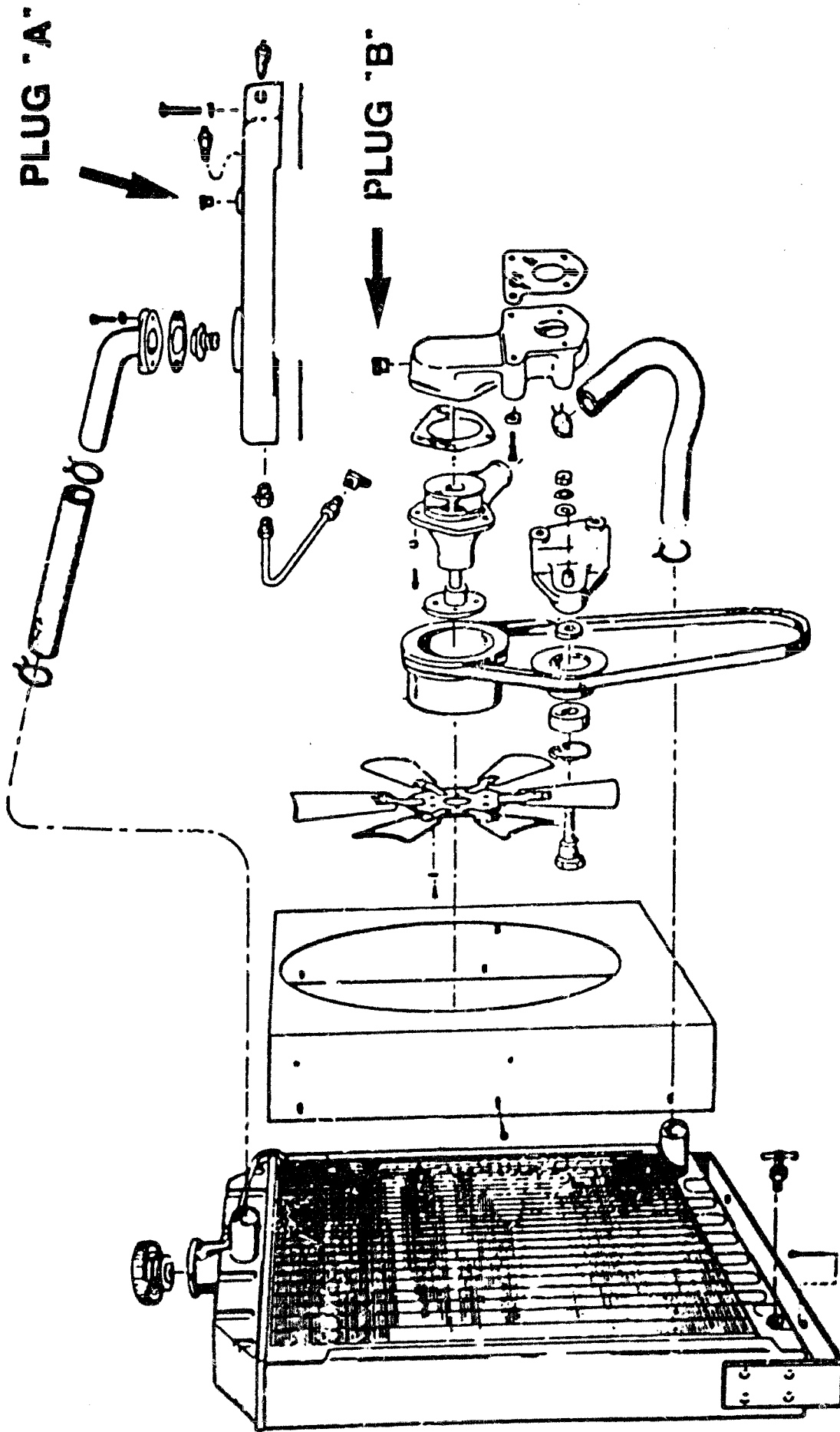
8. Remove plug on top of water pump housing to vent trapped air (plug 'B')
9. Replace plug as soon as water emerges from the hole
10. Fill radiator to proper level
11. Start engine, check for leaks.

Standard warranty policy applies
This bulletin is for information only.


Mark LaDouceur
Manager, Field Service
Engine Division

Description / Reason:

RADIATOR COOLING SYSTEM





Product Support Bulletin

Date: 10-10-88 Page 1 of 1 Bulletin No. 486

Subject: Possible Defect Notification
and Product Improvement

Ref. File # S-270

Model(s) or Series: MME Gensets **Effective:** April 14, 1988

On April 14, 1988, Onan initiated a field campaign on "MME" generator sets. This campaign consists of minor wiring changes and replacement of the water cooled exhaust manifold.

Notification letters were sent to Distributors and OEM accounts that had received MME generators. Included with the letter was a list of Models and Serial Numbers shipped to them. Distributors that did not receive MME's were also advised of the campaign and asked to notify the warranty department if they were called to service any MME generators in their area.

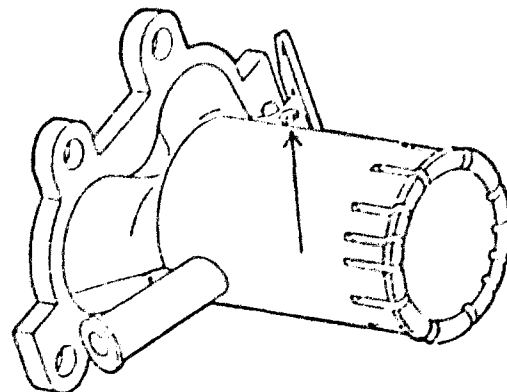
Many owners have not yet been contacted. Onan is using this Product Support Bulletin as a reminder of the potential problem in the hope that it will lead to ALL affected units being inspected and corrected as necessary.

On the RIGHT side of the water cooled exhaust manifold is the Hi-Temperature Switch mounting boss. If there is a hole drilled in the boss (see drawing below), it is the correct manifold. If there is not a hole, immediately order Kit 154-2756. Onan will pay for next day air and special delivery handling charges for the order.

When the kit arrives, make the modifications and submit a standard warranty claim.

It is important that all distributors and dealers make this quick inspection when servicing or repairing MME generators.

If you have any questions on this campaign, contact Stan Larson (612) 574-8128.



Charles L. Babcock

Charles L. Babcock
Manager, Field Service



Product Support Bulletin

Date: Oct. '88 Page 1 of 1

Bulletin No. 487

Subject: OIL LEAKS AND OIL
CARRYOVER INTO AIR CLEANER

Ref. File # E 205

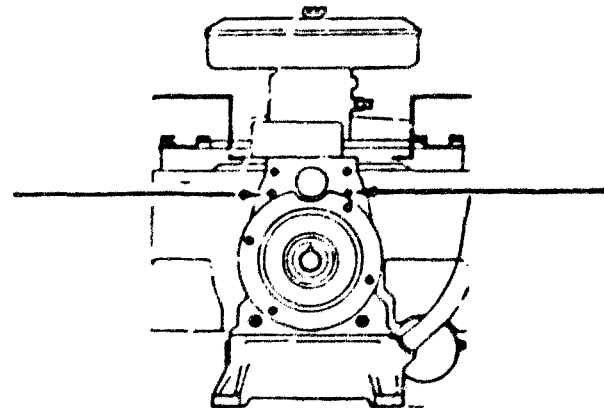
Model(s) or Series:

Effective: IMMEDIATELY


P218G-1/10461 B
10462 A & B
10501 A & B
10550 A & B
10559 A & B
10562 B
10605 A & B
10608 B
10641 B
10675 B
10698 B
10701 B
10709 B
10714 B
10742 B
10756 B

P220G-1/10461 B
10462 A & B
10463 B
10560 B
10561 A & B
10562 B
10649 B
10678 B
10685 B
10701 B
10714 B
10731 B
10736 B
10740 B
10748 B
10760 B
10816 B

Whenever any of the above engine models are brought in for service with complaints of oil leaking near the rear main bearing plate or oil carryover into the air cleaner, look for plastic plugs in the block just above the rear main bearing plate. Remove the plastic plugs and reinstall an appropriate Allen set screw, Onan part No. 203-0071 or cap screw 3/8" - 16 x 1/2" with 3/8" copper flat washer. Thread sealer must be used in both applications.



This bulletin is for information only.
Standard warranty policy applies


Mark LaDouceur
Manager, Field Service
Engine Division



Product Support Bulletin

Date: Oct. '88

Page 1 of 2

Bulletin No. 488

Subject: Premature failure of Onan
ignition condensers. P/N 312-0069

Ref. File # E-206

Model(s) or Series: ALL CCK-CCKA-CCKB-AJ-MOCK
J Series industrial engines
and generator sets.

Effective: IMMEDIATELY

Onan Service Department has been receiving reports of premature condenser failure.

The symptoms are:


- 1) Engine misfire
- 2) Engine quits and will not restart
- 3) Ignition point burning

The 312-0069 Phelon Co. manufactured condenser may fail when its temperature exceeds guidelines.

To eliminate potential field problems with these condensers, upon receipt of this bulletin, initiate the following action:

- 1) Remove all 312-0069 Phelon (Red top/fig. 1) condensers from your stock.
- 2) Remove 312-0069 Phelon Co. manufactured condensers (fig. 1) from the following kits:
 1. 160-1161 Tune-up Kit
 2. 160-0622 Tune-up Kit
 3. 160-0836 Tune-up Kit
 4. 546-1989 Maintenance Kit
 5. 546-1944 Maintenance Kit
- 3) Submit a warranty claim for the number of condensers returned to Onan. Hold the condensers until you receive a warranty return authorization. Attach a photocopy of the P.S.B. to the warranty claim.
- 4) Order a sufficient quantity of replacement 312-0069 (Black top/fig. 2) condensers to replenish your stock. These condensers use materials that are appropriate for all applications.

This bulletin is for informational purposes only.
Standard warranty applies.


Mark LaDouceur
Manager, Field Service
Engine Division

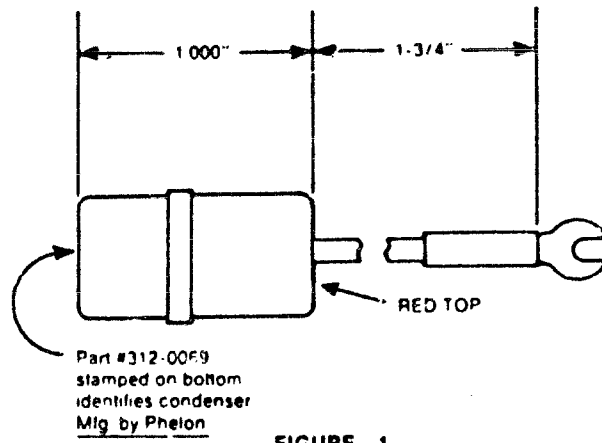


FIGURE 1.

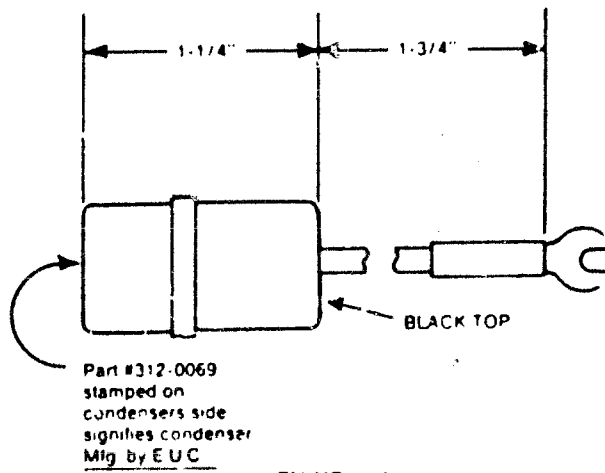


FIGURE 2.



Product Support Bulletin

Date: 11-01-88 Page 1 of 1 Bulletin No. 489

Subject: MISSING HIGH EXHAUST TEMP
SWITCH SHIELD

Ref. File # S-272

Model(s) or Series: 6.5 MCKK GENSETS

Effective: IMMEDIATELY

Shipments of MCKK gensets prior to September 1988 had the shield for the exhaust temperature switch shipped as a loose item in an accessory kit. This shield protects the exhaust temperature switch from damage due to inadvertent contact during handling and throughout its service life.

Please inspect all MCKK gensets which you have in your inventory to make sure the shield is properly installed. Also, please check any MCKK genset that you service, to be sure the shield is installed.

The Shield Part number to order is (309-0501).

Standard warranty applies.

Charles L. Rabcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 12/90

Page 1 of 2

Bulletin No. 490a

Subject: EMERALD AND MICRO RV
GOVERNOR ADJUSTMENTS

Ref. File # S-273a

Model(s) or Series: ALL EMERALD AND MICRO
GENSETS

Effective: Immediately

The following is a step-by-step procedure on how to adjust the Emerald and Micro RV governor to bring the frequency and voltage within the specification range.

Equipment Required: Digital frequency/voltmeter with an accuracy of .3% on frequency and .5% on voltage ranges. Digital ammeter and a load bank with 8 kW minimum capacity that has a variable 600 watt section.

Recommended meters are Fluke 8060A or 85 series, Beckman 4410 ammeter.

IMPORTANT: Be sure the genset has run a minimum of 15 minutes at 50 to 75% of RATED load. Adjusting a set which has not warmed up will cause low power/derating.

1. After 15 minutes of warm-up time at 50 to 75% rated load, remove load and allow set to stabilize (10 to 15 seconds).

NOTE: Warm-up must be done on a load bank. If the set is still in the coach, do NOT use coach appliances, as damage can result.

2. Verify the set is at no load, 0 amps.
3. Turn the speed nut (speed screw on Micro's) until the no load frequency is 50 Hz. (48 to 52 Hz. range)

NOTE: Be sure the throttle is NOT touching the idle stop screw. If it is, turn it out until there is no contact.

4. Slowly turn the idle stop screw in to increase the speed to 55 Hz. (54 to 56 Hz. range)
5. Turn the speed nut (speed screw on Micro's) in until the no load speed is between 62 to 63 Hz. Preferred no load setting is 62.5 Hz.

NOTE: The no load condition is the most unstable. Some "wandering" through the no load range may be noticed, this is normal.

6. To determine RATED load for the set being adjusted, refer to Tables B through E for the appropriate data for calculations.

If the voltage is under 120 V, then more load (amps) must be applied to achieve the sets rated load.

EXAMPLE: For a BGE, apply 33.3 amps, read the volts and refer to Table "B". If the volts are under 120 V, then more load (amps) must be applied to achieve RATED load of 4000 watts.
(35 amps x 115 volts = 4025 watts)

NOTE: Voltage will fall slightly as more load is applied.

7. With rated load applied, read frequency. By using Table "A", find frequency range the full load falls in and verify the no load noted in step 3 corresponds. Notice that full load readings must be 2 to 3 Hz. less than the no load reading (governor droop). If within the specifications on Table "A", then no further adjustments are required. If the set is not within specifications in Table "A", then adjust the sensitivity screw as follows:
 - A. If the droop is greater than 3 Hz., adjust the sensitivity spring by turning the adjusting screw counter-clockwise, 1 to 2 turns only. Readjust the no load setting to 62 to 63 Hz. (62.5 preferred), reapply rated load, and check the governor droop.
 - B. If the droop is less than 2 Hz., adjust the sensitivity spring by turning the adjusting screw clockwise, 1 to 2 turns only. Readjust the no load setting to 62 to 63 Hz. (62.5 preferred), reapply rated load, and check the governor droop.
8. Repeat adjustments until readings are within the specified ranges.
9. Reference Service Manual if set will not adjust.



Charles L. Babcock
Manager, Field Service
Electrical Products

TABLE "A" FREQUENCY CHART

| NO LOAD READING | FULL LOAD RANGE (DROOP) | |
|-----------------|-------------------------|---------|
| 62 | 61 TO | 60 HZ |
| 62.9 | 60.9 TO | 59.9 HZ |
| 62.8 | 60.8 TO | 59.8 HZ |
| 62.7 | 60.7 TO | 59.7 HZ |
| 62.6 | 60.6 TO | 59.6 HZ |
| 62.5 | 60.5 TO | 59.5 HZ |
| 62.4 | 60.4 TO | 59.4 HZ |
| 62.3 | 60.3 TO | 59.3 HZ |
| 62.2 | 60.2 TO | 59.2 HZ |
| 62.1 | 60.1 TO | 59.1 HZ |
| 62 | 60 TO | 59 HZ |

TABLE "B"

EMERALD RV WATT CALCULATION CHART FOR BGE

| VOLTS | BGE | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | 0 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 132 | 3696 | 3828 | 3960 | 4092 | 4224 | 4356 | 4396 | 4488 | 4620 | 4752 | 4884 | 5016 | 5148 | 5280 |
| 131 | 3688 | 3799 | 3930 | 4061 | 4192 | 4323 | 4362 | 4454 | 4585 | 4716 | 4847 | 4978 | 5109 | 5240 |
| 130 | 3540 | 3770 | 3900 | 4030 | 4160 | 4290 | 4329 | 4420 | 4550 | 4680 | 4810 | 4940 | 5070 | 5200 |
| 129 | 3612 | 3741 | 3870 | 3999 | 4128 | 4257 | 4296 | 4386 | 4515 | 4644 | 4773 | 4902 | 5031 | 5160 |
| 128 | 3584 | 3712 | 3840 | 3968 | 4096 | 4224 | 4262 | 4352 | 4480 | 4608 | 4736 | 4864 | 4992 | 5120 |
| 127 | 3556 | 3683 | 3810 | 3937 | 4064 | 4191 | 4229 | 4318 | 4445 | 4572 | 4699 | 4826 | 4953 | 5080 |
| 126 | 3528 | 3654 | 3780 | 3906 | 4032 | 4158 | 4196 | 4284 | 4410 | 4536 | 4662 | 4788 | 4914 | 5040 |
| 125 | 3500 | 3625 | 3750 | 3875 | 4000 | 4125 | 4163 | 4250 | 4375 | 4500 | 4625 | 4750 | 4875 | 5000 |
| 124 | 3472 | 3596 | 3720 | 3844 | 3968 | 4092 | 4129 | 4216 | 4340 | 4464 | 4588 | 4712 | 4836 | 4960 |
| 123 | 3444 | 3567 | 3690 | 3813 | 3936 | 4059 | 4096 | 4182 | 4305 | 4428 | 4551 | 4674 | 4797 | 4920 |
| 122 | 3416 | 3538 | 3660 | 3782 | 3904 | 4026 | 4063 | 4148 | 4270 | 4392 | 4514 | 4636 | 4758 | 4880 |
| 121 | 3388 | 3509 | 3630 | 3751 | 3872 | 3993 | 4029 | 4114 | 4235 | 4356 | 4477 | 4598 | 4719 | 4840 |
| 120 | 3360 | 3480 | 3600 | 3720 | 3840 | 3960 | 3996 | 4080 | 4200 | 4320 | 4440 | 4560 | 4680 | 4800 |
| 119 | 3332 | 3451 | 3570 | 3689 | 3808 | 3927 | 3963 | 4046 | 4165 | 4284 | 4403 | 4522 | 4641 | 4760 |
| 118 | 3304 | 3422 | 3540 | 3658 | 3776 | 3894 | 3929 | 4012 | 4130 | 4248 | 4366 | 4484 | 4602 | 4720 |
| 117 | 3276 | 3393 | 3510 | 3627 | 3744 | 3861 | 3896 | 3978 | 4095 | 4212 | 4329 | 4446 | 4562 | 4680 |
| 116 | 3248 | 3364 | 3480 | 3596 | 3712 | 3828 | 3863 | 3944 | 4060 | 4176 | 4292 | 4408 | 4524 | 4640 |
| 115 | 3220 | 3335 | 3450 | 3565 | 3680 | 3795 | 3829 | 3910 | 4025 | 4140 | 4255 | 4370 | 4485 | 4600 |
| 114 | 3192 | 3306 | 3420 | 3534 | 3648 | 3762 | 3796 | 3876 | 3990 | 4104 | 4218 | 4332 | 4446 | 4560 |
| 113 | 3164 | 3277 | 3390 | 3503 | 3616 | 3729 | 3763 | 3842 | 3955 | 4068 | 4181 | 4294 | 4407 | 4520 |
| 112 | 3136 | 3248 | 3360 | 3472 | 3584 | 3696 | 3730 | 3808 | 3920 | 4032 | 4144 | 4256 | 4368 | 4480 |

TABLE "C"

EMERALD RV WATT CALCULATION CHART FOR NHE

| VOLTS | NHE | | | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | 0 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 132 | 7194 | 6600 | 6732 | 6864 | 6996 | 7128 | 7194 | 7260 | 7392 | 7524 | 7656 | 7788 | 7920 | 8052 |
| 131 | 7140 | 6550 | 6681 | 6812 | 6943 | 7074 | 7140 | 7205 | 7336 | 7467 | 7598 | 7729 | 7860 | 7991 |
| 130 | 7085 | 6500 | 6630 | 6760 | 6890 | 7020 | 7085 | 7150 | 7280 | 7410 | 7540 | 7670 | 7800 | 7930 |
| 129 | 7031 | 6450 | 6579 | 6708 | 6837 | 6966 | 7031 | 7095 | 7224 | 7353 | 7482 | 7611 | 7740 | 7869 |
| 128 | 6975 | 6400 | 6528 | 6656 | 6784 | 6912 | 6976 | 7040 | 7168 | 7296 | 7424 | 7552 | 7680 | 7808 |
| 127 | 6922 | 6350 | 6477 | 6604 | 6731 | 6858 | 6922 | 6985 | 7112 | 7239 | 7366 | 7493 | 7620 | 7747 |
| 126 | 6867 | 6300 | 6426 | 6552 | 6678 | 6804 | 6867 | 6930 | 7056 | 7182 | 7308 | 7434 | 7560 | 7686 |
| 125 | 6813 | 6250 | 6375 | 6500 | 6625 | 6750 | 6813 | 6875 | 7000 | 7125 | 7250 | 7375 | 7500 | 7625 |
| 124 | 6758 | 6200 | 6324 | 6449 | 6572 | 6696 | 6758 | 6820 | 6944 | 7068 | 7192 | 7316 | 7440 | 7564 |
| 123 | 6704 | 6150 | 6273 | 6396 | 6519 | 6642 | 6704 | 6765 | 6888 | 7011 | 7134 | 7257 | 7380 | 7503 |
| 122 | 6649 | 6100 | 6222 | 6344 | 6466 | 6588 | 6649 | 6710 | 6832 | 6954 | 7076 | 7198 | 7320 | 7442 |
| 121 | 6595 | 6050 | 6171 | 6292 | 6413 | 6534 | 6595 | 6655 | 6776 | 6897 | 7018 | 7139 | 7260 | 7381 |
| 120 | 6540 | 6000 | 6120 | 6240 | 6360 | 6480 | 6540 | 6600 | 6720 | 6840 | 6960 | 7080 | 7200 | 7320 |
| 119 | 6485 | 5950 | 6069 | 6188 | 6307 | 6426 | 6485 | 6545 | 6664 | 6783 | 6902 | 7021 | 7140 | 7259 |
| 118 | 6431 | 5900 | 6018 | 6136 | 6254 | 6372 | 6431 | 6490 | 6608 | 6726 | 6844 | 6962 | 7080 | 7198 |
| 117 | 6377 | 5850 | 5967 | 6084 | 6201 | 6318 | 6377 | 6435 | 6552 | 6669 | 6786 | 6903 | 7020 | 7137 |
| 116 | 6322 | 5800 | 5916 | 6032 | 6148 | 6264 | 6322 | 6380 | 6496 | 6612 | 6728 | 6844 | 6960 | 7076 |
| 115 | 6268 | 5750 | 5865 | 5980 | 6095 | 6210 | 6268 | 6325 | 6440 | 6555 | 6670 | 6785 | 6900 | 7015 |
| 114 | 6213 | 5700 | 5814 | 5928 | 6042 | 6156 | 6213 | 6270 | 6384 | 6498 | 6612 | 6726 | 6840 | 6954 |
| 113 | 6159 | 5650 | 5763 | 5876 | 5989 | 6102 | 6159 | 6215 | 6328 | 6441 | 6554 | 6667 | 6780 | 6893 |
| 112 | 6104 | 5600 | 5712 | 5824 | 5936 | 6048 | 6104 | 6160 | 6272 | 6384 | 6496 | 6608 | 6720 | 6832 |

TABLE "D"

MICRO RV WATT CALCULATION CHART FOR 2.0 KV

| VOLTS | 2.0 KV | | | | | | | | | | | | |
|-------|--------|------|------|------|------|------|------|------|------|------|------|------|------|
| | 0 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |
| 132 | 2376 | 2508 | 2640 | 2772 | 2904 | 3036 | 3168 | 3300 | 3432 | 3564 | 3696 | 3828 | 3960 |
| 131 | 2358 | 2489 | 2620 | 2751 | 2882 | 3013 | 3052 | 3144 | 3275 | 3406 | 3537 | 3668 | 3799 |
| 130 | 2340 | 2470 | 2600 | 2730 | 2860 | 2990 | 3029 | 3120 | 3250 | 3380 | 3510 | 3640 | 3770 |
| 129 | 2322 | 2451 | 2580 | 2709 | 2838 | 2967 | 3006 | 3096 | 3225 | 3354 | 3483 | 3612 | 3741 |
| 128 | 2304 | 2432 | 2560 | 2688 | 2816 | 2944 | 2982 | 3072 | 3200 | 3328 | 3456 | 3584 | 3712 |
| 127 | 2286 | 2413 | 2540 | 2667 | 2794 | 2921 | 2959 | 3048 | 3175 | 3302 | 3429 | 3556 | 3683 |
| 126 | 2268 | 2394 | 2520 | 2646 | 2772 | 2898 | 2936 | 3024 | 3150 | 3276 | 3402 | 3528 | 3654 |
| 125 | 2250 | 2375 | 2500 | 2625 | 2750 | 2875 | 2913 | 3000 | 3125 | 3250 | 3375 | 3500 | 3625 |
| 124 | 2232 | 2356 | 2480 | 2604 | 2728 | 2852 | 2889 | 2976 | 3100 | 3224 | 3348 | 3472 | 3596 |
| 123 | 2214 | 2337 | 2460 | 2583 | 2706 | 2829 | 2866 | 2952 | 3075 | 3198 | 3321 | 3444 | 3567 |
| 122 | 2196 | 2318 | 2440 | 2562 | 2684 | 2806 | 2843 | 2928 | 3050 | 3172 | 3294 | 3416 | 3538 |
| 121 | 2178 | 2299 | 2420 | 2541 | 2662 | 2783 | 2819 | 2904 | 3025 | 3146 | 3267 | 3388 | 3509 |
| 120 | 2160 | 2280 | 2400 | 2520 | 2640 | 2760 | 2796 | 2880 | 3000 | 3120 | 3240 | 3360 | 3480 |
| 119 | 2142 | 2261 | 2380 | 2499 | 2618 | 2737 | 2773 | 2856 | 2975 | 3094 | 3213 | 3332 | 3451 |
| 118 | 2124 | 2242 | 2360 | 2478 | 2596 | 2714 | 2749 | 2832 | 2950 | 3068 | 3186 | 3304 | 3422 |
| 117 | 2106 | 2223 | 2340 | 2457 | 2574 | 2691 | 2726 | 2808 | 2925 | 3042 | 3159 | 3275 | 3393 |
| 116 | 2088 | 2204 | 2320 | 2436 | 2552 | 2668 | 2703 | 2784 | 2900 | 3016 | 3132 | 3249 | 3364 |
| 115 | 2070 | 2185 | 2300 | 2415 | 2530 | 2645 | 2680 | 2760 | 2875 | 2990 | 3105 | 3220 | 3335 |
| 114 | 2052 | 2166 | 2280 | 2394 | 2508 | 2622 | 2656 | 2736 | 2850 | 2964 | 3078 | 3192 | 3306 |
| 113 | 2034 | 2147 | 2260 | 2373 | 2486 | 2599 | 2633 | 2712 | 2825 | 2938 | 3051 | 3164 | 3277 |
| 112 | 2016 | 2128 | 2240 | 2352 | 2464 | 2576 | 2610 | 2688 | 2800 | 2912 | 3024 | 3136 | 3248 |

AMPS

TABLE "E"

MICRO RV WATT CALCULATION CHART FOR 2.2 KV

| VOLTS | 2.2 KV | | | | | | | | | | | | |
|-------|--------|------|------|------|------|------|------|------|------|------|------|------|------|
| | 0 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |
| 132 | 1716 | 1848 | 1980 | 2112 | 2244 | 2376 | 2416 | 2508 | 2640 | 2772 | 2904 | 3036 | 3168 |
| 131 | 1703 | 1834 | 1965 | 2096 | 2227 | 2358 | 2397 | 2489 | 2620 | 2751 | 2882 | 3013 | 3144 |
| 130 | 1690 | 1820 | 1950 | 2080 | 2210 | 2340 | 2379 | 2470 | 2600 | 2730 | 2860 | 2990 | 3120 |
| 129 | 1677 | 1806 | 1935 | 2064 | 2193 | 2322 | 2361 | 2451 | 2580 | 2709 | 283 | 2967 | 3096 |
| 128 | 1664 | 1792 | 1920 | 2048 | 2176 | 2304 | 2342 | 2432 | 2560 | 2688 | 2816 | 2944 | 3072 |
| 127 | 1651 | 1778 | 1905 | 2032 | 2159 | 2286 | 2324 | 2413 | 2540 | 2667 | 2794 | 2921 | 3048 |
| 126 | 1638 | 1764 | 1890 | 2016 | 2142 | 2268 | 2306 | 2394 | 2520 | 2646 | 2772 | 2898 | 3024 |
| 125 | 1625 | 1750 | 1875 | 2000 | 2125 | 2250 | 2288 | 2375 | 2500 | 2625 | 2750 | 2875 | 3000 |
| 124 | 1612 | 1736 | 1860 | 1984 | 2108 | 2232 | 2269 | 2356 | 2480 | 2604 | 272 | 2852 | 2976 |
| 123 | 1599 | 1722 | 1845 | 1968 | 2091 | 2214 | 2251 | 2337 | 2460 | 2583 | 2706 | 2829 | 2952 |
| 122 | 1586 | 1708 | 1830 | 1952 | 2074 | 2196 | 2233 | 2318 | 2440 | 2562 | 2684 | 2806 | 2928 |
| 121 | 1573 | 1694 | 1815 | 1936 | 2057 | 2178 | 2214 | 2299 | 2420 | 2541 | 2662 | 2783 | 2904 |
| 120 | 1560 | 1680 | 1800 | 1920 | 2040 | 2160 | 2196 | 2280 | 2400 | 2520 | 2640 | 2760 | 2880 |
| 119 | 1547 | 1666 | 1785 | 1904 | 2023 | 2142 | 2178 | 2261 | 2380 | 2499 | 2618 | 2737 | 2856 |
| 118 | 1534 | 1652 | 1770 | 1888 | 2006 | 2124 | 2159 | 2242 | 2360 | 2478 | 2596 | 2714 | 2832 |
| 117 | 1521 | 1638 | 1755 | 1872 | 1989 | 2106 | 2141 | 2223 | 2340 | 2457 | 2574 | 2691 | 2808 |
| 116 | 1508 | 1624 | 1740 | 1856 | 1972 | 2088 | 2123 | 2204 | 2320 | 2436 | 2552 | 2668 | 2784 |
| 115 | 1495 | 1610 | 1725 | 1840 | 1955 | 2070 | 2105 | 2185 | 2300 | 2415 | 2530 | 2645 | 2760 |
| 114 | 1482 | 1596 | 1710 | 1824 | 1938 | 2052 | 2086 | 2166 | 2280 | 2394 | 2508 | 2622 | 2736 |
| 113 | 1469 | 1582 | 1695 | 1808 | 1921 | 2034 | 2068 | 2147 | 2260 | 2373 | 2486 | 2599 | 2712 |
| 112 | 1456 | 1568 | 1680 | 1792 | 1904 | 2016 | 2050 | 2128 | 2240 | 2352 | 2464 | 2576 | 2688 |

AMPS



Product Support Bulletin

Date: 11-22-88 Page 1 of 2 Bulletin No. 491

Subject: EMERALD UNDER-FLOOR INSTALLATION
COMMERCIAL APPLICATIONS ONLY **Rel. File #** S-274

Model(s) or Series: BGE/BGD AND NHE/NHD GENSETS **Effective:** IMMEDIATELY

We have received reports that some Emerald Under-floor mounted units, being used in a COMMERCIAL APPLICATION, such as a tool truck, have hinged down while the vehicle was in motion. There have been no injuries or significant property damage, but the possibility, in an extreme case, is obvious.

Please inspect all commercial vehicles with an Emerald generator installed under-floor. When making the inspection, insure that all of the mounting hardware is present and tight. Replace any missing hardware and tighten any that may be loose. If the generator is an NHE/NHD, particular attention should be directed to the singular bolt which fastens the hinge support to the hinge plate (See Figure D). When the initial inspection is completed, determine if the mounting system needs to be upgraded.

IF THE GENERATOR INSTALLED IS A BGE/BGD:

The drawing in Figure A is the old style installation. Note that the support bracket attached to the drip pan is attached under the unit. The drawing in Figure B shows the new style installation. Note that the support bracket is attached to the side of the drip pan.

If the installation has not been upgraded, please inform the operator of the risk, and explain that the upgrade must be done as soon as possible. Order Kit #405-4036 immediately. When the upgrade is completed, submit a standard warranty claim.

IF THE GENERATOR INSTALLED IS A NHE/NHD:

Inspect the housing ("L") bracket (See Figure C) for proper thickness. The correct housing ("L") bracket is made of 8 Ga steel (0.164") thick. The old bracket that must be replaced is made of 14 Ga steel (0.075") thick.

If you determine the housing ("L") bracket is the old style, please inform the operator of the risk, and explain that the upgrade must be done as soon as possible. Order part number 405-3406 immediately. When the part arrives and the upgrade has been completed, submit a standard warranty claim.

FIGURE A

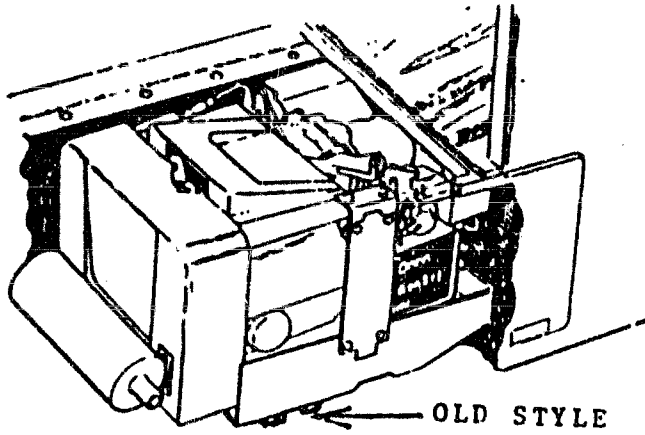


FIGURE B

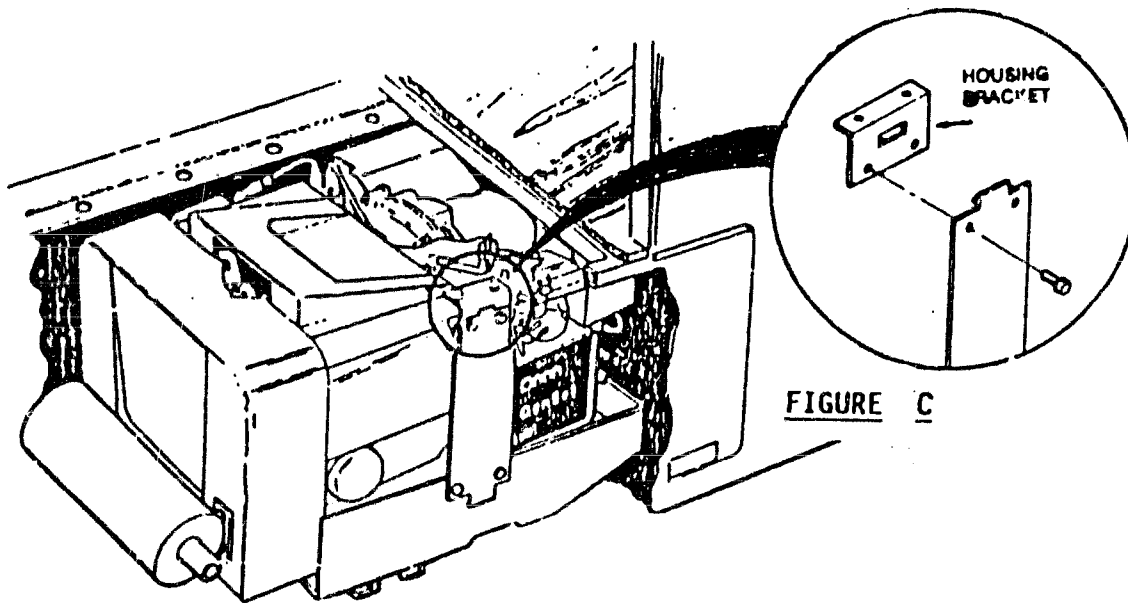
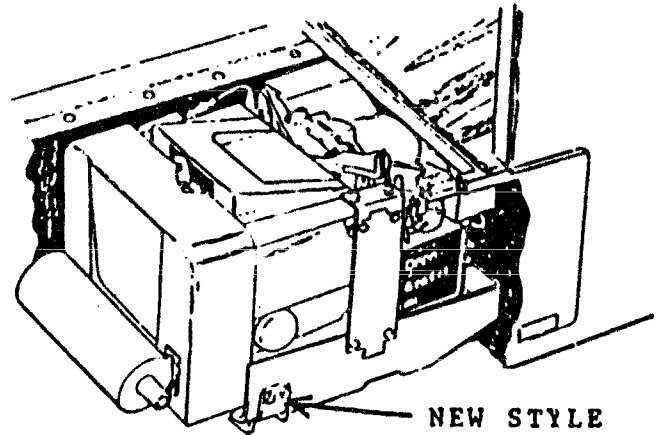


FIGURE C

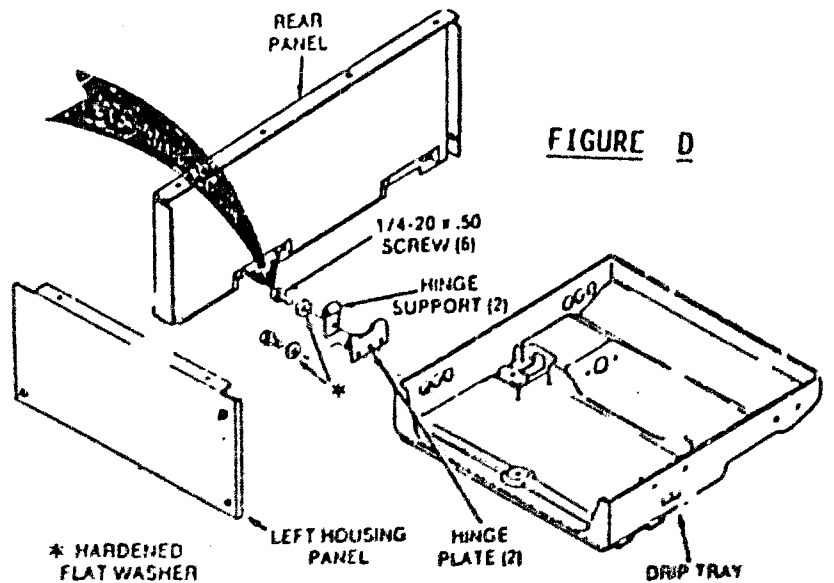


FIGURE D

Check Babcock

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: Dec. '88

Page 1 of 1

Bulletin No. 492

Subject: N and T Valve Guide
P/N 110-3168

Ref. File # E-206

Model(s) or Series:

Effective:

IMMEDIATELY

It has come to the attention of the Onan Service Department that the Onan parts price list L-835AF is in error. This list substitutes valve guide 110-3161 for 110-3168. This is incorrect and should not be done.

The 110-3161 part number is not correct for the T260G valve guide. The only replacement is the 110-3168 for the T260 engine.

Please update your parts price list to show the correct part number should be 110-3168 and not 110-3161.

The T260G parts manual #965-0260 dated 12/87 is also incorrect.

This bulletin is for informational purposes only.
Standard warranty applies.

Mark LaDouceur
Manager, Field Service
Engine Division



Product Support Bulletin

Date: Dec. 88 Page 1 of 1 Bulletin No. 493

Subject: Wood-Mizer Sawmills
Manufactured by Wood-Mizer
Indianapolis, Indiana

Ref. File # E-208

Model(s) or Series: P220G and T260G
Engines in Above Applications ONLY

Effective: IMMEDIATELY

Heat related voltage regulators failures have been experienced in some of the subject saw-mills. Onan has developed an improved 35 amp voltage regulator (P/N 191-1847). You may be approached by a customer who has received a letter from Onan authorizing regulator replacement on P220 engines. Please replace the regulator and file an Onan warranty claim. Hold the old regulator until return authorization is received.

Owners of T260 engines used in the subject application will be sent a kit which consists of a new voltage regulator, cylinder air (RH) housing, voltage regulator cover and instruction sheet. Since cutting existing sheet metal is necessary, you may be approached by the customer and be asked to complete the modification. Please complete the modification and file an Onan warranty claim for your labor. Remember that travel time and mileage does not apply for Onan gasoline engines. 191-1925

It will also be necessary to reset the engine speed from 1400 rpm low idle to 1800 rpm low idle. This will ensure a proper charge rate to the battery. This increase in low idle speed applies to both engine models.

This bulletin is for informational purposes only.
Standard warranty applies.

Mark LaDouceur
Manager, Field Service
Engine Division



Product Support Bulletin

Date: 2-1-89 Page 1 of 1 Bulletin No. 494

Subject: TRAILER MOUNTED GENSET
HASP KIT

Ref. File # S-275

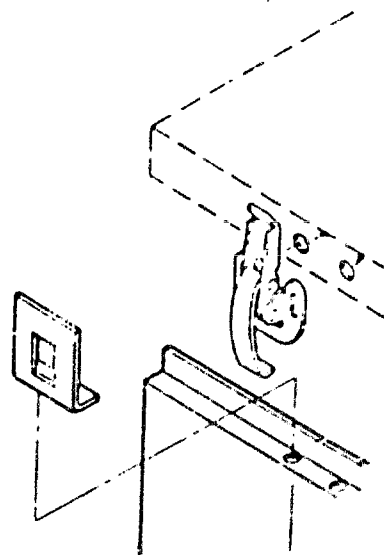
Model(s) or Series: TECHSTAR (DL4B, DL6B, DL6BT,
SJB, SKB)
(DL3, DL4, DL6, DL6T) ES, SK Effective:

It has been brought to our attention that the above series gensets which were specifically designed and tested for stationary standby applications have been trailer-mounted with housings.

It is possible for the housing doors to become detached while the trailer-mounted genset is being towed. While there have been no reports of injury or property damage to date, the potential for such an occurrence is obvious.

When a housed trailer-mounted genset of the series listed above is encountered, a Hasp Kit (406-0687) or equivalent hardware should be installed on each door to secure it.

The cost of the parts and labor is not covered under the terms of the warranty policy.



Example

Charles L. Babcock

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 3-89 Page 1of 1 Bulletin No. 495

Subject: PREHEAT TIME DELAY

Ref. File # S-276

Model(s) or Series: OTIII Spec G

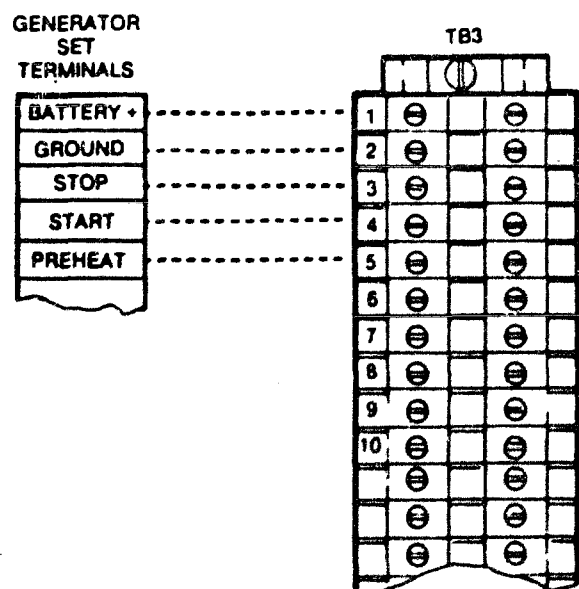
Effective: IMMEDIATELY

The minimum preheat time delay for the 2-3 wire converters on OTIII transfer switches is 2.0-2.5 seconds.

If you want to bypass this delay or if time delay is not required, install a jumper between the preheat and start terminals 4 and 5 on TB 3.

This bypasses the preheat timing function and allows the generator set to start sooner.

This Bulletin is for informational purposes only.



THREE-WIRE START CONNECTIONS

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 3-89 Page 1 of 1 Bulletin No. 496

Subject: ELECTRONIC EXERCISE CLOCK Ref. File # S-277

Model(s) or Series: ALL TRANSFER SWITCHES Effective: IMMEDIATELY

When changing from a mechanical exerciser clock to the electronic type, or if you are adding the electronic clock, make sure the AC input power to the electronic clock comes from the line or normal side of the transfer switch, not the load side.

In some circumstances, such as switches with programmed transition or a malfunction keeping the switch in the neutral position, loss of voltage on the load side will cause the generator to shut down.

This Bulletin is for informational purposes only.

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 3-89 Page 1 of 1 Bulletin No. 497

Subject: POINT GAP Ref. File # S-277

Model(s) or Series: AJ, MAJ, MAJB Effective: IMMEDIATELY

The service literature for the above series generator sets incorrectly lists a reference point gap of .022".

Setting the ignition point gap at .022" will result in ignition timing of 17-19 degrees. If left at this setting without checking the timing advance, the set will be unable to pull full power.

When replacing ignition points, a reference point gap of .039" should be used. The engine timing should then be statically verified using the procedure outlined in the Service Manual.

If the timing is still not correct using .039" as a reference, then only a small amount of point adjustment should be necessary to correctly time the genset.

Please make these changes in your service literature.

This Bulletin is for informational purposes only.

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 4-89 Page 1 of 1 Bulletin No. 498

Subject: THERMOSTAT CHANGE

Ref. File # S-279

Model(s) or Series: 35.0SJB

Effective: IMMEDIATELY

To reduce the occurrence of nuisance high engine temperature faults, the thermostat operating temperature has been reduced to 180 degrees Fahrenheit.

This change will allow the thermostat to open earlier and reduce the chance of the coolant temperature overshooting into the operating range of the overtemp sensor.

The part number for the thermostat is (309-0591) and the gasket (193-0417).

This Bulletin is for informational purposes only.

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 6-89 Page 1 of 2 Bulletin No. 499

Subject: LOSS OF GOVERNED POWER ON MICROLITE GENERATOR SETS
Ref. File # S-280

Model(s) or Series: Model 2.8 KV (Microlite) **Effective:** Prior to S/N K880178749

Loss of governed power has been reported on "Microlite" generator sets within the first 25 hours of operation. Investigations have shown this problem to be related to loss of torque to the governor arm attachment hardware. This can permit the governor arm to slip slightly on the governor shaft causing a loss of governed power.

If you receive a complaint of this nature on a "Microlite" generator set, and the serial number is prior to K880178749, verify the governed performance by connecting the generator set to a load bank. If governed performance is within Onan specifications there is no problem with the generator set and the customer should be referred to a service center for the equipment which will not function when powered by the generator set. If governed power is in fact low, use the following procedure to correct the problem.

Note: This is a static adjustment, not to be done while the set is running. Complete retest for no load and full load frequency is required after this procedure. Refer to service manual 981-0506 for these governor adjustments. The generator set must be removed from the coach and the green cover removed.

Refer to, and follow, safety information on Page 5-1 in the Service Manual prior to removal and installation of genset.

1. Remove and discard the bolt, lockwasher, and flat washer that attaches the governor arm to the governor shaft.
2. Install, but do not tighten yet, a new bolt assembly (P/N 185-5147) which consists of a bolt, lockwasher, and flat washer.
3. With a standard flat blade screwdriver turn the governor shaft back and forth several times. Also, operate the governor arm from closed to wide open throttle to verify free movement.
4. Turn the governor shaft in a clockwise direction until there is no more movement.
5. While applying light pressure in a clockwise direction to the governor shaft, torque the governor arm attachment bolt to 60-70 in/lbs.
6. Prior to starting the generator set, turn the speed adjusting screw counterclockwise four turns to prevent the engine from operating at an excessively high speed.

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Page Two
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7. Start the generator set and adjust the no load speed to 62.5 HZ using the speed adjusting screw. Refer to service manual 981-0506 for proper governor adjustment procedure.

Standard Warranty applies.



Charles L. Babcock
Manager, Field Service



Product Support Bulletin

Date: May '89 Page 1 of 1 Bulletin No. 500

Subject: Oil Leaks

Ref. File # E-210

Model(s) or Series: Performer Series

Effective: Immediately

We have recently received reports of oil leaks on Performer engines. It appears the most persistent leaks are caused by the oil filter adapter being out of flatness spec. or the lack of sealant on the gearcase cover bolt threads. There have also been reports of premature gasket fatigue in some of these joints. To resolve these complaints, Onan has developed a kit to repair these leaks.

When an engine is received with oil leaks, review the customer's needs and expedite the repairs as needed. These units may be used commercially so turnaround time is critical.

Thoroughly clean the engine and identify the leakage source and repair. If no positive I.D. can be made, follow this procedure:

1. Order Kit #122-0775 as an "Emergency Unit Down". Onan will waive the \$25.00 surcharge and cover the air freight charges under warranty.
2. Remove the gearcase cover and the old oil filter adapter. Clean all machine surfaces. Install the new gearcase cover gasket, oil filter adapter, and the new adapter gasket. Prior to installing the bolts, work Teflon sealer into the bolt threads (read instruction sheet enclosed in the kit), make sure all bolts are properly torqued.
3. If the engine has to be removed to accomplish Step #2, then the oil base gasket should be thoroughly inspected and replaced, if necessary, with new oil base gasket supplied in the kit. Use "Teflon" sealer on all oil base bolts prior to installation, make sure oil base bolts are torqued properly.
4. After installation of the needed kit components, thoroughly clean the engine of residual oil and test the engine for 2 hours to determine all oil leaks have been resolved.

This bulletin is for informational purposes only.
Standard Warranty applies.

Mark LaDouceur
Manager, Field Service
Engine Division



Product Support Bulletin

Date: 6-89 Page 1 of 1 Bulletin No. 501

Subject: OTIII ROD ENDS

Ref. File # C-32

Model(s) or Series: OTIII 40-1000 AMP
SPEC G

Effective: IMMEDIATELY

Should you encounter any OTIII switchgear utilizing linear actuators with plastic rod ends, be certain to replace both ends with the appropriate metal rod end.

| | | | |
|-----|---|----------|-------------|
| 40 | - | 125 Amp | 306-3400-01 |
| 150 | - | 1000 Amp | 306-3400-02 |

Note: This is not a campaign. This Bulletin is for informational purposes only.

Standard warranty applies.

Chuck Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 6-89 Page 1 of 1 Bulletin No. 502

Subject: RELOCATION OF EMERALD IGNITION
CAPACITOR

Ref. File # S-281

Model(s) or Series: EMERALD I AND III

Effective: IMMEDIATELY

Beginning in September, 1987, Onan began manufacturing Emerald generator sets (BGE/BGEL and NHE/NHEL) with the ignition condenser mounted on the generator adaptor rather than being located in the ignition breaker box. The condenser mounts to the generator adaptor with the 10-32 x 3/8 screw (P/N 815-0340) which also fastens the resistor assembly bracket used on transform regulated Emeralds. The condenser lead is then attached directly to the ignition coil negative terminal.

The part number of this new condenser is 312-0256. This is also the condenser included in the 160-1349 tune-up kit.

Locating the condenser outside the ignition breaker box eliminates grounding the condenser lead to the ignition cover or breaker assembly. Longer condenser life can also be expected because of better cooling.

When performing a tune-up on an Emerald generator set if no condenser is found in the ignition breaker box, do not relocate one there. If a condenser is found in the ignition breaker box, relocate the condenser to the generator adapter.

This bulletin is for informational purposes only.

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 8-1-89 Page 1 of 1 Bulletin No. 503

Subject: INTAKE VALVE AND PART DEPOSIT
SYNDROME Ref. File # S-282

Model(s) or Series: ALL GASOLINE-FUELED ENGINES Effective: Immediately

Beginning in mid-1987, Onan and various car manufacturers began to observe heavy carbon deposits on intake valves and ports. Investigation of this phenomenon indicates the deposits were primarily related to base gasoline quality and additive treatment.

With the increased use of port fuel injection systems in automobiles, gasoline suppliers began to increase fuel treatment with conventional carburetor detergents. Certain components of gasoline and carburetor detergent additives act as a "binder" to hold oil and fuel onto valve surfaces. The severity of the deposit formation is dependent upon gasoline composition, carburetor detergent concentration, and engine type.

A number of major gasoline suppliers have begun using deposit control additives, with others planning to add deposit control additives in 1989.

Onan has begun testing various methods of reducing the effect and severity of intake system deposits. Recommendations as the result of this testing will appear in Operator's Manuals when the information becomes available.

In the interim, a possible method to reduce the severity of these deposits would be the regular use of 4C combustion chamber cleaner, as outlined in Product Support Bulletin #448, with a service interval of 100 hours versus 200.

This Bulletin is for informational purposes.

Chuck Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 8-1-89 Page 1 of 1 Bulletin No. 504

Subject: RELOCATION OF POINTS CONDENSER
CAPACITOR

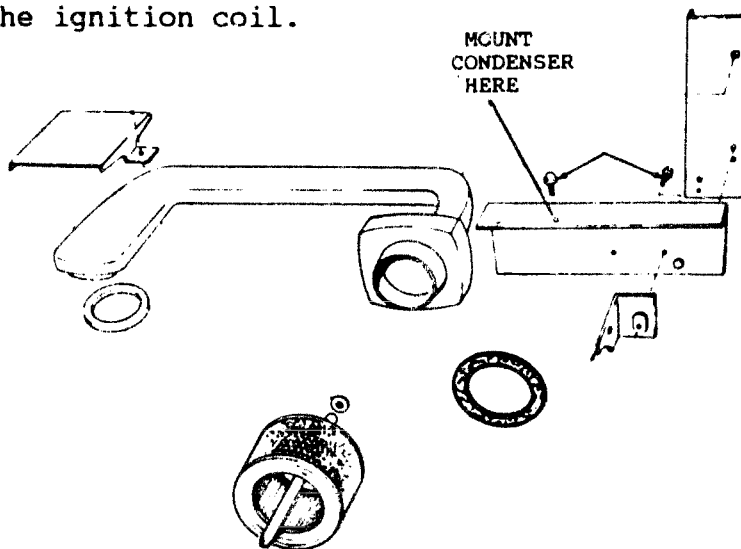
Ref. File # 283

Model(s) or Series: BGA (A-D); BFA (A-C);
NH (J-P); NHL (P)

Effective: IMMEDIATELY

Effective immediately, Onan is recommending relocation of the ignition condenser on all of its BFA, BGA, NH, and NHL gensets with top-mounted points and condenser boxes. The relocation will move the condenser from the ignition points and condenser box to the top side of the air duct bracket (P/N 140-1529).

Loosen and remove the bolt (P/N 821-0009) from the top side of the air duct bracket closest to the generator end-bell and install the condenser at this location, but reinstalling the (above) bolt to secure the condenser at this point. Be sure to remove enough paint to provide a good ground connection, and connect the condenser lead to the (-) negative side of the ignition coil.



The part number of this new condenser is 312-0256. This is also the condenser included in the 160-1349 tune-up kit.

Locating the condenser outside the ignition points and condenser box eliminates the possibility of grounding the condenser lead to the ignition box cover or breaker assembly. Longer condenser life can also be expected because of better cooling.

This bulletin is for informational purposes only.

Chuck Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 09-89 Page 1 of 1 Bulletin No. 505

Subject: REPLACEMENT FUEL PUMP KIT 149-2240 Ref. File # S-284

Model(s) or Series: MME Effective: Immediately

Increased fuel volatility and higher engine room temperatures have resulted in some vapor lock problems with marine generators and propulsion engines. These conditions result in vaporization of the fuel in the fuel line before the carburetor and fuel pump.

A new fuel pump (149-2159) has been approved for marine use that will better pump vapor, thus reducing the possibility of vapor lock. This new pump is contained in kit 149-2240, which is available as a replacement for the pump presently used on MME gensets.

Complaints of intermittent shutdown should be discussed with the owner or boat user to better understand whether or not vapor locking is occurring. Generally, vapor lock will occur when the boat is not underway or at very low speeds, as engine room ventilation is reduced under these circumstances.

This pump kit should also be used as a replacement part for the original pump, should a pump failure occur.

Standard warranty policy applies to pump replacements.

Charles L. Babcock
Manager, Field Service



Product Support Bulletin

Date: 09-89 Page 1 of 1

Bulletin No. 506

Subject: FALSE LOW OIL PRESSURE FAULT
ON FIRST START OF DAY

Ref. File # C-33

Model(s) or Series: ANY 12 VOLT UNIT USING THE
DETECTOR CONTROL BOARD (300-2807, 300-2809
300-2811) AND (191-1872) BATTERY CHARGE
ALTERNATOR

Effective: Immediately

The (191-1872) alternator can give a premature start disconnect signal to the control board, preventing the engine from cranking. After 9-12 seconds, the low oil pressure lamp lights.

If the above symptoms occur, check the nameplate on the alternator to verify that it is part number (191-1872). Check the control board to verify it is prior to revision "D."

If all the above is true, replace the control board with one that is stamped revision "D".

Any stock of 300-2807, 300-2809 or 300-2811 control boards prior to revision "D" should be returned to Onan.

Standard warranty policy applies.

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 9-89 Page 1 of 1 Bulletin No. 507

Subject: GOVERNOR REPLACEMENT

Ref. File # S-285

Model(s) or Series: 9 MME

Effective: IMMEDIATELY

As a product improvement, the mechanical governor has been changed to an electronic governor.

This change will take place as a spec advance from A to C.

Also available is an electric governor kit - part number (150-2343).

Should the mechanical governor fail, then use the electric governor kit as a replacement.

Standard warranty applies.

A handwritten signature in black ink, appearing to read 'Charles L. Babcock'.

Charles L. Babcock
Manager, Field Service



Product Support Bulletin

Date: 09-89 Page 1 of 1 Bulletin No. 508

Subject: ROAD DRAFT TUBE KIT

Ref. File # S-286

Model(s) or Series: EMERALD COMMERCIAL UNITS

Effective: Immediately

The possibility exists that the plug used on commercial emerald road draft tube kits that plugs the opening to the air cleaner adaptor may fall out due to vibration or be blown out in the event of a backfire in the intake system.

Current production Emeralds have the plug, part number (517-0101) RTV'd in place.

It is recommended that when servicing such models or installing kit number (541-0208) an inspection is made to assure that the plug is in place and secured with a RTV compound.

Information only.

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 10-89 Page 1 of 2 Bulletin No. 509

Subject: EMERALD FUEL PUMPS

Ref. File # S-287

Model(s) or Series: BGE SPEC F/ALL BGD
NHE SPECS D & E/ALL NHD

Effective: Immediately

From January through December of 1988, Emerald gensets which had a fuel pump replaced may have been equipped with an incorrect fuel pump. Whenever servicing an Emerald gasoline-fueled genset, inspect the fuel pump to ensure that the pump has a spot welded plate attached to the pump (see Figure 1).

If the genset does not have the spot-welded bracket, visually inspect it for cracks in the area shown in Figure 2. If not cracked, reinstall the pump using two clips, part number 149-2226 as shown in Figure 3.

Pumps with cracks must be replaced by following the appropriate instructions for that model and spec contained in fuel pump replacement fuel pump kit number 149-2140.

Failure to inspect and make necessary repairs to affected gensets could result in fuel line failure leading to a fire causing property damage with personal injury or death.

Standard warranty applies.

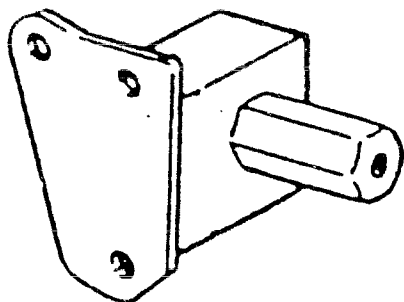
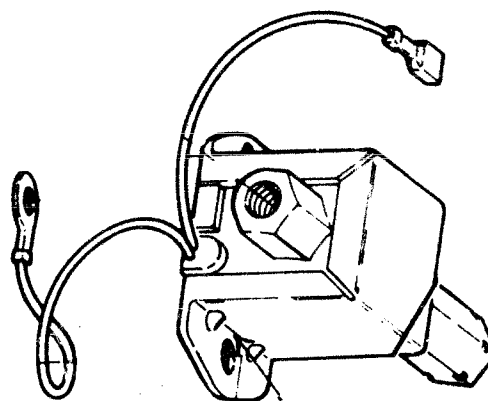
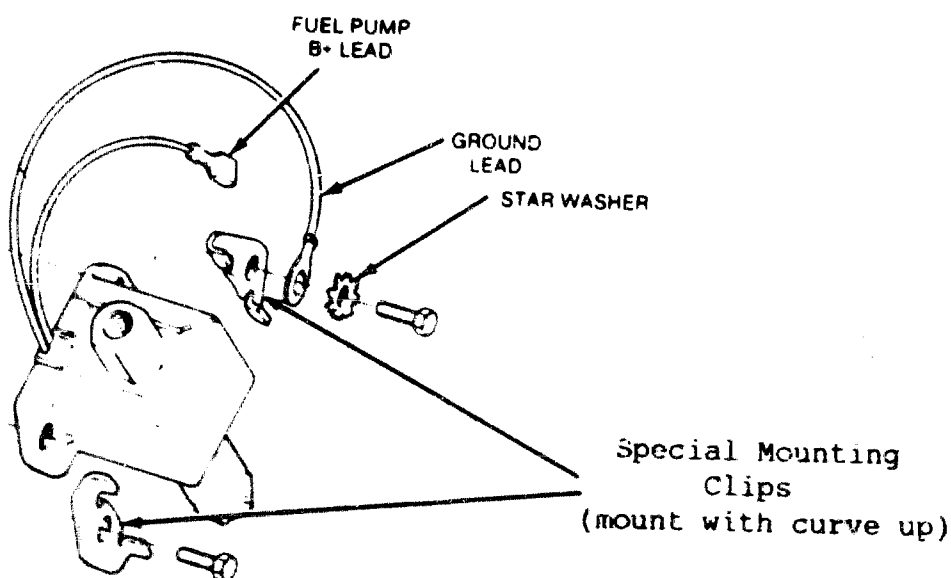


Figure 1



Inspect for cracks

Figure 2



Charles L. Babcock

Charles L. Babcock
Manager, Field Service



Product Support Bulletin

Date: Oct. '89 Page 1 of 1

Bulletin No. 510

Subject: T-260 Intake Valve Seat Failure Ref. File # E-211

Model(s) or Series: T260G Series Engines Only Effective: Immediately

The T260G engine has experienced an unacceptable level of intake valve seat failure in certain applications.

We incorporated powdered metal intake valve seats on the T260G Spec F engines.

In the field it was found that engine overheating caused expansion of the valve seat counter bore in the cylinder block. Cylinder block expansion causes reduction of interference or press fit between the powdered metal seat and valve seat counter bore.

With reduction of press fit, the valve seat can move in the bore, causing loosening of the valve seat in the engine.

A short term improvement that reduces this problem was to increase the interference press fit of the valve seat effect with serial number J883465245.

The long term resolution was to install Niresist intake valve effective with S/N F893564254. The use of this material improves the reliability of valve seats in the T260 engine.

If a failure occurs on the intake valve seat during the warranty period, order a new short block as a "Rush". Put all surcharges for the "Rush" order on the warranty claim.

It is recommended to inspect and regularly clean the chaff screen in order to keep the engine cooling system working efficiently.

This bulletin is for informational purposes only. Standard warranty applies.

Mark LaDouceur
Manager, Field Service
Engine Division



Product Support Bulletin

Date: 02-01-90 Page 1 of 2 Bulletin No. 511

Subject: ONAN CONVERTER TEST PROCEDURE Ref. File # S-288

Model(s) or Series: CPP-55R/17030B Effective: IMMEDIATELY

Following is the test procedure that must be followed if you suspect the CPP-55R/17030B converter is not functioning properly.

CAUTION! Do not open the converter. Converters that have been opened are not returnable under warranty.

1. Turn off all loads.
2. Disconnect AC power. Stop the generator set and/or disconnect commercial power.
3. Disconnect the accessory battery (negative [-] lead first). Disconnect the converter output leads.
4. Connect commercial AC power to the converter.
5. Measure the no-load output voltage.
 - a. If the no-load output voltage is between 13.85 and 15.0 VDC, proceed to the next step.
 - b. If the no-load output voltage is less than 13.85 VDC or greater than 15.0 VDC, the converter is faulty.
6. Disconnect AC power.
7. With the accessory battery disconnected, connect the coach wiring system to the converter. For this test, the accessory battery must be left disconnected.
8. Connect commercial AC power to the converter.
9. Apply all coach DC loads, including fans, water pump, and lights. Measure the converter output voltage.
 - a. If the full-load output voltage is greater than 11.1 VDC, the converter is operational and no further testing is necessary.
 - b. If the full-load output voltage is less than 11.1 VDC, then proceed to test the converter as described in steps 10 through 13.
10. Disconnect AC power.
11. Remove the converter from the coach and connect it to a DC load rack.
12. Connect commercial AC power to the converter.
13. Measure the full-load (55 amp) output voltage.
 - a. If the full-load output voltage is greater than 11.1 VDC, the converter is operational. Check the coach wiring.
 - b. If the full-load output voltage is less than 11.1 VDC, then the converter is faulty and must be replaced.

FAILED CONVERTER REPLACEMENT PROCEDURE

CAUTION! Do not open the converter. Converters that have been opened are not returnable under warranty.

1. Replace the converter (part number: 305-0834). If none are in stock, order from the Parts Department.
2. Submit a standard warranty claim if the converter is within the warranty period.
3. Keep the failed converter. Return the converter to Onan after the Material Return Authorization (MRA) paperwork is received.



Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 2-01-90 Page 1 of 1 Bulletin No. 512

Subject: MICROLITE MUFFLER INSTALLATION Ref. File # S-289

Model(s) or Series: ALL RV MICROLITE GENSETS Effective: Immediately

When reinstalling or replacing the muffler on a Micro genset, the following procedure must be followed to form a positive seal between the muffler flange and the engine block. Failure to properly mount the muffler will result in the leakage of carbon monoxide, which can cause severe personal injury or death. Refer to safety precaution in KV series manual 981-0506.

1. Loosen muffler to block mounting bracket hardware.
2. Mount the muffler to the engine cylinder block, using the proper gasket and torque values.
3. Align and torque the muffler bracket mounting hardware.

For information only.

Charles L. Babcock
Manager, Field Service



Product Support Bulletin

Date: 2-12-90 Page 1 of 1 Bulletin No. 513

Subject: VIBRATION ISOLATION MOUNTING
HARDWARE CHANGE

Ref. File # S-290

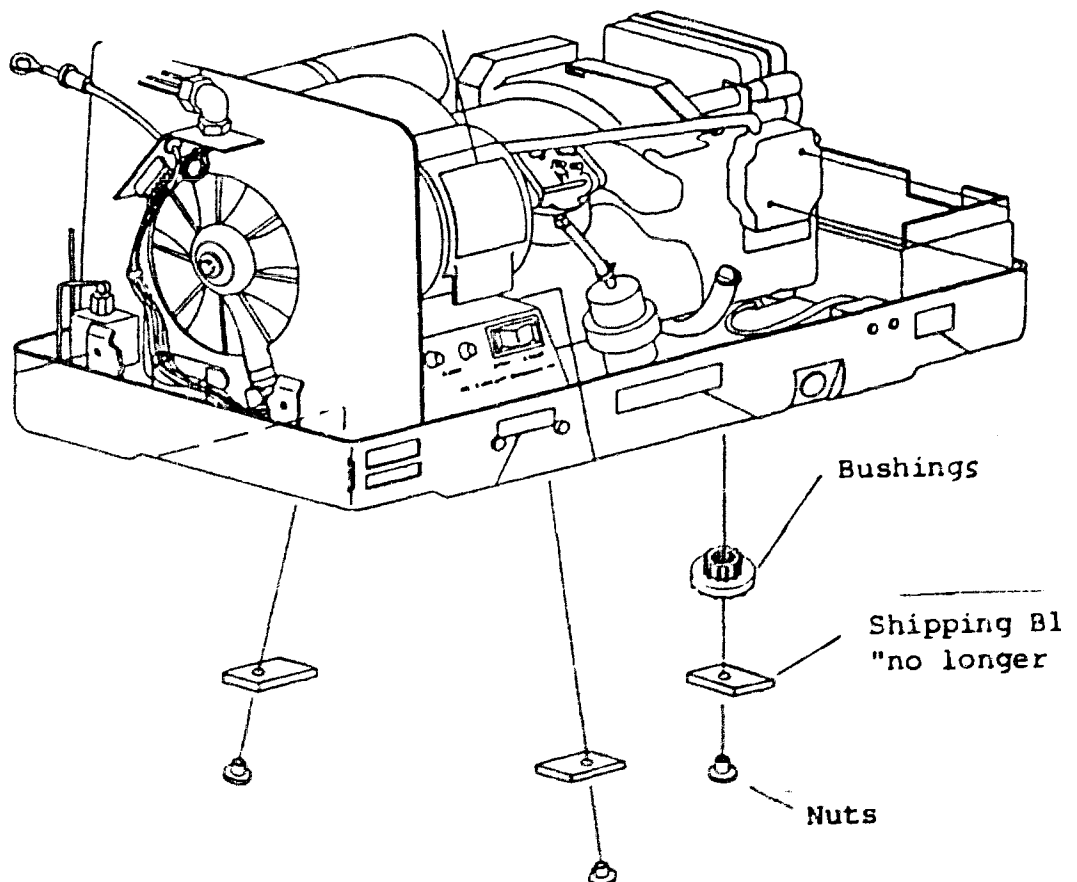
Model(s) or Series: KV MICROLITE

Effective: IMMEDIATELY

The engine to base assembly mounting hardware of the Microlite has been recently changed to incorporate the addition of three rubber bushings that are inserted through the set base and secured by three shouldered nuts. The nuts are the same ones that originally were used as shipping hold-downs that were removed and discarded when the genset was installed in a coach.

Do not remove this new hardware when uncrating a Microlite genset.

The new mounting system is distinguishable by the absence of the wood shipping blocks, neoprene gaskets, and the addition of the three rubber bushings. The installation of three nuts (870-2156) and three bushings (402-0547) will also allow us to repair a genset that has broken off the mounting ear on the oil base without replacing the base. See Drawing below.



Charles L. Babcock

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 2-12-90 Page 1 of 1 Bulletin No. 514

Subject: MOBILE GENERATOR SET
VOLTAGE REGULATORS
SOLID-STATE REGULATED

Ref. File # S-291

Model(s) or Series: MOBILE GENERATOR SETS

Effective: IMMEDIATELY

There appears to be considerable confusion as to which voltage regulator should be used with which generator set. In many cases, the wrong regulator is being used, which can lead to repeated regulator failures and in some cases generator failure.

Following is a list of voltage regulators and the generator sets they are used on.

| <u>P/N</u> | <u>Type</u> | <u>Model</u> |
|-------------|--|--|
| 305-0809-01 | Voltage capped at 128 Volts | BGE/NHE (60 Hz. Emerald RV) |
| 305-0809-02 | Voltage capped at 128 Volts | KV (60 Hz. Microlite) |
| 305-0809-05 | Voltage capped at 128 Volts | BGD/NHD (60 Hz. single phase, commercial Emerald) |
| 305-0826 | Voltage capped at 128 Volts | BGM/NHM (60 Hz. Marquis) |
| 305-0830-01 | Non-capped (will be SPS'd to 305-0809-05) | BGD/NHD (60 Hz. single phase, commercial Emerald) |
| 305-0830-03 | Non-capped | BGD/NHD (60 Hz. three phase, commercial Emerald) |

A sticker is attached to the regulator with its part number.

This Bulletin is for information only.

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 12/90 Page 1 of 1 Bulletin No. 515a

Subject: MME PRODUCT RECALL
CIRCUIT BREAKERS

Ref. File # S-292a

Model(s) or Series: MME GENSETS

Effective: NOVEMBER 20, 1989

On November 20, 1989, Onan initiated a field campaign on "MME" generators. This campaign is to replace the circuit breaker on all MME generator sets.

Onan is using this second bulletin to remind dealers and distributors of the potential problem. This time of year, many boats will be brought to your marinas for winterizing and storage. Please take advantage of this opportunity to check all MME's and correct any circuit breakers that have not already been replaced. Boat owners who have already brought in boats should be checked for MME's when they leave in the springtime. Please ask all owners with MME sets if the circuit breaker has been replaced by a campaigned breaker. If it has not been replaced, immediately order one of the following circuit breakers:

| IF MODEL IS | ORDER KIT NUMBER |
|----------------|------------------|
| 8.0MME-B | 320-1691 |
| 9.0MME-B or -3 | 320-1691 |
| 6.5MME-A or -1 | 320-1692 |
| 9.0MME-A or -1 | 320-1693 |

Onan will provide a new circuit breaker at no charge to the customer, with instructions for installation. The user can install the circuit breaker or have it installed by an Onan distributor, dealer, or service agency. When the circuit breaker has been replaced, please submit the warranty claim as soon as possible.

If the owner cannot wait for the circuit breaker to be installed, please send us the owner's complete name, address, city-state and zip code. We will contact the owner directly and send him/her the correct circuit breaker. Then, as stated above, the owner can determine how to replace the circuit breaker.

If you have any questions on this campaign, contact:
Stan Larson (612) 574-8128.

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 2-12-90 Page 1 of 1 Bulletin No. 516

Subject: MDL3 INTAKE NOISE
REDUCTION KIT

Ref. File # S-293

Model(s) or Series: MDL3

Effective: IMMEDIATELY

Although the MDL3 is a relatively quiet and low vibration set, there are some applications where the sets operating frequency has been known to cause a sympathetic vibration in the boat. This is especially true of the less expensively designed hulls.

Onan engineers have identified a source of that vibration as coming from the set air intake pulses. To reduce this circumstance, they have designed a kit which can be installed in the field at very low cost. The kit is simply a formed hose, adaptor, and clamp which installs on the resonator.

If you have a situation where noise or vibration is a problem with an MDL3, you may want to try this kit. Order part number 140-2589 from the Parts Department.

For your information, all new MDL3's being manufactured have this feature installed as standard equipment. This is a product improvement and warranty does not apply.

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: Mar. '90

Page 1 of 1

Bulletin No. 517 Rev

Subject: Governor Rod Retaining Clip,
P/N 518-0004

Ref. File # E-212

Model(s) or Series: All Horizontal Shaft
Gasoline Engines

Effective: Immediately

Governor rod free-play at the carburetor end of the governor rod can be the cause of a hunting condition in some units.

This can be remedied by crimping the governor clip using the following procedure.

1. Remove the governor rod clip from the carburetor end of the linkage. (figure 1)
2. With a pair of needle nosed pliers, crimp the closed end of the clip to match picture below. (figure 2)
3. The crimped end of the clip should be no more than 3/32" apart.

By following the above procedure, the linkage will be tighter and should cure the hunting condition.

*Note: After making modification, be sure governor response is within specification.



Fig. 1



Fig. 2

This is for information purposes only.
Standard warranty applies.

Mark LaDouceur
Mark LaDouceur
Manager, Field Service
Engine Business Unit

Governor Rod Spring P/N 150-2409

E-213

Performer Engine
Serial #L88 and Later

Immediately

Free-play between the governor arm and carburetor can be the cause of a hunting condition in some units.

Installation of the governor rod spring will reduce transient hunting at high speed and improve steady state stability.

**Welders using 146-0478 and 146-0479 carburetor.
Governor rod spring installation instructions
with optional governor arm extension
Does not apply to Miller Legend Welders.**

1. Slide spring onto governor rod, with the shortest end of the spring to the carburetor end of rod.

NOTE: New design governor rod (P/N 150-2417-02) required to provide breather clearance on Spec "C" engines.

2. Hook small end of spring into front most carburetor lever hole (fig. 1). Then insert governor rod into carburetor lever and install retaining clip.
3. Install spring into 3/32" hole in governor extension lever (fig. 2). If no hole exists, drill according to print attached.
4. Install rod in original governor arm hole and install retaining clip.

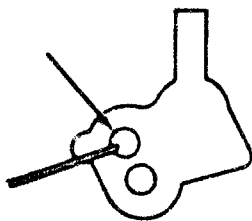


Fig. 1

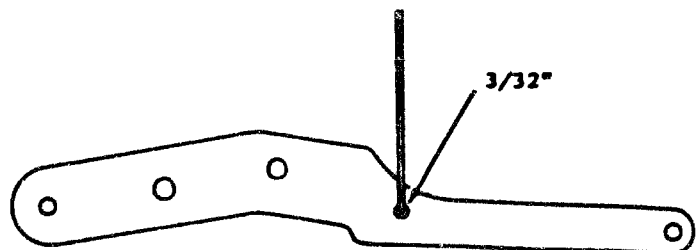


Fig. 2

Industrial governor rod spring installation instructions

1. Slide spring onto governor rod, shortest end of spring should be to carburetor end of rod.

Note: New design governor rod (P/N 150-2417-02) required for Spec "C" engines.

2. Hook small end of spring into front most carburetor lever hole (fig. 3). Then insert governor rod into carburetor lever and install retaining clip.
3. Install spring into front most governor arm hole (fig. 4).
4. Install governor rod into correct governor arm hole and install retaining clip.

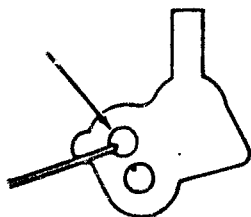


Fig. 3

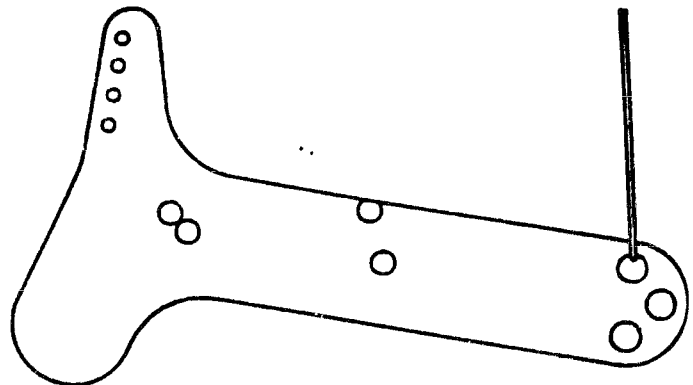


Fig. 4

This bulletin for informational purposes only.
Standard warranty applies.

Mark LaDouceur
Mark LaDouceur
Manager, Field Service
Engine Business Unit



Product Support Bulletin

Date: Mar. '90

Page 1 of 2

Bulletin No.

519 R

Subject: Carburetor Idle Jet

Ref. File #

E-214

Model(s) or Series: All Horizontal and Vertical Shaft Industrial Engines Using Nikki Carburetors

Effective: Immediately

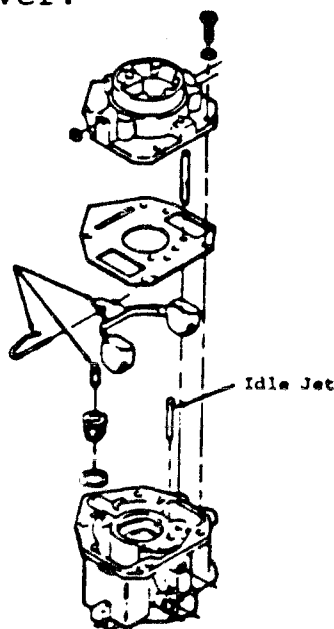
A high speed no-load hunting condition can be caused by a plugged idle jet.

Cleaning of the internal low speed jet (idle emulsion tube) can be accomplished by using the following procedure.

WARNING: Ignition of fuel can cause serious personal injury or death by fire or explosion. Do not permit any flame, cigarette, spark, pilot light, arcing equipment or other igniter near fuel system.

1. Remove air cleaner top, clean debris from air cleaner pan before removing inner air cleaner cover and filter element.
2. Remove two cap screws that hold the bottom air cleaner pan to the support bracket. (Horizontal shaft engines only).
3. Loosen the screws that hold the air deflector plate to the top of the carburetor.
4. Remove the bottom air cleaner pan and deflector plate.
5. Remove four screws that hold the carburetor top to the carburetor body.
6. Remove the top of the carburetor by lifting straight up, taking care not to bend the emulsion tube pressed into the carburetor top.
7. Remove gasket.
8. Using the proper size screwdriver, remove the idle jet from the carburetor body. See diagram for location.
Take care not to deform threads in the carburetor body.
9. Use a fine wire to remove any foreign material from the jet.

10. Install the low speed idle jet in the correct hole and tighten. **Take care not to contact the jet threads in the carburetor body.**
11. Remove float from carburetor and clean float chamber of any foreign material.
12. Install float, be sure needle is installed correctly on float.
13. Install gasket and carburetor top
14. Install air cleaner pan, deflector plate, air filter element and inner air cleaner cover.
15. Be sure inner cover and breather tube are installed correctly to prevent dirt ingestion.
16. Install outer air cleaner cover.



This bulletin is for informational purposes only.
Standard warranty applies.

Mark LaDouceur
Mark LaDouceur
Manager, Field Service
Engine Division

Apr '90

1

1

520

Connecting Rod Bolt Torque

E-215

T260G

Immediately

We have received reports of some connecting rod failures after overhaul which have been the result of improper connecting rod bolt torque. In many cases it is because of torquing steel con rods to aluminum con rod spec.

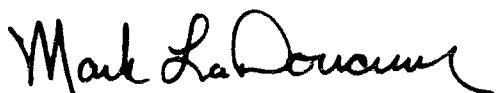
The T260 engine has used both aluminum and steel connecting rods. Assembly torques listed in the T260G service manual are:

Spec A-E (aluminum rods) 14-16 ft.-lbs. (19-22 Nm)

Begin Spec F (steel rods) 27-29 ft.-lbs. (37-39 Nm)

Please use the engine spec to determine rod composition and proper torque values.

This bulletin is for informational purposes only.



Mark LaDouceur
Manager, Field Service
Engine Business Unit



Product Support Bulletin

Date: Apr. '90 Page 1 of 2

Bulletin No. 521

Subject: New Breather System for Performer Ref. File # E-216
Spec. C Engines

Model(s) or Series: All Onan 43 & 48 cubic inch industrial engines and replacement short blocks Effective: Immediately

This Product Support Bulletin is to update the dealers and distributors of the Performer Spec. advance.

Spec C Performer models use a new breather assembly and breather location. Spec. C breather is a cap and valve type that can be disassembled for maintenance and/or repair.

Other changes have been made to accommodate the new breather.

1. The cup plug P/N 517-0067 located under the gear case cover has been eliminated by this spec change.

CAUTION: DO NOT attempt to install this plug on Spec "C" engines or Spec "C" short blocks. High oil pressure problems will occur if this plug is installed. As a reminder, this cup plug has never been used in the 60 cubic inch engines (N series, T260G and P224).

2. The reed type breather and valve cover assembly have been eliminated.
3. Spec C uses two valve covers which have been redesigned of 14 gage material, new torque spec is 3-4 ft. lbs.
4. The fuel pump pulse fitting has been moved from the gear case cover to the cylinder block, above the oil filter adapter.

CAUTION: The pulse fitting on the cylinder block is the only one to be used to operate the fuel pump. The pulse fuel pump fitting on the gear case cover must not be used and must be blocked off for Performer Spec. C applications and short blocks.

Use cap P/N 149-1321 and clamp P/N 503-0301 or equivalent to block off fitting on gear cover.

PSB 521
PAGE -2-
4/90

5. The breather hose connection into the air cleaner pan has been changed for Spec C Performer engines. These pans are not interchangeable with Spec A and B Performer engines.
6. All Spec C short blocks will contain appropriate hardware, including the breather assembly to service previous spec engines. A molded rubber hose is provided to adapt the Spec C breather to all previous air cleaner assemblies.

This bulletin is for informational purposes only.



Mark LaDouceur
Manager, Field Service
Engine Business Unit



Product Support Bulletin

Date: May. '90 Page 1 of 1

Bulletin No. 522

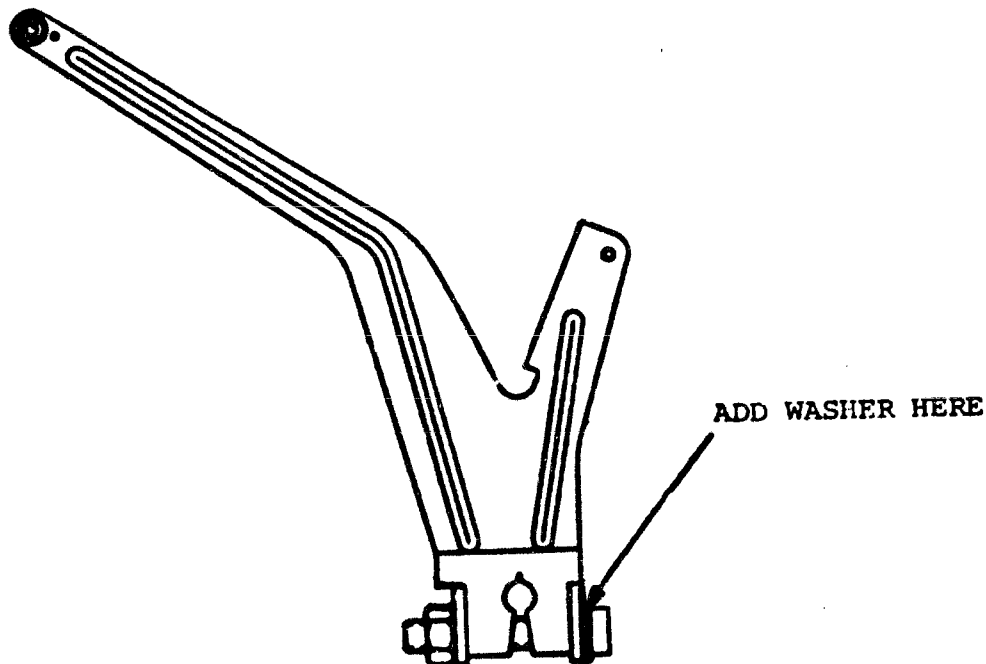
Subject: Governor Action

Ref. File # E-217

Model(s) or Series: Elite E125V
(Spec A and B)

Effective: Immediately

Governor instability may be caused by oil on the governor shaft which could cause the governor lever to slip on the governor shaft. Clean the governor shaft in the area where the governor lever attaches with choke cleaner, contact cleaner or equivalent. Add washer P/N 740-1006 under the head of the bolt which attaches the governor lever to the governor shaft. Torque bolt 8-10 ft.lbs. (11-14 Nm). Refer to Elite Service manual for adjustment procedures.



This bulletin is for informational purposes only.
Standard warranty applies.

Mark LaDouceur
Manager, Field Service
Engine Business Unit



Product Support Bulletin

Date: 7/90 Page 1 of 1 Bulletin No. 523

Subject: 305-0830-03 REGULATORS

Ref. File # S-294

Model(s) or Series: Three Phase
Commercial Emerald

Effective: Immediately

80% of 305-0830-03 regulators returned to Onan for inspection have a shorted transorber. This failure mode is thought to be the result of an engine overspeed condition. If the overspeed is severe enough, the voltage supplied to the voltage regulator can exceed the rating of the transorber and cause this failure.

Onan has begun sorting transorbers to a 400 volt breakdown level to minimize this failure mode. This, however, is not a 100% solution.

When performing service on three phase commercial Emerald generator sets, do not override the governor control. Overriding governor control can cause damage to the voltage regulator and any other connected loads/devices.

This bulletin is for informational purposes only.

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 11/90 Page 1 of 1 Bulletin No. 524

Subject: Aftermarket (will fit) Oil Filters Ref. File # E-218

Model(s) or Series: All Onan Engines

Effective: Immediately

We have received reports of oil filter adapter gaskets failing. These failures can be attributed to the use of "will fit" oil filters that do not have adequate internal by-pass valves. Onan engine lubrication systems require by-pass valves to allow oil to pass during cold starts, or if the filter becomes plugged.

It has been determined that some aftermarket filters do not have by-pass valves. As these "will fit" filters trap debris, oil pressure continues to rise at the oil filter adapter. When plugged, oil starvation will occur, leading to catastrophic engine damage. Some "will fit" oil filters contain a by-pass valve, but it is not determined at what PSI the valve opens. If this setting is too high, the paper element can be damaged during a cold start, rendering the filter useless or, in worst case, causing oil starvation to the engine.

You know that aftermarket oil filters print crossover charts from the Onan filter part number to their oil filters. This does not mean they are specified the same, and if they are used, the customers' engine may be at risk. Onan warrants only the quality and integrity of genuine Onan parts. It is strongly recommended that you advise your customers of the potential damage or problems that can occur when "will fit" parts are used. Any damage caused by the use of non-Onan filters will not be covered under Onan's limited warranty.

Upon request, Onan must furnish oil filter specifications to aftermarket suppliers; however, only Onan has control over quality and integrity of the filters that Onan sources. For customer satisfaction and properly specified parts, use only genuine Onan replacement parts.

This bulletin is for informational purposes only.

Mark LaDouceur
Manager, Field Service
Engine Business Unit



Product Support Bulletin

Date: 7/25/90 Page 1 of 1 Bulletin No. 525

Subject: Breather Kit P/N 123-1898 Ref. File # E-219

Model(s) or Series: "B" and "P" Series Short Blocks Effective: Immediately

The Engine Division Service Department has received reports that a number of the new Spec. "C" short blocks are missing the 123-1898 Breather Kit. This kit contains various breather hoses to change any "B" Series or Performer valve cover breather system to the Spec. "C" block mounted breather system.

If you received a Spec. "C" short block and did not receive these parts, then you must order the 123-1898 Breather Kit to complete the changeover. The changeover kit contains 3 breather hoses which are used on either standard or remote air filter configurations, breather hose clamp, rubber cover, and clamp for gear case cover pulse port. Choose the hose that best fits your application.

CAUTION: Do not use both breather systems. The breather located in the valve cover must not be used when installing a Spec. "C" short block. Use a standard valve cover and gasket to cover the valve box.

CAUTION: Do not install cup plug in the oil pressure relief port on Spec. "C" short blocks. This will cause the oil filter to burst.

Standard Warranty Applies.

Mark LaDouceur
Manager, Field Service
Engine Business Unit



Product Support Bulletin

Date: 7/25/90 Page 1 of 2

Bulletin No. 526

Subject: Replacement Ignition Coil
P/N 166-0804

Ref. File # E-220

Model(s) or Series: All Industrial Engines and Generators Using 166-0643, 166-0535 Ignition Coils Effective: Immediately

Ignition coils 166-0643 and 166-0535 (Fig. 1) have been replaced by ignition coil 166-0804 (Fig. 2). Although the design is different, using the original mounting bracket and clamp, it is a direct replacement.



Fig. 1

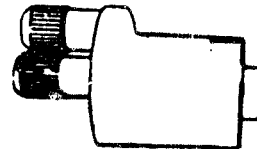


Fig. 2

NOTE: Resistance readings on replacement coil 166-0804 are not the same as the original. Primary Resistance 4.15 Ohm +/- 10% Secondary Resistance 37.8 K Ohm +/- 10%.

The following instructions are being provided because of questions about the replacement procedure. By following the instructions below, the replacement ignition coil can be installed in the original location.

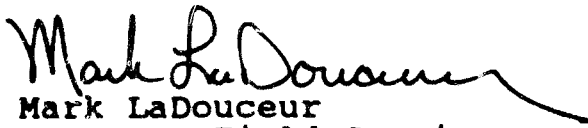
WARNING: Accidental starting of the engine can result in severe personal injury or death. Disconnect the negative battery cable and spark plug wires while servicing the engine, controls, or associated equipment.

1. Remove battery negative cable and allow engine to cool to room temperature.
2. Remove air cleaner cover, inner cover, filter, and air cleaner base.
3. Remove both the positive and negative wires and plug leads from ignition coil.
4. Remove old coil from mounting bracket.
5. To install the new coil, slide coil mounting clamp toward cylinder #2 as far as possible. (See Figure 1)
6. Slide the new coil into the clamp about 1 inch with the coil towers toward the air cleaner and tighten clamp.

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Page 2 of 2
7/25/90

7. Install new spark plug boots and contact on plug wires. Assure center pin of contact is inserted into plug wire.
8. Install air cleaner assembly making sure air filter element is properly sealed.
9. Install negative battery cable.

This is for informational purpose only.


Mark LaDouceur
Manager, Field Service
Engine Business Unit



Product Support Bulletin

Date: 8/90 Page 1 of 1 Bulletin No. 527

Subject: SPARK PLUG FOULING

Ref. File # S-295

Model(s) or Series: EMERALD -
RV & COMMERCIAL

Effective: IMMEDIATELY

If you encounter light load spark plug fouling, we suggest that after checking the choke operation and carburetor adjustment per the Service Manual, the spark plugs be replaced with Onan 167-0269.

It has been our experience that the V groove on the spark plug ground electrode reduces the light load fouling tendency.

Standard warranty applies.

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 11/90 Page 1 of 2 Bulletin No. 528

Subject: FALSE AND/OR ERRATIC
SHUTDOWNS

Ref. File # C-34

Model(s) or Series: UR SERIES ENGINE
MONITOR BOARDS:
300-0679, 300-0680,
300-0681, 300-0682

Effective: IMMEDIATELY

In some isolated cases, the above boards for unexplainable reasons have demonstrated false and/or erratic modes of operation. If all other means of solving the problem have been explored, it is suggested you try this "relay-reset" device. It has been proven to work with several systems that have experienced numerous problems.

This Bulletin is for informational purposes.

Charles L. Babcock
Manager, Field Service
Electrical Products

LEGEND

K-1: 12V SWITCH FOR 12V COIL OF K-2, 307-1056
NOTE: K-1 USED ONLY ON 24V SYSTEMS.

K-2: T.D. 12V COIL, POTTER-BRUMFIELD 3491
CWD-38-26000 SOCKET 6X156 FR W.W. GRAINGER
SET SWITCH AS FOLLOWS:
1. INT
2. SEC
3. 0.5
4. 0.5
DIAL TO 1 SEC

K-3: LATCH RELAY, 307-1058 SOCKET 27E121

SEQUENCE OF OPERATION

RMT B+ FROM ATS IS APPLIED THRU N/C CONTACTS OF K-2, 4 & 1 TO TB12 RMT IN CONTROL. IF A FAULT IS HAD, B+ WILL COME IN AT "TB12 ALARM" THRU DIODE TO COIL OF K-3. K-3 N/O CONTACTS 7 & 4 WILL CLOSE AND LATCH K-3 ON. K-3 N/O CONTACTS 6 & 9 WILL CLOSE AND START 1 SEC. T.D. OF K-2. K-2 N/C CONTACTS 4 & 1 WILL OPEN AND REMOVE B+ FROM ATS TO TB12 RMT N CONTROL. ONCE K-2 TIMES OUT (1 SEC), K-2 CONTACTS 4 & 1 WILL CLOSE AND RE-APPLY B+ TO TB12 RMT IN CONTROL.

K-3 IS A LATCH RELAY AND WILL PREVENT ANY SECOND RESET DURING ANY ONE RMT START.



Product Support Bulletin

Date: 12/90 Page 1 of 1 Bulletin No. 529

Subject: LABEL - CONSUMER PRODUCT

Ref. File # S-296

Model(s) or Series: RV AND MARINE GENSETS

Effective: Immediately

The following label is being installed on Marine and RV products.

If service or parts are needed,
the Onan Distributor can be
located in the Yellow Pages
under "Generators-Electric",
or call 1-800-888-ONAN.

This self-sticking label is also available through the Parts Department. It is suggested you order and install the label on product that is transient in nature.

Order: 98-6388-01 White background with black copy (marine)
98-6388-02 Black background with white copy (RV)

This bulletin is for informational purposes.

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: September 8, 1995

Page 1 of 2

Bulletin No. 530b

Subject: Intermittent LOPKO Shutdown

Effective: Immediately

Model(s) or Series: BGE, BGD, BGM,
NHE, NHD, NHM

Intermittent shutdown of these models can be the result of monetary loss of oil pressure due to foaming of the lubricating oil. If foaming occurs, the set will restart immediately, but repeat the shutdown at increasingly shorter intervals. Typically, foaming occurs:

- At temperatures of at least 80° F
- If the crankcase is overfilled
- If oil without an anti-foaming agent is used

Before making any changes,

1. **Be sure the oil is of good quality, undiluted with fuel, and between the 'ADD' and the 'FULL' mark on the dipstick.**
2. **Electrically bypass the LOPKO (low oil pressure switch). On most models, this is done by removing the wire from the LOPKO and attaching it to ground. On Spec B Marquis ONLY, this is done by disconnecting the LOPKO wire. Remove the LOPKO and fit a pressure gauge at that location on the filter adapter.**
3. **Start and run the genset with the same load at which the set was shutting down before.**
4. **Observe the pressure gauge. Sharp drops below the 5-9 psi setpoint indicate oil foaming.**

A 3 1/2 quart oil level will reduce oil foaming without damage to the engine. To reduce a genset from 4 to 3 1/2 quart oil level, use the following:

- 509-0294 O-ring (Emerald)
- 123-1961 Oil Fill Cap (Emerald)
- 509-0246 O-ring (Marquis)
- 123-1962 Oil Fill Cap (Marquis)
- 98-6554 Label - Oil Capacity

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September 8, 1995
Page Two

- 1. Stretch the O-ring over the new dipstick, and replace the original dipstick with this assembly.**
- 2. Add or subtract oil to read within the limits of the new dipstick.**
- 3. Clean the cylinder head shroud just above the dipstick, and attach the label.**
- 4. Mark the Operator's Manual Specifications page to indicate the changed oil level.**

Standard warranty applies.

This Bulletin is for informational purposes.



Greg Moos
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 1/91 Page 1 of 1 Bulletin No. 531

Subject: NUISANCE TRIPPING:
DAYTANK BREAKERS

Ref. File # C-35

Model(s) or Series: DAYTANKS

Effective: IMMEDIATELY

Users of daytanks wired for 120 VAC may experience some nuisance tripping of the daytank circuit breakers. Models affected were produced between 5/88 and 7/90, using Onan part number:

625-2141-01
625-2141-02

625-2166-01
625-2166-02

The nuisance tripping will not occur on units wired for 240 VAC.

The vendor of circuit breaker CB101 has shipped us parts which have the opposite pole positions from what is called out for in the drawing for the control.

As you look at the control, the left side should be 7.5 amps. The units which need to have the leads changed can be identified by looking at the mounted breaker in the control. If the left hand breaker rating, as you face the control, is 15.0 amps, the exchange should be made.

To make the exchange, shut-off all voltage to the breakers and reverse the four leads as follows:

- 1) Switch CB101-1 and CB101-3
- 2) Switch CB101-2 and CB101-4

Re-mark the wires at CB101 to reflect these changes.

This bulletin is for informational purposes.

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 1/91 Page 1 of 1 Bulletin No. 532

Subject:

NICOLLET TRANSFORMERS
ON MARINE GENSETS

Ref. File #

S-298

Model(s) or Series:

MDL3, MDL4, MDL6
WITH S/N'S DATE CODED
BETWEEN A86... THROUGH J90...

Effective:

IMMEDIATELY

When servicing any of the above models, the control cover should be removed and the output transformer should be inspected. If the label on top of the transformer indicates Nicollet brand, the transformer leads should be inspected for signs of over-heating at the terminal crimps on the lead wires attached to the circuit breakers.

Signs of overheating include:

- Black or green deposits on or around the connections.
- Distortion or disfigurement of the circuit breaker housing.
- Loss of AC output due to circuit breaker tripping when no other cause can be found.

If any of these symptoms are encountered, shut off all AC power, disconnect the battery, and replace the transformer. Do not attempt to repair the connections.

Standard warranty applies. For units out of warranty, Onan will make a policy adjustment for one hour of labor and parts.

Charles L. Babcock
Manager, Field Service
Electrical Products



Product Support Bulletin

Date: 9/91 Page 1 of 1 Bulletin No. 533

Subject:

FUEL PUMP TEST PROCEDURE

Ref. File #

S-299

Model(s) or Series:

ALL RV

Effective:

IMMEDIATELY

EQUIPMENT REQUIRED: Onan #420-0110 Pressure Gauge or equivalent 0-10psi with least +/-5% accuracy. Onan #502-0313 Pipe Fitting

Before testing any fuel pump, always:

- 1) Check the Service Manual for **important safety precautions.**
- 2) Check tank fuel level. In most RV's, the generator's pickup tube in the tank ends well above the bottom of the tank. The generator can be out of fuel even when opening the cap shows some fuel present. Fill the tank if doubt.
- 3) Check generator battery voltage when cranking and running, where possible. Measure battery voltage between the positive (B+) fuel pump wire and ground. If either the cranking or running voltage reading is:
 - Less than 7VDC for a Facet pump, or
 - less than 6VDC for an Airtex or Carter pump,the pump will not work. Correct the low voltage, usually by charging the battery.
- 4) If the fuel level and battery voltage check good, remove the fuel outlet line between the fuel pump and the carburetor. Before continuing, thoroughly clean up all spilled fuel. Make sure there is ample fresh air ventilation completely evacuate all fumes.

WARNING: Ignition of fuel can result in severe personal injury or death. Do not smoke or allow any spark, pilot light, or arcing equipment near the fuel system.

- Fit the pressure gauge to the pump outlet. Use the elbow pipe fitting with thread sealant, to adapt the 1/4" hose to the pump, if necessary.
- Crank and/or run the set until the pressure reading stabilizes.
- If the pressure gauge reading is greater than 3.5psi, the pump is good.
- If the pressure gauge reading is less than 3.5psi:
 - a) Recheck battery voltage. It must be greater than the limits shown above.
 - b) If the RV has been stored for a long period without fuel stabilizer, varnish deposits may have formed which can cause the pump piston to stick. Tap the pump body with a screwdriver handle, and check if pressure now builds.
- If the gauge pressure remains below 3.5psi, replace the pump.

This bulletin is for informational purposes.
Standard warranty applies.

Charles L. Babcock
Manager Field Service



Product Support Bulletin

Date: 2/91 Page 1 of 1 Bulletin No. 534

Subject: 'FIRST START OF DAY'
SHUTDOWNS Ref. File # C-35

Model(s) or Series: DETECTOR 12 CONTROL- 24V Effective: IMMEDIATELY

A 'first start of day shutdown' occurs the first time a generator set is started, after it has been sitting at least two days. Subsequent starts show no faults or problems. Should you experience a 'first start of day shutdown', check the 'Run/Stop/Remote' switch as follows:

-Open the control panel doors.

WARNING: Contact with wires in the control panel can cause severe personal injury or death. Use extreme caution when working on electrical components.

-Locate the Run/Stop/Remote switch #308-0784, on the right-hand (DC) side of the control panel. Put the switch in 'Remote'.

IMPORTANT: The genset may start under some conditions.

-Measure the voltage between terminal #5 (see drawing below) and ground.

-There should be no DC voltage on this terminal. If any voltage is present, first remove voltage to the switch.

-Disconnect the battery.

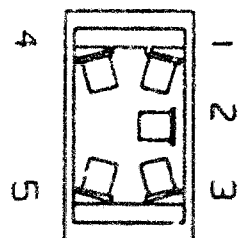
-Replace the switch, then re-energize the board by re-connecting the battery.

Standard warranty applies.

This bulletin is for informational purposes.

Charles L. Babcock
Manager, Field Service
Electrical Products

308-0784
Run/Stop/
Remote Switch





Product Support Bulletin

Date: 9/91 Page 1 of 1 Bulletin No. 535

Subject: NUISANCE TRIPPING:
LOW COOLANT LEVEL SWITCH

Ref. File # C-36

Model(s) or Series: A/JL INDUSTRIAL SETS

Effective: IMMEDIATELY

If you encounter low coolant level shutdown when the coolant level is correct, replace the low coolant level switch with a new style switch. Part numbers will not change, but the new switch can be recognized by the addition of the 336-9413-01 grounding lead, supplied with all switches.

Low coolant level switch 193-0322 has been changed in two ways:

1. To incorporate a 12 second time delay before a shutdown signal is sent to the control. This reduces the chance for nuisance shutdowns caused by bubbles in the coolant.
2. A separate ground connector has been added to the switch to reduce the chance for poor electrical connection caused by long term corrosion.

Modification to the set wiring will be required to use the new switch.

To replace an old style switch:

- a) Cut the wires as close as possible at the switch connector plug, and remove the plug.
- b) Install standard 1/4" receptacle terminals to the switch wires.
- c) Add a suitable ground wire and connectors. Normally this is done by routing the supplied ground wire alongside the B+ wire to the T26 engine panel, and grounding at the panel with the 1/2" ring. For hook-up to the switch, see diagram below.

Standard warranty applies.

This bulletin is for informational purposes only.

Charles L. Babcock
Manager, Field Service

6-91

1

1

536A

Poor Pulse Fuel Pump Performance

E-221

Former Spec 'C'
Horizontal Shaft Engines
With Tool-less Air Cleaner

Immediately

-----REISSUE-----

A small quantity of engines have been built with the wrong length breather hose. The hose is too long and contacts the top of the inner element cover on engines with tool-less air cleaner assemblies.

Symptoms are: engine lube oil leaking from pulse pump vent hole, crankcase pressurizing, hard starting and loss of fuel pump pulse. To correct the problem, cut or trim the breather hose so that it protrudes approximately 1/4" above the base of the air cleaner housing.

This bulletin is for informational purposes only. Standard Warranty applies.

Mark LaDouceur
Manager, Technical Service and Warranty Department



Product Support Bulletin

Date: June 1991 Page 1 of 1

Bulletin No. 537

Subject: Oil contamination of the fuel pump pulse line. **Ref. File #E-222**

Model(s) or Series: All Spec. "C" Performer Series Engines Previous to SN D913788533 and all Spec "C" shortblocks **Effective:** Immediately

We have received reports of the fuel pump pulse line filling with engine oil. A small amount of oil in this line will make the fuel pump inoperable.

The most probable cause is porosity of the aluminum block where the pulse line enters the engine.

First determine which tube is installed in your engine block, see diagram below.

The short pulse tube has a groove cut into the tube 1/16" from the outer end, the longer tube has no groove.

If the longer tube is installed in the block and the problem still exists look for other engine problems.

To eliminate oil in the pulse line, install a longer pulse tube part number 149-1299 using the instructions below.

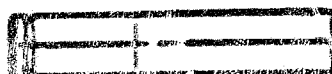
Removal of the present vacuum tube:

1. Insert a length of round stock or bolt into tube to support the walls. Vacuum tube I.D. .240/.220.
2. Clamp the vacuum tube tightly with a vise grip and pull the tube straight out from the engine block.

CAUTION: Tube must be pulled straight to avoid damaging the vacuum tube port in engine block.

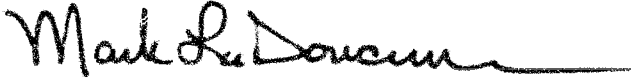
Installation of the longer vacuum tube:

1. One end of the replacement tube is tapered to ease installation into the engine block.
2. Mark the replacement tube 9/16" from the end of the tube that is not tapered.
3. Coat the lower portion of the replacement tube with Loctite 609 retaining compound. Onan part number 518-0611.
4. Tap the new tube into the engine block to the reference mark.



June 1991
PSR # 537
Page 2 of 2

Standard Warranty Applies

A handwritten signature in cursive script that reads "Mark LaDouceur". The signature is written in black ink and has a long, sweeping underline that extends to the right.

Mark LaDouceur
Manager, Field Service
Engine Business Unit



Product Support Bulletin

Date: 6/91 Page 1 of 1 Bulletin No. 538

Subject: REMOTE PANELS AND GAUGE PACKAGES Ref. File # C-37

Model(s) or Series: MDL3, MDL4, MDL6 Effective: IMMEDIATELY

After the following serial numbers, remote panels used on the 12V MDK become the panels for both the MDK and MDL models.

SERIAL NUMBER CUT-OFFS FOR REMOTE PANEL CHANGE:

| MODEL | | AFTER THIS SERIAL NUMBER USE NEW PANEL |
|----------|----|--|
| 12MDL3P | 3A | 368826 |
| 12.5MDL3 | } | 374372 |
| 15MDL3 | | |
| 16MDL4 | | |
| 20MDL4 | | |
| 25MDL6 | | |
| 30MDL6 | | |

| EARLY- BEFORE SERIAL NUMBER CUTOFF | LATE- AFTER CUTOFF |
|------------------------------------|--------------------|
| 12V Basic Panel 300-3672 | 300-3469 |
| 12V Deluxe Panel 300-3673 | 300-3470 |
| 12V Remote Gauge Package 300-3262 | 300-3264 |
| 24V Remote Gauge Package 300-3263 | 300-3992 |

Circuit drawings also change. Remember- the set nameplate also identifies the correct drawing:

| EARLY- BEFORE SERIAL NUMBER CUTOFF | LATE- AFTER CUTOFF |
|------------------------------------|--------------------|
| 612-6530-01, -02 | 612-6579-01, -02 |
| 612-6518-01, -02 | 612-6580-01, -02 |
| 612-6517-01, -02 | 612-6581-01, -02 |
| 612-6515-01, -02 | 612-6582-01, -02 |
| 612-6516-01, -02 | 612-6583-01, -02 |
| 612-6513-01 | 612-6584-01 |
| 612-6514-01 | 612-6585-01 |
| 612-6512-01 | 612-6586-01 |
| 612-6511-01, -02 | 612-6587-01, -02 |
| 612-6509-01, -02 | 612-6588-01, -02 |

This bulletin is for informational purposes.
Charles L. Babcock
Manager, Field Service



Product Support Bulletin

Date: 6/91

Page 1 of 2

Bulletin No. 539

Subject: MANDATORY APPLICATION REWORK

Ref. File # E223

Model(s) or Series:

P220G-I/11072C
P220G-I/11124C

Effective:

Immediately

The Grasshopper Model 720 is involved in a mandatory application rework; we are issuing this bulletin to Onan's distributor/dealer network to inform them of this rework.

If you receive the above mentioned engine specs that have exhibited: head gasket failures, intake valve seat failures, detonation or high oil consumption due to overheating, verify with the customer that the engine is from a Grasshopper 720 tractor. If the engine is from this application, ask the customer if the mower has been retrofitted with a new "air inlet duct panel". If the unit has not been, then refer the customer to his local Grasshopper dealer to have the modification installed. If the engine is still within the warranty period (2 years from date of original purchase), make the necessary repairs to the engine under warranty.

Standard Warranty applies.

Mark LaDouceur
Manager, Field Service
Engine Business Unit

ML/gf



Product Support Bulletin

Date: 9/91 Page 1 of 2 Bulletin No. 540

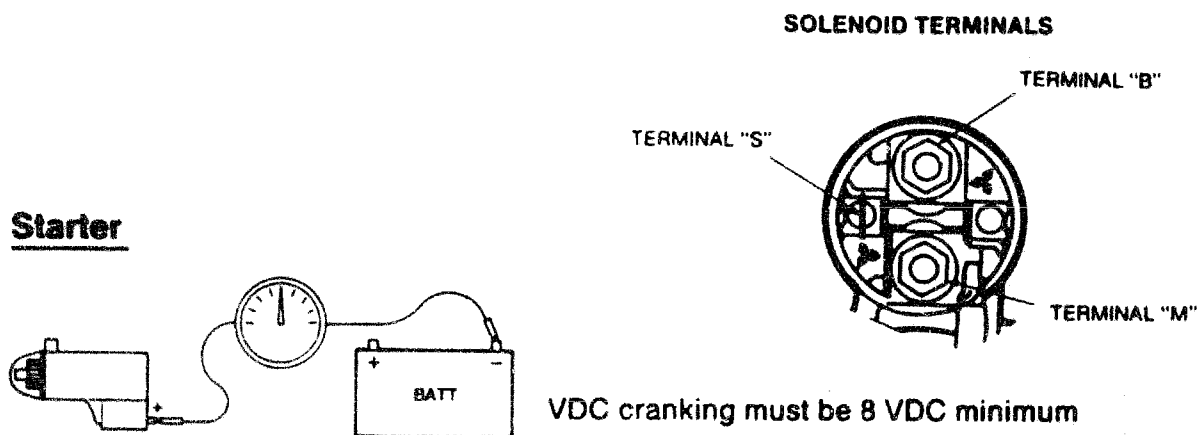
Subject: Starter Engagement Troubleshooting Ref. File # E-224

Model(s) or Series: Performer Engines

Effective: Immediately

If the engine is experiencing excessive noise while cranking, binding, sticking or premature ring gear wear, this may be caused by several factors. When troubleshooting, check the following:

- * DC voltage at the starter solenoid terminal "S" when cranking. It must be a minimum of 8 volts.



- * Loose starter mounting bolts. Torque must be 19-21 Ft.Lbs. (25-2 N Loosen bolts. Push starter toward flywheel, torque bolt nearest flywheel first, then outboard bolt.
- * Pinion gear backlash to ring gear. Check at several places around ring gear. Backlash target is .008 - .050.

Procedure for checking starter gear backlash:

1. Pull spark plug wires off spark plugs and remove spark plugs

WARNING ACCIDENTAL STARTING OF ENGINE CAN RESULT IN SEVERE PERSONAL INJURY OR DEATH. REMOVE SPARK PLUGS BEFORE PROCEEDING.

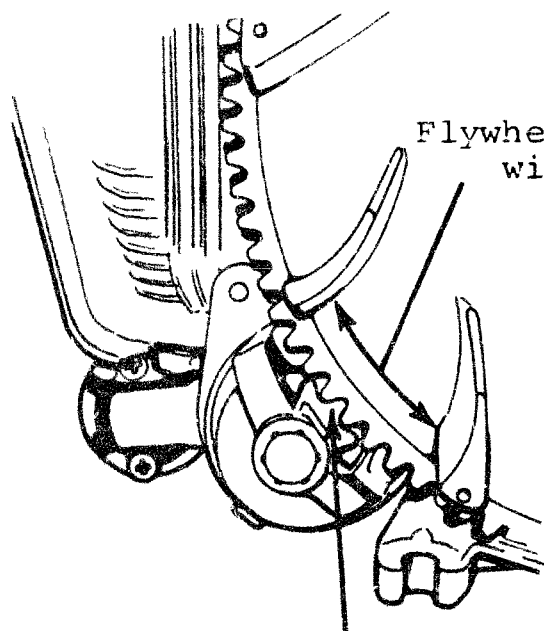
2. Remove front blower housing and battery positive cable from starter

WARNING ELECTRICAL ARCING CAN CAUSE SEVERE PERSONAL INJURY. DO NOT ALLOW POSITIVE CABLE END TO TOUCH ANYTHING!

3. Connect a jumper wire between the end of the positive end removed in Step #2 and solenoid terminal (terminal S) of the starter. This will engage the pinion gear into the flywheel. DO NOT ENGAGE FOR OVER 30 SECONDS! Let rest 2 minutes for every 3 seconds engaged.

CAUTION OVERHEATING THE SOLENOID CAN CAUSE STARTER DAMAGE.
ALLOW 5 MINUTES FOR SOLENOID TO COOL IF ENGAGED FOR LONGER THAN 30 SECONDS.

4. Measure gear backlash with narrow auto ignition type feeler gauge, round wire feeler gauge or small drill bit. Position flywheel so that only one tooth of pinion gear engages ring gear. Measure on back side of tooth engagement.



.008-.050 (.203-1.27mm)

Flywheel gear free travel when engaged with starter gear

Starter motor pinion gear

5. Measure backlash measurements at two other locations around the ring gear. If the backlash exceeds .050, examine the starter for bushing wear or a bent armature shaft. If these are okay, check the starter mounting boss area on the block for damage, wear or cracking. Loosen mounting bolts and adjust starter toward flywheel. Torque inboard bolt first, then outboard bolt. Repeat backlash test. If starter checks okay and cannot be reinstalled and adjusted to maintain backlash of .050 or less, replace the block. (and ring gear if damaged).
6. Remove jumper wire, install blower housing, replace battery cable to starter and install spark plugs and spark plug wires.

This bulletin is for information purposes only.
Standard warranty applies.

Mark LaDouceur
Mark LaDouceur



Product Support Bulletin

Date: 7/17/92 Page 1 of 1 Bulletin No. 541

Subject: COOLANT FILL

Ref. File # E-225

Model(s) or Series: DGEA, DGFA, DGFB,
CT60, CTA61, CTA62

Effective: Immediately

Engine damage and coolant heater failures can result from improper filling of the cooling system.

When filling the cooling system on these models, the vent valves must be opened. If the valves are not opened, the cylinder block and head will not fill completely with coolant. Running the engine, even for hours under load, will NOT vent air from the cooling system. The proper filling procedure is:

1. Consult the Operator's Manual for cooling system capacities and Important Safety Considerations.
2. Be sure the genset is cool. Remove radiator cap, and open both the cylinder block and aftercooler vent valves (on units with aftercoolers).
3. Using a jug (not a hose!) pour the 50/50 mix of water and antifreeze into the radiator, closing the vent valves when water, free of air bubbles, runs from them.
4. Replace the radiator cap.
5. Operate the engine under load, until the coolant reaches operating temperature.
6. Allow the unit to cool, and carefully remove the radiator cap.
7. Top off the coolant level, and replace the radiator cap.

This bulletin is for informational purposes.

Richard F. Demont

Richard F. Demont
Manager, Technical Service
Industrial Products



Product Support Bulletin

Date: Nov. '91 Page 1 of 2

Bulletin No. 542

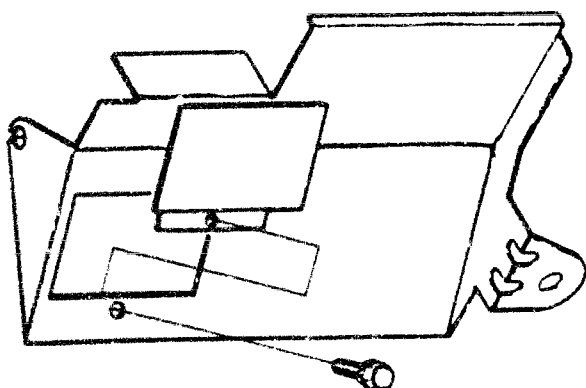
Subject: Engine Overspeed

Ref. File # E-226

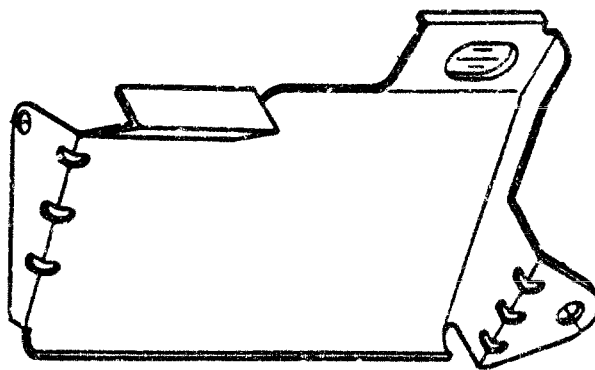
Model(s) or Series: Elite E125V Spec B

Effective: Immediately

Some E125V Spec B engines were built with Spec A cylinder air deflectors. This may cause the throttle linkage to bind or stick which can cause an overspeed condition. The illustration below shows the correct air deflector for Spec B Elite engines.



INCORRECT



CORRECT

If the correct air deflector is on the engine, adjust the governor per instructions in the Service manual. If the incorrect deflector is on the engine, order P/N 134-4743-50 and install per the following instructions

WARNING IGNITION OF FUEL CAN RESULT IN SEVERE PERSONAL INJURY OR DEATH
DO NOT SMOKE OR ALLOW ANY SPARK, PILOT LIGHT OR ARCING
EQUIPMENT NEAR THE FUEL SYSTEM.

REMOVAL

1. Shut off fuel supply with valve on bottom of fuel tank.
2. Use clamp to pinch fuel line near carburetor to prevent fuel in the line from leaking.
3. Using a 12mm wrench, remove the bolt at the bottom of the carburetor float bowl. There is gasoline in the bowl. Use towel or rag to mop up spilled fuel. Remove float bowl from carburetor.

WARNING IGNITION OF FUEL CAN RESULT IN SEVERE PERSONAL INJURY OR DEATH
THOROUGHLY CLEAN UP AND PROPERLY DISPOSE OF SPILLED FUEL.

4. Remove the two 13mm capscrews from the air deflector, slide deflector to the left. Remove and discard.

Oct. '91 - PSB #542

Page 2 of 2

REASSEMBLY

1. Slide new deflector under carburetor float assembly and install the two 13mm capscrews. Torque 8-15 Ft.-Lb (11-20 Nm).
2. Install the carburetor float bowl.
3. Remove clamp from fuel line and turn on fuel supply valve at bottom of fuel tank.
4. Check for fuel leaks and verify free movement of throttle linkage.

This bulletin is for informational purposes only.
Standard Warranty Applies.



Mark LaDouceur
Manager, Field Service
Engine Business Unit

The following catalog has gaps in its page numbers, or doesn't have any numbers. We have chosen to leave the page numbering in the order that Acrobat assigns it.



Product Support Bulletin

Date: 12/91 Page 1 of 1 Bulletin No. 543

Subject: BREAK-IN

Ref. File # S-300

Model(s) or Series: EN Series

Effective: IMMEDIATELY

In most applications, sufficient load is applied during exercise periods and outages to accomplish engine break-in. There are applications where exercise is performed without load or building load is small. In these instances, engine break-in is prolonged or doesn't occur, resulting in higher than normal oil consumption.

All Cummins/Onan gensets are run and tested prior to shipment. This period of operation is sufficient to check set performance and capability, but does not constitute a proper break-in.

In installations where no-load exercise or light load operation will be experienced, it is recommended that the set be load banked as part of the set acceptance.

| RECOMMENDED LOAD BANK PROCEDURE | | |
|---------------------------------|--------------|-----------------------|
| | <u>HOURS</u> | <u>% OF FULL LOAD</u> |
| FIRST | 0.5 | 0 |
| | 0.75 | 25 |
| | 1.0 | 50 |
| | 0.5 | 75 |
| | 0.25 | 100 |
| LAST | <u>0.25</u> | 0 |
| TOTAL | 3.25 | |

It is also recommended that sets which exercise at no-load or operate at light loads, be load banked for a minimum of 3 hours at least once a year, with at least one of these hours at or near full load.

This bulletin is for informational purposes.

Charles L. Babcock
Manager, Field Service



Product Support Bulletin

Date: 3/92

Page 1 of 1

Bulletin No. 544

Subject:

**SERVICE SPECIFICATIONS:
OIL PRESSURE**

Ref. File #

8-301

Model(s) or Series:

BGD, BGE, BGM, NHD, NHE, NHM

Effective:

IMMEDIATELY

Oil pressure specifications for all Emerald, Commercial Emerald, and Marquis should read as follows:

| | | |
|---------------------------------------|---------------------|---------------------|
| MODEL: | BGD, BGE, BGEL, BGM | NHD, NHE, NHEL, NHM |
| PRESS. RELIEF BYPASS BOLT: | 801-0049 | 801-0050 |
| BOLT LENGTH: | 7/8" | 1.0" |
| TYPICAL WARM 1800 RPM PRESSURE: | 13.5psi | 21psi |

Other specifications listed in earlier and current service literature and not matching the above figures are in error and should be disregarded.

This bulletin is for informational purposes.

Mark LaDouceur
Manager, Field Service
Mobile Power Systems Group



Product Support Bulletin

Date: 5/92 Page 1 of 1 Bulletin No. 545a

Subject: SPARK PLUG CHANGE
167-0272

Ref. File # S-302

Model(s) or Series: BGD, BGE, BGM, NHD, NHE, NHM Effective: IMMEDIATELY

A new spark plug has been released for all Emerald, Commercial Emerald, and Marquis models. This plug was specifically designed for Onan, and combines good durability with a reduced tendency to foul under extended periods of light load running or frequent start/stop cycles. This plug replaces the Champion RS16YC (Onan #167-0263-01) and the NGK TR-5 (Onan #167-0269). For all future plug needs, use:

ONAN
167-0272

IMPORTANT NOTE:

The first version of this bulletin -PSB 547- incorrectly identified the old spark plug part number. To avoid confusion, discard all copies of PSB547 and replace them with PSB 547a.

The (old) 167-0263-01 and 167-0269 plugs can still be used successfully by customers under typical RV conditions- long running periods under moderate to heavy loads- and the plug can be sold to customers NOT reporting problems with plug life. Existing inventories of these plugs need not be scrapped.

This bulletin is for informational purposes.

Chuck Babcock
Manager, Field Service
Mobile Power Systems Group



Product Support Bulletin

Date: 3/92 Page 1 of 1

Bulletin No. 547a

Subject: PRODUCT ENHANCEMENT- AERIAL Ref. File # 8-303
LIFT TRUCK APPLICATIONS

Model(s) or Series: BGD, NHD **Effective:** IMMEDIATELY

Product enhancement kits are now available for BGD and NHD generator sets used in aerial lift truck applications. The kits are designed to improve performance in this unique application, which includes frequent starting and short periods of operation in cool ambients at light loads. Typically used by telephone companies and cable television installers, there have been reports of spark plug fouling and/or fuel in the oil. The kit includes a new faster acting automatic choke, new design spark plugs, and improvements to the preheater.

When installing the kit, the fuel system on the truck should be inspected, and the fuel pressure measured at the generator with the truck engine on AND off. The kit can improve performance issues caused by frequent starting, but only if the fuel pressure to the generator is within Onan specifications. The fuel pressure must be less than 1.5psi to the fuel pump and less than 6psi to the carburetor.

Onan will reimburse the distributor for the cost of the kit. On Commercial Emerald (BGD and NHD) sets in service after 11/1/90, Onan will also reimburse the distributor one hour labor to install the kit. This offer expires December 31, 1992. All kits will be supplied exclusively through the Onan dealer/distributor network. The dealer/distributor should order:

```
-----  
| for BGD 146-0586 |  
| for NHD 146-0587 |  
-----
```

**PRODUCT ENHANCEMENT- AERIAL
LIFT TRUCK APPLICATIONS (continued)**

P8B547a


The dealer/distributor will bill the customer for the cost of the parts. On receipt of the model, serial number, and warranty start date, the distributor will file a warranty claim for this cost (plus one hour labor for sets in service as of 11/1/90). The customer should not pay parts costs once the set has been identified.

Distributors are urged to confine their early orders to immediate needs only. Onan will meet parts needs over the year, but we will reserve the right to limit quantities, in order to discourage stocking for inventory rather than to meet standing orders.

This kit changes the choke from an AC type powered by the generator windings to a DC type powered by the battery. This results in wiring changes unique to units equipped with external battery chargers. Installing the kit on units without external chargers will place greater load on the genset battery, resulting in greater chance of dead batteries. As a result, the kit should NOT be used on RV units: BGE, BGM, NHE, or NHM.

We recognize that there are situations where the distributor does not provide the service work for specific aerial lift trucks. In such cases, we will work through the distributor and the end user to make the program work smoothly.

This bulletin is for informational purposes.


Mark LaDouceur
Manager, Field Service
Mobile Power Systems Group



Product Support Bulletin

Date: 1/92

Page 1 of 1

Bulletin No. 548

Subject:
CHANGE IN UNDERFLOOR
HOUSING KITS

Ref. File # S-304

Model(s) or Series: BGE


Effective: IMMEDIATELY

Ford Motor Co. has redesigned their 1992 Type C RV cutaway chassis. The redesign moves the emergency brake cable to the outside of the frame rail. As a result of this change, there is a possibility of the underfloor mounting system of the genset interfering with the emergency brake cable.

To compensate for Ford's change, we have changed the underfloor mounting kit for the BGE. The kit being used until now, 405-3335, has been changed to 405-4768. Any 405-3335 kits you have in stock can be used on RV chassis except 1992 and later Fords.

Underfloor kit 405-4768 must be used on the 1992 Ford chassis. Identify a 1992 chassis by inspecting the emergency brake cable location. If the cable is OUTside the frame, it is a 1992 chassis, and must take the 405-4768 kit.

This bulletin is for informational purposes.


Mark LaDouceur
Manager, Field Service
Mobile Power Systems Group



Product Support Bulletin

Date: 2/92 Page 1 of 1 Bulletin No. 550

Subject: Oil Leaks

Ref. File # E-227

Model(s) or Series: Performer Engines

Effective: Immediately

Some Performer engines are experiencing oil leaks due to porosity in the cylinder block. In many cases, short blocks are being needlessly replaced to correct this situation. If the oil leak is due to porosity in the block behind a front gear case cover dowel pin or in an area of the block that can be drilled, acceptable repairs can be made to the block which will NOT require a short block.

Porosity behind front gear case dowel pin

1. Remove dowel pin and clean pin cavity.
2. Loctite 242 (P/N 518-0612) should be installed in pin cavity.
3. Install a .250 inch diameter round lead ball into the cavity. The lead ball is hammered into the bottom of the pin cavity with a rounded off driver, compacting the Loctite into the porosity and sealing it.
4. Reinstall dowel pin.

Porosity in the Block

1. Use a 1/8-24 x .250 inch set screw to seal porosity.
2. Drill and tap a hole in the center of the porosity.
3. Loctite 545 (P/N 518-0616) the hole.
4. Install set screw flush with outside surface of the block.

Always follow standard shop safety practices, including protective eye wear.

This bulletin is for information purposes only.
Standard warranty applies.

Mark LaDouceur
Manager, Field Service
Mobile Business Group



Product Support Bulletin

Date: 7/17/92 Page 1 of 1 Bulletin No. 552

Subject: LOW AND/OR FLUCTUATING
AC OUTPUT

Ref. File # C-39

Model(s) or Series: DFxx, NTxx, NTAxx, KTAxx, VTAXx with 12 Lead Generators
and MX321 Voltage Regulators

Effective: Immediately

If output voltage is low or unstable and the UFRO LED on the regulator is flickering or on continuously and AVR adjustments have no effect, you may need to add isolation transformer kit 300-4154. This kit includes Instruction Sheet C-398, 6 leads, mounting hardware, and a 305-0868 transformer assembly.

This situation is caused by capacitive coupling of the PMG windings to ground. Installing isolation transformers to the sensing circuit breaks the direct connection to the main stator and prevents the flow of current to ground.

The situation is most likely to occur in damp or humid locations on sets using the MX321 voltage regulator 305-0823 (Newage E000-23210) with a MOD date code on the date sticker starting with "E" (MOD E introduced Nov. 1989). Manufacture date sticker is on the back side of the regulator. (e.g. D8943 1 would signify a MOD D).

Normal warranty applies.

Richard F. Demont

Richard F. Demont
Manager, Technical Service
Industrial Products



Product Support Bulletin

Date: 2/26/92 Page 1 of 2 Bulletin No. 553

Subject: ELECTRONIC GOVERNORS

Ref. File # E-229

Model(s) or Series:

ES, EK, EM

Effective:

Immediately

If engine instability is experienced on these models, make sure:

1. Spark plugs are clean and gapped properly.
2. No air leaks in intake system.
3. Carburetor is adjusted properly.
4. Governor linkage isn't binding.
5. Distributor cap, rotor, and plug wires are good.

If the previous items are okay, there are governor controllers with additional adjustments that in most cases will stabilize the engine.

On "ES" use 151-0693 in place of 151-0565.

On "EK and "EM" use 151-0624 in place of 151-0604.

See page two for wiring and adjustments.

This bulletin is for informational purposes only.

Richard F. Demont
Manager, Technical Service
Industrial Products

GOVERNOR ADJUSTMENT

1. Start up the set without any load connected.
2. Adjust the DROOP potentiometer to 0 (Figure 1).
3. Adjust the SPEED potentiometer to obtain 50 or 60 Hz., as appropriate.
4. Adjust the GAIN potentiometer clockwise until the engine begins to hunt. Turn the adjustment back until the engine is again stable (no audible hunting).
5. Adjust the D potentiometer as in step 4.
6. Manually push the governor linkage to the minimum speed position and hold it there until the engine reaches minimum speed. Release the lever and observe the overshoot on the frequency meter. Adjust the I potentiometer counterclockwise slightly to decrease overshoot. Some overshoot is acceptable. Repeat as necessary.
7. Connect approximately 1/4 of the full rated load and adjust the GAIN potentiometer as in step 4.
8. Connect the full rated load while the set is running without load. Shut down the set if it does not pick up the load. Lengthen the governor rod by half turns of the swivel ends until the set is able to pick up the load.
9. Check operation for stability at various loads.
10. Stop the set by turning the control panel switch to OFF.
11. Restart the set and check for speed overshoot. If the set shuts down because of overspeed, check for binding in the linkage and repair.
12. Set the lock nuts on the governor rod and check the linkage again for binding.

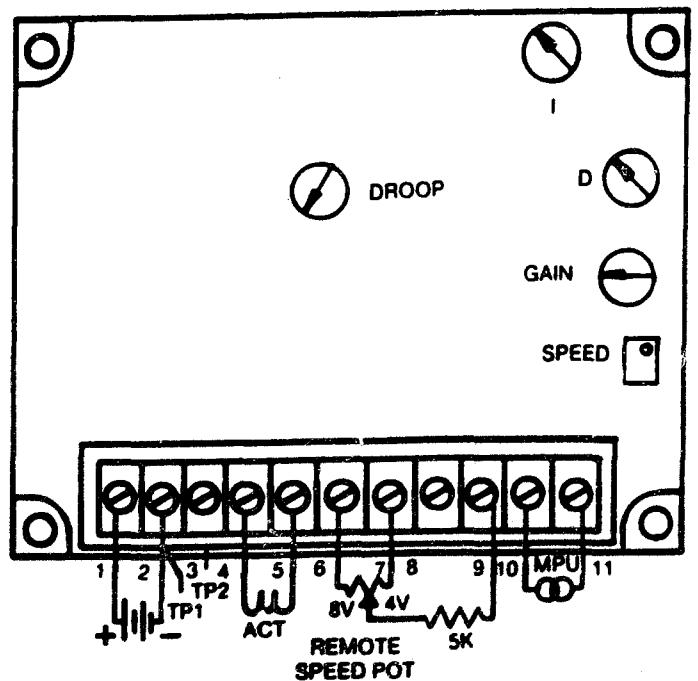


FIGURE 1. CONTROLLER WIRING CONNECTIONS AND ADJUSTMENTS



Product Support Bulletin

Date: 3/92 Page 1 of 1 Bulletin No. 554

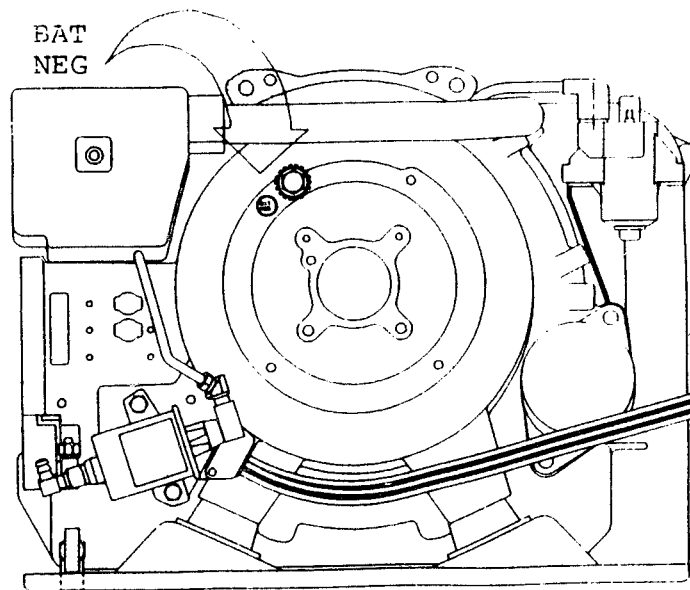
Subject: NEGATIVE BATTERY CABLE CONNECTION

Ref. File # S-305

Model(s) or Series: Emerald;TM MarquisTM
All Commercial/Mobile Emeralds

Effective: Immediately

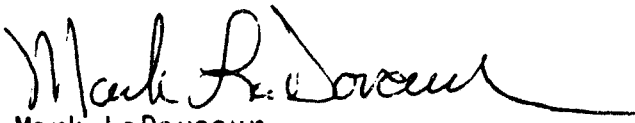
We are changing the recommended location for the battery negative connection on the Emerald and Marquis gensets. The recommended connection point was on the mounting tray at any mounting bolt location. We now supply a bolt and star washer, located on the endbell of the generator, to connect the battery negative cable. This change reduces the chance of poor engine ground connections caused by painted surfaces. We are clearly marking this connection point on all units with the words "Bat Neg" inside a circle.



This drawing depicts an Emerald, but change
is applicable to all listed gensets.

This change is recommended on new installations and where poor grounding is a problem. This change is being implemented now; therefore, all units with serial numbers starting with B92 will include this bolt and star washer.

This Bulletin is for informational purposes only.


Mark LaDouceur
Manager, Field Service
Mobile Power Systems Group



Product Support Bulletin

Date: MAR. '92 Page 1 of 1

Bulletin No. 555

Subject: Poor Starting, Misfire,
Low Power, Vibration and
Running on one Cylinder

Ref. File # E-229

Model(s) or Series: Performer Engines and
Performer Powered Gensets

Effective: Immediately

A fiber and rubber intake manifold gasket P/N 154-2745 was used in production and sold as replacement parts from February 1988 through August 1990. This gasket material was made from 2 plies bonded together. The gasket may separate between the plies, flake, erode or crack. The air leak caused by the damaged gaskets may cause poor starting, instability, low power and vibration due to a lean fuel/air ratio mixture. For engines experiencing these symptoms, replace the intake gaskets with graphoil intake manifold gaskets P/N 154-2495.

Check your parts stock. If any intake manifold gaskets P/N 154-2745 were purchased prior to August 24, 1990, return them with a spare parts warranty claim. Intake gaskets purchased after August 24, 1990 were graphoil gaskets P/N 154-2495. Gaskets that are metal clad or graphoil are good parts and may be used. The following gasket kits purchased prior to August 24, 1990 may contain the fiber and rubber 2-ply intake manifold gasket P/N 154-2745.

| | | | | | |
|----------|----------|----------|----------|----------|----------|
| 141-0928 | 168-0138 | 168-0153 | 168-0182 | 168-0187 | 168-0192 |
| 168-0123 | 168-0140 | 168-0178 | 168-0183 | 168-0188 | 146-0475 |
| 168-0124 | 168-0143 | 168-0181 | 168-0185 | 168-0189 | 541-0402 |
| 168-0126 | 168-0144 | | | | |

This bulletin is for information only
Standard warranty applies.

Mark LaDouceur
Manager, Field Service
Mobile Business Group



Product Support Bulletin

Date: 4/92

Page 1 of 1

Bulletin No. 556

Subject: MAGNA ARC ELECTRIC IGNITION

Ref. File # E-231

Model(s) or Series: B, N, & T Series Industrial Engines, B & N Series Gensets

Effective: Immediately

Now you can offer your customers a reliable, economical way to increase engine performance and reduce maintenance costs. MAGNA ARC delivers the spark! MAGNA ARC electronic ignition does not need adjustment or wear out like conventional point and condenser systems.

MAGNA ARC is designed to fit Onan manufactured horizontal twin cylinder engines and generator sets built since 1972 with top adjust points. (except BF and NH power drawer models). It requires no complicated wiring. It's a simple two wire connection to the ignition coil and mounts in place of the existing points box. Order instruction sheet C835 for installation procedures. MAGNA ARC kit P/N is 160-1376 and has a suggested list price of \$89.95.

MAGNA ARC electronic ignition system will fit the following applications:

Industrial Engines

B43E (Spec A-D)
B43G (Spec B-D)
B43M* (Spec A-C)
B48G (Spec B-G)
B48M* (Spec A)
N52M (Spec A-B)
NHA/NHAV (Spec C-D)
NHB/NHBV (Spec C-D)
NHC/NHCV (Spec C-E)
T260G (Spec A-E)

Generator Sets

BF (Spec A-B)
BFA (Spec A-D)
BFAB (Spec J)
BGA/BGAL (Spec A-D)
BGE/BGEL (Spec A-F)
NHD/NHDL (Spec A-B)
NHE/NHEL (Spec A-E)
NH-NON RV (Spec L-R)
NH/NHL - RV (Spec J-P)

*MAGNA ARC ignition system is only compatible to models with top adjust points.

Some industrial engines may require a capacitor P/N 312-0256 wired to the POSITIVE post of the ignition coil to filter out voltage spikes. Any application that uses electric clutches or has other coils of wire in the system will require a capacitor.

This bulletin is for information purposes only.

Mark LaDouceur
Manager, Field Service
Mobile Business Group



Product Support Bulletin

Date: 4-15-92 Page 1 of 1

Bulletin No. 557

Subject: REVISED CHOKE SETTING

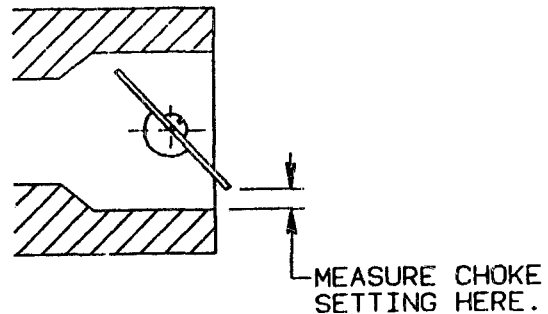
Ref. File # S-306

Model(s) or Series: MAJB

Effective: IMMEDIATELY

A change has been made in choke setting to improve starting. Please insert a copy of this data in your MAJB Service Manual 933-0501 (8-86).

| ENGINE COLD | CHOKE PLATE SETTING | | | | | |
|--------------------------------|---------------------|------|-------|------|-----|------|
| | AMBIENT TEMP °F | | | | | |
| | 40° | 60° | 70° | 80° | 90° | 100° |
| Fraction Drill Size Inch | 7/64 | 5/32 | 11/64 | 7/32 | 1/4 | 1/2 |



Chuck Babcock

Chuck Babcock
Field Technical Service/
Dealer Support



Product Support Bulletin

Date: 10/92 Page 1 of 1 Bulletin No. 558

Subject: **WATER IN ENGINE**

Ref. File #

Model(s) or Series: **MAJB**

Effective: **IMMEDIATELY**

Recently we have had inquiries concerning the effects of excessive cranking or water entering the engine of MAJB gensets.

We have just completed some excessive cranking testing of an MAJB with a lift-type muffler. The set was tested at minimum and maximum vertical lift, and in above- and below-water type installations. The set was tested with the spark plug wire disconnected.

There was no sign of water entering the engine through the exhaust system in any configuration that was tried. The level of water in the muffler remained the same after each test.

If the set is installed per our recommendations it is highly unlikely that water will enter the engine through the exhaust system, even if the engine is cranked beyond recommendations.

If you encounter an MAJB that appears to have ingested water, review the Installation Manual #933-0600 and Technical Bulletin T-021 Marine Gensets, for possible changes that should be made in the installation.

This bulletin is for informational purposes only.

Chuck Babcock
Manager, Field Service
Mobile Business Unit



Product Support Bulletin

Date: 6/5/92 Page 1 of 1 Bulletin No. 559

Subject: PROGRAMMED TRANSITION
DRIVE THROUGH

Ref. File # C-40

Model(s) or Series: 150-260 Amp OT
Transfer Switches
Spec G

Effective: Starting January, 1990

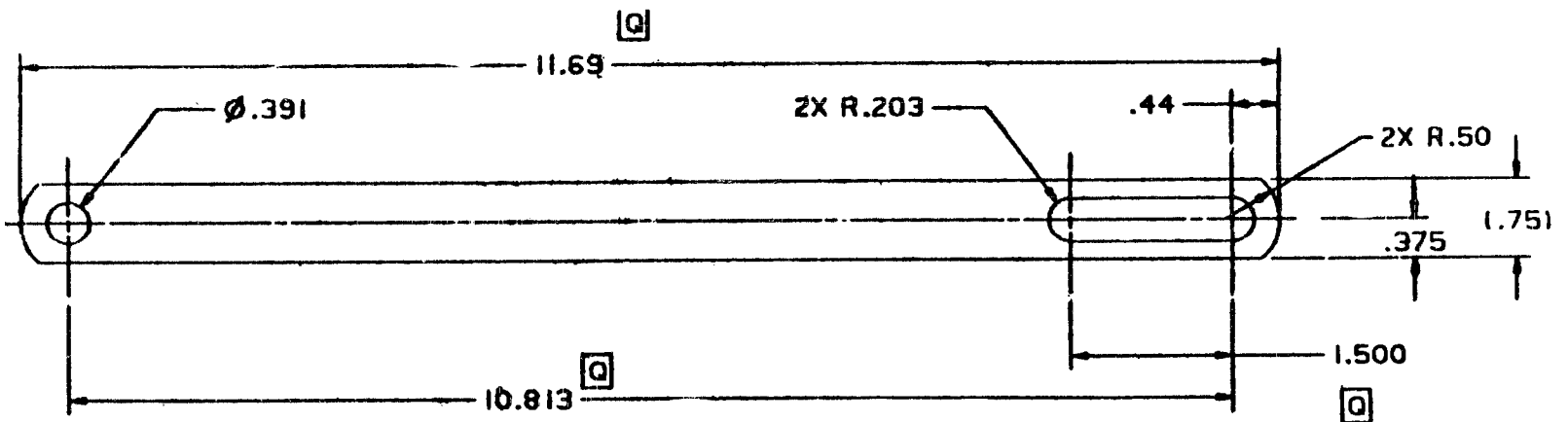
If you experience a transfer switch with programmed transition that doesn't stop in neutral, but drives through from one source to the other, check the mechanical interlock bar.

DANGER: This bar is electrically live. Disconnect the transfer switch from all sources of electricity before touching. Severe personal injury or death may result from contact with a live bar.

After the power has been shut off, verify there's no voltage with a voltmeter before proceeding.

Some bars were found that had the slot on the one end too short. These were removed from production, but some may have gotten into the field. With the short slot, as the power contacts on line open, the interlock bar can hit the emergency side contacts, driving them closed. If you experience that condition, check the dimensions of the mechanical interlock bar against Figure 1 below.

It will be necessary to remove the bar to get accurate measurements. The procedure can be found in the OTIII Service Manual.



If the slot is found to be too short, replace the bar. The part is 306-3482.

Standard warranty applies. This bulletin is for informational purposes only.

Richard F. Demont

Richard F. Demont
Manager, Technical Service
Industrial Products



Product Support Bulletin

Date: 6/92 Page 1 of 1 Bulletin No. 561

Subject:

OIL LEVEL MEASUREMENT

Ref. File #

8-308

Model(s) or Series:

All Gas RV & Commercial

Effective:

IMMEDIATELY

When checking the oil level on these models, always be sure the vehicle is on a flat, level surface. The low, flat design of the oil base in these units means that even minor tilting of the vehicle will result in large errors at the dipstick. For example, a vehicle tilted just 2 degrees with a Marquis set will cause a full oilbase to read 'Add' on the dipstick.

When in doubt, or if a perfectly flat level surface is unavailable, warm the engine, and drain the oil. Then refill according to the specifications in the Operator's Manual.

This bulletin is for informational purposes.

Chuck Babcock
Field Technical Service/
Dealer Support



Product Support Bulletin

Date: 3/93

Page 1 of 1

Bulletin No. 562

Subject:

Ref. File #

**NEW EMERALD 3-PHASE
VOLTAGE REGULATOR**

Model(s) or Series:

BGD, NHD (3Ø ONLY)

Effective:

IMMEDIATELY

Beginning spec G, all three-phase (voltage code FD) Commercial Emeralds will now feature the SR1900 voltage regulator. This regulator offers many advancements over the old (305-0830-03) regulator, including:

- Repositioned for Easier Service
- New Waterproof Plug (cannot be confused with 1Ø)
- Improved Motor-Starting
- Improved Reliability:
 - Massive Aluminum Heatsink
 - Redundant Design: Three Parallel MOSFET's Replace One
- Output Capped at 62Hz (Eliminates Damage from Accidental Overspeed)

The old (305-0830-03) voltage regulator has been superseded. Orders for the old regulator will be filled with a kit which converts the old to new. This kit includes instructions for remounting the regulator and rewiring the connections. For three-phase voltage regulators, use and stock the following:

SR REGULATOR KIT

305-0883

This bulletin is for informational purposes.

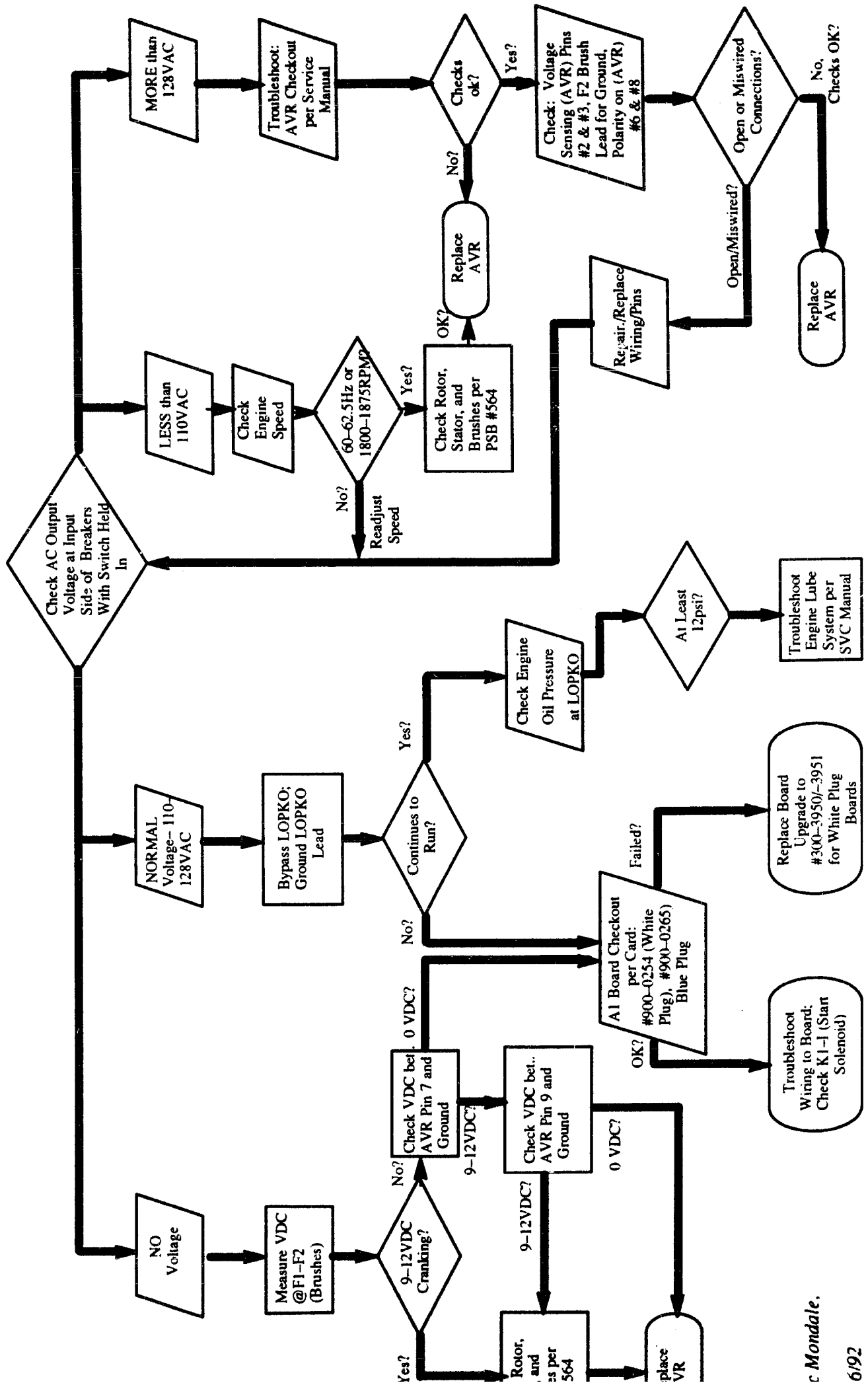
**Mark LaDouceur
Manager
Field Service**



Product Support Bulletin #563

SET DIES WHEN SWITCH RELEASED

—EMERALD AND MARQUIS WITH ELECTRONIC VOLTAGE REGULATOR (AVR)—

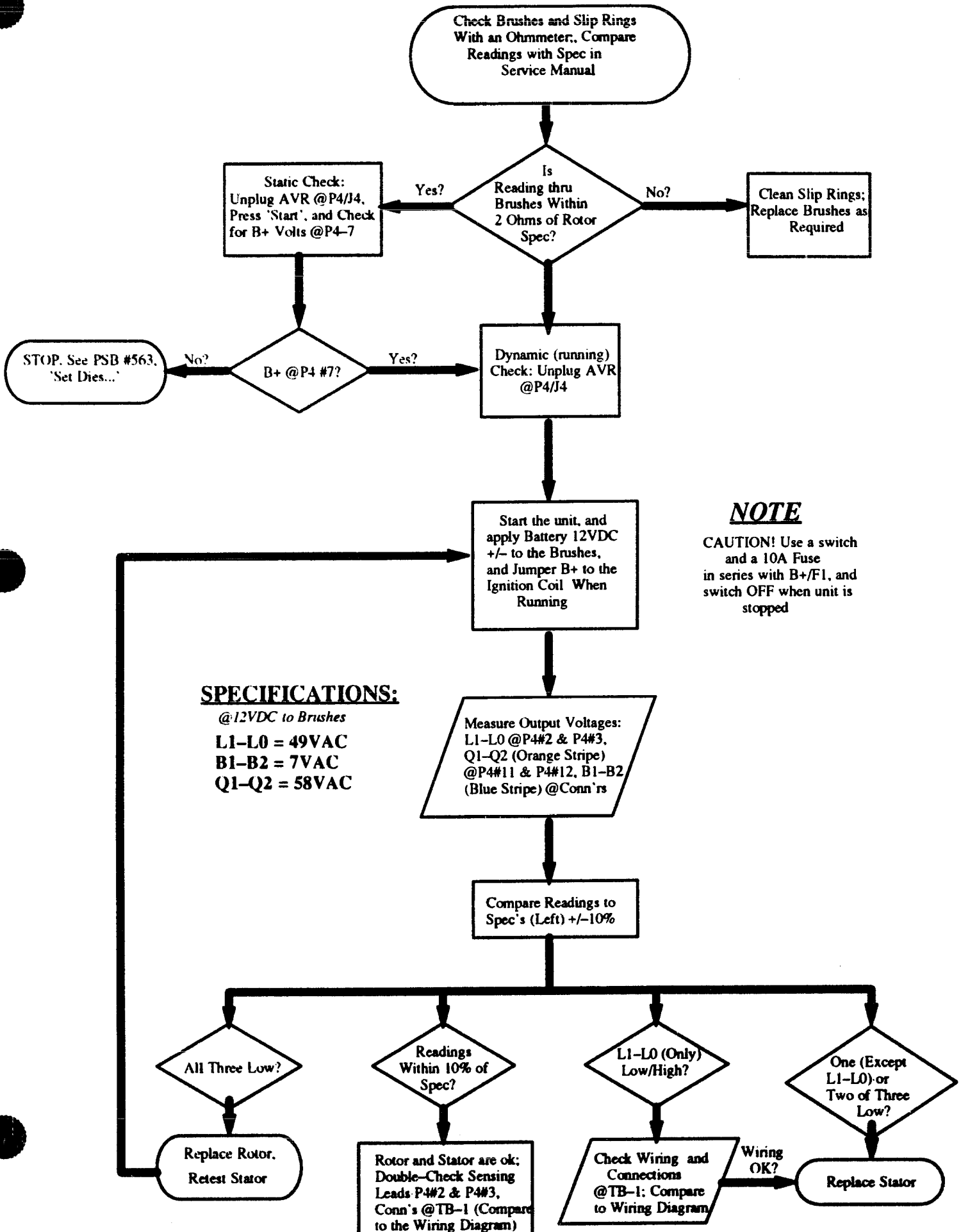




Product Support Bulletin #564

ROTOR/STATOR CHECK

-EMERALD AND MARQUIS WITH ELECTRONIC VOLTAGE REGULATOR (AVR)-



SPECIFICATIONS:

@12VDC to Brushes
 L1-L0 = 49VAC
 B1-B2 = 7VAC
 Q1-Q2 = 58VAC

NOTE

CAUTION! Use a switch and a 10A Fuse in series with B+/F1, and switch OFF when unit is stopped



Product Support Bulletin

Date: 8/92 Page 1 of 1 Bulletin No. 565

Subject: **HARD STARTING-
MANUAL CHOKE CONVERSION**

Ref. File #

Model(s) or Series: **JB, JC (GAS AND GAS/GASE)** Effective: **IMMEDIATELY**

We have reports of hard starting on gasoline versions of the JB and JC even though the (thermo-magnetic) choke is adjusted according to the procedures in the service manual. For situations and customers in which a manual choke is acceptable, the following parts along with a panel-mounted lever and a suitable length of Belden cable (available at most auto parts stores), can be used to convert to manual choke operation:

MANUAL CHOKE CONVERSION

| <u>JB</u> | | <u>JC</u> |
|-----------|---------|-----------|
| 141-0742 | Shaft | 141-0742 |
| 141-0741 | Plate | 141-0741 |
| 153-0327 | Bracket | 153-0327 |
| 518-0176 | Clamp | 518-0176 |
| 153-0328 | Cable | 153-0332 |
| 153-0326 | Arm | 153-0326 |

This bulletin is for informational purposes.

Chuck Babcock
Field Technical Service/
Dealer Support



Product Support Bulletin

Date: 9/92

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Bulletin No. 566

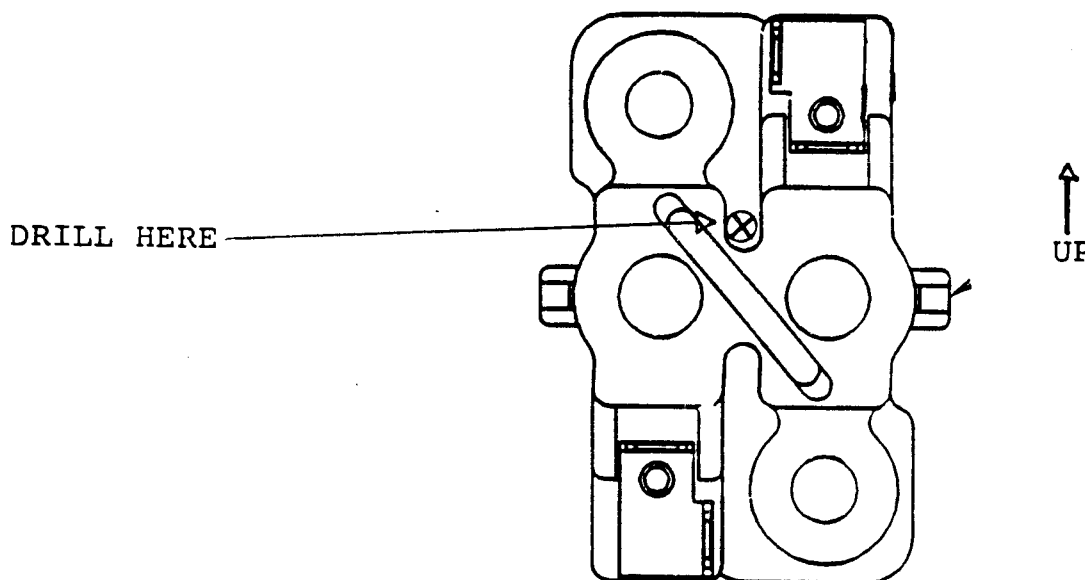
**Subject: LACK OF OUTPUT
IN WET CONDITIONS**

Ref. File # 8-312

Model(s) or Series: BGD, BGE, BGM, NHD, NHE, NHM Effective: IMMEDIATELY

Service Department has received complaints of a lack of ac output in extremely wet conditions. Units experiencing this symptom will run, then die when the 'Start' switch is released, and fail to make AC output. Once the unit is dried out, all functions appear normal.

If you encounter these symptoms, disconnect the battery (negative [-] cable first) and remove the brush cover. Identify the uppermost side of the brush block, and mark it according to the diagram:



Remove the brush block, and drill a $\varnothing 1/8$ " hole through the block at the mark you made. This will allow water to drain, and prevent it from shorting the brush to the block retaining screw.

This bulletin is for informational purposes.

Chuck Babcock

Chuck Babcock
Field Technical Service/
Dealer Support



Product Support Bulletin

Date: 10-92 Page 1 of 1

Bulletin No. 567

Subject: Duel Fuel Option and Kits

Ref. File # 232

Model(s) or Series: Performer Engines

Effective: Immediately

Onan has developed and released for production a duel fuel option for Performer engines. These kits are for equipping a gasoline-fueled Performer engine to utilize LPG as well as gasoline. The LPG mixer is mounted between the air cleaner and the gasoline carburetor. The converter consists of a vaporizer and pressure regulator. It is designed for use with a liquid-withdrawal type of LPG supply system but can also be used with a vapor-withdrawal type of supply system, with a slight loss of performance. The fuel supply connection is at the 1/4-18 NPTF inlet to the electric fuel shutoff valve that is part of the converter kit. The height of the engine will increase approximately 1.5 inches.

The customer must supply their own fuel selector switch (LP and Gasoline shutoff).

Separate kits having different mounting hardware are provided for left-hand or right-hand mounting of the converter. Make sure you have the right kit for the application. To establish left-hand (cylinder #1) and right-hand (cylinder #2) on the engine, face the flywheel end of the engine.

LPG Converter kit 541-0446 is for left hand mounting (P216G, P218G, P220G)

LPG Converter kit 541-0401 is for right-hand mounting (P216G, P218G, P220G)

LPG mixer kit 541-0447 (P216G, P218G, P220G)

LPG Converter kit 541-0442 is for left-hand mounting (P224)

LPG Converter kit 541-0443 is for right-hand mounting (P224)

LPG mixer kit 541-0444 (P224)

This bulletin is for information only.


Chuck Babcock
Manager, Field Service
Mobile Business Group



Product Support Bulletin

Date: 10/28/92 Page 1 of 8 Bulletin No. 569

Subject: TEST PROCEDURE

Ref. File #

Model(s) or Series: BATTERY CHARGERS 305-0812, **Effective:** IMMEDIATELY
305-0813, 300-3152, 300-3257,
300-3298

WARNING: THIS TEST PROCEDURE REQUIRES VOLTAGE TO BE PRESENT FOR TEST PURPOSES. THIS PROCEDURE MUST BE PERFORMED BY QUALIFIED PERSONS ONLY. CONTACT WITH VOLTAGE CAN RESULT IN SEVERE PERSONAL INJURY OR DEATH.

NOTE: None of these chargers will have an output voltage if not connected to a battery or if the battery voltage isn't at least 6.8 volts.

NOTE: Test voltages given are for 12 volt chargers; for 24 volt chargers double the voltage.

A. 305-0812 (12 volt) 305-0813 (24 volt) See Fig. "A".

If the charger doesn't charge and the "S1" switch is in the on position, test for the following. See Fig. "3".

1. Voltage (120 to 600 volts AC see charger nameplate for charger voltage) to the primary of the transformer.
2. 20 VAC to the input terminals of the bridge rectifier "CR1".
3. 20 VDC on the anode of the "CR2" with respect to ground.
4. Battery voltage on the cathode terminal of "CR2" with respect to ground.

All of the previous voltages must be present and the battery voltage must be at least 6.8 volts for the charger to charge. If any voltage isn't present, find out why and correct. If all voltages are present and the charger doesn't charge, go to Step "B".

B. Testing the (CR2) SCR.

WARNING: FOR THIS PROCEDURE, ALL VOLTAGE AC AND DC MUST BE REMOVED FROM THE CHARGER. CONTACT WITH VOLTAGE CAN RESULT IN SEVERE PERSONAL INJURY OR DEATH.

1. Isolate the cathode, anode, and gate leads from the SCR. (See Fig. "2".)
2. With an ohmmeter, check for continuity between the cathode and anode of the SCR. There must be at least 1 meg ohm (1,000,000) of resistance in both polarities. An open circuit is ideal.
3. With a 6 volt lantern battery and 6 volt lamp, connect them as shown in Fig. "1".
 - a. When connected the lamp will be off.
 - b. Momentarily connect a jumper between the anode and gate leads. The lamp should light and remain on when the jumper is removed.
 - c. Disconnect the battery voltage from the SCR, the lamp will go out. The lamp must remain off when battery voltage is reconnected until the SCR is again gated.

IF THE SCR DOESN'T TURN ON WHEN GATED AND THE BATTERY IS CONNECTED WITH THE PROPER POLARITY, REPLACE THE SCR.

4. If all the previous tests are okay, unplug and reconnect the harness to "J1" on the regulator board and look for poor connections and bent pins.
5. Reapply voltage (AC and DC) to the charger and try adjusting the charge rate. If the charger still doesn't charge, remove all voltage from the charger and try a new voltage regulator board.

C. 300-3152 (12/24 volt) See Fig. "B".

1. If the charger doesn't charge and the 12/24 volt selector switch is in the proper position for the system voltage, check for the following. See Fig. "4".
2. AC voltage (120 to 600 volts see the charger nameplate for the proper voltage) to the primary terminals of the "T1" transformer.
3. 20 volts AC to the input of the full wave bridge, made up of diodes CR1, CR2, CR4, and CR5.
4. Battery voltage from the cathode of CR6 (See Fig. "5") with respect to the anode of CR5. Battery volt must be at least 6.8 volts for charger to operate.

All of those voltages must be present for the charger to charge. If any voltage is missing, find the reason and correct. If all voltages are present and the charger doesn't charge, try disconnecting and reconnecting the P9 connector to the regulator board, looking for bad connections and bent pins. If charger still doesn't charge, try a new regulator board.

D. 300-3257 (12 volt) 300-3298 (24 volt) See Fig. "C".

If the charger doesn't charge, test for the following. See Fig. "6".

1. AC voltage (120 to 600 volts, see charger nameplate for the voltage rating) to the primary of the "T1" transformer.
2. 20 volts AC to the input terminals of the (CR1) bridge rectifier.
3. 20 volts DC to the anode (See Fig. "2") of the (CR2) SCR, and the P1-2 terminal to the regulator board.
4. Check for battery voltage at the cathode (See Fig. "2") of the (CR2) SCR, and at the P1-5 terminal to the regulator board.
5. Make sure the P1-4 terminal at the regulator board is connected to ground.

All of the previous voltages must be present and the battery voltage must be at least 6.8 volts for the charger to charge. If any voltage isn't present, find out why and correct. If all voltages are present and the charger doesn't charge, to back to "B" Testing the SCR.



Robert Renner
Sr. Technical Service Representative
Industrial Products

305-0812 12 VOLT

305-0813 24 VOLT

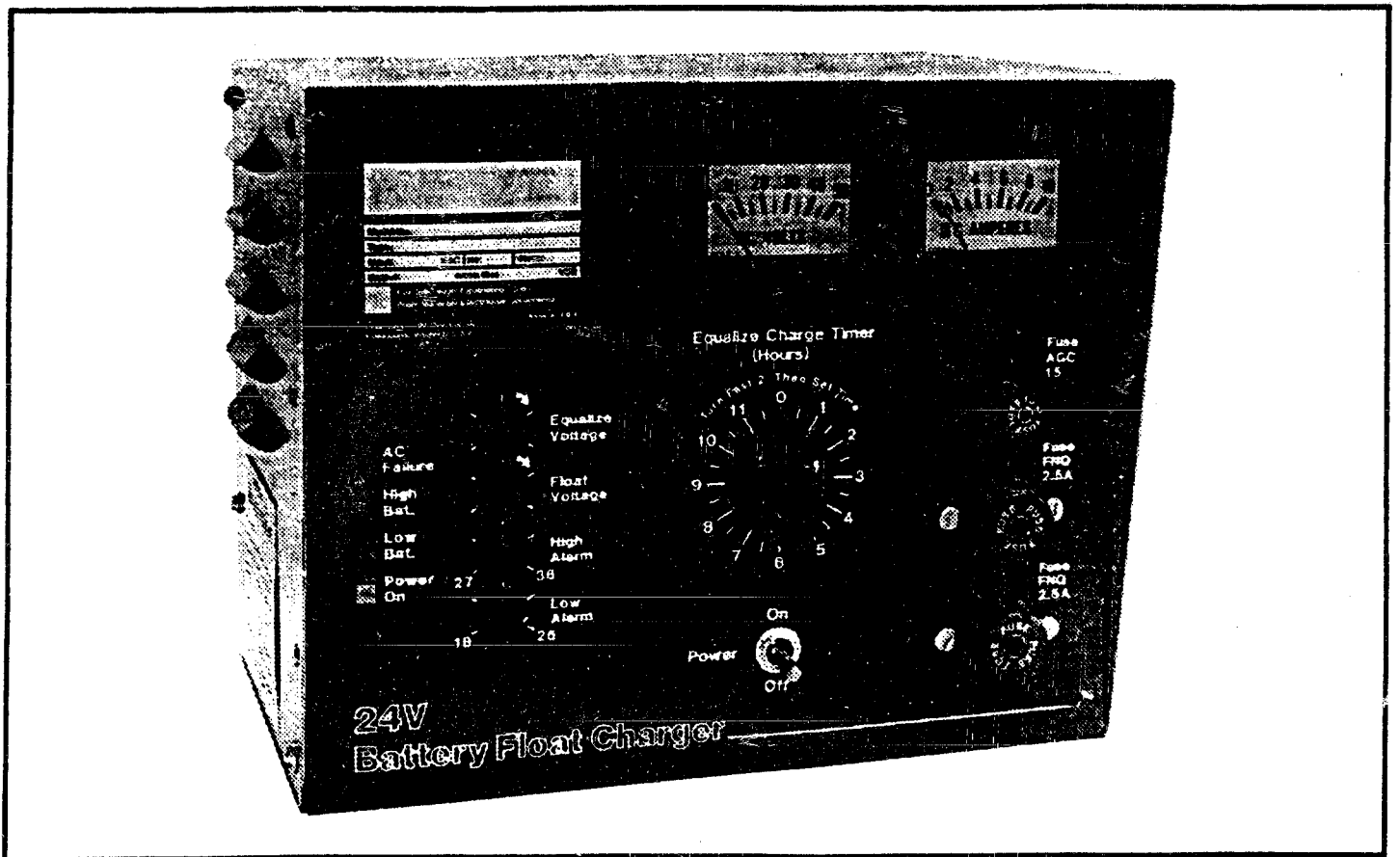


FIG A

300-3152

300-3257 12 VOLT

300-3298 24 VOLT

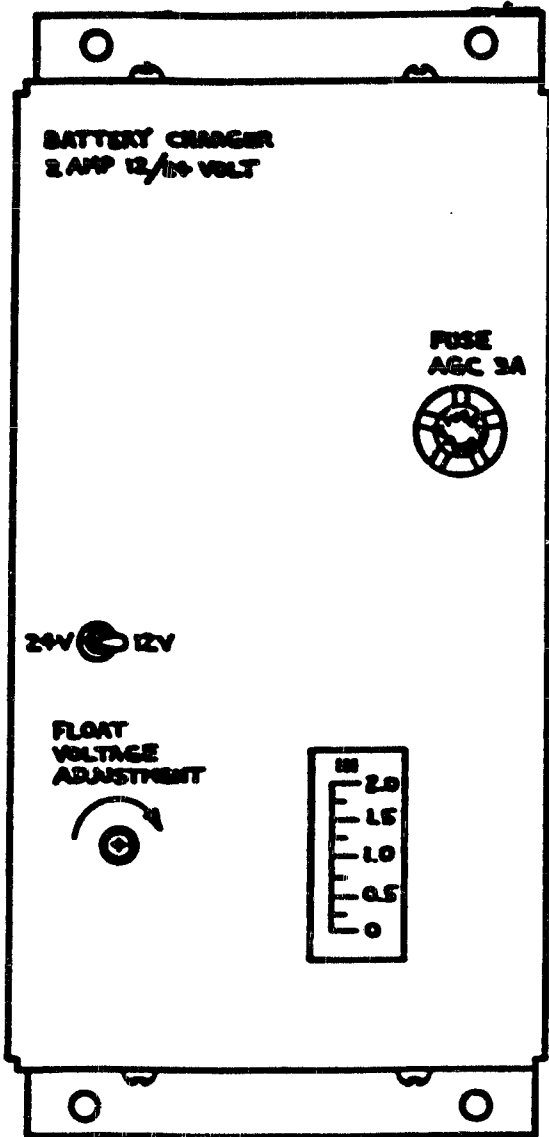


FIG. B

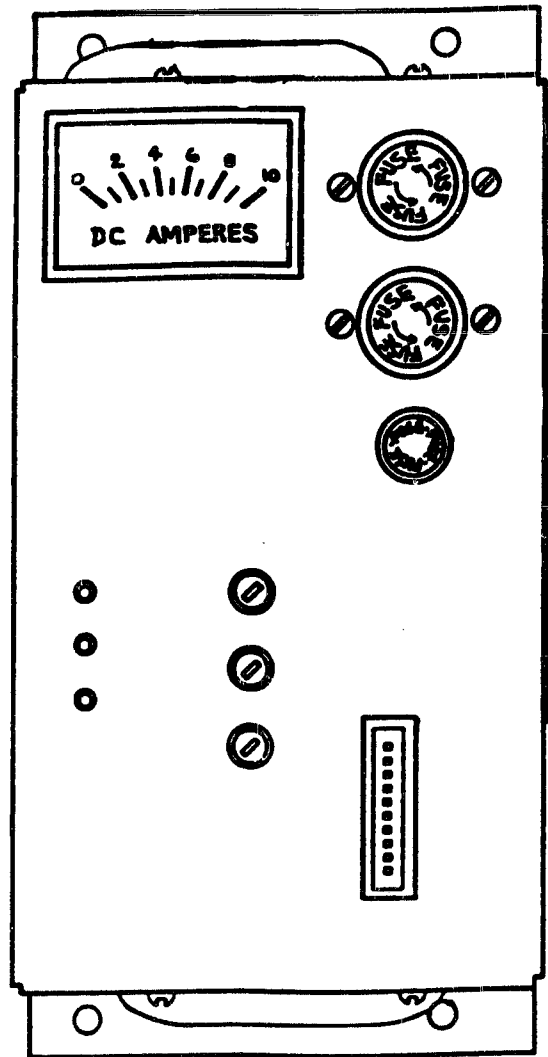


FIG. C

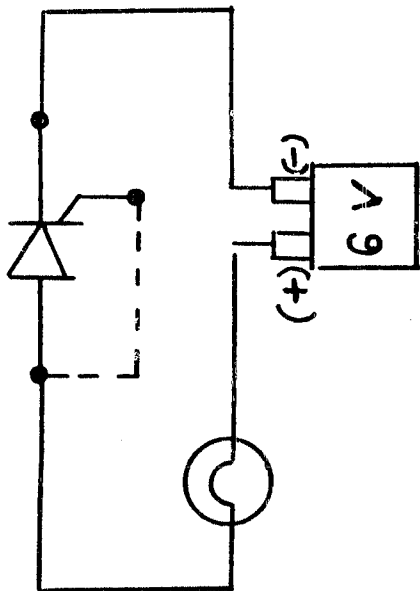


FIG. 1

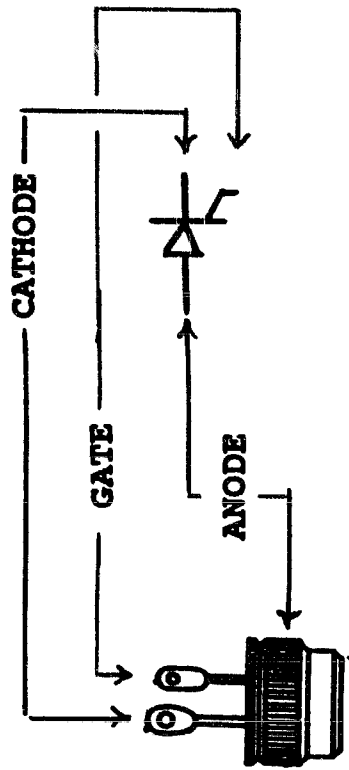
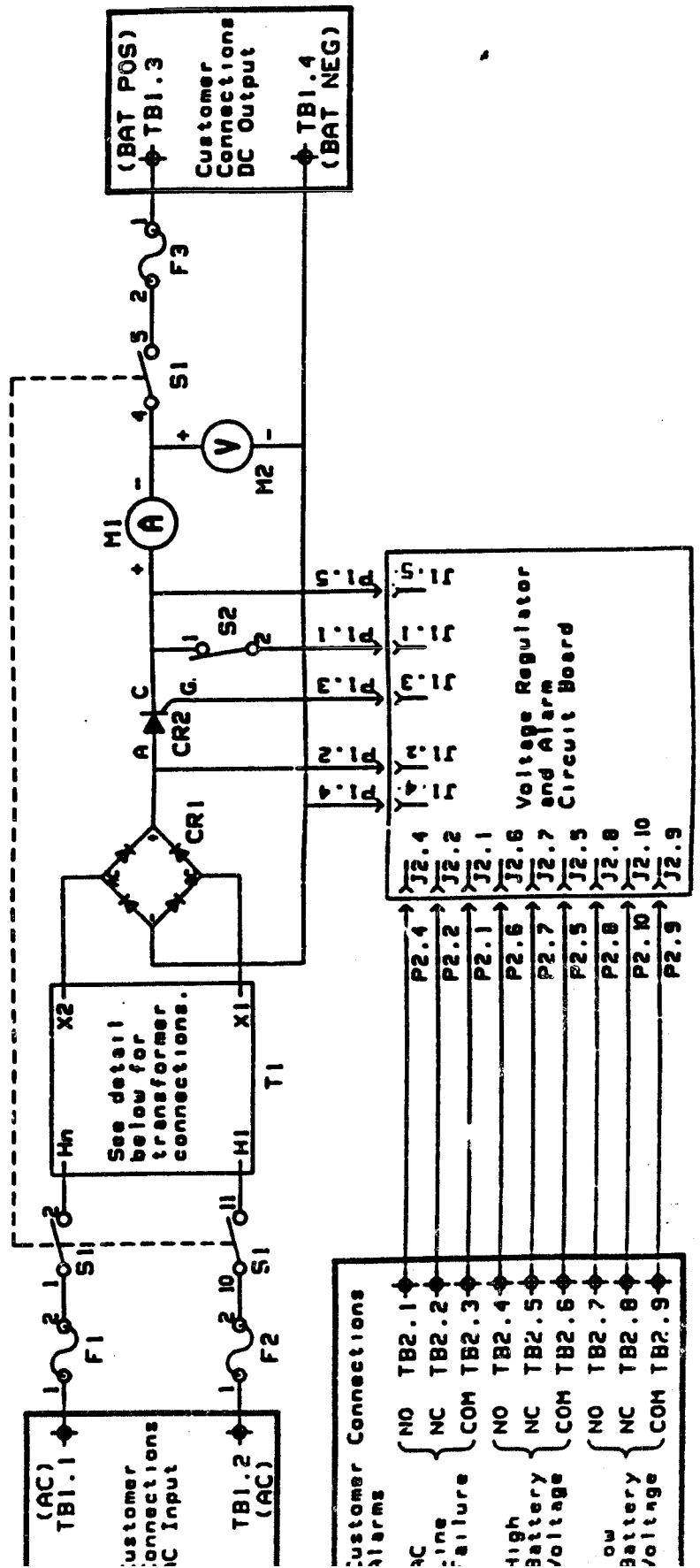


FIG. 2



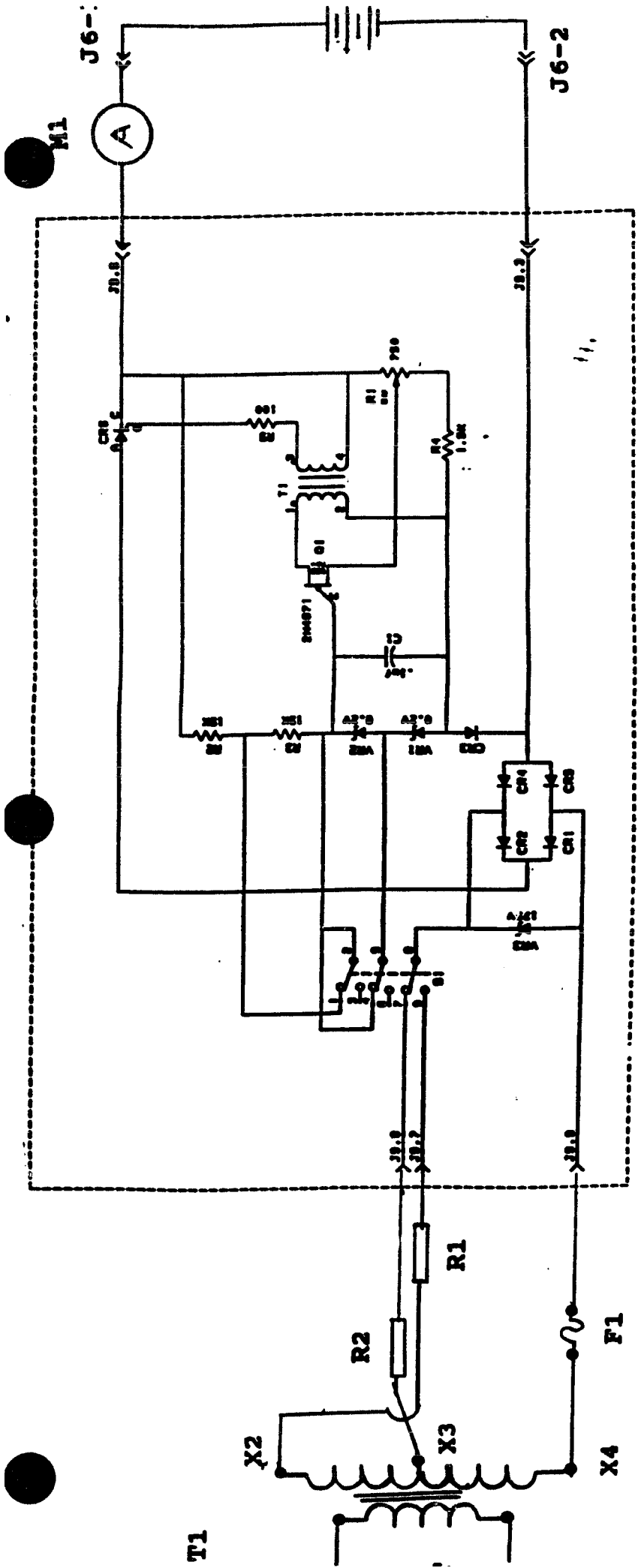
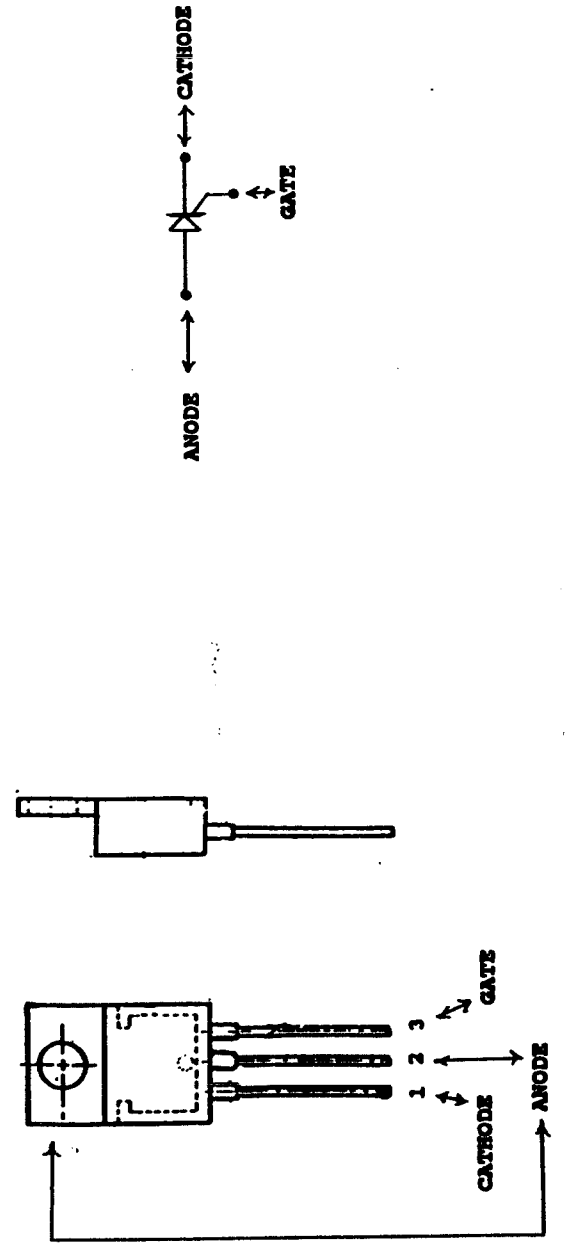
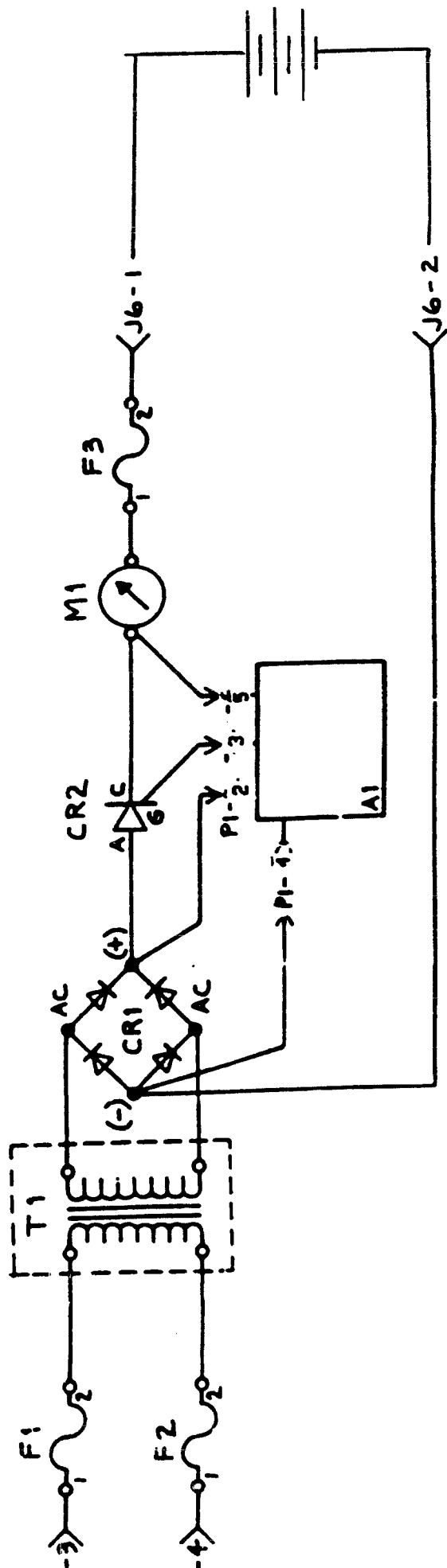


FIG. 4 300-3152





300-3257 (12 volt) 300-3298 (24 volt)



Product Support Bulletin

Date: 10/28/92 Page 1 of 1

Bulletin No. 570

Subject: 193-0244 OIL PRESSURE
SENDING UNIT

Ref. File #

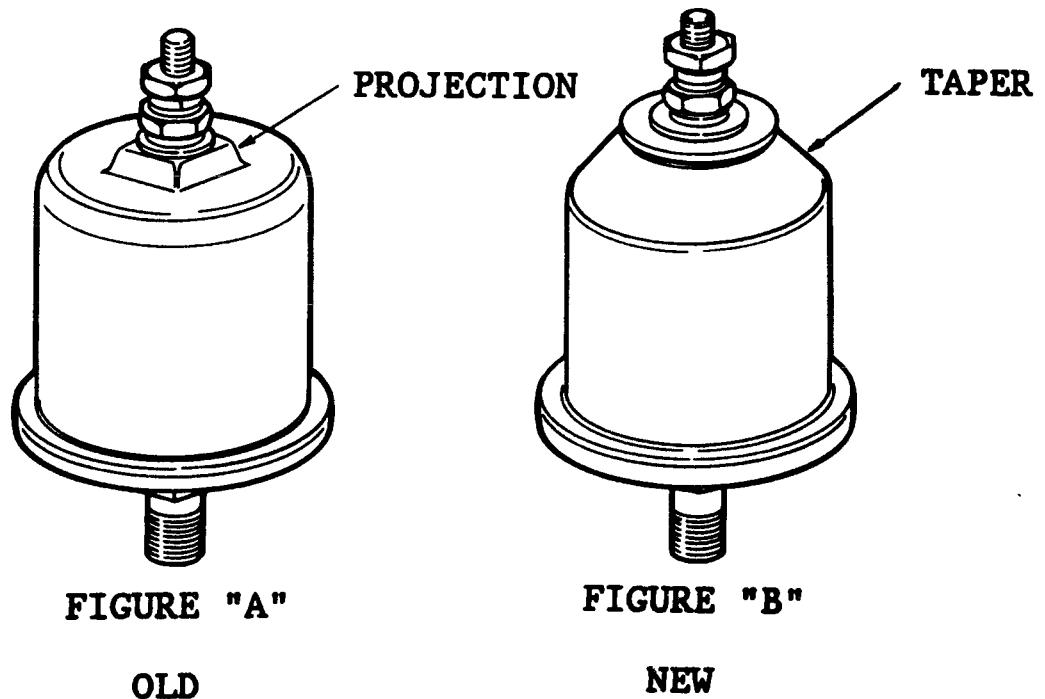
Model(s) or Series: ALL INDUSTRIAL SETS


Effective: IMMEDIATELY

Because we have received reports of customer dissatisfaction with the 193-0244 oil pressure sender, we have changed to a new device. The new sender has the same part number, but physical appearances are noticeably different. The old sender is cylindrical with a square projection beneath the insulator and terminal. The new sender is cylindrical with a taper from the insulator to the main body. See Figures "A" and "B" for details.

Submit a standard spare parts warranty claim for any of the old style senders that you may have in stock. Order replacements from Onan Service Parts Department.

This Bulletin authorizes replacement of spare parts inventory only.




Francis Bye
Associate Tech. Serv. Rep.
Industrial Products



Product Support Bulletin

Date: 10/28/92 Page 1 of 1 Bulletin No. 571

Subject: ENGINE CONTROL MONITOR

Ref. File #

Model(s) or Series: INDUSTRIAL GENSETS USING
DETECTOR CONTROL WITH
F92 SERIAL NUMBER

Effective: IMMEDIATELY

A small number of gensets built in June of 1992 may exhibit the following symptoms when started at the set:

1. The genset starts and runs with the Pre-LOP and LOP lamps illuminated.
2. The genset immediately faults on Pre-LOP and LOP.

Sets exhibiting these symptoms should have the S12 (stop/remote/run) switch inspected. P/N 308-0784.

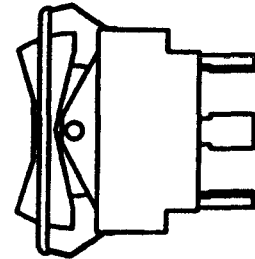
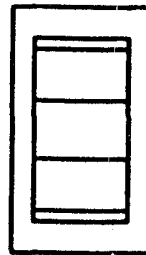
The switch should be replaced if found to have the following construction and coding:

1. An inked vendor date code of 9212 through 9224.
2. The sixth unused terminal is open and unplugged with a copper pellet.
3. Switches that do not have the foam gasket are unaffected.

NOTE: This symptom only occurs when the set is started locally, not from a transfer switch.

STANDARD WARRANTY APPLIES.

REMOTE
STOP
RUN



Kirk Straight
Technical Service Representative
Industrial Products



Product Support Bulletin

Date: 12/92

Page 1 of 1

Bulletin No. 573

Subject: CONTROL BOARDS:

Ref. File #

IDENTIFICATION & APPLICATION

Model(s) or Series: BGD, BGE, BGM, NHD, NHE, NHM Effective: IMMEDIATELY

Several different and unique control boards are available for the above sets. They appear very similar, and share the same plugs and mounting. They are NOT electrically interchangeable, and use of the wrong board will result in rapid failure. Check the chart below and use only the correct board for your application. The part number is listed on a bar-code tape on the back of the board.

CONTROL BOARDS

| | |
|-----------------------|-------------|
| BGD, NHD - Commercial | 300-3763-02 |
| BGE, NHE - RV | 300-3763-01 |
| BGM, NHM - Marquis: | |
| Spec A Only | 300-3763-01 |
| Spec B & ltr | 300-3764 |

Note: Listed above are the latest 'blue plug' versions of the boards. Many of these models were originally supplied with the older 'white plug' boards, which has been replaced. Do not replace a 'white plug' board with a similar board. Convert it instead to the 'blue plug' style using the following kit numbers:

CONVERSION KITS

| | |
|-----------------------|----------|
| BGD, NHD - Commercial | 300-3951 |
| BGE, NHE - RV | 300-3950 |
| BGM, NHM - Marquis: | |
| Spec A Only | 300-3950 |

This bulletin is for informational purposes.

Chuck Babcock
Field Technical Service/
Dealer Support



Product Support Bulletin

Date: 12/92 Page 1 of 1

Bulletin No. 574

Subject:

NEW STARTER GEAR KIT

Ref. File #

Model(s) or Series:

BGD, BGE, BGM, NHD, NHE, NHM

Effective:

IMMEDIATELY

Parts for the starter nose end are now combined into one package. Field reports and parts usage data show that, often only the gear is replaced, while other components on the nose end are also worn.

Combining all the nose end pieces into one part, will assist in properly restoring starter performance, and increase the life of the starter assembly. Individual components of the nose end will no longer be available. Use and stock the following:

STARTER GEAR KIT

191-2129

This bulletin is for informational purposes.

Mark LaDouceur
Manager
Field Service



Product Support Bulletin

Date: 1/8/93 Page 1 of 1 Bulletin No. 575

Subject: ENGINE CONTROL
MONITOR FUSES

Ref. File #

Model(s) or Series: INDUSTRIAL GENSETS USING
DETECTOR CONTROL BOARDS WITH
AUTOMOTIVE TYPE FUSES

Effective: IMMEDIATELY

The fuses for the ECM will be changed from Littlefuse to Bussman. The Bussman ATC type fuse is fully encapsulated and will not leave any residual fuse particles on the PCB if blown, which was not the case with Littlefuse.

If there are no Bussman ATC type fuses available, the replacement fuses, if not fully encapsulated, should be sealed with electrical tape. This will prevent a trace from developing on the ECM board between the mounting posts of the fuse holder.

The Onan part number for the fuses will not be changed.

Note: This bulletin is for informational purposes only.

Julie M. Delago
Technical Service Representative
Industrial Products



Product Support Bulletin

Date: 1/04/93 Page 1 of 3 Bulletin No. 576

Subject: 541-0460 EMI/RFI
WITHSTAND KIT

Ref. File #

Model(s) or Series: All sets using YD, UR, YB and UV Brushless Generators with 300-2880 or 300-2977 electronic voltage regulators (AVR's). This includes both 50 and 60 Hz sets from 16.6 through 750 kW's.

Effective: Immediately

A kit has been developed to shield a 300-2880 or 300-2977 Automatic Voltage Regulator (AVR) from Electromagnetic Interference/Radio Frequency Interference (EMI/RFI) fields that are of sufficient strength to disrupt normal genset performance or damage the AVR.

The kit consists of a 12" x 10 1/4" x 5 1/4" metal enclosure that houses the AVR and voltage adjust rheostat R21. Wiring harness and feed through capacitors are included. This kit does not include an AVR. If one is required, it must be ordered separately.

The enclosure is to be mounted to an external location on the set.

Description of Problem: When an Onan set is applied in close proximity to a transmitter (e.g. radio, TV, microwave, or satellite dish) the EM (electro-magnetic) or RF (radio frequency) fields may overpower the normal industrial rated shielding and cause a problem. When EM or RF signals are of sufficient strength, the voltage regulator can become unstable, have poor voltage regulation, the voltage could drift up or down, or cause a component to fail.

The generator's output voltage may then exhibit one or more of the following symptoms: instability, drift (up or down), poor regulation, loss of voltage, genset stops or an AVR failure. Gensets with mechanical governors can exhibit minor changes in frequency but these are due to the changes taking place in the voltage regulator. Electronic governors may experience erratic frequency control similar to what the voltage regulator is experiencing and may require an equal level of shielding.

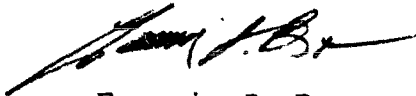
Evaluation of the Problem:

1. Does the genset work normally when the transmitter is off?
2. Is the genset mounted very close (within a few feet) of a transmitter, amplifier, antenna, or transmission cable?
3. When the transmitter is turned on, does one or more of the above listed symptoms start?
4. Is the transmitting frequency in a problem area listed on the attached chart?

PSB #576
Page Two

If the genset is equipped with an AVR other than a 300-2880 or 300-2977, further parts may be required.

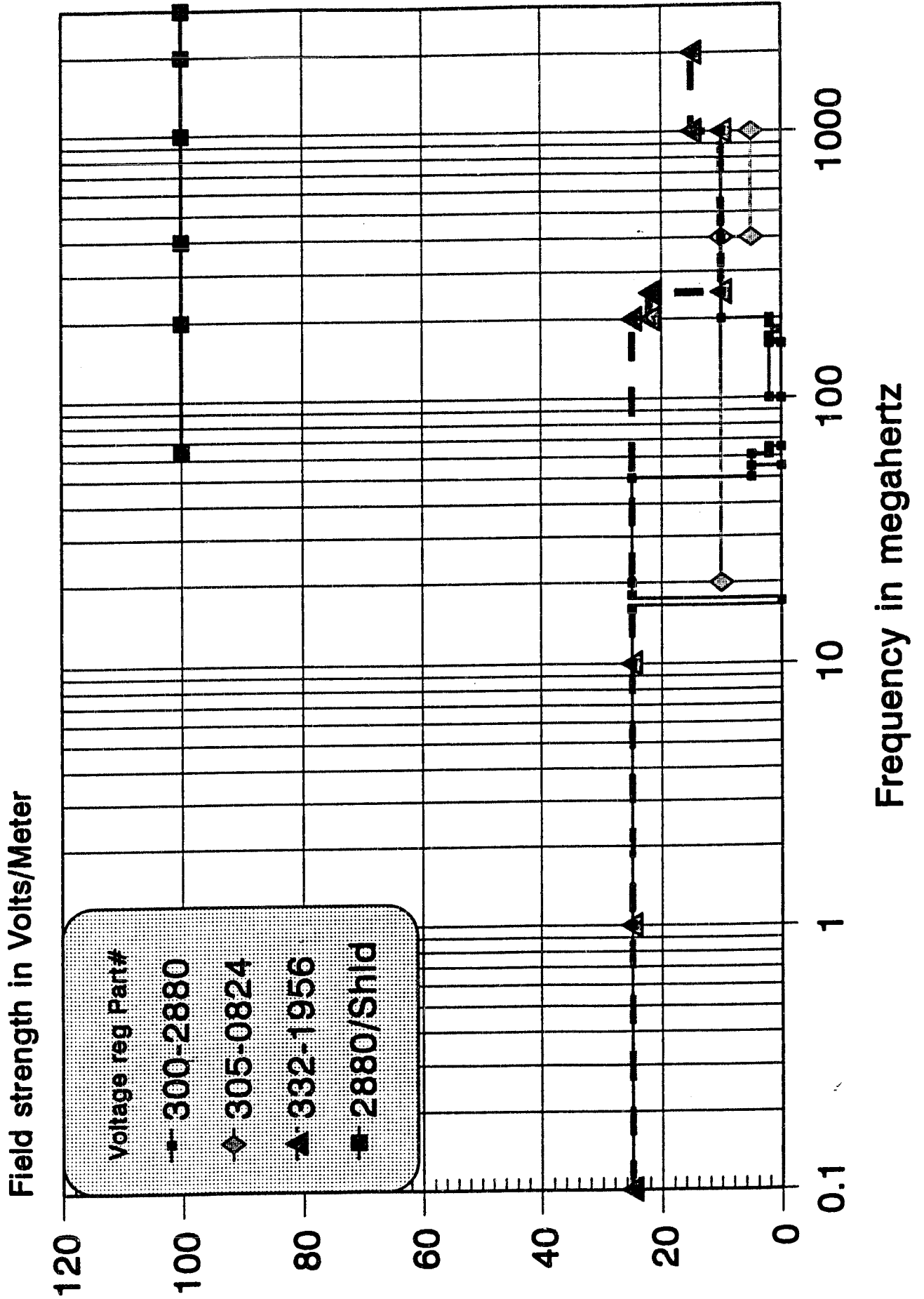
This PSB is for informational purposes only. Warranty is not applicable.



Francis J. Bye
Assoc. Tech. Serv. Rep.
Industrial Products

RFI/EMI Withstand Capability for Onan Automatic Voltage Regulators

Onan Application Bulletin
EMI/RFI Withstand (shielding) Kit





Product Support Bulletin

Date: 2/22/93 Page 1 of 2 Bulletin No. 577

Subject: OTI, OTII, OTIII
LINEAR ACTUATORS

Ref. File #

Model(s) or Series: OTI, OTII, AND OTIII
SPECS A-G; 40-1000 AMPS

Effective: IMMEDIATELY

This is a cross-reference list from the Manufacturer's Model Number, stamped on the actuator, to the Onan Part Number for the linear actuator used in Onan OT Transfer Switches. This will help you in identifying the Onan part number for actuators.

| Manufacturer's # From: | Onan # To: | Manufacturer's # From: | Onan # To: |
|---------------------------|---------------|---------------------------|---------------|
| 402-12-01 | 306-0794 | 402B-16-05 | 306-2326 |
| 402-12-03 | 306-0797 | 402B-16-27 | 306-2327 |
| 402-12-04 | 306-0798 | 402B-16-24 | 306-2328 |
| 402-12-02 | 306-0799 | 402B-16-06 | 306-2329 |
| | | 402B-16-09 | 306-2330 |
| 402-16-05 | 306-0838 | 402B-16-26 | 306-2331 |
| 402-16-08 | 306-0841 | 402B-16-08 | 306-2332 |
| 402-16-09 | 306-0842 | | |
| 402-16-06 | 306-0843 | 402B-08-29 | 306-3109 |
| | | 402B-08-32 | 306-3110 |
| 402-08-12 | 306-1364 | 402B-08-34 | 306-3111 |
| 402-08-10 | 306-1365 | 402B-08-36 | 306-3112 |
| 402-08-13 | 306-1366 | 402B-08-37 | 306-3113 |
| 402-08-15 | 306-1367 | 402B-08-38 | 306-3114 |
| | | 402B-08-39 | 306-3115 |
| 212-04-20 | 306-2006 | | |
| 212-04-21 | 306-2007 | 212-04-40 | 306-3401-01 |
| 212-04-22 | 306-2008 | 212-04-41 | 306-3401-02 |
| 212-04-23 | 306-2009 | 212-04-42 | 306-3401-03 |
| 212-04-24 | 306-2010 | 212-04-43 | 306-3401-04 |
| 212-04-25 | 306-2011 | 212-04-44 | 306-3401-05 |
| | | 212-04-45 | 306-3401-06 |
| 402B-08-12 | 306-2308 | | |
| 402B-08-20 | 306-2309 | 402-12-50 | 306-3448-01 |
| 402B-08-17 | 306-2310 | 402-12-51 | 306-3448-02 |
| 402B-08-10 | 306-2311 | 402-12-52 | 306-3448-03 |
| 402B-08-13 | 306-2312 | 402-12-53 | 306-3448-04 |
| 402B-08-21 | 306-2313 | 402-12-54 | 306-3448-05 |
| 402B-08-11 | 306-2314 | 402-12-55 | 306-3448-06 |
| | | 402-12-56 | 306-3448-07 |

February 22, 1993
Page Two

| Manufacturer's # From: | Onan # To: | Manufacturer's # From: | Onan # To: |
|---------------------------|---------------|---------------------------|---------------|
| 402B-12-01 | 306-2317 | 212-04-30 | 306-3471-01 |
| 402B-12-07 | 306-2318 | 212-04-31 | 306-3471-02 |
| 402B-12-19 | 306-2319 | 212-04-32 | 306-3471-03 |
| 402B-12-02 | 306-2320 | 212-04-33 | 306-3471-04 |
| 402B-12-23 | 306-2321 | 212-04-34 | 306-3471-05 |
| 402B-12-25 | 306-2322 | 212-04-35 | 306-3471-06 |
| 402B-12-03 | 306-2323 | | |

This Bulletin is for informational purposes only.


Chuck Hanson

Technical Service Representative
Industrial Products



Product Support Bulletin

Date: 4/18/94 Page 1 of 4 Bulletin No. 578a

Subject: RECONNECTIBLE WATER
JACKET HEATERS

Ref. File #

Model(s) or Series: DFBD THROUGH DFMB
INDUSTRIAL GENSETS

Effective: IMMEDIATELY

This bulletin has been developed to assist the field technician in installing Diesel Genset water jacket heaters for different voltages. Both the KIM HOTSTART 2500 Watt and WATLOW 4000 Watt heaters are addressed.

Do not attempt to reconnect a dedicated voltage heater for a different operating voltage. Permanent heater damage will result.

Verify the make and model of the heater in question prior to any attempt at reconnection. TABLE 1 containing pertinent heater data is located on page two.

Figure A (Page 3) illustrates the connections for the KIM HOTSTART 2500 Watt reconnectible heater.

Figure AA (Page 3) illustrates the connections for the dedicated voltage KIM HOTSTART 2500 Watt heater.

Figure B (Page 4) illustrates the connections for the WATLOW 4000 Watt reconnectible heater.

Figure C (Page 4) illustrates the connections for the dedicated voltage WATLOW 4000 Watt heater.

As always, take the proper safety precautions as outlined in the service and operator's manuals when attempting to service these heaters.

This bulletin is for informational purposes only.

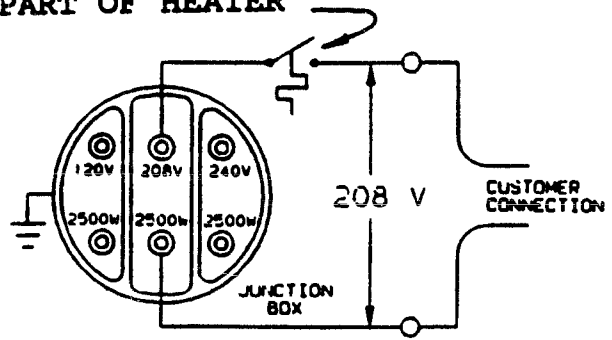
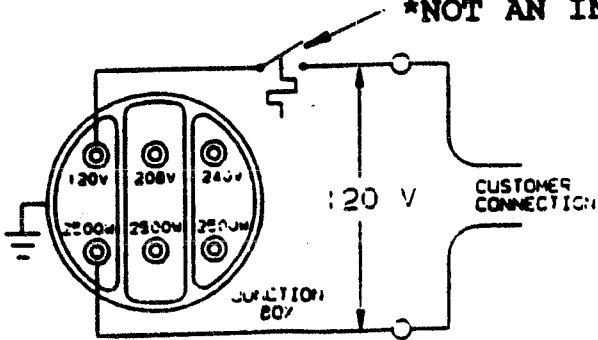
Francis J. Bye
Tech. Service Rep.
Industrial Products

TABLE 1

| ADDER | WATTAGE | VOLTAGES | KIT NO. | PART NO. | FIGURE | ENGINE |
|-------|----------|-------------|----------|-------------|--------|--------|
| H-495 | 2500 | 120/208/240 | 333-0425 | 333-0540 | A | 855 |
| H-495 | 2500 | 120/208/240 | 333-0504 | 333-0493 | A | L-10 |
| H-426 | 2500 | 480 | 333-0503 | 333-0499 | AA | L-10 |
| H-498 | 4000 | 208/240/480 | 333-0472 | 333-0512-01 | B | 855 |
| H-498 | 4000 | 208/240/480 | 333-0439 | 333-0512-01 | B | K-19 |
| H-452 | 4000 | 120 | 333-0440 | 333-0512-02 | C | K-19 |
| H-452 | 4000 | 120 | 333-0479 | 333-0512-02 | C | 855 |
| H-501 | 2 X 4000 | 208/240/480 | 333-0456 | 333-0512-01 | B | K-38 |
| H-501 | 2 X 4000 | 208/240/480 | 333-0454 | 333-0512-01 | B | K-50 |
| H-501 | 2 X 4000 | 208/240/480 | 333-0485 | 333-0512-01 | B | V-28 |
| H-502 | 2 X 4000 | 120 | 333-0484 | 333-0512-02 | C | V-28 |
| H-502 | 2 X 4000 | 120 | 333-0455 | 333-0512-02 | C | K-38 |
| H-502 | 2 X 4000 | 120 | 333-0453 | 333-0512-02 | C | K-50 |

FIGURE A KIM

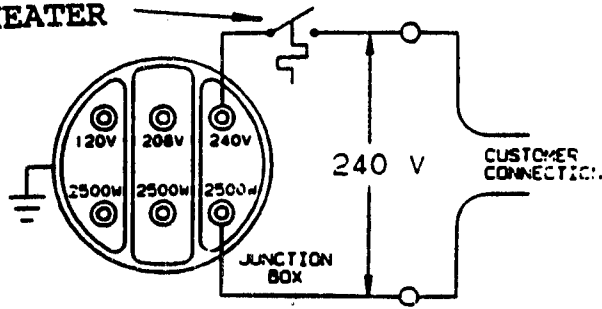
*NOT AN INTEGRAL PART OF HEATER



WIRE DIAGRAM-(120V)

WIRE DIAGRAM-(208V)

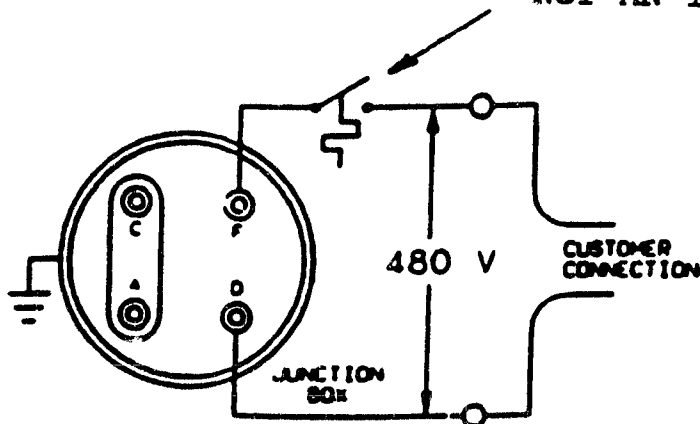
*NOT AN INTEGRAL PART OF HEATER



WIRE DIAGRAM-(240V)

FIGURE AA KIM

*NOT AN INTEGRAL PART OF HEATER



WIRE DIAGRAM-(480V)

FIGURE B

WATLOW

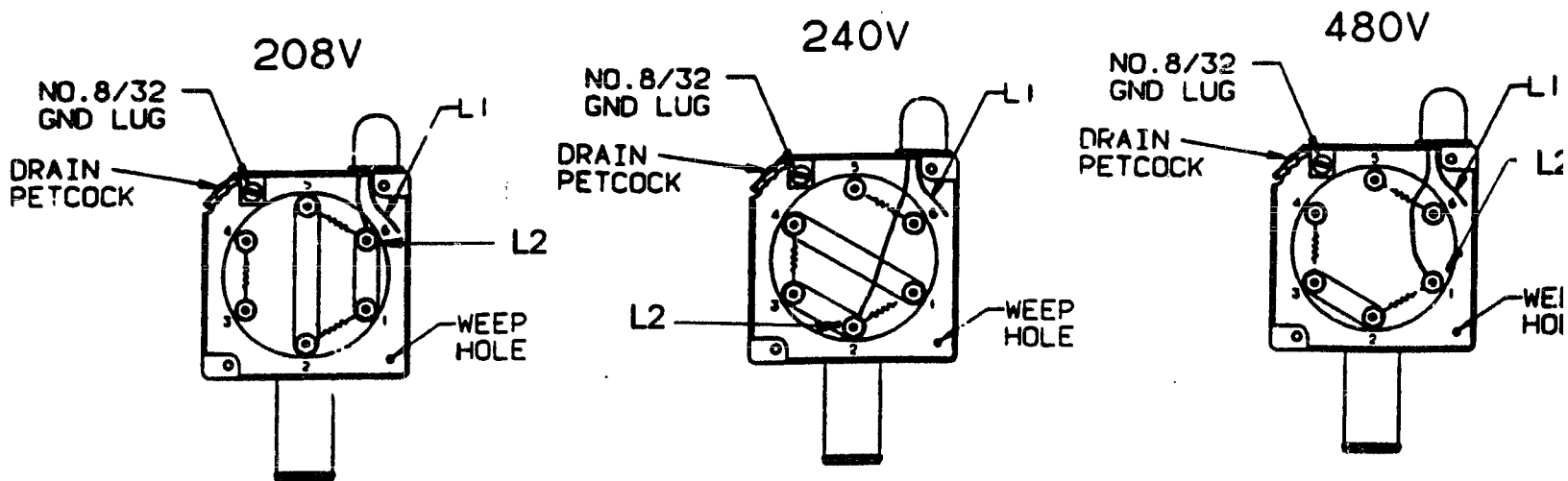
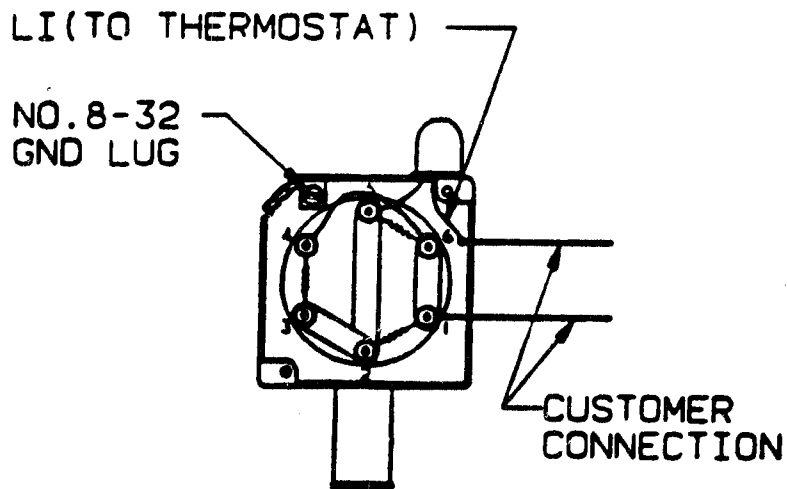


TABLE 2

| Voltage | L2 Connection | L1 Connection (Switched Return Line From Thermostat) | | See Figure |
|---------|---------------|--|------------|------------|
| | | | | |
| 120 | Terminal 5 | | Terminal 1 | C |
| 208 | Terminal 6 | | Terminal 5 | B |
| 240 | Terminal 2 | | Terminal 1 | B |
| 480 | Terminal 1 | | Terminal 4 | B |

FIGURE C

WATLOW



WTRF DIAGRAM



Product Support Bulletin

Date: 3/29/93 Page 1 of 5 Bulletin No. 579

Subject: OVERSPEED/OVERSHOOT
ON START

Ref. File #

Model(s) or Series: 20ES BEGINNING SPEC E

Effective: IMMEDIATELY

If a model 20ES Spec E or beyond experiences an overspeed/overshoot shutdown on start, perform the following adjustments as necessary:

1. Place switch SW3 I in the upward position (Figure 1). This should reduce the level of overshoot on start to half of the original setting. If this does not help, return the switch to its original position and proceed to the following step.
2. Set the overspeed switch adjustment screw (Figure 2) for shutdown between 2500 and 2700 RPM's. If this does not prevent shutdown on start, it may be necessary to replace the governor controller.

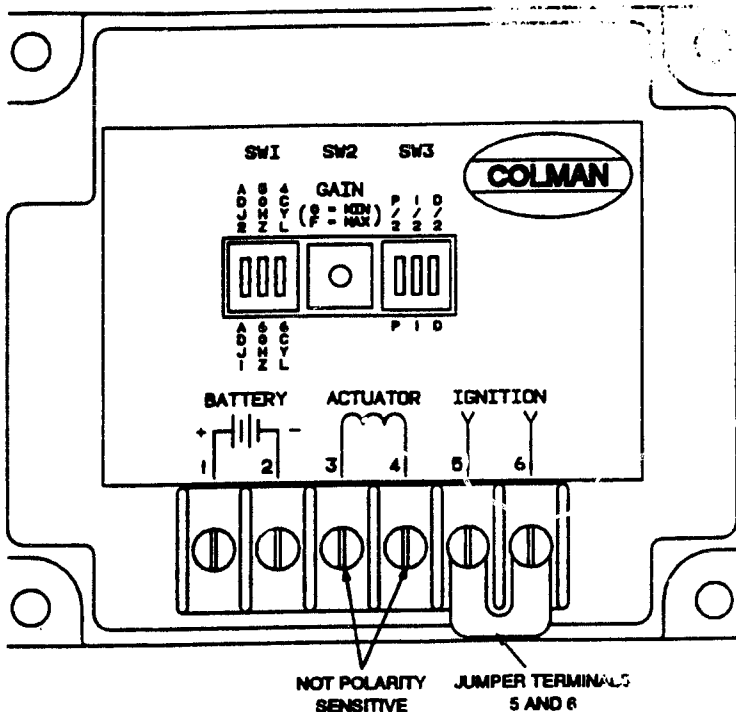


FIGURE 1 GOVERNOR CONTROLLER

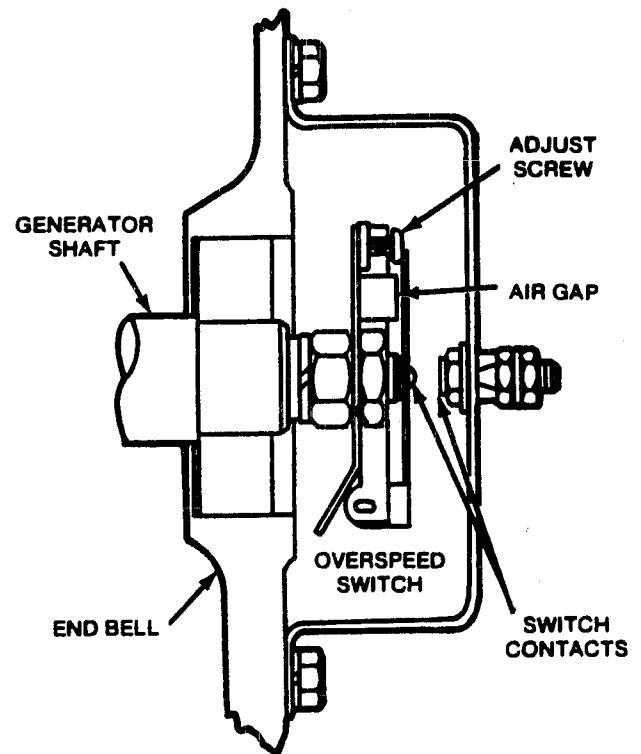


FIGURE 2 OVERSPEED SWITCH

3. If governor controller replacement is required, follow the attached Supplement 928-1014 for proper controller and linkage adjustment.

Standard warranty applies. This bulletin is for informational purposes only.

Julie M. Delago
Technical Service Representative
Industrial Products

Supplement 928-1014

Date: 11-92

Insert with-

Title: ES Service Manual

Number: 900-0335

This supplement includes information on electric governor adjustments which should be added to *Governor Adjustment* section of above listed Service Manual.

ELECTRIC GOVERNOR

Electric Governor Adjustments: Beginning Spec F

If necessary, adjust the linkage according to Figure 2 and wire the controller according to Figure 1. Then adjust the governor controller as follows.

1. Initially set the switches as follows (see Figure 1):

SW1

ADJ1/ADJ2 - Down position (**ADJ1**)

50HZ/60HZ - Up position (**50HZ**) or down position (**60HZ**).

4CYL/6CYL - Up position (**4 CYL**) or down position (**6 CYL**).

SW2 (Rotary Switch)

GAIN - Position 4.

SW3

All positions down.

2. Attach tachometer to engine or frequency meter to generator output leads if control panel does not come equipped with one of these meters.

Prior to adjusting governor control, make sure that governor control terminals 5 and 6 are jumpered.

3. Start the set. Hold throttle linkage so that engine will not overspeed, should the governor control be out of adjustment.

If the engine overspeeds, shut down the set. Turn the **GAIN** switch to the next higher position and restart the set.

4. Warm up the set under at least 1/4 load until it is up to normal operating temperature and then disconnect the load.

5. If the engine has a consistent hunt at approximately 1 to 2 Hz, adjust **GAIN** rotary switch until engine is stable and responsive to governor control (clockwise increases gain, counter-clockwise decreases gain).
6. Manually actuate governor linkage several times to ensure correct gain adjustment. Unit should respond quickly but should not hunt, use maximum possible gain setting.
7. If the engine has an audibly fast hunt, set **SW3** position 3 to the up position. If no change is seen or heard, return switch to down position.
8. If the engine has an inconsistent slow hunt that is barely audible, set **SW3** position 2 to the up position to reduce integral gain. If no change is seen or heard, return switch to down position.
9. If the engine has a very slow hunt at approximately 0.5 Hz, set **SW1** position 1 up to add friction compensation to the controller. If no effect is seen or heard, return switch to down position and check for linkage binding and repair as necessary.
10. Check for stability (no audible hunting) under a range of loads from no-load to full-load.
11. If engine has significant undershoot on load acceptance, turn **GAIN** rotary switch clockwise. Repeat Steps 6 and 11 to achieve overall stability between no-load and full-load conditions.
12. If engine has significant overshoot on load acceptance after the initial drop in engine speed, move **SW3** position 2 to the down position if it was moved to the up position in Step 8. Return switch to the up position if no change is seen or heard.
13. Shut down engine. Restart engine to make sure that unit does not overspeed.
14. Shut down engine and remove tachometer or frequency meter previously attached.
15. Engine is now ready for service.

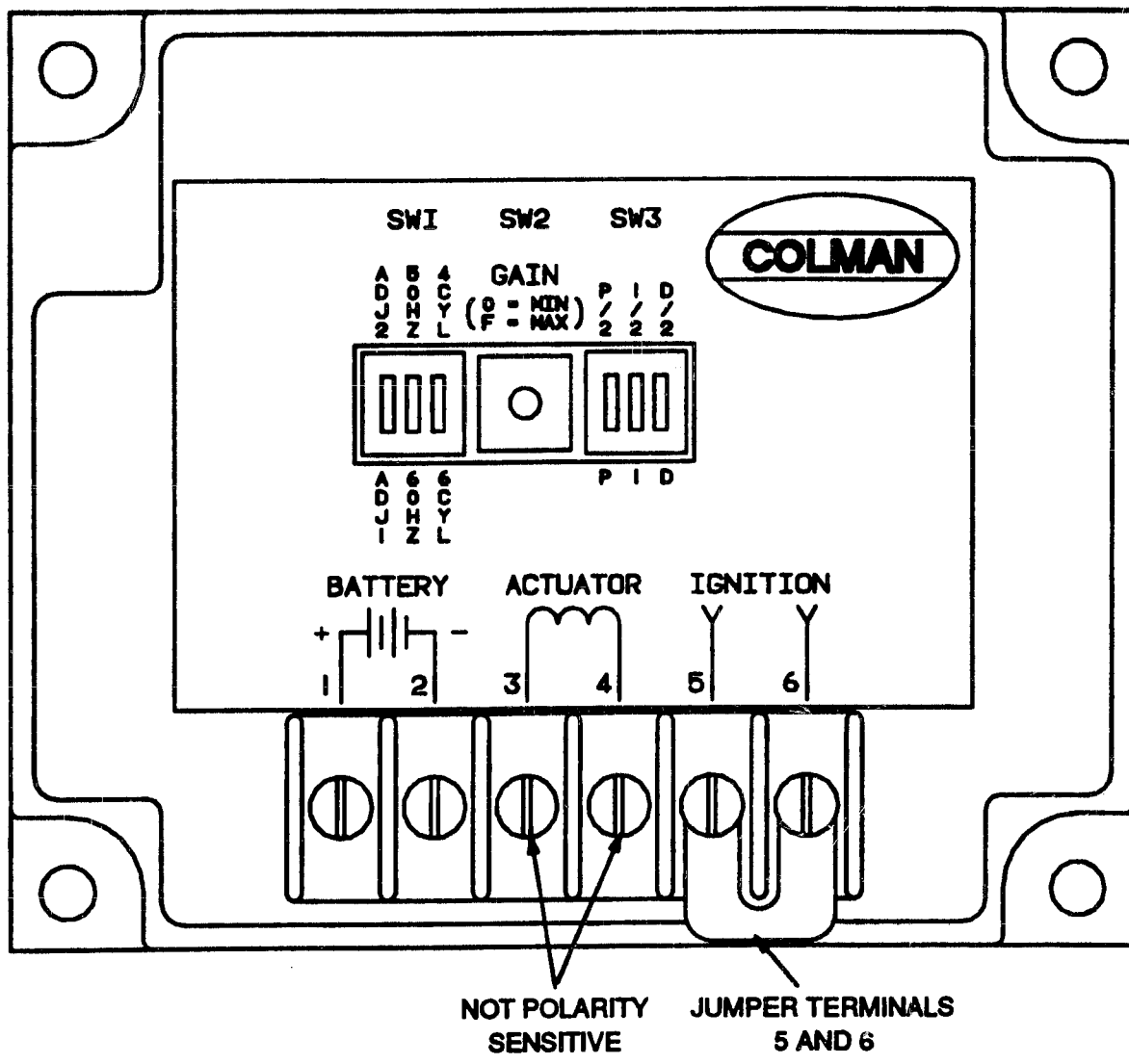


FIGURE 1. GOVERNOR CONTROLLER TERMINALS AND ADJUSTING SWITCHES

Linkage Adjustments: Beginning Spec F

Figure 2 illustrates the arrangement of the electric governor components and how to adjust the linkage of the electric governor. The following should be noted:

1. Assemble the governor linkage as shown in Figure 2. Thread each female component at least three to four turns onto each male component and set the lock nuts.

2. Thread the assembled governor linkage three or four turns onto the actuator shaft.
3. Snap the ball joint of the governor linkage onto the ball stud of the throttle lever.
4. Loosen the throttle lever screw.
5. Rotate the throttle linkage to the full speed stop and extend the actuator shaft to its end of travel.
6. Tighten the throttle lever screw.

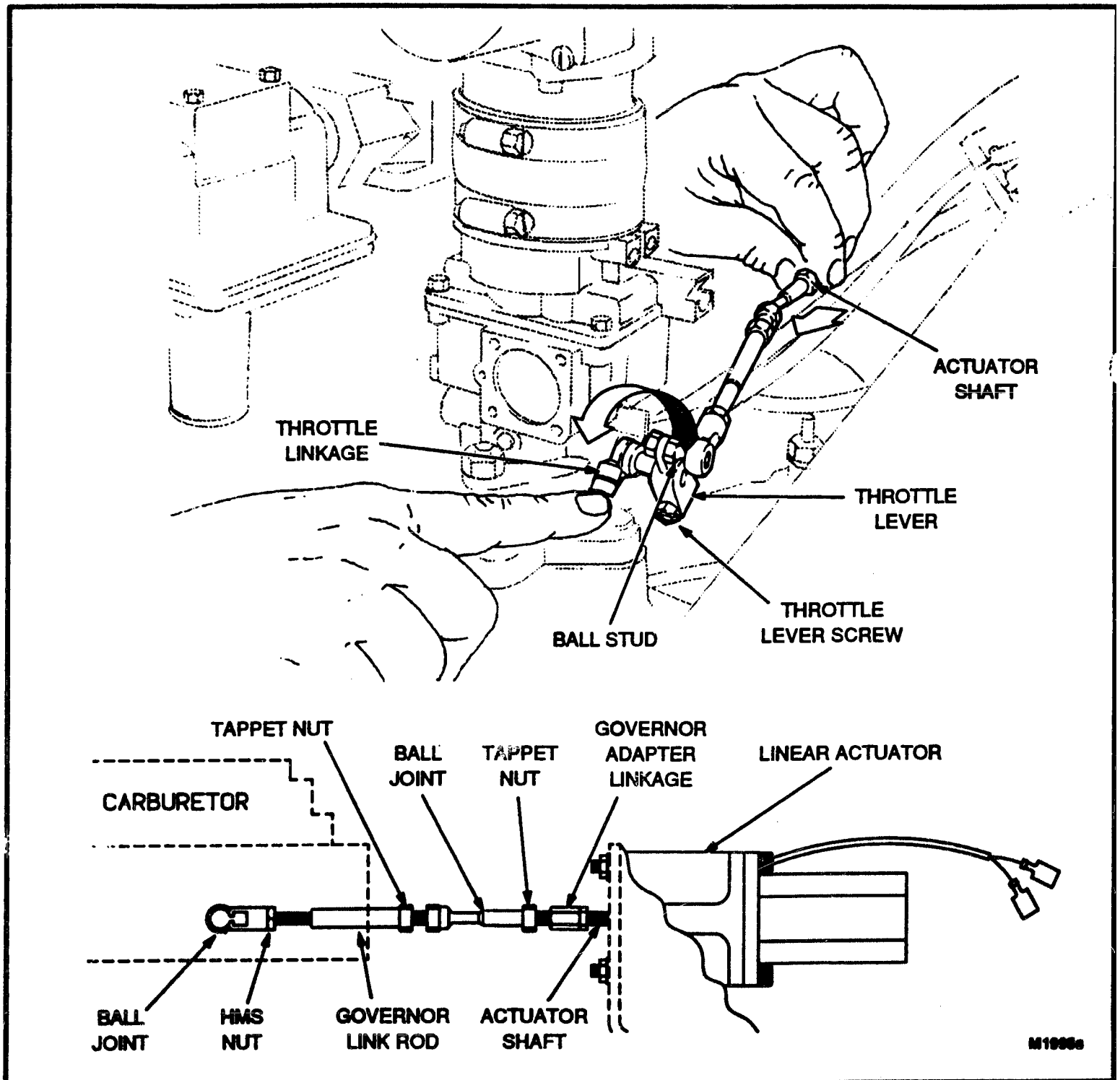


FIGURE 2. ELECTRIC GOVERNOR LINKAGE



Product Support Bulletin

Date: 4/93

Page 1 of 1

Bulletin No.580

Subject: NO AC OUTPUT

Ref. File #

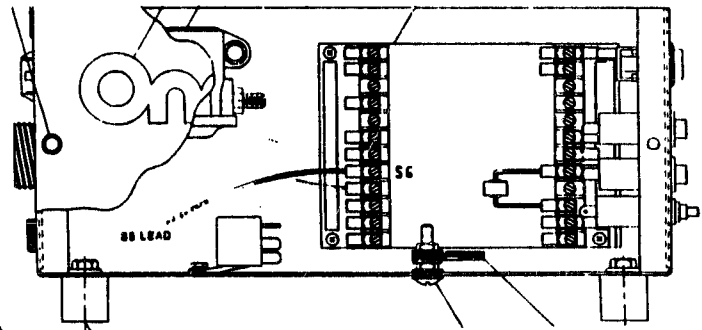
Model(s) or Series: DKG Prior to B933001019 Effective: IMMEDIATELY

We have received reports of lack of AC output on DKG's, most commonly on warm restart. Apparently, under some conditions, the engine can start before the generator's magnetic field is fully established.

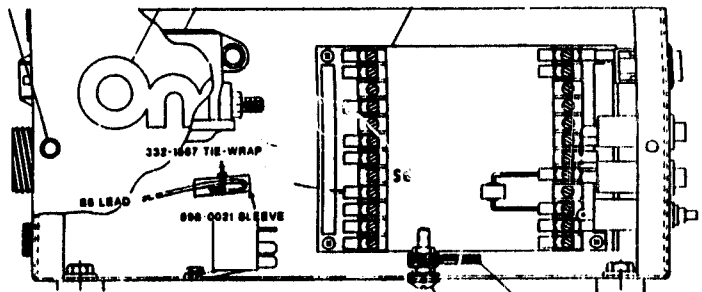
If you encounter this condition, repair it as follows:

- 1) Disconnect the set battery.
- 2) Remove the control cover and locate terminal board A11.
- 3) Loosen the terminal and remove the lead marked 'A11 S6 J2-3' (see drawing, below).
- 4) Insulate the lead using a tie-wrap and sleeving.
- 5) Replace the control cover and reconnect the set battery.

BEFORE



AFTER



Standard warranty applies.

This bulletin is for informational purposes.

Mark LaDouceur /smc

Mark LaDouceur
Manager
Field Service



Product Support Bulletin 581

Date: 3-93 Page 1 of 1 Bulletin No.

Subject: Product Improvement

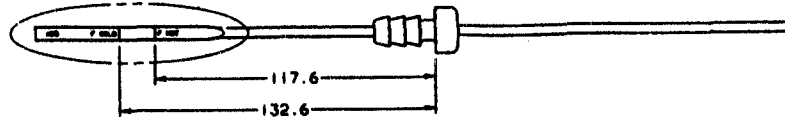
Ref. File #

Model(s) or Series: 6MDKUB-9MDKWB Effective: Immediately

Some early production models (Spec A) may require the following modifications, or kits.

1. Field Flash Kit on MDKWB when no AC output is the problem and set does not have field flash, install kit. P/N 359-0104
2. Sound Shield Modification Kit. Improves access door removal. MDKUB uses kit P/N 405-4962-01. MDKWB uses kit P/N 405-4962-02.
3. White Smoke At Various Loads.
 - a. 6.0 MDKUB - Remove .006 shim from injection pump.
 - b. 9.0 MDKWB - Remove .012 shim from injection pump.
4. Dip Stick

Loose stops have been reported causing over fill condition. See drawing for correct dimension.



Oil capacity MDKUB 3.8 Liter or 4 Quart MDKWB 4.7 Liter or 5 Quart.

5. Wiring Diagrams 612-6621 . New diagram will reflect field flash circuit with dotted line.
6. Start Stop Switch - an unscheduled shutdown. Switch may be hitting sound shield - cut 3/8 inch off. Install boot p/n 308-1024 .
7. Heat Exchanger Plug Leaks - Replace steel plug with P/N 502-0153 Brass plug.
8. Remote Gauge Panel - 300-4261.
First 300 production units did not have facility to mount water temperature sender. When ordering the remote gauge package order thermostat cover and gasket cover 185-5475 gasket 185-5436.

Mark LaDouceur



Product Support Bulletin

Date: 4-93 Page 1 of 1 Bulletin No. 582

Subject: Fuel Pump Caps

Ref. File #

Model(s) or Series:

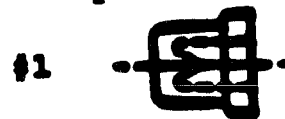
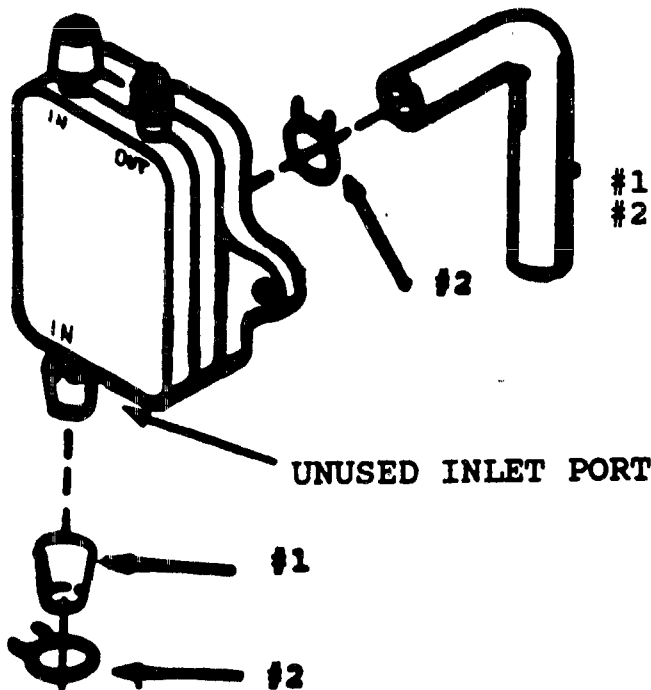
Performer P220 Spec
10808D 149-2181-01 Fuel Pump

Effective:

Immediately

Some Performer P220 engines spec. 10808D installed in an application with the 3 port pulse fuel pump may have a temporary fuel cap installed on the permanently unused inlet port. The permanent fuel cap #149-1321 is heavy duty rubber cap with a clamp retaining it to the unused nipple of the fuel pump. If any equipment is found with the temporary cap still installed it is imperative that it be removed and the permanent cap and clamp be installed.

WARNING: Ignition of fuel can result in severe personal injury or death. Do not smoke or allow any spark, pilot light, or arcing equipment near the fuel system.



ACTUAL SIZE

- #1 Permanent fuel cap # 149-1321
- #2 Hose clamp # 503-0301

This bulletin is for informational purposes only.
Standard Warranty applies.

Mark La Douceur / smc

Mark LaDouceur
Manager Field Service
Engine Division



Product Support Bulletin

Date: 8/17/93 Page 1 of 1 Bulletin No. 584

Subject: COOLANT HEATER HOSE

Ref. File #

Model(s) or Series: Units Manufactured From Effective: IMMEDIATELY
Jan 1 - Oct, 1992
DFBC, BD, BE, BF, CB, CC,
EB, EL, FB, LA, LB, LC, MB,
JA, JC, JD, JB, GA, GB, GC,
and KTA

Coolant heater hoses may break or leak prematurely because of a deviation which occurred during the manufacturing process. Only the COOLANT HEATER HOSES are affected. Those hoses should be changed as soon as possible. Affected coolant heater hoses are stamped "MADE IN MEXICO", which is visible through the paint.

Procedure:

Order replacement hoses through Onan Service Parts. Submit a warranty claim for parts and labor for correction. Please try to include this inspection during regular service intervals, at start-up, or concurrent with other service calls while in the area. Also check stock units. Otherwise, provide correction separately and include allowable travel with the claim.

Jerry McCollor
Warranty Principal
Industrial Products



Product Support Bulletin

Date: 9/1/93 Page 1 of 1 Bulletin No. 585

Subject: OIL LEVEL

Ref. File #

Model(s) or Series: EN SERIES GENSETS WITH SERIAL NUMBERS PRIOR TO MARCH OF 1993 Effective: IMMEDIATELY

Gensets powered by the Ford LSG875 engine may exhibit a low oil reading on the dipstick after changing oil.

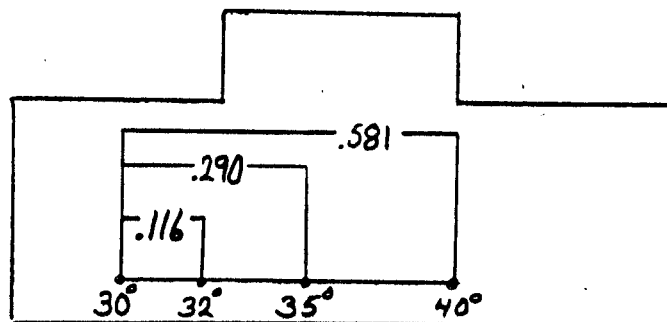
The cause is the dipstick not fully seating on the tube housing due to a restriction at the spot weld area of the tube and bracket. While this will not affect engine operation, it may be a customer concern. Replace the tube with Ford part number E4JL6754BA.

This is not a campaign; standard warranty applies.

Tech Tip

When timing EN series gensets, it is necessary to use an advance-style timing light due to certain fuels requiring degrees of advance past the Ford mark of 30.

If a standard light must be used, mark the dampner with the appropriate divisions for that advance requirement.



Kirk Straight

Kirk Straight
Technical Service Representative
Industrial Products



Product Support Bulletin

Date: 9/7/93 Page 1 of 2 Bulletin No. 586

Subject: KIM HEATERS ON
"C" BLOCK ENGINES

Ref. File #

Model(s) or Series: DGEA, DGFA, DGFB,
QSEA, OR QSFA

Effective: IMMEDIATELY

Cummins Engine Company modification of the "C" block engine has caused interference with the element of the Kim block heater. The old heater element will hit a reinforcing rib and short out or break. To correct this problem, Onan, Cummins, and Kim Hotstart worked together to come up with a new heater that will work with the modified "C" block engine.

If the Onan model is a DGEA, DGFA, DGFB, QSEA, or QSFA *AND* if the Onan serial number is from D930506520 to G930514283 *AND* if the unit was ordered with ADDER H480 or H481 *OR* you installed one of the following Kim heater kits in your shop: 333-0530-01 (H480), 333-0530-02 (H481), 333-0506-01, or 333-0506-02, you must replace the heater element with the new, shorter element.

The Kim Heater ELEMENT Part Numbers are:

| | OLD | NEW |
|----------|----------|----------|
| 120 Volt | 333-0509 | 333-0551 |
| 240 Volt | 333-0510 | 333-0552 |

If you plan on installing a Kim heater on any of the subject generator sets with the Onan serial number D930506520 or higher, you must order the new heater kit.

The Kim Heater KIT Part Numbers are:

| | OLD | NEW |
|----------|-------------|-------------|
| 120 Volt | 333-0506-01 | 333-0553-01 |
| 240 Volt | 333-0506-02 | 333-0553-02 |

You may use your existing stock of old style heaters on "B" series or on "C" series prior to Onan serial number D930506520.

The drawing on the back of this bulletin shows the procedure for installing and removing the heater element from the engine. Standard warranty applies.

Jerry McCollor; Warranty Principal

Coolant Heater Element Replacement (333-0509, or 333-0510) For: DGEA, FA, FB, and QSEA, FA Generator Sets

Heater Element Removal

1. Place the generator set Remote/Stop/Run switch to Stop position, and allow unit to cool thoroughly (to the touch) before continuing.

⚠️WARNING Hot engine coolant can cause severe burns to installing personnel. Be sure engine has cooled down thoroughly before continuing with the kit installation.

2. Disconnect the generator set battery cables from the battery posts; negative (-) cable first, then the positive (+) cable.
3. Drain approximately half (1/2) of the coolant from engine (refer to unit Operator's Manual for engine coolant capacity).
4. Remove any existing hose clamp and heat shield, then disconnect heater plug from heater element. See Figure 1.

Being careful not to damage engine block, use a screwdriver or other such tool to pry out existing heater element from engine block, and wipe the engine block hole clean. See Figure 1.

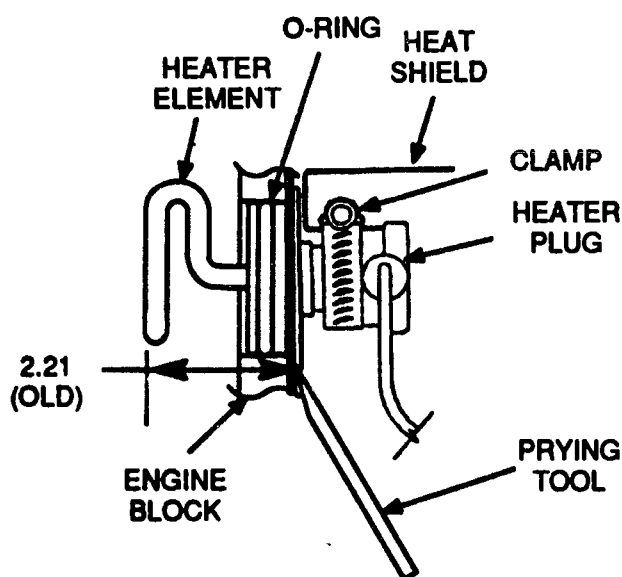


FIGURE 1. COOLANT HEATER REMOVAL

Installation of New Heater Element

⚠️WARNING Damage to the heater element's gripping tangs can be caused by repeated insertion and removal of the element to the engine block, rendering it unable to hold position during normal engine operation water jacket pressures.

If the heater element would come loose from the engine, the hot coolant that would be expelled can cause severe burns to personnel and/or the loss of coolant can cause damage to the engine.

Be certain when performing the following procedures (Install the heater element only ONCE)!

1. Lubricate the o-ring of new heater element, then properly orientate and install the heater element into the engine block. See Figure 2.

The heater element is fit into the engine block by lightly tapping with a wooden or rubber mallet.

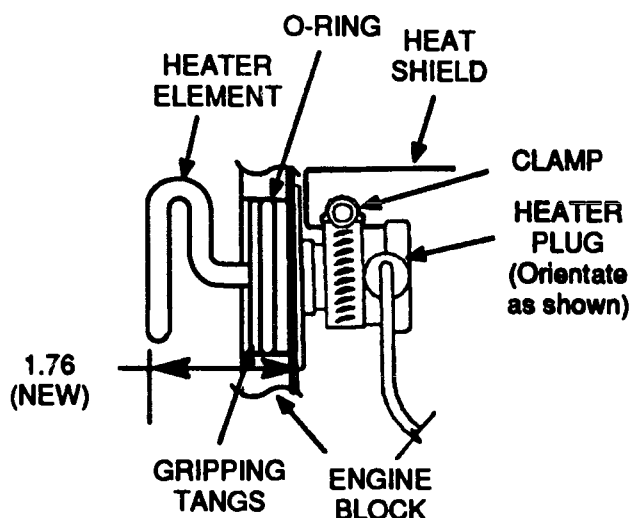


FIGURE 2. COOLANT HEATER INSTALLATION

2. Insert heater plug into element. Locate heat shield and hose clamp in position. Tighten clamp securely.
3. Refill engine coolant to proper level. Refer to Operator's manual for proper mixture and amount to use.

⚠️WARNING Failure to refill engine coolant can result in personal injury or product or property damage. Be sure to replenish engine coolant.

4. Connect the AC power plug to a proper receptacle. Within approximately five (5) minutes, the engine block near the heater element should be warm to the touch. If not, disconnect the AC power plug and contact your nearest Onan distributor.

The heater element is controlled by the thermostat to be energized (On) at 100° F (37° C) and Off at 120° F (49° C).

5. Connect the generator set battery cables; positive (+) cable first, then the ground (-) cable.
6. Wipe up any spilled coolant from the generator set.
7. The generator set is ready for normal operation.
8. This Instruction Sheet should remain on file at site location.



Product Support Bulletin

Date: 10/93 Page 1 of 2

Bulletin No. 587

Subject: Announcing a new kit to replace the K2 relay and socket Ref. File #

Model(s) or Series: All MAJB's - 50 Hz & 60 Hz Effective: 11/1/93

A new relay module (300-4486) has been developed to be a direct replacement for the Start disconnect/run relay (K2 - see Fig 1) used on all 3.0 MAJB's and 2.5 MAJB's. The following kit can be used on all gensets that have a grounded AC. For ungrounded genset instructions, contact the Service Department.

| Part No. | Name | Description |
|----------|-----------------------|--|
| 300-4465 | Kit relay replacement | Replacement kit contains: relay module 300-4486, fasteners 815-0680 and Instruction Sheet C468 |

This module is the recommended replacement whenever one of the following components fail:

| | | |
|----------|--------|--|
| 307-2492 | Relay | Hermetically sealed relay in a metal can |
| 323-1090 | Socket | Eight pin gray socket |
| 323-1512 | Socket | Eight pin black socket |

The typical symptoms of a K2 failure are: the set will start but will not continue running when the switch is released; or an intermittent shut down but the set can re-start immediately.

Standard Onan warranty policy applies.

All 307-2492 relays and 323-1512 sockets in spare parts inventory are to be returned to the factory. Return parts warranty applies.

Mark LaDouceur

Manager, MBG Service & Warranty Dept.

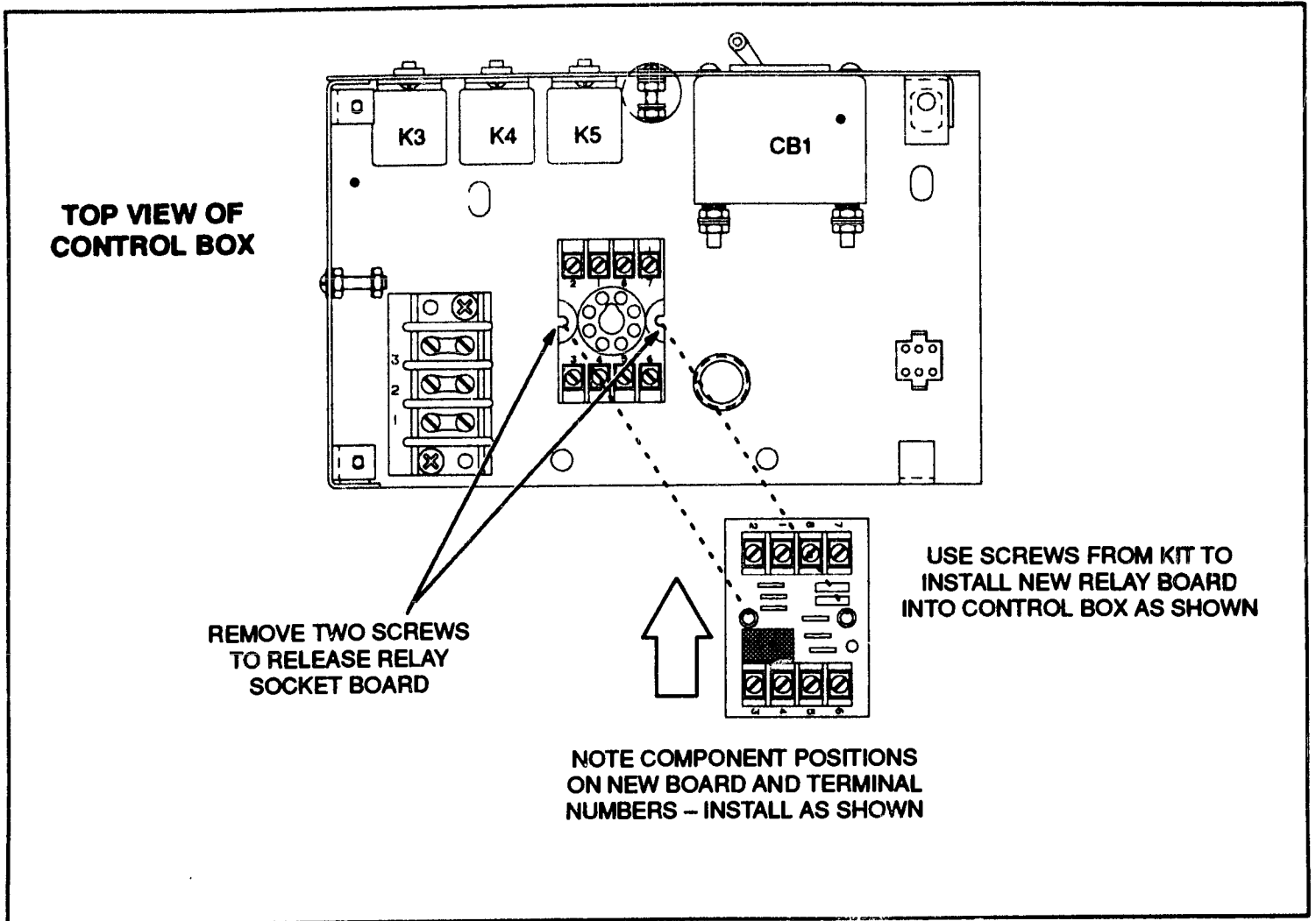


FIGURE 1. INSTALLATION OF NEW RELAY BOARD



Product Support Bulletin

Date: 12/1/93 Page 1 of 2 Bulletin No. 588

Subject: **NEW OVERSPEED MODULE**
305-0902-01 12 VOLT (E000-21042)
305-0902-02 24 VOLT (E000-21041)

Ref. File #

Model(s) or Series: **ALL GENERATOR SETS WITH PMG** Effective: **IMMEDIATELY**

A new overspeed module is being used that replaces the earlier (305-0818-01 12 Volt, 305-0818-02 24 Volt) style.

The function is the same but the pin out is different. Page Two shows the wiring of the early and present style modules.

There are two relays on the module, one having contact pin outs 11, 12, and 14. That relay is adjusted by the low HZ pot and is not used in our applications.

We use the relay with contact pin outs 21, 22, and 24. That relay picks up at the set point set by the "HIGH" overspeed adjustment pot.

Mode Selector Switch: (Not used in our application.)

This switch has two positions, "MODE 0" and "MODE 1" and is only used for the LOW HZ relay. In Mode 0 that relay is on below the set point and shuts off above the set point. In Mode 1 the LOW HZ relay is off below the set point and turns on above the set point.

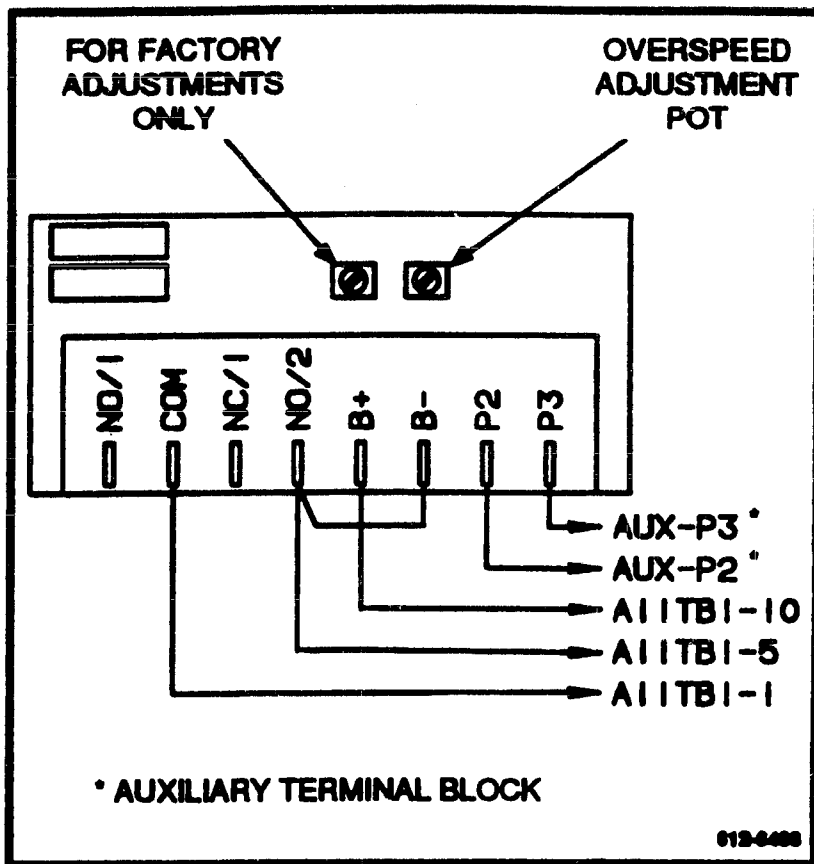
We only use the HIGH HZ relay, so the position of the mode switch is immaterial.

If replacing the module, see the Service Manual for the proper procedures and warnings.

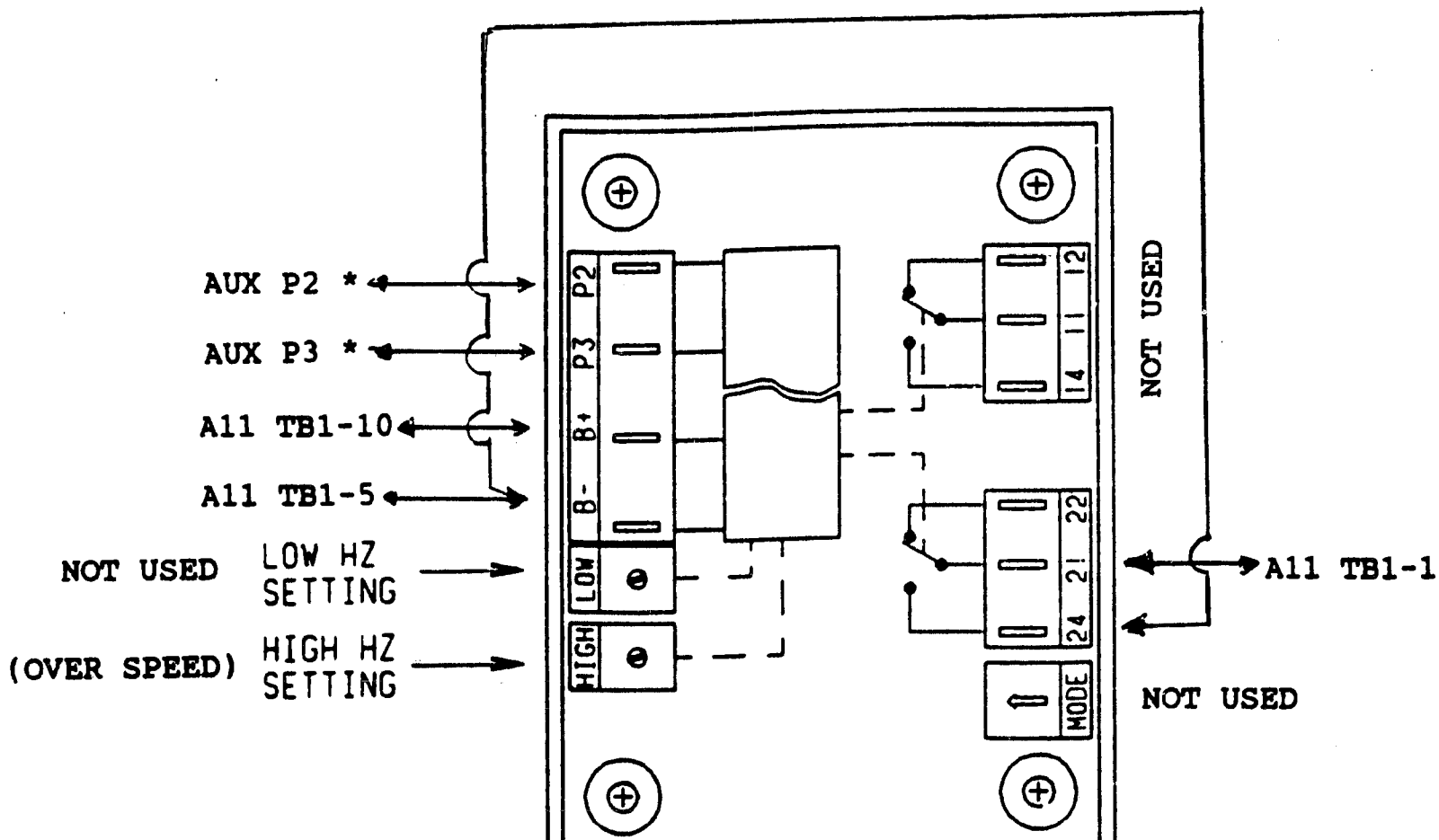
This bulletin is for informational purposes only.

Bob Renner
Sr. Technical Service Rep.
Industrial Products

305-0818



305-0902





Product Support Bulletin

Date: 1-20-94 Page 1 of 1

Bulletin No. 589

Subject: PISTON RINGS

Ref. File #

Model(s) or Series: Performer Engines

Effective: Immediately

Onan has improved the Pistons and Piston rings for the Performer engines. When ordering service parts for replacement you must be certain to order the correct parts. The new production ring sets will not service old style pistons and old style rings will not service new style pistons.

If the engine has been shortblocked or overhauled recently, it may contain the new style pistons and rings. Ordering parts using the engine spec may not provide the correct parts. You can determine which rings you need by measuring the piston ring groove width.

P216, 218, 220 Old style wide ring groove (Spec A-C) compression ring groove width .080 (approx 5/64 in. or 2.0 mm) oil ring groove width .189 (approx 3/16 in. or 4.8 mm) ORDER RING SET P/N 113-1314.

P216, 218, 220 New narrow ring groove (Begin spec D) compression ring groove width .067 (approx 1/16 in. or 1.6 mm) oil ring groove width .1198 (approx 1/8 in. or 3.2 mm) ORDER RING SET P/N 113-0310.

If you also need pistons for the above engines, order PISTON/RING KIT P/N 112-0264. This kit contains both new style piston and rings and will service all specs.

P224 (T260) old style wide ring groove (Spec A-D) compression ring groove width .080 (approx 5/64 in. or 2.0 mm) oil ring groove width .189 (approx 3/16 in. or 4.8 mm) ORDER RING SET P/N 113-0296).

P224 new narrow ring groove width (Begin spec E) compression ring groove width .067 (approx 1/16 in. or 1.6 mm) oil ring groove width .1198 (approx 1/8 in. or 3.2 mm) ORDER RING SET P/N 113-0311.

If new pistons are also required for the P224, order PISTON/RING KIT P/N 112-0265. This contains both new style piston and rings and will service all P224 (T260) engines.

All of the above pistons and rings are available in oversize dimensions. ALL of the ring sets have a 3 piece compression ring. FOLLOW THE INSTRUCTIONS INCLUDED WITH THE RINGS FOR PROPER RING INSTALLATION

This bulletin is for information only.

Mark LaDouceur
Manager, MBG Service & Warranty Dept.

psb589



Product Support Bulletin

Date: 2/21/94 Page 1 of 1

Bulletin No. 590

Subject: Duplicate Wire Colors

Ref. File #

Model(s) or Series: DKX AUXA

Effective: Immediately

Early in the production of the Aux some of the wiring harnesses were assembled with two wires in the harness using the color orange. There was some chance of these wires being crossed during assembly. This problem can occur anywhere in the harness between the control panel and the heater/air conditioner unit. This has since been corrected by replacing one of the orange wires with a white wire.

The symptom that indicates a problem with the wiring is no high speed fan function when the switch is in the high speed position. Using the wiring diagram in the service manual (part number 981-0513) and an Ohm meter or continuity tester, check the wires to determine where they are crossed. When the problem is isolated it can be corrected by releasing the terminals from the connector and installing them in the correct orientation.

Standard warranty applies.

Mark H. LaDouceur
Manager, MBG Service & Warranty

PSB Disk: PSB2
2/18/94ed



Product Support Bulletin

Date: 2/22/94 Page 1 of 1 Bulletin No. 591

Subject: Noise on Start-up

Ref. File #

Model(s) or Series: 4.0 KY, Spec B

Effective: Immediately

We have received reports that on certain Fleetwood model motorhomes equipped with underfloor-mounted 4.0 MicroLite™ (Spec B only) gensets, a "thump" or "knock" may be heard during initial start-up of the genset.

This condition is a result of the existing underfloor mounting kit (P/N 403-3608) utilizing a stiffer than normal vibration isolator.

The affected RV's involve Class "C" Fleetwood models, including 1994 Jamboree and Tioga narrow body motorhomes with the underfloor-mounted, Spec B 4.0 MicroLite™. If you receive a complaint involving one of these units, replace the existing underfloor kit with P/N 403-3670 underfloor kit.

The apparent condition is subjective in nature and may not be considered objectionable by all customers. It is not in any regard considered to be a safety hazard and the retrofit is strictly an enhancement for RV living enjoyment.

Standard warranty applies.

Mark LaDouceur

Manager, MBG Service & Warranty Dept.



Product Support Bulletin

Date: 3/18/94 Page 1 of 1 Bulletin No. PSB 592

Subject: 420-0576 Tester Kit

Ref. File #

Model(s) or Series: See Tester Instruction Sheet (s)

Effective: Eff. immediately

The following recommendations or change should be observed when using the 420-0576 tester kit.

PCB Tester #420-0572 - instructions should begin by making certain that a good fuse of the proper amperage rating for the genset be installed in the board before testing.

AVR Tester #420-0574 - requires that the AC power plug be observed for polarity in relationship to the 120 VAC outlet. Attached is a supplement showing the method to determine correct polarity. After polarity is determined, the plug should be replaced with a polarity-sensitive plug.

Rotor and Stator Tester #420-0574 - requires a change to Step 7 and the listed values for stator voltages. The readings should be:

$$L_1 - L_0 = 49 \text{ VAC}$$

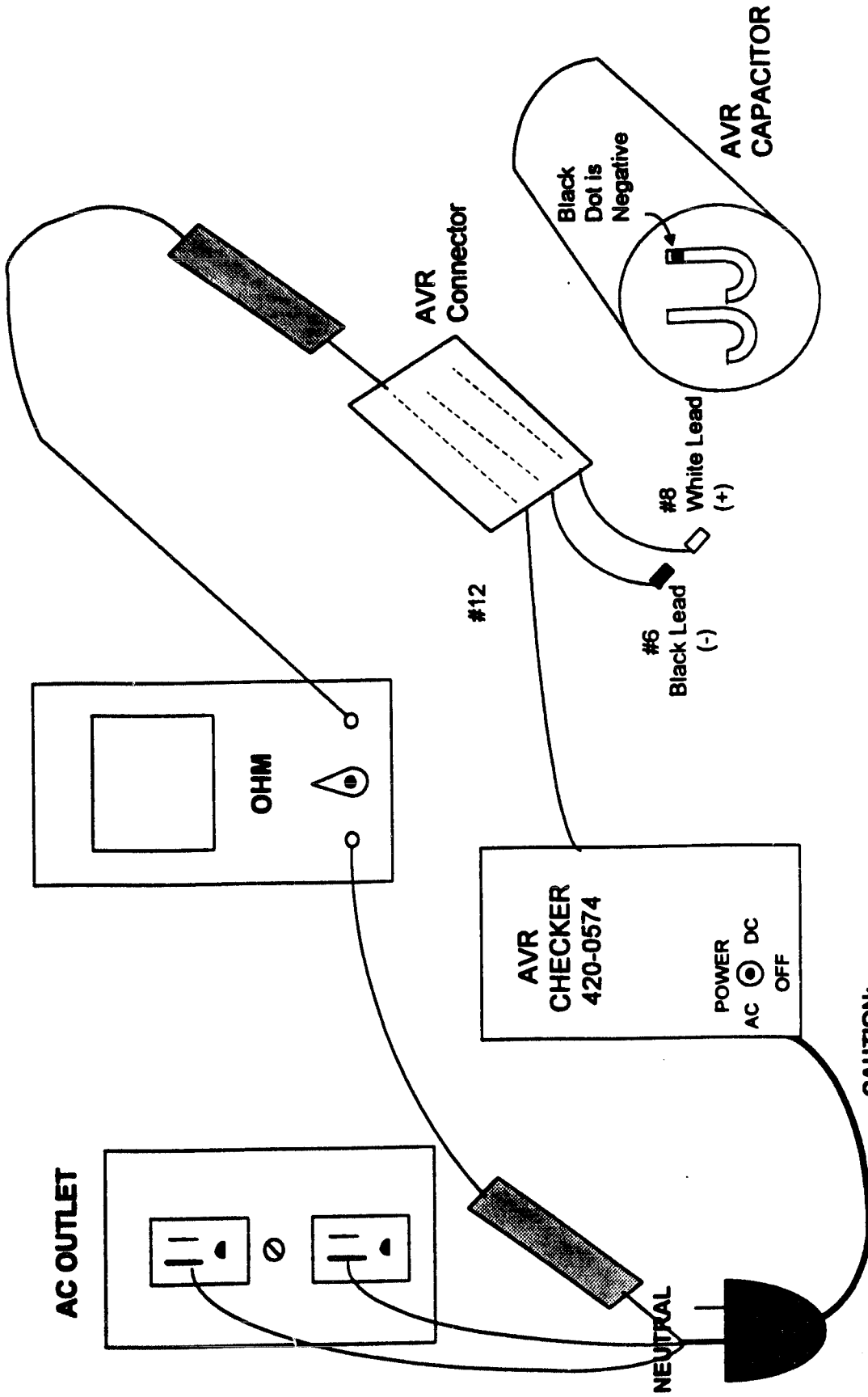
$$Q - Q_2 = 58 \text{ VAC}$$

$$B_1 - B_2 = 7 \text{ VAC}$$

This Bulletin is for informational purposes only.

Mark H. LaDouceur
Manager, MBG Service & Warranty Dept.

SUPPLEMENT TO AVR CHECKER #420-0574



CAUTION:
With the power switch in the OFF (Center) position, find which blade on the AC power plug has circuit continuity to pin #12 on the AVR connector. This is the neutral side of the AC outlet. Damage to the tester may occur if this polarity check is not observed. Correct polarity of the AVR capacitor connections must be made or damage to the capacitor will occur.



Product Support Bulletin

Date: 3/31/94 Page 1 of 1

Bulletin No. PSB 593

Subject: Carburetor vacuum pull-off line kinked Ref. File #
Random and intermittent ignition miss

Model(s) or Series:

Effective: Immediately

Model (s) Series: All Emerald and Marquis gensets with newer style carburetor (auto-choke dc heater), and electronic ignition.

Carburetor vacuum pull off line kinked

If you encounter difficult starting, overfueling, and rough running after starting, be sure to check operation of the vacuum pull off diaphragm. It has been reported that in some cases the vacuum line is kinked and the pull off diaphragm is inoperable. This can be remedied, simply by routing the vacuum line to reduce sharp bends.

Be sure to observe important safety instructions in the operator's manual when working on or around the fuel system.

For random and intermittent ignition miss

If you encounter an intermittent and random miss, check the routing of the ignition module leads to the ignition coil. It has been reported that routing them between the ignition high voltage posts, can cause false triggering of the ignition system. This can be remedied by simply routing the ignition leads around the high voltage posts instead of between them.

Be sure to observe important safety instructions in the operator's manual when working on ignition systems.

Mark H. LaDouceur
Manager, Service & Warranty Dept
Quality Assurance, Mobile Business Group

MHL: sd

PSB Dist: PSB593, 3/31/94



Product Support Bulletin

Date: 3/30/94 Page 1 of 1

Bulletin No. PSB 594

Subject: R134a Refrigerant

Ref. File #

Model(s) or Series: DKX - Important New Information Effective: Immediately

The DKX AUXA 2A product has been changed to accommodate the difference in efficiency in R134a and R12 refrigerants.

1. The power unit uses a larger condenser and different lubricant.

*Use ONLY R134a refrigerant in the DKX AUXA 2A.

*Use ONLY R12 Refrigerant in the DKX AUXA 1A.

2. The evaporator kits have been changed.

*New kits #128-0231, -0232 and -0233 may be used in either R134a or R12 systems.

*Kits #128-0176, -0177 and -0178 MUST use R12 ONLY.

Inventory may be used on R12 systems, or be upgraded for use with either refrigerant by replacing the thermal expansion valve with part #128-0229.

CAUTION: Once a system has been charged with either refrigerant, it must not be converted to the other type. Any parts removed from a system that has been charged must always be used with the same refrigerant as in the original installation. Severe equipment damage may result if used parts are installed into a system with a refrigerant different than the original.

This bulletin is for informational purposes only.

Mark LaDouceur

ML:sd



Product Support Bulletin

Date: 6/28/94 Page 1 of 1 Bulletin No. 595

Subject: INSTALLATIONS EQUIPPED WITH
BATTERY CHARGERS

Ref. File #

Model(s) or Series: ALL INDUSTRIAL SETS

Effective: IMMEDIATELY

Battery chargers present hazards that service technicians must keep in mind.

Follow these precautions to avoid damaging generator controls, associated equipment, and possible severe personal injury.

NOTE: Battery chargers may be remotely located or located inside transfer switches and/or paralleling gear.

WARNING: Always disconnect a battery charger from its AC source before disconnecting the battery cables. Otherwise, disconnecting the cables can cause voltage spikes high enough to damage DC control circuits, the battery charger itself, and the VR-1 on some models.

Arcing can ignite explosive battery gasses. Make certain the battery compartment is well ventilated and explosive gasses have been dispersed prior to working around the battery. Always disconnect negative (-) cable first and connect it last.

This bulletin is for informative purposes only.


Francis J. Bye
Technical Service Representative
Industrial Products



Product Support Bulletin

Date: 8/8/94 Page 1 of 1 Bulletin No. 596

Subject: BOSCH ALTERNATORS

Ref. File #

Model(s) or Series: ALL INDUSTRIAL SETS

Effective: IMMEDIATELY

The Bosch battery charging alternators, 12 and 24 volt, may have a loose cooling fan/pulley. These alternators were installed on sets from Dec 17, 1993 through June 22, 1994, S/N L930527000 through F940545015.

The loose fan/pulley has been reported only on Bosch alternators manufactured in Australia. You can identify the Bosch alternators manufactured in Australia by looking at the back of the alternator. It will state that it was manufactured in Australia. Those manufactured in Germany have no identification on the back.

Before doing the requested work, refer to the service manual for the safety precautions that must be followed when working in the area of the engine cooling fan.

When doing a start-up, normal service or preventative maintenance, please check the battery charging alternator. If it was manufactured in Australia, please add a 526-0112 flat washer, I.D. 11/16, O.D. 1 3/8, and 7/64 thick, under the spring washer and retaining nut for the cooling fan and drive pulley. Any flat washer will work, providing it has an 11/16 I.D. and is 7/64 (.094 - .109) thick. Also be sure to check units in your stock.

Warranty will not cover travel, as this service can be performed when you are doing the start-up or normal maintenance.

Jerry McCollor
Warranty Principal
Industrial Products



Product Support Bulletin

Date: Sept '94 Page 1 of 1

Bulletin No. #597

Subject: Starter, P/N 191-2132

Ref. File #

Model(s) or Series: MCE Series

Effective: Immediately

This is to notify you of a starter change and recall.

Starter P/N 191-1630 was replaced with 191-2132. This starter should have the four vent holes sealed.

The modified and unmodified starters can easily be distinguished, as seen below:

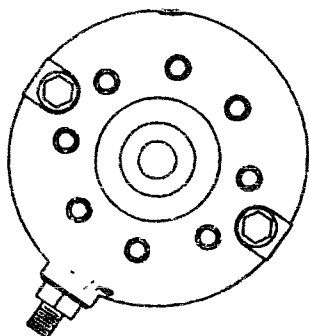


Figure A

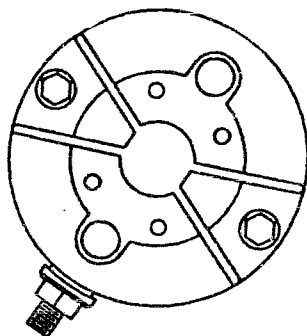


Figure B

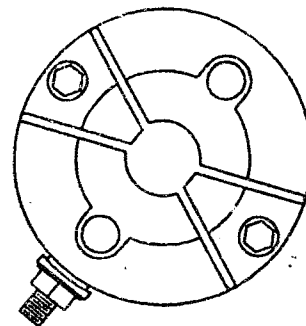


Figure C

Figure A depicts starter motor (191-1630) and is the version that was used prior to January 1994. Note the design of the starter motor endcap. There is no need to replace this starter motor configuration.

Figure B shows the starter motor (191-2132) which is the topic of this product improvement. Carefully view the starter motor end cap. Observe the four holes closest to the center. If each of these holes is filled with epoxy, no replacement action is necessary. If these four holes are open or filled with paint, then the starter motor should be replaced.

Figure C displays the end view of the (191-2158) starter motor which, when available, will be the newest configuration.

Until the newest version is received, starter motors resembling Figure B with epoxy-filled holes will be provided. These modified starters meet all requirements for ignition protection.

Letters were sent to all distributors and OEMs who received product affected by this recall.

Please inspect your service parts and return all unmodified starters.
Standard warranty applies.

Mark Hapka
Manager, MBG Service & Warranty Dept.
t:\psblmce
9/13/94sd



Product Support Bulletin

Date: 10/31/94 Page 1 of 1 Bulletin No. #598

Subject: TRANSFER SWITCH
REPLACEMENT CONTACTS

Ref. File #

Model(s) or Series: OT I (Spec A-C) 400-1000 Amp
OTII (Spec E-F) 800-1000 Amp
OTIII (Spec G-H) 800-1000 Amp
BT (Spec A) 800-1000 Amp
BT (Spec B) 600-1000 Amp

Effective: IMMEDIATELY

When the power or neutral contacts on one of these models (3 or 4 pole) is replaced, it will be necessary to check contact pressures. Insufficient contact pressure will result in heating of the contact and premature contact failure.

When ordering the contacts, also order Shim Kit 300-4562. This kit has enough shims to do a whole transfer switch, a tool for measuring contact pressures, and an instruction sheet showing how to make the measurement and adjust contact pressure if required.

When replacing contacts and checking contact pressure, be sure to follow all cautions and warnings on the instruction sheet and applicable service manual.

This bulletin is for information only.

Bob Renner
Sr. Service Representative
Industrial Business Group



Product Support Bulletin

Date: Page of Bulletin No. #599

Subject: Spark Plug Gap Ref. File #

Model(s) or Series: 3.6/4.0 KY **Effective:** Immediately

Onan Corporation has determined that spark plug gap on 3.6 and 4.0 KY MicroLite models is critical. Also, adherence to the nominal gap specification of .025" is required when installing a new spark plug.

Hard starting, mis-firing and rough running can result when the spark plug gap is in excess of the nominal .025".

On 3.6 KY MicroLites operating on LP, it may be necessary to reduce the gap further to .020" to resolve such performance problems.

This bulletin is for informational purposes only.

Mark J. Hapka
Manager, Service & Warranty Dept.
Mobile Business Group



Product Support Bulletin

Date: Page of Bulletin No. #600

Subject: **Carburetor choke adjustment**
 Carburetor replacement parts **Ref. File #**

Model(s) or Series: **Effective:** **Immediately**

All Emerald and Marquis gensets equipped with newer style carburetor, 12 VDC (1 wire) choke heater. Carburetor part numbers 146-0577 (BGD/E), 146-0578 (NHD/E), 146-0579 (BGM), and 146-0580 (NHM).

Carburetor Choke Adjustment

Adjustment of the choke heater from its factory calibrated position may cause hard starting, plug fouling, and poor operation.

The choke assembly is calibrated by the manufacturer. This setting should not be changed in the field.

If the generator is difficult to start, verify that the marks between the black choke heater cover and the bracket are aligned. These marks can be found on the air filter side of the choke heater assembly. If these marks are out of alignment, loosen the three bracket screws, align the marks, and tighten the bracket screws.

The only service adjustment on the choke assembly is the vacuum pull-off.

If the unit runs rough after starting, check the vacuum diaphragm pull-off assembly for correct operation. This assembly is responsible for fuel metering after start and before the choke is fully open. As the unit warms up, the choke heater will assist the vacuum pull-off and open the choke the remainder of the way.

The vacuum diaphragm pull-off can be adjusted by shortening or lengthening the choke pull-off linkage. Be sure to perform the procedure as detailed in the service manual.

Carburetor Replacement Parts

146-0588 Bi-Metal Assembly

Service replacement part for 146-0577, 146-0578, 146-0579, and 146-0580 carburetors.

Kit includes: Bracket, Bi-metal cover, Factory set bi-metal coil, Heater, Lever, Torsion spring, and Linkage.

146-0589 Breaker Assembly (Vacuum pull-off diaphragm)

Service replacement part for 146-0577, 146-0578, 146-0579, and 146-0580 carburetors.

Kit includes: Bracket, Choke breaker, and rod.

146-0590 Vacuum Sustain Valve

Service replacement part for 146-0577 and 146-0578 carburetors.

Kit includes: Vacuum sustain valve

Note: When installing, the port marked "VAC" must be connected to the intake manifold. This part has a recommended replacement interval of 300 hours.

146-0591 Vacuum Sustain Valve Assembly

Service replacement part for 146-0577 and 146-0578 carburetors.

Kit includes: Vacuum sustain valve, and two vacuum lines.

146-0592 Choke Shaft Assembly

Service replacement part for 146-0577 and 146-0579 carburetors.

Kit includes: Shaft, Choke plate, Screws, Torsion spring assembly, and Lever.

146-0593 Choke Shaft Assembly

Service replacement part for 146-0578 and 146-0580 carburetors.

Kit includes: Shaft, Choke plate, Screws, Torsion spring assembly, and Lever.


Mark J. Hapka
Manager, Service & Warranty Department
Mobile Business Group



Product Support Bulletin

Date: 11/19/94 Page 1 of 1 Bulletin No. #601

Subject: PCC REMOTE STARTING CIRCUITS

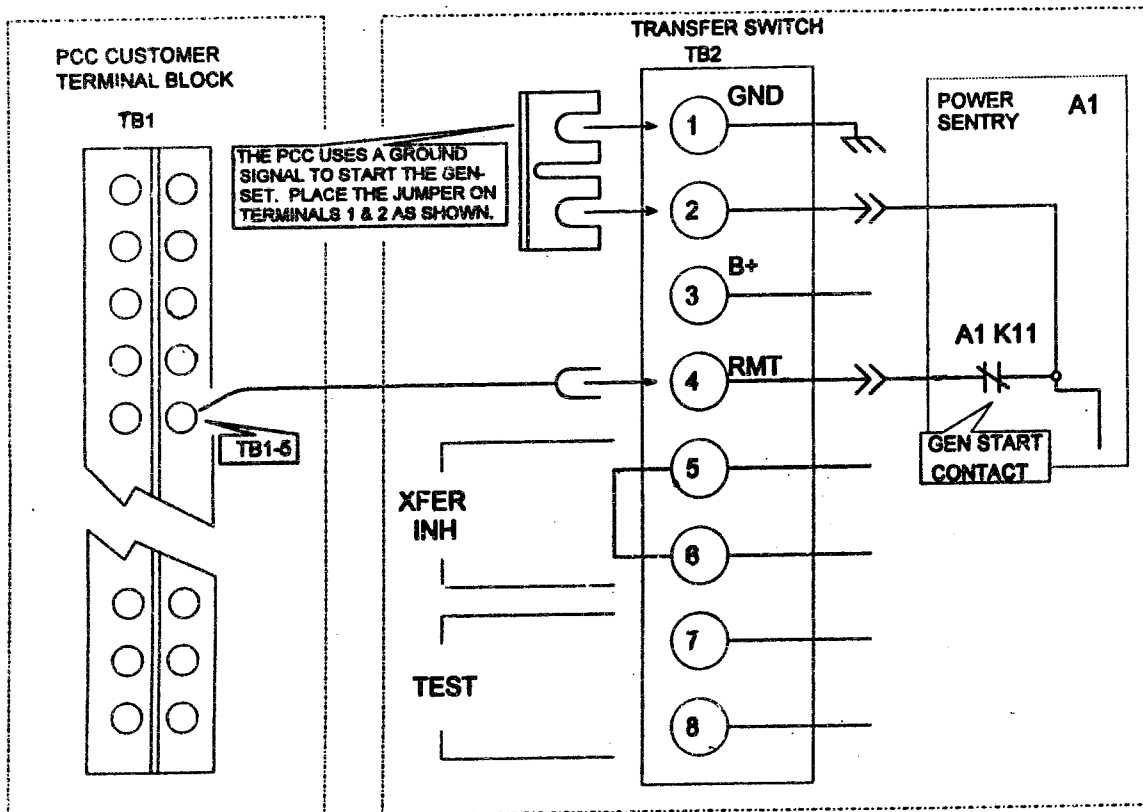
Ref. File #

Model(s) or Series: ALL PCC EQUIPPED GENSETS

Effective: IMMEDIATELY

The PCC control uses a closure from Remote (TB1-5) to ground for remote starting instead of the Remote to B+ found in earlier controls.

The standard connections for a PCC to an OTIII are illustrated below. Similar connections will provide remote starting with an OTII. Additional information may be found in WD - Interconnection print #630-1345 as well as the appropriate Installation and Service Manuals.



This bulletin is for informative purposes only.

Francis J. Bye
Technical Service Representative
Industrial Business Group



Product Support Bulletin

Date: 11/30/94 Page 1 of 2 Bulletin No. #602

Subject: OTIII MOTHERBOARD
REPLACEMENT

Ref. File #

Model(s) or Series: OTIII BUILT PRIOR TO
JULY, 1988

Effective: IMMEDIATELY

When replacing a 300-3090 motherboard with a 300-3953 on OTIII transfer switches built prior to July 1988, the control will not exercise or test in the "with load" mode until a modification is made. In these switches (see Figure 1), voltage from T1 goes through J2/P2 pin 1 to the common of S3. With the contactor connected to utility, the common is made with the normally open contact, which goes through J2/P2 pin 2 to DS1 pin 1. The modification involves connecting a wire from the circuit path between J2-2 and DS1 to J7-13.

On later switches (see Figure 2), the circuit changed. Now after coming through J2/P2 pin 2, the circuit goes into J7-13 on the motherboard then out J7-14 to DS1 pin 1. The voltage on J7-13 of the motherboard powers a utility connected relay which allows testing or exercising with load.

This bulletin is for information only.

WARNING: Work on transfer switches must be done by trained, experienced personnel only. See Service Manual for important safety instructions and warnings.

Bob Renner
Sr. Service Representative
Industrial Business Group

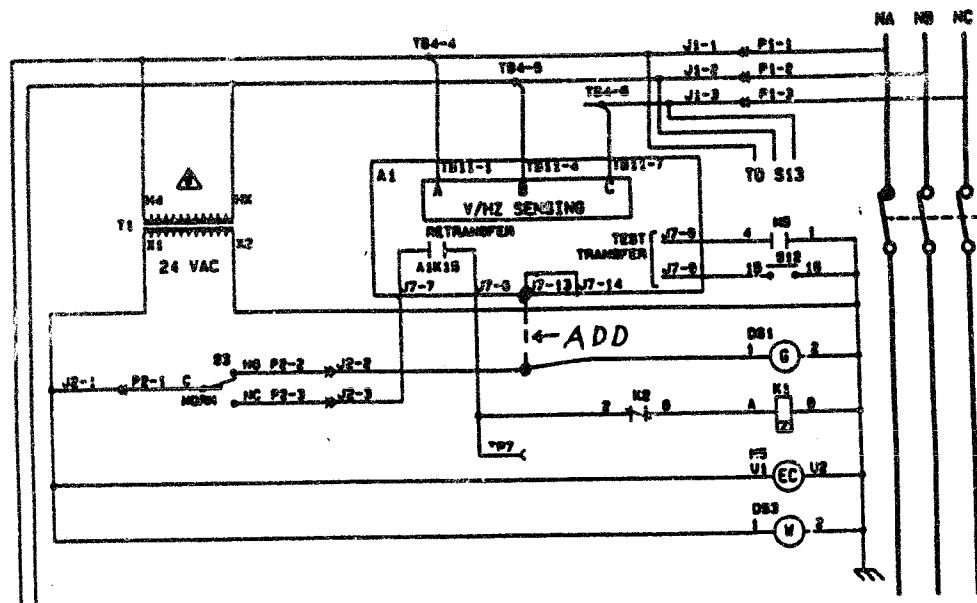


FIGURE 1

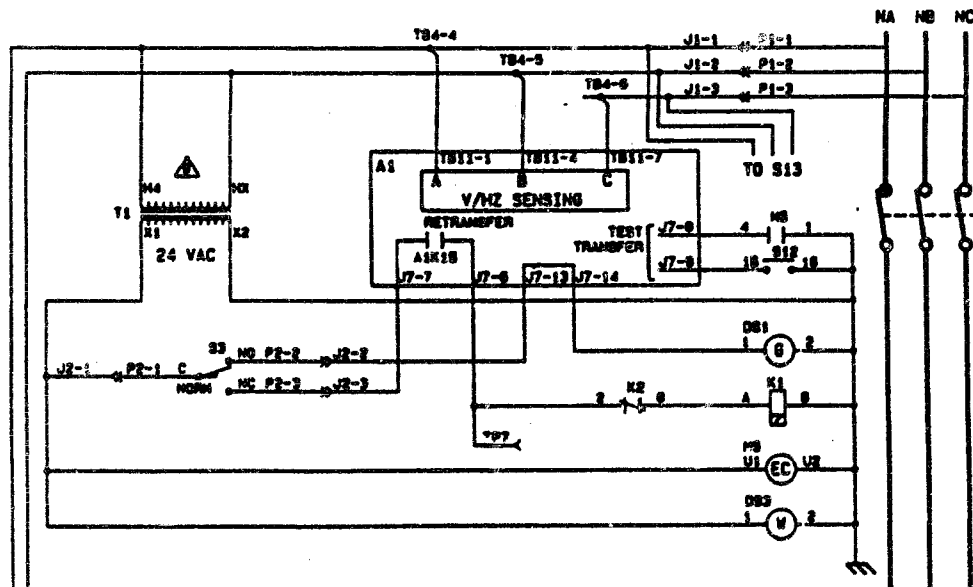


FIGURE 2

The following catalog has gaps in its page numbers, or doesn't have any numbers. We have chosen to leave the page numbering in the order that Acrobat assigns it.



Product Support Bulletin

Date: February 17, 1995

Page 1 of 1

Bulletin No. 603A

Subject: 321-0175 FUSE HOLDER

Effective: Immediately

Model(s) or Series: J Series and General Usage

Field reports indicate that some sets/equipment using the subject fuse holder have experienced broken tabs on the fuse holder cap. The fuse holder manufacturer changed material, which in some cases allowed the tabs on the fuse holder cap to break. We believe the issue is limited to products with 1993 serial numbers.

To repair the sets with a broken fuse holder cap, order the complete fuse holder and use the fuse holder cap. Discard the rest of the fuse holder.

Standard warranty applies.

A handwritten signature in cursive script, appearing to read 'Jerry M. McCollor'.

Jerry McCollor
Warranty Principal Analyst



Product Support Bulletin

Date: January 27, 1995

Page 1 of 1

Bulletin No. 604

Subject: MICROLITE GROUND TERMINALS

Effective: Immediately

Model(s) or Series: 4.0KY Microlite (Spec A & B)

When servicing the 4.0KY Microlite generator set (Spec A & B), inspect the ground terminal (P/N 332-3108) for secure fit, damage or connectors that are loose or unattached.

The ground terminal is located beneath the printed circuit board assembly. Removal of the PCB assembly is required to gain access to the terminal block location.

If inspection reveals any of the aforementioned problems, repair or replace the terminal block or associated parts as necessary. Reinstall PCB assembly and replace access door.

Standard warranty applies.

A handwritten signature in cursive script that reads 'Joseph O'Brien'.

Joseph O'Brien
Technical Service Representative



Product Support Bulletin

Date: January 27, 1995

Page 1 of 3

Bulletin No. 605

Subject: OIL FOULING OF THE LP REGULATOR

Effective: Immediately

Model(s) or Series: 6.5NHM (MARQUIS)

Symptoms: Set will not come up to speed, will not pull heavy loads, runs rough, starts only if the air inlet flow is blocked, or will not start at all.

Cause: The LP regulator may be oil fouled (clogged). There is a National Standard that allows contaminate concentrations of .05%, by volume, for LP fuel. Fuel suppliers could be supplying fuel that exceeds this limit.

Explanation: Just as oil is dissolved when mixed with gasoline for 2 cycle engines, the same type of homogenous mixture results when oils are introduced into the LP liquid. As the LP vaporizes, the dissolved oil does not, and falls out at the point of vaporization (i.e. the regulator).

Interim Solution: Convert the system from liquid to high pressure vapor withdrawal. Cleaning the LP regulator only is not considered a solution and those expenses will not be covered under warranty.

WARNING: LP FUEL IS FLAMMABLE AND EXPLOSIVE. KEEP ALL FLAMES, CIGARETTES, PILOT LIGHTS, SPARKS, ARCING EQUIPMENT OF SWITCHES, AND OTHER IGNITION SOURCES AWAY FROM WORK AND AREAS SHARING VENTILATION. ALL WORK PERFORMED ON LP FUEL SYSTEMS MUST BE DONE BY QUALIFIED PERSONS. CHECK WITH LOCAL AND STATE REGULATIONS TO SEE IF THIS WORK REQUIRES A TECHNICIAN WITH A CERTIFICATE FROM THE GOVERNING AUTHORITY.

Work to be done:

1. Remove the set from the coach.
2. Shut off tank valves and disconnect the genset fuel supply line at the tank.
3. Plug valve for LP liquid supply.
4. Remove, clean, and reinstall LP regulator.
5. Plumb generator LP fuel supply line into the vapor supply line between the shut-off valve on the tank and the low pressure regulator for the appliances.

NOTE: SEE DRAWING.

6. Reinstall genset into coach and hook up to existing fuel lines.
7. Turn on vapor supply valve at tank and check for leaks.

System Limitation:

Low ambient operation may be restricted. The low limit of operation is affected by bottle or tank size and the amount of fuel in the tank. We anticipate minimal impact down to 15 degrees F. Below 15 degrees F, the set will be increasingly restricted on length of operation time and/or load size that can be carried.

Compensation:

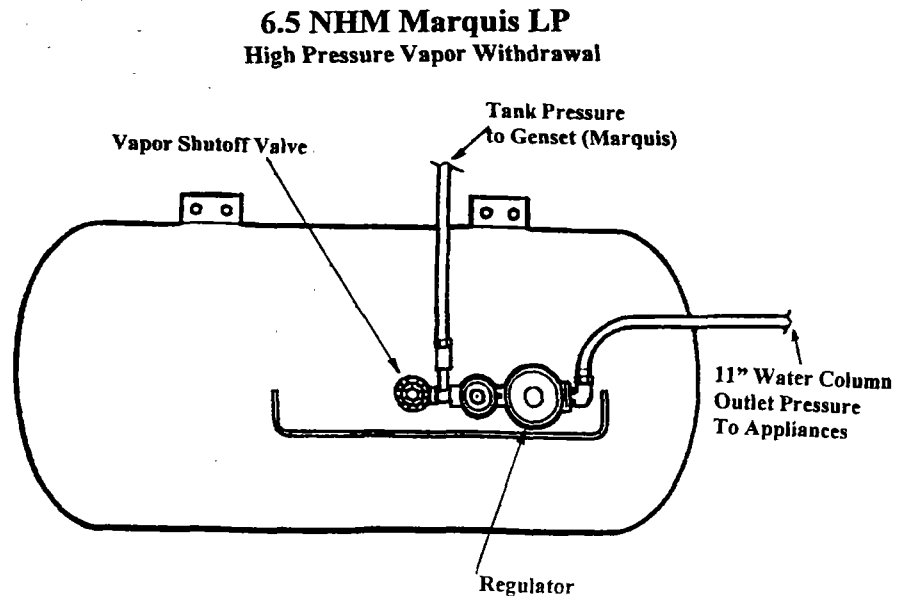
This conversion is not a campaign, but an alternative to be offered to those customers experiencing this issue.

All conversions must be approved by an Onan Technical Service Representative, who will issue a CSC# (Customer Service Call). The following repair times and parts reimbursements apply:

R&R Genset = 2 Hrs
R&R and Clean LP Regulator = 1 Hr
Replumb Genset Fuel Supply = 1 Hr
Parts = Necessary fittings to replumb fuel supply.

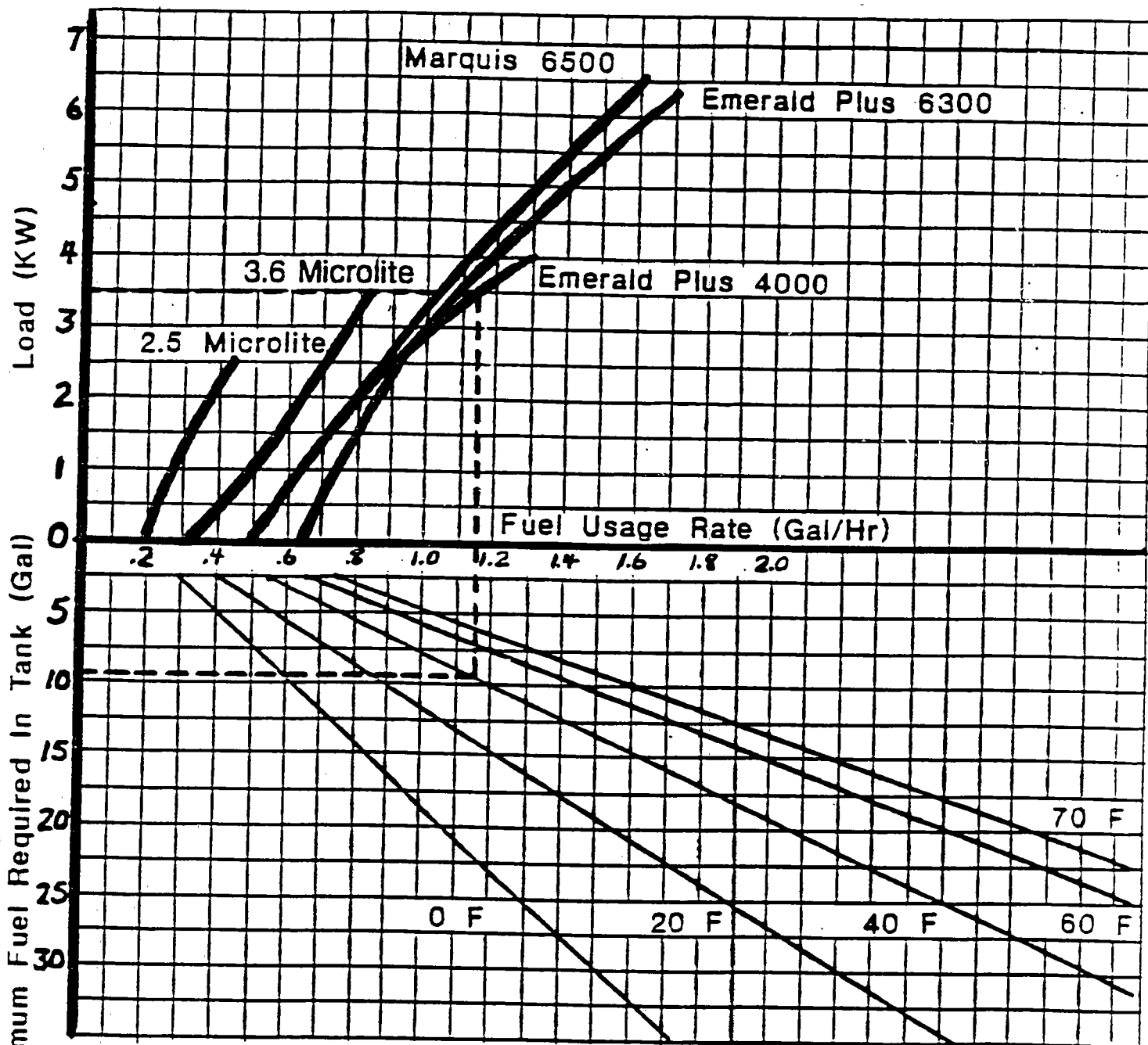
NOTE: To get any compensation, the complete conversion must be performed.


Richard Dassinger
Technical Service Representative



ONAN GENSET TANK REQUIREMENTS FOR LP VAPOR WITHDRAWAL SYSTEM

(To ensure Vaporization in the tank)



Instructions

1. Choose load for genset.
2. Move across graph to genset line.
3. Move down graph; read fuel usage.
4. Move down to desired ambient temp.
5. Move across; read minimum fuel needed.
6. Calculate available running hours:

$$\text{Hours} = \frac{\text{Gal in tank} - \text{Min Fuel Req}}{\text{Usage (Gal/Hr)}}$$

(Note: All values approximate)

Example

1. Assume 3.5 kw load.
2. Emerald Plus 4000.
3. Read 1.15 GPH.
4. Assume 40 F ambient.
5. Read 9.0 gallons.
6. Assume full 20 Gal. tank.

$$\text{Hours} = \frac{20 - 9}{1.15} = 9.5 \text{ hrs}$$

The genset will run approx. 9.5 hours.



Product Support Bulletin

Date: 11/27/96

Page 1 of 2

Bulletin No. 605a

Subject: Oil Fouling of the LP Regulator Effective: Immediately

Model(s) or Series: 6.5NHM (Marquis), Spec A-E

- Symptoms:** Set will not come up to speed, will not pull heavy loads, runs rough, starts only if the air inlet flow is blocked, or will not start at all.
- Cause:** Check to see if the LP regulator may be oil fouled (clogged). A National Standard allows contaminate concentrations of .05%, by volume, for LP fuel. Fuel suppliers could be supplying fuel that exceeds this limit.
- Explanation:** Just as oil is dissolved when mixed with gasoline for 2 cycle engines, the same type of homogenous mixture results when oils are introduced into the LP liquid. As the LP vaporizes, the dissolved oil does not, and falls out at the point of vaporization (i.e. the regulator).
- Solution:** On sets prior to Spec "F", install Kit P/N 541-0534 and follow Instruction Sheet G303.
- WARNING:** LP FUEL IS FLAMMABLE AND EXPLOSIVE. KEEP ALL FLAMES, CIGARETTES, PILOT LIGHTS, SPARKS, ARCING EQUIPMENT SWITCHES, AND OTHER IGNITION SOURCES AWAY FROM WORK AND AREAS SHARING VENTILATION. ALL WORK PERFORMED ON LP FUEL SYSTEMS MUST BE DONE BY QUALIFIED PERSONS. CHECK WITH LOCAL AND STATE REGULATIONS TO SEE IF THIS WORK REQUIRES A TECHNICIAN WITH A CERTIFICATE FROM THE GOVERNING AUTHORITY.

PSB #605a
11/27/96
Page 2 of 2

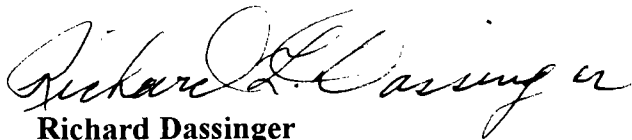
Compensation:

This conversion is not a campaign, but an alternative to be offered to those customers experiencing this issue.

Should you choose to make this repair, the following repair times are what you may expect.

R&R Genset = 2 Hrs
Install Kit = 1 Hr

Standard warranty applies.



Richard Dassinger
Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: January 27, 1995

Page 1 of 1

Bulletin No. 606

Subject: 110-3570 EXHAUST VALVE

Effective: Immediately

Model(s) or Series: All Spec B & C P224 Engines

When replacing exhaust valves in Spec B & C P224 engines, the original part number, 110-3570, is superseded by 110-1719. The parts screen lists the part number for the new valve, and the part numbers for the new retainer/rotator and keepers required for the new valve. You must also leave out the 110-3571 valve cap. The 110-1719 valve can be as much as .115" longer than the 110-3570. If the valve cap is installed, it is possible that the valve lash cannot be brought into specification due to the added length.

This bulletin is for informational purposes only.

A handwritten signature in cursive script that reads 'David Sollars'.

David Sollars
Technical Service Representative



Product Support Bulletin

Date: February 8, 1995

Page 1 of 1

Bulletin No. 607

Subject: 191-2163 90 Amp Alternator Kit

Effective: Immediately

Model(s) or Series: DKX

Onan has improved the optional 90 amp alternator mounting system for the DKX product. The new kit, part number 191-2163, will be sold in place of the old kit, part number 191-2109. The new mounting system provides a more durable mount.

Because the new mounting system does not use the mounting boss on the gear cover, it can be used to repair a failure of the old style mount if there is no oil leakage. We have released kit part number 191-2182 to fill this need. It contains all of the mounting brackets and hardware, but excludes the alternator, belt, and wire.

Standard warranty applies.

A handwritten signature in cursive script that reads 'David W. Sollars'.

David Sollars
Technical Service Representative



Product Support Bulletin

Date: March 10, 1995

Page 1 of 2

Bulletin No. 608

Subject: Reconnection Silkscreens

Effective: Immediately

Model(s) or Series: DF Series Generator Sets

On January 11, 1995, we started shipping DF series generator sets with the output leads having dual (U, V, W, T1, T2, T3, etc.) markings. For 2-1/2 weeks the units were shipped with the wrong reconnection silkscreen on the output box covers.

The silkscreen has been corrected at the factory and all product in stock has been changed. If wired per the diagram on the silkscreen, no damage to the generator will occur. There could be confusion if someone tries to reconnect the generator because of the dual markings. Page 2 of this bulletin shows the proper reconnection diagram.

This bulletin is for information only.

A handwritten signature in cursive script, appearing to read 'R. Renner'.

Robert Renner

Technical Service Representative

GENERATOR CONNECTION WIRING DIAGRAM

PHASE SEQUENCE U,V,W, WHEN ROTATING CLOCKWISE VIEWED AT THE DRIVE END

GENERATOR CONNECTION SCHEMATIC DIAGRAM

VOLTAGE

PHASES
HERTZ

GENERATOR CONNECTION

• SPECIAL WINDING

HC4

HC5-7

| VOLTAGE | PHASES HERTZ | GENERATOR CONNECTION | GENERATOR CONNECTION SCHEMATIC DIAGRAM | HC4 | HC5-7 | | | | |
|---|---------------------------|----------------------|--|-----|-------|------------|--|--|--|
| 120/240 115/230 110/220 | 1 50 50 | DOUBLE DELTA | | | | | | | |
| 120/240 115/220 110/230 | 3 50 50 | SERIES DELTA | | | | | | | |
| 120/208 127/220 139/240 | 3 60 60 | PARALLEL WYE | | | | | | | |
| 110/190 115/200 120/208 127/220 | 3 50 50 50 | | | | | | | | |
| 347/600 220/380 240/416 254/440 277/480 | 3 60 60 60 60 | | | | | SERIES WYE | | | |
| 200/346 220/380 230/400 240/416 254/440 | 3 50 50 50 50 | | | | | | | | |
| 277/480 347/600 | 3 60 60 | | | | | | | | |
| | | | | | | | | | |



Product Support Bulletin

Date: March 10, 1995

Page 1 of 1

Bulletin No. 609

Subject: Current Transformers

Effective: Immediately

Model(s) or Series: All with PCC Controls

Current transformers must be put in the proper phase with the polarity dot facing the generator and wired to the proper terminals. If not, the control will shut down for reverse power even in single plant applications.

The digital display can help to diagnose CT wiring problems. If the power factor displayed is much less than the actual power factor, it is usually an indication that CT's are placed on the wrong phase. The swapped phases can be observed by looking at each individual power factor in the calibrating menu. If the power factor is correct but the power (kW) on the PCC display is lower than the actual power, it is usually an indication that one or more of the CT's are wired with incorrect polarity.

WARNING: Read all warnings in the Operator's and Service Manuals before performing any tests. The engine must be stopped and prevented from starting before the CT's have jumpers added or removed.

Ex. 1: When using a load bank, if the power factor on the display (in set-up and calibration menu) is as follows: $Pf1 = 0.99$, $Pf2 = 0.50$, $Pf3 = 0.50$, it indicates that CT22 and CT23 are in the wrong phases.

Ex. 2: If a 66 kW load is applied to the generator and the display indicates 22 kW, it means one CT has the wrong polarity and is canceling out the effects of another. If two CT's have the wrong polarity, the display will indicate 0 kW.

Ex. 3: CT secondaries can be shorted out to see which have the wrong polarity. If there's a 66 kW load and the display indicates 22 kW, short a CT. If the load indication goes up to 44 kW, the shorted CT needs its secondary leads reversed. If the kW indication goes to 0 kW with the CT shorted, that CT has the right polarity.

This Bulletin is for information only.

A handwritten signature in cursive script, appearing to read 'Bob Renner', written in black ink.

Bob Renner
Technical Service Representative



Product Support Bulletin

Date: March 31, 1995

Page 1 of 1

Bulletin No. 610

Subject: PLTE Switches Not Transferring
in Closed Transition

Effective: Immediately

Model(s) or Series: PLTE Switches

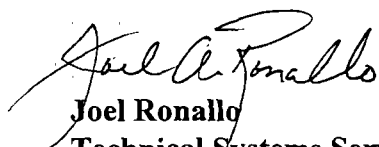
This is to aid in troubleshooting if the generator breaker fails to close in the closed transition mode during a test or a utility power failure.

K1 and K2 interlocking relays that are mounted below the power sentry module are open relays, and dirt and dust can get on the contacts, so the "breaker close" signal cannot reach the PLC.

If this occurs, follow these steps:

1. Make sure there is no voltage to the coil of the relays.
2. Use a good grade contact cleaner and spray the insides of both relays. Immediately after spraying the contacts of both relays, blow them out thoroughly with air.
3. Retry test in the closed transition mode to verify operation.

Contact the factory if this does not resolve the problem.


Joel Ronallo
Technical Systems Serv. Rep.
Power Generation Americas



Product Support Bulletin

Date: March 31, 1995

Page 1 of 2

Bulletin No. 611

Subject: Sea Water Pump Impeller Redesign

Effective: Immediately

Model(s) or Series: MDKAE and MDKAD

Symptoms:

Pump will not prime or is slow to prime, loses prime, or does not have adequate lift capability for some installations and customers.

Cause:

The sea water pump impeller contains features not necessary in our water pump design. Thus, the pump's lift and prime capabilities do not meet our expectations.

Explanation:

The old impeller has a slot in the face of the hub and a break in the sealing bead 180 degrees from the slot on both sides of the impeller. They were intended to lubricate a bushing in a different style pump. The slots provide a leak path that reduces the ability of the pump to pump air or prime. The new impeller hub has a sealing bead completely around the hub with no slot on either side of the impeller.

New Parts:

When ordering the old part numbers, they will be SPS'd to the new numbers.

| Item | Old Part # | New Part # |
|------------------|------------|------------|
| Pump Assembly | 132-0343 | 132-0347 |
| Minor Repair Kit | 132-0344 | 132-0349 |
| Major Repair Kit | 132-0345 | 132-0350 |

Raw (Sea) Water Pump Priming Tips:

1. Follow procedures in Service Manual 981-520, pages 8-6 and 8-7.
2. Check Installation Manual 981-608, pages 5-1 to 5-3 for recommendations in plumbing the cooling system.

PSB 611
March 31, 1995
Page Two

3. The sea water pump lift must be less than 3 ft (.9M). Lift is measured from cooling water level (floatation level) to the inlet of the sea water pump.
4. Wet the pump with water before initial start-up. DO NOT operate pump more than 1 minute without water flow.
5. If lift exceeds 24 inches (.6M), a siphon drain down of the raw water system is normal. A looped inlet hose will trap some raw water to help wet the pump at restart.
6. Extended out-of-service may require rewetting the pump prior to resuming service.



Richard L. Dassinger
Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: April 7, 1995

Page 1 of 1

Bulletin No. 612

Subject: BREAKERS

Effective: Immediately

Model(s) or Series: ES

Field reports indicate that the 7 amp breaker on the ES engine control may trip when a 10 amp battery charger is used in the transfer switch. This combination, ES set/transfer switch with a 10 amp battery charger, is found primarily on equipment sold to the US Government.

Should a customer experience repeated breaker tripping, replace the 7 amp (320-1110) with a 12 amp (320-1920) breaker.

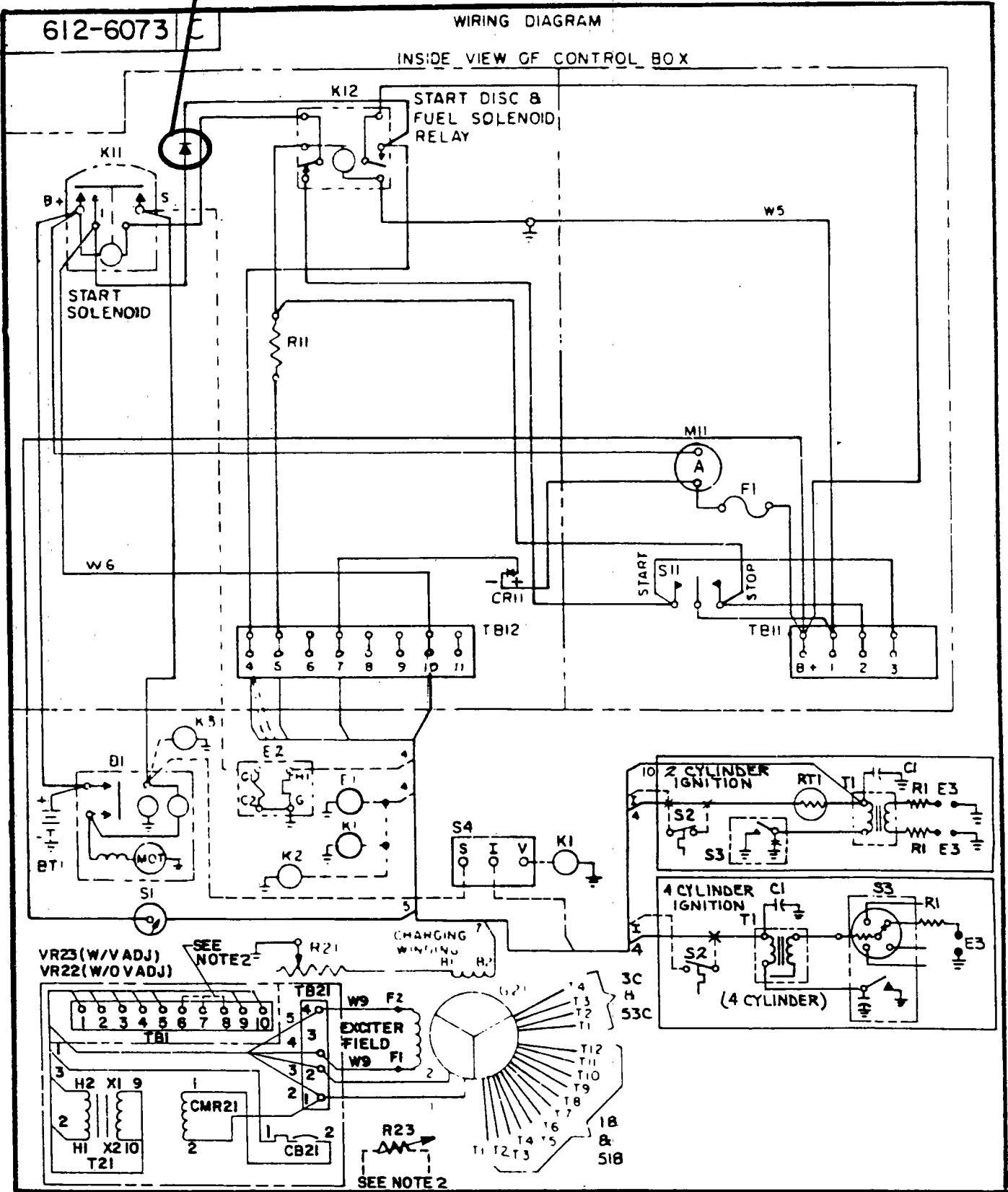
Before replacement of the breaker, refer to the Service Manual for the safety precautions that must be followed when working in the generator set control or transfer switch.

Standard warranty will apply.

A handwritten signature in cursive script, appearing to read 'Jerry McCollor'.

Jerry McCollor
Principal Warranty Analyst
Power Generation Americas

PROPER DIODE DIRECTION





Product Support Bulletin

Date: June 16, 1995

Page 1 of 2

Bulletin No. 614

Subject: Exciter Rotor Removal

Effective: Immediately

Model(s) or Series: All units with Newage generator ends

The following methods can be used to remove the exciter rotor from the rotor shaft.

READ AND FOLLOW ALL CAUTIONS AND WARNINGS IN THE APPROPRIATE OPERATOR AND SERVICE MANUALS WHEN PERFORMING ANY OF THESE OPERATIONS.

SAFETY GLASSES, GLOVES, AND CLOTHING APPROPRIATE FOR HIGH TEMPERATURES MUST BE WORN WHEN HANDLING THE HOT EXCITER AND PERFORMING THESE OPERATIONS.

Note: It will be necessary to remove the end bell, snap ring (external snap ring pliers required), generator bearing, and rotating diode assemblies. See the Service Manual for disassembly procedures.

METHOD 1:

Grind the rivet heads off of the laminations, then saw off the winding end turns. The laminations can then be pried off in small pieces.

METHOD 2: FOR UC GENERATORS

A 3 stud puller can be used, or the following can be used.

A steel plate (1/2 inch thick or thicker) can be made into a puller. Drill 3 holes evenly spaced in the plate that matches up with the balance weight holes in the laminations. Insert 1/4-20 by 6 inch long hardened bolts through the plate and laminations. Put hardened nuts on the bolts on the inside of the exciter rotor. Tightening the bolts evenly will pull the exciter by applying pressure against the rotor shaft.

PSB 614
June 16, 1995
Page Two

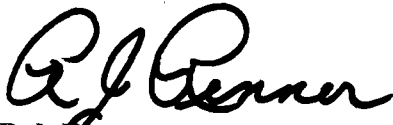
METHOD 2: FOR HC 4 & 5 GENERATORS

Same as for UC, except 8 holes are drilled in the plate, and the 1/4-20 bolts are 9 inches in length.

NOTE: The balance weights must be removed from the old exciter and installed in the same location on the new exciter. On the UC generator they are driven out. The HC generators are bolted on.

To install the new exciter rotor, first heat to about 140 degrees "C" (275 degrees F) in a conventional oven. Do not use an open flame to heat the part.

Once heated, the part is driven on to the shaft to the pre-marked original position. A driver can be made by getting a 1/2 nipple from the hardware store and screwing a pipe cap on the end. For the UC generator, use a 2-3/4 inch that's 6 inches long. The HC 4 & 5 require a 4 inch that's 8 inches long.



Bob Renner
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: July 17, 1995

Page 1 of 1

Bulletin No. 615

Subject: Stuck Exhaust Valves

Effective: Immediately

Model(s) or Series: MME Series Generator Sets

Condition:

We have received reports of stuck exhaust valves causing severe engine damage when operated in sea water (salt) environment.

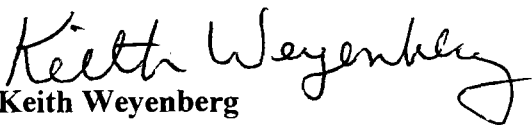
Reason:

When the set is not run for periods in excess of 30 days, the exhaust valve guide can rust and prevent free movement of the valve.

Suggested Modification:

Remove the exhaust valve stem seals. This puts additional lubricant on the stem, preventing sticking. See Service Manual 918-0500, Section 9, for servicing. When sets are stored for the season, fog the cylinders and drain the muffler and exhaust system.

This Bulletin is for information only.


Keith Weyenberg
Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: August 11, 1995

Page 1 of 1

Bulletin No. 616

Subject: Oil Leak Repair

Effective: Immediately

Model(s) or Series: Elite Vertical Shaft Engines

The Onan Service Department has received some complaints concerning possible oil leakage around the cup plug installed in the oil base on Elite Vertical Shaft engines.

The following is the approved repair for oil leaking at the cup plug on these engines.

Please refer to the Elite Service Manual, #965-0764, for the appropriate safety and caution information. The Elite Parts Manual, #970-0200, can be used for proper part number location and documentation.

1. The cup plug (P/N 517-0067) must be removed from the oil base.
Note: Some engines may have 2 cup plugs installed in this hole.
2. Using a 5/16-24 bottoming tap, thread the bore 3/8" to 1/2" deep. Filling the flutes of the tap with grease will help collect the chips during the tapping process.
3. Following the tapping procedure, use solvent to clean the threaded passage. Remove the oil pump cover (P/N 120-1218), "O" ring (P/N 509-0253), and oil pump assembly (P/N 120-1217). Use compressed air to clean the bore of any debris.
Caution: This step is important; any debris left in the oil pump may be drawn into the engine and could cause serious engine damage.
4. Clean and replace the oil pump assembly, the "O" ring seal, and the oil pump cover.
5. Install a 5/16-24 x 5/16" set screw (P/N 815-0601) using Loctite pipe sealant (P/N 518-0347). Loctite recommends the use of Loctite primer on both the set screw and the threads prior to assembly.
6. Test run the engine to be sure the leak has been properly repaired.

Standard warranty applies.

Doug Cobb
Sr Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: August 11, 1995

Page 1 of 1

Bulletin No. 617

Subject: Low Charge Rate or Dead Battery on
Tractors Manufactured by MTD

Effective: Immediately

Model(s) or Series: P220V-I/11324

This model engine has a five amp charging system as requested by MTD. The charging system uses the standard stator and voltage regulator, but the flywheel has only 3 magnets. The charging system is capable of 5.5 amps/12.6 volts at MTD's high idle speed (3300 RPM).

A dead battery may be due to the customer not following the instructions from MTD to fully charge the battery before use.

The customer may not be running the engine at full speed so the charging system can't keep the battery up with the lights being on all the time.

Solution: The customer may want to install a switch to turn off the headlights when not needed. The headlights draw about 3 amps.

You may refer the customer to MTD Service, P.O. Box 368022, Cleveland, Ohio, 44136-9722. Phone 1-800-800-7310.

Note: Installation of a light switch or a standard performer flywheel with 6 magnets to convert to a 20 amp system is not a warranty covered item. In addition, the tractor circuit is not wired for a 20 amp charging system.

This bulletin is for informational purposes only.

A handwritten signature in black ink, appearing to read 'Doug Cobb'.

Doug Cobb
Sr Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: September 8, 1995

Page 1 of 1

Bulletin No. 618

Subject: Governor Control Modules P/N 151-0702

Effective: Immediately

Model(s) or Series: 5.0/6.5/7.0 Marquis Specs B through F

Symptoms:

Genset experiences random/intermittent shutdowns during normal operation. Throttle has no movement at carburetor during cranking and genset will not start. Note: A delay of two seconds for throttle movement after the start switch is engaged is normal.

Cause:

Testing has revealed that some governor controls may experience: (a) a separation of the black potting material from the sides of the plastic shell, and (b) voids or air pockets within the black potting material. These conditions, which cannot always be visually detected, may trap moisture which can cause erratic operation.

Explanation:

Not all controls are affected. Controls, P/N 151-0702, that are in Spare Parts inventory should be returned to Onan via standard spare parts warranty procedures as a precaution.

Solution:

The potting material has been changed and the manufacturing process has been improved. These improvements correspond with a change to the NEW PART NUMBER 151-0752, and have been installed in sets with S/N's after F953391900.

This is not a field campaign. Standard warranty policy applies.

A handwritten signature in cursive script that reads "Michael J. Fair".

**Mike Fair
Technical Support Representative
Power Generation Americas**



Product Support Bulletin

Date: September 8, 1995

Page 1 of 3

Bulletin No. 619

Subject: Hard Starting at Cool/Cold Temperatures

Effective: Immediately

Model(s) or Series: 2.5/2.8KY Microlite Spec A through C
3.6/4.0KV Microlite Spec A & B

Symptoms:

Operators have reported that when starting some Microlite units in cool/cold weather, several attempts may be required to get the unit to remain running.

Cause:

As the engine is cranked and started, the oil is drawn from the area near the low oil level switch and distributed to the internal areas of the engine. The cold oil in some Microlites does not flow back to this area of oil sump fast enough to prevent the low oil level switch from sensing a low oil level condition and consequently shutting the genset off. Repeated attempts to start the unit typically result in the oil warming and flowing fast enough to maintain the oil above the low oil level shutdown point.

It appears that oil level, oil viscosity, and variations in the engine low oil level sensors contribute to this condition. Perform the following checks in order:

1. Check oil level. Make sure it is at the factory specified level (with genset on level surface).
2. Check the oil grade and viscosity to verify it meets the specifications in the Operator's Manual.
3. Disconnect the low oil level switch.

Each test should be done separately to determine the root cause of the hard starting.

Explanation:

The low oil level sensor is located in the oil pan and is intended to shut the genset down to prevent damage from a low oil level condition. A small number of gensets have experienced multiple shutdowns on cool/cold weather start attempts from a false low oil level condition.

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September 8, 1995
Page Two

Solution:

If the oil level, grade, and viscosity meet the Onan specifications and the hard starting condition still exists, replace the low oil level switch with part number 308-1059. This new switch design is not susceptible to low oil levels experienced on some gensets during cold starts.

Work to be done:

Low Oil Level Switch Replacement -

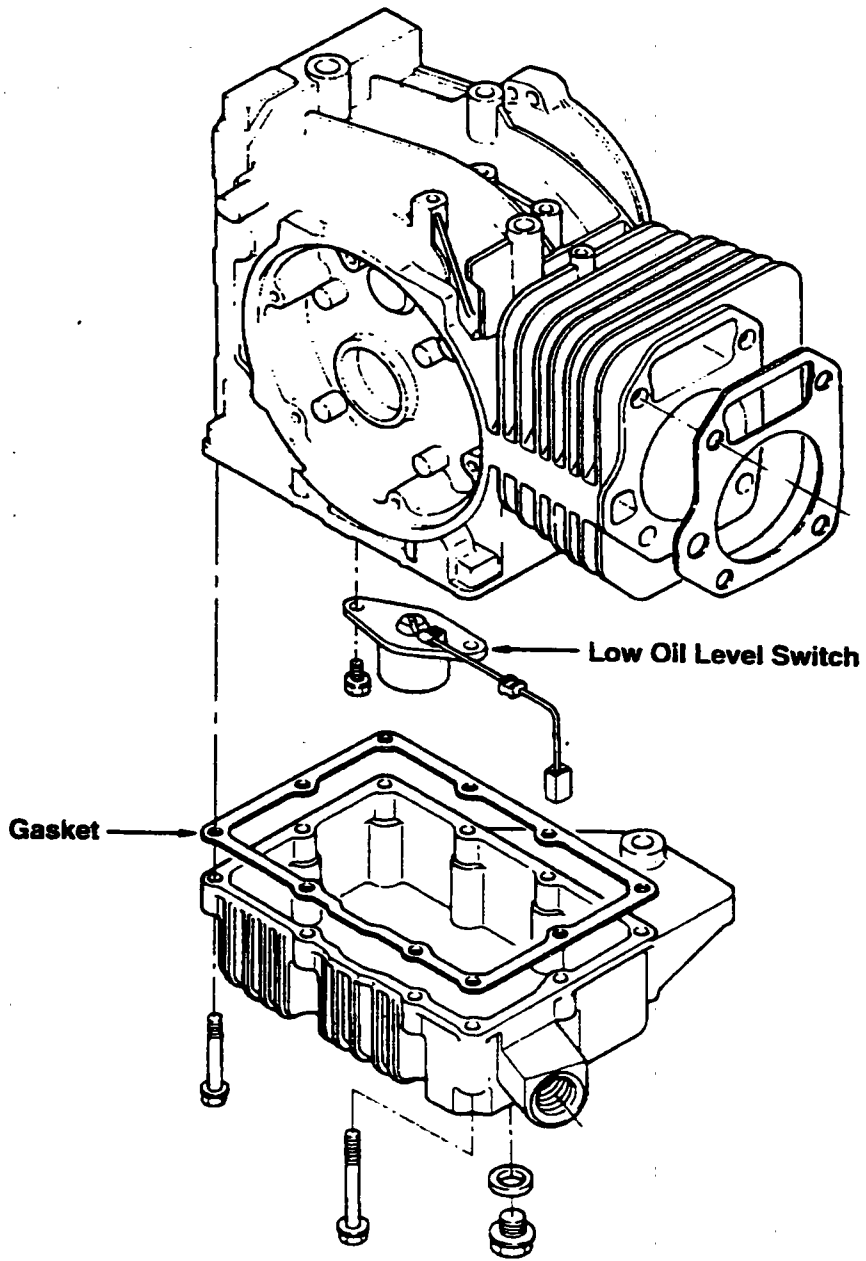
- 1. Remove the set from the application.**
- 2. Remove the housing cover and base/drip pan.**
- 3. Drain oil and remove oil base.**
- 4. Remove the low oil level switch (S2).**
- 5. Replace low oil level switch (part number 308-1059 for both KV and KY units).**
- 6. Replace the oil base gasket (part number 185-5120 for KV or 102-1412 for KY).**
- 7. Reinstall the oil base.**
- 8. Reinstall the base/drip pan and housing cover.**
- 9. Reinstall set into application and refill oil.**
- 10. Test unit for proper operation.**

This is not a field campaign. Standard warranty policy applies.



Greg Moos
Sr. Technical Service Representative
Power Generation Americas

Typical Exploded View





Product Support Bulletin

Date: September 8, 1995

Page 1 of 1

Bulletin No. 620

Subject: Engine Electronics, Inc. Products
for Emerald/Marquis Gensets

Effective: Immediately

Model(s) or Series: Emerald/Marquis Gensets

Onan has been made aware of several products manufactured by Engine Electronics, Inc. of Walnut, California, advertised as applicable to Onan Emerald and Marquis Generator Sets. One of the products is an electronic ignition system and the other is an oil level monitor. We have been asked if we are aware of the products and what we know about them. The ads use the names "Onan", "Marquis", and "Emerald" without our permission. We were not consulted or advised in advance about these ads; thus, Onan cannot endorse the products.

Onan has not been involved in the design or testing of these products, and we have no experience of any kind with them. Certainly, we have not put them through the rigorous testing and evaluation necessary to determine if the product does what it is supposed to do without side effects.

Most importantly, the ignition system has a special concern beyond reliability and performance. Emissions certification requires all ignition components to be controlled. This means that if any part of the ignition system is changed, the certification of the engine must be requalified. This is a very time consuming and expensive process. The slotted holes shown in the photos indicate that the timing is adjustable, which is not allowed with emissions certification; so it probably is impossible to certify an engine with this ignition system. Therefore, any generator set that has a nameplate describing that the engine is certified to 1995 CARB Emissions Requirements CANNOT be changed and any changed engine cannot bear the CARB label.

A handwritten signature in black ink, appearing to read 'Greg Moos'.

Greg Moos
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 11/30/95

Page 1 of 1

Bulletin No. 621

Subject: **Magneciter VR Conversion**
Kit #305-0899
Instruction Sheet C439

Effective: **Immediately**

Model(s) or Series: **J Series and UT (PTO's)**
Brush type generators equipped with
Magneciter voltage regulators

The following test must be made before installing the voltage regulator. This information will appear in the reprint of Instruction Sheet C439.

Resistance of rotors. The rotor must be tested for correct resistance before installing a kit. If a shorted rotor was the source of the magneciter failure, replacing it with a new AVR will damage the new AVR as well. The rotor resistances are as follows:

The design data:

| <u>Stack Length</u> | <u>Rated</u> | | <u>Field Ohms - Cold</u> |
|---------------------|---------------|---------------|--------------------------|
| | <u>50 Hz.</u> | <u>60 Hz.</u> | |
| 3.44 | 5.0 | 6.0 | 4.8 |
| 4.31 | 6.0 | 7.5 | 3.5 |
| 5.75 | 7.5 | 10.0 | 3.3 |
| 7.63 | 10.0 | 12.5 | 2.7 |
| 10.00 | 12.5 | 15.0 | 2.3 |

This bulletin is for informational purposes only.

Keith Weyenberg
Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 12/18/95

Page 1 of 2

Bulletin No. 622

Subject: Speed Change

Effective: Immediately

Model(s) or Series: MDKUB/WB

Reference: Service Manual 981-0512, Section 4, Page 4-4

In addition to the steps shown on page 4-4, the injection pump timing must be changed. This is accomplished by removing or installing a shim under the injection pump.

CAUTION: Clean area around fuel injection pump prior to rework to prevent any dirt or paint chips from entering the fuel injection pump.

Torque screws to 7.5 - 9.0 ft-lbs. Loctite gasket eliminator, item 51580, P/N 518-0564 or equivalent must be used with these FLAT shims. Apply sealant sparingly to prevent entry into the injection pump. The engine serial number is stamped on the pad below the injection pump.

ENGINES PRIOR TO S/N 489916: (FLAT, SILVER SHIMS - NO identification "holes").

Z482 (MDKUB)

From 50 Hz to 60 Hz remove 1 (one) .006" shim, p/n 185-5423.

From 60 Hz to 50 Hz add 1 (one) .006" shim, p/n 185-5423.

D722 (MDKWB)

From 50 Hz to 60 Hz remove 1 (one) .012" shim, p/n 185-5427.

From 60 Hz to 50 Hz add 1 (one) .012" shim, p/n 185-5427.

The 50 Hz MDKUB will have three shims (one .012" and two .006" thick). The 60 Hz MDKUB will have two shims (one .012" and one .006"). The 50 Hz MDKWB will have two shims (two .012" thick). The 60 Hz MDKWB will have one shim (one .012" thick).

ENGINES S/N 489916 AND AFTER: (BEADED, BLACK SHIMS W/Identification "Holes").

Z482 (MDKUB)

From 50 Hz to 60 Hz remove .008" shim, p/n 185-6735.

From 60 Hz to 50 Hz add .008" shim, 185-6735.

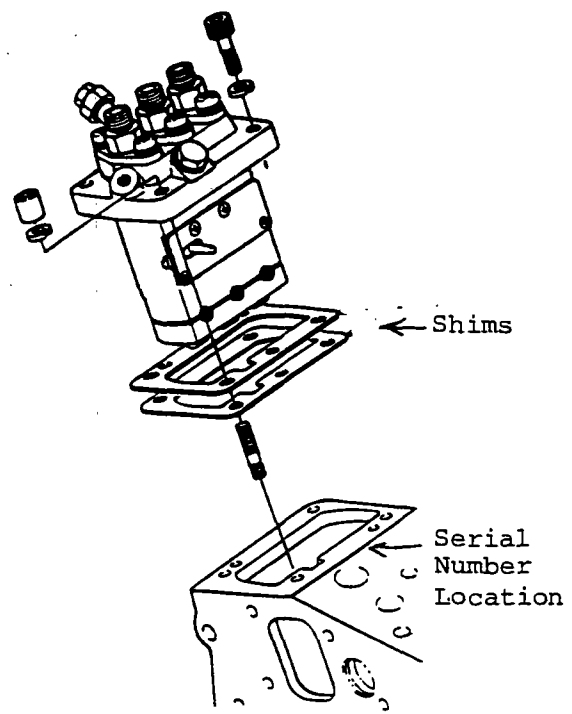
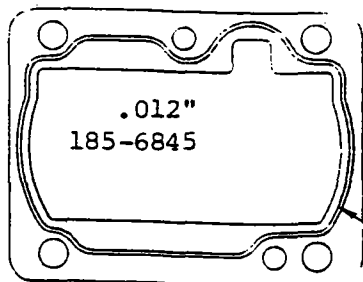
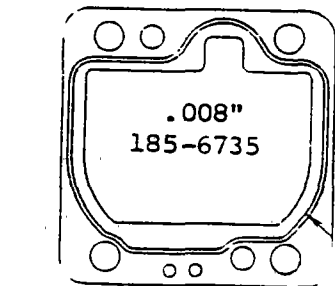
D722 (MDKWB)

From 50 Hz to 60 Hz remove .012" shim, p/n 185-6845.

From 60 Hz to 50 Hz add .012" shim, p/n 185-6845.

Torque screws to 7.5 - 9.0 ft-lbs. Loctite gasket eliminator or equivalent IS NOT USED with these "beaded" shims. CAUTION: Clean area around fuel injection pump prior to rework to prevent any dirt or paint chips from entering the fuel injection pump.

Both of the 50 Hz sets will have two shims (one .012" and one .008" thick). The 60 Hz sets will have only one shim (.012" for MDKUB and .008" for MDKWB, for engines S/N 489916 and greater).



Keith Weyenberg

**Keith Weyenberg
Technical Service Representative
Power Generation Americas**



Product Support Bulletin

Date: 12/15/95

Page 1 of 1

Bulletin No. 623

Subject: **Unscheduled Shutdown**

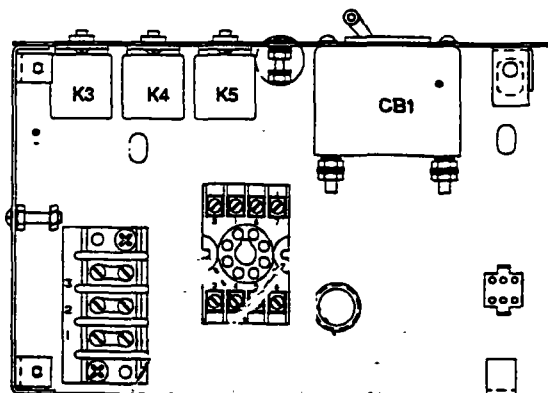
Effective: **Immediately**

Model(s) or Series: **3.0MAJB**

In some high speed boat applications and/or in rough seas, the set may shut down due to unlatching of the K3 stop relay. To resolve this, install the isolator between the relay and the control box.

| Qty | P/N | Description |
|-----|----------|-------------|
| 1 | 402-0354 | Isolator |
| 2 | 870-0221 | Nut 8-32 |

TOP VIEW OF CONTROL BOX



This bulletin is for informational purposes only.

Keith Weyenberg
Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 1/29/96

Page 1 of 1

Bulletin No. 624

Subject: KV Positive battery terminal
insulation boot replacement

Effective: Immediately

Model(s) or Series: KV generator sets with serial numbers
A94 through K95, manufactured
between January 94 and November 95

Notification letters were sent to Distributor and OEM Accounts that had received KV generators. Included with the letter was a list of models and serial numbers shipped to them. Distributors that did not receive KV's were also advised of the insulator boot replacement so they can take corrective action if contacted by a KV customer.

If a KV customer contacts you regarding this insulator boot replacement and the KV generator has a serial number of A94 through K95, replace the old black insulator boot with the new red insulator boot, part number 167-1636.

When repairs are complete, submit a standard warranty claim.

A handwritten signature in cursive script that reads 'Greg Moos'.

Greg Moos
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 3/22/96

Page 1 of 3

Bulletin No. 625

Subject: Throttle Spring

Effective: Immediately

Model(s) or Series: DGB, DGC, DGD, MDG, QSG

Field reports have been received regarding broken throttle springs. If you encounter a broken throttle spring, or believe the spring should be replaced as a preventive measure, please install the injection pump sleeve kit, p/n 149-2563.

Instruction Sheet G266 is included in the kit. If the set is still under warranty, the standard warranty policy will apply, with one hour of labor being allowed for the repair. The fail code for the claim is OFSXBR.

A handwritten signature in cursive script that reads "Jerry McCollor".

Jerry McCollor
Principal Warranty Analyst
Power Generation Americas

Injection Pump Sleeve (Spring Removal) Installation

Kit 149-2563 for Generator Set Series DGB, DGC and DGD,
Series MDG and Series QSG

GENERAL INFORMATION

⚠WARNING *Incorrect installation or parts replacement can result in severe personal injury, death, and/or equipment damage. Service personnel must be qualified to perform electrical and mechanical service.*

This instruction sheet describes how to install a sleeve onto the fuel stop boss of an injection pump to replace the throttle spring (Figure 1).

Currently, the throttle spring can fail, allowing the throttle to return to idle during generator set operation. With the sleeve installed and the idle and speed adjustment screws adjusted to lock the throttle in place, the throttle spring can be eliminated.

Read these installation instructions completely to become familiar with safety warnings, cautions and installation procedure before starting.

INSTALLATION

1. Make sure all loads are disconnected from the generator set. Operate the set according to the Operator's Manual and warm the engine up to normal operating temperature.
2. Record the RPM/Hertz (used for later adjustment).
3. Place the generator set Run-Stop-Remote switch to the OFF position and allow unit to cool thoroughly (to the touch).
4. Remove the throttle spring from the throttle lever.
5. Install sleeve over existing sleeve on the fuel stop boss of the fuel injection pump. Use a hammer to lightly tap the sleeve onto the fuel stop boss.
6. Attach the throttle spring to the throttle lever.
7. Start the generator set and warm the engine up to normal operating temperature.
8. Loosen the lock nut on the speed adjusting screw and slowly turn the screw counterclockwise to adjust the RPM/Hertz to the recorded RPM/Hertz (Step 2).
9. Set the lock nut. Leave the spring in place to maintain the position of the throttle lever.
10. Cut the wire seal and remove seal from the idle speed screw.
11. Loosen the lock nut on the idle speed screw and tighten the idle speed screw until the end of the screw is firmly against the sleeve of the fuel stop boss. This will lock the throttle in the adjusted position.
12. Set the lock nut of the idle speed screw.
13. Remove throttle spring and throttle spring clip and discard. Make sure that the RPM/Hertz setting has not changed.
14. Return generator set to service.

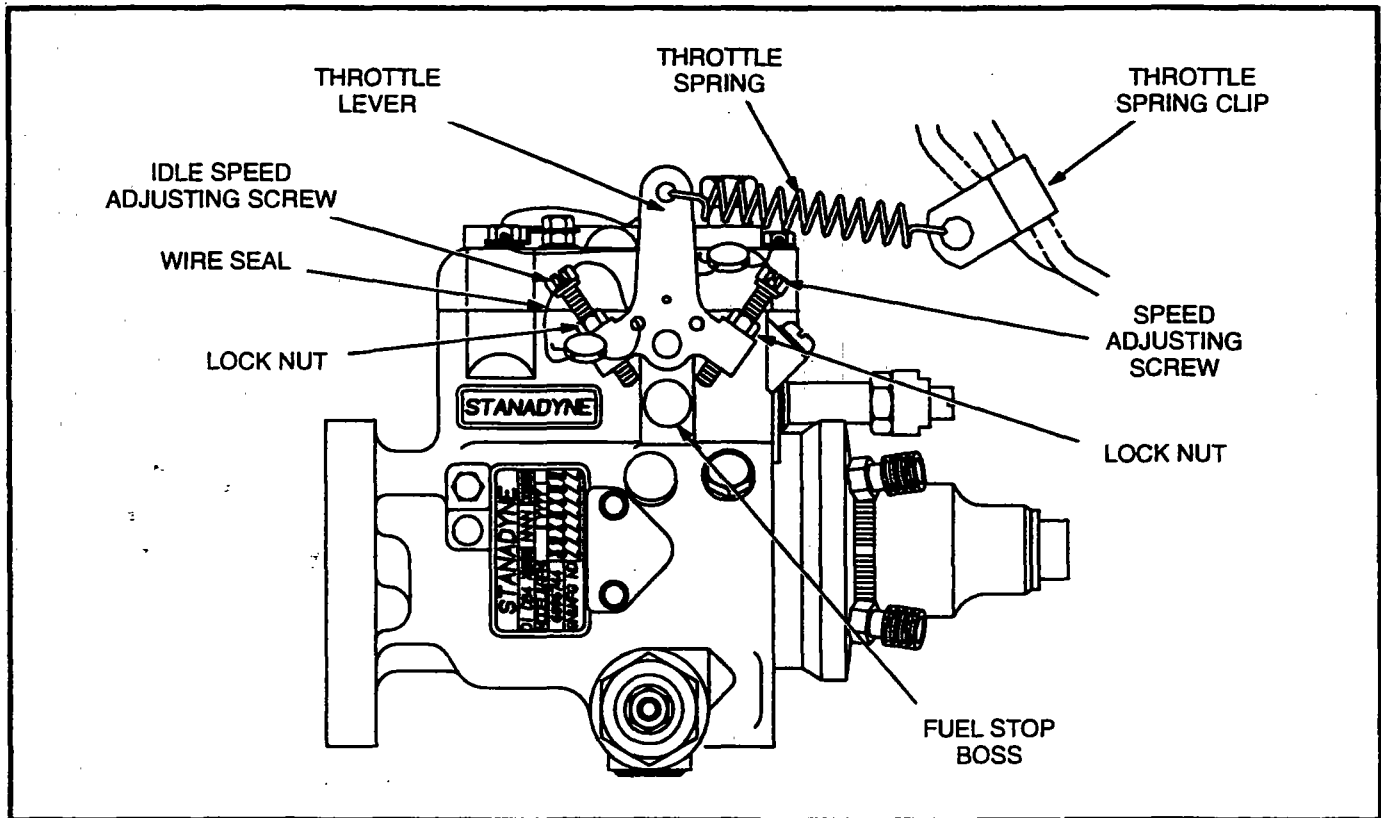


FIGURE 1. FUEL INJECTION PUMP



Product Support Bulletin

Date: 4/26/96

Page 1 of 1

Bulletin No. 626

Subject: Keepers Coming Off and Dropping a Valve Effective: Immediately

Model(s) or Series: 4.0KY Microlite

Symptom:

Unit will not start and all indications are that the engine has a stuck valve.

Repair:

Pull the valve cover off and see if the valve lock keeper has come off. Make sure the valves and push tubes are not bent and replace the keepers. The replacement keepers have a new part number.

Old Keeper P/N 110-3699

New Keeper P/N 110-3914

Explanation:

The new keepers have had the harness spec increased and should provide longer life to the system. Gensets newer than S/N A963473453 have the new keepers factory installed.

A handwritten signature in cursive script that reads "Richard Dassinger".

Richard Dassinger
Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 4/26/96

Page 1 of 1

Bulletin No. 627

Subject: Intermittent Shutdowns, Especially
When Traveling Over Rough Roads

Effective: Immediately

Model(s) or Series: 4.0KY Microlite

Symptom:

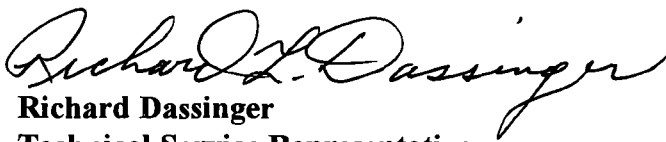
The genset will hesitate or even shut down after hitting a bump or series of bumps. It is hard to restart and appears to have flooded out. When stationary, the set will stumble and recover every now and then.

Repair:

Tee into the fuel line at the carburetor and check for fuel pressure. If the pressure is over 5 psi, replace the fuel pump with a new 3.25 psi pump, P/N 149-2311-01. The lower pressure pumps were installed at the factory starting with S/N A963473810.

Explanation:

The new fuel pumps (P/N 149-2311-01) have a lower pressure setting of 3.25 psi (-0 psi + .75 psi or 4 psi max). This lower pressure will not overpower the needle and seat when the unit is stationary. It will also help prevent overfueling due to float bounce when traveling down a rough or bumpy road.


Richard Dassinger
Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 12/18/96

Page 1 of 1

Bulletin No. 627a

Subject: Intermittent Shutdowns, Especially
When Traveling Over Rough Roads

Effective: Immediately

Model(s) or Series: 4.0KY Microlite

Symptom:

The genset will hesitate or even shut down after hitting a bump or series of bumps. It is hard to restart and appears to have flooded out. When stationary, the set will stumble and recover every now and then.

Repair:

See PSB 629a for repairs and disregard PSB 627.

A handwritten signature in cursive script that reads 'Richard Dassinger'.

Richard Dassinger
Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: May 10, 1996

Page 1 of 1

Bulletin No. 628

Subject: Oil Pressure Sender,
P/N 193-0244

Effective: Immediately

Model(s) or Series: Industrial Only

A new oil pressure sender was released for Industrial Products to replace the current sender, 193-0244. The new sender, 193-0448, instructions/wiring information are contained in kit 300-4759.

When replacing the sender, an unusually high pressure may be displayed. If so, replace the gauge with part number 193-0466.

You may continue to use the 193-0244 sender on Mobile Products.

Be sure to use the new 300-4759 kit for all warranty repair work on Industrial Products.

A handwritten signature in black ink, appearing to read "Jerry McCollor".

Jerry McCollor
Principal Warranty Analyst
Power Generation Americas



Product Support Bulletin

Date: 9/6/96

Page 1 of 2

Bulletin No. 629

Subject: Stumbling/Shutdown Troubleshooting

Effective: Immediately

Model(s) or Series: 4.0 Microlite

Symptom:

You have a genset with one of the following symptoms:

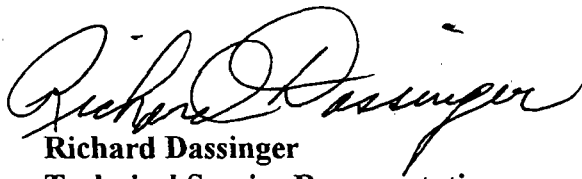
1. With the coach stationary, the generator will run just fine for about 10 to 20 minutes and then surge or stumble.
2. When the coach is going down the road and hits a bump, the genset shuts down.

Response:

There are a number of systems that can produce symptoms like stumbling and shutdowns. This plan will systematically address these systems to attempt to identify and correct the problem.

1. Attempt to duplicate the problem and note any specifics.
2. Baseline troubleshooting:
 - Check oil level.
 - Check air filter. Replace if dirty or saturated with fuel or oil. (140-2609 for spec A, 140-2852 for all other specs.) If OILY, see step #3.
 - Check spark plug gap and condition. Install new plug if necessary (p/n 167-0275 for 60 Hz, 167-0305 for 50 Hz).
 - Check spark plug boot and lead for tightness/damage, replace if necessary.
 - Check coach fuel tank cap for proper venting.
 - Check fuel level in coach tank. Fill to at least 1/2 full.
 - Check for proper choke operation.
 - Inspect the battery positive (+) and battery negative (-) for tightness and continuity.
 - Inspect the ground leads at the ground buss ring for proper connection.
 - Start the set and check voltage and frequency.

3. If the air filter is saturated with oil, change the breather valve (p/n 123-1920), retest unit; if resolved, stop.
4. Check the fuel pump pressure. If over/greater than 4 psi, change the pump (149-2311-01), retest unit; if resolved, stop.
5. Disconnect the Low Oil Level Switch (J1-7 for spec A; J1-12 for spec B and newer).
6. If the unit runs fine, change engine oil to a straight 30 weight oil and reconnect the LOL switch. Retest unit; if resolved, stop.
7. Change the Low Oil Level Switch (p/n 308-1059) and pan gasket (p/n 102-1412) and reconnect the LOL switch. Retest unit; if resolved, stop.
8. Reconnect the LOL switch. Check exhaust carbon monoxide if possible. It should be 4-7% CO at idle and 5-9% CO at rated load. If pre-emission carburetor, readjust to these levels; replace it if carburetor is non-adjustable style. Retest unit; if resolved, stop.
9. Contact the Service Department. We will continue working on this issue, but need your input to help us with this work.


Richard Dassinger
Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 12/30/96

Page 1 of 2

Bulletin No. 629a

Subject: Stumbling/Shutdown Troubleshooting

Effective: Immediately

Model(s) or Series: 4.0 Microlite, Spec A-F, Prior to S/N K963608924

Symptom:

You have a genset with one of the following symptoms:

1. With the coach stationary, the generator will run just fine for about 10 to 20 minutes and then surge or stumble.
2. When the coach is going down the road and hits a bump, the genset shuts down.

Response:

There are a number of systems that can produce symptoms such as stumbling and shutdowns. This plan will systematically address these systems to attempt to identify and correct the problem.

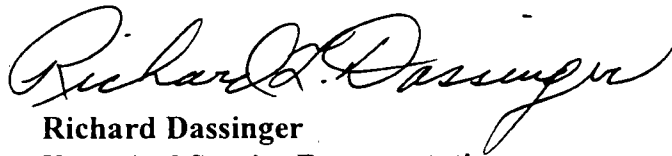
1. Attempt to duplicate the problem and note any specifics.
2. Baseline troubleshooting:
 - Check oil level.
 - Check air filter. Replace if dirty or saturated with fuel or oil. (140-2609 for spec A, 140-2852 for all other specs.) IF OILY, see step #3.
 - Check spark plug gap and condition. Install new plug if necessary (p/n 167-0275 for 60 Hz, 167-0305 for 50 Hz).
 - Check spark plug boot and lead for tightness/damage, replace if necessary.
 - Check coach fuel tank cap for proper venting.
 - Check fuel level in coach tank. Fill to at least 1/2 full.
 - Check for proper choke operation.
 - Inspect the battery positive (+) and battery negative (-) for tightness and continuity.
 - Inspect the ground leads at the ground buss ring for proper connection.
 - Start the set and check voltage and frequency.

3. If the air filter is saturated with oil, change the breather valve (p/n 123-1920), retest unit; if resolved, stop.
4. Check the fuel pump pressure. If over/greater than 4 psi, change the pump (p/n 149-2311-01), retest unit; if resolved, stop.
5. Disconnect the Low Oil Level Switch (J1-7 for spec A; J1-12 for spec B and newer).
6. If the unit runs fine, tape off lead end, fold back into harness and secure with wire tie. Spec F after S/N K963608698 have the switch installed, but not hooked up. Spec G and newer no longer have a Low Oil Level Switch.
7. If replacing the carburetor is necessary, use the following:
Spec A:
 Kit P/N is 146-0759
Spec B-C:
 Kit P/N 146-0534 has been SPS'd to 146-0743.
Spec D-F:
 Kit P/N 146-0703 has been SPS'd to 146-0742.

The old kits should be scrapped out and a claim submitted through spare parts warranty.

Standard warranty applies.

WARNING: Troubleshooting procedures present risks that can result in severe personal injury or death. See Service Manual for important safety instructions. Troubleshooting must be done by trained, experienced personnel only.



Richard Dassinger
Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 9/2/97

Page 1 of 2

Bulletin No. 629b

Subject: Stumbling/Shutdown Troubleshooting
and Carburetor Replacement

Effective: Immediately
Discard PSB's 629 & 629a

Model(s) or Series: 4.0/3.6 MicroLite, Spec A-F, Prior to S/N K963608924

First step: It is very important to listen to the customers complaint. Not all problems can be duplicated in the shop. Get them to describe exactly what and when the problem occurs, and fix all the problems at one time.

Possible Symptom: With the coach stationary, the generator will run just fine for about 10 to 20 minutes and then surge and/or stumble or shuts down.

Fix: Disconnect the Low Oil Switch (see step 3. on page 2), check fuel pressure and replace the fuel pump if necessary (see step 2. on page 2).

Possible Symptom: When the coach is going down the road the genset shuts down. (This type of failure can not be duplicated in the shop and there is no need to road test - *believe the customer.*)

Fix: Replace the carburetor (see step 1. on page 2), disconnect the low oil level switch (see step 3. on page 2), check fuel pressure and replace pump if necessary (see step 2. on page 2).

Possible Symptom: Set sometimes stumbles when load is applied.

Fix: Replace the carburetor (see step 1. on page 2), disconnect the low oil level switch (see step 3. on page 2), check fuel pressure and replace pump if necessary (see step 2. on page 2).

Possible Symptom: Starts/runs poorly, will not pull load.

Fix: Check the rotor key alignments.

Possible Symptom: (LP set only) Starts but quickly shuts down.

Fix: Add ground wire to fuel shut off valve & clean fuel line pipe threads.

Possible Symptom: (LP set only) Hard starting, very weak spark.

Fix: Replace the flywheel, magnets are closer to magneto for better spark.



Product Support Bulletin

Date: May 13, 1998

Page 1 of 1

Bulletin No. 630b

Note: Bulletin 630a Superseded by 630b, Discard Bulletin 630a Immediately.

Subject: Mobile GenSets Used In Stationary Applications Effective: Immediately

Model(s) or Series: All NHD and BGD Specs J, K and L
And Other Mobile GenSets

Onan Mobile GenSets are designed for, and intended to be used to provide power in MOBILE applications. Stationary uses, such as home standby, have not been tested by Onan at this time. However, from time to time, we become aware that these GenSets are being used for stationary use, often in conjunction with automatic transfer switches.

When NHD and BGD models, spec J, K or L, are connected to an Onan ATS, the stop circuit will remain activated when the unit is not running. This will lead to a continuous discharge of the batteries through the control board, which can lead to a control board failure, not subject to warranty. Beginning with spec M the control board incorporates changes such that a continuous stop signal will no longer damage the control board.

If an NHD or BGD GenSet, spec J, K or L has been used in a stationary ATS application, the new control is available in the form of a kit. Replacing the existing 300-4506 control with Onan part number 300-5002-01 will prevent repeat failures of the control caused by the use of the ATS.

Prior to the release of the 300-5002-01 control, Onan was recommending the use of relay kit part number 541-0543. Discontinue the use of this kit immediately.

**ANY BGD OR NHD UNIT, SPEC J, K or L INSTALLED AND
CONNECTED TO AN AUTOMATIC TRANSFER SWITCH MUST HAVE
THE ABOVE CONTROL (300-5002-01) CORRECTLY INSTALLED TO
REDUCE THE CHANCE OF CONTROL BOARD FAILURE.**

**NOTE ALSO THAT MOBILE WARRANTY POLICY DOES NOT
COVER TRAVEL TIME OR MILEAGE FOR STATIONARY
INSTALLATIONS OF MOBILE PRODUCTS.**

This bulletin is for informational purposes only.

A handwritten signature in cursive script that reads "David W. Sollars".

David W. Sollars

Sr. Technical Service Representative.



Product Support Bulletin

Date: October 14, 1996

Page 1 of 2

Bulletin No. 631

Subject: Air Cleaner Cover Installation

Effective: Immediately

Model(s) or Series: All Performer Vertical Shaft Engines

Some reports have been received indicating that the air cleaner hood on Performer vertical shaft engines can be installed incorrectly. Possible results of this situation may be oil leaking or poor or erratic running.

A correct installation should have the air cleaner hood side panels positioned inside the outer rail of the air cleaner base pan (see Figure A). If they are not in this position, the hood may restrict the breather hose which is routed between the air filter and the hood.

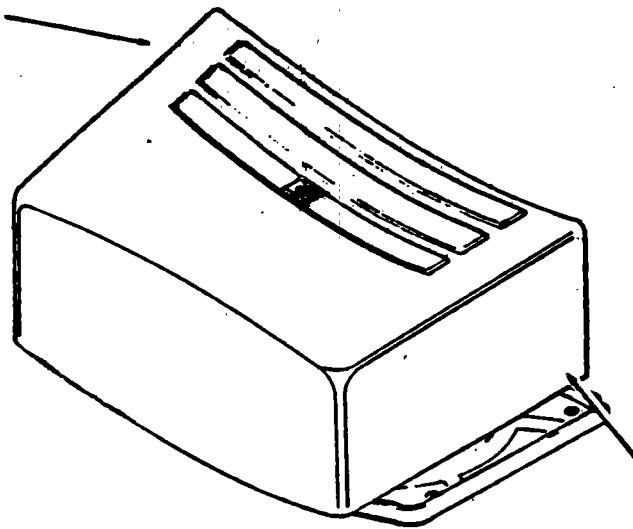
Later builds will have a spacer (see Figure B) positioned between the inner air filter cover plate and the outer air cleaner cover. This spacer, when positioned properly, will not allow the air cleaner hood to contact the breather hose.

This bulletin is for information only. Normal warranty applies.

A handwritten signature in black ink, appearing to read "D. Cobb", is written over the printed name.

Douglas Cobb
Sr. Technical Service Representative
Power Generation Americas

Push in here



Push in here

Figure A

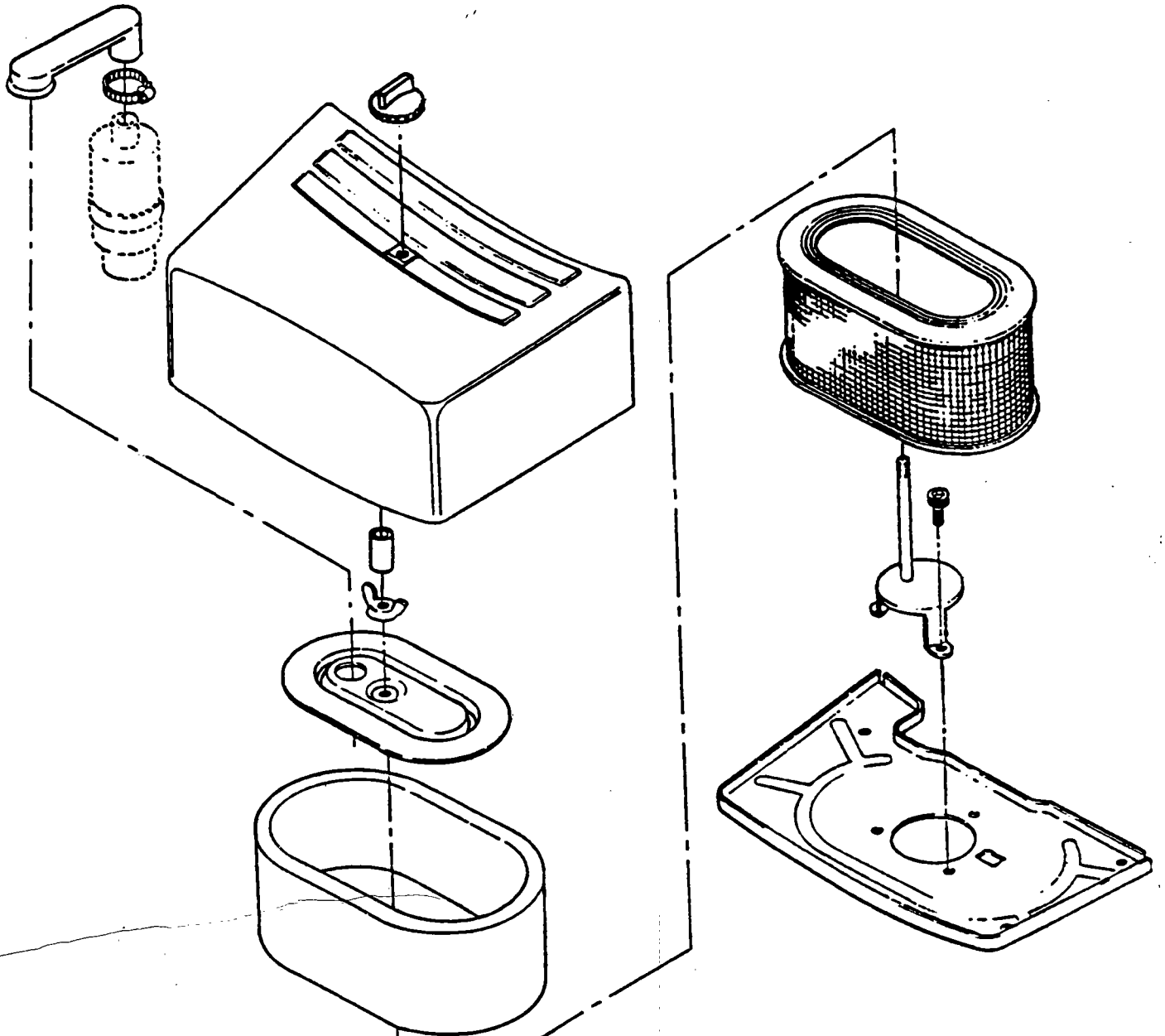


Figure B



Product Support Bulletin

Date: 1/8/97

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Bulletin No. 632

Subject: Unused Q50 Q60 Stator Leads

Effective: Immediately

Model(s) or Series: HDKAG Mobile Gensets Prior to S/N K963610776
HDKAQ Mobile Gensets Prior to S/N L963614384

There has been a field report that the unused Q50 (Q60 on 50 Hz sets) lead can contact the stator housing assembly. If this happens, there is a direct ground of the Q50 winding (Q60 on 50 Hz sets), which can lead to a complete failure of the generator stator and associated components.

Symptoms which may indicate early stages of failure are random, unexplained shutdowns and/or low power.

This issue has been resolved by protecting the unused lead with heat shrinkable tubing. The lead is then secured with a plastic wire tie inside the control box to isolate it from contact with any grounded surface.

Any time one of the listed sets experiences these symptoms or is in for other service, this lead should be protected as described above.

Standard warranty applies.

A handwritten signature in cursive script, reading 'David W. Sollars'.

David W. Sollars
Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 1/27/97

Page 1 of 2

Bulletin No. 633

Subject: CR10 Battery Charging Rectifier Bridge

Effective: Immediately

Model(s) or Series: BGE and NHE Mobile Gensets, Spec K - M
BGM and NHM Mobile Gensets, Prior to Spec G

Onan has identified a potential issue with the battery charging rectifier bridge on the sets listed above. The bridge may experience a direct short to ground. This can provide a direct path to ground for B+ through the B1 B2 windings and/or the B1 B2 winding can become grounded during set operation. If this occurs, it is possible to overload and overheat the B1 B2 winding, which can result in failure of the coil. There is also potential for consequential damage to the main stator coils, leading to complete failure of the generator stator and associated components.

Although the chance of failure is small, if it occurs, the damage to the generator is significant. Therefore, the battery charging circuit on the listed sets should be disabled any time the stator, rotor, battery charging rectifier bridge, or the battery charge resistor are serviced. Sets built after the listed specs will no longer incorporate this circuit. It is made redundant by the coach converter.

Always refer to the appropriate service manual, wiring diagram, and schematic for the specific model set you are servicing. Read and follow the safety precautions listed in the service manual before proceeding. Disconnect the battery negative connections before going ahead with any of the following procedures.

On BGE and NHE models, disconnect all leads from the CR10 battery charging rectifier bridge, then remove and discard the bridge. Protect the ends of the CR10 AC leads with heat shrinkable tubing. Secure the leads with plastic wire ties inside the control box to isolate them from contact with any grounded surface. Remove and discard the CR10+/K1 B+ lead. Remove and discard the R6 battery charge resistor and the CR10-/R6 and R6/L0 leads.

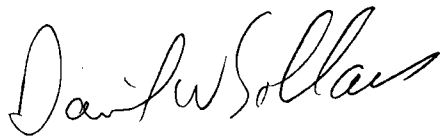
On Spec A BGM and NHM models (and later specs with LP fuel and AC choke), disconnect all leads from the CR10 battery charging rectifier bridge, then remove and discard the bridge. Leave the CR10 AC/H1 leads connected together and protect the exposed ends with heat shrinkable tubing. Secure the leads with plastic wire ties inside the control box to isolate them from contact with any grounded surface. Remove and discard the CR10+/F2 1 lead. Remove and discard the R7 battery charge resistor and the CR10-/R7 1 and R7 2/K6 87A leads.

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On Spec B-F BGM and NHM models, disconnect all leads from the CR10 battery charging rectifier bridge, then remove and discard the bridge. Protect the ends of the CR10 AC leads with heat shrinkable tubing. Secure the leads with plastic wire ties inside the control box to isolate them from contact with any grounded surface. Remove and discard the CR10+/K1 B+ lead. Remove and discard the R1 battery charge resistor and the CR10-/R1 and R1/GND leads.

This is not a field campaign. Disable the battery charging circuit only when the set is in for service on the stator, rotor, battery charging rectifier bridge, or the battery charge resistor.

Standard warranty applies.



**David W. Sollars
Technical Service Representative
Power Generation Americas**



Product Support Bulletin

Date: 4/25/97

Page 1 of 2

Bulletin No. 633a

Note: Bulletin 633 Superseded by 633a, Discard Bulletin 633 Immediately.

Subject: CR10 Battery Charging Rectifier Bridge Effective: Immediately

Model(s) or Series: BGE and NHE Mobile Gensets, Spec K - M
BGM and NHM Mobile Gensets, Spec B - F

Onan has identified a potential issue with the battery charging rectifier bridge on the sets listed above. The bridge may experience a direct short to ground. This can provide a direct path to ground for B+ through the B1 B2 windings and/or the B1 B2 winding can become grounded during set operation. If this occurs, it is possible to overload and overheat the B1 B2 winding, which can result in failure of the coil. There is also potential for consequential damage to the main stator coils, leading to complete failure of the generator stator and associated components.

Although the chance of failure is small, if it occurs, the damage to the generator is significant. Therefore, the battery charging circuit on the listed sets should be disabled any time the stator, rotor, battery charging rectifier bridge, or the battery charge resistor are serviced. Sets built after the listed specs will no longer incorporate this circuit. It is made redundant by the coach converter.

Always refer to the appropriate service manual, wiring diagram, and schematic for the specific model set you are servicing. Read and follow the safety precautions listed in the service manual before proceeding. Disconnect the battery negative connections before going ahead with any of the following procedures.

On BGE and NHE models, disconnect all leads from the CR10 battery charging rectifier bridge, then remove and discard the bridge. Protect the ends of the CR10 AC leads with heat shrinkable tubing. Secure the leads with plastic wire ties inside the control box to isolate them from contact with any grounded surface. Remove and discard the CR10+ / K1 B+ lead. Remove and discard the R6 battery charge resistor and the CR10- / R6 and R6/L0 leads.

On gasoline fueled BGM and NHM models Spec B and C, and LP fueled models Spec B through F, disconnect all leads from the CR10 battery charging rectifier bridge, then remove and discard the bridge. Leave the CR10 AC / H1 leads connected together and protect the exposed ends with heat shrinkable tubing. Secure the leads with plastic wire ties inside the control box to isolate them from contact with any grounded surface. Remove and discard the CR10+ / K1 B+ lead. Remove and discard the R1 battery charge resistor and the CR10- / R1 and R1 / GND leads.

PSB 633a

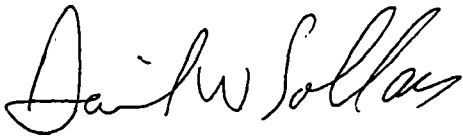
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On gasoline fueled BGM and NHM models Spec D through F, disconnect all leads from the CR10 battery charging rectifier bridge, then remove and discard the bridge. Protect the ends of the CR10 AC leads with heat shrinkable tubing. Secure the leads with plastic wire ties inside the control box to isolate them from contact with any grounded surface. Remove and discard the CR10+ / K1 B+ lead. Remove and discard the R1 battery charge resistor and the CR10- / R1 and R1 / GND leads.

This is not a field campaign. Disable the battery charging circuit only when the set is in for service on the stator, rotor, battery charging rectifier bridge, or the battery charge resistor.

Standard warranty applies.



**David W. Sollars
Technical Service Representative
Power Generation Americas**



Product Support Bulletin

Date: 1/31/97

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Bulletin No. 634

Subject: Low Fuel Pump Output

Effective: Immediately

Model(s) or Series: All Performer Engines Beginning Spec C

Symptoms: Engine surge, low power, runs a short time then stops, hard starting, and low power at altitude.

Low fuel pump output and oil in the air cleaner pan may be caused by a defective breather system. Follow the troubleshooting outlined below before replacing the fuel pump.

Check the output of the fuel pump. If it is lower than specifications in the Service Manual, check the crankcase vacuum. Engine vacuum should be 10 to 20 inches of water at the oil fill tube using a manometer.

If a manometer is not available, remove the oil dipstick and put a balloon over the oil fill tube. If the balloon starts to inflate, then you have positive crankcase pressure and further investigation is needed.

Check the breather system for the correct number of nylon balls (4) in the breather cap and valve assembly (See Figure A).

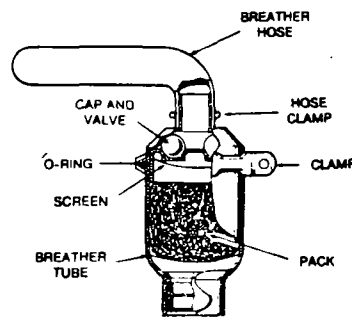


Figure A.

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Improper assembly of the breather cap will allow the nylon balls to be pushed into the breather hose or into the air cleaner pan. This will allow air to be drawn into the block, creating pressure, making the fuel pump operate at less than the rated output.

NOTE: Low fuel pump output may cause the engine to run lean and hunting may occur.

Standard warranty applies.

A handwritten signature in black ink, appearing to read 'Doug Cobb', written in a cursive style.

Doug Cobb
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 2/19/97

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Bulletin No. 635

Subject: Oil Leaking From Oil Fill Hose

Effective: Immediately

Model(s) or Series: 7.5HDKAJ and 8.0HDKAK
Prior to S/N J96360134B

Endurance test unit audit has revealed that the oil fill hose on these models can leak oil.

If a unit is in for maintenance or repairs that require removing the unit or side panel, replace the oil fill hose with p/n 541-0544 oil fill hose kit. The new kit contains an improved hose, hose clamps, label, and instruction sheet.

Standard warranty applies.

A handwritten signature in black ink, appearing to read 'Greg Moos'.

Greg Moos
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 4/25/97

Page 1 of 1

Bulletin No. 635a

Note: Bulletin 635 Superseded by 635a. Discard Bulletin 635 immediately.

Subject: Oil Leaking From Oil Fill Hose

Effective: Immediately

Model(s) or Series: 7.5HDKAJ and 8.0HDKAK
Prior to S/N J963601343

Endurance test unit audit has revealed that the oil fill hose on these models can leak oil.

If a unit is in for maintenance or repairs that require removing the unit or side panel, replace the oil fill hose with p/n 541-0544 oil fill hose kit. The new kit contains an improved hose, hose clamps, label, and instruction sheet.

Standard warranty applies.

A handwritten signature in black ink, appearing to read "Greg Moos".

Greg Moos
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 2/19/97

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Bulletin No. 636

Subject: Oil Carryover into Air Cleaner

Effective: Immediately

Model(s) or Series: Microlite 4000

Onan has identified several possible causes and solutions.

Breather Pocket Depth -

Oil carryover into the air cleaner could be the result of the breather pocket in the cylinder head being machined too deep. The breather valve thickness is .040". The pocket in the cylinder head should be no deeper than that. To check this depth, you need to pull the valve cover and breather and clean all parts.

If the pocket is .040" to .049" deep, reinstall the clean breather valve, seal it in place with 1/16" thick bead of Loctite brand Ultra Blue (or equivalent) gasket sealer and reinstall the valve cover gasket and valve cover, clean the set and test run. If the pocket depth is over .049" deep, you need to install the required amount of shims to bring the breather valve even or slightly higher than the valve cover gasket surface on the head. The shim part numbers are P/N 110-3922-01 (.010" thickness) and P/N 110-3922-02 (.020" thickness).

Rear Oil Seal -

If you have taken the measures listed above and the problem still exists, you could have a rear oil seal issue. Remove the breather hose from the valve cover and install a device to allow you to apply about 8 oz. of water column vacuum or pressure and record the time it takes to leak down to atmospheric pressure. If it only takes a few seconds for this pressure change to happen, the air could be passing between the seal outer ring surface and the seal bore in the block.

If the pressure changes in only a few seconds, remove the rotor and stator and apply a cleaner/primer to the oil seal outer ring where the oil seal and engine block meet. We recommend Loctite brand 7649 Primer N that comes in various sizes.

#19269 (1.75 oz. bottle)

#21347 (25G aerosol can)

#21348 (4.5 oz. aerosol can)

Then apply a sealant/retaining compound to the same area. We recommend Loctite brand 660 which also comes in various sizes.

#66010 (6 ml tube)

#66040 (50 ml tube)

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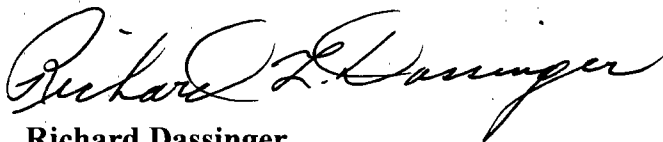
Allow sufficient time for the sealant to dry (1-2 hours) and reassemble the genset and retest for oil carryover.

Always read and follow the cleaner/primer and sealant manufacturer's label instructions and precautions. Some compounds can be flammable, toxic, or carcinogenic.

Wrist Pin Keeper -

Excessive oil carryover can also result if the wrist pin keeper has become dislodged and scraped a groove in the cylinder bore. This condition is usually detectable by performing a cylinder leakdown test.

Standard warranty applies.



**Richard Dassinger
Technical Service Representative
Power Generation Americas**



Product Support Bulletin

Date: 4/25/97

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Bulletin No. 637

Subject: Low Voltage Output

Effective: Immediately

**Model(s) or Series: All Marquis Spec B and Later and
Emerald Family Single Phase Gensets
With Electronic Voltage Regulators**

Testing has shown that, under certain conditions (high humidity or highly corrosive environments) a limited number of these models display the following symptoms.

In the Marquis, about 90 volts AC is all the generator produces. In the Emerald series, the set only develops 60-90 volts AC and dies when the start switch is released.

First confirm the voltage regulator, control board and stator test OK, and that the rotor resistance is to service specs: about 20 to 25 ohms at 77⁰ F. If these check OK and the problem exists only during wet or high humidity conditions, install transformer kit 300-5049.

Before proceeding, review and perform the steps required in PSB 633a, if not previously completed. This must be accomplished first to provide space for the transformer in some models.

Standard warranty applies.

A handwritten signature in cursive script that reads 'Michael L. Fair'.

**Michael Fair
Technical Service Representative
Power Generation Americas**



Product Support Bulletin

Date: 4/25/97

Page 1 of 1

Bulletin No. 638

Subject: Breather Icing

Effective: Immediately

Model(s) or Series: Pro Series Portables 5000/5000E and 6000E Spec C ONLY

Under certain conditions (cold, high humidity, and light loads), the breather tube can become blocked with frozen moisture to the point that it might block the path in the tube that provides crankcase venting. This could result in oil carryover into the air filter or other problems associated with a pressurized crankcase.

A Kit (P/N 123-2125) has been released to help prevent this condition. Instruction Sheet G-314 explains the installation of the kit.

Standard warranty applies.

A handwritten signature in cursive script that reads "Michael J. Fair".

Michael Fair
Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 4/25/97

Page 1 of 2

Bulletin No. 639

Subject: Onan Warranty Policy Clarification

Effective: Immediately

Model(s) or Series:

As of March 31, 1997, the Onan Warranty Department will no longer pay for adjustments made to Tamper-Resistant fuel systems. CARB certified products generally have no adjustable features. CARB requirement for certification requires that the fuel system be tamper-resistant (i.e. no end user adjustments). Adjustments to CARB certified products requires removing the tamper-resistant caps, making the required adjustment using calibrated CO or AFR meter and then replacing the tamper-resistant caps. Onan has determined that it is more cost effective to replace the device rather than repair or adjust. **ADJUSTMENTS ARE NOT TO BE MADE.** Also, note that warranty will not pay for the repair or replacement of varnished/contaminated carburetors due to poor storage practices.

The following table lists the spec letter of the first product with non-adjustable equipped CARB emissions certified fuel systems. This information will allow you to determine which fuel system cannot be adjusted and when claims will not be accepted for adjustments.

Implementation of Tamper-Resistant Fuel Systems:

| <u>Family</u> | | | <u>Spec of Initial</u> | <u>Adjustment</u> |
|--|---------------|-------------|-------------------------|-------------------|
| <u>Description</u> | <u>Models</u> | <u>Fuel</u> | <u>Tamper-Resistant</u> | <u>Allowed</u> |
| | | | <u>Fuel System</u> | |
| KV Microlite | 2.8KV | Gasoline | E | Note #1 |
| KV Microlite | 2.5KV | LPG - Vapor | E | Note #2 |
| KY Microlite | 4.0KY | Gasoline | D | Note #1 |
| KY Microlite | 3.6KY | LPG - Vapor | D | Note #2 |
| Elite | E124H | Gasoline | C | None |
| | E124V | Gasoline | E | None |
| | E125H | Gasoline | C | None |
| | E125V | Gasoline | E | None |
| | E140H | Gasoline | C | None |
| | E140V | Gasoline | E | None |
| Elite - Floorcare (with oxidizing catalyst) | E140V | LPG - Vapor | A* | None |
| Performer - Sm Blk | P216G | Gasoline | G | None |

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| | | | | |
|--|------------|--------------------|------------|---------|
| | P218G | Gasoline | G | None |
| | P220G | Gasoline | G | None |
| | P220V | Gasoline | G | None |
| | 4 - 4.5BGD | Gasoline | L | Note #1 |
| | 4 - 5.0BGE | Gasoline | M | Note #1 |
| | 5.0BGM | Gasoline | F | Note #1 |
| Performer - Floorcare (with 3 way catalyst) | P224V | LPG - Vapor | A | None |
| Performer - Sm Blk | P216G | LPG (liquid/vapor) | G | None |
| | P218G | LPG (liquid/vapor) | G | None |
| | P220G | LPG (liquid/vapor) | G | None |
| | P220V | LPG (liquid/vapor) | G | None |
| | 4 - 4.5BGD | LPG - Liquid | L | None |
| | 4.0BGE | LPG - Liquid | M | None |
| | 4 - 4.5BGD | LPG - Vapor | L | None |
| | 4.0BGE | LPG - Vapor | M | None |
| | 5.0BGM | LPG - Vapor | F | None |
| Performer - Bg Blk | P224G | Gasoline | G | None |
| | 6.5NHD | Gasoline | L | Note #1 |
| | 6.5NHE | Gasoline | M | Note #1 |
| | 7.0NHM | Gasoline | F | Note #1 |
| Performer - Bg Blk | P224G | LPG (liquid/vapor) | G | None |
| | 6.3NHD | LPG - Liquid | L | None |
| | 6.3NHE | LPG - Liquid | M | None |
| | 6.5NHM | LPG - Liquid | F = Adj | Note #3 |
| | | | G = No Adj | |
| | 6.3NHD | LPG - Vapor | L | None |
| | 6.3NHE | LPG - Vapor | M | None |
| | 6.5NHM | LPG - Vapor | F | None |
| Performer - Bg Blk | 5.5NHD | CNG | A* | None |
| Prism - Bg Blk | 5.6TGH | DF (NG & LPG) | A* | Note #4 |
| | 5.8TGH | DF (NG & LPG) | A* | Note #4 |

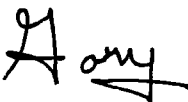
Note #1: Altitude compensation adjustment on carburetor only.

Note #2: Regulator primer only.

Note #3: Spec F had an adjustable carburetor only.

Note #4: Fuel type conversion only (NG to LPG or LPG to NG).

(*) Not yet released.



Gary O'Malley
 Senior Warranty Administrator
 PGA Quality and Warranty Department



Product Support Bulletin

Date: 4/25/97

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Bulletin No. 640

Subject: Mispackaged Kits

Effective: Immediately

Model(s) or Series:

The wrong hose clamp may have been supplied in the following list of kits shipped from Onan PDC from December 19, 1996 through April 24, 1997. Immediately inspect the listed kits to determine if they have the correct hose clamp, as well as your stock of clamp #503-0301.


| <u>Kit Number</u> | <u>Qty of Clamps</u> | <u>Kit Description</u> |
|-------------------|----------------------|-----------------------------------|
| 103-0737 | 1 | Gearcase |
| 103-0738 | 1 | Gearcase |
| 103-0791 | 1 | Gearcase kit |
| 103-0799 | 1 | Gearcase kit |
| 142-0660 | 1 | Carburetor |
| 142-0661 | 1 | Carburetor |
| 146-0466 | 1 | Fuel pump - vacuum pulse, RMT (*) |
| 149-1982 | 1 | Fuel pump - vacuum pulse |
| 149-1983 | 1 | Cover, fuel pump - vacuum pulse |
| 541-0402 | 2 | LPG Carburetor (*) |
| 541-0445 | 3 | LPG Carburetor (*) |

*Kits contain more than one type of clamp.

The correct clamp is colored green and has an inside diameter of 0.39 inches (9.9mm). The wrong clamp is black in color and has an inside diameter of 0.45 inches (11.4mm).

Each kit in inventory must be opened and examined for the correct clamps before they are sold or used for repair. Open all kits and determine how many replacement clamps are needed. Then call your Onan Parts Coordinator. They will ship replacement clamps at no charge. Do not sell any kits with the wrong clamp(s). All kits shipped after April 24, 1997 will have the correct clamp(s).

The labor to examine the kits may be claimed using the normal spare parts warranty claim using account code 63, authorization #31433, and fail code XXLZXO.


Gary O'Malley
Senior Warranty Administrator



Product Support Bulletin

Date: 5/30/97

Page 1 of 1

Bulletin No. 641

Subject: Generator Set Stops or
Circuit Breaker Trips

Effective: Immediately

Model(s) or Series: 2.8KV-FR/11351
100 Volt, 60 Hz Units

Testing has shown that the above mentioned model will display the following symptoms:

- Generator stops operating as soon as the air conditioner is started.
- Generator set circuit breaker will trip when the air conditioner is started.
- Generator set runs but the circuit breaker for the air conditioner will trip.

These symptoms occur due to low voltage from the B1-B2 windings. This low voltage causes the run relay on the control board to drop out.

Any time a 2.8 KV-FR/11351 100 Volt, 60Hz experiences one of these symptoms, install transformer kit part number 302-2032.

Standard warranty applies.

A handwritten signature in black ink, appearing to read 'Greg Moos'.

Greg Moos
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 9/2/97

Page 1 of 2

Bulletin No. 642

Subject: Time Delay Start/Stop Printed
Circuit Boards (300-0921, 0922)

Effective: Immediately

Model(s) or Series: AT/OT I Transfer Switches

Some of the latest AT/OT I time delay start/stop boards may not time out for time delay start, which will cause the generator set to not start automatically (if the generator switch is in the REMOTE position). This issue is being caused by a new timing chip (Integrated Circuit, IC) that was used on these boards, since the old part was no longer available.

The part number and the revision level of the boards affected are:

| Part Number | Revision | Description |
|-------------|----------|-------------------------------------|
| 300-0921 | T | 12 VDC Time Delay Start/Stop Module |
| 300-0922 | M | 24 VDC Time Delay Start/Stop Module |

All distributor and dealer stock should be returned for rework through the normal SPARE PARTS warranty process. Any boards sold should also be returned.

The board revision is shown as part of the bar code label that is on the board. The first letter after the part number is the revision. The next letter should be a "S", which indicates the manufacturing location.

Reworked boards will be revision "U" for the 300-0921, and "N" for the 300-0922, and will have a jumper on the top-side of the board by U1 (the IC).

New circuit cards that will have this connection made by an added circuit trace on the bottom of the board, instead of the jumper on the top-side, will be revision "V" for the 300-0921 and "P" for the 300-0922.

If some boards made it into the field, and they do experience this condition in a transfer switch, then the operators should/can start the generator sets manually until the board replacement arrives and is installed.



Product Support Bulletin

Date: 9/2/97

Page 1 of 1

Bulletin No. 643

Subject: 338-3444 & 338-3455 Engine Harness
Wiring Correction

Effective: Immediately

Model(s) or Series: 6/5MDKUB; 7.5/9MDKWB

The current wiring of the remote connector is incorrect and will not work.

Change the connections on the remote connector in the engine harness (338-3444 and 338-3455) to match the wiring diagram (ref. 612-6703 - ref. J3) as detailed below.

The engine harness leads at the remote connector are marked and listed below as "Old Address". The new marking and the wire color is indicated for each of the wires affected.

It is requested that the "Old Address" marking be covered with permanent ink or new labels made according to the "New Address" marking.

| <u>Old Address</u> | <u>New Address</u> | <u>Wire Color</u> |
|--------------------|--------------------|-------------------|
| J1-2 | J3-4 | Red |
| J1-5 | J3-1 | Black |
| J1-8 | J3-5 | Tan |
| J1-1 | J3-2 | Purple/Orange |
| J1-6 | J3-7 | Tan/Yellow |
| J1-7 | J3-8 | Dark Blue/Yellow |
| J1-4 | J3-6 | Red/Orange |

Keith Weyenberg
Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 12/12/97

Page 1 of 1

Bulletin No. 644

Subject: Rotor Damper Bar Assembly Welds

Effective: Immediately

Model(s) or Series: HDKAL, HDKAQ, HDKAR, HDKAS
Commercial Mobile Gensets

Onan has identified a potential issue with the rotor damper bar assembly on the sets listed above. The damper assembly is welded after it is assembled to the rotor. Some rotors were built with the welds on the damper assembly protruding outside the maximum acceptable outside diameter. More simply stated, the welds stick up above the laminations of the rotor. If this happens, it is possible for the welds to contact the stator windings, resulting in immediate stator failure. If you experience a stator failure, in addition to the usual electrical tests, you must also thoroughly inspect the welds on the damper assembly and ensure that they do not protrude beyond the laminations.

If the rotor tests good electrically (refer to the appropriate service manual), it can be returned to service after carefully filing or grinding any welds that protrude beyond the outside diameter of the lamination stack.

Standard warranty applies.

A handwritten signature in black ink, appearing to read "David W. Sollars".

David W. Sollars
Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 6/29/98

Page 1 of 3

Bulletin No. 645b

Note: Bulletin 645a superceded by 645b. Discard Bulletin 645a immediately.

Subject: Interconnect Leads

Effective: Immediately

Model(s) or Series: GG, GN, GEA, DN, DG Series
With the Sentinel Style Control

There has been some confusion when connecting the control leads between the automatic transfer switch and the generator set control on these sets when using the basic remote "ATS" (Sentinel style) control. See the generator set control diagrams 612-6708, 612-6719, and 612-6697 for the set you are working with. Diagrams should be ordered from the Parts Department.

This control must have an isolated dry contact at the transfer switch for the remote start signal. The start command at the generator control is applied on the output side of the fault breaker. The battery voltage for the start circuit comes through the fault breaker. If voltage comes from any other source, the fault breaker will be bypassed. That will result in the set not shutting off for any engine fault (low oil pressure, high engine temperature, etc.).

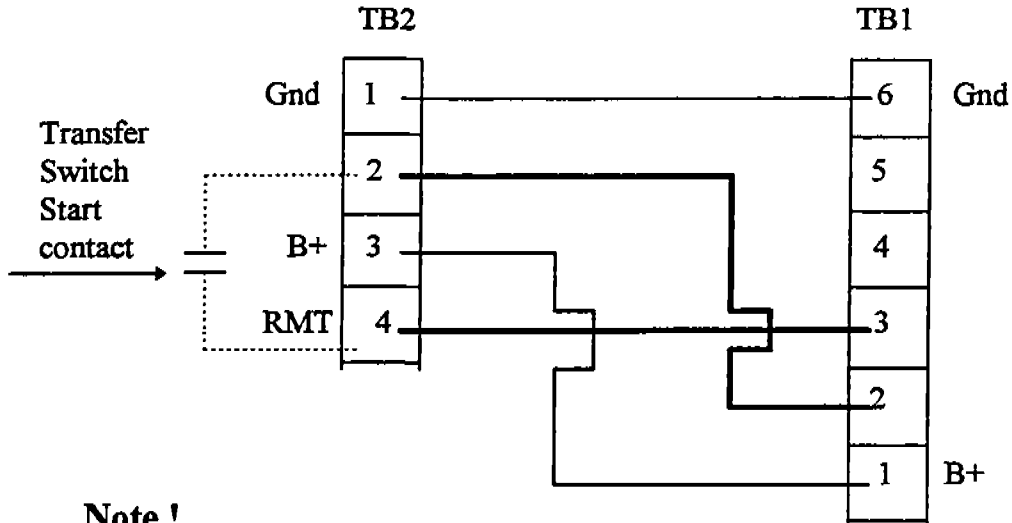
Determine the control diagram for the set you are working with, then see the appropriate interconnect diagram on pages 2 and 3 of this PSB.

This bulletin is for informational purposes only.

Bob Renner
Sr. Technical Service Representative
Power Generation Americas

OTIII or LTIII

**Gen Set with
612-6719 Control**

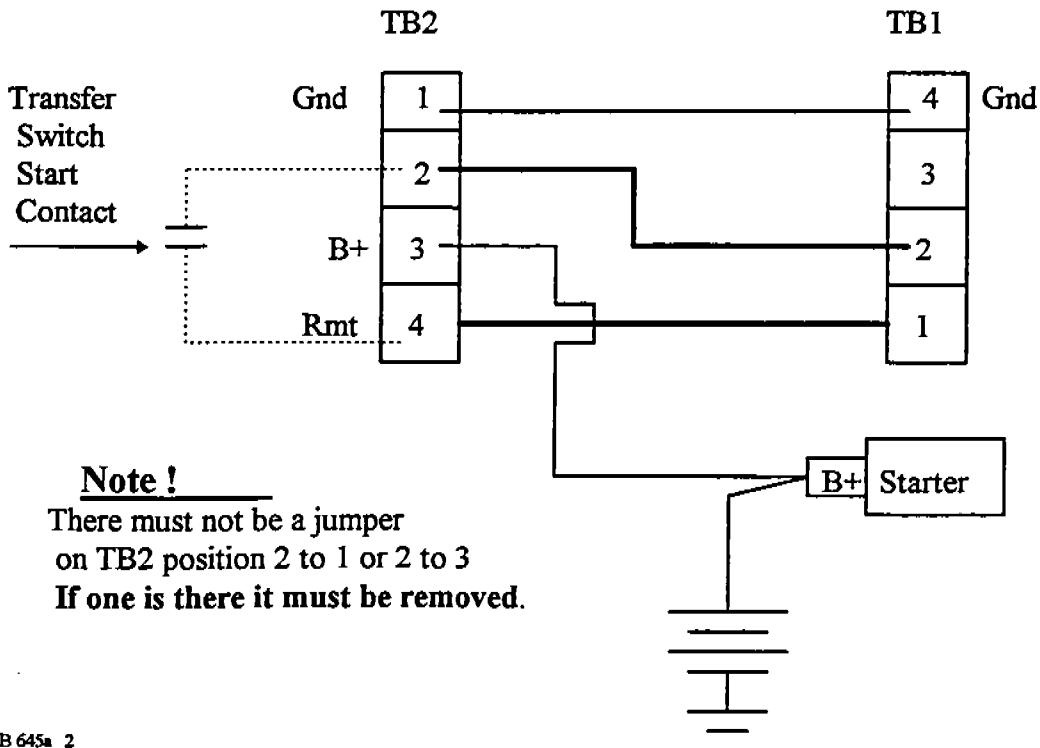


Note !

There must not be a jumper,
on TB2 position 2 to 1 or 2 to 3
If one is there it must be removed.

OTIII or LTIII

**Gen Set with
612-6708 Control**

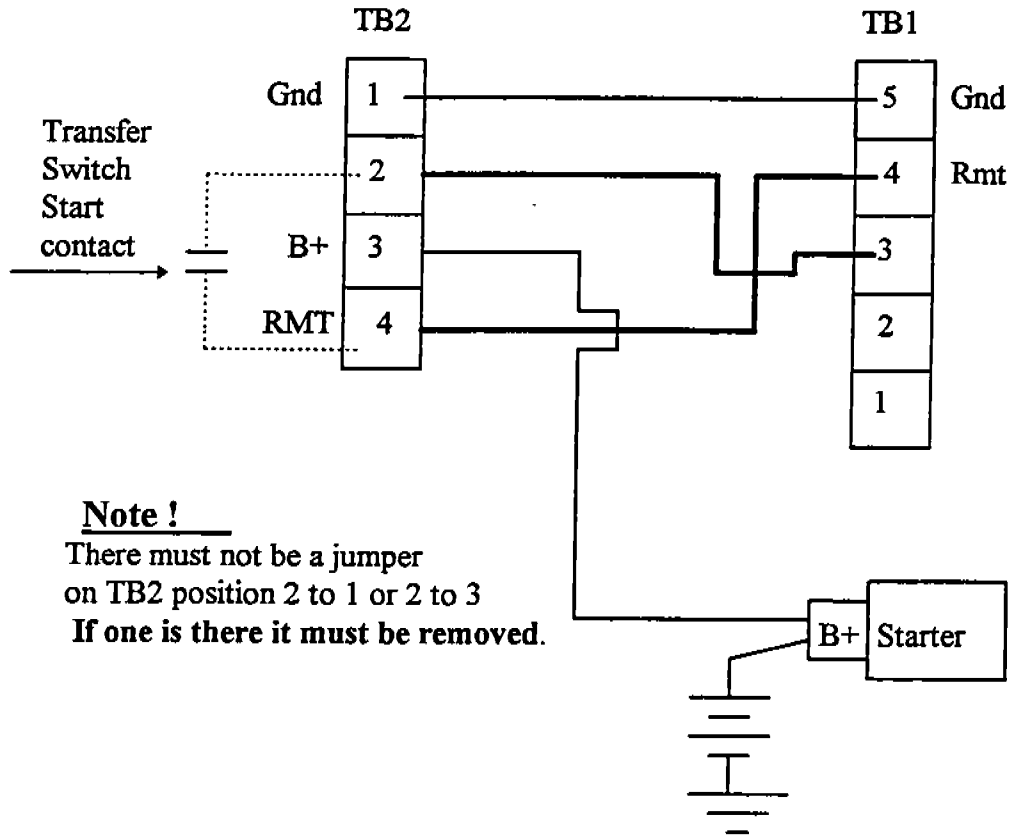


Note !

There must not be a jumper
on TB2 position 2 to 1 or 2 to 3
If one is there it must be removed.

OTIII or LTIII

**Gen Set with
612-6697 Control**



Note !

There must not be a jumper
on TB2 position 2 to 1 or 2 to 3
If one is there it must be removed.

Date: 2/2/98

Page 1 of 1

Bulletin No. 646

Subject: Premature Start Disconnect

Effective: Immediately

Model(s) or Series: BGD and NHD Commercial Mobile
Gensets Spec J, K & L

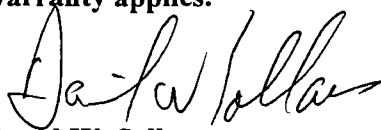
Onan has received isolated reports from the field concerning the above named sets. It is possible, under some circumstances, for these models to experience premature start disconnect. If this happens, the Genset will start and run, but the start circuit drops out before the generator has been excited (flashed) adequately to sustain electrical output. The control used in these sets monitors voltage from the battery charging Permanent Magnet Generator (PMG) for its start disconnect signal. When these sets are installed in vehicles with battery charging alternators, the PMG voltage can build up so fast that the control goes into start disconnect before the generator is fully excited or "flashed". The result is that the set runs but has no output.

This failure of the generator to build up has been random and intermittent in nature. To verify that the control is at fault, with the set running, momentarily (less than one second) flash the generator field. This is done by applying DC battery voltage across the brush leads at F1 and F2 (connect B+ to F1 and B- to F2). If the generator builds up and maintains the correct voltage after this check, the control is likely at fault. If the generator does not build up or loses output when the flash voltage is removed, the trouble is elsewhere.

We have released a new control assembly that can help to resolve this problem, Onan part number 300-5002-01. This consists of the new 300-5002 control board and the 338-3673 harness which allows this control to connect to existing remote harnesses. If the application already has a remote connected, order the 300-5002-01. If the remote is not used, all you need is the 300-5002 control board.

Always refer to the appropriate service manual, wiring diagram, and schematic for the specific model set you are servicing. Read and follow the safety precautions listed in the service manual before proceeding. Disconnect all of the battery negative connections before going ahead with work.

This bulletin is for informational purposes only; this is not a field campaign. Standard warranty applies.



David W. Sollars
Sr. Technical Service Representative
Power Generation Americas



Onan Corporation
1400 73rd Avenue N.E.
Minneapolis, Minnesota 55432
(612) 574-5000
Telex: 275477

Date: 2/16/98

Page 1 of 2

Bulletin No. 647

Subject: Crankshaft Rear Oil Seal Leaks

Effective: Immediately

Model(s) or Series: All Performer Engines

Onan has received reports from the field of Performer engines leaking oil from the rear oil seal at low hours. In some instances the leak persists after a new seal is installed.

The rear oil seal leak may be caused by one of the following or a combination thereof:

- A pressurized crankcase. The crankcase operates in a vacuum and can become pressurized due to a faulty breather, loose oil fill cap, or other air leaks into the crankcase. This pressure forces the oil past the seal.
- An improperly installed seal, resulting in:
 - a) A nicked seal
 - b) Debris particles under the seal
 - c) A misaligned (cocked) seal
- A crankshaft surface that is nicked, scratched, or dented.
- A crankshaft surface finish that is polished improperly. This imperfection is not visible and cannot be detected or measured in the field.

Test the engine to verify that crankcase pressure is between 11 to 20 inches of water column vacuum. This will eliminate a pressurized crankcase as the cause. Proceed to remove the rear seal and inspect it for nicks or debris. Also inspect the crankshaft surface for any nicks or scratches. If none are found, install a new rear seal. To properly install the new seal, remove the bearing plate and use the Onan rear seal installation tool, p/n 420-0387, to install the new seal into the bearing plate. Use the tool to mount the bearing plate and seal onto the crankshaft. Test the new seal for oil leaks by running the engine for one hour prior to reinstalling into the application. If the leak persists and the crankshaft surface is suspected as the cause of the leak, or a nick was found on the crankshaft, then install a Chicago Rawhide Speedi-Sleeve as an alternate repair method. The Chicago Rawhide part number for the Speedi-Sleeve is 99162. Consider the Speedi-Sleeve as the initial repair

PSB 647

2/16/98

Page 2 of 2

method in engines that cannot be tested for leaks prior to reassembly into the application, such as in a genset. Contact your local seal jobber to purchase this Speedi-Sleeve.

Installation - Speedi-Sleeve:

- Remove the bearing plate and rear seal.
- Clean the crankshaft surface.
- Apply a thin film of silicone RTV to the crankshaft surface.
- Press the Speedi-Sleeve onto the crankshaft. The installation tool that comes with the Speedi-Sleeve is too short to fit over the crankshaft. Fabricate an installation tool from a length of pipe or tubing with a squared-off, burr-free end. A 1-1/4 inch PVC coupling can serve as an installation tool and is available from any hardware store. Add a piece of PVC pipe to the coupling long enough to fit over the end of the crankshaft. Place a plastic cap on the end of the pipe and tap the Speedi-Sleeve onto the crankshaft.
- Check the sleeve for burrs or debris that could damage the new seal.
- Install the new Onan seal, p/n 509-0041, into the bearing plate using the Onan rear seal installation tool, p/n 420-0387.
- Lubricate the Speedi-Sleeve.
- Use the installation tool to guide the bearing plate and seal onto the Speedi-Sleeve. The installation tool will now butt up against the Speedi-Sleeve, so keep the tool square up against the sleeve and ease the bearing plate and rear seal into place.

Standard warranty applies.



Brian Marier

Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 10/5/98

Page 1 of 2

Bulletin No. 647a

Subject: Crankshaft Rear Oil Seal Leaks

Effective: Immediately

Model(s) or Series: All Performer Engines, Marquis & Emerald Gensets
And Short Blocks

Onan has received reports from the field of the above models leaking oil from the rear oil seal during the initial start-up or at very low hours of usage. The leaks have occurred in a broad range of serial numbers over the last two years; however, in a recent manufacturing audit, it was discovered that a specific serial number range from G98 to I98 has a potential to leak, primarily due to item 4 as listed below.

The rear oil seal leak may be caused by one of the following or a combination thereof:

1. A pressurized crankcase. The crankcase operates in a vacuum and can become pressurized due to a faulty breather, loose oil fill cap, or other air leaks into the crankcase. This pressure forces the oil past the seal.
2. An improperly installed seal, resulting in:
 - a) A nicked seal
 - b) Debris particles under the seal
 - c) A misaligned (cocked) seal
3. A crankshaft surface that is nicked, scratched, or dented.
4. A crankshaft surface finish that is polished improperly. This imperfection is not visible and cannot be detected or measured in the field.

THE RECOMMENDED REPAIR FOR REAR SEAL OIL LEAKS ON UNITS WITH LESS THAN 50 HOURS OF OPERATION IS TO INSTALL A CHICAGO RAWHIDE SPEEDI-SLEEVE, PART NUMBER 99162, ALONG WITH A NEW REAR SEAL OIL, ONAN PART NUMBER 509-0041.

Obtain the speedi-sleeve from your local seal jobber and install per the following instructions.

Installation - Speedi-Sleeve:

- Test the engine to verify that crankcase pressure is between 11 to 20 inches of water column vacuum.
- Remove the bearing plate and rear seal.
- Clean the crankshaft surface.
- Apply a thin film of silicone RTV to the crankshaft surface.
- Press the Speedi-Sleeve onto the crankshaft. The installation tool that comes with the Speedi-Sleeve is too short to fit over the crankshaft. Fabricate an installation tool from a length of pipe or tubing with a squared-off, burr-free end. A 1-1/4 inch PVC coupling can serve as an installation tool and is available from any hardware store. Add a piece of PVC pipe to the coupling long enough to fit over the end of the crankshaft. Place a plastic cap on the end of the pipe and tap the Speedi-Sleeve onto the crankshaft.
- Check the sleeve for burrs or debris that could damage the new seal.
- Install the new Onan seal, p/n 509-0041, into the bearing plate using the Onan rear seal installation tool, p/n 420-0387.
- Lubricate the Speedi-Sleeve.
- Use the installation tool to guide the bearing plate and seal onto the Speedi-Sleeve. The installation tool will now butt up against the Speedi-Sleeve, so keep the tool square up against the sleeve and ease the bearing plate and rear seal into place.

Standard warranty applies.

Brian Marier

Brian Marier
Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 6/29/98

Page 1 of 1

Bulletin No. 648a

Note: Bulletin 648 superceded by PSB 648a. Discard PSB 648 immediately.

Subject: Sticking/Binding Governor Actuator
Prior to S/N C980702860

Effective: Immediately

Model(s) or Series: 7.5/8.0 HDKAJ/HDKAK Quiet Diesel

Governing characteristics on these gensets can result in fault codes 22, 25, 26, 31, 36, or 38. The set may exhibit an audible hunt, or may not have smooth transition in engine speed between light and heavy loads.

First, follow troubleshooting guidelines in the Service Manual for the respective fault codes. If you don't find anything that corrects the problem, here are a few additional items to check:

One item that can cause problems is the clamping screw (if so equipped) on the governor base being set too tight. There are 3 screws on the side of the base assembly. The clamping screw is the lower right screw. Loosen the lock nut and turn the screw counter clockwise 1 turn and retighten the lock nut. Test the generator.

If the symptoms persist, replace the actuator base assembly with part number 185-7267. You will need a new spring (p/n 150-2724), a new clip (p/n 518-0672), and a new gasket (p/n 185-7080) to complete this repair. If the set you are working on has a metal shim between the stator and the base assembly, this shim is no longer required and should be discarded.

To ensure a correct high idle setting, back out the clamping screw all the way before making any high idle adjustments. After adjustments are complete, turn the clamping screw in clockwise until you feel the screw contact the internal cam. From this point, back the clamping screw out counter clockwise one turn, tighten locknut, and test genset.

This bulletin is for informational purposes only and is not a field campaign. Standard warranty applies.

A handwritten signature in cursive script that reads "Richard L. Dassinger".

Richard L. Dassinger
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 4/20/98

Page 1 of 1

Bulletin No. 649a

Subject: Rough Running or
Poor Ignition Performance

Effective: Immediately

Model(s) or Series: NHM/BGM Marquis Generators

Note: Bulletin 649 superseded by 649a. Discard Bulletin 649 immediately.

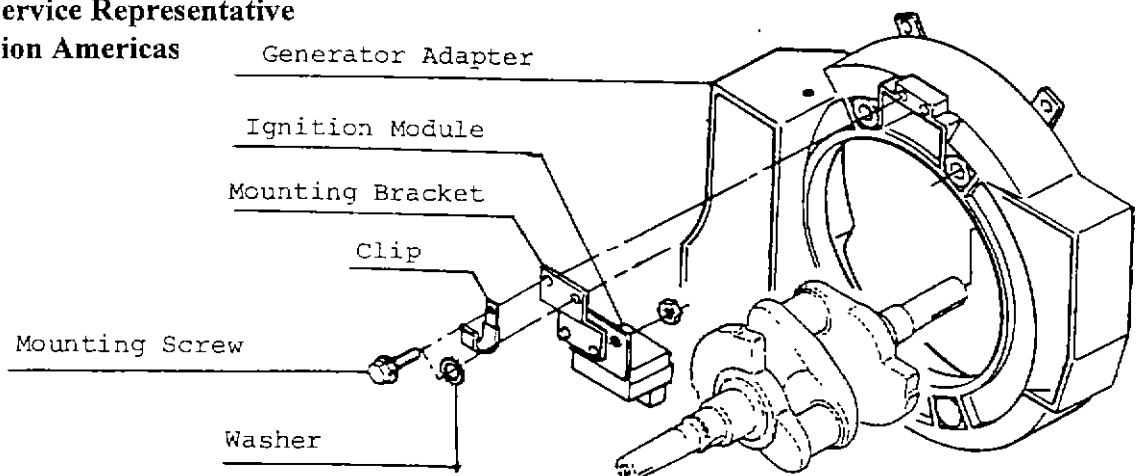
We have found that adding a shake washer (Onan P/N 854-0010) to the ignition module bracket can greatly improve rough running issues on these sets. The washer ensures a good ground path and results in improved operation of the module.

Units produced from January through March of 1998 did not have this washer installed. If the generator is exhibiting problems that can be traced back to the ignition system, install the shake washer (P/N 854-0010) to the ignition module bracket mounting screw that does not have the plastic wire clip.

A lack of generator access may require removing the set from the coach. Follow standard safety practices set out in the Service Manual if removal is necessary.

Standard warranty applies.

Richard L. Dassinger
Sr. Technical Service Representative
Power Generation Americas





Product Support Bulletin

Date: 5/19/2000

Page 1 of 2

Bulletin No. 650b

Note: Bulletin 650a superseded by 650b. Discard Bulletin 650a immediately.

Subject: Oil Level Indicator Breaking and/or
Oil Fill Cap Leaking

Effective: Immediately

Model(s) or Series: Performer Engines, Spec H

NEW OIL FILL CAP TO REPLACE EXISTING CAP ON SPEC H PERFORMER ENGINE AND ELIMINATE THE USE OF THE ADAPTER ASSEMBLY FROM THE OIL FILL TUBE.

Onan has received field reports of oil level indicators breaking at the bend on the indicator where it attaches to the oil cap. Field reports also indicate that oil is leaking out the oil fill cap where it locks onto the oil fill tube adapter.

These failures occur when the o-ring on the adapter assembly becomes distorted from the heat radiated from the muffler. This causes the oil fill cap to lose its seal with the adapter assembly. A loose seal allows the oil fill cap to vibrate, which results in the breaking of the indicator. A loose seal can also cause a vacuum leak, resulting in a pressurized crankcase. If the seal becomes too loose, oil can come up the fill tube and leak passed the oil fill cap.

If either the above failures are experienced, make sure to replace both the cap and dipstick with the new cap and indicator assembly and remove the oil fill adapter prior to installation. The new style cap will twist directly into the oil fill tube (see instruction sheet on page 2). The part number for the new cap and indicator assembly is the same as the one listed in the Performer Engine Parts Manual, only with a suffix of -02 instead of -01.

This bulletin for informational purposes only. Standard warranty applies.

A handwritten signature in cursive script that reads 'Brian Marier'.

Brian Marier
Technical Service Representative
Power Generation Americas

Installation of New Oil Dipstick Cap For Performer

A new dipstick cap, 123-2145 is now released for the Performer series Industrial engines. This cap replaces the current 123-2102 cap, and 123-2105 adapter assembly.

To upgrade to the new cap, from the current cap/adapter system, the adapter assembly must be removed and discarded.

The adapter is screwed into the metal dipstick tube. It can be unscrewed in a normal counterclockwise rotation.

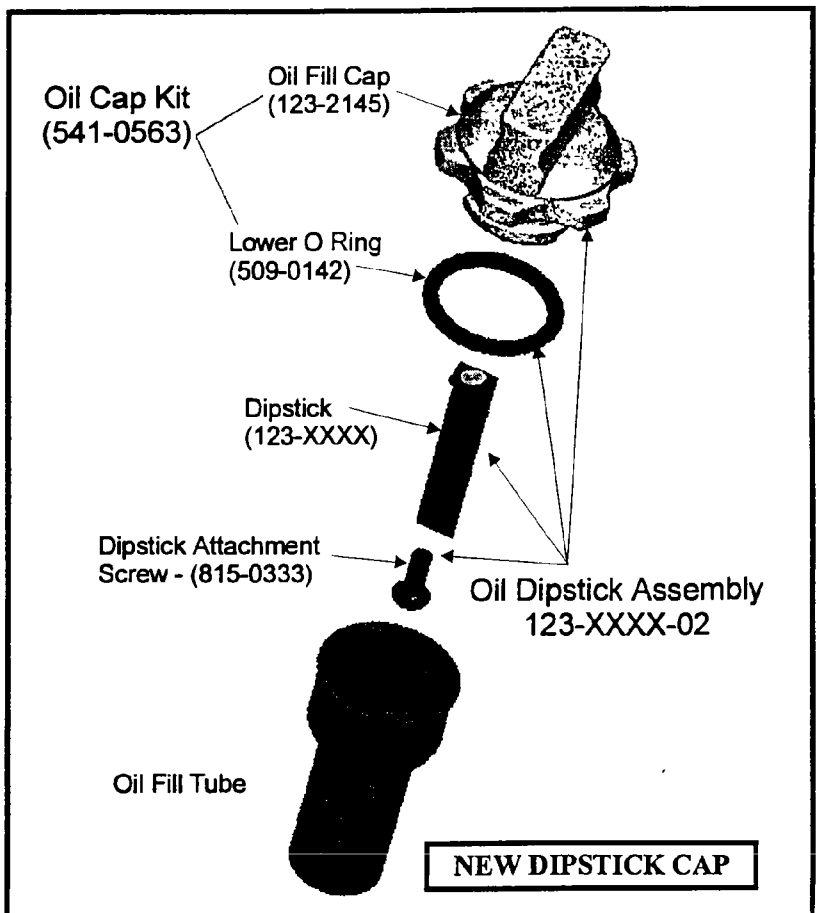
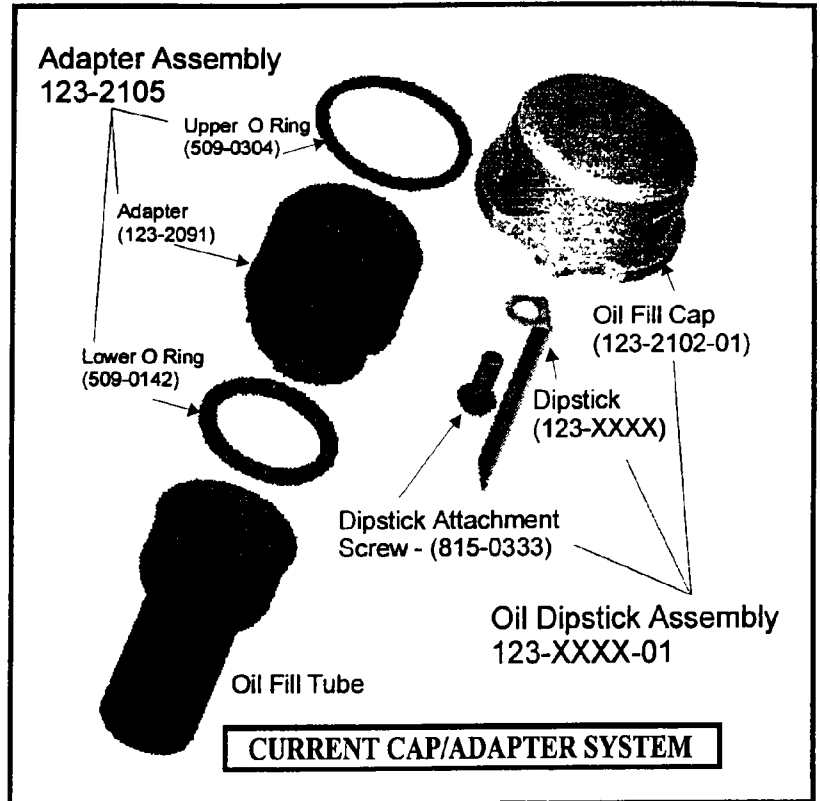
Release the dipstick from the bottom of the old cap by removing the screw. Reinstall this same dipstick on the new cap using the same self tapping screw. Oil level (dipstick) height has been equalized for both cap designs. This allows the use of the same dipstick on both old and new caps.

Install a new lower O ring onto the cap. Push the O ring past the threads, and into the groove at the top end of the cap's threaded portion.

The new cap should be screwed in, and the O ring seated to properly check oil level.

Current 123-XXXX-01 dipstick assemblies, which now include the 123-2102 cap, will be superseded to the new 123-2145 cap.

The part numbers for the new dipstick assemblies will be the same as the old, except with a -02 suffix, i.e., 123-XXXX-02.





Product Support Bulletin

Date: 4/30/98

Page 1 of 1

Bulletin No. 651

Subject: Improper Torque on
Starter Mounting Bolts

Effective: Immediately

Model(s) or Series: KV Microlites, S/N's K970656129 Through C980716331

Audit testing and inspection has discovered KV Microlites, S/N's K970656129 through C980716331, were built with improper torque on the starter mounting bolts. Additional testing conducted by Engineering revealed no damage will occur to the starter since this model is equipped with an additional starter mounting bracket.

If a KV Microlite, with the above referenced serial numbers, is in your inventory or in your facility for a repair which requires removal of the generator set, properly torque the starter mounting bolts to 20-25 ft lbs.

Follow standard safety practices as outlined in the Service Manual.

Standard warranty applies.

A handwritten signature in black ink, appearing to read "Greg Moos".

Greg Moos
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: January 4, 1999

Page 1 of 2

Bulletin No. 652a

Note: Bulletin 652 Superseded by 652a. Discard Bulletin 652 Immediately.

Subject: Modified Exhaust Manifolds Used On
Undersized Cylinder Head Exhaust Port

Effective: Immediately

Model(s) or Series: 4.0/3.6 KY's Built Between
F980763873 through H980778275 and
J980816360 through L980833184

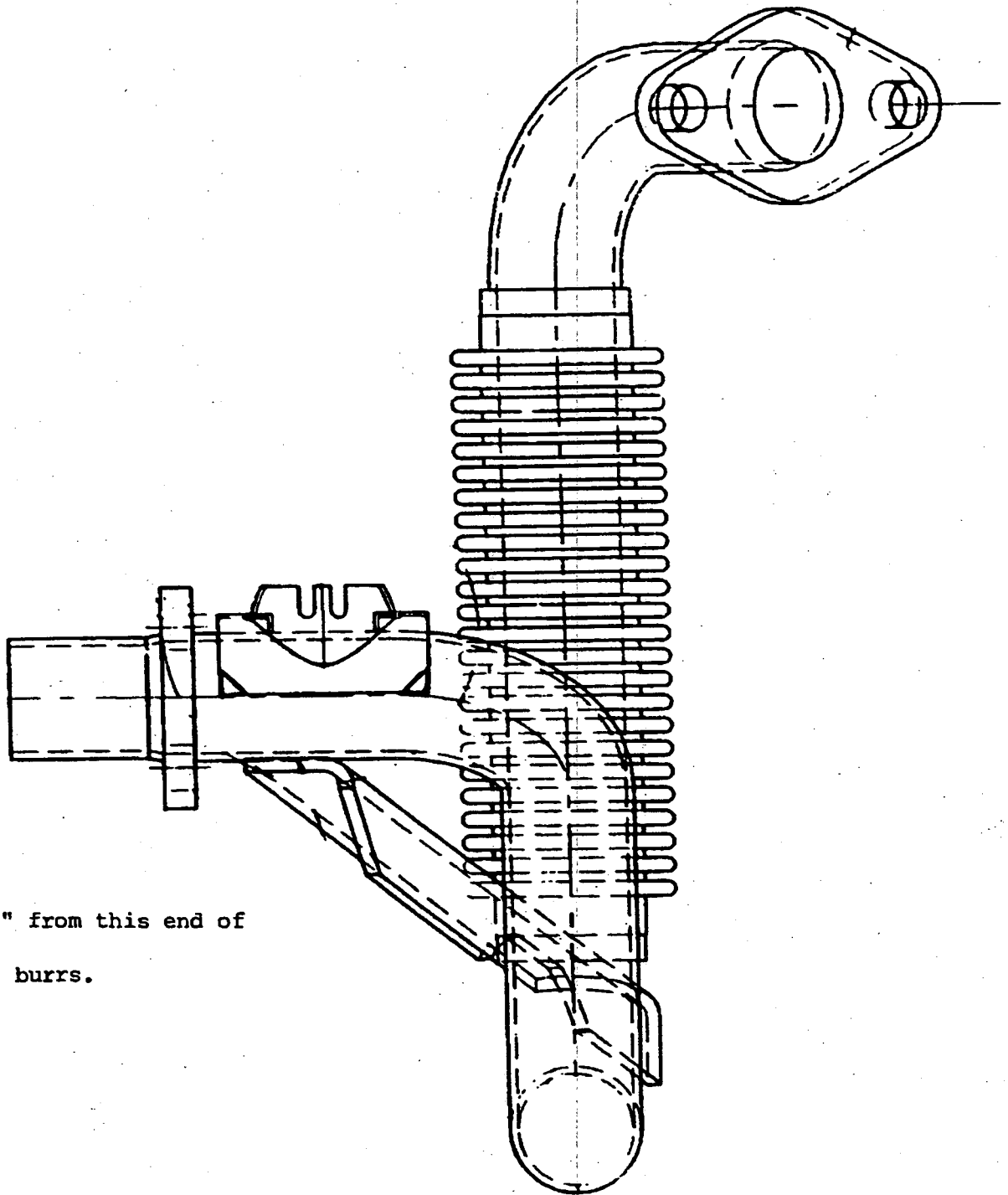
4.0/3.6 KY's built between F980763873 through H980778275 and J980816360 through L980833184 were manufactured with modified exhaust manifolds due to undersized tapered exhaust port on the cylinder head.

If exhaust manifold replacement is required on KY generator sets built between F980763873 through H980778275 and J980816360 through L980833184, the replacement exhaust manifold, part number 154-2975, will require modification by removing 1/2 inch of the tube that enters the cylinder exhaust port. See drawing on page 2 for the proper modification procedure.

This bulletin is for information only.

A handwritten signature in black ink, appearing to read "Greg Moos".

Greg Moos
Sr. Technical Service Representative
Power Generation Americas



Remove 1/2" from this end of
the tube.
Remove all burrs.



Product Support Bulletin

Date: November 6, 1998

Page 1 of 1

Bulletin No. 653a

Note: Bulletin 653 superceded by 653a. Discard Bulletin 653 immediately.

Subject: Commercial Mobile Gensets Equipped
With 541-0456 Extended Oil Fill Kits

Effective: Immediately

Model(s) or Series: BGD

A discrepancy with the oil fill tube kit 541-0456 has been identified requiring immediate attention. A new dipstick assembly, part number 123-2141, has been released to correct this discrepancy.

The main issue with this kit is the oil level indicator will show the engine to be approximately one quart low when in reality the engine is full, which can result in an oil overfill condition. Too much oil in the crankcase can result in the following conditions:

- oil foaming due to crankshaft and connecting rod contact with the oil
- loss of oil pressure due to oil foaming
- intermittent shutdown due to loss of oil pressure due to oil foaming
- oil leakage out the breather system/air filter due to oil foaming
- oil leakage out various gasketed joints
- crankshaft seal leakage due to increased crankcase pressure

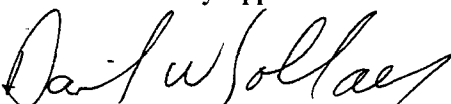
Oil capacity for the Emerald family of products is 3.5 quarts with a dry oil filter, 3 quarts with a wet oil filter. The dipstick oil level indication can vary from installation to installation depending on how well the kit oil base components are seated.

If you encounter a Commercial Mobile set with the extended fill kit installed you should:

1. Verify that all components are installed in accordance with the corresponding instruction sheet, G-189. Correct any discrepancies.
2. Remove and discard the old dipstick assembly, part number 123-2000.
3. Install a new dipstick assembly, part number 123-2141.
4. Check the oil level in the set and remove or add oil as required.

Scrap any service stock of 123-2000 dipsticks and submit a service parts warranty claim. Reorder sufficient quantities of 123-2141 to meet your needs. Inspect any stock of the 541-0456 extended oil fill kits and replace the 123-2000 dipstick assembly with the 123-2141 as required.

Standard Warranty Applies


David W. Sollars
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 9/7/98

Page 1 of 1

Bulletin No. 654

Subject: Marine Adapter Harness To Facilitate
Installation When Repowering Marine Sets

Effective: Immediately

Model(s) or Series: MDL Series, MDKC/D, MDKAL, MDKAA/AB,
MDKAD/E/F, MDKUB/WB Spec C. The pigtail
(p/n 338-3098) would have to be supplied on Spec A & B

See Accessories and Service Support Catalog.

| | |
|----------|---|
| 338-3693 | Adapter harness to connect a MDKC, MDKD, or MDL series genset to any of the new accessory panels (ref. 300-5018xx) using the new extension harnesses (ref. 338-3167 & others). |
| 338-3694 | Adapter harness to connect a MDL series genset that did not have a preheat circuit (it was part of the cranking circuit and did not require a separate switch) to any of the new accessory panels (ref. 300-5018xx) using the new extension harnesses (ref. 338-3167 & others). |
| 338-3695 | Adapter harness to connect a MDKAX series genset to any of the obsolete accessory panels (ref. 300-3264) using the old extension harnesses (ref. 338-2237 & others). This adapter is used when replacing a MDL series genset that did not have a separate circuit for preheat (glow plug operation). |
| 338-3696 | Adapter harness to connect a MDKAX series genset to any of the obsolete accessory panels (ref. 300-3262 & others) using the old extension harnesses (ref. 338-2237 & others). This adapter is used when replacing a MDL or MDKC/D series genset. |
| 338-3697 | Adapter harness – Y type junction – to allow using a three gauge only panel beside the genset and any of the remote accessory panels. If the installation requires 2 gauge panels in the system, installer is also required to use dual gauge momentary switch kit (ref. 300-4835). The gauge panel that is located near the genset is assembly 300-5038 (12VDC) or 300-5039 (24VDC) and the remote panel can be any of the accessory remote start/stop panels. |

This bulletin is for informational purposes only.


Keith Weyenberg

Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 10/5/98

Page 1 of 1

Bulletin No. 655

Subject: Circuit Breaker Kit 319-3611

Effective: Immediately

Model(s) or Series: MDKA Series

(MDKAL, MDKAD, MDKAE, MDKAF)

The AVR (automatic voltage regulator) on the MDKA series of generator sets has a built-in overvoltage protection; however, there have been incidents where the internal circuitry cannot shut the genset down as designed. This causes the AVR to go to full field, which may cause an overvoltage condition in the generator AC output. The overvoltage shutdown protection does not function properly in this failure mode. Adding the circuit breaker kit will provide an additional level of protection should this fault condition occur.


The MDKAL (spec B), MDKUB, MDKWB, MDKAA, and MDKAB have a secondary protection field breaker that will protect the genset and reduce the potential for damage to electrical devices in the boat.

This kit allows the installation of a field breaker in MDKAL (spec A), MDKAD, MDKAE, and MDKAF gensets.

We suggest the circuit breaker be installed when servicing a customer's set. Warranty will pay one hour of labor and the part for the installation of this kit. When filing the warranty claim, use account code 67 if genset is in base warranty or 96 if a stock unit. Use fail code JCCBID. Use 40126 in the authorization block.

This circuit breaker will be included in the set's control as part of the next spec advance.

A copy of Instruction Sheet M102 is attached for your convenience.


Keith Weyenberg
Technical Service Representative
Power Generation Americas

Installation of Two Amp Field Breaker Kit 319-3611

GENERAL INFORMATION

This instruction sheet describes how to install the two amp breaker kit. The two amp field breaker provides generator exciter and regulator protection from overheating in the event of certain failure modes of generator, exciter and voltage regulator.

Read these instructions completely and become familiar with safety warnings, cautions and procedures before starting the installation.

⚠ WARNING *Accidental starting of the generator set while working on it can cause severe personal injury or death. Prevent accidental starting by disconnecting the negative (-) cable from the battery terminal.*

Make certain battery area has been well ventilated before servicing battery, especially if a battery charger has been connected. Arcing can ignite explosive hydrogen gas given off by batteries, causing severe personal injury. Arcing can occur when cable is removed or re-attached, or when negative (-) battery cable is connected and a tool used to connect or disconnect positive (+) battery cable touches frame or other grounded metal part of the set.

1. Place the genset Start/Stop switch in the Stop position and allow set to cool thoroughly (to the touch).
2. Disconnect the negative (-) cable from the battery to prevent accidental starting.
3. The field circuit breaker can be installed on the control box access panel, control panel or breaker panel. Select the panel that is most accessible by the operator for the circuit breaker installation.

⚠ WARNING *Always wear safety glasses with side shields when drilling metal to avoid severe eye damage.*

4. Remove the appropriate control box panel and drill .375 inch (9.6 mm) hole for mounting of circuit breaker as shown in Figure 1.

If panel AA in Figure 1 has an optional dual gage switch, move switch to gage panel first, then enlarge hole in lower control panel for circuit breaker.

5. Remove the control access panel and remove plug P1 from the automatic voltage regulator (AVR).
6. Cut wire from P1-3 (Q1) approximately 3 inches (76 mm) out from plug P1 (Figure 2).
7. Attach receptacle terminal to lead Q1 and male terminal to lead P1-3.
8. Mount circuit breaker to panel. Apply thread sealant Loctite (blue) to threads of circuit breaker and bare metal on inside diameter of mounting hole.
9. Connect Q1 lead to the circuit breaker.
10. Connect kit supplied lead between circuit breaker and lead P1-3.
11. Secure access and circuit breaker panel to control box.
12. Attach label (Field Breaker) to panel, next to circuit breaker switch.
13. Connect the negative (-) cable to the battery.

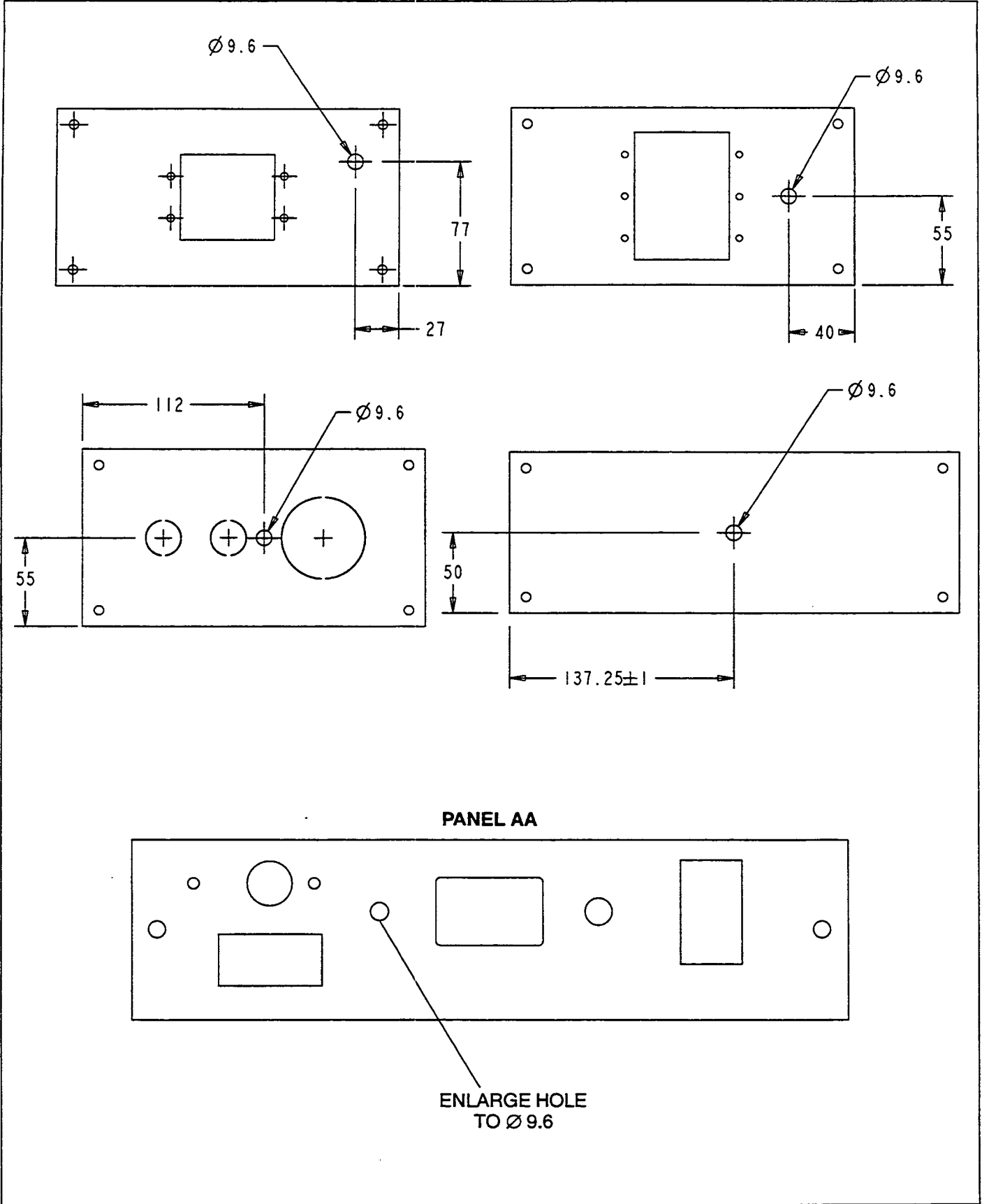


FIGURE 1. CIRCUIT BREAKER LOCATION

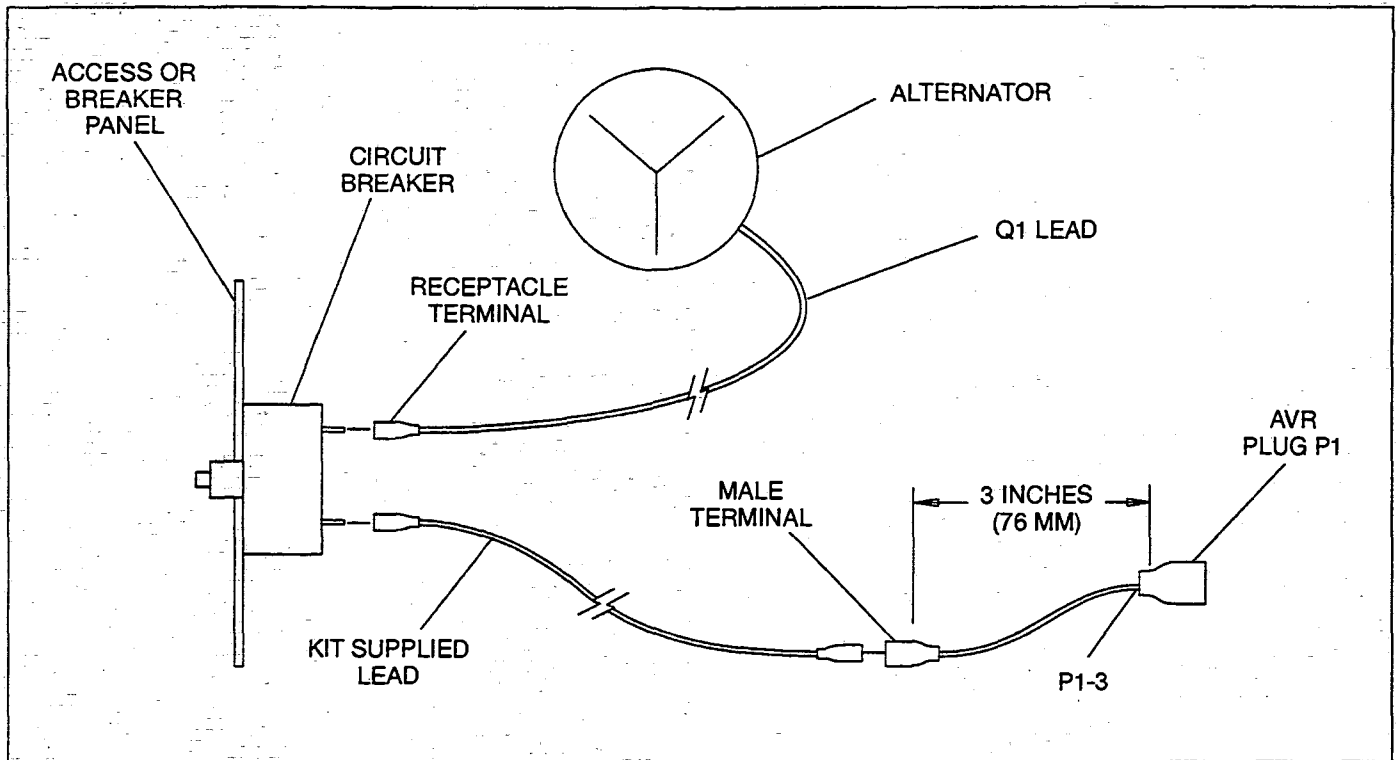


FIGURE 2. CIRCUIT BREAKER WIRING DIAGRAM



Product Support Bulletin

Date: Nov 6, 1998

Page 1 of 1

Bulletin No. 656

Subject: Test Procedure For Wire Wound Rotors Effective: Immediately

Model(s) or Series: Microlite, Emerald, Marquis, and Other Generators
With Similar Style Wound Rotors With Brush-Type
Excitation

Possible Symptom:

Generator has failed the voltage regulator or more than one in a short period of time.

Caution:

Follow all safety precautions listed in your Service Manual while making these tests.

Tests:

After performing normal tests as listed in the Service Manual for shorted or open rotor, repeat the resistance test with the generator engine running at normal operating RPM's. What you are looking for is a short to ground, or an open condition that only exists when the rotor is spinning.

Notes:

This test can be conducted simply by disconnecting the voltage regulator and probing the proper pins (F1 and F2) at the harness side of the connector and monitor resistance to ground. An alternative method of testing is to open the circuit breakers and install a 3 amp fuse in line with the F1 positive wire and ground the F2 wire to battery negative to the generator ground. Then externally excite the rotor with battery voltage. An open fuse indicates a short in the rotor. In this test, make sure that the F2 and battery negative are connected to generator ground or a possible short to ground will not be detected.

This is for informational purposes only.

A handwritten signature in cursive script that reads "Michael J. Fair".

Michael J. Fair
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 2/11/2000

Page 1 of 1

Bulletin No. 656a

Note: Bulletin 656 superseded by 656a. Discard Bulletin 656 immediately.

Subject: Test Procedure For Wire Wound Rotors Effective: Immediately

Model(s) or Series: Microlite, Emerald, Marquis, and Other Generators
With Similar Style Wound Rotors With Brush-Type
Excitation

Possible Symptom:

Generator has failed more than one voltage regulator in a short period of time.

WARNING:

Working on an operating genset can present hazard that can result in severe personal injury or death. Follow all safety precautions listed in your Service Manual while performing these tests.

Test:

After performing normal tests as listed in the Service Manual for shorted or open rotor, and shorted or open stator, repeat the resistance test of the rotor with the generator engine running at normal operating RPM's and the voltage regulator disconnected. What you are looking for is a short or an open condition that only exists when the rotor is spinning.

Additional Tests:

Can be conducted by connecting a 2 amp fuse in series with the F1 positive brush and the voltage regulator pin 9. This will limit the current to the field windings, and protect the voltage regulator in the event of a short. Make certain all grounds and wires at the voltage regulator are properly connected. If the 2 amp fuse opens, the likely cause would be a rotating short within the rotor.

This is for informational purposes only. Standard warranty applies.

A handwritten signature in cursive script that reads 'Michael J. Fair'.

Michael J. Fair
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: December 11, 1998

Page 1 of 1

Bulletin No. 657

Subject: 4 - 40 lb. LP Tanks With Overfill
Protection Device

Effective: Immediately

Model(s) or Series: All RV LP Vapor Models

On October 1, 1998, NFPA 58 became effective. This code states that new DOT cylinders 4 - 40 lbs. manufactured after 10/1/98 will require an Overfill Protection Device (OPD). Excluded are forklift, welding, and cutting gas cylinders.

Manchester Tanks, 4 - 40 lbs., equipped with the new OPD valve have a low fuel flow capacity issue caused by the restrictive orifice on these new tanks fitted with OPD valves. Manchester has proposed a fix which should be released in the next 2-3 months. There may be other tank manufacturers with this same issue. There are a couple of ways to determine if the tank is equipped with an OPD valve. The valve handwheel is permanently mounted and not replaceable, and the letters OPD are forged in the valve.

Low fuel flow rates may cause Onan generators to shut down due to fuel starvation. Before replacing generator set fuel system parts, check with the LP tank manufacturer on the fuel flow rates. Onan RV generator sets at full load require a fuel flow rate of 156,000 BTU/hr.

This bulletin is for informational purposes only.

A handwritten signature in black ink, appearing to read "Greg Moos".

Greg Moos
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 12/17/98

Page 1 of 4

Bulletin No. 658

Subject: Crankcase Pressure and
Blowby Measurement

Effective: Immediately

Model(s) or Series: All

The Onan Service Department receives many questions concerning diagnosing of crankcase pressure and blowby related issues. Proper measurement techniques and a thorough understanding of the results of the tests can help prevent costly, unnecessary engine repairs. This bulletin will cover the proper test procedures and help the technician to better understand the results of the test. There are two distinctly different crankcase characteristics of multi-cylinder vs. single and twin cylinder engines, which require separate testing methods to diagnose problems. Remember, hot and moving engine parts can cause cuts, burns and strangulation. Review the important safety instructions in the service manual that covers the model you are servicing.

SINGLE AND TWIN CYLINDER ENGINES typically operate with their crankcase in a state of vacuum. These engines usually incorporate a check valve in the crankcase breather system. The check valve off-seats as the pistons travel in or down and seats when the pistons travel out or up. This causes the crankcase to run in a state of vacuum. Any leakage of air into the crankcase, or problems with the check valve can cause the crankcase to pressurize. The symptoms of a pressurized crankcase are:

- Poor pulse type fuel pump performance
- Excessive oil carry over into the breather system
- Oil leaks
- Excessive oil consumption

To test the crankcase pressure, you will need either a standard U tube water manometer or a gauge calibrated to read in inches of water, connected into the crankcase. This can be done by inserting a "T" fitting in the fuel pump pulse line or the use of an oil fill cap that has been modified to include a test port. If the oil fill cap location is used, make sure the oil level is not over the end of the dipstick tube; inaccurate readings can result when the oil level is over the end of the dipstick tube. Pinch off the manometer or gauge tube until the engine is started and the speed has stabilized, and also before the engine is stopped. This will prevent the water in the manometer from being sucked into the engine or blown out of the tube, or damage to the gauge. When the engine speed has stabilized, take a pressure reading.

Twin cylinder Onan engines should read between 12 and 20 inches of water vacuum. The higher the speed the lower the reading. An idling engine will read near 20 inches, while an engine at High Idle will read nearer 12 inches. Single cylinder Onan engines should read more than 3 inches of water. If the crankcase pressure is not within these parameters or is in fact pressurized, the most likely cause is a leak, allowing air into the crankcase, or a problem with the crankcase breather valve. A pressurized crankcase is almost never the result of combustion gasses leaking past the rings. Many engines have been overhauled

because of this missed diagnosis and experience the same symptoms after the overhaul. (Excessive leakage of combustion gasses past the rings will have other symptoms: low power, exhaust smoke, and excessive oil consumption.) A quick method to pinpoint the source of an air leak is to close off the breather tube and pressurize the crankcase with regulated air pressure at not more than 5 PSI. Spray down the exterior of the engine (it may be necessary to remove the sheet metal) with a solution of soapy water and watch for leaks in the form of bubbles. Likely causes of a pressurized crankcase are:

- Defective or misassembled crankcase breather valves
- Leaking gaskets
- Loose dipstick caps
- Porous cylinder block castings

MULTI-CYLINDER ENGINES used in GenSet applications usually have the crankcase vented to atmosphere. On these engines the crankcase gasses or blowby are measured and expressed as flow. The symptoms of excessive blowby are:

- Excessive oil carry over in the crankcase ventilation system
- Visible and objectionable vapors present in the outflow gasses
- Excessive oil dripping to the floor under the vent tube

The industry accepted method of determining flow is to insert a restriction, in the form of a known size orifice, in the vent tube. Differential pressure is measured across the orifice by connecting a standard U tube water manometer, or a gauge calibrated to read in inches of water, on the engine side of the orifice. This pressure reading is then compared to a calibration table or chart that corresponds to the orifice size used. Most of the engine manufacturers we use have this information in their service manuals. Blowby flow must be measured at or near rated speed and power so the flow rate is near the maximum that will be experienced by the engine in actual use. Connect the GenSet to a load bank and operate the set at full nameplate load for 15 minutes before taking a reading. Refer to the engine manufacturer service manual for the proper procedure and limits.

For the DK family, use a .104 (#37 drill) orifice and the table at the end of this bulletin to determine flow in liters per minute. As previously mentioned, blowby is generally recorded in Liters/Minute, but a water manometer may be used to measure blowby from the breather tube after fabricating the following test fitting:

1. Plug the straight portion of a pipe tee (see Figure 1).
2. Drill an orifice in the plug .104 inches (#37 drill).
3. Connect the open straight portion of the tee to the breather tube.
4. Connect a water manometer (or gauge) to the 90-degree outlet.
5. Use the blowby conversion chart (Table 1) to convert the manometer reading to Liters/minute.

When you have established the blowby flow, it must be converted to a percentage of engine airflow. Kubota advises that the normal blowby gas flow rate is .6 to .7% at rated power and speed for naturally aspirated engines, 1% for turbocharged engines. When these rates

exceed 1.1% and 1.6% respectively, the engine may be in need of service. The formula and an example follow:

Blowby flow in liters per minute / (engine displacement x engine speed / 2)

If we take the case of the D1005 engine (1.001 L), used on the HDKAL Genset (1800 RPM), and assume a measured 5 liters per minute blowby flow (from Table 1), the formula would look like this:

$$5 / (1.001 \times 1800 / 2)$$

$$5 / (1.001 \times 900)$$

$$5 / 900.9$$

$$= .00555$$

Multiply by 100

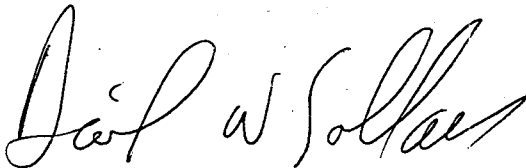
$$= .555\%$$

This would indicate that the engine in the example is within limits for blowby. Likely causes of excessive blowby are:

- Worn or damaged power cylinder components
- Overloading and or overfuelling

The above procedures can be used on almost any engine. The larger the engine displacement the larger the orifice required. Table 1 includes conversions for several common orifice sizes to accommodate testing various engines.

This bulletin is for informational purposes only.



David W. Sollars
Sr. Technical Service Representative
Power Generation Americas

Attachments: Figure 1
Table 1

Table 1
 Blowby Conversion Chart

| Inches of Water | Liters/Minute | | | |
|-----------------------|-------------------------|-----------|-----------|-----------|
| | Orifice Size: .104 inch | .152 inch | .221 inch | .302 inch |
| | Drill Size: 37 | 24 | 2 | N |
| 1 | 4 | 13 | 27 | 50 |
| 2 | 6 | 18 | 40 | 84 |
| 3 | 7 | 23 | 49 | 103 |
| 4 | 8 | 26 | 58 | 119 |
| 5 | 9 | 30 | 64 | 133 |
| 6 | 10 | 32 | 71 | 145 |
| 7 | 11 | 35 | 76 | 155 |
| 8 | | 37 | 81 | 164 |
| 9 | 12 | 39 | 86 | 172 |
| 10 | 13 | 42 | 90 | 180 |
| 11 | | 43 | 94 | 187 |
| 12 | 14 | 45 | 98 | 193 |
| 13 | | 47 | 102 | 200 |
| 14 | | 48 | 105 | 206 |
| 15 | | 50 | 109 | 211 |
| 16 | 16 | 51 | 112 | 217 |
| 17 | | 53 | 115 | |
| 18 | | 54 | 118 | |
| 19 | | 55 | 121 | |
| 20 | 17 | 57 | 124 | |

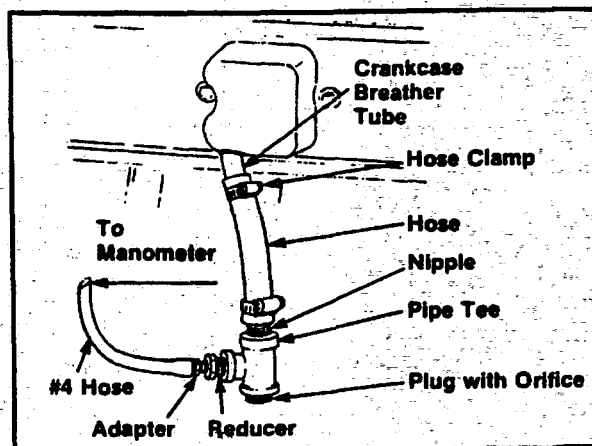


Figure 1



Product Support Bulletin

Date: 2/26/99

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Bulletin No. 659

Subject: Mounting Isolator
Configuration

Effective: Immediately

Model(s) or Series: BGD and NHD, Spec M

Fridley produced Commercial 4500 and Commercial 6500 generators, which includes all models of the BGD and NHD families, may have been manufactured with incorrect vibration isolators from January 1998 through May 1998. In particular, January, A980, and February, B980, serial numbers may have this condition. The March through May serial numbers, C980, D980, and E980, are being included, as there may be isolated instances of incorrect assemblies. Failure of the vibration isolators and/or an incorrect assembly will result in excessive unit vibration. If one of the identified sets is in for other service, also inspect the isolator mounts for correct configuration. Standard warranty applies for both the inspection and component replacement. Three separate, possible incorrect configurations have been identified. Inspection for the correct configuration is a visual inspection only and requires no disassembly.

The vibration isolators are often referred to as the engine mounts. There are three vibration isolators on a Commercial 4500 or Commercial 6500 generator set. There are two located at the rear of the generator set that attach the generator housing to the generator set tray. These are the two isolators requiring inspection. There is a third isolator located at the front of the generator set that mounts the oil base to the generator tray. This isolator is correct and does not require inspection. This isolator will be correct because both the Commercial Mobile and RV Emerald generator sets take the same isolator part number at this location, and an incorrect one will not fit.

Descriptive inspection methods to identify the mounts as correct or incorrect, and visual diagrams are being provided.

CORRECT CONFIGURATION

Figure 1 - The correct components for this assembly are:

- Isolator 402-0602
- Bolt 815-0598
- Washer 526-0325

The 402-0602 isolator is distinguishable from the incorrect one. The 402-0602 will be flat along the bottom of the part. The 815-0598 bolt is installed with the washer 526-0325 through the post and into the generator adapter.

To inspect for the correct assembly, look at the bottom of the mount on the underside of the generator tray. The 526-0325 washer should be flush against the bottom of the tray and not be allowed to rotate. It should be fully clamped down.

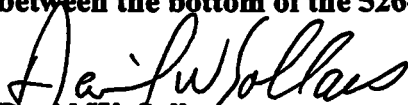
INCORRECT CONFIGURATION

There are 3 possible combinations of incorrect assemblies. All variations can be inspected by visually reviewing the bottom side of the generator tray.

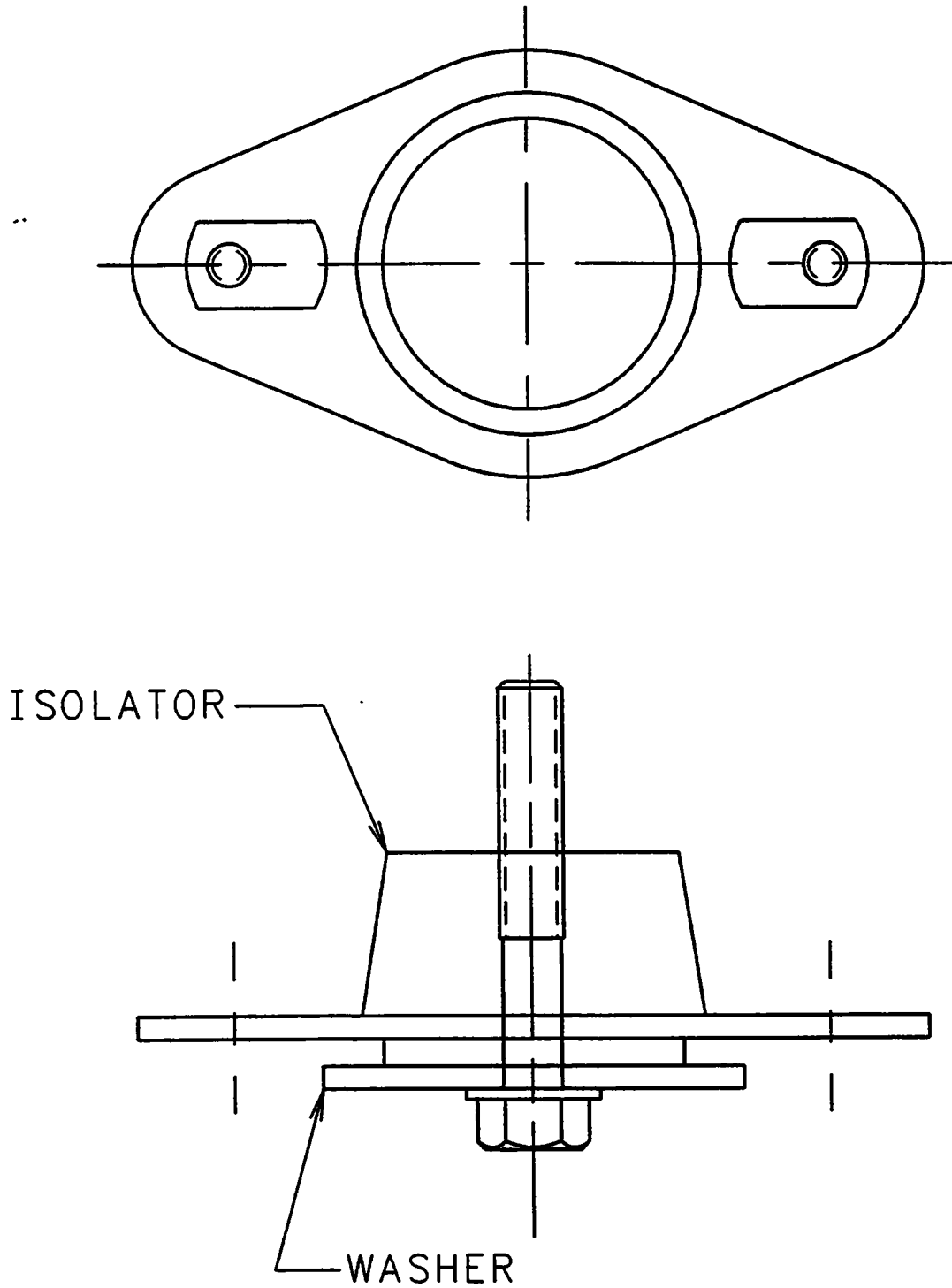
Figure 2 - The incorrect RV Emerald isolator, 402-0549, configuration was installed. This configuration will have a .25" thick rubber snubber installed between the washer and the isolator.

Figure 3 - The correct mount was installed; however, the incorrect bolt, 815-0657 was installed. The 815-0657 is .375" longer than the 815-0598 and bottoms out before clamp load is attained on the mount. If this condition exists, the 526-0325 washer will be loose and will turn freely. The 815-0657 is the correct bolt for the RV Emerald configuration, not the Commercial Emerald configuration.

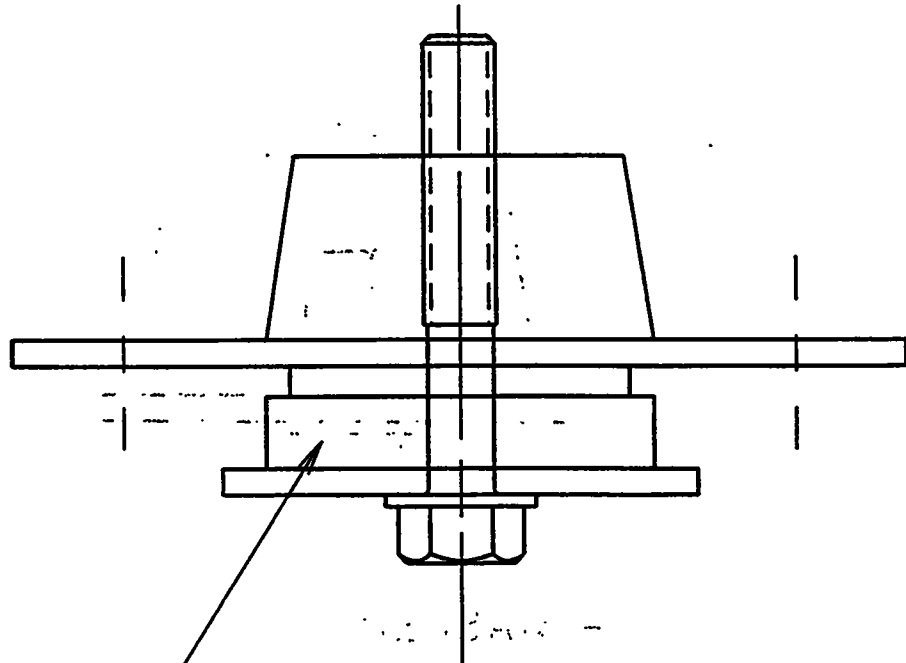
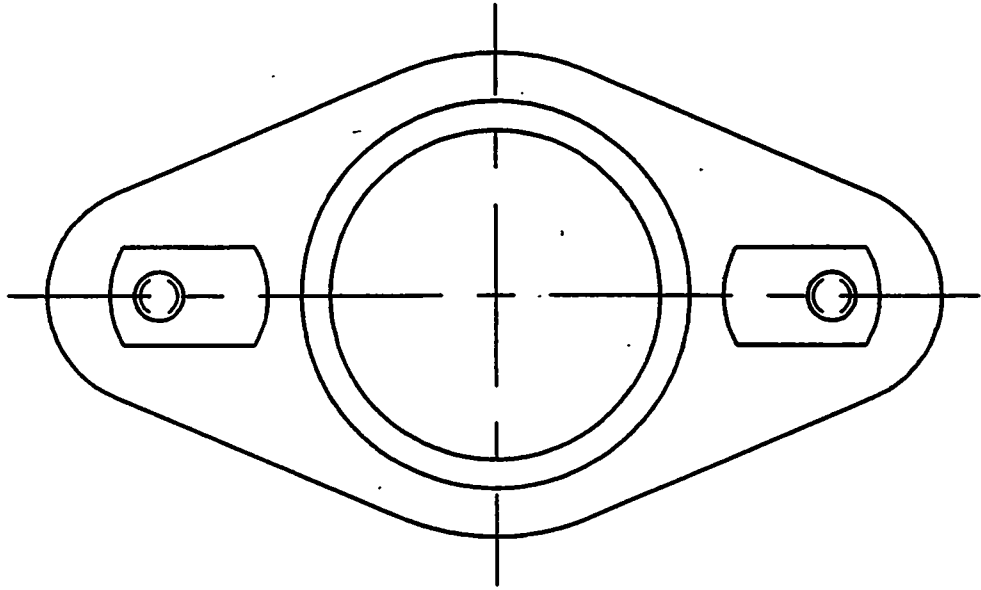
Figure 4 - The incorrect RV Emerald mounts with no snubber and the incorrect bolt are installed. This can be detected during inspection if there is a .25" empty gap between the bottom of the 526-0325 washer and the bottom of the generator tray.


David W. Sollars
Sr. Technical Service Representative
Power Generation Americas

Attachments: Figures 1 – 4

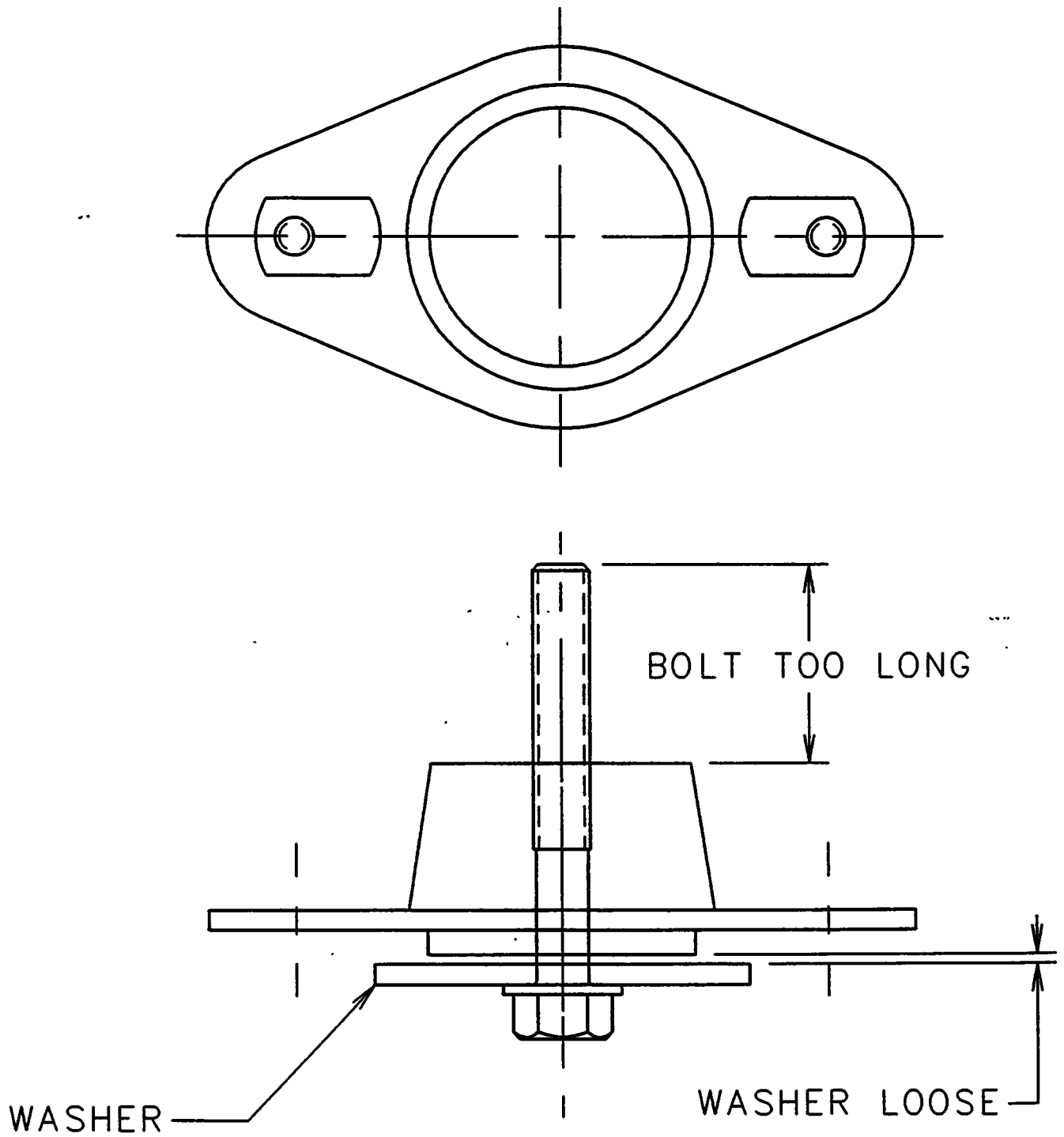


CORRECT CONFIGURATION



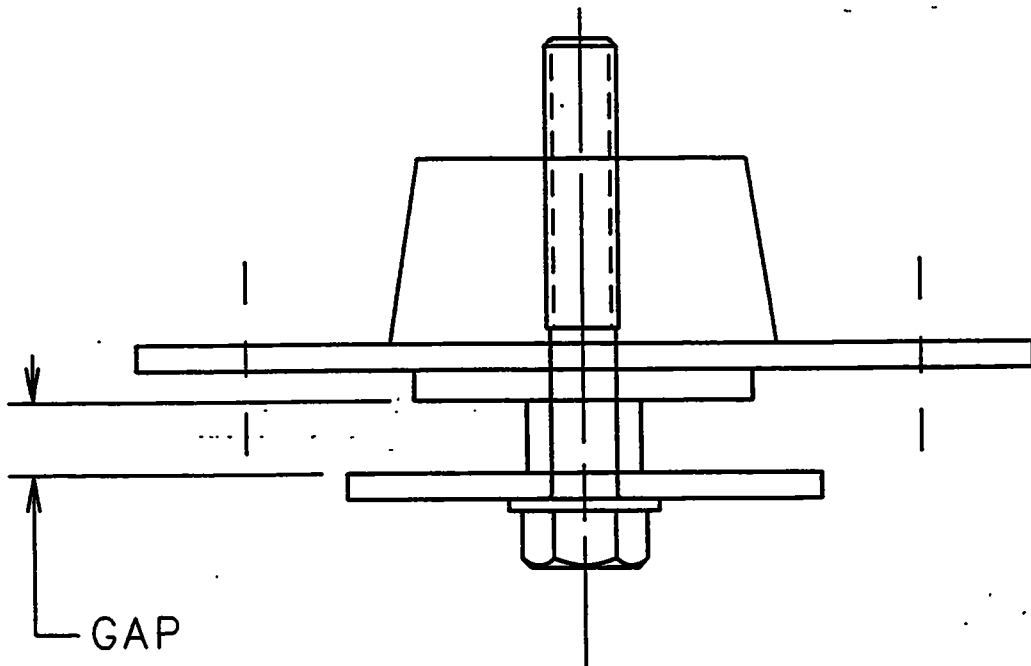
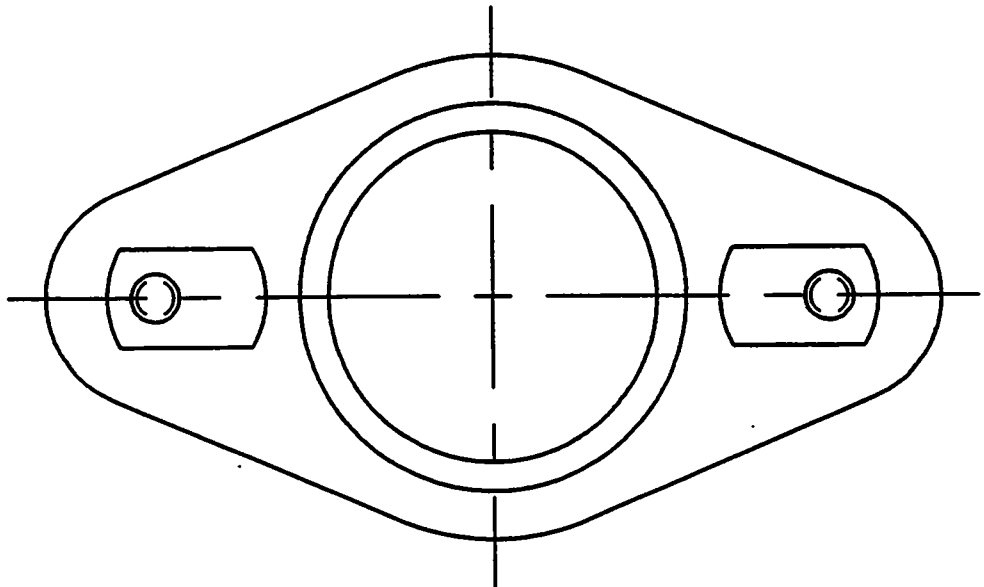
SNUBBER

INCORRECT VERSION



INCORRECT CONFIGURATION

FIGURE 4



INCORRECT CONFIGURATION



Product Support Bulletin

Date: 2/26/99

Page 1 of 1

Bulletin No. 660

Subject: Porosity in Engine Blocks

Effective: Immediately

Model(s) or Series: Onan Industrial Engines and Engines Used on Generators

Warranty return goods analysis has revealed that a high percentage of engine blocks and generator sets replaced for oil leaks due to porosity in fact had other oil leak sources. Some of the oil leak sources were loose oil filters, missing/loose bolts in gear case cover, loose/damaged oil pans, oil seals, etc. These oil leak sources should have been easily detected and repaired without an engine block or set replacement.

As of the date of this PSB, warranty claims for replacement engine blocks or generators with oil leaks due to porosity will not be processed until the root cause of the leak has been verified by the use of an oil dye and a black light. Clean all suspect areas and add dye to crank case according to manufacturer's directions. Start and run the set and, using the black light, look for the oil leak source. If source of the leak cannot be seen, stop the engine, pull the spark plugs, crank the engine over using a large, but low rpm, electric drill. To do this, remove flywheel and install its mounting bolt in crankshaft. Attach a short rubber hose that fits tightly over the flywheel mounting bolt and spin the engine over. One may also be able to turn the engine over from the rear end of the crankshaft or the generator end. This will pressurize the lubricating system and neither the sheet metal nor flywheel, need to be in place to keep the engine cool. The front oil seal/gear case cover area are easily observed. Fix any leak not related to porosity. Verify the fix with a black light after repairs have been performed. Blocks with confirmed porosity should be replaced, tagged and the area of porosity marked or identified with a permanent marker.

Dealers should check with their distributor for possible purchase sources and part numbers for oil dye and black light assemblies. Any returned block found not to have porosity will be returned to that dealer/distributor and said account will be debited accordingly.

A handwritten signature in cursive script that reads 'Richard L. Dassinger'.

Richard L. Dassinger
Sr. Technical Service Rep
Power Generation Americas



Product Support Bulletin

Date: 12/17/99

Page 1 of 2

Bulletin No. 661

Subject: Floorcare P248 Performance Issues
(Propane Tanks)

Effective: Immediately

Model(s) or Series: Performer 248V Floorcare Engine

If you have a P248V displaying any of the following symptoms, you may have a restricted fuel flow from the tank.

1. Inability to achieve or maintain high idle speeds
2. Rough running above low idle RPM
3. Poor, low, or no power
4. Extreme heating of the muffler/catalyst
5. Unexplained engine shutdowns

Manufacturers of propane tanks were required to install an Overfill Protection Device (OPD) on most 4-44 lb. size tanks, beginning in April of 1998. Tanks with an OPD can be identified by their non-removable triangle shaped handle with OPD stamped on the valve (see picture on page 2).

The OPD is a safety device that incorporates a small float valve with an orifice the size of a #56 drill. Unfortunately, an orifice of this size will restrict the fuel flow out of the tank in high flow situations similar to what would be required to operate the P248V engine, which will pull fuel at a theoretical maximum rate of 7.41 lbs/hr or 160,000 BTU/hr.

Obviously there are other causes for the above symptoms as well; however, the tank on the buffer should be checked as part of the normal diagnostic routine. Care must be taken in choosing another tank for comparison testing since it too may have a questionable valve. For testing purposes, use a tank from a forklift truck because propane tanks used in this industry received an exemption from the OPD. If the tank is found to be the cause of the engine problem, then the customer should be informed of this OPD problem and advised to contact their buffer manufacturer for a replacement tank. Left unresolved, this tank issue can result in long-term engine problems, including premature catalyst failure.

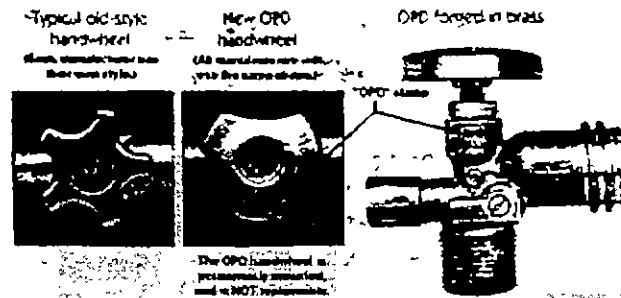
According to one tank manufacturer, this issue of tanks with the incorrect size orifice on the OPD was resolved, so new tanks should be back to full flow capabilities, but they could not say exactly when the problem was corrected.

Suspect tanks would have a date code between 4/98 and 4/99 and the manufacturer's name stamped in the handle of the tank.

Engine failures and repairs caused by tanks with this problem are not covered by warranty.

Brian Marier

Brian Marier
Technical Service Representative





Product Support Bulletin

Date: 2/16/2000

Page 1 of 1

Bulletin No. 662

Subject: Pro Series Portable Genset Fuel Caps
Part Number 327-1208

Effective: Immediately

Model(s) or Series: 5.0EGH and 6.0EGH Model Gensets
With H99, I99, J99, and K99 Date Codes

Onan has received reports from the field regarding issues with the fit and thread engagement of the 327-1208 fuel cap used on the Pro Series portable gensets. Testing revealed that this issue is confined to fuel tanks used on sets built during August, September, October, and November of 1999. During that time, we were transitioning from rotationally molded tanks to blow molded tanks. During the transition, a new rotational molding die was released, and the field reports affect only the tanks that came off of the new die. The tests also documented that, while the fit of this cap was not optimal, it did seal properly and perform as designed in all of our testing.

We have identified a new cap, Onan part number 327-1252, that satisfies all of our performance requirements, and also provides more thread engagement and better fit. Ten of the new 327-1252 caps will be shipped to each distributor location in the U.S. and Canada so that any customer requesting a replacement can get one quickly, without making another trip. These caps are to be provided at no charge to any customer who requests one. A copy of this bulletin will be included with the shipment.

NOTE: Post a copy of this bulletin in your Parts Department to ensure that counter personnel are aware of this program.

This bulletin is for informational purposes only.

A handwritten signature in black ink, appearing to read "David W. Sollars".

David W. Sollars
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 10/20/2000

Page 1 of 1

Bulletin No. 663a

Subject: Inverter Converter Replacement

Effective: Immediately

Model(s) or Series: HDKAJ, HDKAK, and HDKAT

Note: Bulletin 663 superseded by 663a. Discard Bulletin 663 immediately.

Onan is continuing to see that there is some confusion in the field selecting the correct replacement part for the inverter converter assembly.

Currently, if you have a HDKAJ or HDKAK Spec A through E, or a HDKAT Spec A, the correct service part number for the inverter assembly is 300-4800-96. If you have a HDKAJ or HDKAK Spec F or a HDKAT Spec B, the correct service part is 300-5295-96. These are the remanufactured units we have offered for some time; they are the most cost-effective alternative and have proven to be a robust repair.

NOTE: You must not use the 300-4800-96 inverter converter assembly in Spec F HDKAJ and HDKAK or Spec B HDKAT sets. The customer will experience conducted EMI levels significantly higher, which will result in poor TV reception.

Do not use the 300-5295-96 in HDKAJ or HDKAK Spec A through E or HDKAT Spec A sets unless the customer is transient, and the correct 300-4800-96 is not available. Using the 300-5295-96 in the earlier spec sets depletes the supply of cores to recondition for the newer sets, which must use this part number.

Post a copy of this bulletin in your Parts Department to ensure that counter personnel are able to select the correct replacement part for the customer.

This bulletin is for informational purposes only.

David W. Sollars
Manager, Field Service
Power Generation Americas



Date: 12/7/2001

Page 1 of 2

Bulletin No. 663b

Subject: Inverter Converter Replacement

Effective: Immediately

Model(s) or Series: HDKAJ, HDKAK, and HDKAT

Note: Bulletin 663a superseded by 663b. Discard Bulletin 663 and 663a immediately.

Onan is continuing to see that there is some confusion in the field selecting the correct replacement part for the inverter converter assembly.

Currently, if you have a HDKAJ or HDKAK Spec A through E, or a HDKAT Spec A, the correct service part number for the inverter assembly is 300-4800-96. If you have a HDKAJ or HDKAK beginning Spec F or a HDKAT beginning Spec B, the correct service part is 300-5295-96. These are the remanufactured units we have offered for some time; they are the most cost-effective alternative and have proven to be a robust repair.

NOTE: You must NOT use the 300-4800-96 inverter converter assembly in HDKAJ or HDKAK beginning Spec F or a HDKAT beginning Spec B sets. The inverter will experience significantly higher conducted EMI levels, which will result in poor TV reception and the claim will be denied as this is an incorrect repair.

Do not use the 300-5295-96 in HDKAJ or HDKAK Spec A through E or HDKAT Spec A.

Provide a copy of this bulletin to your service writers, warranty administrators and post a copy in your parts department to ensure that counter personnel are able to select the correct replacement part for the customer.

Failing to select the proper replacement inverter for repair can result in Warranty CLAIMS BEING DENIED.

This bulletin is for informational purposes only.

David W. Sollars
Manager, Field Service
Power Generation Americas

**HDKAJ SPEC A-E
HDKAK SPEC A-E
HDKAT SPEC A**

INVERTER 300-4800-96

**HDKAJ BEGINNING SPEC F
HDKAK BEGINNING SPEC F
HDKAT BEGINNING SPEC B**

INVERTER 300-5295-96



Product Support Bulletin

Date: 4/10/2000

Page 1 of 1

Bulletin No. 664

Subject: Unstable Engine/Generator Operation

Effective: Immediately

Model(s) or Series: BGE/NHE and BGM/NHM

One cause of hunting can be a vacuum leak in the intake system. This will allow extra air to enter the system and upset the air/fuel ratio, which can cause a hunting or surging condition.

During troubleshooting, make sure you check the intake manifold and gaskets. Start the engine and run it for a short period of time (2-5 minutes) to somewhat stabilize the engine and ensure the choke is fully open. Load the set to about ¼ load. This is the point the engine creates the most vacuum. Obtain a siphon type laboratory squeeze bottle or other appropriate container like a dish soap bottle. Bottles with a trigger that disperse a spray or mist will not work effectively. Direct a flow of water to all gasketed manifold surfaces. These points are where the carburetor attaches to the manifold and the manifold attaches to the block. The manifold is a two-piece assembly that is glued together. This assembly point should also be checked using the same method. The most common seam leaks, but by no means the only ones, are the backside of the carburetor flange and about two inches down from the flange on either side of the assembly. If the engine changes speed when the stream of water is applied, that point is where the vacuum leak is occurring. If it is a gasket surface, disassemble the components, clean the surface, check for machining/casting defects, reassemble, and retest. If the manifold assembly is leaking, it must be replaced.

Other commonly used leak detection media are carburetor cleaners, electrical contact cleaners and WD-40. The carburetor cleaners and contact cleaners evaporate very fast and leave very little residue behind. They are flammable and should not be used on a hot engine. WD-40 will also work, but leaves behind a sticky, oily residue that can attract dirt and dust. Never use starting fluids. Use appropriate safety equipment and follow safety warnings, cautions and instructions printed on container labels for the leak detection medium being used.

Standard warranty applies.

A handwritten signature in black ink that reads 'Richard L. Dassinger'.

Richard L. Dassinger
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 4/10/2000

Page 1 of 1

Bulletin No. 665

Subject: Overcrimped Wire Terminal

Effective: Immediately

Model(s) or Series: BGE and NHE (Emerald)

Build Date Range: March 1-31, 2000

Issue:

During production, some voltage regulators may have been assembled with an overcrimped terminal on the black lead attached to the voltage regulator capacitor. The terminal in question attaches the black lead (C5-J4-6) to the capacitor (C5) spade terminal. This terminal may partially or completely break away from the lead, causing a poor connection or open circuit, which could result in low or no AC voltage output.

Corrective Action:

If a BGE or NHE built between March 1-31, 2000 shows symptoms of low or no AC voltage output, inspect the terminal to make sure a good connection is present. If the terminal was overcrimped during assembly, there will be a crease mark across the termination point, or the connection may actually be separated. If either condition is present, replace the black lead. The part number for this black lead is 226-3461-02.

Affected Serial Numbers:

All BGE and NHE gensets that have a serial number beginning with C00 may be subject to this concern, except for the following serial numbers/gensets which were reworked at the plant and do not need further repairs:

C000079234 – C000079298

Standard warranty applies.

Clint Howitz
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 5/26/2000

Page 1 of 2

Bulletin No. 666

Subject: Unexplained Generator Shutdowns

Effective: Immediately

Model(s) or Series: Quiet Diesel Generators, but Possibly any Generator

Possible Symptom:

Generator shuts down or starts without command from the operator.

Note: A fault code may or may not be registered. For example, Code 36 (Generator shut down without a command from the controller).

Background:

Some coaches are equipped with control systems that automatically start and stop the generator based on battery voltage and/or air conditioner demand. Most of these systems are made by Trace Engineering or Heart Interface and are installed by coach manufacturers. The control panels are combined with the inverter/charger controls inside the coach and are connected to the generator remote control via the coach wiring harness.

The Trace system is called RC7GS (GS for genstart). Trace also makes a RC7 inverter/charger controller, which does not have auto start capability. The RC7GS system monitors battery condition and starts the generator when voltage drops to a preset (and programmable) value. The generator continues to run until the battery charger has charged the batteries to a higher preset voltage (also programmable), then shuts off the generator. If the auto control feature is enabled, it will stay enabled until the operator disables it as the RC7GS control. If the generator is started at the genset-mounted start/stop switch while the auto system is still enabled, the generator will shut down as soon as the batteries are charged, which may be almost immediately after start-up. If the generator is started manually at the RC7GS panel, it will stay running until receiving a (manual) stop command from that panel.

The Heart system is called AGC (auto genstart). This system also monitors battery condition and starts the generator on low voltage (preset at 11.5 volts). The genset then runs for two hours, even if battery voltage is increased before that. After two hours, the genset shuts down unless battery voltage is still below 11.5 volts. If so, the generator will run two more hours and then shut down regardless of battery voltage. The Heart system also monitors air conditioner demand and starts the generator when AC is called for. In that case, the generator continues to run as long as there is AC demand.

Solution:

Be aware that an auto start system may be installed in a coach being serviced. Auto systems must be disabled for genset servicing.

Warning!: Failure to disable the auto start system can result in the set starting during service and cause severe personal injury or death.

To disconnect the generator from the auto system, unplug the remote harness at the generator. This will also isolate the genset to allow for diagnosis and service.

Some coach owners may not realize their coach is equipped with automatic controls. Because the genset could be started in areas where exhaust gas could accumulate in dangerous quantities, owners should be made aware that they have these systems and how to operate them. The coach should come with operating manuals for the (Trace or Heart) inverter/charger and controller. Owners should insist that the coach dealer offer training on how to operate auto genstarting controls, as well as how to adjust battery charger output. If the dealer cannot help, the owner should contact the inverter/charger control manufacturer, i.e., Trace or Heart.



Michael J. Fair
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 6/23/2000

Page 1 of 1

Bulletin No. 667

Subject: Fuel System Hose Clamps

Effective: Immediately

Model(s) or Series: HGJAA, HGJAB, HGJAC

We have specified the use of stainless steel stepless ear clamps on all the fuel system connections. Onan uses Oetiker brand clamps of that style, but any brand of stainless steel stepless ear clamps can be used. In the course of repairing or troubleshooting the above-mentioned generator models, the replacement clamp must be that style as well. Do not use screw- or worm-drive type clamps. The ear clamp provides a better seal with a longer life span, is less likely to leak when subjected to large ambient temperature swings, and is less likely to damage the fuel line. Installing stepless ear clamps will require a special pliers type tool that is available from your local tool vendor and many automotive parts retailers.

This bulletin is for informational purposes only.

A handwritten signature in cursive script that reads 'Richard L. Dassinger'.

Richard L. Dassinger
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 3/16/2001

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Bulletin No. 668a

Note: Bulletin 668 superseded by 668a. Discard Bulletin 668 immediately.

Subject: Injection Pump Timing Adjustment
Required for Speed Conversion

Effective: Immediately

Model(s) or Series: MDKUB (Kubota Z482) Spec F & MDKWB (Kubota D722) Spec F

Due to a specification change for engine emission certification (EPA 2000), a change in the procedure for a speed conversion is required.

!WARNING: Improper service procedures can cause severe personal injury or death. Review important safety precautions in the service manual before starting the procedure. To prevent accidental starting while working on the engine, remove negative (-) battery cable.

When converting a unit from 60 Hz to 50 Hz, the following steps must be performed:

- Remove injection pump from engine in accordance with the service manual.
!CAUTION: Cover crankcase opening to prevent debris from entering. Debris can cause substantial equipment damage.
- Install (add) .2mm shim, Onan p/n 185-6735, under injection pump.
- Reinstall injection pump into engine in accordance with the service manual.
!CAUTION: Ensure gasket (shim) is dry and in sealing position before securing pump into position. A leaking gasket can cause an oil leak, resulting in a fire hazard and possible equipment damage.
- Wipe up any fuel or oil that may have splashed during shim change-out.
!WARNING: Fuel is flammable. Keep all flames, cigarettes, sparks, pilot lights, arcing switches and equipment, and other sources of ignition out of the area and areas sharing ventilation. Used engine oil is known in the State of California to cause cancer. Wear protective gloves and avoid breathing vapor.
- Reconnect negative battery cable and run engine to set engine speed at 52.5 Hz (3150 RPM) no load. Check for fuel and oil leaks. Change frequency select on regulator to 50 Hz. Adjust voltage for proper output 110/220, 115/230, or 120/240 VAC, depending on the application.
- Important: Document serial number and forward to Onan Marine Field Service for recording purposes.
Note: This is a Kubota requirement for EPA regulations.

PSB 668a
3/16/2001
Page 2 of 2

When converting a unit from 50 Hz to 60 Hz, reverse the above procedure and make the following adjustments:

- **Run engine to set engine speed at 62.5 Hz (3750 RPM) no load and check for leaks. Change frequency select on regulator to 60 Hz. Adjust voltage for proper output 120/240 VAC.**

NOTE: Continue to use PSB 622 for engines prior to Spec F.

This bulletin is for informational purposes only.



Greg L. Prussman
Sr. Technical Service Representative
Power Generation Americas



Date: 6/6/2001

Page 1 of 2

Bulletin No. 668b

Note: Bulletin 668a superseded by 668b. Discard Bulletin 668a immediately.

Subject: Injection Pump Timing Adjustment
Required for Speed Conversion

Effective: Immediately

Model(s) or Series: MDKUB (Kubota Z482) Spec F & MDKWB (Kubota D722) Spec F

Due to a specification change for engine emission certification (EPA 2000), a change in the procedure for a speed conversion is required.

!WARNING: Improper service procedures can cause severe personal injury or death. Review important safety precautions in the service manual before starting the procedure. To prevent accidental starting while working on the engine, remove negative (-) battery cable.

When converting a unit from 60 Hz to 50 Hz, the following steps must be performed:

- Remove injection pump from engine in accordance with the service manual.
!CAUTION: Cover crankcase opening to prevent debris from entering. Debris can cause substantial equipment damage.
- Install (add) .2mm shim, Onan p/n 185-6735 (MDKUB) or p/n 185-6749 (MDKWB), under injection pump.
- Reinstall injection pump into engine in accordance with the service manual.
!CAUTION: Ensure gasket (shim) is dry and in sealing position before securing pump into position. A leaking gasket can cause an oil leak, resulting in a fire hazard and possible equipment damage.
- Wipe up any fuel or oil that may have splashed during shim change-out.
!WARNING: Fuel is flammable. Keep all flames, cigarettes, sparks, pilot lights, arcing switches and equipment, and other sources of ignition out of the area and areas sharing ventilation. Used engine oil is known in the State of California to cause cancer. Wear protective gloves and avoid breathing vapor.
- Reconnect negative battery cable and run engine to set engine speed at 52.5 Hz (3150 RPM) no load. Check for fuel and oil leaks. Change frequency select on regulator to 50 Hz. Adjust voltage for proper output 110/220, 115/230, or 120/240 VAC, depending on the application.
- Important: Document serial number and forward to Onan Marine Field Service for recording purposes.
Note: This is a Kubota requirement for EPA regulations.

**PSB 668b
6/6/2001
Page 2 of 2**

When converting a unit from 50 Hz to 60 Hz, reverse the above procedure and make the following adjustments:

- **Run engine to set engine speed at 62.5 Hz (3750 RPM) no load and check for leaks. Change frequency select on regulator to 60 Hz. Adjust voltage for proper output 120/240 VAC.**

NOTE: Continue to use PSB 622 for engines prior to Spec F.

This bulletin is for informational purposes only.



**Greg L. Prussman
Sr. Technical Service Representative
Power Generation Americas**



Product Support Bulletin

Date: 7/21/2000

Page 1 of 1

Bulletin No. 669

Subject: Flywheel Magnets and Alternator
Stator Failures

Effective: Immediately

Model(s) or Series: Performer Engines, Spec H,
Manufactured in 1998, 1999, and 2000

The Service Department has received reports from the field of the flywheel magnets and the alternator stator coming in contact with each other and damaging both components. The reports also state that after servicing the engine and replacing both the flywheel and stator, a repeat failure sometimes occurs.

The problem with interference between the flywheel magnets and the stator may be due to an improperly machined gearcase. There are two areas on the gearcase where machining discrepancies have been detected which could cause this failure; they are the dowel pin alignment holes and the alternator pilot diameter. If either of these areas are off center, the failure described above may occur.

Onan recommends a new gearcase be installed as a part of the repair whenever servicing an engine for the initial failure due to flywheel magnets and stator contact. Also, before installing the flywheel, check the magnets for proper adhesion. Make sure the magnets are securely adhered to the flywheel and the glue is dry to the touch. Use caution when checking the magnets, as they are brittle.

!WARNING: Accidental starting of the engine can result in severe personal injury or death. Disconnect the battery negative (-) cable and remove the spark plugs before proceeding. See the service manual for important safety instructions.

After installing the new components, check for any rubbing or contact noise by turning the engine over by hand. If this checks okay, then test run the engine for one hour.

Standard warranty applies.

A handwritten signature in cursive script that reads "Brian Marier".

Brian Marier
Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 9/8/2000

Page 1 of 1

Bulletin No. 670

Subject: Leaking Fuel Filters

Effective: Immediately

Model(s) or Series: BGE/BGD and NHE/NHD

Possible fuel leaks have been reported on the Emerald series and the 4500 and 6500 Commercial sets with serial numbers ranging from A00xxxxxxx through H00xxxxxxx. The fuel filter reportedly leaks around the crimp/seal. As always, whenever servicing a genset, investigate and correct any fuel leaks detected. On generators with a serial number within the above stated range, replace the fuel filter if any one of the following conditions exist.

- The fuel filter is leaking fuel.
- The fuel filter does not have a date code/made in USA ink stamp on the body and the generator has less than 20 hours of run time.

All 149-2333 filters in service parts that were received between November, 1999 and August, 2000 should be returned to Onan for credit, and new ones ordered.

Distributors, please contact your MDC Customer Support Rep. for a RGA number. Dealers, please contact your Distributor to return these filters.

This bulletin is for informational purposes only. Standard warranty applies.

A handwritten signature in cursive script that reads 'Richard L. Dassinger'.

Richard L. Dassinger
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 1/26/2001

Page 1 of 1

Bulletin No. 671a

Subject: Rotor Replacement Procedure

Effective: Immediately

Model(s) or Series: HDCAA/B/C RV and HDKAX Commercial Gensets

We have analyzed several sets that have had a rotor replacement and later have had another rotor fail, along with additional components like the stator and end bell.

The following is a description of the components at issue:

- The opening in the end bell for the rotor bearing shows considerable wear.
- The "O" ring is either missing or damaged.
- The rotor and stator lamination stacks have been damaged because they made contact when the set was running.
- The drive disc is warped in areas around some of the mounting holes.

The problem appears to be with the installation process of the rotor when originally replaced. If the rotor is not fully seated against the inside of the flywheel pilot bore when the rotor mounting capscrews are installed and tightened, it can cause side loading when the set is fully assembled. This side loading causes the end bell bearing opening to wear prematurely and the excessive clearance between the end bell and bearing will allow the rotor to contact the stator.

The rotor is heavy and must fit into the flywheel pilot bore and seat flat against the flywheel, so we recommend the use of guide studs. Install two guide studs into the engine flywheel at approximately the 2:00 and 10:00 position. This will make the rotor assembly easier to handle by supporting much of the rotor weight when slid onto the guide studs. It also makes it easier to hold the rotor steady and install the capscrews in the flywheel mounting holes. Guide studs can be purchased from your local tool vendor. The thread size is M8 x 1.25. You can also make your own studs by cutting the head of a capscrew off, cut a screw driver slot in the cut end of the capscrew, and finish off by putting a chamfer on the top to break the sharp edges.

Next, with the guide studs installed and rotor resting in place, loosely install a capscrew through the fan and drive disc hole and into the engine flywheel mounting hole in the 12:00 position. Now with the bottom edge of the drive disc resting on the inside of the flywheel pilot bore, install a capscrew in the 6:00 position. Tighten until snug. Install remaining capscrews and also tighten just until snug.

Note: Before drawing the screws up tight, ensure the drive disc fits properly and fully into the flywheel pilot bore and is seated flat against the flywheel.

Once all open mounting holes are filled and capscrews are snug, remove the guide studs and install the remaining capscrews. Torque all capscrews to 24-32 ft-lbs using a crossing pattern. Complete the assembly of the generator and test run the set before returning the set to the customer.

Standard warranty applies.

Richard L. Dassinger
Sr. Technical Service Representative
Power Generation Americas



Product Support Bulletin

Date: 1/26/2001

Page 1 of 2

Bulletin No. 672

Subject: Protection Against Income Loss Due to
Denied Warranty Claims

Effective: Immediately

Model(s) or Series: All Gensets and Engines

If a genset has a surging or hunting problem that can be traced to the fuel system, the root cause is probably not a warrantable failure. An evaluation of 30 carburetors returned in August of 2000 showed 45% failed due to fuel varnish, although they were not coded as such. Component failures due to fuel varnishing are not covered under warranty. Protect yourself from an income loss due to warranty claim denials. Prepare the customer for the possibility of a repair bill on a set that is still within the warranty timeframe.

Background:

When the RV is stored over the winter, or isn't operated often enough to run a number of gallons of gas through it every month, it will start to develop fuel varnish. It can clog the fuel pump and/or the carburetor. Emptying the tank won't prevent varnishing, because a small amount of fuel always remains in the genset fuel system. Fuel varnishing affects any engine. It's more noticeable in gensets because of the size of the engines. A slight decrease in efficiency can have a huge impact on performance of the set. A genset may start that has a varnish issue, but sometimes will surge or hunt at various loads. It will surge or oscillate between accelerating or decelerating of the engine speed, and never settle on a certain operating speed. Since speed affects the output voltage, surging greatly hampers the genset from providing stable electricity.

Recommendations:

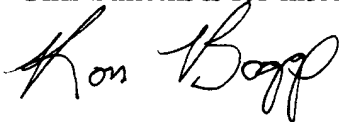
In the Operator's Manual under the section "Generator Set Exercise", it states the set should be run with at least a 50% load for two hours every four weeks. A two hour run time every four weeks is better than one half hour every week. This load level and timeframe allows the engine to reach normal operating temperature. When the set reaches operating temperature, moisture that has accumulated in the crankcase is expelled through the breather system, and any accumulated moisture in the generator windings is dried and exhausted with the cooling airflow. The longer run time will also help keep the fuel system cleaner and the remaining fuel in the carburetor and fuel pump will be fresher.

As an additional preventative measure, we recommend the use of OnaFresh GXLP, Onan P/N 326-5365, when the set or coach is not going to be used for an extended period of time, and the long-term storage procedure is not going to be followed, or isn't practical. This is a fuel additive formulated for long-lasting protection against gasoline and diesel fuel breakdown. It protects against gum and varnish formation and fuel system corrosion. One bottle will treat 40 gallons of gas. You can buy this product at any Cummins/Onan distributor. There are also other similar products that can be purchased from your local auto parts retailer. The use of these products does not guarantee that fuel varnishing will not occur; however, it extends the timeframe that the fuel remains stable. Other factors that must be taken into consideration are ambient temperatures and oxygen levels. Exposure to high ambient temperatures and high levels of oxygen in the fuel or atmosphere can speed up the fuel deterioration process.

A number of gensets and engines have an issue with running rough or surging, and even plug fouling. These problems can occur on a set that has very low hours or has not been run under a load recently. When a customer comes into your shop with these symptoms, prepare him for the reality that he may be charged for any work performed on the engine. Most of the time, the root cause is fuel varnishing. A carburetor or fuel pump that has failed due to fuel varnishing is not covered under warranty. Explain to the customer why the repair may not be covered under warranty. It is recommended that the customer take steps to resolve the problem before bringing the set into the shop for repair. Suggest that the customer try using a fuel system cleaner on the set, such as the Premium Fuel System Cleaner that we market under p/n 326-5342. The customer can choose to purchase a similar item from a local auto parts retailer. If the customer does not have the time or desire to resolve the issue on his or her own and insists you solve the problem, at least they will be prewarned that they may be responsible for the repair costs incurred.

Warranty returned carburetors will be audited.

This bulletin is for informational purposes only.



**Ron Boggs
Sr. Technical Service Representative
Power Generation Americas**



Product Support Bulletin

Date: 3/16/2001

Page 1 of 1

Bulletin No. 673

Subject: Enhanced Engine Mount System

Effective: Immediately

Model(s) or Series: MCGBA, MCGCA, MCGGA, MCGDA, MCGDB, MDGDA, MDGDB, MDGDC & MDGDD

Problem:

Enhanced mount option (F157) used with PTO (A348-2 & A357-2). It has been determined, due to a variability in hydraulic pumps used on PTO optioned gensets, it is possible to overload the front engine mounts from excessive weight. The overloading can compromise longevity of the mount. An overloaded mount will transmit vibration to the generator surroundings with its reduced effectiveness, resulting in customer dissatisfaction and complaints of vibration.

!WARNING: Improper service procedures can cause severe personal injury or death. Review important safety precautions in the Service Manual before starting procedure. Prevent accidental starting while working on engine. Remove negative (-) battery cable. Use properly sized lifting equipment to raise and support engine while replacing mounts. Approximate weight to be lifted and supported is 1500 lbs (680 Kg).

When the mounts are determined to be overloaded:

- Lift engine off front mounts and support to change mount assemblies.
- Remove (2) mounts 0402-0630-11.
- Install (2) mounts 0402-0630-12.
- Lower engine onto mounts and secure.
- Test run engine for proper operation.

Note: Gensets built after January 31, 2001 (B010XXXXXX) already have 0402-0630-12 mounts installed.

This is an application performance issue and is not considered a failure. Warranty does not apply.

This bulletin is for informational purposes only.


Greg Prussman
Sr. Technical Service Representative
Power Generation Americas

Date: 10/5/2001

Page 1 of 2

Bulletin No. 674

Subject: Oil Carryover into Carburetor

Effective: Immediately

Model(s) or Series: HGJAA Marquis Platinum, HGJAB Marquis Gold,
HGJAC Emerald Advantage

Oil carryover is a condition where oil is being carried to the air filter through the breather system of the engine. This condition can be identified by the presence of an oily air filter, or a light stream of oil starting to run out of the air filter housing. This condition does not reveal itself on this engine model until the breather compartment in the cylinder head fills up with oil and the oil cannot drain back into the engine.

It has been determined the breather manufacturer had omitted the 1.2mm oil drain hole in the breather plate. A number of these breathers were installed in Onan generator engines, serial number range: G000130903 - E010235812. This will result in oil carryover to the air filter element after 50 - 100 hours of operation with the set loaded to 75% or greater.

Repair:

To repair these sets you must install Onan kit part number 541-0678. To access the set open the coach generator compartment door and remove the service door from the cover if so equipped. Remove air cleaner assembly, breather cover, breather plate and two breather gaskets. You then install the new breather plate and the two new breather gaskets. Reinstall the breather cover with the two flange bolts. Remove and replace the gasket between the carburetor and the air cleaner housing. Next reattach the air cleaner housing to the engine, install new air filter element and reinstall the air cleaner cover and service door. Place the campaign complete indicator decal on the base pan near the nameplate. The entire repair can be performed through the generator compartment opening on the coach and the service door of the generator cover, if so equipped. It does not require generator removal from the vehicle.

Standard Warranty Applies

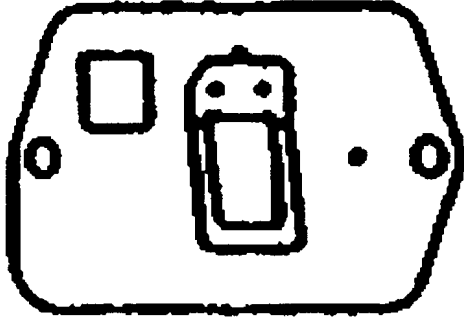
Fail code: OBBAMM

Campaign: #294

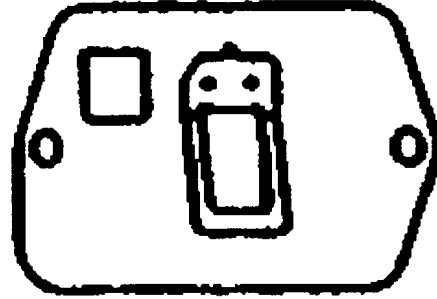
Account Code: #65

Maximum Repair Time: 1 hour

Serial Number Range: G000130903 - E010235812



Correct Breather with Hole



Incorrect Breather Missing Hole

Richard L. Dassinger

Richard L. Dassinger
Sr. Technical Service Representative
Power Generation Americas



Date: 1/14/2002

Page 1 of 1

Bulletin No. 675

Subject: Mismachined Camshafts on
Performer OHV Engines

Effective: Immediately

Model(s) or Series: P220 GI OHV 786A For Use on Hobart Welder
P220 GI OHV 2252A For Use on Miller Welder
P220 GI OHV 1145A For Use on Lincoln Welder

Serial Number Range: Specific Serial Numbers with Prefix of H01, I01, and J01

The above engine models with a serial number prefix of H01, I01, or J01 may have been manufactured with camshafts that were mismachined. This could lead to premature failure of the gearcase bearing and camshaft journal.

Onan is working with our OEM partners to identify which serial numbers with these prefixes are affected. All suspect engines in OEM inventory and welder assemblies in OEM distributor stock will be returned to the engine manufacturer for rework. Customers who have purchased a welder that may have one of these engines will be notified by the OEM, where possible, to return them to an Onan authorized service center for an engine replacement.

Welder engines not returned for repair during this initial contact will be replaced as needed on a fix as fail basis. Affected engines may display the following symptoms:

- Inability to maintain valve lash
- Low power
- Crank/cam gear damage
- Internal engine noise
- Governor gear failures

Please contact your Onan warranty administrator with the serial number for an authorization number prior to replacing any engine.

Standard warranty will apply.

Brian Marier
Technical Service Representative
Power Generation Americas



Date: 5/24/02

Page 1 of 3

Bulletin No. 676

Subject: Set Starts & Runs & Dies When Switch
Is Released and Gives a Fault Code 32.

Effective: Immediately

Pin Connectors/Pin Sockets on All RV Sets
With Micro Processor Controls.
Stator/Rotor Tester for KY Spec J & newer,
HGJAB, HGJAC, and Home Standby GHAB series.

Model(s) or Series: All RV Products with Micro Processor Controls.
KY Spec J & Newer, HDCAA/B/C, HGJAA/B/C/D/E/F
And Home Standby Series GHAB with Fault Code 32 Failures

This PSB addresses three different issues that are related and can have similar or the same root cause.

ITEM #1: Set Starts & Runs & Dies When Switch is Released and Gives a Fault Code 32
(Low Cranking Speed) For All RV Sets With Micro Processor Controls

If the set starts, runs, shuts down, and the control is giving a fault code 32, the problem isn't with the start circuit and may not be the control. If the start circuit wasn't working properly, the set would not have started in the first place. The control is looking for a frequency from the quadrature winding. From this signal the control determines the speed at which the generator is operating. If there isn't any signal, it assumes the set is not running or has a slow cranking speed. Since we know cranking speed is not the issue because the set did start and run, then it must be assumed that the generator is not producing proper AC output or this output is not being delivered to the control.

Testing Controls:

300-5046: KY & MKY series spec J & newer

300-5374: HGJAB/C RV carburated sets

300-5428: GHAB series Home Standby

First you need to check the control for potentially two failed diodes. With a digital multimeter on the diode test setting, connect the negative lead to P1-1. You should get a reading between 0.4 - 0.7 vdc when connecting the positive lead to P1-10 and then to P1-16.

Testing Controls:

300-5503: HGJAA EFI RV sets

300-5047: HGJAD/E/F Commercial sets

On these controls the same type of diode check is done between P1-1 (negative lead) and P1-14 (positive lead).

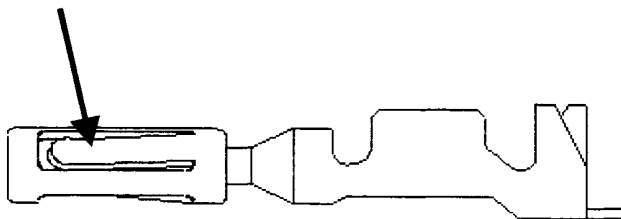
Your next step should be to check the rotor and stator windings for opens, shorts, grounds and loose or poor connections. You should also check the leads that bring the quadrature voltage to the control. Before testing leads, read the next section about Pin Connectors/Pin Sockets. The by-pass tester described below can be used to perform these tests on some genset models.

ITEM #2: Pin Connectors/Pin Sockets on All RV Set With Micro Processor Controls.

It has come to our attention that during normal troubleshooting procedures of generators and controls, it is common practice for technicians to separate connectors and probe pin sockets with test instrument probes or other "makeshift" probes.

We have discovered that unintentional damage to the inner portion of the pin socket contact can create a secondary problem after the first failure is corrected, or worse, can mislead the technician in the troubleshooting process.

In the example below, a pin socket connector used in the KY and the HGJAA, HGJAB, and the HGJAC series generators, you can see how the wiper portion of the connector is designed to contact the mating pin below the end or entrance of the connector. The damage occurs when the sharp test probes dislodge or spread the wipers and they may not return to their original position. The result is a loss of proper contact which can cause an open or intermittent connection.



Possible solutions might include using the test points of the tester tool #420-0603, use mating pin connector, a pin gauge the same size .045" as the mating control connector pin, or any suitable device that will not damage the inside contact wipers of the pin socket.


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5/24/02
Page 3 of 3

ITEM #3: Stator/Rotor Tester for KY Spec J & newer, HGJAB, HGJAC, and Home Standby GHAB series.

We now have a tester available that will allow you to start & run the engine without the control. It will enable you to perform the following tests on the stator and rotor assemblies of the above mentioned sets.

- Check for flying short to ground in the rotor**
- Check for open/shorted rotor windings**
- Check for open/shorted main and quad windings**
- Perform dynamic tests on the rotor & stator at 12 vdc or 24 vdc**
- Bypass the control to troubleshoot engine problems.**

The cost is approximately \$85.00. The tester part number is 420-0603 and is set up on the system. The tester was a joint effort between the Service and EPA/Reliability departments at Onan. Currently this tester will not work on the HGJAA/AD/AE/AF series gensets.


Richard L. Dassinger
Sr. Technical Service Representative
Power Generation Americas



Date: 10/10/03

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Bulletin No. 678

Subject: Generator Equipped Coaches
Built on 2003 GM Chassis

Effective: Immediately

Model(s) or Series: All Gasoline Fueled RV Generators

Onan has learned that, effective model year 2003, General Motors changed the fuel system on Class C chassis and Class B vans. Pressure in the return line, which some installers of gensets use to supply fuel to the generator, had been near zero for model years 2002 and before. The 2003 chassis has much higher pressure – GM says it may be as high as 18 psi. The maximum fuel inlet pressure for Onan generators as specified in our manuals is 1½ psi. Since GM did not notify motorhome builders of the change, some generators installed on early 2003 GM chassis that utilize the vehicle fuel return to supply the set might have fuel pressures exceeding our design limits.

We are concerned about the potential safety and performance issues involved, so we asked OEMs to take the following actions on any installations using the vehicle fuel return for generator fuel supply:

- Until further notice, do not connect fuel lines to Onan generators on 2003 GM chassis.
- Units already built should have generator fuel lines disconnected and capped.
- Owners of units already in the field should be contacted and instructed that the generator should not be operated, primed or attempted to start unless the vehicle engine is OFF.

SYMPTOMS:

- Operating the generator while the vehicle is running will stall the generator due to overfueling.
- Starting or priming the generator with the vehicle running may result in fuel overflowing from the carburetor, flooding the engine and spilling fuel into the generator, compartment and ground.

If you have a genset experiencing the above symptoms, inspect fuel supply and test pressure. If affected, we encourage you to contact the coach manufacturer to see what solutions they propose.

We have learned that some RV manufacturers are considering, or are already using, a pressure regulator to reduce fuel pressure at the generator on 2003 GM chassis. We want to explain Onan's position with regards to gasoline fuel pressure regulators.

We have conducted extensive testing since this issue surfaced. Our results, and previous experience with gasoline pressure regulators, give us little confidence in the performance or reliability of them.



It will be Onan's policy that any generator service found to be caused by the operation or failure of a fuel pressure regulator will not be covered under warranty. RV owners requiring service caused by regulator operation will be billed for the service.

We are also concerned with the long term safety of fuel pressure regulators due to the nature of their design. If the internal diaphragm fails, they leak fuel out the vent. In this particular case, fuel will spray out the vent in large quantities because of the pressure in the line.

Repair:

Certain models of repair kits are now available from Transfer Flow, Inc. Kits for full body vans and cutaway chassis with 35 gallon fuel tanks have been designed and are available now. A kit to fit the 57 gallon tank cutaway chassis is complete and is TFI part number 020-01-12325. The 2004 vans or chassis are different than the 2003 units. Kits for the 2004 models are currently in the design and test stage of development.

Transfer Flow worked hard to design and produce the kits and Onan worked hard to test them in a variety of installations and operating conditions. We found that when the kits are installed according to TFI instructions the genset operates well, is not affected by the vehicle fuel system, and there is approximately ¼ tank left in reserve when the generator runs out of fuel. Properly installed, these kits offer a good solution to the problem of pressurized fuel lines as it relates to the operation of Onan gensets. We believe this is a much better solution than using fuel pressure regulators to solve the problem.

Transfer Flow may be contacted at:

Transfer Flow, Inc.
1444 Fortress St
Chico, CA 95973
Phone: 1-800-442-0056
Fax: 530-893-2353
Contact name:
Sales; Ben Winter, ext. 11

Onan will continue to work with the servicing shop, the coach manufacturer and GM to find a qualified, reliable solution that our customers can use with confidence. Keep in mind that any work or repairs performed on a vehicle fuel system are not warrantable to Onan. This is a coach, chassis manufacturer issue and none of the costs associated with diagnosing or repairing this issue should be billed to Onan.

This Bulletin is for informational purposes only.



Date: January 12, 2004

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Bulletin No. 679a

Note: Bulletin 679 Superseded by 679a. **Discard Bulletin 679 Immediately.**

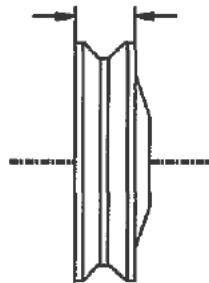
Subject: Fan Belt Replacement Parts

Effective: Immediately

Model(s) or Series: HDCAA, HDCAB, HDCAC, HDCAD

Description:

Over the past few years there has been several part numbers for belts, with different sizes, released for replacement parts. We had a few undocumented engine changes from the engine supplier resulting in confusion as to which fan belt to use. To ensure that you have the correct belt for the set you are working on measure the outside width of the top pulley on the engine.



- A pulley that measures 5/8 inch wide uses the 511-0210 belt. In most cases this will be true on generators with serial numbers J99 and older.
- A pulley that measures 3/4 inch wide uses the 511-0212 belt. In most cases this will be true on generators with serial numbers G01 and newer.
- Sets with serial numbers between J99 to G01 may have either pulley as we can't get an exact serial number cut-off from the engine supplier.
- Because the repair is rather labor intensive, it is imperative that you measure the pulley to ensure that you are ordering and installing the correct belt.

When changing the belt out make a good visual inspection of the pulleys. Excessive or premature belt wear may be due to a poor surface finish on one or all of these components. Use a Scotch Bright pad, or similar cleaning pad, to clean excess dirt and debris from pulleys. It is recommended that the pulleys be replaced if you cannot properly clean them and suspect these surfaces are the cause of the shortened belt life.

This PSB is for informational purposes only. Standard warranty applies.



Date: December 12, 2003

Page 1 of 1

Bulletin No. 680

**Subject: Changes Required in Troubleshooting
Fault Code #37 and Fault Code #47**

Effective: Immediately

Model(s) or Series: HGJAA/B/C/D/E/F

Change: #1

Revision to the magneto test procedure in Service Manual 983-0501.

Description: #1

We have discovered a process issue when making the resistance test to the magneto coils and lead wires listed on page 11-10 and page 11-11 of the Service Manual, under fault code 37 step 3 and fault code 47 step 2. In checking continuity, we now know that test lead polarity is critical when performing this test procedure.

The new test procedure should read as follows.

3A. Disconnect connector P-1 (page 5-4) from the controller. Connect the Positive Meter Lead to the chassis ground and check for continuity at: HGJAA, HGJAD, HGJAE, HGJAF - Negative Meter Lead to Pin P1-4 and P1-5 HGJAB, HGJAC - Negative Meter Lead to Pin P1-15 and P1-20

The remaining information regarding the magneto coil checks is correct and should be followed.

Change #2

Additional potential cause of fault code 37

Description: #2

3B

A broken or separated flywheel pulley coupler could also be the cause of fault code 37 and should be listed as step 3B.

Refer to the service manual page 7-2 under Flywheel and Engine Pulley for a detailed procedure of inspection and repair.

Please make these changes in all your copies of the service manual.

This PSB is for informational purposes only. Standard warranty applies.





Date: April 2, 2004

Page 1 of 2

Bulletin No. 681

Subject: KY Not Starting and/or Backfiring

Effective: Immediately

Model(s) or Series: KY MicroQuiet Series

Serial Numbers K030570626 through B040603152

Issue:

The engine has been running and suddenly stops on its own. You may get a fault code 36. When attempting to restart the set, an unusual valve train noise is heard and the engine does not start and/or pops back through the intake or exhaust system.

Explanation:

Onan received a batch of rocker arms from our vendor in which some parts did not meet print hardness specifications. This issue was limited to only a single batch of rocker arms. This PSB pertains to only those sets with serial numbers within the range listed above. Sets with a serial number prior to K030570626 were built with known good components. Sets with a serial number after B040603152 have had the rocker arms replaced with known good components and have been tested.

Repair:

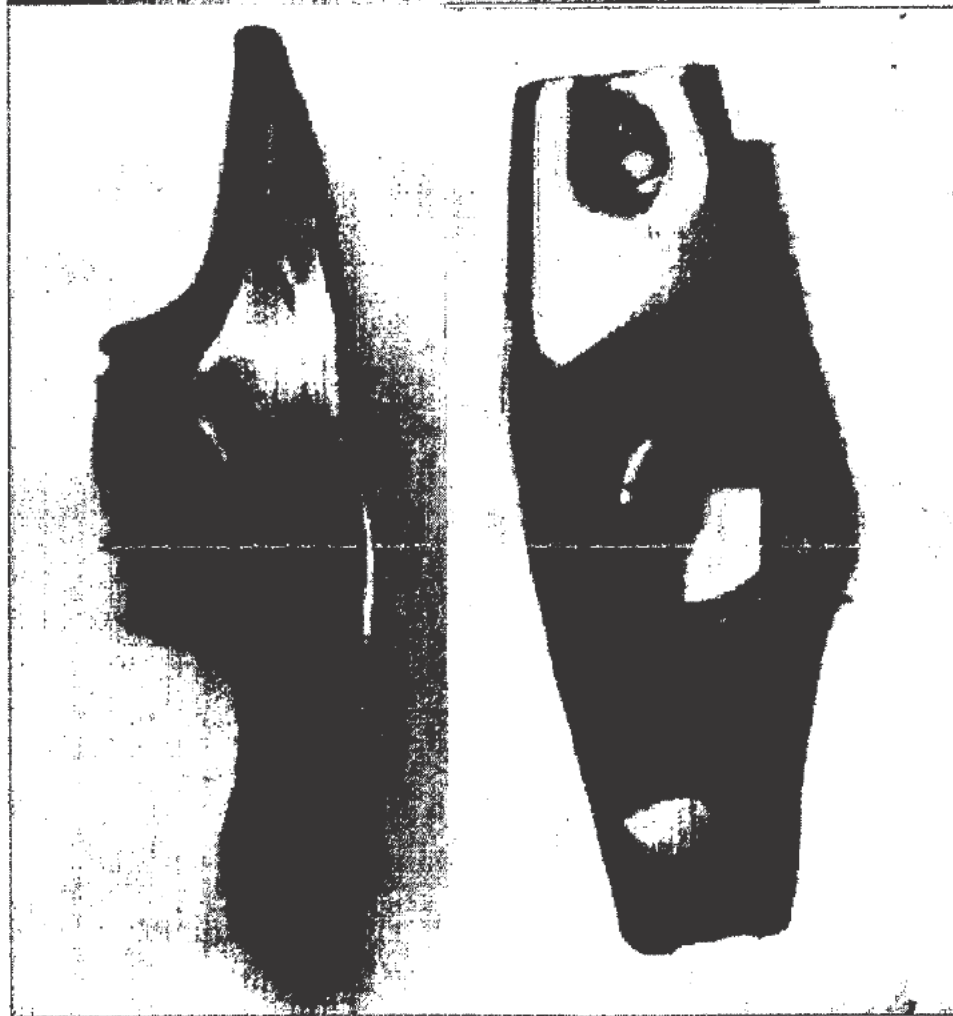
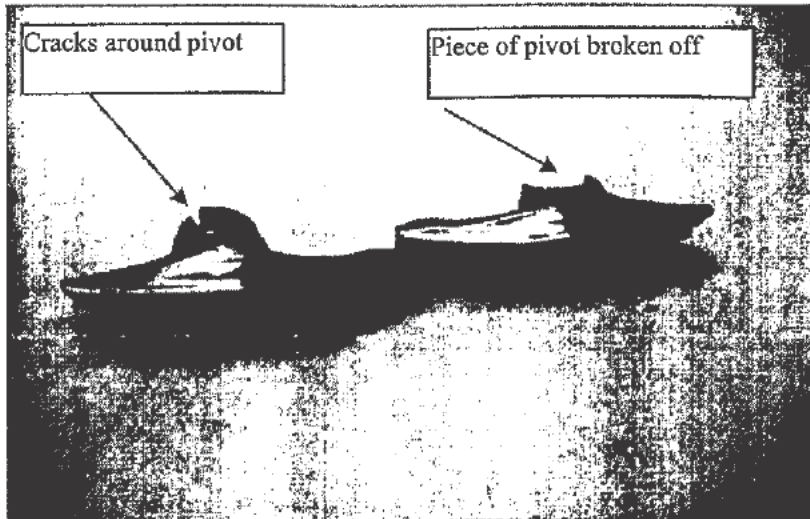
Remove the valve cover and inspect the valve train. If the rocker arm has failed similar to the ones shown in the pictures on page two, the push tube can become dislodged and the rocker arm can become displaced so that it cannot actuate the valve. Replace both rocker arms, adjust the valve clearance, and test run the set. Do not remove the head and perform extensive and unnecessary troubleshooting. After the set has been tested to verify the repair, use green paint to fill in the letter "O" in the word Onan on the valve cover. All sets that were factory inspected or repaired contain the green painted "O".

It is not necessary to remove the set from the coach as this repair can be performed through the service access door. Only if the installation severely limits access to the set is there a need to remove the set from the vehicle.

The pictures of failed rocker arms on page two will give you an idea of what to look for.

Standard warranty applies.







Date: 4/23/2004

Page 1 of 3

Bulletin No. 682

Subject: MDKAU Brush Alignment

Effective: Immediately

Model(s) or Series: MDKAU Spec A

Symptom:

No AC output and the unit will start and run only when holding the start switch in the start position. Possible fault codes exhibited include; 4 (Overcrank), 36 (Uncommanded Stop), 41 (Grounded Rotor).

Explanation:

Onan has identified a possible misalignment of the brush block assembly with the collector rings. Tolerance between multiple generator components vary and occasionally lead to the brushes not riding centered on the collector rings. The issue is very limited and identified by the following failure symptoms; a melted brush block assembly, damaged slip rings, or visible signs of brush wear on insulation, (white) portion of collector ring.

Verification:

Remove front access door to inspect brush alignment. Using a flashlight inspect the brush to slip ring contact through the fan blades. You may have to turn the rotor slightly to get a clear view. A sign of brush wear on the white insulation indicates possible misalignment. Check the field resistance between F1 & F2, these leads terminate in the green plug at the controller, terminals P3-7 and P3-8 respectively. Resistance should measure 32 ohms (+ -) 10%. If field resistance is out of spec and or poor brush alignment is evident, the generator must be disassembled to repair.

Repair:

Follow the procedure in the service manual 981-0532 to remove the stator assembly. Proceed only to the step of removing the endbell and stop.

Inspect brush wear on slip rings and verify brush misalignment is toward the windings. If misalignment is toward the bearing, the cause is not from this tolerance issue and likely the result of the endbell not being seated properly during assembly. Inspect for cause and repair as necessary.

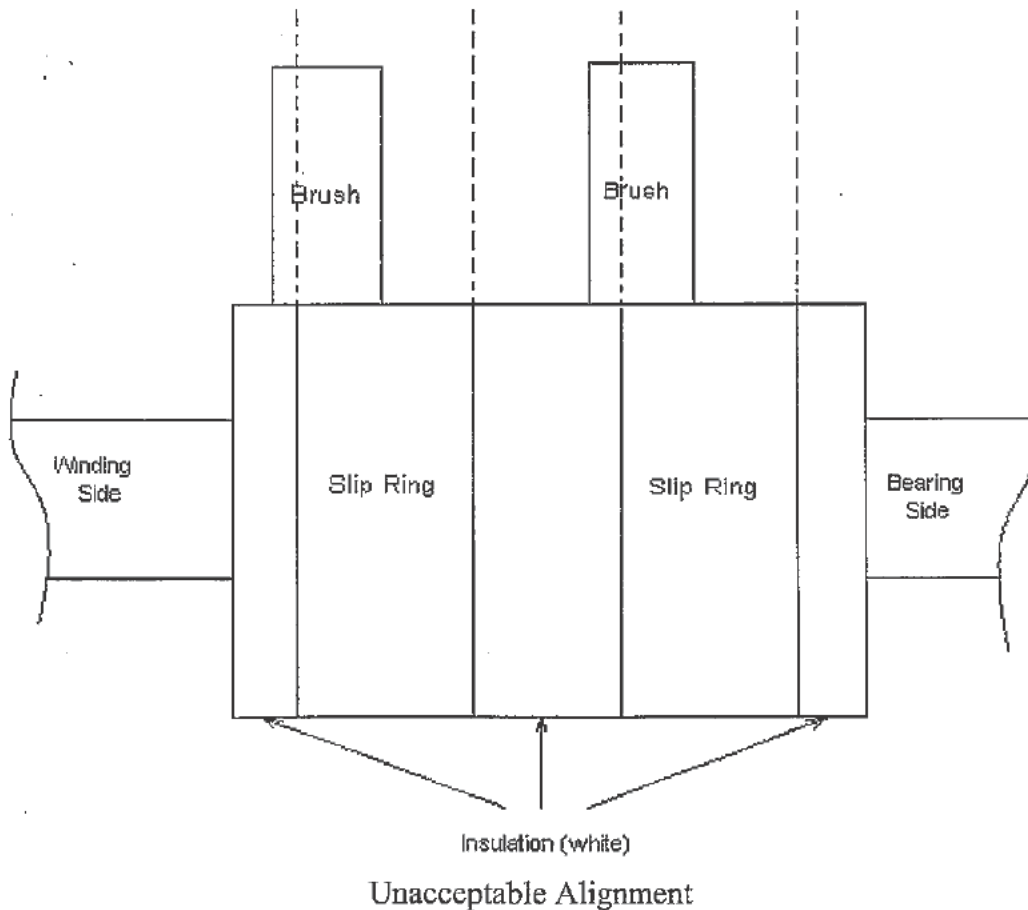
PSB 682

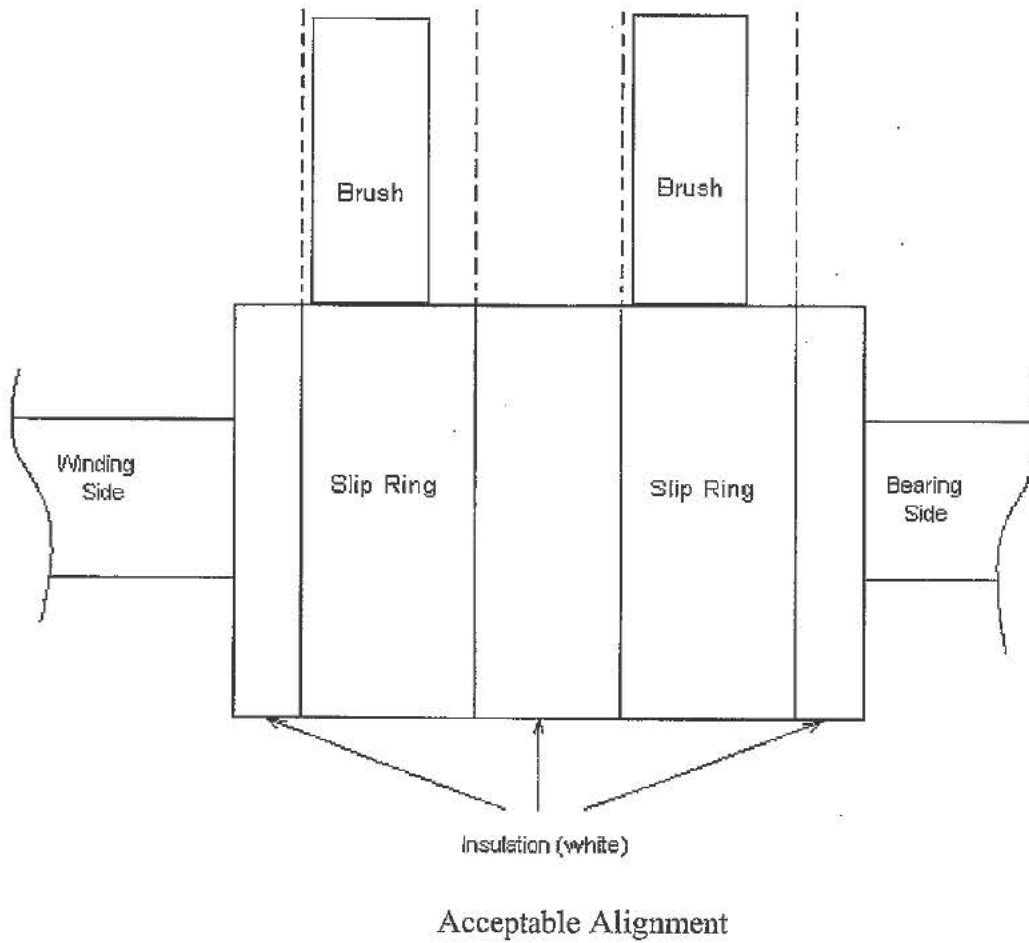
Clean collector ring assembly using a *Scotch Brite* pad in the direction of rotation. Collector ring surface should have a bright finish with no pits or striations. Poor finish of a collector ring will cause premature brush wear and poor continuity. If slip rings are damaged beyond repair, the rotor assembly must be replaced. If this work is necessary, follow the procedure in the manual for rotor replacement before proceeding.

Install shim 403-5490 into the recess of endbell and then reinstall endbell on to genset, in reverse of removal. Before installing fan, install brush block assembly and verify the brushes properly ride only on the slip rings. Complete reassembly of the genset enclosure and run genset to check for proper operation.

The following diagrams identify correct brush alignment versus incorrect brush alignment.

Standard Warranty Applies.







Date: June 23, 2004

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Bulletin No. 683

Subject: e-QD Digital Gauge Compatibility

Effective: Immediately

Model(s) or Series: Spec A; MDKBG, MDKAV, MDKAW, MDKAZ, MDKBD, MDKBE, MDKBF

Scope:

This PSB only applies to the above models with set mounted or remote mounted oil pressure and water temperature gauges. This PSB does not apply to the remote panel accessory option with only a voltmeter.

The issue can not be detected by the user during operation.

This inspection is only to be done while performing other warranty or service work.

Symptom:

Gauge functionality effects operation of the microprocessor control. The gauges will function and read normally however the genset oil pressure and water temperature faults will not function as designed. If the incorrect gauges are connected to the circuit the genset will not shutdown if an oil pressure or water temperature fault condition should occur.

The gauge supplier changed how the gauges function electrically. This change affects how the microprocessor interfaces with the gauge. This change is not noticeable to the user or technician during operation. The technician must make a visual inspection of the genset data tag and gauges.

Verification:

- New "Revision A" gauges can be used only with Spec B gensets or later
- Old gauges not labeled "Revision A" can be used on gensets Spec A or later

If equipped with set mounted or remote gauges identify gauge type and verify compatibility as above. The following page illustrates a comparison of the two gauge types.

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June 23, 2004
Page 2 of 5

If installing remote mounted gauges verify the new gauge panel is not labeled "Do not use with Spec A gensets", the following page illustrates a labeled panel.

Repair:

If the above incompatibility is identified you must replace the genset controller. Use the following controls for replacement.

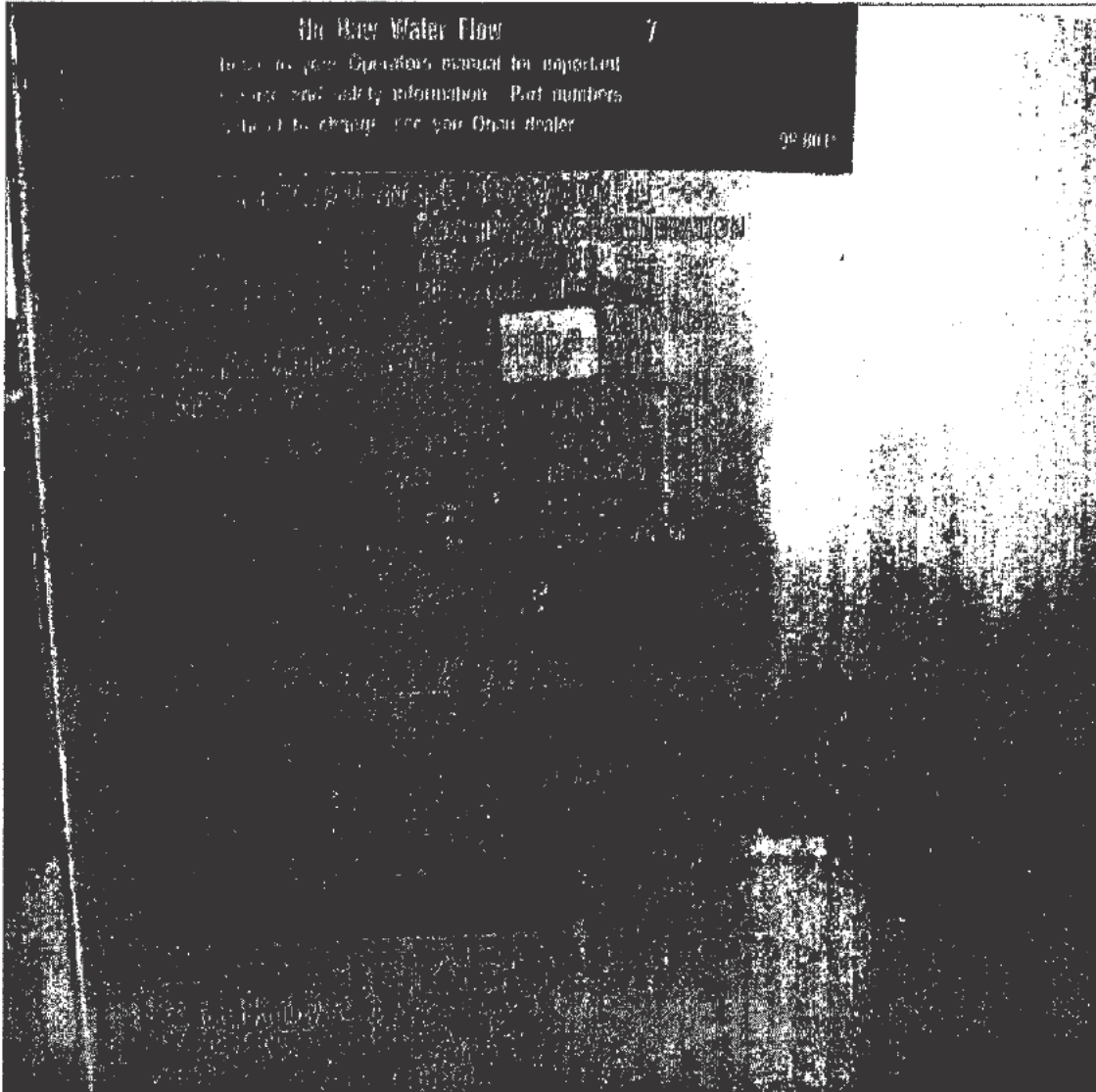
327-1533 for use on single phase only gensets

327-1534 for use on three phase only gensets

Standard Warranty Applies.



“Revision A” gauge identification versus original gauge identification



Factory Converted Spec B, label location on genset data tag



“Do not use with Spec A” label on remote panel accessory



Date: June 30, 2004

Page 1 of 1

Bulletin No. 684

Subject: Generator Slip Ring Condition

Effective: Immediately

Model(s) or Series: All Direct Excited (Brushes & Slip Rings) Generators

Symptoms:

The set has a no AC condition. A few of the possible fault codes are 13, 27,41,45,48, note that the MDKUB and MDKWB do not have micro processor controls so they do not exhibit fault codes. In troubleshooting the set one may be able to get the set to produce power by applying 12 or 24 vdc to the brush leads. The set may have higher than normal rotor resistance when measuring through the harness leads and brushes. Set has experienced excessive brush wear on one or both of the brushes and there is a fair amount of deposits on the slip rings.

Explanation:

What may be happening is the slip rings may require cleaning to remove excess build up and return the slip rings to a smooth finish. If the slip rings are pitted simply cleaning them up will not necessarily bring them back into a usable condition. The pits in the slip rings act as an abrasive and will actually speed up brush wear. If the slip rings are pitted or the surface finish is bad they need to be turned on lathe or the rotor must be replaced.

Repair:

If the slip rings are not pitted from arcing at the brushes then one can clean them using a commutator stone to remove any excess material. Once the bulk of the material is removed, polish the slip rings. Materials that work well are a 3M Scotch Brite pad or 400 grit Emery cloth. The Scotch Brite pad will remove less material than Emery cloth and will still deliver a polished finish. If you remove the rotor to turn the slip rings, use a lathe speed of 1200 rpm and feed of 1000 SFM. When reinstalling the rotor check for proper brush alignment and contact. Be sure to load test the set prior to returning it to the customer.

Tools:

A resurfacer that works really well on is manufactured by Ideal. It is called the Ideal Commutator Smoothie and is part number S-80-033. For a better fit you may have to heat the handle with a heat gun and then bend it slightly to allow it to enter the endbell and meet the slip rings at a 90 degree angle. It can be purchased from any aftermarket dealer that handles Ideal resurfacers and associated parts. Three-M-ite 400 grit cloth and Scotch Brite pads, both manufactured by 3M, can be used to polish the slip rings after using the stone.

Standard warranty applies.



Date: December 10, 2004

Page 1 of 1

Bulletin No. 685

Subject: Test Equipment

Effective: Immediately

Model(s) or Series: HGJAB, HGJAC, HGJAE, HGJAF, KY, KYD, MKY, HDCA_x, HDKB_x, GHAB, BGE, BGD, NHE, NHM, BGM

Below is a listing of test equipment available that can be used to troubleshoot the above mentioned generators. The items can be ordered through the normal distribution channels.

| Part No. | Inst Sheet | Sets or Controls to be tested |
|-----------------|-------------------|---|
| 0420-0613 | 0098-8156 | HDCAA, HDCAB, HDCAC, HDCAD, HDKBA, HDKBB (all spec letters of each) |
| 0541-1143 | R-1098 | HGJAE & F, HGJAB & C, KY & MKY beginning spec J, KYD, GHAB, GRCA. Adapters used with 420-0603 tester. If you have an older 420-0603 that did not come with adapters, by adding this kit you are now up-to-date. |
| 0420-0603 | R-1098 | HGJAB, HGJAC, KY beginning spec J, KYD, MKY, GHAB, GRCA, HGJAE, HGJAF |
| 0420-0572 | G220a | See 420-0573-01 through -04 |
| 0420-0573-01 | G220a | 300-3763 control (BGM & NHM spec B thru H) when used with 420-0572 |
| 0420-0573-02 | G220a | 300-3056 & 300-3687 control (BGE/NHE prior to spec F) use with 420-0572 |
| 0420-0573-03 | G220a | 300-4901-01 control (BGE & NHE beginning spec N) when used with 420-0572 |
| 0420-0573-04 | G220a | 300-4902 control (BGM & NHM beginning spec G) when used with 420-0572 |
| 0420-0575 | G221b | BGE, NHE, BGM, NHM, BGD, NHD, KV, KY spec A thru H |



Date: March 14, 2005

Bulletin No. 686

Subject: Crankshaft Oil Seal Surface Oil Leak Repairs

Effective: Immediately

Model(s) or Series: All Spark-Ignited Consumer RV and Commercial Mobile Generators and All Performer Engines:

Purpose:

This PSB is to inform about a cost effective alternative to crankshaft replacement when repairing oil seal oil leaks with visible crankshaft surface damage. This PSB applies to all gasoline and LP fueled RV and Commercial Mobile generators and Performer engines.

Explanation:

Improper machining, poor handling, excessive water, rust, dirt, heat, lack of lubrication, and/or high shaft speed can cause a sealing lip to groove the crankshaft and cause oil leakage.

Oil leakage from the oil seal can be caused by the following:

- A pressurized crankcase. The crankcase operates in a vacuum and can become pressurized due to a faulty breather, loose oil fill cap, or other air leaks into the crankcase. This pressure forces the oil past the seal. For additional information see **PSB 658**
- An improperly installed seal, resulting in:
 - o A nicked seal
 - o Nicks to the seal bore
 - o Debris particles under the seal
 - o A misaligned seal
- A crankshaft surface that is nicked, scratched, or dented
- A crankshaft surface finish that is polished improperly. This imperfection is not visible and cannot be detected or measured in the field.

The root cause of the oil leak should be verified by using an oil dye and black light test. The addition of dye to the crank case and use of a black light will help determine the leak's source when the engine is running. Refer to **PSB 660** for more information and instruction.

The use of a Chicago Rawhide Speed-Sleeve is a cost-effective alternative to replacing the crankshaft. A Speedi-Sleeve is a very thin walled sleeve which is pushed in position over the worn or damaged crankshaft. The Speedi-Sleeve creates a new damage free interface between the crankshaft surface and the oil seal, which results in a leak-proof and corrosion free sealing surface alternative. With a new oil seal installed, the crankshaft performs as new.



The use of a Speedi-Sleeve is the factory recommended method for minor crankshaft damage repair work. Claim the Speedi-Sleeve as a consumable if the repair is warrantable.

Repair:

The recommended repair for oil leaks with crankshaft damage is to install a Chicago Rawhide Speedi-Sleeve.

Reference the chart below to determine which Speedi-Sleeve is needed for each model's respective dimensions.

Suggested Speedi Sleeve Chart

| <u>Model</u> | <u>Rear Crankshaft Oil Seal Surface Diameter</u> | <u>Chicago Rawhide Speedi-Sleeve Part Number</u> | <u>Front Crankshaft Oil Seal Surface Diameter</u> | <u>Chicago Rawhide Speedi-Sleeve Part Number</u> |
|--|--|--|---|--|
| KY and KYD | 1.1764-1.176" | 99122 | N/A | N/A |
| KV, KVC, KVD | 0.974-0.983" | 99098 | N/A | N/A |
| Marquis – BGM and NHM | 1.625" | 99162 | 1.186-1.187 | 99118 |
| Emerald – BGE/BGEL and NHE/NHEL | 1.625" | 99162 | 1.186-1.187 | 99118 |
| Marquis Gold – HGJAA-E | 1.6535" | 99169 | N/A | N/A |
| Performer Vertical – P216V, P218V, P220V, and P248V | 1.624-1.628" | 99162 | 1.186-1.187 | 99118 |
| Performer Horizontal – P216G, P218G, and P220G | 1.6255" | 99162 | 1.186-1.187 | 99118 |
| Performer OHV – P220 OHV | 1.6535" | 99169 | N/A | N/A |

Installation Procedure:

- Clean crankshaft surface. File down any burrs or rough areas.
- Apply a thin film of silicone RTV adhesive sealant to the crankshaft surface
- Determine where the sleeve must be positioned to cover the old seal wear tracks. Measure to the exact point, or mark directly on the surface. The sleeve must be placed over the worn area, not just bottomed or left flush with the end of the shaft.
- Press the Speedi-Sleeve onto the crankshaft with the flanged end first.
 - The installation tool that comes with the Speedi-Sleeve is too short to fit over most crankshafts.
 - Alternative installation tool: Fabricate an installation tool from a length of PVC pipe or tubing of same inside diameter as the outer diameter of the Speedi-Sleeve.
 - Square off the installation end of the tool and file off any burrs
 - Insert a plastic cap over the end of the installation tool or PVC pipe
- Gently tap the Speedi-Sleeve onto the crankshaft until the sleeve covers the seal's worn surface. Be careful not to damage the outside diameter of the Speedi-Sleeve.
- Leave the flange intact unless clearance is required. Follow manufacturer's instructions on removing the flange if needed.
- Check again for burrs that could damage the seal.
- Lightly oil the Speedi-Sleeve surface, and if necessary, the shaft end to ease fitting the seal.

Removal

Speedi-Sleeves can be removed in one of the following ways:

- Applying heat to the sleeve
- Use of a pair of wire cutters starting at or near the flange and applying a twisting action
- Bend, flatten, or peen with a small hammer, across the full width of the sleeve to expand it

Speedi-Sleeves cannot be re-used

This Product Support Bulletin is for informational purposes only.



Date: March 14, 2005

Bulletin No. 687

Subject: Oil Leak Repairs for
Marquis Platinum and Gold,
Emerald Advantage, CMM, and CME

Effective: Immediately

Model(s) or Series: Marquis Platinum (HGJAA) and Gold (HGJAB), Emerald Advantage (HGJAC), CMM (HGJAD), and CME (HGJAE and HGJAF) generators

Symptoms:

Leaking oil at or around:

- Oil base cover gasket
- Crankshaft oil seal
- Governor shaft oil seal

The root cause of the oil leak should be verified by the using an oil dye and black light test. The addition of dye to the crank case and use of a black light will help determine the leak's source when the engine is running. Refer to **PSB 660** for more information and instruction.

Repair Procedure:

There have been improvements made to enhance the reliability of the engine's lubrication system. The following are important procedures to note when repairing an oil leak.

- Improvements have been made to the ten oil base cover flange bolts. A stronger and harder bolt, part number **800-6361**, is now being used with a new torque specification of **22-23 N·m (16.2-16.9 ft-lb)**. The flange bolt change was implemented to engines in generator sets with serial number L020444044 and newer.
 - BEFORE Generator Serial Number: L020444044 -- Generator set engines have been assembled with the old bolt, part number: 187-6240. Replace the old flange bolts with the new flange bolts, part number: **800-6361**. Torque these bolts to **22-23 N·m (16.2-16.9 ft-lb)**.
 - BEGINNING Generator Serial Number: L020444044 – Generator set engines have the new bolts already implemented. Torque them to **22-23 N·m (16.2-16.9 ft-lb)** when reassembling.
 - The new bolts are easily recognized by looking at the bolt head. The new bolts, part number 800-6361, have a number "9" imprinted on them. The old bolts, 187-6239, do not.



- Take proper care when removing or replacing the oil seal.
 - The oil seal should be pressed onto the crankshaft so that it is to a depth of **1 mm ± 0.5mm** below being flush with the oil base. *If the oil seal is pressed in all the way the oil return path will be blocked and oil will be forced through the oil seal*
 - Damage to the bore diameter or an incorrect mounting of the oil seal could cause: nicks in the seal or seal bore, debris under the seal, and/or a misaligned seal.
- Be certain to use **TWO** 187-6239 O-Rings, one at each of the oil return holes from the engine block, when reassembling the oil base cover. Previous and older diagrams from the Parts Manuals have only shown the location of one O-Ring.
- Apply a layer of 3-Bond or an RTV adhesive sealant, similar to Dow Corning 732, to the oil base gasket when reassembling the oil base cover. This allows for a more secure hold on the gasket and a tighter seal of the oil base cover.
- Improper machining, poor handling, excessive water, rust, dirt, heat, lack of lubrication, and high shaft speed can all cause the oil seal to groove the crankshaft and cause oil leakage. If there is apparent or visible damage to the crankshaft, ex: scratches, grooves, nicks, etc., install a Chicago Rawhide Speedi-Sleeve, part number: 99169, over the damaged portion of the crankshaft. The Speedi-Sleeve is an efficient and cost effective means for repair. This is also the Factory recommended method for minor crankshaft repair work. This item can be found at most seal manufacturers. **SEE PSB 686 FOR SPEEDI-SLEEVE USE AND INSTALLATION INSTRUCTIONS**
- For generators with an oil leak at the governor shaft oil seal either between the engine bore and the oil seal or the oil seal and the governor shaft :
 - Apply a layer of 3-bond or an RTV adhesive sealant, similar to Dow Corning 732, to the outer edge of the new oil seal when installing the new seal into the engine bore.

• This Product Support Bulletin is for informational purposes only.

Date: 17Aug2005

Page

Bulletin No. 689

Subject: Solenoid Fuel Pump Failures

Effective: Immediately

Model(s) or Series: All gasoline fueled generator sets

Description: Generator runs less than 2 hours then shuts down and will not restart

Symptom:

- Generator runs less than 2 hours and then shuts down and will not restart.
- The fuel flow may be restricted, causing the generator to exhibit symptoms of running out of fuel and shutting down.
- When the set is running or priming a loud clicking sound can be heard.
- Possible fault codes are 36, 13 and 15

Cause:

The root cause is a material specification and assembly issue that resulted in the pump's plunger sticking

- There is a remote chance that this issue can be intermittent in nature
- Failure rate expected to be approximately 10%

Correction:

If a generator set exhibits the symptoms described above and the fuel pump is in the affected date range, replace the pump. All pumps with a date code of **070705** and later (DDMMYY) and/or white dot are known to be good. (Reference picture below)

- Check your parts stock and do not use spare parts with a date code 010405 – 060705
- Distribution must identify affected new stock, mark scrap on receipt and then return to MDC for credit
- Order new pumps. MDC stock has been purged

Repair:

For HGJAx generators the repair is easier and quicker if you

- disconnect the fuel line at the carburetor
- remove fuel pump mounting hardware
- pull fuel pump with fuel lines attached down about 4in. for easy access to clamps
- remove old pump from fuel lines and install the new pump.
- Reattach fuel line to carburetor and reinstall pump mounting hardware.

For all other gasoline generators, reference the appropriate service manual



Date Code
DDMMYY

White Dot Location

Field Service Information - Main Topic

| Submitted by | Category | Public |
|--|------------------|--------|
| Jennifer Funkhouser on 11/11/2005 at 11:55 AM | F. PSB's\600-699 | |

PSB 690; Pub 11/11/2005

Date: November 10, 2005

Subject: Fan Belt and Tensioner Assembly Service
(This information will be released in PSB 690)

Models: HDKCA, HDKCB, HDKCC, HDKCD (**Spec A Only**)

Purpose:

This Field Flash is to inform support personnel of the release of **Fan Kit 541-1293** for the above listed models. This kit is to be used whenever any of the fan drive system components in spec A sets require service. When the installation of the kit is complete the fan will be direct driven from the crankshaft hub.

Explanation:

The current fan drive system on spec A sets is experiencing early life failures of the tensioner assembly and fan drive belt. Installing the new Fan Kit (541-1293) will result with the fan being directly driven off the crankshaft hub. This reduces the load on the water pump, and alternator drive belt, and eliminates the idler assembly and the fan drive belt. These changes will result in improved drive system performance.

Repair Procedure:

When servicing any of the items within the Fan Belt Drive System on the above listed models, Order Kit Number 541-1293, and follow the steps outlined in Instruction Sheet G 675. The torque of 110 ft lbs is required at the new coupler to crankshaft bolt.

Important Note:

If the existing water pump and alternator drive belt part number **511-0218** requires replacement, you will need to order it in addition to the kit. **It is not included in the kit.** Remember, this applies to spec A sets only.

Attention Parts Department!

Make sure any of your internal parts systems are updated to reflect the information

| | | | | |
|--|-----------------|---------------------|-----------------|--|
| Mexico / Central America | Ceaser Olivares | Monterrey, Mexico | 52-81-1052 8264 | OlivaresCesar@JohnDeere.com |
| JD Latin America (South America & Caribbean, except Brazil) | Carlos Luppi | Rosario, Argentina | 54-341-4101844 | LuppiCarlos@johndeere.com |
| Brazil | Eugenio Fronza | Horizontina, Brazil | 55-55-3537-1322 | FronzaEugenio@johndeere.com |

- If further assistance is required, contact the Onan / Cummins Power Generation service representative for your region.

| Contact Name | Territory | Location, Phone Number | Business Name | E-Mail Address |
|---------------|----------------|---------------------------|--|--|
| Neal Johnson | Worldwide | USA, 763-528-7474 | Cummins Power Generation | neal.johnson@cummins.com |
| | USA | | | |
| Martin Jones | Europe | UK, 44-1780-481-666 | Onan International, Cummins Power Generation | martin.v.jones@cummins.com |
| | Mediterranean | | | |
| | Africa | | | |
| Graham Gill | Australia | Australia, 61-397-653-222 | Cummins Australia | graham.gill@cummins.com |
| | | | | |
| Raymond Lim | China | China, 65-6861-1188 | Tritex Equipment PTE LTD | raymond_lim@tritex.com.sg |
| | Southeast Asia | | | |
| Tom Kobayashi | Japan | Japan, 81-3-5215-0117 | Communication Science Corp. | t.kobayashi@kkcsc.co.jp |

Technical Publications

- The following Onan manuals are available through Western Graphics. Dealers can obtain through their distributor. Manuals are also available on Electronic Service Library (ESL) and Electronic Parts Catalog (EPC).

- Parts 981-0276
- Operator's 981-0172
- Installation 981-0639
- Service 981-0539

- The following Onan specification sheets are available through Western Graphics and also the internet/intranet/extranet as .pdf files.

- 40 e-QD 60 Hz, MDDCA A-1461
- 55 e-QD 60 Hz, MDDCB A-1462
- 65 e-QD 60 Hz, MDDCC A-1466
- 80 e-QD 60 Hz, MDDCD A-1467
- 99 e-QD 60 Hz, MDDCE A-1468

Field Service Information - Main Topic



Submitted by
Jennifer Funkhouser
on 02/02 at 08:44 AM

Category
F. PSB'S\600-699

Public

PSB 691; PUB 2/2/2006

Date: February 2, 2006 Bulletin No. 691
Effective: Immediately

Subject: John Deere Aftermarket Support for 40-99kW MDD series Marine Gensets
Model(s) or Series: MDDCA, CB, CC, CD, CE, CF, CG, CH, CJ

The MDD series gensets use John Deere electronically controlled engines which meet EPA Tier II emissions requirements. Because most Onan distributors and dealers are not certified John Deere service centers, the following protocol is to be used to provide the best service to customers.

For external engine components, warranty work can be completed by Onan distributors/dealers and processed as a normal Onan warranty claim. Examples of external engine components include, but are not limited to: starter, alternator, oil cooler, fuel lines and injectors. These parts deemed external have Onan part numbers and are called out in the Onan parts book. These parts can be ordered through normal Onan channels.

For advanced engine service requiring parts not listed in the Onan parts manual; such as the injection pump, engine control, pistons, valves, etc.; an authorized John Deere dealer will need to perform the warranty work. To provide the customer with a single contact for service, the Onan distributor/dealer will arrange service for the customer by completing the following steps.

- Contact the appropriate regional John Deere representative listed in the table below. Have engine model and serial number at hand. This representative will assist to engage the nearest John Deere dealer capable of servicing the engine.

| <u>Area of Responsibility</u> | <u>Contact</u> | <u>Location</u> | <u>Phone</u> | <u>E-mail Address</u> |
|---------------------------------------|----------------------|---------------------------|-----------------------|--|
| North America | Tim Francis | Waterloo, Iowa USA | 319-292- 5713 | FrancisTimL@johndeere.com |
| | Bruce Luehmann | Waterloo, Iowa USA | 319-292- 5749 | LuehmannBruceC@johndeere.com |
| Europe / Mid East / Africa / India | Gerard Ozanne | Saran, France | + 33 2 38 82 60 71 | OzanneGerard@johndeere.com |
| | Jean-michel Siegwald | Saran, France | + 33 2 38 82 6070 | SiegwaldJean-michel@johndeere.com |
| JD Asia | Collin Goh | Kuala Lumpur, Malaysia | 60 12 201 1278 | GohCollin@johndeere.com |
| JD Limited - Australia | Len Paarman | Brisbane | 61 7 3802 3286 | ParrmanLen@johndeere.com |
| | Trevor Rowbotham | Brisbane | 61 7 3802 3225 | RowbothamTrevor@johndeere.com |
| | | | | |



- 40 e-QD 50 Hz, MDDCF A-1469
- 50 e-QD 50 Hz, MDDCG A-1470
- 65 e-QD 50 Hz, MDDCH A-1471
- 80 e-QD 50 Hz, MDDCJ A-1472

• John Deere engine manuals are available through their literature request line at 1-800-537-8233 or from your local John Deere dealer.

• The following manuals are available.

- Parts CD4045TFM75 Engine PC2305
- Parts CD6068TFM76 Engine PC2294
- Operator's, 4.5 L & 6.8 L OMRG33324
- Base Engine Service - Component Technical Manual, 4.5 L & 6.8 L CTM104
- Fuel System - Level 12 Electronic with Stanadyne DE10 Pump CTM331

Service Tools

• The following JD service tools are available through John Deere. In the near future, these tools will be assigned Onan part numbers and will be called out in the genset service manual.

- Turning tool JDE81-1
- Timing pin JDG1571
- Front seal removal and installation tool JD719
- Rear seal removal and installation tool JDG698A

Training

• Unique training for the 40-99 Kw e-QD is available on Power Gen University.

○ **PGU Course Number**

CST0949-EN

○ **Promotion Database Numbers (where all training records reside)**

Program = 2004-18Q Onan e-QD 40-99kW Qualification

Course = 949 Onan e-QD 40-99kW Course

Additional Product Information

• These e-QD models, 40 - 99 kW, can NOT be switched between 50 and 60 Hz due to engine component and performance differences required to meet emissions requirements.

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[PSB 691; PUB 2/2/2006 \(Jennifer Funkhouser\)](#)



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Standard Warranty Applies.

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PSB 692; PUB 4/14/2006

Improved Troubleshooting Procedures - URGENT

Date: 18-Nov-05

Effective: Immediately

Group: 17

Description: These are the new troubleshooting pages for 981-0530 (KY Spec J-L and KYD Spec A-B Service Manuals) and 981-0501 (HGJAA-AB-AC-AE-AF Service Manual).

Family: (KY Spec J-L and KYD Spec A-B Service Manuals) and 981-0501 (HGJAA-AB-AC-AE-AF Service Manual)

Description:

Cummins Power Generation experiences a high number of genset controls, on the above referenced models, that are returned through warranty and test good. Currently there is a 75% no defect found (NDF) rate on these controls. A recent Six Sigma project was initiated to reduce this NDF rate.

Through the use of Six Sigma methodology and tools it was determined troubleshooting steps were a key factor in causing control replacements. Further analysis into the troubleshooting process determined the published troubleshooting steps were not adequate to diagnose root cause. As a result a new troubleshooting format with increased content has been developed to address the issue.

This Field Flash is intended to provide notification of changes and advance copy of the new troubleshooting steps. Published manuals will include the new troubleshooting sections in Q1-2006 *Electronic Service Library* release.

Recommendation:

1. Review new troubleshooting steps in the two attached files.
2. Notify Distributor and Dealer service personal of the new troubleshooting steps.
3. Update all onsite libraries and technician manuals with the new troubleshooting section until new manuals are available in 2006.
4. Advise all RV service locations that do not have a service library subscription to purchase new hard copy in January 2006.

Date: July 11, 2006 **Bulletin No. 693**

Subject: Home Standby RS12000 Startability **Effective:** Immediately
Improvements

Model(s) or Series: RS12000 - GHAB (Onan Performer Engine) and
GRCA (Honda Engine)

Purpose:

To inform the field of new improvements available to enhance startability for the RS12000 Home Standby models, GHAB and GRCA.

The GHAB fuel system was developed using a carburetor/mixer that is used in some industrial applications. The fuel system is sensitive to a number of variables which can impact startability.

Some examples include: atmospheric pressure, fuel supply pressure, regulator outlet pressure, ambient temperatures, internal housing temperatures, and carburetor and regulator adjustments.

The new improvements listed below, have been developed to enhance startability and allow for a wider range of starting conditions.

Description:

Improvement: Part Number: Model

Cycle Crank Control Board 0327-1576 GHAB and GRCA

- The old control board, part number: 0300-5428, only allowed for one crank cycle. If start was not achieved, Over Crank Fault Code (4) occurs
- A new cycle crank control board, part number: **0327-1576**, has been developed to allow three start attempts before stopping and logging an Over Crank fault code
- The new controller is available for both RS12000 models, GHAB and GRCA, and is backwards compatible (this control will work on all RS12000 specs)
- Example of the Cycle Crank Start Sequence:

- Push Start Switch to “RUN” position
- 1st Start attempt – Crank for 20 seconds
 - If no start-disconnect, genset pauses for 10 seconds before re cranking
- 2nd Start attempt – Crank for 20 seconds
 - If no start-disconnect, genset pauses for 10 seconds before re cranking
- 3rd Start attempt – Crank for 20 seconds
 - If no start-disconnect, genset displays fault code
 - Fault Codes will not be displayed until after the third, final start attempt
 - If the genset seems to only start once before faulting out with a fault code, the genset is most likely sensing start-disconnect and “passing” the start sequence and into a different state, where a different issue is causing the genset to shutdown. Review the new fault code for diagnostics.
 - The start sequence logic was the **only** function changed from the previous control, part number: 300-5428

Improvement: Part Number: Model:

Sweeping Governor Controller 0300-6105 GHAB ONLY

- This product enhancement is for the GHAB only.
- The new electronic governor controller, part number: **0300-6105**, improves startability by varying the governor actuator and carburetor/mixer throttle position during the start sequence
 - The previous governor controller would open the carburetor throttle wide open at startup
 - The new governor controller minimally opens the throttle and “sweeps” the throttle, in increments, to nearly wide open
 - The governor controller software logic allows four “sweeps” per single 20 second crank attempt
 - When coupled with the cycle crank control board, the GHAB genset is capable of a total of 12 different “sweep” attempts per start
 - The new governor control does not “record” the last start position. The “sweep” function always occurs during start attempts
 - The “sweeping” function enables the fuel system to find the correct air/fuel mixture for starting under the varying ambient conditions
 - The new governor controller only aids in startability and does not affect normal genset running characteristics

- The start sequence logic was the only function changed from the previous governor control, part number: 0151-0762

- Improvement: Part Number: Model

GHAB Fuel System Calibration See PSB 694 GHAB ONLY

- This instruction provides details of how to calibrate the carburetor main power valve adjustment and regulator adjustment screw back to original factory specification

- Carburetors/mixers in the field have been adjusted in the past in an attempt to help resolve GHAB startability issues

- These adjustments may resolve the starting issues for one temperature range, but may not work on another.

- The carburetor main power valve must be returned to original position for the new cycle crank and governor controllers to work properly

- The adjustment alters the fuel/air mixture, and if prior adjustments were made, the genset may not be capable of full rated output power

- See **PSB 694** for detailed information on making this adjustment

- Improvement: Part Number: Model

Carburetor Heater Kit 0541-1312 GRCA ONLY

- The Cold Weather Carburetor Heater Kit enhances the starting performance of the RS12000 – GRCA by improving the cold start capability from the current lower end limit of 0°F (-18°C) to -20°F (-29°C)

- The kit includes a 38 Watt, 120 VAC carburetor/mixer heater

- The heater contains an inline thermostat that:

- Turns heater on when ambient temperature less than 40 °F

- Turns heater off when ambient temperature greater than 60 °F

- The kit requires a 120 VAC line be run from utility service to the genset

- Installation information, Instruction Sheet G699, is included in the heater kit.

Additional Startability Information and Aids:

- RS12000 – GRCA Field Flash regarding demand regulator adjustment for hard starting symptoms

- RS12000 – GRCA (Honda Powered Home Standby) First Attempt Starting Difficulties, published 18Jan2005
 - RS12000 – GHAB and GRCA Battery Heater Kit
- Part Number: 0541-0555
- Instruction Sheet: C587

- RS12000 Proper oil viscosities:
 - For operation in temperatures below 32°F (0°C), 5W-30 synthetic oil may be used for easier starting. Be certain not to use 5W-30 above 32°F as additional starting issues may be introduced.
 - Gensets are shipped with 10W-30
 - Use of larger battery and battery cables to allow increase available starter starting current.

This Product Support Bulletin is for information purposes only.

Date: July 11, 2006 **Bulletin No. 694**

Subject: Home Standby RS12000 - GHAB Fuel System **Effective:**
Immediately
Calibration

Model(s) or Series: RS12000 – GHAB (Onan Performer Engine) –
Gaseous Fuel Specs

Purpose:

The GHAB fuel system was developed using a carburetor/mixer (Part Number: 0146-0776) that is used in some industrial applications. The fuel system is sensitive to a number of variables which can impact startability. Some examples include: atmospheric pressure, fuel supply pressure, regulator outlet pressure, ambient temperatures, internal housing temperatures, and carburetor and regulator adjustments.

In efforts to resolve the GHAB startability issues, some technicians have made adjustments to the main power valve on the carburetor to alter the air/fuel mixture. This adjustment may resolve the present startability inconsistencies, but the fuel system may need additional adjustments to compensate for future changes in ambient conditions. Ex: Changing of seasons' temperatures (summer to winter) or varying fuel supply gas pressures.

Improvements have been developed to enhance the startability of the GHAB (See **PSB 693**), but for these new components to perform properly, the GHAB fuel system **MUST** be returned to the factory calibration. Any other modification to the fuel system or fuel system components must also be returned to factory specification.

This PSB provides the necessary information to return the fuel system to factory calibration. The procedure defines the performance criteria for the GHAB and verifies that it meets a minimum set of performance requirements.

Description:

Equipment needed:

- 10 kw load bank
- Multimeter
- Standard repair tools
- Water manometer or other device capable of measuring 0”-20” water column

Performance Requirements:

- Steady state frequency at any load condition should remain within 60.5 Hz (± 0.4 Hz)
- Frequency and voltage should recover within 5 seconds of any load change
- No audible hunting is allowed at any load condition

Power Rating:

Fuel Rated Power Frequency

Natural Gas 10000 watts 60.5 Hz

Propane (LPG) 10000 watts 60.5 Hz

Derating Conditions:

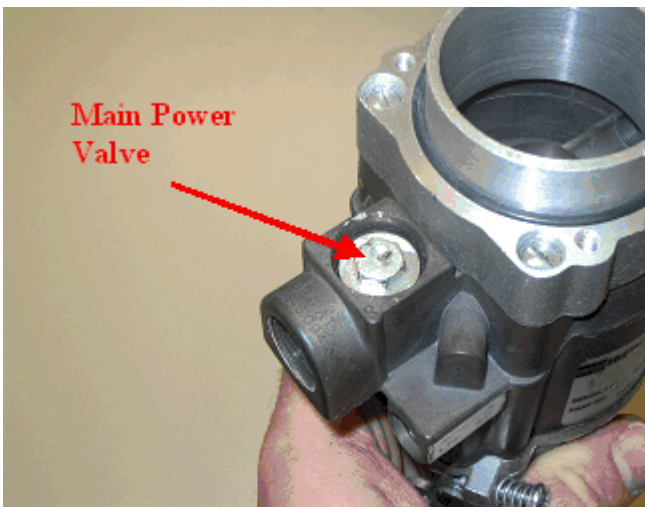
- Ratings apply at 29.23” Hg (99 Kpa) dry barometer pressure and 77 ° F (25 °C) intake air temperature.
 - For any other ambient condition, correct power by:
 - 1.5% for each 10 degrees F above 77 °F
 - 3.5% for each 1000 feet above sea level
 - Example 1: A genset with 87 °F ambient should expect:
 - 10 degrees above 77 °F will have a 1.5% derate from max power
 - Max Rated Power = 10,000 w * (100% - 1.5%)
- = 10,000 w * (98.5% = 0.985)
- = 9,850 w
- Example 2: A genset 4000 feet above sea level would expect:
 - 4000 ft above sea level will have a 4 * 3.5% derate from max power
 - Max Rated Power = 10,000 w * (100% - (4 * 3.5%))
- = 10,000 w * (86% = 0.86)
- = 8,600 w

Regulator Setting and Calibration:

- The regulator (0148-0597) is adjustable between 1" to 9" water column.

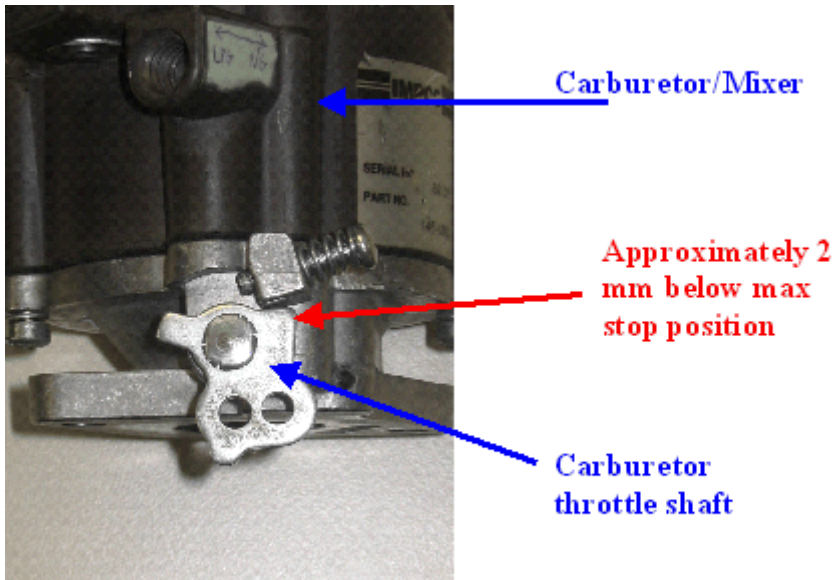
- 1.) Connect the water manometer gauge to the output side of the regulator
- 2.) Measure while the set is running.
- 3.) Remove the end cap to expose the plastic screw adjustment.
 - a. Turning the plastic screw inward will increase regulator output pressure.
 - b. Bringing the plastic screw outward will decrease the output regulator pressure.
- 4.) With the genset running, adjust the screw so the regulator's output pressure is between 2.5" to 5" water column.

Connect a resistive load bank and verify maximum output power from the genset. If the generator set output power is less than the rated power listed above, and all other fuel system components are at factory specification, adjust the main power valve on the carburetor/mixer as described in the procedure below.



Main Power Valve Adjustment Procedure:

- 1.) Using a resistive load bank, adjust the load in increments until the carburetor mixer throttle shaft position is slightly below the maximum stop position (approximately 2 mm) – Wide Open Throttle (WOT)



- 2.) Shutdown genset and remove the air filter assembly to access the carburetor main valve adjustment
- 3.) Remove the tamper resistant plug that covers the main power valve
- 4.) **Mark the original position of the valve for reference**
- 5.) Adjust the main power valve by turning clockwise or counterclockwise
 - a. This adjustment will affect how far the throttle shaft will rotate away from the maximum stop position (WOT)
 - b. The idea is to find the exact position of the main power valve that will cause the throttle shaft to rotate farthest away from WOT at the same load that was found in step 1.)
- 6.) Reinstall the air filter assembly. **NOTE: The air filter must be reinstalled for proper fuel ratio. Adjustments made without the air filter may not work when genset is completely assembled**
- 7.) Restart genset, observe change in throttle shaft position
- 8.) Check genset for rated power output
- 9.) Repeat steps 2.) through 8.) if output power is below rated specification

A number of adjustments may be required to find the proper position of the main power valve if there had been carburetor adjustments in the past.

Product Support Bulletin

Date: September 20, 2006

Bulletin No. 695

Subject: QSK 60 High Fuel Temperature Shutdown

Effective: Immediately

Model(s) or Series: 2003-4003 through 4258

Purpose:

This issue has been reported to the Cummins Support Team as an operational issue and was affecting production.

High fuel cooler temperature at times has been attributed to improper position of the fuel cooler damper (closed). The position indicator on the damper is not reliable in terms of “Fully Open” or “Fully Closed”. Figure 1 shows the damper in the open position.

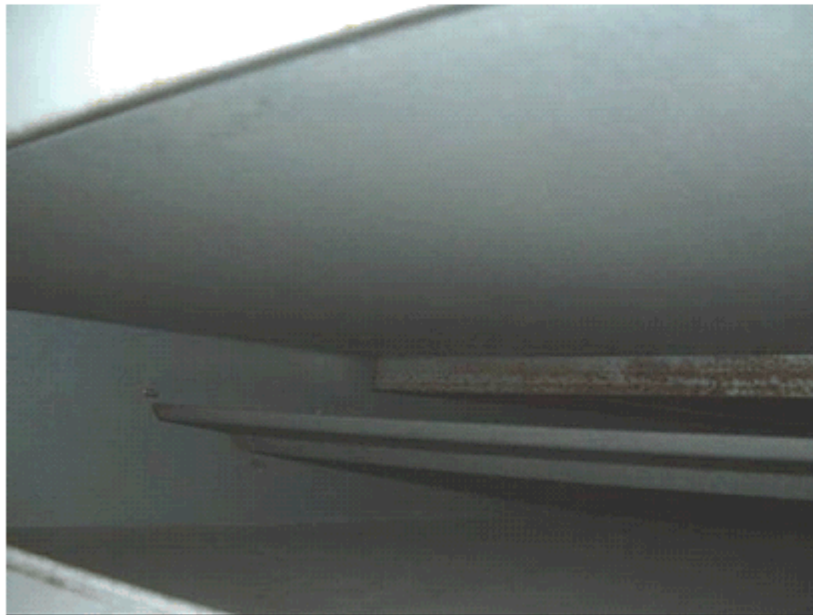


Figure 1: Indicates Open Damper

Product Support Bulletin

Date: February 7, 2007

Bulletin No. 696

Subject: EC 30 Controls & Fuel Pumps

Effective: Immediately

Model(s) or Series: EC 30 Controls

Description: EC 30 controls causes the generator fuel pump to prime continuously or the generator displays a fault code 57- Over Prime Fault.

Symptom:

While uncommon, this symptom is most likely seen in KY and HGJAB generators. It occurs less often in other RV or CM generators.

KY and HGJAB generators:

Generator fuel pump runs continuously and neither the local or remote START/STOP switch has been depressed. Pressing the START/STOP switch in the start or stop position causes the pump to turn off. If the fuel pump is run for a long period of time with an empty tank, the pump could sustain damage. If the fuel pump runs continuously, it may also drain the batteries.

All other RV or CM generators:

Generator fuel pump runs continuously for approximately 3 min and then faults on Fault Code 57 - Over prime fault. Neither the local or remote START/STOP switch has been depressed.

Cause:

Current testing has shown that the EC30 is sending a continuous stop signal. This symptom can occur under the following condition:

- DC disconnect switch is on, EC 30 is in manual mode for 30 days or more, and the safety signal or DC disconnect switch have not been toggled.

Correction:

If a customer brings in a generator set that exhibits the symptoms described above and the EC30 control is in the affected serial range (**3125 - 7751**), replace the EC30 control. Send the any controls removed from service to the Onan Indiana facility. (Onan Indiana contact information listed below)

Current EC30 units are being loaded with software version 2.00 that will eliminate this issue. Controls with a serial number between **3125** and **7751** that have a label identifying software rev # (version 2.00 or newer) have been loaded with the current software.

Returning the EC30 control

Return EC30 controls to:

Onan Indiana
Attn: Bryan Ritchie
5125 Beck Drive
Elkhart IN 46516

Description:

When high fuel cooler temperatures are being experienced the only way to ensure the damper valve is open is by looking into the fuel cooler duct work (See Figure 1) and checking that the damper is indeed in the open position.

Once the damper has been verified open (See Fig. 1), loosen the wing nut and the handle nut to remove the handle and place it so it will properly indicate the open position. Note: Ensure when repositioning the loosened handle that you do not move the damper out of the open position. **Ensure you write on the duct work "Handle Position confirmed correct on: current date xx/xx/20xx)"** (Reference Figure 2).

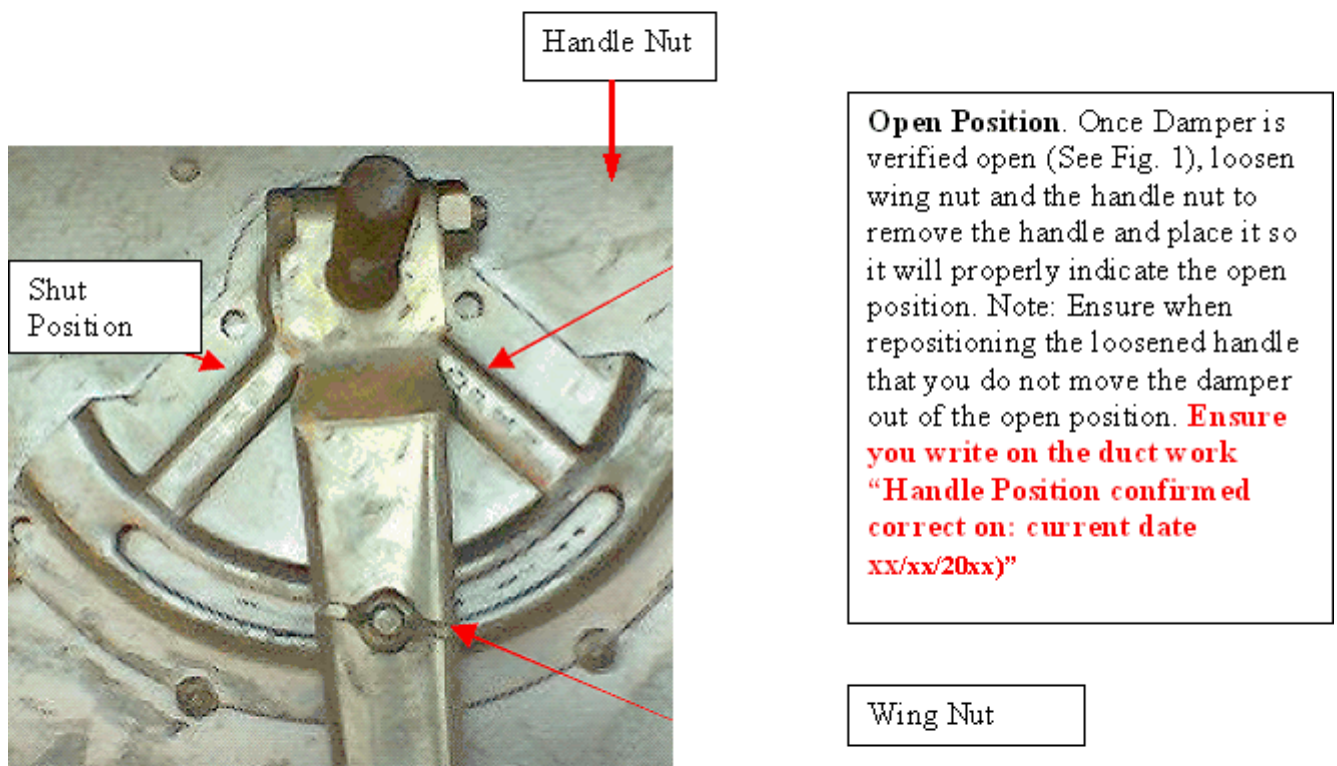


Figure 2 Shows a handle which does not indicate the Damper "open" position properly

NOTE: HANDLE POSITION VARIES FROM UNIT TO UNIT IN REGARDS TO WHAT POSITION THE HANDLE IS IN TO HAVE THE DAMPER IN THE "OPEN POSITION". EACH UNIT MUST BE INDEPENDENTLY VERIFIED.

NOTE: The adjuster is not easy to get to as it is situated between the main cooling radiator and the air duct for the cleaner filters in the front of the cooling compartment

Product Support Bulletin

Date: March 8, 2007 **Bulletin No. 697**

Subject: Marine E-Series Digital Display Inoperative **Effective:** Immediately

Group: 19

Model(s) or Series: All networked marine models:
MDDCx
MGKBD, MGKBC
MDKBH, BK, BL, BM, BN, BP, BR, BS, BT, BU

Description:

A circuit board component in the e-series digital displays built between date code **5C11 (March 11, 2005)** and **6F15 (June 15, 2006)** may fail and cause the display to become inoperative/blank. This failure could occur while the genset is running which would then require the set be stopped and started using the local switch on the set.

The date code for the display is on the part number/bar code label located on the side of the display.

The date code is the last 4 digits on the label. The first digit represents the year. The letter represents the month. The last two digits represents the day of the month. examples:

300-6018-AD-000054**6F30** = 6/30/06

300-6018-AD-000054**6E12** = 5/12/06

Correction:

If you have an e-series digital display with a date code between 5C11 (March 11, 2005) and 6F15 (June 15, 2006) that is inoperative/blank, replace the display prior to any further diagnostic work. Do NOT return displays that have been in service. If the display date code does not fall between these dates, then follow normal diagnostics.

Parts in stock at MDC and CPG factory stock have been reworked to replace the failing circuit board component. These reworked digital displays can be identified by a green dot or green writing on the part number/bar code label.

The date codes should be checked on the replacement displays that may be in stock at distributors/dealers. If displays in stock at distributors/dealers have date codes between 5C11 and 6F15 and do not have a green dot or green writing on the label, return them to:

Cummins Power Generation
1400 73rd Avenue, N.E.
Mail station OF193
Minneapolis, MN 55432
Attn: Paul Jacobson

Return in-stock displays **only**. Do NOT return displays that have been in service. To receive credit for returned stock parts, use authorization number 64050, fail code JCQYOC, and BIS account 95 on claims. This authorization will expire 6/8/2007. Claim detail should include the date code for each display being returned.



Product Support Bulletin

Date: March 28, 2007 **Bulletin No. 698**

Subject: Safety Campaign #734 **Effective:** Immediately
(Switched B+ May Remain
Energized After Failed Start
for PCC 1301 Controllers
Shutdown)

IMPORTANT

Field upgrading must be conducted promptly on all available gaseous units referencing the above equipment list.

IMPORTANT

Model(s) or Series: Gaseous Generator Sets with a PCC 1301 controller (0327-1513-01/02), including non-PGF built units. See attached Equipment List (rev 0) for affected S/Ns.



Campaign #734
Equip List (Rev 0).xls

Purpose:

To update the PCC 1301 controller software to version 5.18.

Background:

During recent factory testing, it was discovered that GGDB, GGMA, & GNAC gaseous fueled Generator Sets with a PCC 1301 control have the possibility of maintaining 12 volts DC to the fuel solenoid in the event they fail to start after reaching a narrow engine speed band.

This possibility may only occur during the very small window of time (less than 1 second) as engine speed transitions out of the start disconnect sequence at 450

RPM to the point at which the PCC 1301 control senses generator rated frequency.

If the above scenario occurs, gaseous fuel may flow through the fuel shutoff valves and gas regulator into open atmosphere. Should the Generator Set reside in an enclosed environment such as an enclosure or boiler room with limited air exchange, a combustible air/fuel ratio may be created.

As the attached equipment lists indicates, there exist approximately 3300 Generator Sets with the above potential safety hazard. The only known gaseous fuel leak incident in the field occurred earlier this month, but did NOT result in a fire or any personal injury or property damage. However, this Bulletin calls for a campaign of the entire population of product to assure our customers' complete safety.

IMPORTANT

Field upgrading must be conducted promptly on all available gaseous units referencing the above equipment list.

IMPORTANT

Actions:

To resolve this issue, the PCC 1301 Controller calibration has been updated. This was implemented on factory units beginning on 2/13/07.

When performing this upgrade, be sure to do the following:

- InPower v5.5 **must** be installed.
- The PC Tools patch **MUST** be run before downloading the new PCC1301 code.
- The new calibration for the PCC1301 **must** be installed.
- Once this new version of the PCC1301 code has been installed, **do not attempt to use the 'old' version as to do so will corrupt the board and render it useless.**



pctools patch.exe



PCC1301 Client CD
for Field Flash (5.18).

Upgrade field units as follows:

1. Verify InPower v5.5 is installed and available.
2. To install the PC Tools patch:
 - a) Copy "pctools patch.exe" to the root directory (C:\ or D:\, as applicable) and double click on it.
3. To install the new calibration for the PCC1301:
 - a) Copy the "PCC1301 Client CD for Field Flash (5.18) .exe" file to the root directory (C:\ or D:\, as applicable).
 - b) Double Click on "PCC1301 Client CD for Field Flash (5.18) .exe" file. Unzip the Client CD to the root directory (C:\ or D:\, as applicable). This will place a folder, PCC1301 Client CD on the root directory.
 - c) Inside the PCC1301 Client CD folder, you will find a PGA folder and two files. Copy the PGA folder to the root directory (C:\ or D:\, as applicable) or place it on a CD.
 - d) Place the Service File (56.srv) into C:\ or D:\Program Files\Power Generation\InPower\Data.
 - e) Place the Logical File (56.dfa) into C:\ or D:\Program Files\Power Generation\Shared\Data.
4. **Update** the Generator Set's calibration to v5.18 provided in the Client CD.
5. Verify v5.18 installed on the controller through either the HMI or InPower service tool.

For questions or concerns, please utilize the following contacts:

- PCtools or cal updating: [Ninart Narthasilpa, 763-574-5077,
ninart.narthasilpa@cummins.com](mailto:ninart.narthasilpa@cummins.com)
- Commercial claim handling: [Dean Jongquist, 763-528-7475,
dean.a.jongquist@cummins.com](mailto:dean.a.jongquist@cummins.com)

- Consumer claim handling: Brian Turner, 763-528-7470,
brian.j.turner@cummins.com

This Product Support Bulletin is in support of Campaign #734 and the campaign number must be referenced on associated claims. Standard warranty or policy reimbursement guidelines apply for this upgrade, along with the following:

- Failure Code: JCQDWP
- Severity Code: A
- Acct Code: 65
- SRT: 1.2 hr.
- Admin: 0.4 hr.



Product Support Bulletin

Date: June 21, 2007

Bulletin No. 699

Subject: InPower Onan updates
and the INCAL website

Effective: Immediately

Models: HDKCx, HGJAA, AD, AE, AF, HDKAx starting with spec k, MDKBH-BU, MDDCx and MGKBx

Description:

This announcement will cover several topics regarding InPower Onan. There are 4 sections to this notification.

1. Explaining the proper way to uninstall InPower Onan tool
 2. Clarifying which HGJAx models currently operate with InPower Onan
 3. Introducing the new INCAL website
 4. Reiterating PGU course information
-
1. When InPower Onan software is not uninstalled correctly it prevents a successful installation on future attempts.
 - a. Whenever a new version of the tool must be installed on a PC, insert the CD and it will prompt you to uninstall the previous version. The current version will then be installed.
 - b. Whenever InPower Onan must be removed from a PC for any other reason the best method of removal is as follows: either click start → all programs → power generation → InPower Onan → uninstall

Or

Click → control panel → add/remove program → PowerGen PC tools → change/remove

Either of these two methods will allow for a successful removal of the InPower Onan tool.
 2. On previous notifications it is listed that InPower Onan will operate with HGJAA, AD, AE or AF model generators, however this is an accurate statement only if one of the following are true:
 - a. The genset has a serial number of A05 or newer

or

 - b. The control board was built starting in Jan 2005. Controls will communicate with InPower Onan if you have a genset that has a serial number prior to A05 but has had the control board replaced after December 2004. Below is an example to show how to read the date code on a barcode located on the back of the control board.



In the example above, the control board was manufactured on March 26, 2004 and would NOT be compatible with InPower Onan. (A generator built before January 2005 has a compatible control if the 4th character from the end has a digit that is 5 or higher. xxx – xxxx - - - - XX – xxxxxx7xxx. In this example the control was built in 2007)

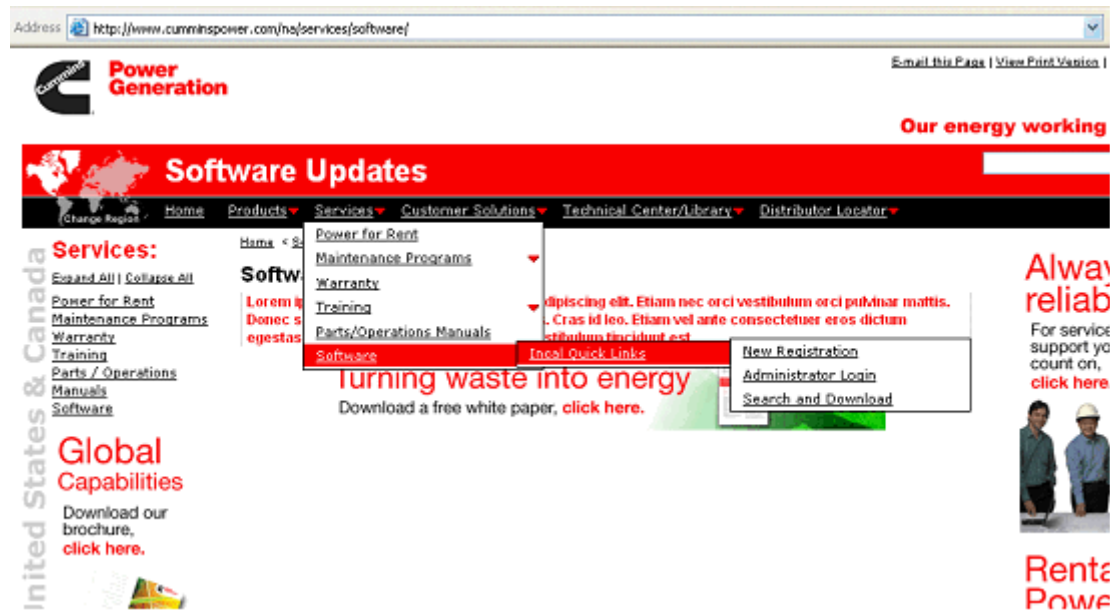
c. DO NOT replace control boards just so it will operate with InPower Onan unless you are doing it at YOUR expense.

3. In order for InPower Onan to update software with any of the compatible generators the correct calibration (INCAL) files must be installed on the PC. Cummins Onan has launched a website that allows users to download the latest calibration files. Current INCAL files that were distributed by any method other than the website, expire on June 30, 2007. You must download the INCAL files from the website in order for InPower Onan to work after the expiration period listed above otherwise you will not be able to download to the controls using the update calibration feature.

An announcement will be sent should an urgent calibration update be released. The INCAL web site reached through www.cumminspower.com/na.

To register: Click on Service -> INCAL Quick Links -> New Registration.

Once registered, to access download page: Click on Service -> INCAL Quick Links -> Search and Download



For access, first determine if you are a Cummins employee or Guest, then complete the registration information accurately as outlined below. **NOT** following the instructions below **WILL** result in delaying or

rejecting your access request.

Since there are no dongles, InPower Onan users are **required** to enter a telephone number for verification. Acceptable locations are the space provided for '**dongle number**' or '**Mailing address 2**'.

Cummins Employees:

1. Enter your WWID (World Wide Identification) into the "UserID" category

**** NOTE ****

DO NOT use your **WWID@cummins.com** format in step 2.

2. Enter your Cummins email address in **First.LastName@cummins.com** format.

3. This will prompt the system to register your WWID. Once your request is approved, you will be granted access to the INCAL web site using your standard Cummins password (WWIMS - World Wide Identify Management).

**** NOTE ****

Guest access is intended for authorized InPower Onan Users who support Cummins products and services yet do not have a WWID and WWIMS.

Guest - All Other Users (Non-Cummins employees):

1. Enter any "UserID" you prefer with greater than 5 characters

2. Enter any email address that does **NOT** contain @cummins.com

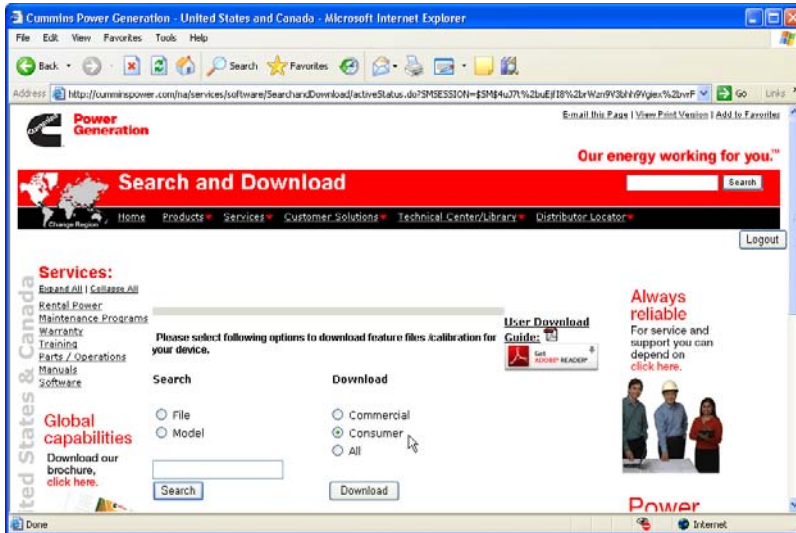
3. After approval is granted you will then be sent an email link to be able to register your password and establish password recovery information.

Once access is granted, entry will allow Users to search for specific calibrations, by model type, etc. as indicated below.

**** NOTE ****

Although the site does contain a radio button for Commercial calibration searches, these calibrations will not work unless you have the InPower Pro tool, InPower Onan will not communicate with commercial devices.

Because the Consumer calibration file package is small (<2MB), it is recommended that calibration files are downloaded using Consumer radio button rather than searching by model or file. (See below)



Once the consumer.zip file is open, extract to the root drive 'C' or 'D'. Cummins powersweep II computers should use the 'D' drive as reference on page 8 of the User download guide (or attached training document.) All other PCs should have this file extracted to the 'C' drive (or designated hard drive). The top level folder being extracted is titled PGA. If asked, you SHOULD overwrite existing files. (say yes to all)

To verify the calibration files, open the InPower Onan software and follow the steps listed on page 8 (figure 22) of the User download guide (or attached training document.) The default is the 'D' drive, however if you are using a non powersweep II PC change the INCAL CD drive to 'C' (or designated hard drive.)

Attached is a copy of the User download guide. This should be previewed **PRIOR** to beginning registration.



InCal Website
Training Material.pdf

- InPower Onan training is available on PowerGen University. The course information is: Course Name – InPower Onan, Course number - CST6029-EN.

Dealers contact your Distributor for assistance. Distributors contact the factory for assistance
This is for Informational purposes only. If you have any questions or concerns regarding the above, please contact Latonya Tomlinson at latonya.tomlinson@cummins.com

