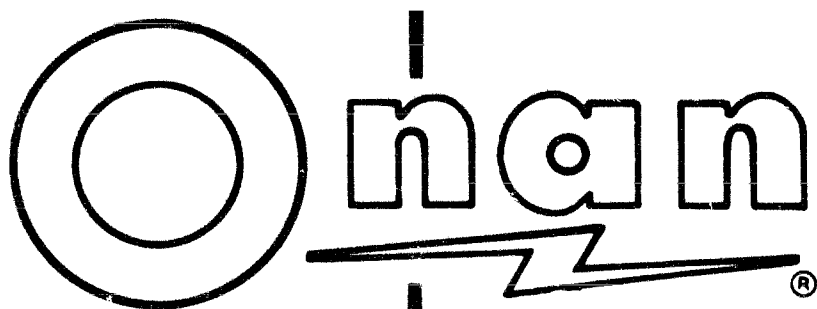


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has gaps in its page
numbers, or doesn't
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PROPERTY
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SERVICE PARTS
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DO NOT REMOVE

PARTS CATALOG

FOR



ELECTRIC GENERATING PLANTS

DFW SERIES

SPEC A AND B

PARTS CATALOG

INSTRUCTIONS FOR ORDERING REPAIR PARTS

ONAN PARTS

All parts in this list are *Onan* parts. For *Onan* parts or service, contact the dealer from whom you purchased this equipment or your nearest authorized service station. To avoid errors or delay in filling your order, please refer to the *Onan nameplate* located on the upper right side of the flywheel housing and give the complete: **MODEL, SPECIFICATION and SERIAL NUMBER.**

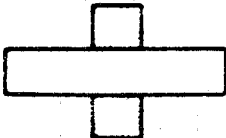
Onan	
ELECTRIC PLANT	
MODEL AND SPEC NO.	
SERIAL NO.	
IMPORTANT ALWAYS GIVE ABOVE NOS WHEN ORDERING PARTS	
AC VOLTS	PH
KVA	WATTS
PE	AMPS
DC VOLTS	AMPS
WATTS	
RPM	BAT
MANUFACTURED BY	
ONAN	
DIVISION OF ONAN CORPORATION	
MINNEAPOLIS, MINNESOTA	
MADE IN U.S.A.	
FOR ELECT. EQUIPMENT ONLY	
99A444	

CUMMINS PARTS

All Cummins parts must be ordered from the Cummins Engine Company, Inc., Columbus, Indiana or their nearest authorized Cummins distributor or dealer.

Refer to the Cummins Engine Nameplate located on the gear cover on the right side of the engine as viewed facing the radiator end.

When ordering parts or requesting service information, supply Cummins with all information stated on the engine nameplate.

CUMMINS		CUMMINS ENGINE COMPANY, INC. COLUMBUS, INDIANA, U.S.A.			
SBM NO.	MODEL	ENG NO.	OTHER REF. NO.		

PARTS CATALOG

This catalog applies to the standard DFW plants as listed below. This unit is powered by a Cummins VTA-1710-P800 engine (see Cummins Manual). Engine parts modified or added by Onan will be in this list and have Onan part numbers. These supersede similar parts listed in the Cummins manual. Onan parts are arranged in groups of related items and are identified by a reference. All parts illustrations are typical. Unless otherwise mentioned, parts are interchangeable. Right and left plant sides are determined by facing the front end of the engine.

PLANT DATA TABLE

MODEL AND SPEC NO.*	ELECTRICAL DATA				
	WATTS	VOLTS	CYCLES	PHASE	WIRE
450.0DFW-4R	450,000	120/208	60	3	4
450.0DFW-4XR	450,000	277/480	60	3	4
450.0DFW-7XR	450,000	240/416	60	3	4
450.0DFW-5DR	450,000	120/240	60	3	4
450.0DFW-6DR	450,000	240/480	60	3	4
450.0DFW-9XR	450,000	347/600	60	3	4
400.0DFW-57R	400,000	220/380	50	3	4

* The Specification Letter advances (A to B, B to C, etc.) with manufacturing changes.

REPLACEMENT ENGINE:

100P799

Engine, Replacement (Cummins Engine Company Model VTA-1710-P800).

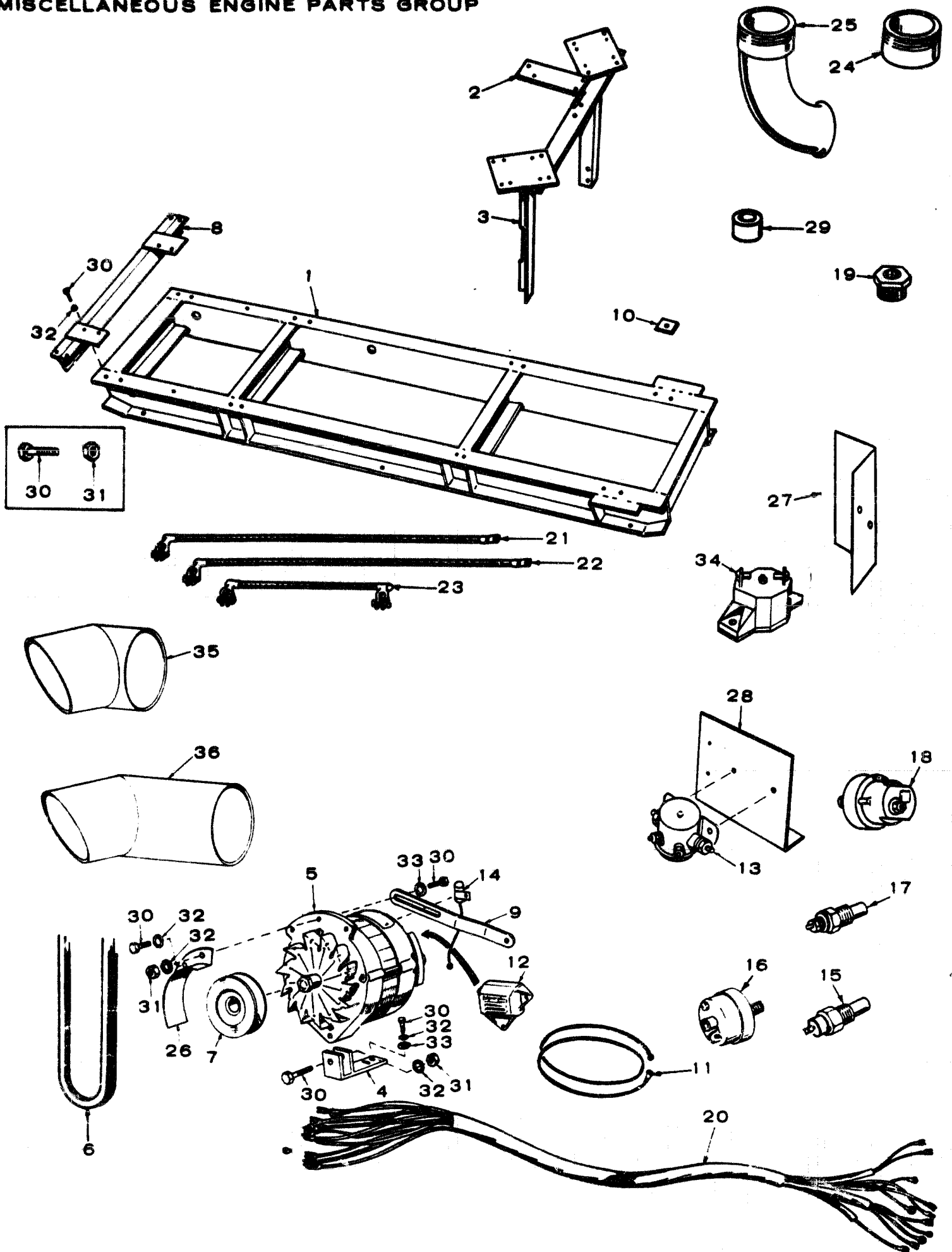
General Description:

Includes — Complete Cylinder Block, Fuel Pump (24 Volt), Air Cleaner, Fuel Filter, Starter Motor (24 Volt), Governor (Woodward SG-5%), Fan Blades, Fan Belt, Fan Guard, Flywheel, Flywheel Housing, Water Pump, Engine Supports, Oil Pan, Oil Cooler, Exhaust Manifold, Alternator Belt tightener, Vibration Damper, Radiator Brace, Radiator, Aftercooler.

Excludes — Alternator, Alternator Mounting Brackets, Alternator Belt, Temperature Sender, Oil Pressure Sender.

NOTE: This engine is for standard Spec 1 radiator cooled generator sets only. Refer to factory for all other sets.

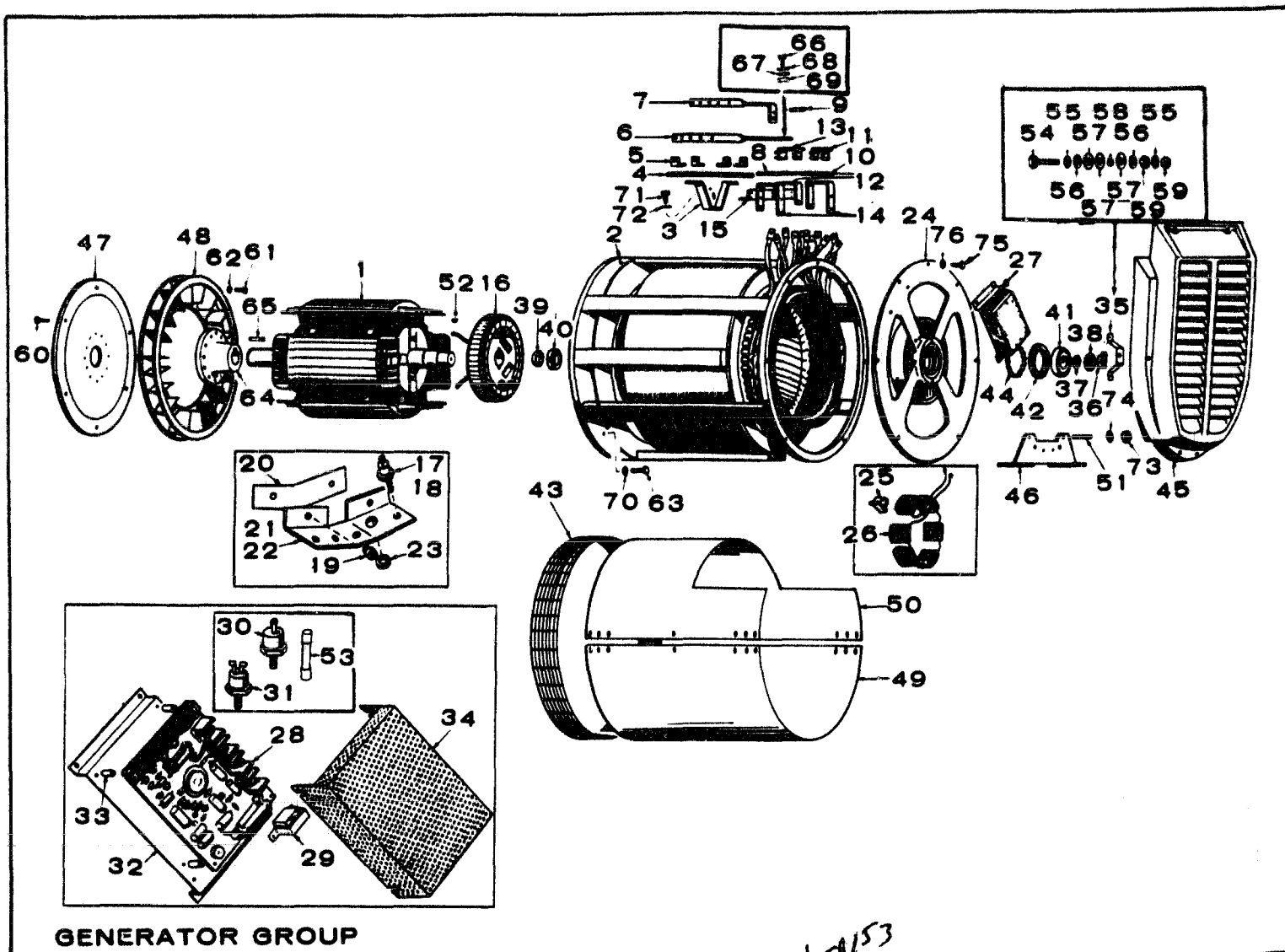
MISCELLANEOUS ENGINE PARTS GROUP



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	403D867	1	Base, Mounting
2	140A1079	1	Brace, Air Cleaner Mounting
3	140D1076	1	Support, Air Cleaner
4	191B697	1	Bracket, Alternator Mounting
5	191P871	1	* Alternator, Charge - Includes Regulator & Fan (Motorola #70D44039B04 - SPECIFY: #49A41756A01 Fan)
6	511P37	1	Belt, Alternator Drive
7	191C624	1	Pulley, Alternator
8	130D807	1	Support, Radiator
9	191B101	1	Bracket, Alternator Adjusting
10	SHIM, GENERATOR TO MOUNTING BASE		
	232A1817	As Req.	.062"
	232A1489	As Req.	.0598"
	232A1490	As Req.	.0359"
11	336A1721	1	Lead, Starter Ground
12	191P733	1	Regulator, Voltage - Alternator
13	307B61	1	Solenoid, Starting - Spec A Only
14	312A58	1	Condenser, Alternator
15	309B178	1	Switch, High-Temperature
16	309B272	1	Switch, Low-Oil Pressure
17	193A109	1	Sender, Water Temperature
18	193A195	1	Sender, Oil Pressure
19	BUSHING, REDUCER		
	505-21	1	3/4 to 1/2"
	505-131	1	3/4 to 3/8"
20	HARNESS, WIRING		
	338C459	1	Engine to Control - Spec A Only
	338C621	1	Engine to Control - Begin Spec B
	338B517	1	Line to Control
	338A515	1	Line to Voltage Regulator
	338B516	1	Voltage Regulator to Control - Spec A Only
	338A634	1	Voltage Regulator to Control - Begin Spec B
21	416A444	1	Cable, Battery - Positive
22	416A445	1	Cable, Battery - Negative
23	416A446	1	Cable, Jumper
24	505-689	1	Nipple, Exhaust Outlet
25	155B1035	1	Elbow, Exhaust Outlet

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
26	191B725	1	Guard, Alternator Belt
27	309A246	1	Shield, Heat - High Temperature Switch
28	306A220	1	Bracket, Solenoid Mounting - Spec A Only
29	403A851	8	Spacer
30	SCREW, HEX HEAD		
	800-153	6	Radiator Support to Base (3/4-10 x 1-1/2")
	800-158	2	Generator to Base (3/4-10 x 2-3/4")
	800-159	8	Engine to Base (3/4-10 x 3")
	800-48	2	Alternator Mounting Bracket Mounting - (3/8-16 x 3/4")
	800-25	1	Alternator to Adjusting Bracket (5/16-18 x 5/8")
	800-91	1	Alternator to Mounting Bracket (1/2-13 x 1-1/2")
31	NUT, HEX		
	862-8	20	Engine and Generator to Skid (3/4-10)
	862-5	2	Alternator to Mounting Bracket
32	WASHER, LOCK		
	850-79	4	Radiator Support to Base (3/4")
	850-50	2	Alternator Mounting Bracket (3/8")
	850-45	1	Alternator to Adjusting Bracket (5/16")
33	WASHER, FLAT		
	526-183	1	Alternator Mounting Bracket
	526-22	1	Alternator Adjusting Bracket
34	320P240	1	Breaker, Circuit - Starting Circuit - Spec A Only
35	140B1081	1	Elbow, Air Inlet
36	140B1082	1	Elbow, Air Inlet

* For components, contact your nearest Motorola Dealer or
Motorola Automotive Products, Inc., 9401 W. Grand Ave.,
Franklin Park, Illinois 60131.



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	*	1	Rotor Assembly, Wound
2	*	1	Stator Assembly, Wound
3	232B1994	1	Bracket, Bus Bar Support
4	232B1997	1	Board, Insulating - Bus Bar Support
5	232A1992	4	Bracket, Bus Bar
6	232B1996	1	Bar, Bus
7	232B2001	3	Bar, Bus
8	232B1995	1	Board, Insulating - Terminal
9	520A693	16	Stud, Terminal Board
10	232B1998	1	Board, Insulating - Terminal
11	232A1990	3	Bar, Bus
12	232B2000	1	Bracket, Terminal Board Mounting
13	232A1991	1	Bar, Bus
14	232B1999	2	Bracket, Terminal Board Mounting
15	315C302	1	Shelf, Current Transformer
16	201D1501	1	Rotor Assembly, Exciter (Wound) (Includes Parts Marked ★)
17	358C11	3	★Rectifier, Positive Stud
18	358C12	3	★Rectifier, Negative Stud
19	508A124	4	★Bushing, Shoulder - Heat Sink Mounting
20	232A1985	4	★Insulator, Heat Sink Mounting
21	363B25	1	★Sink, Heat - Rectifier (Positive)
22	363B33	1	★Sink, Heat - Rectifier (Negative)
23	508P93	1	★Grommet, Heat Sink
24	211C170	1	Bell, End (Includes Parts Marked ‡)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
25	315D153	6	‡Shoe, Pole - Exciter
26	222B1693	1	‡Coil Assembly, Field (Set of 6 Coils)
27	305C455	1	Regulator, Voltage (Includes Parts Marked †)
28	332D1160	1	†Board Assembly, Printed Circuit (Includes Parts Marked ▲)
29	315D301	1	†Inductor
30	▲RECTIFIER, VOLTAGE REGULATOR		
	358C15	1	300 Volt, 12 Ampere - Negative Base
	358C16	1	300 Volt, 12 Ampere - Positive Base
31	364B9	2	▲Rectifier, Gate Controlled 300 Volt, 5.5 Ampere - Negative Base
32	305C454	1	†Chassis, Voltage Regulator
33	305A458	4	†Spacer, Printed Circuit Board Mounting
34	305C456	1	†Cover, Voltage Regulator
35	150B1194	1	Bracket, Overspeed Switch
36	150B717	1	Switch Assembly, Overspeed
37	510P93	1	Lockwasher, Bearing
38	510P91	1	Locknut, Bearing
39	510P94	1	Lockwasher, Bearing
40	510P92	1	Locknut, Exciter
41	510P90	1	Bearing
42	232B1923	1	Ring, Bearing Holder
43	234B272	1	Cover, Fan
44	232B1924	1	Spring, Bearing Holder

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
45	232E1973	1	Grille, End Bell
46	232D1957	1	Support, Generator End
47	232C1880	1	Disc, Rotor Drive
48	205D76	1	Fan, Generator
49	234C279	1	Band, Stator - Bottom
50	234C289	1	Band, Stator - Top
51	520A692	2	Stud, Generator Support
52	515A162	1	Key, Exciter Rotor
53	321-38	1	▲ Fuse - 10 Amp, 250 Volt
54	150A723	1	Contact Assembly, Overspeed Switch
55	854-14	2	Washer, Lock (1/4), Overspeed Switch
56	526-52	2	Washer, Flat, Overspeed Switch
57	508-18	3	Washer, Insulator (1/4 " I.D. x 3/4 " O.D.) Overspeed Switch
58	508-6	1	Washer, Insulator (1/4 " I.D. x 3/8 " O.D.) Overspeed Switch
59	871-16	2	Nut (Brass), Hex (1/4-20) - Overspeed Switch
60	805A35	12	Screw (5/8-11 x 1-1/2 ") - Drive Disc to Hub
61	800-133	6	Screw (5/8-11 x 1-3/4 ") - Fan to Flywheel
62	850-70	6	Washer, Lock (5/8 ")

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
63	800-92	16	Screw (1/2-13 x 1-1/2 ") - Stator Assembly to Engine
64	232C1870	1	Hub, Rotor Drive
65	515A161	1	Key, Drive Hub
66	800-52	15	Screw (3/8-16 x 1-1/2 ") - Bus Bars to Insulating Board
67	850-50	15	Washer, Lock (3/8)
68	526A29	24	Washer, Flat (3/8)
69	862-3	15	Nut, Hex (3/8-16)
70	850-60	16	Washer, Lock (1/2)
71	800-151	1	Screw (3/4-10 x 1 ") - Bus Bar Support Bracket to Stator Assembly
72	850-79	1	Washer, Lock (3/4)
73	862-7	4	Nut, Hex (5/8-11) - Support Stud
74	850-70	4	Washer, Lock (5/8)
75	800-51	6	Screw (3/8-16 x 1-1/4 ") - End Bell to Stator Assembly
76	850-50	6	Washer, Lock (3/8)

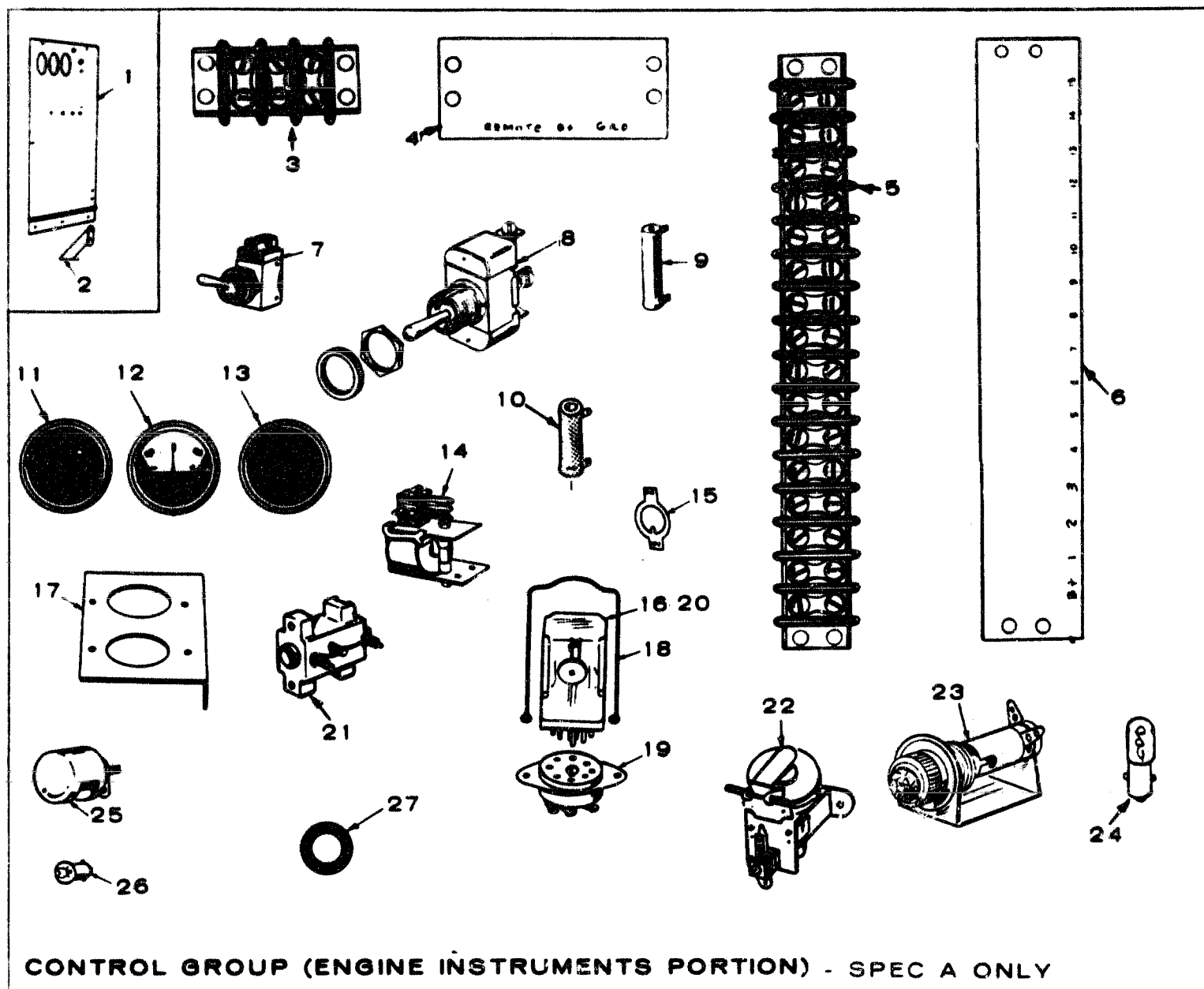
* Order by description, giving plant Model, Spec and Serial Number from ONAN nameplate.

★ Included in 201D1501 Rotor Assembly.

‡ Included in End Bell Assembly.

† Included in 305C455 Regulator Assembly.

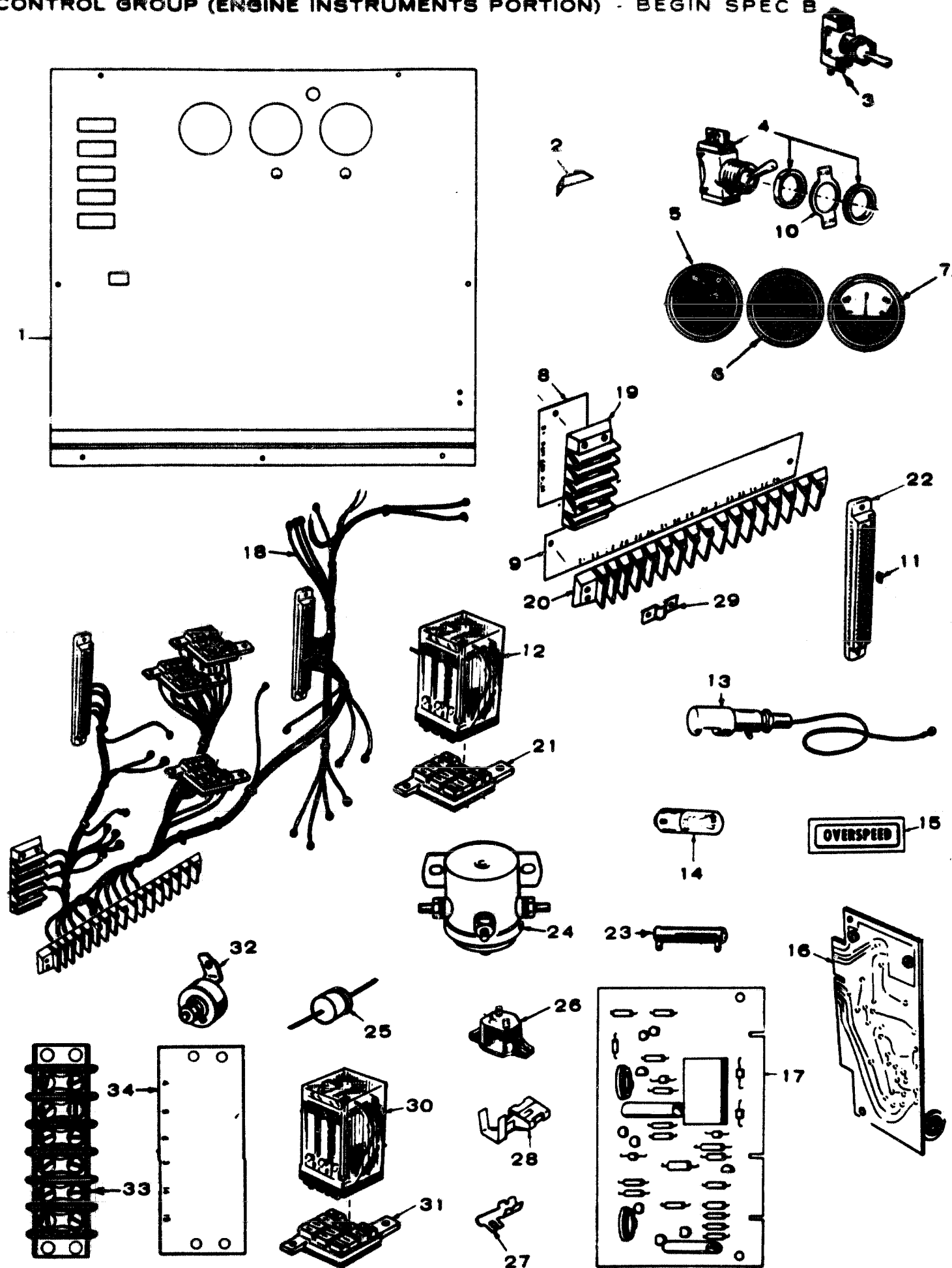
▲ Included in 332D1160 Printed Circuit Board Assembly.



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	301C2907	1	Panel, Control
2	301A2951	1	Bracket, Panel Stop
3	332A611	1	Block, Terminal
4	332A762	1	Strip, Term. Block Marker
5	332A795	1	Block, Terminal
6	332A862	1	Strip, Term. Block Marker
7	308-2	1	Switch, Panel Light
8	308P138	1	Switch, Run-Stop-Remote
9	304A446	2	Resistor, 150 ohm, 10 Watt
10	304A66	1	Resistor, 10 ohm, 50 Watt
11	193B112	1	Gage, Water Temp.
12	302A61	1	Ammeter, Charge
13	193B111	1	Gage, Oil Pressure
14	307A655	1	Relay, Shutdown

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
15	308-3	1	Plate, On-off Switch
16	307P820	1	Relay, Fuel Solenoid
17	301A2393	1	Bracket, Relay Mounting
18	307P778	2	Spring, Relay Holddown
19	323-52	2	Socket, Relay
20	307P820	1	Relay, Start Disconnect
21	320B104	1	Relay, Cranking
22	307A899	1	Relay, Oil Pressure
23	322P69	1	Receptacle, Emergency Lamp
24	322-17	1	Lamp, Emergency
25	322P73	1	Receptacle, Panel Lamp
26	322-81	1	Lamp, Panel
27	GROMMET		
	508P1	1	For 1 1/16" Hole
	508P60	1	For 1" Hole

CONTROL GROUP (ENGINE INSTRUMENTS PORTION) - BEGIN SPEC B

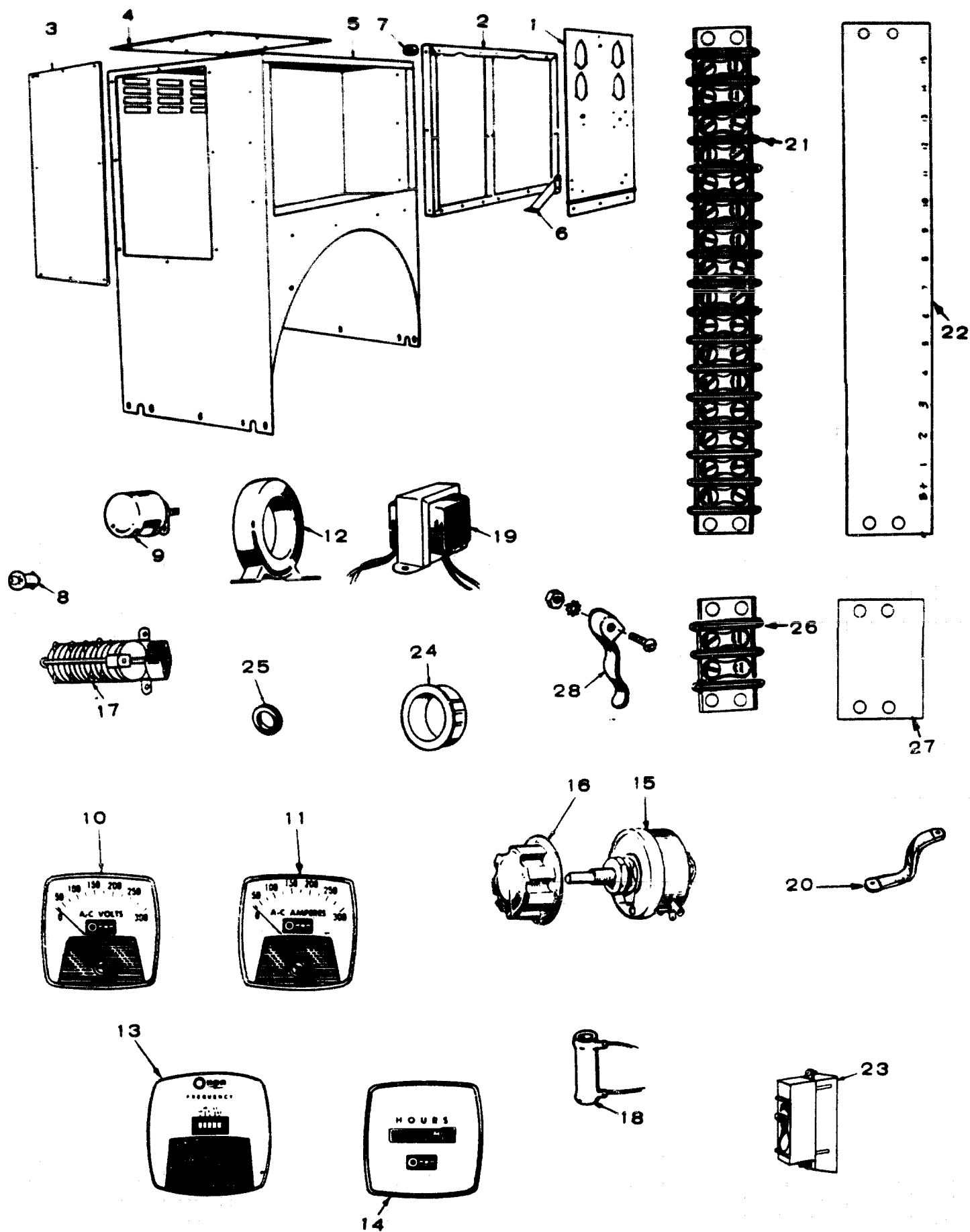


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	PANEL ONLY, ENGINE CONTROL		
	301D3400	1	For One Fault Light
	301D3401	1	For Five Fault Lights (Optional)
2	301A2951	1	Bracket, Panel Stop
3	SWITCH, SELECTOR		
	308P138	1	All Except Pennsylvania Approved Sets (Also Includes Pennsylvania Approved Sets Prior to Spec C)
	308P327	1	Pennsylvania Approved Sets - Begin Spec C
4	308-2	1	Switch, Panel Light
5	193B194	1	Gauge, Oil Pressure
6	193B106	1	Gauge, Water Temperature
7	302A61	1	Ammeter, Charge (30-0-30)
8	332A1239	1	Strip, Marker (B+, Remote, Ground, Alarm)
9	332A1241	1	Strip, Marker (21 through 36)
10	308A3	1	Plate, Switch (On-Off)
11	332-1276	4	Plug, Keying (3 Used on Sets With Five Fault Lights)
12	307B1056	2	Relay, (1) Start Disconnect (1) Ignition
13	322P73	1	Holder, Lamp
14	322P81	1	Lamp, Panel
15	LAMP, FAULT		
	322A129	1	Standard Sets
	322A119	1	Overcrank (Optional)
	322A123	1	Overspeed (Optional)
	322A120	1	Low Oil Pressure (Optional)
	322A121	1	High Engine Temperature (Optional)
	322A122	1	Low Engine Temperature (Optional)
16	CONTROL, CRANKER		
	300A751	1	Standard Cranker (Includes (1) #357A4 Rectifier)
	300C715	1	Cycle Cranker (Optional) - (See Separate Group for Components)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
17	MONITOR, ENGINE CONTROL (SEE SEPARATE GROUP FOR COMPONENTS)		
	300C680	1	Sets With One Fault Light - Standard
	300D682	1	Sets With Five Fault Lights - Optional (Includes Pennsylvania Approved Sets)
	300D731	1	Pennsylvania Approved Sets With One Fault Light
18	HARNESS ASSEMBLY, WIRING - CONTROL (INCLUDES PARTS MARKED *)		
	338D617	1	Sets With One Fault Light - Std.
	338D618	1	Sets With Five Fault Lights - Optional
19	332A537	1	*Block, Terminal - 4 Place
20	332A795	1	*Block, Terminal - 16 Place
21	323A765	2	*Socket, Relay - 11 Place
22	332B1271	2	*Housing, Printed Circuit Board Terminal
23	304A262	1	Resistor, Oil Pressure Gauge
24	307B61	1	Relay, Starter Pilot
25	357A4	1	Rectifier, Diode
26	320P240	1	Breaker, Circuit (12.5 Amp)
27	332A1269	As Req.	*Terminal, PC Board
28	332A1280	As Req.	*Terminal, Crimp
29	332C1043	1	*Jumper, Terminal - Standard Sets
30	307B1143	1	Relay, Starter Protection
31	323A764	1	*Socket, Relay - 8 Place
32	193P189	1	Resistor, Water Temperature Gauge
33	332A699	1	*Block, Terminal (6 Place) - Sets With Five Fault Lights (Opt.)
34	332A1240	1	Strip, Marker (53 through 58) - Sets With Five Fault Lights (Optional)

* Included in Control Wiring Harness Assembly.

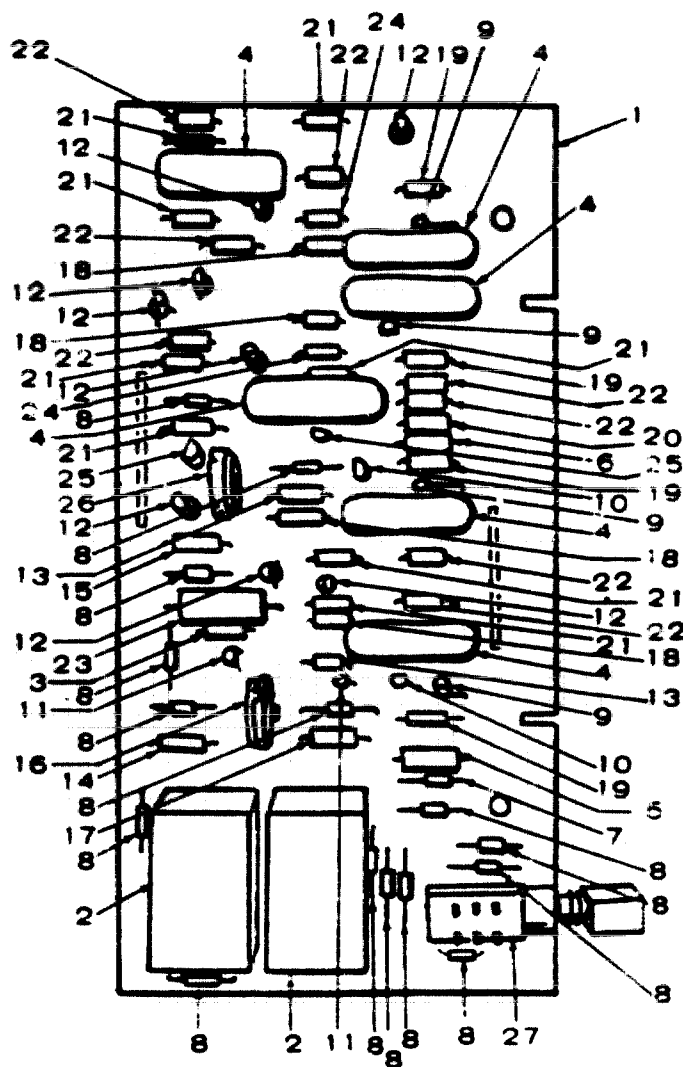
CONTROL GROUP (AC OUTPUT PORTION)



REF NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	301C2908	1	Panel, Control
2	301C2906	1	Frame, Control Panel Mounting
3	301A2905	2	Plate, Control Box - Side
4	301B2904	1	Plate, Control Box - Top
5	301D2903	1	Box, Control
6	301A1914	1	Bracket, Panel Stop
7	402A78	5	Mount, Rubber - Control Box Frame
8	322-B1	1	Lamp, Panel
9	322P73	1	Receptacle, Panel Lamp
10	VOLTMETER, AC (CHECK VOLTMETER SCALE - SELECT ACCORDING TO RATING)		
	302P421	1	Scale Reads 0-300
	302P612	1	Scale Reads 0-500
	302P422	1	Scale Reads 0-600
	302P423	1	Scale Reads 0-750
11	AMMETER, AC (CHECK AMMETER SCALE - SELECT ACCORDING TO RATING)		
	302P414	1	Scale Reads 0-500
	302P415	1	Scale Reads 0-750
	302P416	1	Scale Reads 0-1000
	302P640	1	Scale Reads 0-1200
	302P641	1	Scale Reads 0-1500
	302P642	1	Scale Reads 0-2000
12	TRANSFORMER, CURRENT (CHECK TRANSFORMER NAMEPLATE - SELECT ACCORDING TO RATING)		
	302B547	3	Transformer Nameplate Reads 500/5 (Use with 0-500 Ammeter)
	302B625	3	Transformer Nameplate Reads 750/5 (Use with 0-750 Ammeter)
	302P589	3	Transformer Nameplate Reads 1000/5 (Use with 0-1000 Ammeter)
	302P643	3	Transformer Nameplate Reads 1200/5 (Use with 0-1200 Ammeter)
	302P644	3	Transformer Nameplate Reads 1500/5 (Use with 0-1500 Ammeter)
	302B645	3	Transformer Nameplate Reads 2000/5 (Use with 0-2000 Ammeter)

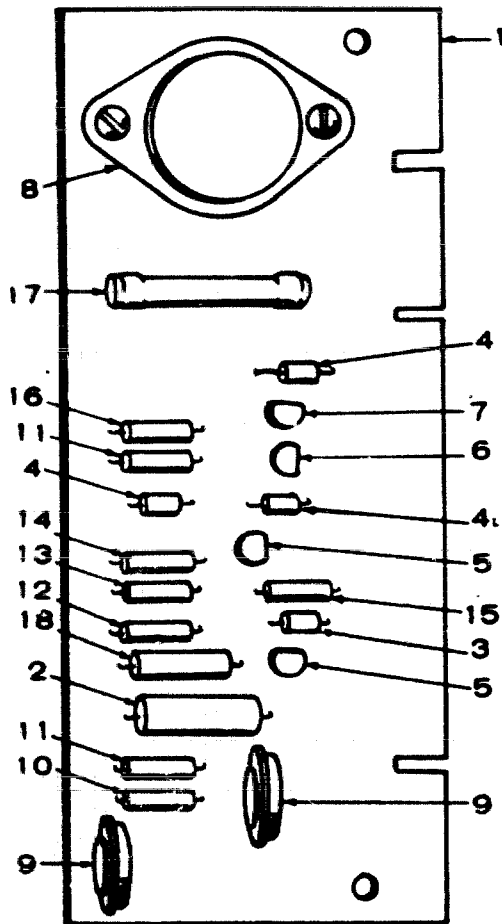
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
13	METER, FREQUENCY		
	302B213	1	120/208, 120/240, 277/480 Volt, 3 Phase, 60 Hertz
	302P221	1	240/480 Volt, 3 Phase, 60 Hertz
	302B717	1	347/600 Volt, 3 Phase, 60 Hertz
	302D256	1	220/380 Volt, 3 Phase, 50 Hertz
14	METER, RUNNING TIME		
	302P465	1	120/208, 120/240, 347/600 Volt, 3 Phase, 60 Hertz
	302P466	1	240/480 Volt, 3 Phase, 60 Hertz
	302P467	1	277/480 Volt, 3 Phase, 60 Hertz
	302P469	1	220/380 Volt, 3 Phase, 50 Hertz
15	303-111	1	Rheostat, Voltage Adjustment
16	303P32	1	Knob, Rheostat
17	308B22	1	Switch, Voltage & Current Selector
18	RESISTOR, FIXED		
	304A305	1	45,000-Ohm, 10 Watt (277/480 Volt Sets)
	304A536	1	9000-Ohm, 50 Watt (347/600 Volt Sets)
	353A36	1	1600-Ohm, 10 Watt (220/380 Volt Sets)
19	TRANSFORMER, POTENTIAL		
	315B292	1	120/208 Volt Sets
	315B32	1	120/240 Volt Sets
	315B36	1	277/480, 240/480 Volt Sets
	315B67	1	347/600 Volt Sets
	315B35	1	220/380 Volt Sets
20	337-44	1	Strap, Ground
21	332A795	1	Block, Terminal (16 Place)
22	332A1134	1	Strip, Terminal Block Marker (1 through 16)
23	320B431	1	Breaker, Circuit (2 Amp)
24	331A88	1	Bushing (Nylon)
25	508P1	3	Grommet (For 1-1/16" Hole)
26	332A609	1	Block, Terminal (2 Place) - 220/380 Volt Sets
27	332A610	1	Strip, Marker (2 Place) - 220/380 Volt Sets
28	320P307	1	Lock, Circuit Breaker - Pennsylvania Approved Sets Only

ENGINE CONTROL MONITOR GROUP
(All sets with five fault lights) - OPTIONAL



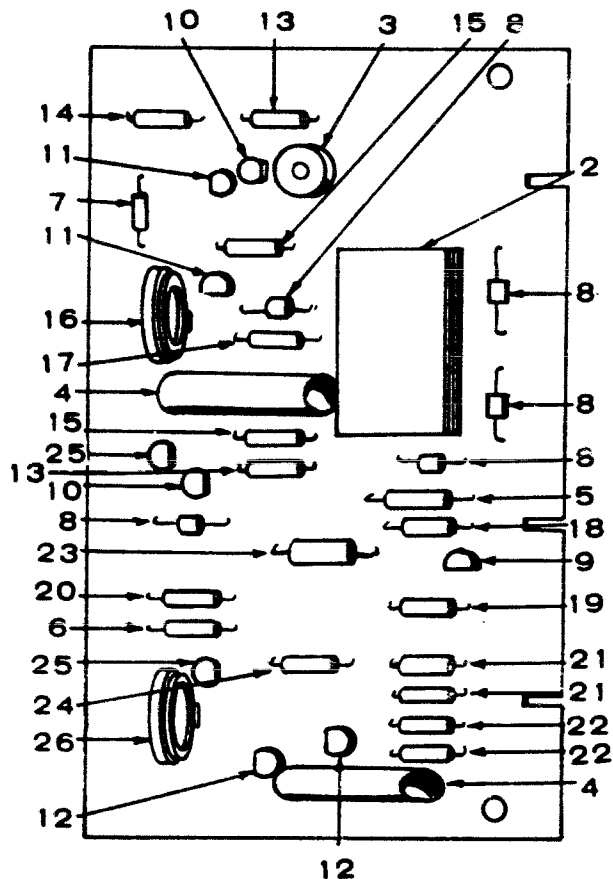
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	300C682	1	Monitor Assembly Complete - Engine Control
2	307A1076	2	Relay
3	350P548	1	Resistor (10,000-Ohm)
4	355P5	6	Capacitor (22 Mfd.)
5	356A40	1	Capacitor (10 Mfd.)
6	356A30	1	Capacitor (1 Mfd.)
7	359A27	1	Diode, Zener
8	357A4	15	Rectifier, Diode
9	364A11	4	Rectifier, Gate Control
10	361A3	2	Transistor
11	362A25	2	Transistor, Field Effect
12	362A27	8	Transistor, Silicon
13	350-536	2	Resistor (1,000-Ohm)
14	350-534	1	Resistor (680-Ohm)
15	350-552	1	Resistor (22,000-Ohm)
16	303A169	1	Potentiometer
17	350-572	1	Resistor (1 Megohm)
18	350-505	4	Resistor (2.7-Ohm)
19	350-517	4	Resistor (27-Ohm)
20	350-587	1	Resistor (18 Megohm)
21	350-529	8	Resistor (270-Ohm)
22	350-544	8	Resistor (4,700-Ohm)
23	350-980	1	Resistor (510-Ohm, 2 Watt)
24	350-380	1	Resistor (510-Ohm, 1/2 Watt)
25	362A31	2	Transistor, Field Effect
26	303A182	1	Potentiometer
27	308A280	1	Switch, Push Button

CONTROL, CYCLE CRANKER GROUP (Optional Equipment)



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	300C715	1	Control, Cycle Cranker - Complete
2	356A39	1	Capacitor, Electrolytic (100Mfd.)
3	359A27	1	Diode, Zener (7.5 Volts)
4	357A4	3	Rectifier, Diode
5	362A8	2	Transistor, Signal
6	362-17	1	Transistor
7	362A26	1	Transistor, Signal
8	362A19	1	Transistor, Power
9	303A171	2	Potentiometer (100,000-Ohm)
10	350-560	1	Resistor, Fixed (0.1 Megohm)
11	350P548	2	Resistor, Fixed (10,000-Ohm)
12	350-558	1	Resistor, Fixed (68,000-Ohm)
13	350-420	1	Resistor, Fixed (24,000-Ohm)
14	350-546	1	Resistor, Fixed (6,800-Ohm)
15	350-534	1	Resistor, Fixed (680-Ohm)
16	350-500	1	Resistor, Fixed (1.0-Ohm)
17	352A158	1	Resistor, Fixed (5 Watt, 50-Ohm)
18	355P10	1	Capacitor, Dielectric (.0022 Mfd., 100 Volt)

ENGINE CONTROL MONITOR GROUP (Standard sets with one fault light)

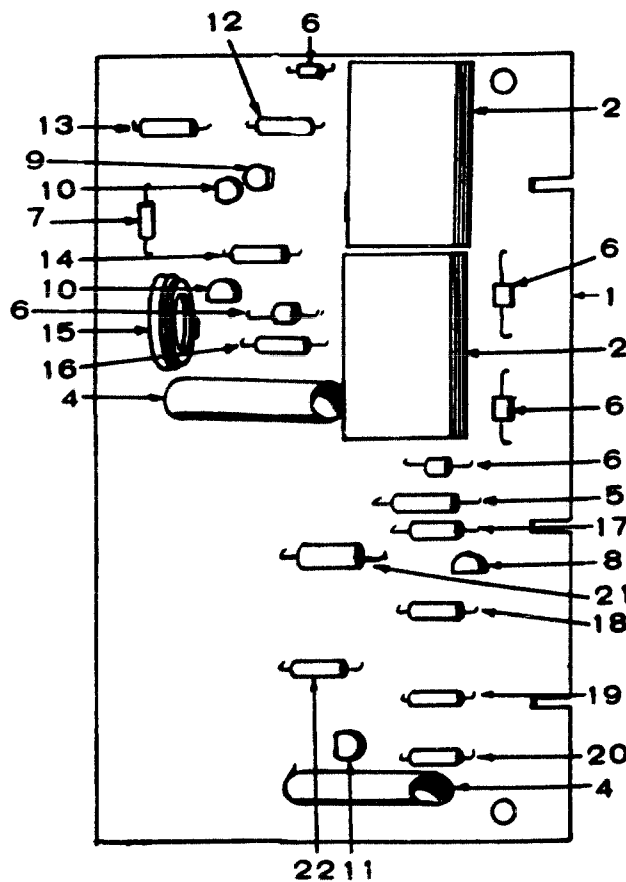


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	300C680	1	Monitor Assembly Complete - Engine Control
2	307A1076	1	Relay
3	350P548	1	Resistor (10,000-Ohm)
4	355P5	2	Capacitor (22 Mfd.)
5	356A40	1	Capacitor (10 Mfd.)
6	356A30	1	Capacitor (1 Mfd.)
7	359A27	1	Diode, Zener
8	357A4	5	Rectifier, Diode
9	364A11	1	Rectifier, Gate Control
10	361A3	2	Transistor
11	362A25	2	Transistor, Field Effect
12	362A27	2	Transistor, Silicon
13	350-536	2	Resistor (1,000-Ohm)
14	350-534	1	Resistor (680-Ohm)
15	350-552	1	Resistor (22,000-Ohm)
16	303A169	1	Potentiometer
17	350-576	1	Resistor (2.2 Megohm)
18	350-505	1	Resistor (2.7-Ohm)
19	350-517	1	Resistor (27-Ohm)
20	350-587	1	Resistor (18 Megohm)
21	350-529	2	Resistor (270-Ohm)
22	350-544	2	Resistor (4,700-Ohm)
23	350-980	1	Resistor (510-Ohm, 2 Watt)
24	350-380	1	Resistor (510-Ohm, 1/2 Watt)
25	362A31	2	Transistor, Field Effect
26	303A182	1	Potentiometer

ENGINE CONTROL MONITOR GROUP

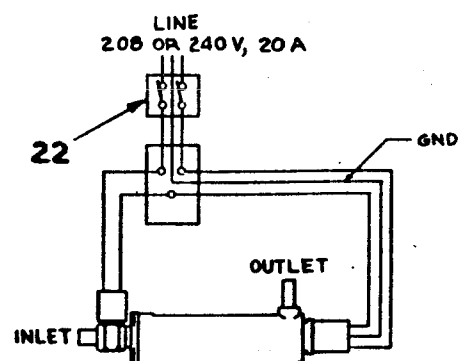
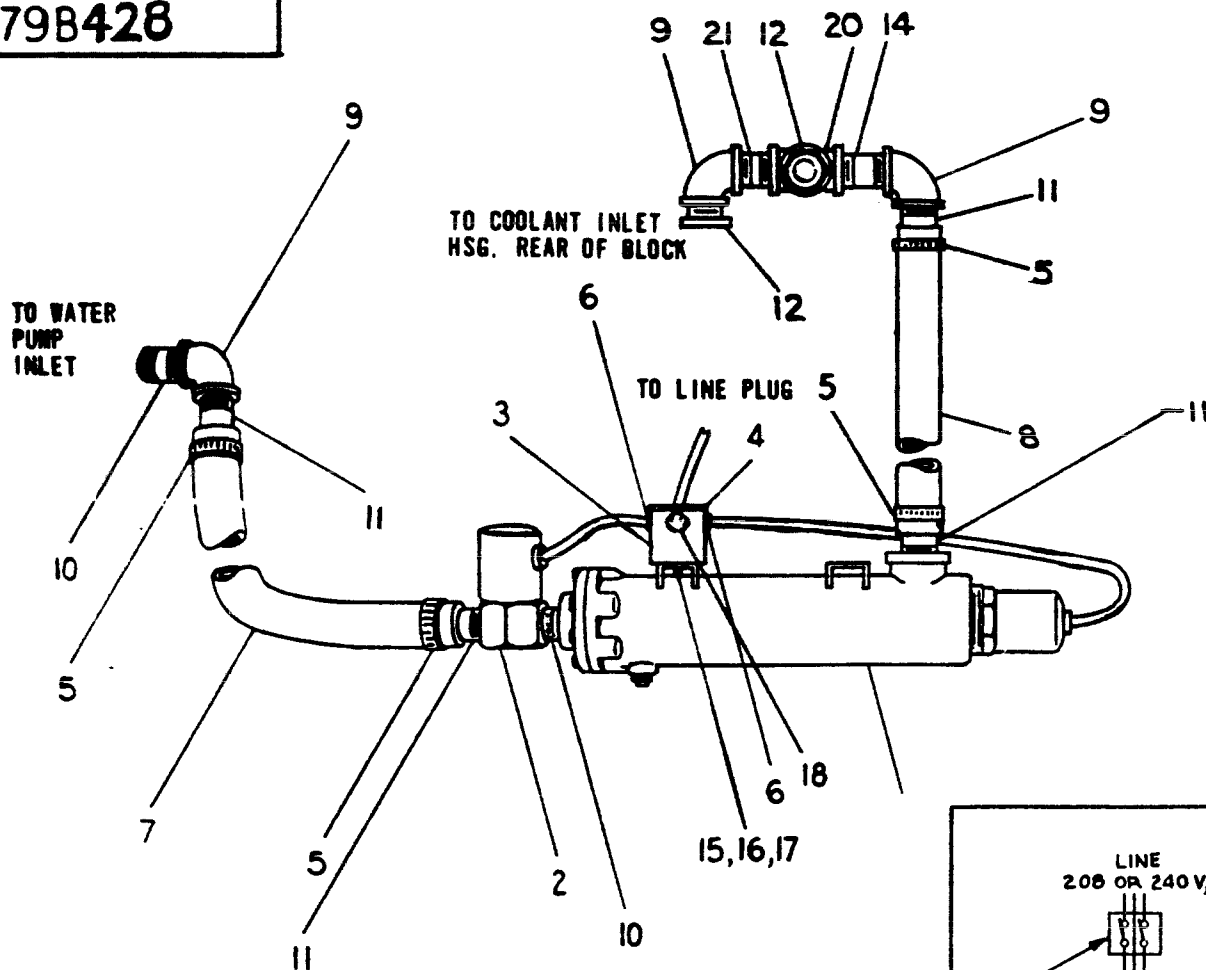
NOTE: Used on Pennsylvania Approved Sets with one fault light begin Spec B.

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	300C731	1	Control Assembly, Engine Monitor (Penn. State)
2	307A1076	2	Relay
4	355P5	2	Capacitor (.22 Mfd.)
5	356A40	1	Capacitor (10 Mfd.)
6	357A4	5	Rectifier, Diode
7	359A27	1	Diode, Zener (7.5 Volt)
8	364A11	1	Rectifier, Gate
9	361A3	1	Transistor
10	362A25	2	Transistor, Field Effect
11	362A27	1	Transistor, Silicon
12	350-536	1	Resistor (1000-Ohm)
13	350-534	1	Resistor (680-Ohm)
14	350-552	1	Resistor (22,000-Ohm)
15	303A169	1	Potentiometer (3.5 Megohm)
16	350-576	1	Resistor (2.2 Megohm)
17	350-505	1	Resistor (2.7-Ohm)
18	350-517	1	Resistor (27-Ohm)
19	350-529	1	Resistor (270-Ohm)
20	350-544	1	Resistor (47,000-Ohm)
21	350-980	1	Resistor (510-Ohm - 2 Watt)
22	350-380	1	Resistor (510-Ohm - 1/2 Watt)



179B366

179B428



WIRING DIAGRAM

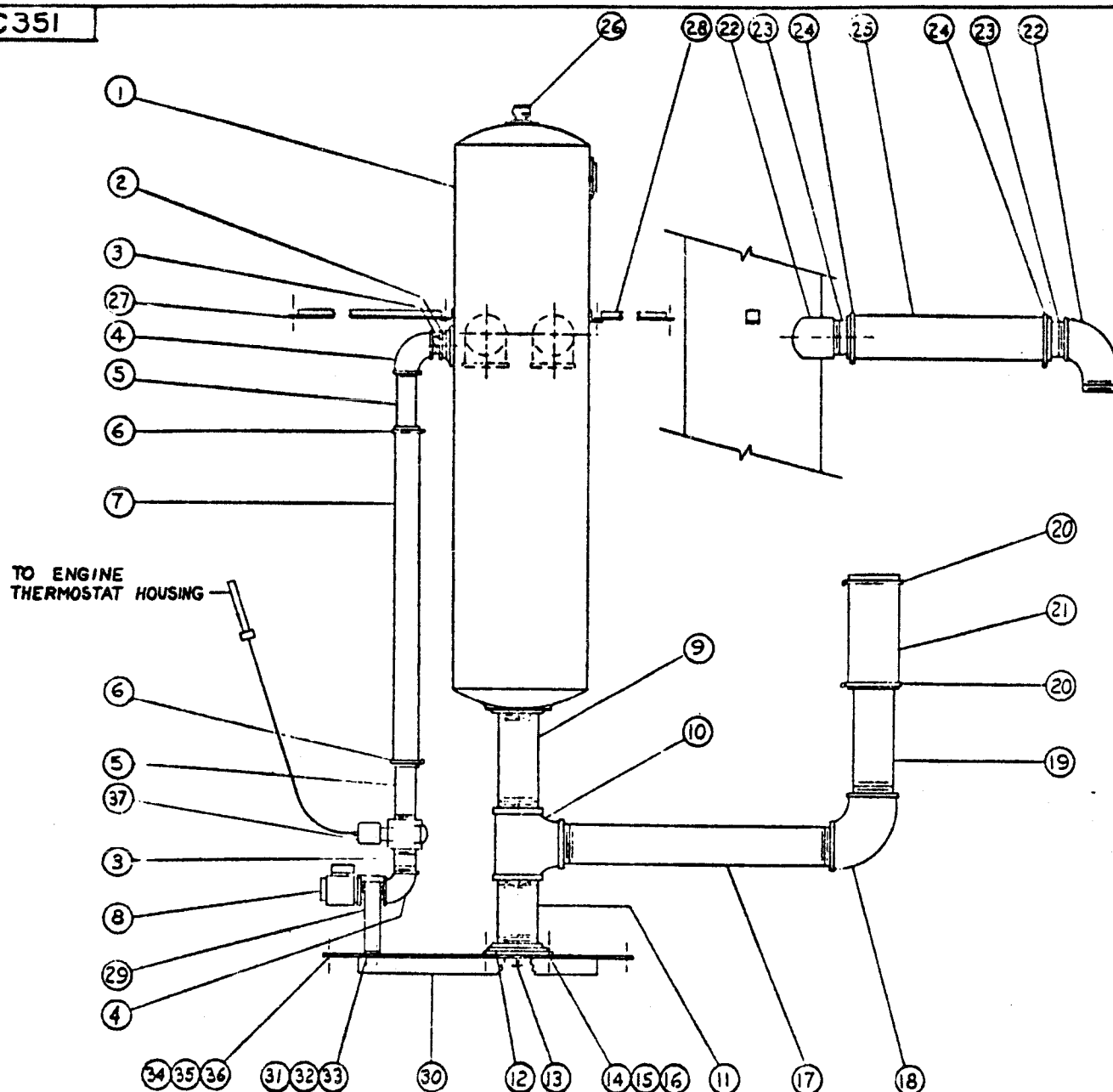
WATER JACKET HEATER INSTALLATION

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	333PI38	1	Heater, Engine (4000Watts, 240 Volts)
2	309P253	1	Thermostat
3	330A5	1	Box, Outlet
4	330-4	1	Cover, Box
5	503-429	4	Clamp, Hose
6	508P8	2	Grommet (1/2" I.D. x 1-1/16" O.D.)
7		1	Hose (Order 27" of Bulk Hose #503-249)
8		1	Hose (Order 95" of Bulk Hose #503-249)
9	505-41	3	Elbow, Pipe (1" x 90°)
10	505-107	2	Nipple, Pipe (1 x 2")
11	505A759	4	Nipple, Half (1 x 4-3/4")
12	505-129	3	Bushing, Reducer (1 x 3/4)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
14	505-86	1	Nipple, Pipe (1 x 2-1/2")
15	813-103	2	Screw, RHM (10-32 x 3/4")
16	850-30	2	Washer, Lock (#10)
17	870-53	2	Nut, Hex (10-32)
18	331-27	1	Connector, Romex (1/2")
19			
20	505-719	1	Cross, Pipe (1")
21	505-4	1	Nipple, Pipe (1 x 1-1/2")
22	309P271	1	*Switch, Oil Pressure
	333A142	1	*Support, Pressure Switch
	502-287	2	*Elbow
	501-188	1	*Line, Flexible (24")
	505-99	1	*Nipple (1/4 x Close)

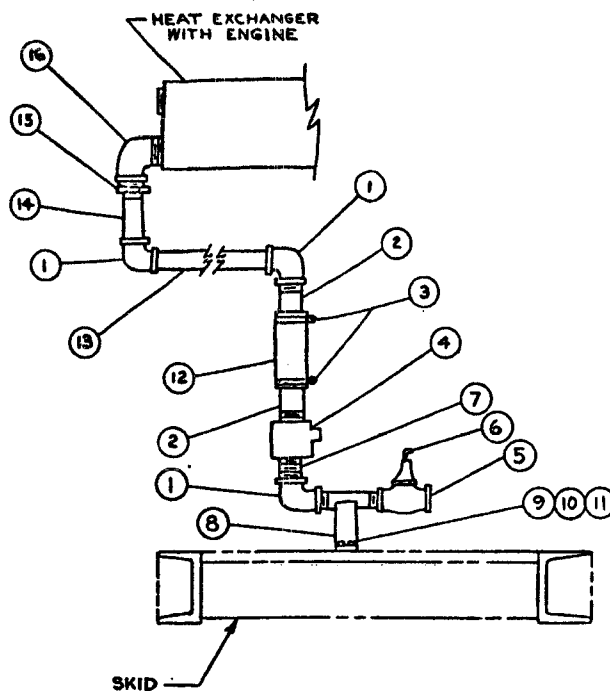
* These parts not used in #179B366 Assembly. Parts are not illustrated.

179C351



STANDPIPE COOLING INSTALLATION (WITH MARSH REGULATOR)

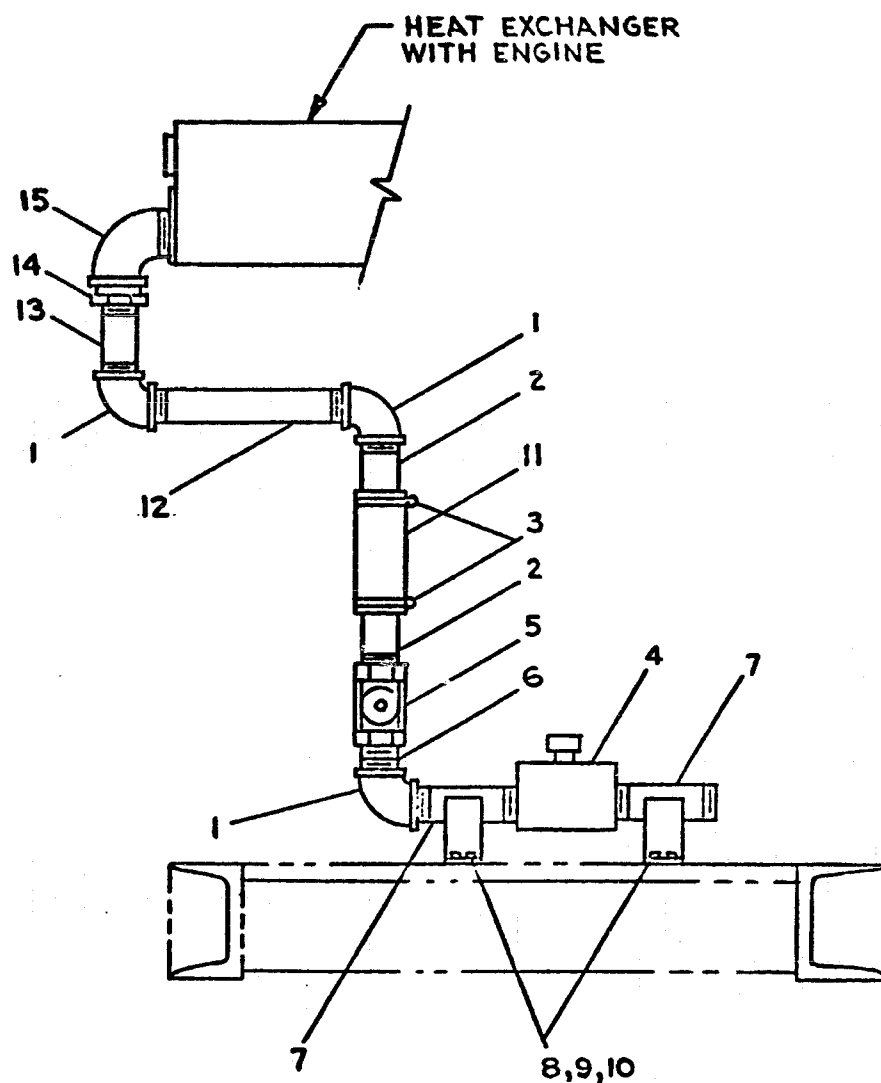
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	130C687	1	Stand Pipe	20	503P518	2	Clamp, Hose
2	505-270	1	Bushing, Reducer (2 x 1-1/4 ")	21	503-569	1	Hose (3-1/2 x 10 ")
3	505-258	2	Nipple (1-1/4 x 3 ")	22	505-216	2	Elbow (2-1/2 " Street)
4	505-42	2	Elbow (1-1/4 x 90°)	23	505A178	4	Nipple, Half (2-1/2 x 4 ")
5	505-437	2	Nipple, Half (1-1/4 x 4 ")	24	503-59	4	Clamp, Hose
6	503-11	2	Clamp, Hose	25	503-512	2	Hose (2-7/8 I.D. x 18 ")
7	503P359	1	Hose (1-5/8 I.D. x 36 ")	26	504P62	1	Valve, Relief
8	307A839	1	Valve, Solenoid	27	130B465	1	Brace
9	505-679	1	Nipple (3 x 12 ")	28	130B466	1	Brace
10	505-669	1	Tee (3 ")	29	110A1168	1	Bracket and Nipple
11	505-326	1	Nipple (3 x 6 ")	30	130C461	1	Support
12	130C740	1	Flange	31	800-6	2	Screw, Hex Cap (1/4-20 x 7/8 ")
13	504-6	1	Valve, Drain	32	862-1	2	Nut, Hex (1/4-20)
14	800-91	4	Screw, Hex Cap (1/2-13 x 1-1/4 ")	33	850-40	2	Washer, Lock (1/4 ")
15	862-5	4	Nut, Hex (1/2-13)	34	800-92	4	Screw, Hex Cap (1/2-13 x 1-1/2 ")
16	850-60	4	Washer, Lock (1/2 ")	35	862-5	4	Nut, Hex (1/2-13)
17	505-615	1	Nipple (3 x 24 ")	36	850-60	4	Washer, Lock (1/2 ")
18	505-453	1	Elbow (3 x 90°)	37	309P243	1	Valve (1-1/4 ") Marsh
19	505-604	1	Nipple (3 x 9-3/4 ")				



HEAT EXCHANGER SOLENOID VALVE INSTALLATION

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	505-175	1	Elbow (2" x 90°)
2	505-380	2	Nipple (2 x 3")
3	503-365	2	Clamp, Hose
4	307A844	1	Valve, Solenoid
5	504-57	1	Valve
6	504-60	1	Key, Valve
7	505-172	1	Nipple, Close (2 x 2")
8	130A801	1	Nipple and Bracket
9	800-7	2	Screw, Hex Cap (1/4-20 x 1")
10	850-40	2	Washer, Lock (1/4")
11	862-1	2	Nut, Hex (1/4-20)
12		1	Hose (Order 6" of Bulk Hose Number 503-324)
13	505-419	1	Nipple (2 x 12")
14	505-173	1	Nipple (2 x 4")
15	505-207	1	Bushing, Reducer
16	505-216	1	Elbow, Street (2-1/2 x 90°)

179B400



HEAT EXCHANGER, MARSH REGULATOR AND SOLENOID VALVE INSTALLATION

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	505-175	3	Elbow (2" x 90°)
2	505-380	2	Nipple, Half (2 x 3")
3	503-365	2	Clamp, Hose
4	307A844	1	Valve, Solenoid
5	309P245	1	Valve, Marsh
6	505-172	1	Nipple, (2 x 2")
7	130A801	2	Nipple and Bracket
8	800-7	4	Screw, Hex Cap (1/4-20 x 1")
9	850-40	4	Washer, Lock (1/4")
10	862-1	4	Nut, Hex Cap
11		1	Hose (Order 6" of Bulk Hose Number 503-324)
12	505-419	1	Nipple (2 x 12")
13	505-173	1	Nipple (2 x 4")
14	505-207	1	Bushing, Reducer
15	505-216	1	Elbow, Street (2-1/2")