

PARTS CATALOG

FOR

ONAN ELECTRIC GENERATING PLANTS

DFK

SERIES

Price \$1.00



960-5

**DIVISION OF
STUDEBAKER INDUSTRIES, INC**

2515 University Avenue S.E.
Minneapolis 14, Minnesota

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 REFER TO YOUR NEAREST AUTHORIZED SERVICE STATION.

TO AVOID ERRORS OR DELAY IN FILLING YOUR PARTS ORDER, PLEASE FURNISH ALL INFORMATION REQUESTED. REFER TO THE ONAN NAMEPLATE ON YOUR PLANT. ONAN NAMEPLATE IS LOCATED ON THE UPPER RIGHT SIDE OF THE FLYWHEEL HOUSING. ALWAYS GIVE THE COMPLETE:

MODEL & SPEC NO.
and
SERIAL NO.

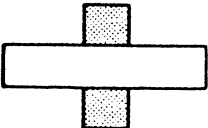
ELECTRIC Onan PLANT	
MODEL AND SPECIFICATION	SERIAL NO.
IMPORTANT MENTION ABOVE NUMBERS AND GEN. DATA NO. WHEN ORDERING PARTS OR WRITING ABOUT THIS PLANT.	
RATINGS AT SEA LEVEL BASED ON FUEL CHECKED BELOW:	
GASOLINE	DIESEL FUEL
STAND BY KW	KVA
CONTINUOUS KW	KVA
A.C. VOLTS	CYCLES
EXCITER	GEN. DATA
R.P.M.	USE
VOLT BATTERY-NEGATIVE GROUND	
MANUFACTURED BY ONAN DIVISION OF STUDEBAKER CORPORATION MINNEAPOLIS, 14, MINNESOTA	
MADE IN U.S.A.	

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

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DFK SERIES

This parts catalog applies to the standard ONAN DFK Series electric generating plants. They are powered by a Cummins Model NT-380-1P engine which is more completely described in the Cummins manual. Basically, the engine is a 6 cylinder, water cooled, supercharged diesel (compression ignition) type. The cylinder bore is 5-1/2 inches, piston stroke is 6 inches, and displacement is 855 cubic inches.

Cummins Engine parts must be selected from the appropriate Cummins parts list and parts must be secured from the Cummins Engine Company or their authorized distributor or dealer.

"Right" and "Left" sides of the Generator and Controls are determined by FACING the Radiator (Front) end.

Parts in this catalog are illustrated in groups and have reference numbers which correspond to the like numbers in the list for that group. Parts illustrations are typical and should not be construed to represent a particular part number.

Compare your ONAN plant nameplate MODEL and SPEC. with the Plant Data Table. The Plant Data Table contains all descriptive information pertinent to the list, such as voltage, phase, etc., which appears in the description of some parts that differ between basic models.

UNLESS OTHERWISE MENTIONED IN THE PARTS DESCRIPTION, PARTS ARE INTERCHANGEABLE BETWEEN ALL MODELS LISTED IN THE DATA TABLE.

PLANT DATA TABLE

MODEL & SPEC. NO.†	ELECTRICAL DATA				
	WATTS*	VOLTS	CYCLES	PHASE	WIRE
200DFK - 4R & 4R8/	200,000	120/208	60	3	4
200DFK - 4XR & 4XR8/	200,000	277/480	60	3	4
200DFK - 5DR & 5DR8/▲	200,000	120/240	60	3	4
200DFK - 6R & 6R8/	200,000	480	60	3	3
200DFK - 7R & 7R8/	200,000	220/380	60	3	4
200DFK - 9R & 9R8/	200,000	600	60	3	3

† - The NUMBER after the diagonal line (/) signifies standard or optional features (1 is standard). The LETTER ending the Model and Spec No. is the Spec Letter and will advance with manufacturing changes (A to B, B to C, etc.).

▲ - This is a delta-wound 240 volt model with one phase center-tapped. A limited amount of 1 phase 120/240 volt power can be utilized together with 3 phase power as long as no terminal current exceeds the rated nameplate current.

* - maximum rating is shown. Continuous rating also appears on nameplate.

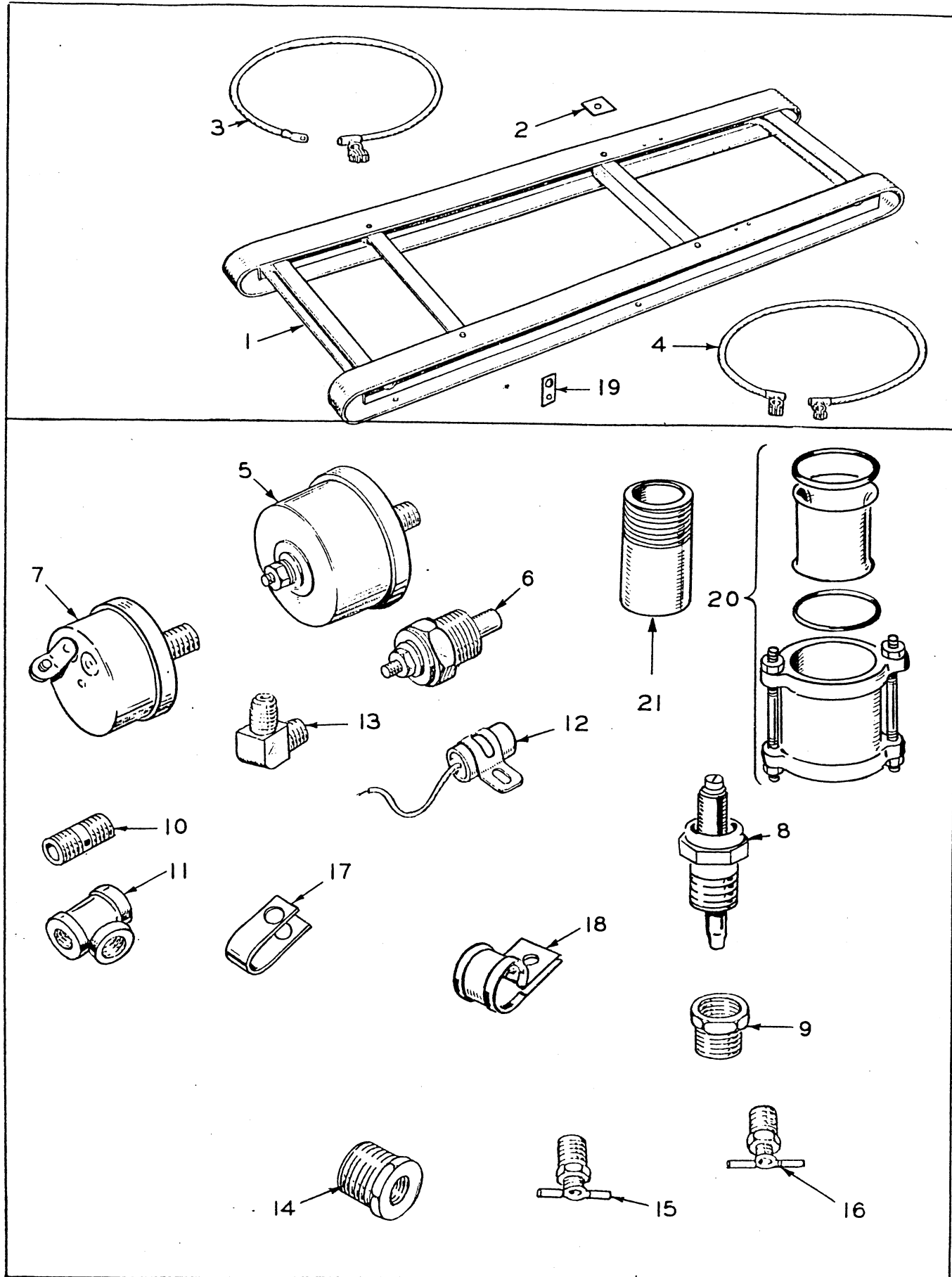


FIG. 1 - MOUNTING BASE, BATTERY CABLES & SENDER GROUP

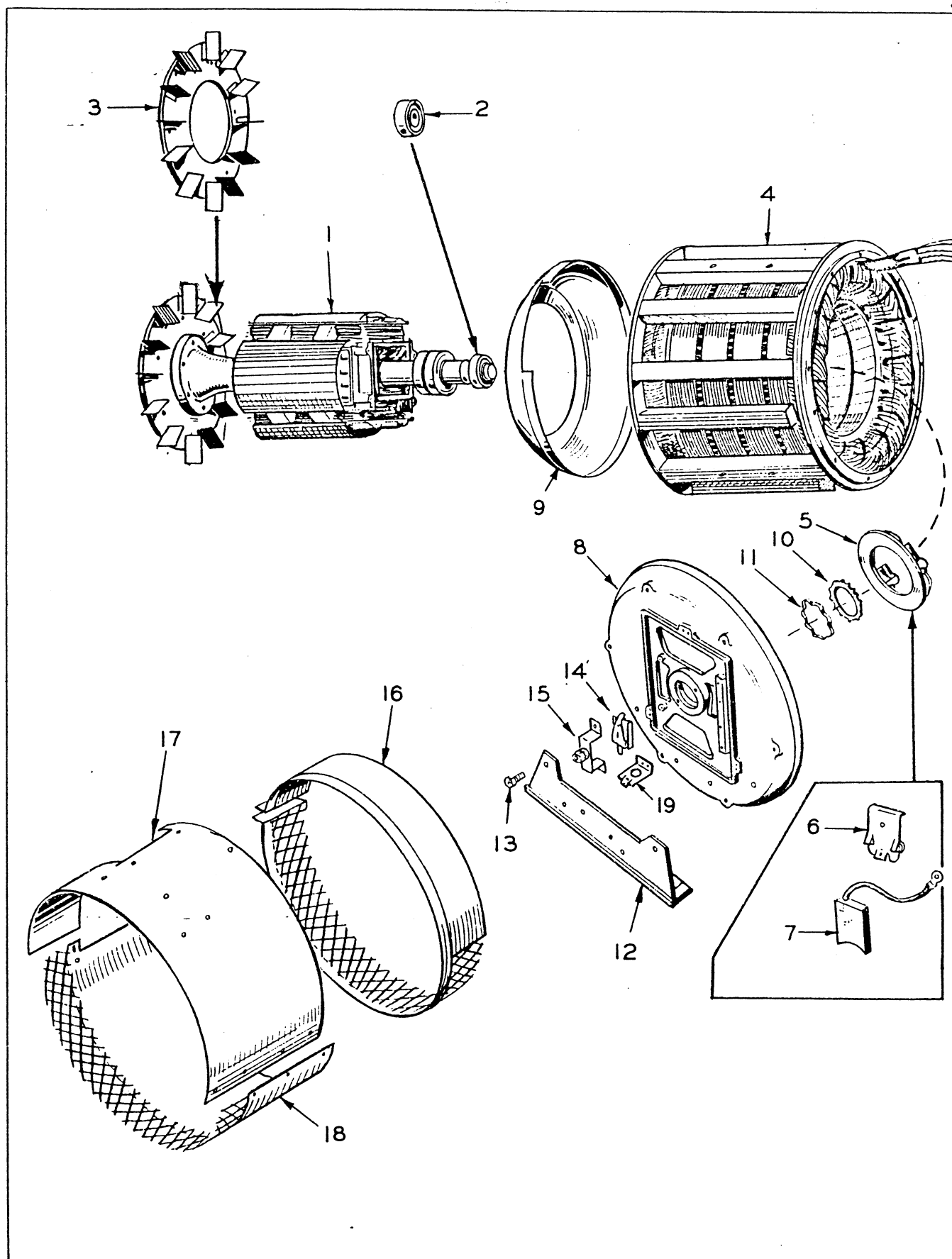


FIG. 2 - GENERATOR GROUP - Alternator Portion

FIG. 3 - GENERATOR GROUP - Exciter Portion

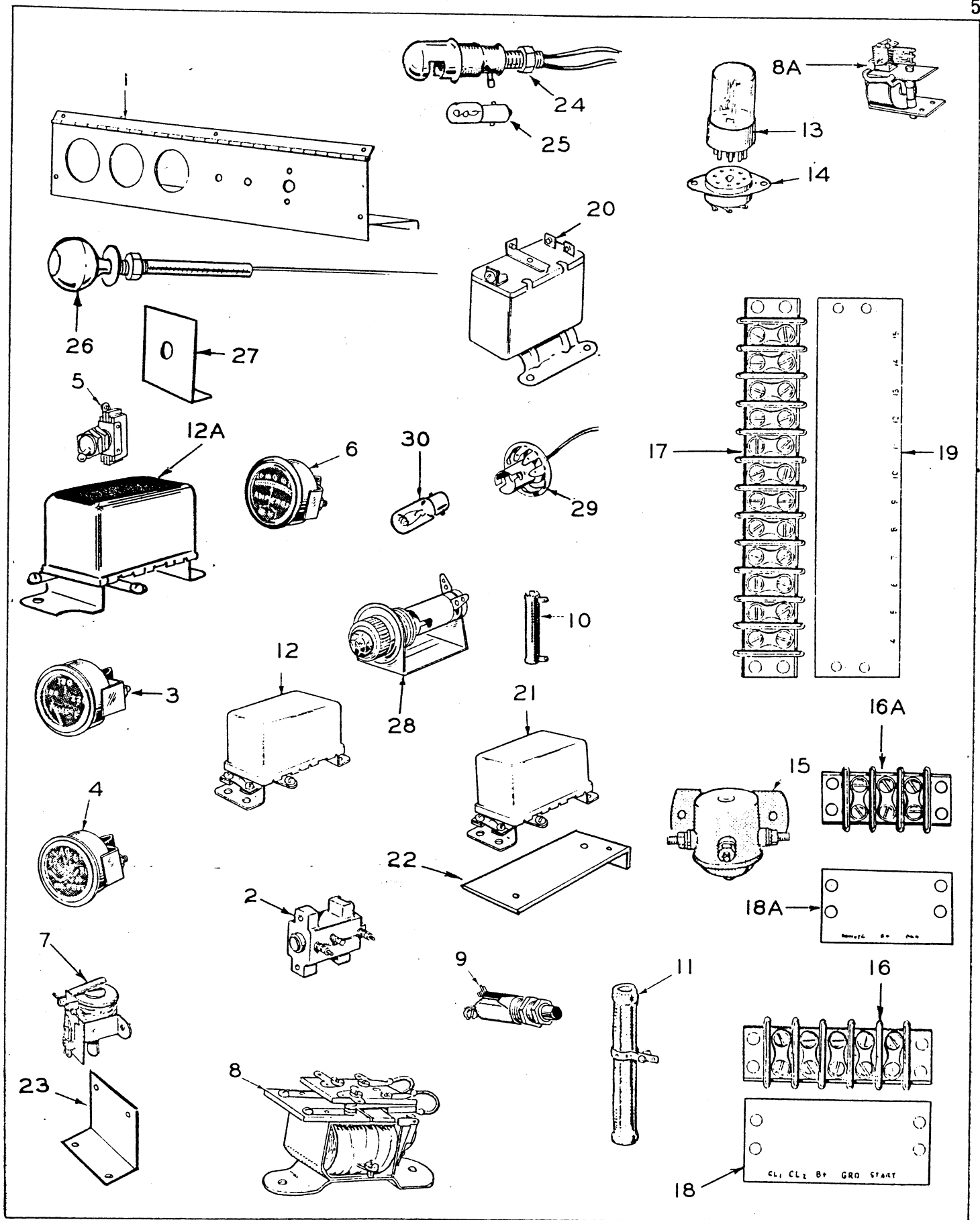


FIG. 4 - CONTROL GROUP - Engine Instruments

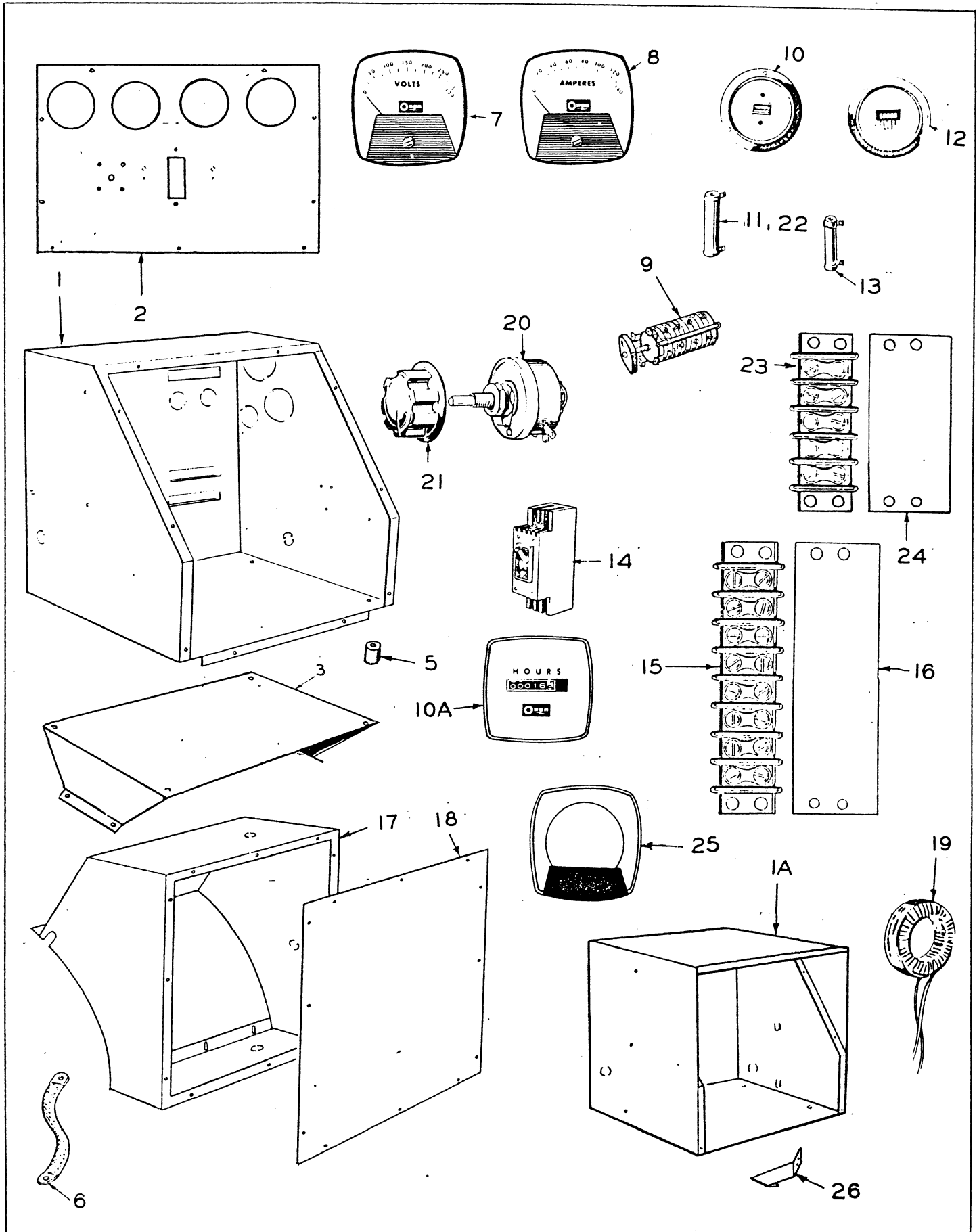


FIG. 5 - CONTROL GROUP - AC Output

PARTS LIST

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REF. NO.	PART NO.	QUANT. USED	DESCRIPTION
REPLACEMENT ENGINE			
	100P385	1	Engine, Replacement (Cummins Engine Company Model NT-380-1P) General description: Includes - Complete Cylinder Block, Fuel Pump, Air Cleaner, Fuel Filter, Oil Filter, Starter and Solenoid, Charge Generator and Voltage Regulator, Governor, Radiator, Water Pump, Fan Blades and Belt, Fan Guard, Exhaust Manifold, Flywheel Housing, Oil Cooler, and Engine Supports. Excludes - Throttle Control, Engine Wiring, Water Temperature and Oil Pressure Gauge Senders, and Mounting Base.

FIG. 1 - MOUNTING BASE, BATTERY CABLES & SENDER GROUP

1	403C559	1	Base, Mounting.
2			Shim, Generator to Mounting Base.
	232A1489	2	No. 16 Gauge (.0598).
	232A1490	2	No. 20 Gauge (.0359).
3			Cable, Battery.
	416A444	1	Positive.
	416A445	1	Negative.
4	416A446	1	Cable, Battery Jumper.
5	193A98	1	Sender, Oil Pressure Gauge (Engine Sending unit only).
6	193A100	1	Sender, Water Temperature Gauge (Engine Sending unit only).
7	309P64	1	Switch, Oil Pressure.
8	309P47	1	Switch, High Water Temperature Cut-off.
9	505-19	2	Bushing, Pipe Reducer (1/2 x 3/8) High Water Temperature Switch (1), Water Temperature Gauge Sender (1).
10	505-98	1	Nipple, Close (1/8 x 3/4") Oil Pressure Tee to Block.
11	505-59	1	Tee, Pipe (1/8") Oil Pressure Switch and Oil Gauge Sender Mounting.
12	312A58	2	Condenser - .1 Mfd. (1) Charge Generator, (1) Charge Regulator -Replaces 312A15.
13	502-218	1	Elbow, Male (5/8" x 1/2") Brass - Fuel Inlet to Injection Pump.
14	505-131	1	Bushing, Pipe Reducer (3/4 x 3/8") Radiator Outlet to Drain Valve.
			Valve, Drain.
15	504-28	1	Radiator Drain.
16	504-3	1	Cylinder Water Jacket Drain.

PARTS LIST

REF. NO.	PART NO.	QUANT. USED	DESCRIPTION
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FIG. 1-- MOUNTING BASE, BATTERY CABLES & SENDER GROUP (Cont.)

17	416A96	3	Clip, Harness - Engine Control Connections
18	332-49	2	"U" Shaped - All Metal.
19	191A214	1	"O" Shaped - Metal with rubber insulator.
20	505P457	1	Connector, Starter Terminal (1" x 2" Copper Strip).
21	505-456	1	Coupling, Exhaust Nipple - For 4" od Pipe.
			Nipple, Half - 8" Long.

FIG. 2 - GENERATOR GROUP (Alternator Portion)

NOTE: Output Terminal Box, Cover and Internal Parts are listed in the AC Output Control Group (Mounts on Side of Generator).

1	★	1	Rotor Assembly, Wound - Includes Bearing, Blower and Drive Assembly.
2	510P63	1	Bearing.
3	205C61	1	Blower.
4	★	1	Stator Assembly, Wound.
5	212C248	1	Rig Assembly, Brush - Includes Brushes and Springs.
6	212B1105	4	Spring, Brush.
7	214A56	4	Brush.
8	211D130	1	Bell, End - Alternator to Exciter.
9	234D69	1	Baffle, Air.
10	232A1186	1	Holder, Bearing - Anti-Rotation.
11	232A1187	1	Spring, Bearing Holder - Anti-Rotation.
12	232D1396	1	Support, Generator Mounting.
13	805-35	4	Bolt, Place - Generator Mounting Support to End Bell.
14	150A717	1	Switch Assembly, Overspeed.
15	150A713	1	Bracket, Overspeed Switch - Includes Contact Point.
16	234D70	1	Band, Generator - Front Portion (Narrow).
			Band, Generator - Rear Portion (Wide)
17	234C136	1	Upper Half.
18	234C137		Lower Half.
19	234A107	1	Bracket, Conduit Connector.

★ - Order by description, giving Model, Spec and Serial Number (ONAN Nameplate).

FIG. 3 - GENERATOR GROUP (Exciter Portion) Model 2SX

1	234D116	1	Cover, Exciter.
2	232A1376	3	Bracket, Fastening - Exciter Cover to Alternator End Bell.
3	234D74	1	Panel Only, Exciter.
4	305B228	1	Rectifier Assembly, Power - Complete - Includes two #305P233 and two #305P234 Rectifiers plus wire and hardware.

PARTS LIST

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REF. NO.	PART NO.	QUANT. USED	DESCRIPTION
FIG. 3 - GENERATOR GROUP (Exciter Portion) Model 2SX (Cont.)			
5	305P233	2	Rectifier Only, Power (Field) Lower two - Negative (Included in Rectifier Assembly #305B228).
6	305P234	2	Upper two - Positive (Included in Rectifier Assembly #305B228).
7	315A78	1	Reactor, Voltage Control.
8	304P476	1	Resistor, Voltage Control Reactor (Included in Rectifier and Resistor Assembly #305B227).
9	332A532	1	Block, Terminal.
10	332A693	1	Strip, Terminal Block Marker - For 5 Place Block.
11	305P218	4	Rectifier, Voltage Control Reactor (Included in Rectifier and Resistor Assembly 305B227).
12	305B227	1	Rectifier and Resistor Assembly (Includes #304P476 Resistor and (4) Rectifiers #305P218).
13	234B115	1	Bracket, Mounting - Voltage Control Reactor.
14	234B75	2	Bracket, Gate Reactor Mounting.
15	520A190	1	Stud, Fixed Resistor Mounting.
16	304A15	2	Washer, Fixed Resistor Centering.
17	304-442	1	Resistor, Fixed - Mounts to Gate Reactor Bracket.
18	315A51	2	Reactor, Gate.
19	232A1389	2	Retainer, Gate Reactor.
20	232A1403	2	Stud, Gate Reactor Mounting.
21	232B1388	2	Gasket, Gate Reactor Mounting.
22	232B1387	2	Gasket, Gate Reactor to Retainer.
23	232A1548	2	Gasket, Control Reactor Coil Mounting.

FIG. 4 - CONTROL GROUP (Engine Instruments Portion)

1			Panel Only, Lower Control -
	301C1672	1	Prior to Spec "B".
	301C2124	1	Begin Spec "B".
2	320A104	1	Limiter, Cranking.
3	193B112	1	Gauge, Water Temperature (Panel Unit Only).
4	193B111	1	Gauge, Oil Pressure (Panel Unit Only).
5			Switch, Toggle -
	308P2	1	Panel Lights - Begin Spec "B".
	308P2	1	RUN, STOP, AUTOMATIC - Prior to Spec
	308P138	1	RUN, STOP, REMOTE - Begin Spec "B"
6	302A61	1	Ammeter, Charge (30-0-30).
7	307A388	1	Relay, Time Delay.
8,8A			Relay, Emergency Stop -
8	307B617	1	Prior to Spec "B".
8A	307A655	1	Begin Spec "B" - Latching.
9	308-91	1	Button, Emergency Stop Re-set - Prior

232A1548

PARTS LIST

REF. NO.	PART NO.	QUANT. USED	DESCRIPTION
FIG. 4 - CONTROL GROUP (Engine Instruments Portion) Cont.			
10			Resistor, Fixed -
	304A446	2	(1) Water Temperature Gauge, (1) Oil Pressure Gauge (150 Ohm, 10 Watts) 5/16 x 1-3/4".
	304A262	3	(1) Start-Disconnect Relay (2) Emergency Stop Relay (50 Ohm, 10 Watt) 5/16 x 1-3/4" - Prior to Spec "B".
	304A262	1	Start-Disconnect Relay (50 Ohm, 10 Watt) 5/16 x 1-3/4" - Begin Spec "B".
	304A248	1	Time Delay Relay (100 Ohm, 10 Watt) 5/16 x 1-3/4".
	304A276	1	Between Fuel Solenoid Relay and Emergency Stop Relay (75 Ohm, 10 Watt) 5/16 x 1-3/4" - Begin Spec "B".
	304A62	1	Pilot Relay (25 Ohm, 25 Watt) 3/4 x 2" - Begin Spec "B".
11			Resistor, Adjustable -
	304A66	1	Between Start-Disconnect Relay and Cranking Limiter - 3/4 x 4".
	304A194	1	Between Fuel Solenoid Relay and Start-Disconnect Relay - 9/16 x 2".
12,12A			Relay, Fuel Solenoid -
12	307B4	1	Prior to Spec "B".
12A	307B597	1	Begin Spec "B".
13			Relay, Cycle Cranking - Plug-in Type -
	307-509	1	Prior to Spec "B" - 15 Second Delay.
	307A697	1	Begin Spec "B" - 10 Second Delay.
	307A753	1	Begin Spec "B" - 5 Second Delay.
14	323-52	2	Socket, Cycle Cranking Relay (Prior to Spec "B" 1 Only Used).
15	307-61	1	Relay, Pilot.
16,16A			Block, Terminal -
16	332A604	1	Remote Operation Connection (5 Place) - Prior to Spec "B".
16A	332A611	1	Remote Operation Connection (3 Place) - Begin Spec "B".
17	332A607	1	Engine Connection (12 Place).
18,18A,19			Strip, Block Marker -
18	332A679	1	For Remote Operation Block (Marked CL1, CL2, B+, GND., START) - Prior to Spec "B".
18A	332A762	1	For Remote Operation Block (Marked REMOTE, B+, GND) - Begin Spec "B".
19	332A608	1	For Engine Connection Block (Marked 4 through 15).
20	307B52	1	Relay, Start-Disconnect.
21	307B4	1	Relay, Water Solenoid Pilot (Optional)
22	301A1772	1	Bracket, Water Solenoid Pilot Relay.
23	301A1685	1	Bracket, Relay Mounting - For 307A388.

PARTS LIST

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REF. NO.	PART NO.	QUANT. USED	DESCRIPTION
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FIG. 4 - CONTROL GROUP (Engine Instruments Portion) Cont.

24	322-49	1	Light and Switch, Panel - Housed Plants - Prior to Spec "B"
25	322-66	1	Lamp, 24 v., 3 c.p., Bayonet Base - Housed Plants - Prior to Spec "B"
26	152P120	1	Control, Vernier
27	151A230	1	Bracket, Vernier Control.
28	322P69	1	Receptacle, Pilot Light - Begin Spec "B".
29	322P72	2	Receptacle, Panel Light - Begin Spec "B".
30	322P17	3	Bulb, (1) Pilot Light (2) Panel Lights - Begin Spec "B".

FIG. 5 - CONTROL GROUP (AC Output Portion)

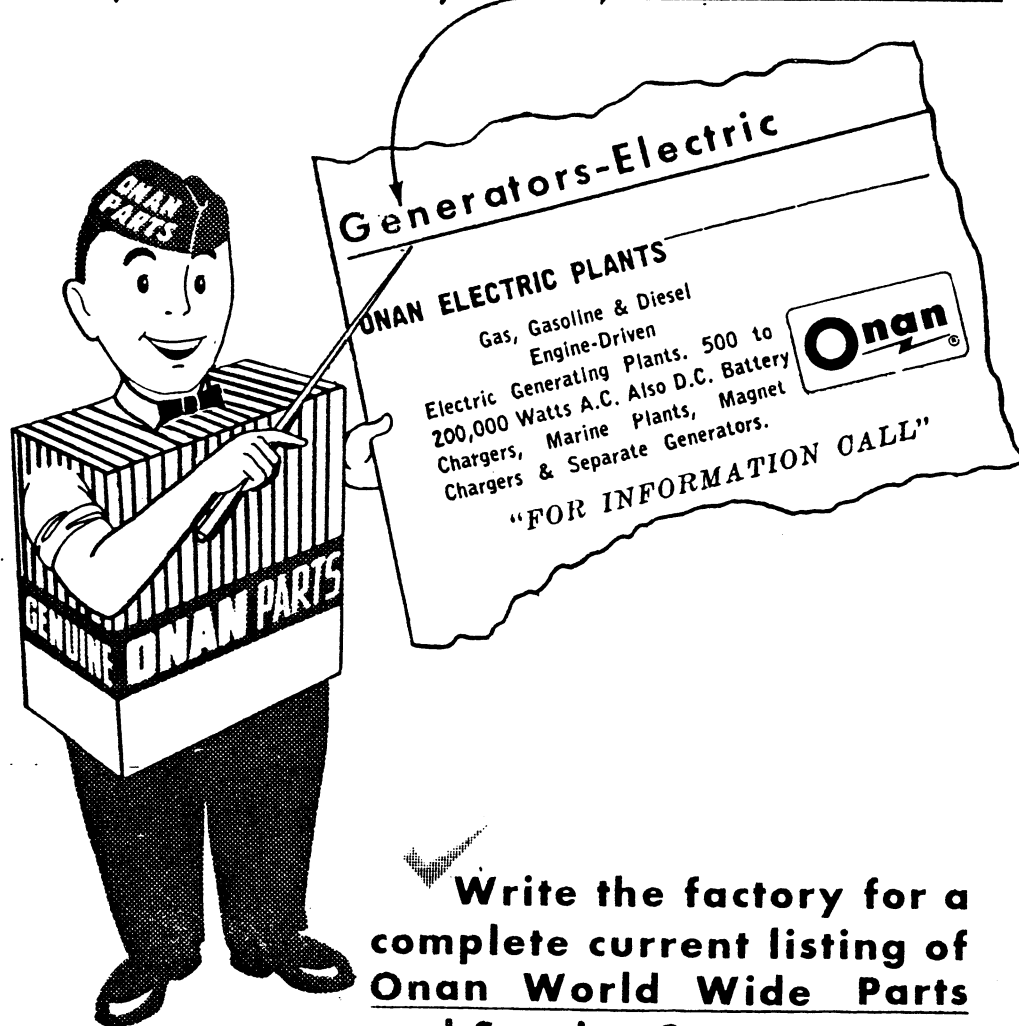
1,1A			Box Only, Control
1	301D1537	1	Prior to Spec "B".
1A	301D2115	1	Begin Spec "B".
2	★	1	Panel Only, Upper Control.
3	301C1830	1	Bracket, Control Box Mounting - Single Piece (Replaces Two Piece Brackets).
5	402-78	4	Rubber, Mounting - Control Box to Mounting Bracket.
6	337A44	1	Strap, Ground.
7			Voltmeter, AC (Check VOLTMETER Scale - Select according to rating).
	302P421	1	Voltmeter Scale Reads 0-300.
	302P422	1	Voltmeter Scale Reads 0-500.
	302P423	1	Voltmeter Scale Reads 0-750.
8			Ammeter, AC (Check AMMETER Scale - Select according to rating).
	302P413	1	Ammeter Scale Reads 0-300.
	302P414	1	Ammeter Scale Reads 0-500.
	302P415	1	Ammeter Scale Reads 0-750.
9	308-22		Switch, Voltage and Current Selector.
10,10A			Meter, Running Time -
10			Spec "A" Only -
	302-212	1	60 Cycle Plants.
	302-102	1	50 Cycle Plants.
10A			Begin Spec "B" -
	302P465	1	For 120/208, 120/240, and 600 Volt, 3 Phase, 60 Cycle Plants.
	302P466	1	For 220/380 Volt, 3 Phase, 60 Cycle Plants.

PARTS LIST

REF. NO.	PART NO.	QUANT. USED	DESCRIPTION
FIG. 5 - CONTROL GROUP (AC Output Portion) Cont.			
	302P467	1	For 277/480 Volt, 3 Phase, 60 Cycle Plants.
	302P469	1	For 220/380 Volt, 3 Phase, 50 Cycle Plants.
11	304A125	1	Resistor, Running Time Meter - For 277/480 Volt, and 480 Volt, 3 Phase, 60 Cycle Plants - Spec "A" Only (Use with 302-212 Meter).
	304A134	1	For 600 Volt, 3 Phase, 60 Cycle Plants - Spec "A" Only (Use with 302-212 Meter).
	304A536	1	For 600 Volt, 3 Phase, 60 Cycle Plants - Begin Spec "B" (Use with 302P465 Meter).
12	302-213	1	Meter, Frequency - 60 Cycle Models.
	302-234	1	50 Cycle Models.
13	304A305	1	Resistor, Frequency Meter - For 277/480 Volt, and 480 Volt, 3 Phase, 60 Cycle Plants (Used with 302-213).
	304A402	1	For 600 Volt, 3 Phase, 60 Cycle Plants (Used with 302-213).
	304A125	1	For 220/380 Volt, 3 Phase, 60 Cycle Plants (Used with 302-213).
	304A125	1	For 220/380 Volt, 3 Phase, 50 Cycle Plants (Used with 302-234).
14	320B170	1	Breaker, Circuit - 18 Amp.
15	332A503	1	Block, Terminal (8 Place).
16	332A601	1	Strip, Block Marker (Marked 15 through 22).
17	301E1682	1	Box Only, Output Terminal - Mounts on Side of Generator.
18	301C1683	1	Cover, Output Terminal Box.
19			Transformer, Current (Mounts in Output Terminal Box) Check TRANSFORMER Nameplate - Select according to rating
	302B107	3	Transformer Nameplate Reads "Ratio 300/5" (Use with 0-300 Scale AC Ammeter).
	302B372	3	Transformer Nameplate Reads "Ratio 500/5" (Use with 0-500 Scale AC Ammeter).
	302B385	3	Transformer Nameplate Reads "Ratio 750/5" (Use with 0-750 Scale AC Ammeter).
20	303-111	1	Rheostat, Voltage Regulator - 175 Ohm, Model H.
21	303-32	1	Knob, Rheostat -
22	304A484	1	Resistor, Fixed - Rheostat (825 Ohm, 75 Watt).
23	332A604	1	Block, Terminal - Exciter Connections - (5 Place).
24	332A690	1	Strip, Block Marker (5 Place).
25	302B448	1	Plate, Meter Face - For Appearance Only - to give round meter a square appearance.
26	301A1914	1	Bracket, Panel Stop - Begin Spec "B".

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For Genuine Onan Parts and Service, see your Onan Parts and Service Center. In most major cities they are listed in the classified section of the telephone directory. See Generators-Electric.





Onan

Onan Corporation
1400 73rd Avenue N.E.
Minneapolis, MN 55432
Telex: 275477
Fax: 612-574-8087

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