

PARTS CATALOG

FOR



ELECTRIC GENERATING SETS

DFM

SERIES

ONAN

1400 73RD AVENUE N.E. • MINNEAPOLIS, MINNESOTA 55432

A DIVISION OF ONAN CORPORATION

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 who 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 and SPEC NO. and SERIAL NO.

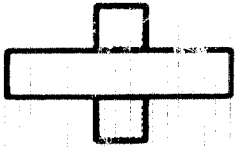
Onan ELECTRIC PLANT MODEL AND SPEC NO. <input type="text"/>	
SERIAL NO. <input type="text"/>	
IMPORTANT - ALWAYS GIVE ABOVE NOS WHEN ORDERING PARTS	
STDBY KW <input type="text"/>	KVA <input type="text"/>
CONT. KW <input type="text"/>	KVA <input type="text"/>
A.C. VOLTS <input type="text"/>	PH <input type="text"/>
A.C. AMPS <input type="text"/>	P.F. <input type="text"/>
CY. <input type="text"/>	RPM <input type="text"/>
D.C. VOLTS <input type="text"/>	AMPS <input type="text"/>
WATTS <input type="text"/>	BAT <input type="text"/>
MANUFACTURED BY ONAN DIV. OF STUDEBAKER CORPORATION MINNEAPOLIS, MINNESOTA, U.S.A. FOR ELECT. EQUIPMENT ONLY 99994	

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. <input type="text"/>	MODEL <input type="text"/>	ENG NO. <input type="text"/>	OTHER REF. NO. <input type="text"/>		

This catalog applies to the standard DFM plants as listed below. Powered by a Cummins Series 855, model NTA-400-1P 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	HERTZ	PHASE	WIRE
190.0DFM-54R/*	190,000	120/208	50	3	4
190.0DFM-54XR/*	190,000	277/480	50	3	4
190.0DFM-55DR/*	190,000	120/240**	50	3	4
190.0DFM-57R/*	190,000	220/380	50	3	4
190.0DFM-57XR/*	190,000	240/416	50	3	4
190.0DFM-59XR/*	190,000	347/600	50	3	4
220.0DFM-4R/*	220,000	120/208	60	3	4
220.0DFM-4XR/*	220,000	277/480	60	3	4
220.0DFM-5DR/*	220,000	120/240**	60	3	4
220.0DFM-9R/*	220,000	600	60	3	4
230.0DFM-4R/*	230,000	120/208	60	3	4
230.0DFM-4XR/*	230,000	277/480	60	3	4
230.0DFM-5DR/*	230,000	120/240**	60	3	4
230.0DFM-7XR/*	230,000	240/416	60	3	4
230.0DFM-9XR/*	230,000	347/600	60	3	4

£ New model designations shown, begin during 1969. Previous designations used a zero in place of the decimal in the KW rating. EXAMPLE: 230.0DFM was formerly 230DFM.

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

** 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.

NOTE: Hertz is a unit of frequency equal to one cycle per second.

REPLACEMENT ENGINE

100P512

1

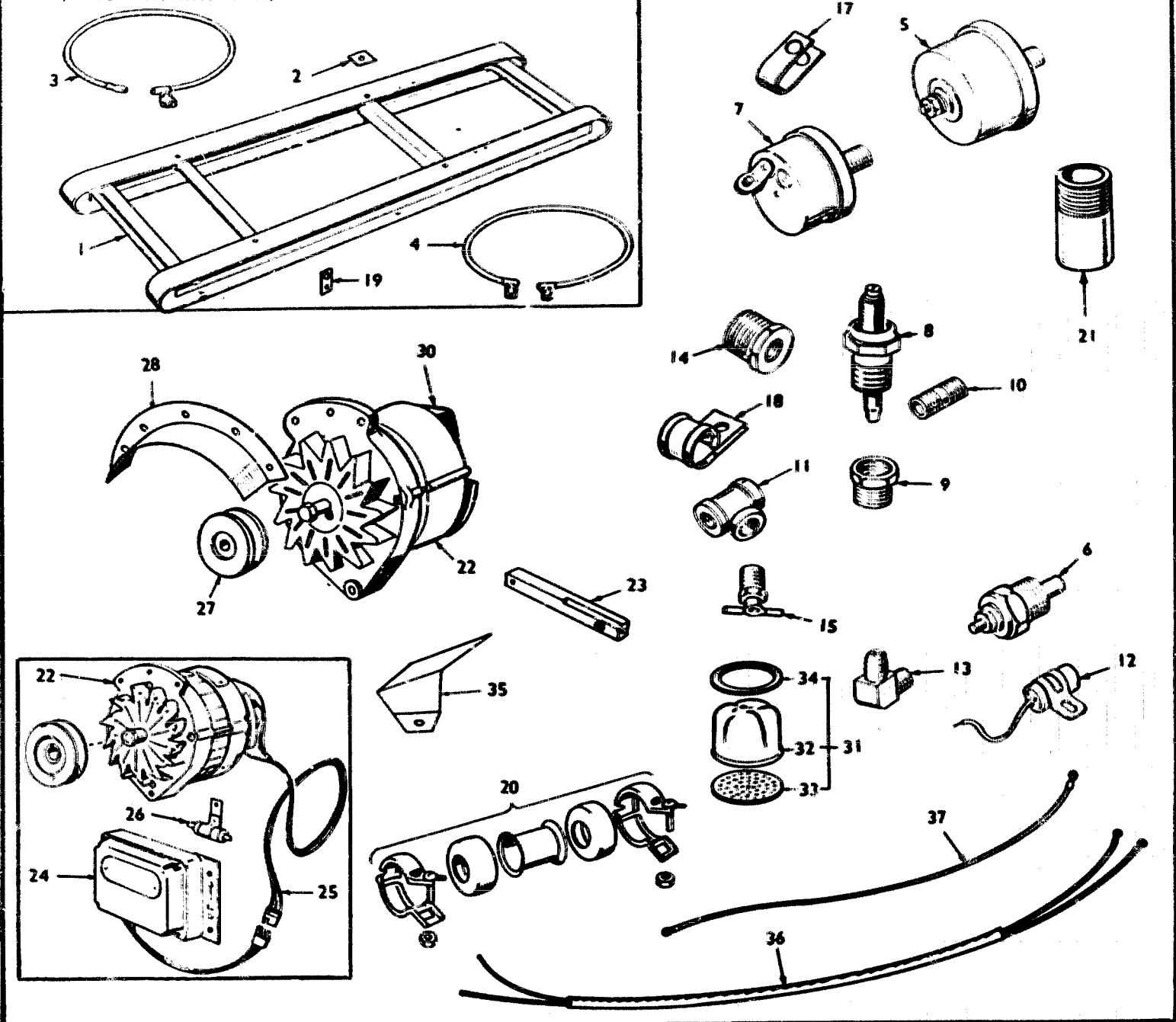
Engine, Replacement (Cummins Engine Company Series 855, Model NTA-400-1P)

General Description:

Includes - Complete Cylinder Block, Fuel Pump, Air Cleaner, Fuel Filter, Oil Filter, Starter and Solenoid, 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.

BASE, CHG. ALTERNATOR, CABLES, SENDER & MISC. GROUP



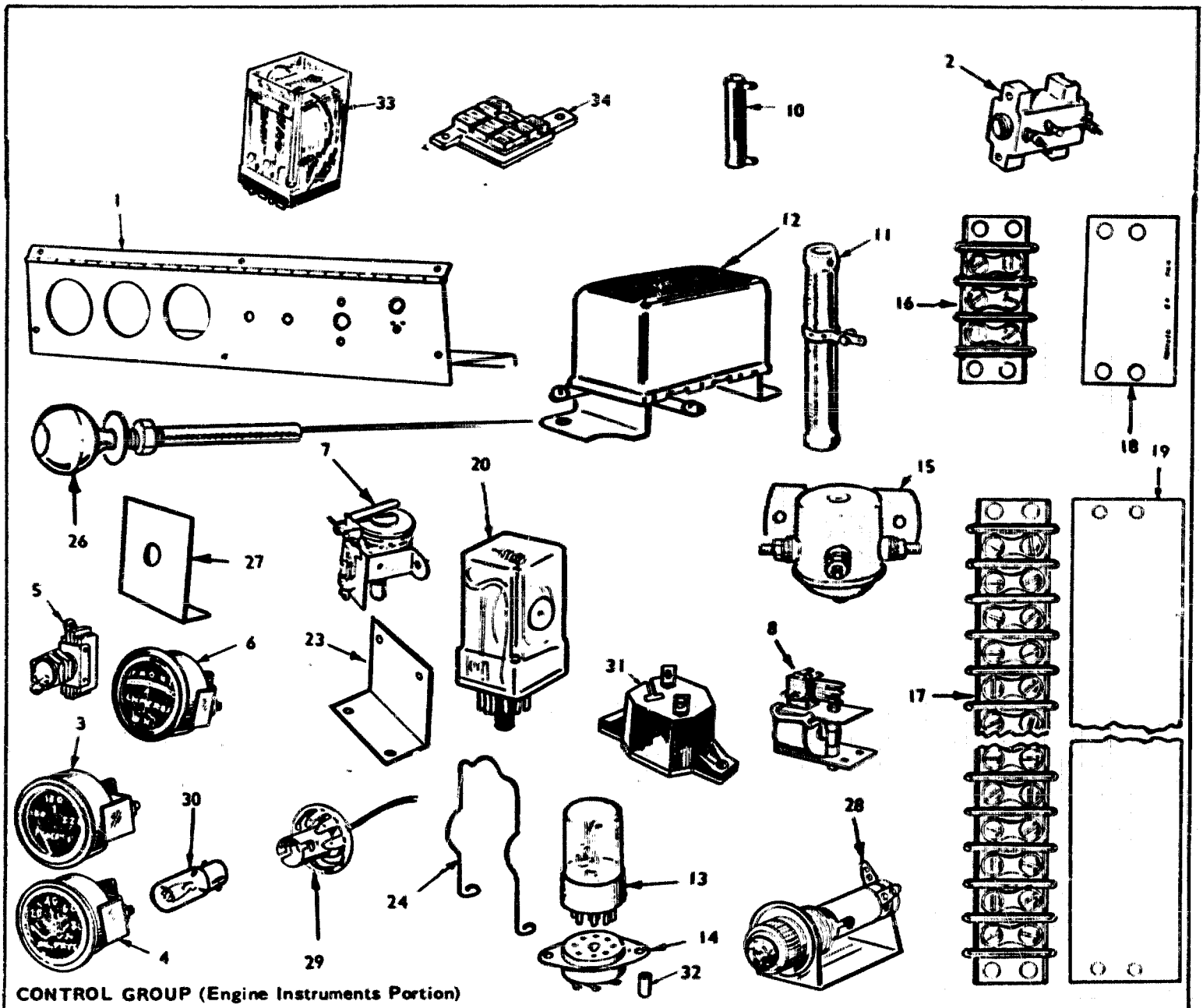
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	403C723	1	Base, Mounting
2	SHIM, GENERATOR TO MOUNTING BASE		
	232A1817	As Req.	.062"
	232A1489	As Req.	.0598"
	232A1490	As Req.	.0359"
3	CABLE, BATTERY		
	416A444	1	Positive
	416A445	1	Negative
4	416A446	1	Cable, Battery Jumper
5	193A98	1	Sender, Oil Pressure
6	193A100	1	Sender, Water Temperature
7	309P169	1	Switch, Oil Pressure
8	309A178	1	Switch, High Water Temperature Cut-Off
9	505-19	2	Bushing, Pipe Reducer (1/2 x 3/8) High Water Temperature Switch & Water Temperature Sender
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 & Sender Mounting

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
12	312A58	1	Condenser - (.1 Mfd.) - Charge Generator
13	502-218	1	Elbow, Male (5/8" x 1/2") Brass - Injection Pump
14	505-20	1	Bushing, Reducer (3/4 x 1/4") Radiator Outlet
15	VALVE		
	504-28	1	Radiator Drain
	504-3	1	Cylinder Water Drain
	CLIP, HARNESS - ENGINE CONTROL CONNECTIONS		
17	416A96	3	"U" Shaped - All Metal
18	332-49	2	"O" Shaped - Metal with Rubber Insulator
19	191A214	1	Connector, Starter Terminal
20	505P654	1	Coupling, Exhaust (4" O.D. Pipe)
21	505-456	1	Nipple, Half (8" Long)
22	*ALTERNATOR, BATTERY CHARGING		
	191D549	1	Motorola #70D41753A01 (Includes Fan) - Prior to Spec D
	191B688	1	Motorola #70D44039B04 (Includes Regulator & Fan) - Begin Spec D

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
23	232A1909	1	Bar, Alternator Mounting
24	191-548	1	Regulator, Charging - Prior to Spec D
25	191-544	1	Harness, Wiring - Alternator to Regulator - Prior to Spec D
26	191-550	1	Resistor, Alternator (300-Ohm) - Prior to Spec D
27	191C624	1	Pulley, Alternator
28	191B725	1	Guard, Alternator Belt
30	191P733	1	Regulator, Charging - Begin Spec D
31	ELEMENT REPLACEMENT KIT, WATER FILTER		
	130K769	1	Regular Element - OS (Contains Parts Marked ⚡)
	130K772	1	PAF Element - E (Contains Parts Marked +)
32	ELEMENT, FILTER		
	130-773	1	⚡Regular Element
	130-776	1	+PAF Element
33	PLATE, SACRIFICIAL		
	130-779	1	⚡Regular Element
	130-780	1	+PAF Element

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
34	GASKET, COVER		
	130-777	1	⚡Regular Element
	130-778	1	+PAF Element
35	133B179	1	Shield, Heat - High Temperature Switch
36	HARNESS ASSEMBLY		
	338B213	1	Voltage Regulator
	338B369	1	Alternator
	338C452	1	Engine Control
	338B242	1	Static Exciter (4-1/2' Sleeving)
	338B480	1	Static Exciter (2' Sleeving)
37	336A1211	1	Lead, Starter to Solenoid

- ⚡ Contained in #130K769 Element Replacement Kit.
- + Contained in #130K772 Element Replacement Kit.
- * For components, contact your nearest Motorola dealer or Motorola Automotive Products Inc., 9401 W. Grand Ave., Franklin Park, Illinois 60131.

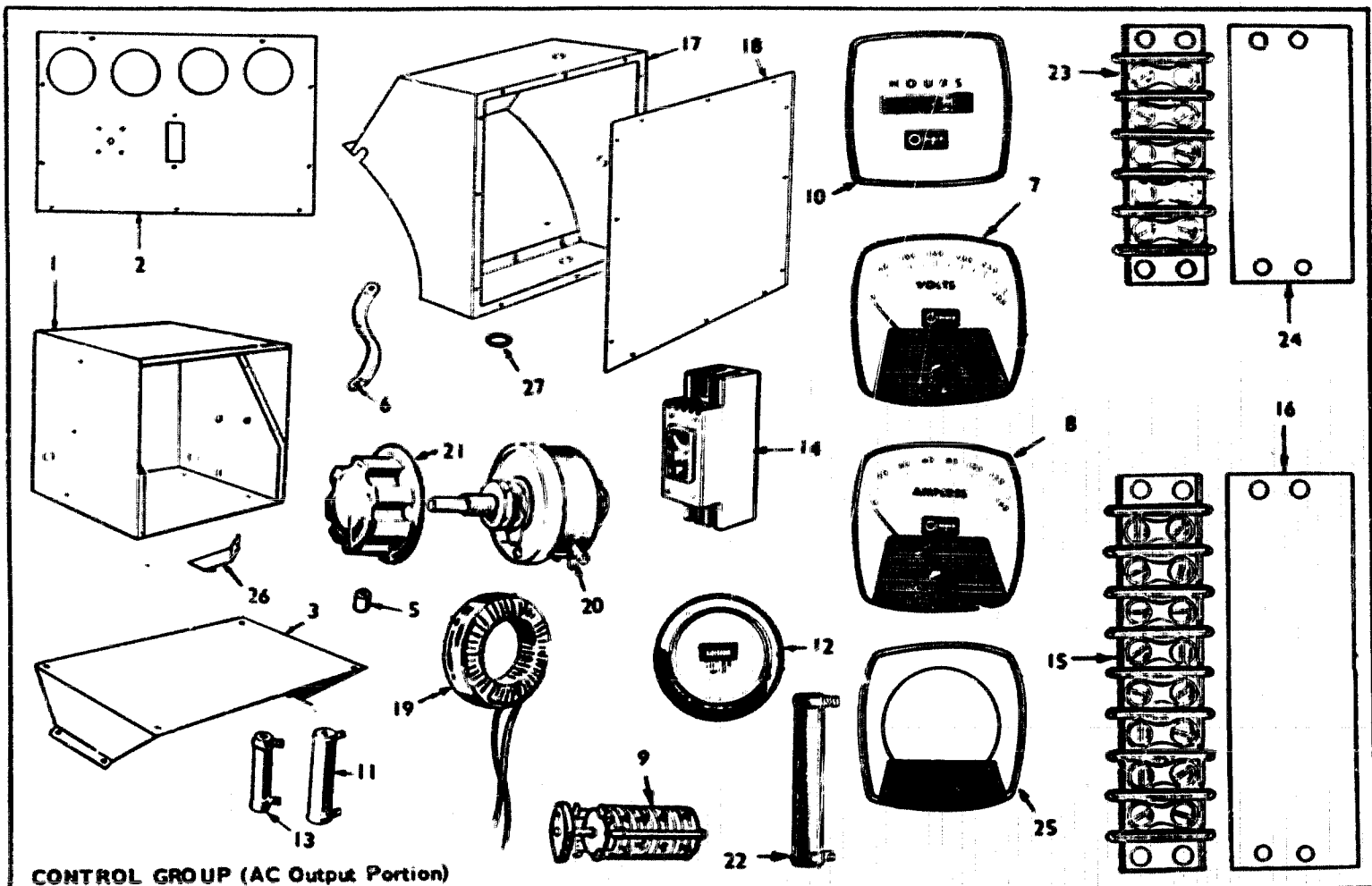


CONTROL GROUP (Engine Instruments Portion)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	301C2124	1	Panel Only, Lower Control
2	320A104	1	Limiter, Cranking
3	193B112	1	Gauge, Water Temperature
4	193B111	1	Gauge, Oil Pressure
5	SWITCH, TOGGLE		
	308P2	1	Panel Lights
	308P138	1	Run, Stop, Remote
6	302A61	1	Ammeter, Charge (30-0-30)
7	RELAY, TIME DELAY		
	307A388	1	Prior to Spec C
	307A899	1	Begin Spec C
8	307A655	1	Relay, Latching
10	RESISTOR, FIXED		
	304A446	2	(1) Water Temperature Gauge, (1) Oil Pressure Gauge (15-Ohm, 10Watts) 5/16 x 1-3/4"
	304-248	1	Time Delay Relay (100-Ohm, 10Watts) 5/16 x 1-3/4" - Prior to Spec C
	304A276	1	Between Fuel Solenoid Relay & Emergency Stop Relay (75-Ohm, 10Watts) 5/16 x 1-3/4"
	304A62	1	Pilot Relay (25-Ohm, 25Watts) 3/4 x 2" - Prior to Spec C

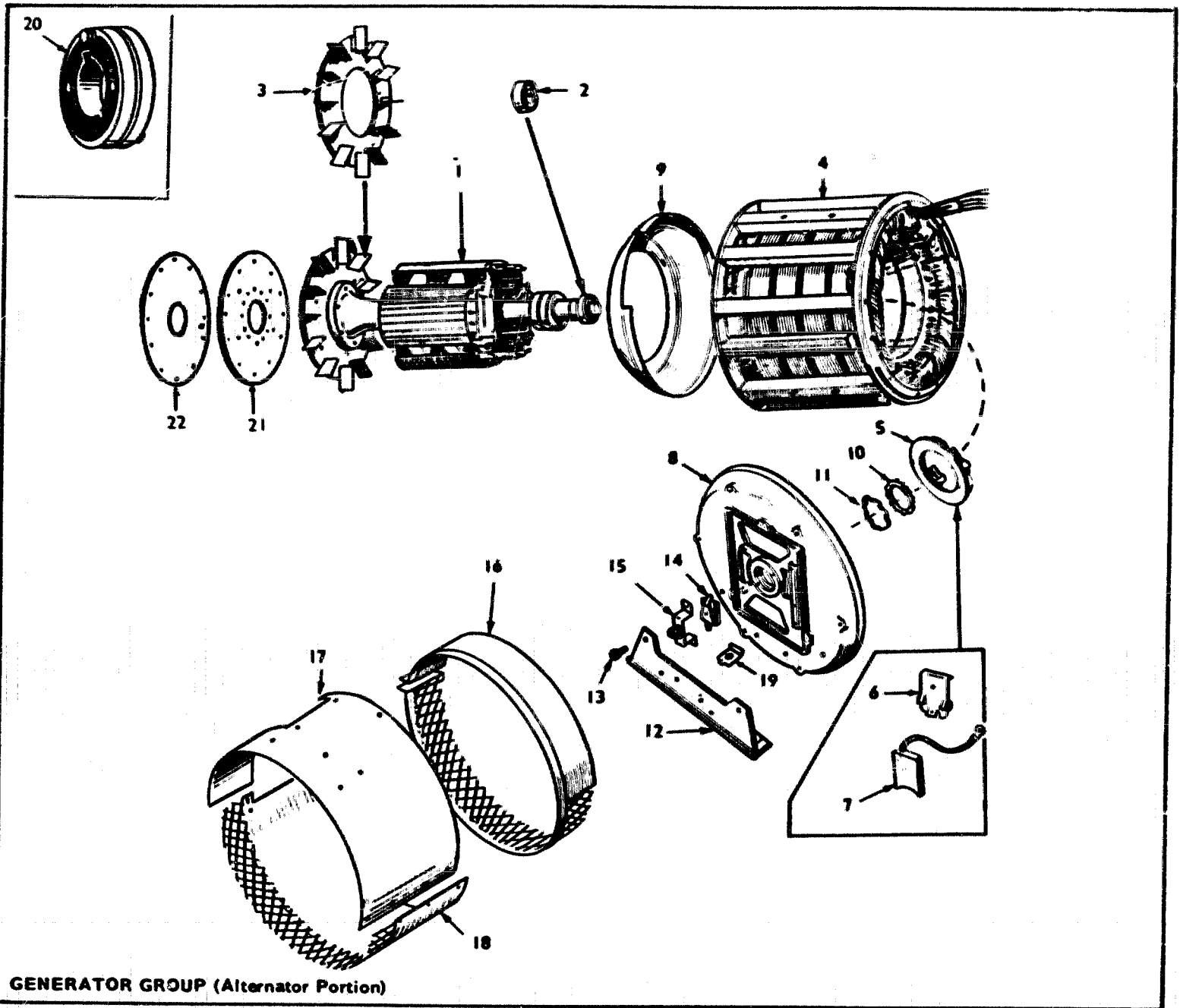
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
11	304A66	1	Resistor, Adjustable, Start-Disconnect Relay & Cranking Limiter - 3/4 x 4"
12	307B597	1	Relay, Fuel Solenoid - Prior to Spec C
13	RELAY, CYCLE CRANKING - PLUG-IN TYPE		
	307A697	1	10 Second Delay - Prior to Spec C
	307A753	1	5 Second Delay - Prior to Spec C
14	323-52	2	Socket, Fuel Solenoid Relay & Start-Disconnect Relay (Qty. 3 - Prior to Spec C - Used for Cycle Cranking Relays)
15	307-61	1	Relay, Pilot - Prior to Spec C
	BLOCK, TERMINAL		
16	332A611	1	Remote Operation (3 Place)
17	332A607	1	Engine Connection (12 Place) - Prior to Spec C
17	332A795	1	Engine Connection (16 Place) - Spec C through D
17	332A10005	1	Engine Connection (20 Place) - Begin Spec E

<u>REF. NO.</u>	<u>PART NO.</u>	<u>QTY. USED</u>	<u>PART DESCRIPTION</u>
	STRIP, BLOCK MARKER		
18	332A1009	1	For Remote Operation Block (GND, B+, Remote)
19	332A608	1	For Engine Connection Block (4 through 15) - Prior to Spec C
19	332A862	1	For Engine Connection Block (4 through 19) - Spec C through D
19	332A1006	1	For Engine Connection Block (Marked 4 through 23) - Begin Spec E
20	307P820	1	Relay, Start-Disconnect
20	307P820	1	Relay, Fuel Sol. - Begin Spec C
23	301A1685	1	Bracket, Mtg. - Time Delay Relay
24	307P778	2	Spring, Relay Holddown
26	152P120	1	Control, Vernier
27	151A230	1	Bracket, Vernier Control
28	322P69	1	Receptacle, Pilot Light
29	322P72	2	Receptacle, Panel Light
30	322P17	3	Bulb, (1) Pilot Light, (2) Panel Lights
31	320P240	1	Breaker, Circuit - Starter Motor - Begin Spec C
32	332A943	4	Spacer, Relay Socket Mounting - Begin Spec D
33	307B1061	1	Relay, Starter Motor Protection - Begin Spec E
34	323A760	1	Socket, Starter Motor Protection - Relay - Begin Spec E



CONTROL GROUP (AC Output Portion)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	301D2115	1	Box Only, Control	12	METER, FREQUENCY		
2	301C1815	1	Panel Only, Upper Control	302-213	1	60 Hertz Models	
3	301C1830	1	Bracket, Control Box Mounting	302-234	1	50 Hertz Models	
5	402-78	4	Rubber, Mounting - Control Box	13	RESISTOR, FREQUENCY METER		
6	337A44	1	Strap, Ground	304A305	1	For 277/480 Volt, 3 Phase Plants	
7	VOLTMETER, AC (CHECK VOLTMETER SCALE - SELECT ACCORDING TO RATING)			304A402	1	For 600 Volt, 347/600 Volt, 3 Phase Plants	
	302P421	1	Scale Reads 0-300	304A125	1	For 220/380 Volt, 3 Phase Plants	
	302P612	1	Scale Reads 0-500	14	320B170	1	Breaker, Circuit - 18 Amp
	302P422	1	Scale Reads 0-600	15	332A503	1	Block, Terminal (8 Place)
	302P423	1	Scale Reads 0-750	16	332A601	1	Strip, Block Marker (Marked 15 through 22)
8	AMMETER, AC (CHECK AMMETER SCALE - SELECT ACCORDING TO RATING)			17	301E1682	1	Box Only, Output Terminal - Mounts on Side of Generator
	302P413	1	Scale Reads 0-300				
	302P414	1	Scale Reads 0-500	18	301C1683	1	Cover, Output Terminal Box
	302P415	1	Scale Reads 0-750	19	TRANSFORMER, CURRENT (MOUNTS IN OUTPUT TERMINAL BOX) CHECK TRANSFORMER NAME-PLATE - SELECT ACCORDING TO RATING		
	302P416	1	Scale Reads 0-1000	302B107	3	Reads Ratio 300/5 (Use With 0-300 AC Ammeter)	
9	308-22	1	Switch, Voltage & Current Selector	302B372	3	Reads Ratio 500/5 (Use With 0-500 AC Ammeter)	
10	METER, RUNNING TIME			302B385	3	Reads Ratio 750/5 (Use With 0-750 AC Ammeter)	
	302P465	1	120/208, 120/240, 600, 347/600 Volt, 3 Phase, 60 Hertz Plants	302B394	3	Reads Ratio 1000/5 (Use With 0-1000 AC Ammeter)	
	302P466	1	220/380 & 240/416 Volt, 3 Phase, 60 Hertz Plants	20	303-111	1	Rheostat, Voltage Regulator - 175-Ohm, Model H
	302P467	1	277/480 Volt, 3 Phase, 60 Hertz Plants	21	303-32	1	Knob, Rheostat
	302P469	1	220/380 & 240/416 Volt, 3 Phase, 50 Hertz Plants	22	304A484	1	Resistor, Fixed - Rheostat (825-Ohm, 75 Watt)
	302P468	1	120/208, 120/240, 600, 347/600 Volt, 3 Phase, 50 Hertz Plants	23	332A604	1	Block, Terminal - Exciter Connections - (5 Place)
	302P470	1	277/480 Volt, 3 Phase, 50 Hertz Plants	24	332A690	1	Strip, Block Marker (5 Place)
11	304A536	1	Resistor, Running Time Meter - 600 Volt, 3 Phase, 60 Hertz Plants - (Use with 302P465 Meter)	25	302B448	1	Plate, Meter Face
				26	301A1914	1	Bracket, Panel Stop
				27	508P63	3	Grommet, Rubber (For 2-7/8" Hole)



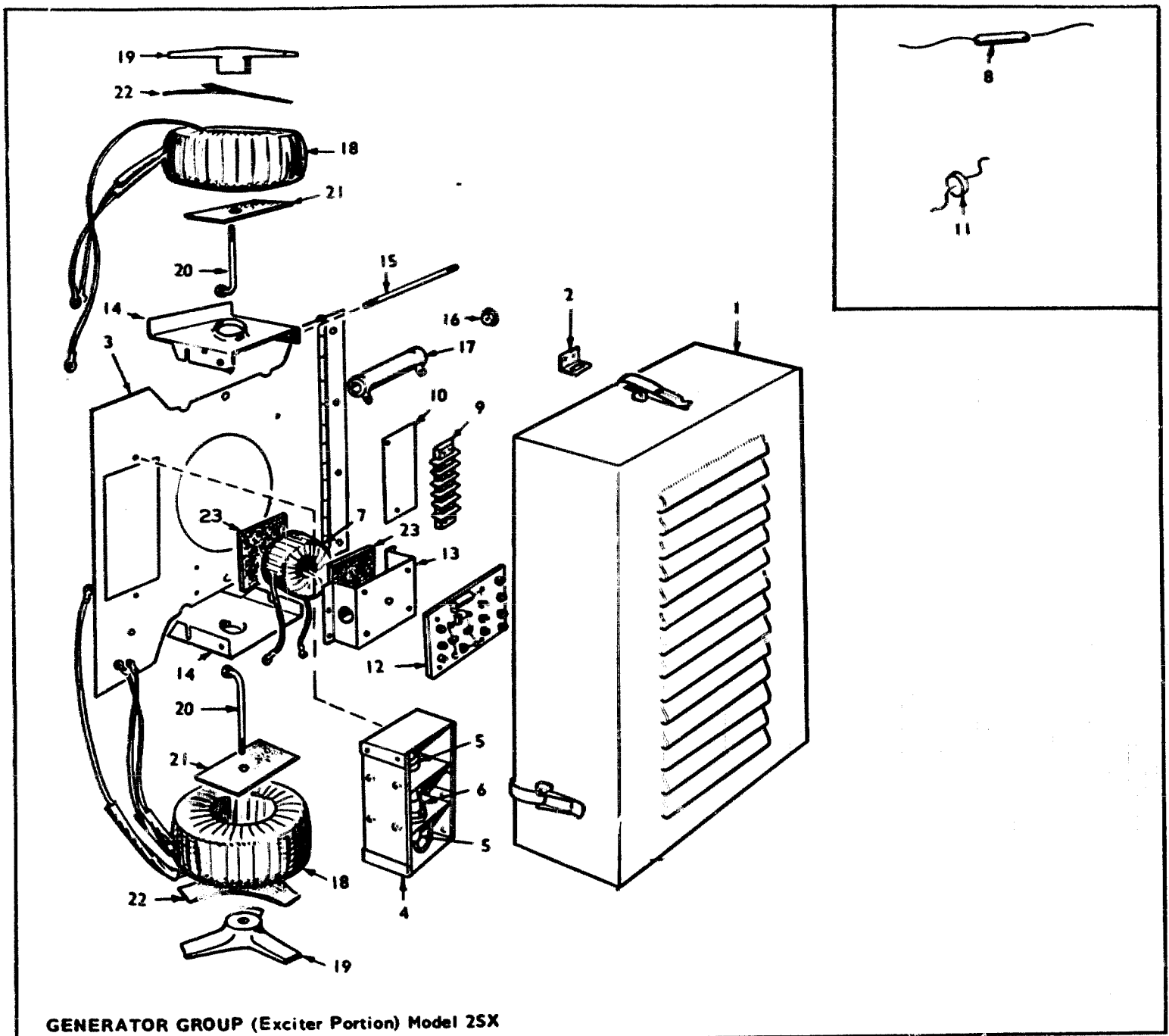
NOTE: Output Terminal Box, Cover & Internal Parts are listed in the AC Output Control Group (Mounts on Side of Generator).

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	**	1	Rotor Assembly, Wound - Includes Bearing, Blower & Drive Assembly
2	BEARING 510P63 510P88	1 1 1	Spec A Only Begin Spec B
3	205C61	1	Blower
4	**	1	Stator Assembly, Wound
5	212C248	1	Rig Assembly, Brush - Includes Brushes & Springs
6	212B1105	4	Spring, Brush
7	214A56	4	Brush
8	211D153	1	*Bell, End - Alternator to Exciter
9	234D69	1	Baffle, Air
10	RING, BEARING HOLDER - ANTI-ROTATION 232A1186 232A1807	1 1 1	Spec A Only Begin Spec B
11	SPRING, BEARING HOLDER - ANTI-ROTATION 232A1187 232A1808	1 1 1	Spec A Only Begin Spec B

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
12	232D1396	1	Support
13	805-35	16	Bolt, Place - Generator Mounting
14	150A717	1	Switch Assembly, Overspeed
15	150A713	1	Bracket, Overspeed Switch - Includes Contact Point
16	234D70 BAND, GENERATOR - REAR (WIDE)	1	Band - Front (Narrow)
17	**	1	Upper Half
18	**	1	Lower Half
19	234A107	1	Bracket, Conduit Connector
20	204A83	1	Ring, Collector
21	232C1394	1	Disc, Drive
22	232B1378	As Req.	Shim, Drive Disc

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

* To order end bell for Spec A plants also order 232A1807 Ring, 232A1808 Spring, 510P88 Bearing, 526A17 Spacer and 812-192 Screw.



GENERATOR GROUP (Exciter Portion) Model 25X

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	234D116	1	Cover, Exciter	12	305B227	1	Rectifier & Resistor Assembly (Includes #304P476 Resistor & (4) Rectifiers #305P240)
2	232A1376	3	Bracket-Exciter Cover to End Bell	13	234B115	1	Bracket, Mounting-Voltage Control
3	234D74	1	Panel Only, Exciter	14	234B75	2	Bracket, Gate Reactor Mounting
4	305B228	1	Rectifier Assembly, Power-Complete-Includes two #305P233 & #305P234 Rectifiers plus wire & hardware.	15	520A190	1	Stud, Fixed Resistor Mounting
5	RECTIFIER ONLY, POWER (FIELD) 305P233	2	Lower two-Negative (Included in Rectifier Assembly #305B228)	16	304A15	2	Washer, Fixed Resistor Centering
6	305B234	2	Upper two-Positive (Included in Rectifier Assembly #305B228)	17	304A442	1	Resistor, Fixed (300-Ohm, 75 Watt)
7	REACTOR, VOLTAGE CONTROL 315A80 315A78	1 1	50 Hertz Plants 60 Hertz Plants	18	REACTOR, GATE 315A61 315A51	2 2	50 Hertz Plants 60 Hertz Plants
8	304P476	1	Resistor, Voltage Control Reactor (Included in Rectifier & Resistor Assembly #305B227)	19	232A1389	2	Retainer, Gate Reactor
9	332A532	1	Block, Terminal-5 Place	20	232A1403	2	Stud, Gate Reactor Mounting
10	332A693	1	Strip, Terminal Block Marker	21	232B1388	2	Gasket, Gate Reactor Mounting
11	305P240	4	Rectifier, Voltage Control Reactor (Included in Rectifier & Resistor Assembly #305B227)	22	232B1387	2	Gasket, Gate Reactor to Retainer
				23	232A1548	2	Gasket, Control Reactor Coil Mounting

NOTE: Hertz is a unit of frequency equal to one cycle per second.