

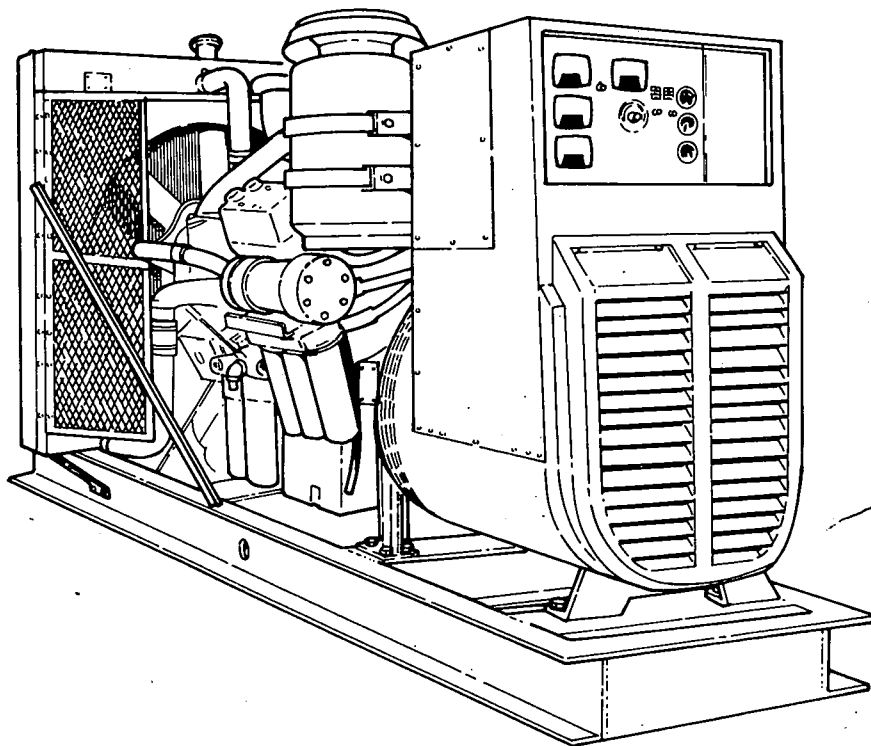
PARTS CATALOG

FOR

DFV

SERIES

ELECTRIC GENERATING SETS



BEGIN SPEC H

FORM NUMBER
960-0226

ISSUE DATE
1-78
(Spec H)
Printed in U.S.A.

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 and give the complete Model and Spec No. and Serial No.

 ELECTRIC GEN SET			
MODEL		SERIAL NO	
IMPORTANT - ALWAYS GIVE ABOVE NOS. WHEN ORDERING PARTS			
CONTINUOUS		RATING	
HERTZ-60 RPM 1800			
3 PHASE		1 PHASE	
KW	KVA	KW	KVA
VOLTS 120/208 127/220 139/216 120/240 240/416			
AMPS		AMPS	
VOLTS 254/440 277/480 347/600 120/240			
AMPS		AMPS	
BAT. VOLTS			
MANUFACTURED BY ONAN DIV. OF ONAN CORPORATION MINNEAPOLIS, MINN. 55432, U.S.A. FOR ELECT. EQUIPMENT ONLY 			

CUMMINS PARTS

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

When ordering parts or requesting service information, refer to the Cummins Engine Nameplate and supply Cummins with all information stated on the engine nameplate.

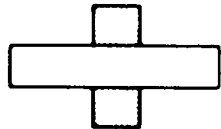
		CUMMINS ENGINE COMPANY, INC. COLUMBUS, INDIANA, U.S.A.			
SBM NO.		MODEL		ENG NO.	
				OTHER REF. NO.	

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This catalog applies to the standard DFV generator set as listed below. These sets are powered by a Cummins 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. Using the Model and Spec No. from the set nameplate, select the Parts that apply to your set. Unless otherwise mentioned, parts are interchangeable. Right and left set sides are determined by facing the front (engine) end of the unit.

SET DATA TABLE

MODEL AND SPEC NUMBER	ELECTRICAL DATA				
	WATTS	VOLTS	HERTZ	WIRE	PHASE
330DFV-519R/*	330,000	110/190 or 115/200	50	4	3
330DFV-520R/*	330,000	220/380 or 230/400	50	4	3
330DFV-521-R/*	330,000	120/208 or 127/220	50	4	3
330DFV-522R/*	330,000	240/416 or 254/440	50	4	3
400DFV-4R/*	400,000	120/208	60	4	3
400DFV-4XR/*	400,000	277/480	60	4	3
400DFV-7XR/*	400,000	240/416	60	4	3

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

REPLACEMENT ENGINE

100-1467

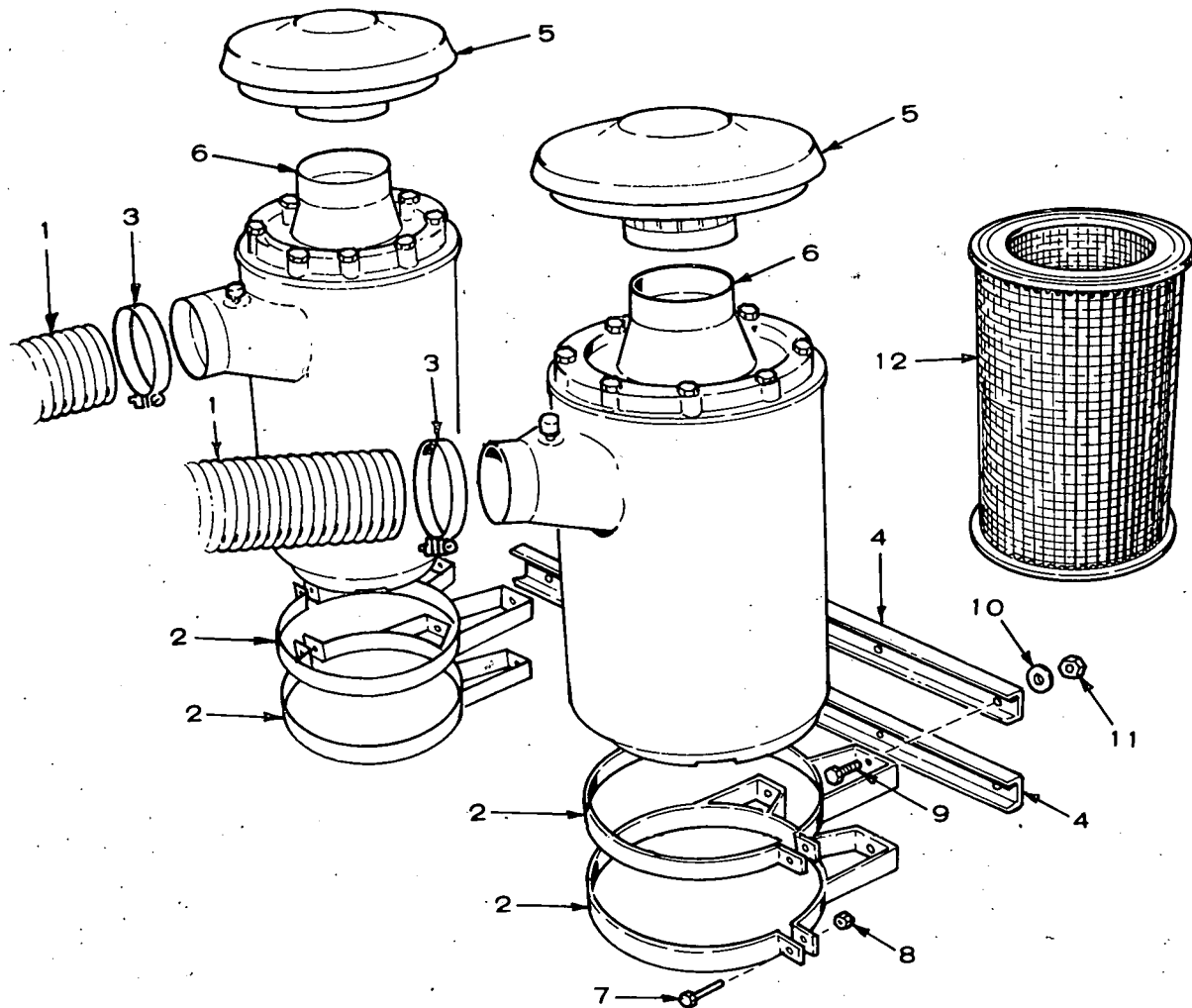
Replacement Engine (NOTE: This engine is for standard spec 1 Generator Sets, For all other specs finish Model and Spec)

GENERAL DESCRIPTION

Includes — Complete Cylinder Block, Fuel Pump (24 Volt); Fuel Filter; Oil Filter (Full Flow); Starter Motor (24 Volt); Governor (WoodwardSG-5%); Fan Blades; Fan Belt; Fan Guard; Flywheel; Flywheel Housing; Water Pump; Engine Supports; Oil Pan; Oil Cooler; Exhaust Manifold.

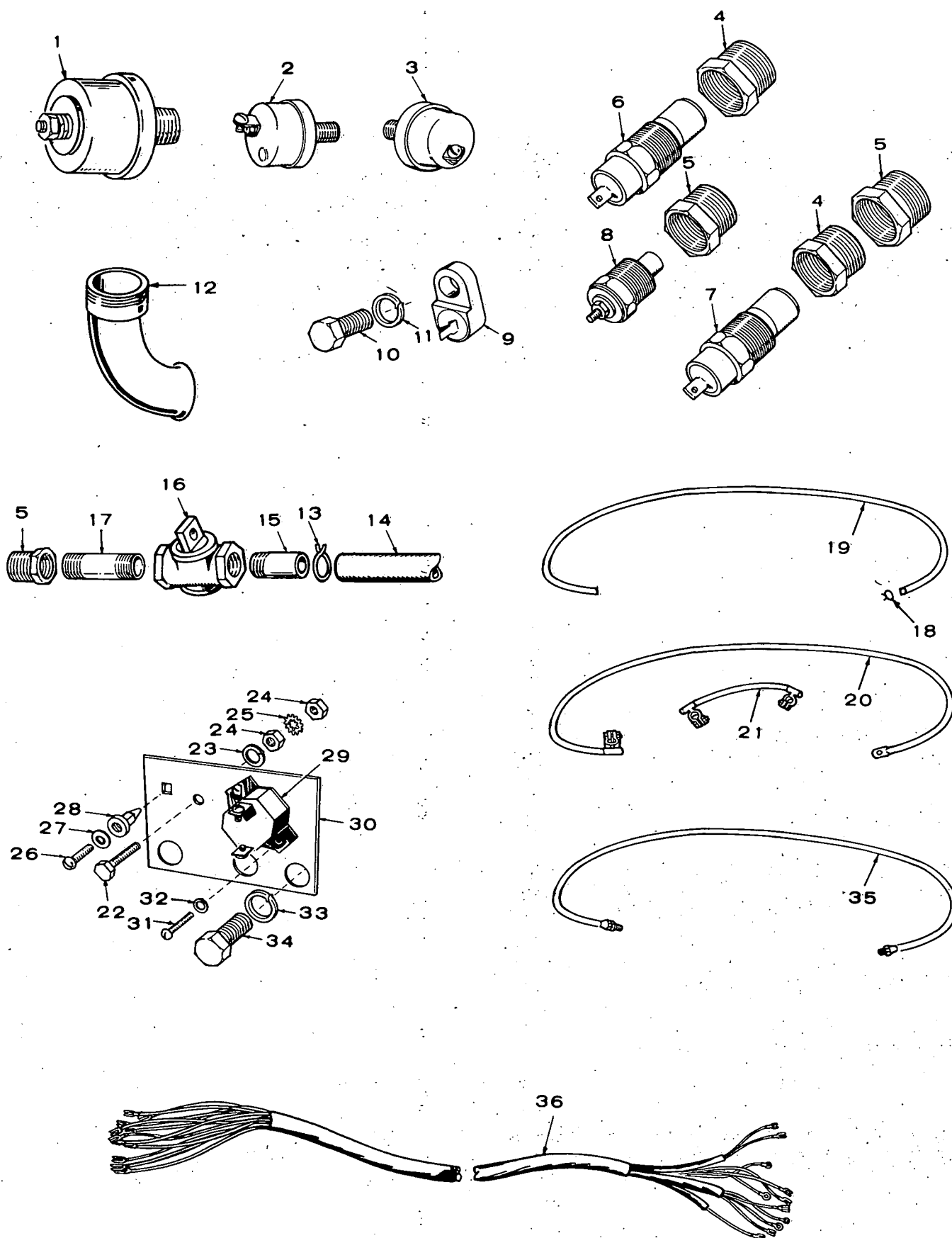
Excludes — Alternator; Alternator Brackets; Alternator Belt; Temperature Sender; Oil Pressure Sender; Air Cleaners.

AIR CLEANER



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	HOSE, FLEXIBLE - AIR CLEANER			8	870-0257	4	Nut, Hex - Locking (5/16-18)
503-0855	1	18" Long		9	821-0030	10	Screw, Cap - Hex Head Locking (3/8-16 x 1")
503-0854	1	21" Long		10	526-0013	10	Washer, Flat (25/64" ID x 1" OD x 1/16" Thk)
2	140-1345	4	Band, Air Cleaner	11	870-0281	10	Nut, Hex - Locking (3/8-16)
3	503-0748	4	Clamp, Hose	12	140-1376	2	Element, Air Cleaner
4	140-1527	2	Support, Air Cleaner				
5	140-1347	2	Cap, Air Cleaner				
6	140-1346	2	Cleaner, Air (Includes Element)				
7	800-0032	4	Screw, Cap - Hex Head (5/16-18 x 1-3/4")				

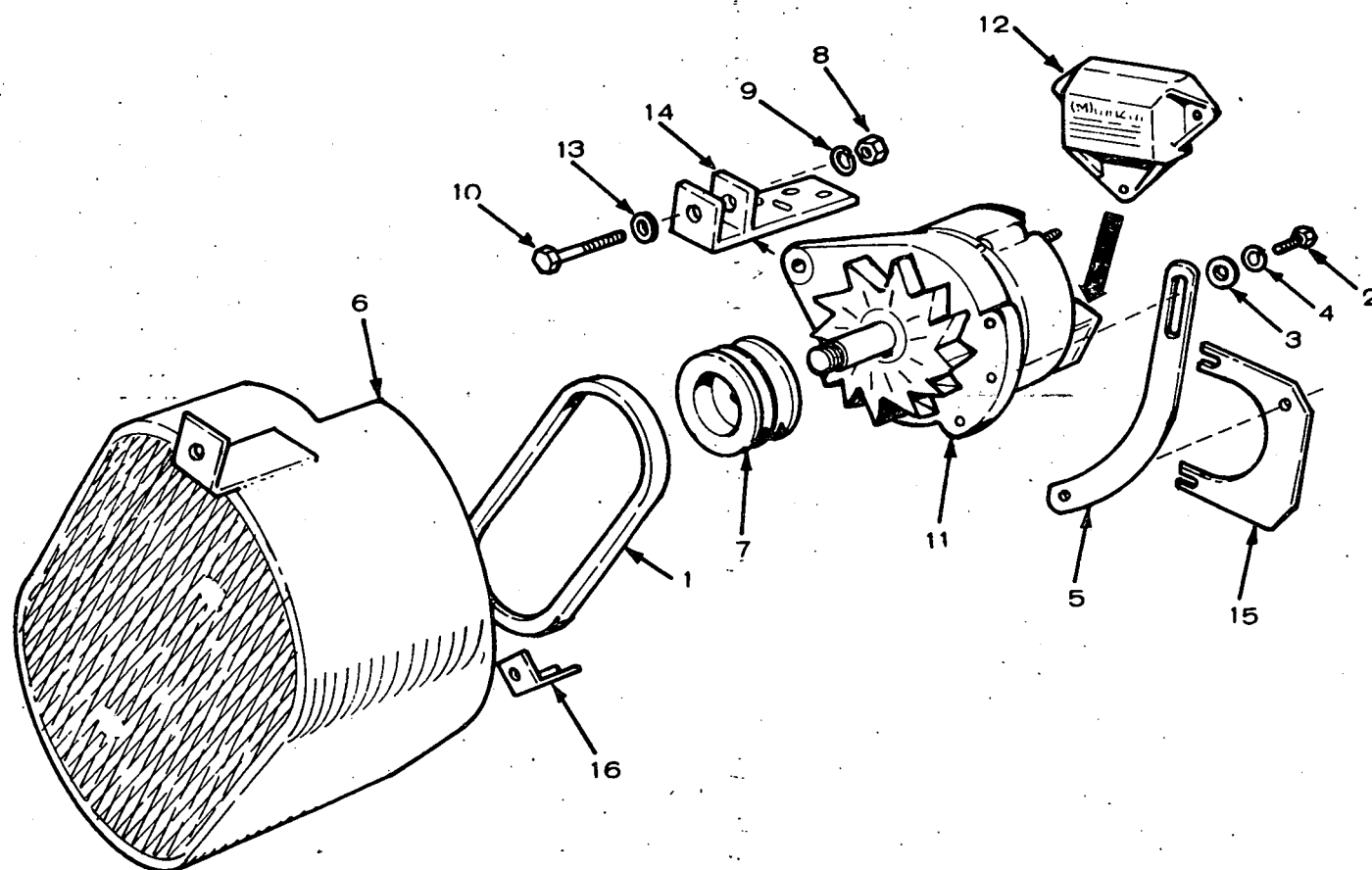
MISCELLANEOUS ENGINE PARTS



MISCELLANEOUS ENGINE PARTS

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	193-0244	1	Sender, Oil Pressure	20	CABLE, BATTERY		
2	309-0169	1	Switch, Oil Pressure (Shutdown)		416-0681	1	Negative (44")
3	309-0272	1	Switch, Oil Pressure (Alarm)		416-0682	1	Positive (44")
4	505-0117	3	Bushing, Reducer (1/2 to 3/8")	21	416-0446	1	Cable, Battery - Jumper
5	505-0021	3	Bushing, Reducer (3/4 to 1/2")	22	800-0007	1	Screw, Cap - Hex Head (1/4-20 x 1")
6	309-0178	2	Switch, Coolant Temperature High (Shutdown)	23	850-0040	1	Washer, Lock - Spring (1/4")
7	309-0179	1	Switch, Coolant Temperature High (Alarm)	24	862-0001	2	Nut, Hex (1/4-20)
8	193-0247	1	Sender, Coolant Temperature	25	856-0006	1	Washer, Lock - EIT (1/4")
9	309-0269	1	Switch, Coolant Temperature (Low)	26	809-0035	1	Screw, Tapping (#8 x 3/4")
10	800-0028	1	Screw, Cap - Hex Head (5/16-18 x 1")	27	508-0015	1	Washer, Insulating
11	850-0045	1	Washer, Lock - Spring (5/16")	28	870-0196	1	Nut, Insulator
12	155-1393	2	Elbow, Pipe - Exhaust	29	320-0240	1	Breaker, Circuit
13	503-0197	1	Clamp, Hose - Oil Drain	30	332-1382	1	Bracket, Circuit Breaker Mtg.
14	503-0808	1	Hose, Rubber - Oil Drain	31	811-0103	2	Screw, Machine - Round Head (#10-32 x 3/4")
15	505-0785	1	Nipple, Pipe - Half Oil Drain	32	850-0030	2	Washer, Lock - Spring (#10)
16	504-0011	1	Valve, Oil Drain	33	850-0065	1	Washer, Lock - Spring (9/16")
17	505-0100	1	Nipple, Pipe - Oil Drain	34	800-0112	1	Screw, Cap - Hex Head (9/16-12 x 1")
18	503-0183	2	Clamp, Hose - Breather Tube	35	LINE, FLEXIBLE - FUEL		
19	503-0859	2	Hose, Breather		501-0217	1	Fuel In
					501-0219	1	Fuel Out
				36	338-1103	1	Harness, Wiring - Engine

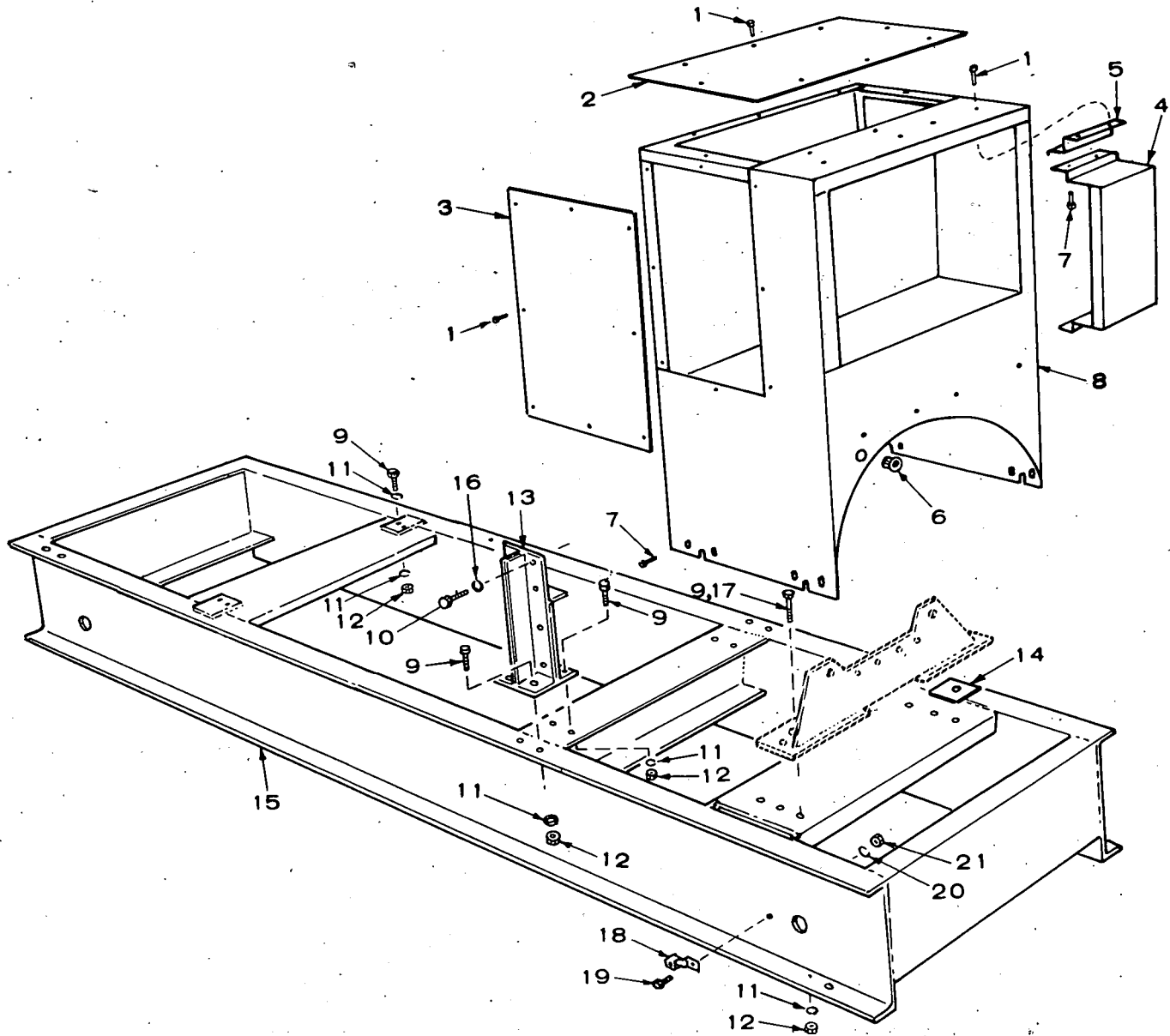
ALTERNATOR



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	511-0037	1	Belt, Drive
2	800-0026	1	Screw, Cap - Hex Head (5/16-18 x 3/4")
3	526-0022	1	Washer, Flat (21/64" ID x 9/16" OD x 1/16" Thk)
4	850-0045	1	Washer, Lock - Spring (5/16")
5	191-1217	1	Bracket, Alternator Adjusting
6	191-1212	1	Guard, Belt
7	191-1120	1	Pulley, Alternator Drive
8	862-0016	1	Nut, Hex (1/2-13)
9	850-0060	1	Washer, Lock - Spring (1/2")
10	800-0095	1	Screw, Cap - Hex Head (1/2-13 x 2-1/4")
11	191-0688	1	†Alternator - Includes Regulator (Motorola #70D44039B04)
12	191-0733	1	†Regulator, Voltage - Part of Alternator
13	526-0028	1	Washer, Flat (9/16" ID x 15/16" OD x 1/16" Thk)
14	191-0697	1	Bracket, Alternator Mounting
15	191-1228	1	Bracket, Belt Guard
16	130-1210	1	Bracket, Belt Guard

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

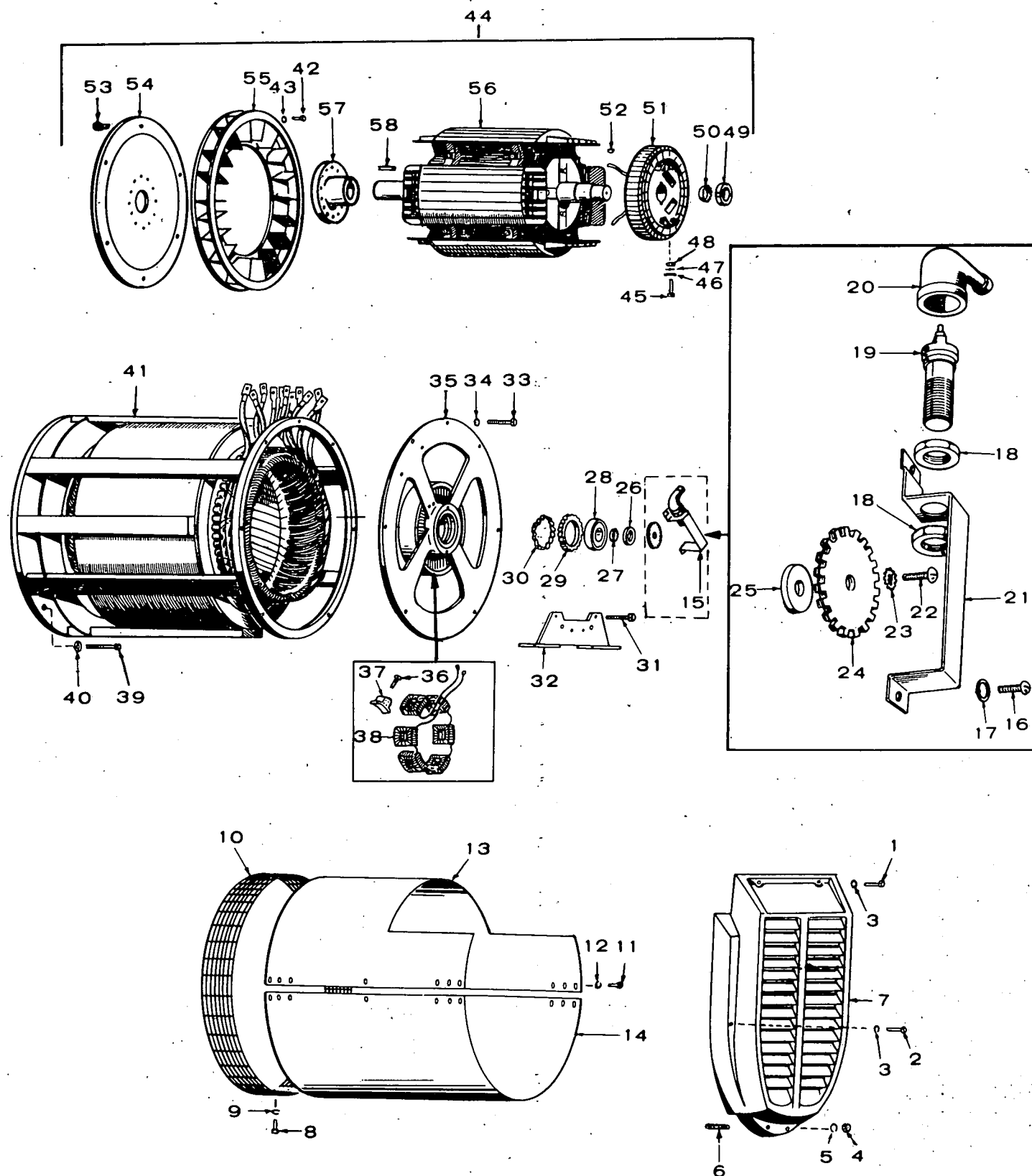
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REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	821-0010	29	Screw, Cap - Hex Head Locking (1/4-20 x 1/2")
2	301-2904	1	Panel, Top (Control)
3	301-2905	2	Panel, Side (Control)
4	301-4110	1	Panel, Control Insert
5	301-4125	1	Bracket, Control Box Housing
6	331-0088	3	Bushing, Insulator
7	821-0014	18	Screw, Cap - Hex Head Locking (5/16-18 x 1/2")
8	301-4118	1	Housing, Control
9	800-0156	12	Screw, Cap - Hex Head (3/4-10 x 2-1/4")
10	800-0132	4	Screw, Cap - Hex Head (5/8-11 x 1-1/2")
11	850-0079	14	Washer, Lock - Spring (3/4")

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
12	862-0020	14	Nut, Hex (3/4-10)
13	403-1360	2	Support, Engine
14	SHIM, GENERATOR MOUNTING		
	232-1489	As Req.	.0598" Thick
	232-1490	As Req.	.0359" Thick
15	403-1363	1	Base, Skid
16	850-0070	4	Washer, Lock - Spring (5/8")
17	800-0157	2	Screw, Cap - Hex Head (3/4-10 x 2-1/2")
18	332-2001	1	Lug, Solderless
19	800-0051	1	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
20	850-0050	1	Washer, Lock - Spring (3/8")
21	862-0003	1	Nut, Hex (3/8-16)

GENERATOR



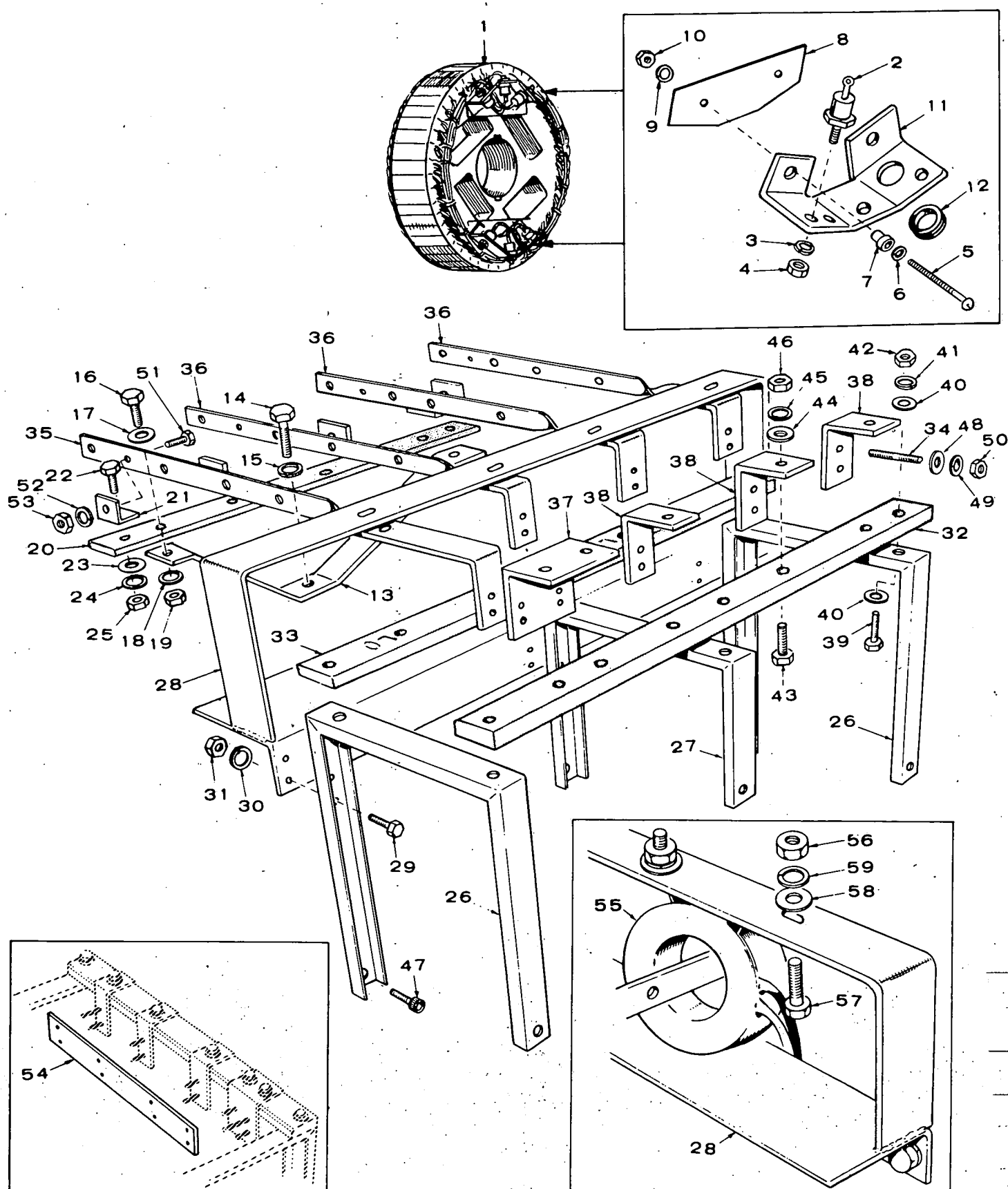
GENERATOR

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	800-0009	4	Screw, Cap - Hex Head (1/4-20 x 1-1/2")
2	800-0013	2	Screw, Cap - Hex Head (1/4-20 x 2-1/2")
3	850-0040	6	Washer, Lock - Spring (1/4")
4	862-0007	6	Nut, Hex (5/8-11)
5	850-0070	6	Washer, Lock - Spring (5/8")
6	520-0692	2	Stud (5/8-11 x 5/11 x 3-3/4")
7	232-1973	1	Grill - Generator End Bell
8	800-0003	1	Screw, Cap - Hex Head (1/4-20 x 1/2")
9	850-0040	1	Washer, Lock - Spring (1/4")
10	234-0272	1	Cover, Fan
11	800-0026	6	Screw, Cap - Hex Head (5/16-18 x 3/4")
12	850-0045	6	Washer, Lock - Spring (5/16")
13	234-0288	1	Band, Stator - Top
14	234-0278	1	Band, Stator - Bottom
15	150-1556	1	Sensor Assembly - Speed (Includes parts marked †)
16	812-0148	2	Screw, Machine - Round Head (1/4-20 x 1/2")
17	850-0040	2	Washer, Lock - Spring 1/4")
18	868-0011	2	†Nut, Hex - Jam (3/4-16)
19	150-1406	1	†Sensor, Magnetic - Speed
20	150-1410	1	†Cap, Insulator
21	150-1555	1	†Bracket, Mounting - Speed Sensor
22	812-0192	1	Screw, Machine - Round Head (3/8-16 x 1")
23	856-0010	1	Washer, Lock - External/ Internal Tooth (3/8")
24	150-1557	1	Wheel - Speed Sensor
25	526-0077	1	Washer, Flat (13/32" ID x 1-1/4" OD x 1/4" Thk)
26	510-0091	1	*Nut, Lock - Bearing
27	510-0093	1	*Washer, Lock - Bearing
28	510-0090	1	*Bearing, Ball
29	232-1923	1	Ring, Holder - Bearing
30	232-1924	1	Spring - Bearing Ring Holder
31	805-0035	2	Bolt - Hex Head (5/8-11 x 1-1/2")
32	232-1957	1	Support, Generator
33	800-0051	6	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
34	850-0050	6	Washer, Lock - Spring (3/8")
35	211-0170	1	End Bell Assembly (Includes Replaceable Parts Marked *)
36	800-0031	12	*Screw, Cap - Hex Head (5/16-18 x 1-1/2")

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
37	221-0153	6	*Shoe, Pole - Exciter Stator
38	222-1693	1	*Coil Assembly, Field - Exciter Stator (Set of Six Coils)
39	800-0092	16	Screw, Cap - Hex Head (1/2-13 x 1-1/2")
40	850-0060	16	Washer, Lock - Spring (1/2")
41	STATOR, WOUND - GENERATOR (Includes Bus Bars)		
			50 Hertz Sets
	220-2764	1	110/190 or 115/200 Volt
	220-2763	1	220/380 or 230/400 Volt
	220-2766	1	120/208 or 127/220 Volt
	220-2765	1	240/416 or 254/440 Volt
			60 Hertz
	220-2755	1	120/208 Volt
	220-2756	1	277/480 Volt
	220-2754	1	240/416 Volt
42	805-0035	6	Bolt, Place (5/8-11 x 1-1/2")
43	850-0070	6	Washer, Lock - Spring (5/8")
44	ROTOR ASSEMBLY, GENERATOR (Includes Parts Marked *)		
	201-1784	1	60 Hertz Sets
	201-1785	1	50 Hertz Sets
45	820-1067	2	*Screw, Machine - Pan Head, Cross-Recessed (#10-32 x 1")
46	526-1009	2	*Washer, Flat - Cadmium Plated (7/32" ID x 1/2" OD x 1/16" Thk)
47	850-1030	2	*Washer, Lock - Spring, Cadmium Plated (#10)
48	870-1053	2	*Nut, Hex (#10-32)
49	510-0092	1	*Nut, Lock - Bearing
50	510-0094	1	*Washer, Lock - Bearing
51	ROTOR ASSEMBLY, EXCITER (See Separate Group for Component Parts)		
	201-1501	1	60 Hertz Sets
	201-1549	1	50 Hertz
52	515-0162	1	*Key, Rectangular
53	805-0035	12	*Bolt Place (5/8-11 x 1-1/2")
54	232-1880	1	*Disc, Drive - Rotor
55	205-0076	1	*Fan, Generator
56	201-1503	1	*Rotor, Wound - Generator (Includes Drive Hub and Key)
57	232-1870	1	*Hub, Drive
58	515-0161	1	*Key, Rectangular

† - Included in Speed Sensor Assembly.
 * - Included in End Bell Assembly.
 * - Included in Generator Rotor Assembly.

EXCITER ROTOR AND BUS BAR



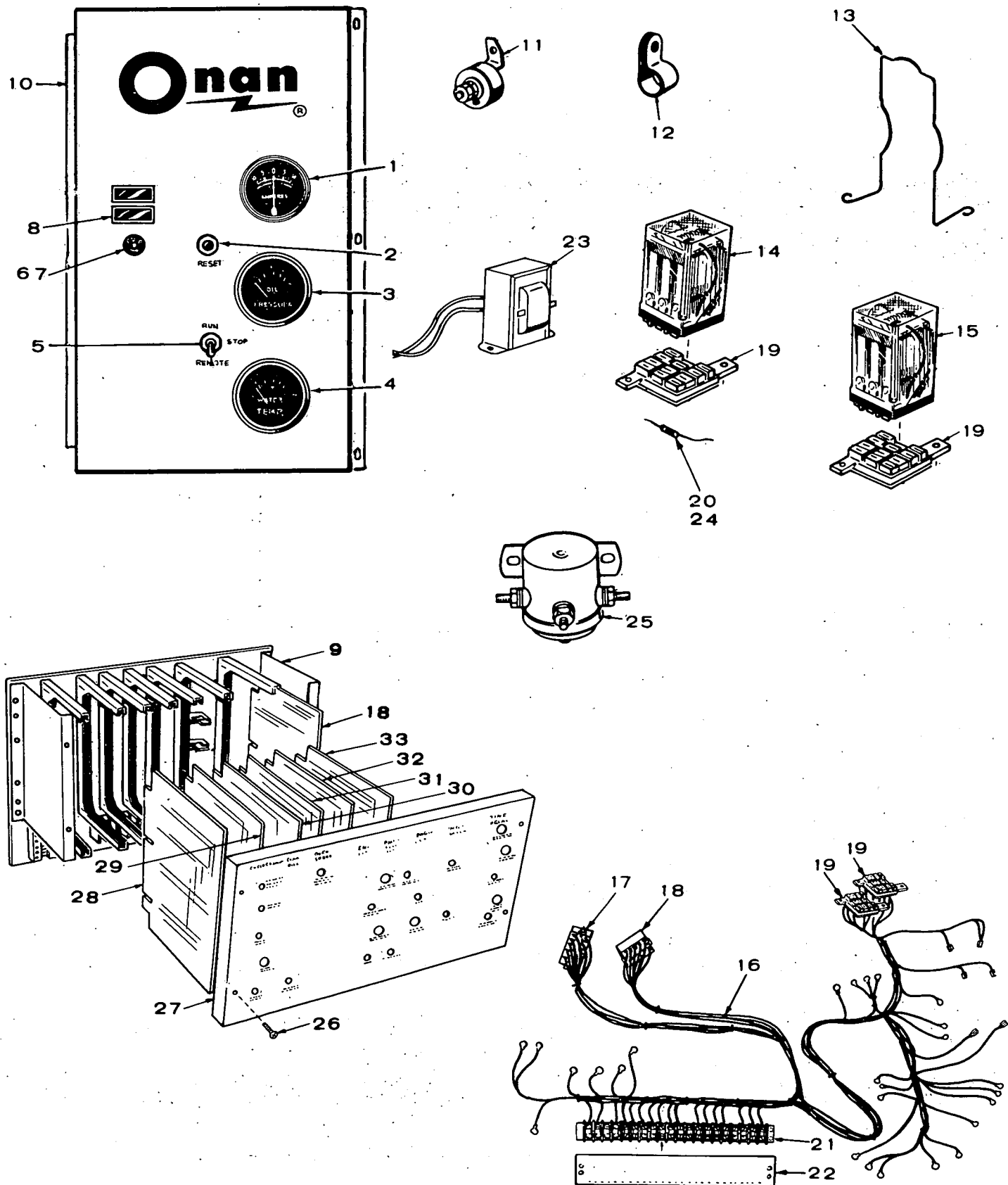
EXCITER ROTOR AND BUS BAR

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	ROTOR ASSEMBLY, EXCITER - WOUND (Includes Parts Marked †) - Also shown in Generator Group		
	201-1501	1	60 Hertz Sets
	201-1549	1	50 Hertz Sets
2	†RECTIFIER		
	358-0011	3	Positive Stud
	358-0012	3	Negative Stud
3	850-0040	6	†Washer, Lock - Spring (1/4")
4	868-0001	6	†Nut, Hex - Jam (1/4-28)
5	813-0114	4	†Screw, Machine - Round Head (#10-32 x 3")
6	526-0008	4	†Washer, Flat (13/64" ID x 7/16" OD x 1/32" Thk)
7	508-0124	4	†Bushing, Shoulder - Insulating
8	508-0156	8	†Insulator, Heat Shield
9	850-0030	4	†Washer, Lock - Spring (#10)
10	870-0053	4	†Nut, Hex (#10-32)
11	†RECTIFIER HEAT SINK		
	363-0033	1	Negative
	363-0025	1	Positive
12	508-0093	2	†Grommet, Rubber
13	232-1994	1	Bracket, Bus Bar
14	800-0151	1	Screw, Cap - Hex Head (3/4-10 x 1")
15	850-0079	1	Washer, Lock - Spring (3/4")
16	800-0051	2	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
17	526-0029	2	Washer, Flat (25/64" ID x 7/8" OD x 1/16" Thk)
18	850-0050	2	Washer, Lock - Spring (3/8")
19	862-0003	2	Nut, Hex (3/8-16)
20	232-1997	1	Board, Insulating
21	232-1992	4	Bracket, Bus Bar
22	800-0007	4	Screw, Cap - Hex Head (1/4-20 x 1")
23	526-0018	4	Washer, Flat (17/64" ID x 5/8" OD x 1/16")
24	850-0040	4	Washer, Lock - Spring (1/4")
25	862-0001	4	Nut, Hex (1/4-20)
26	232-1999	2	Bracket, Terminal Board Mounting
27	232-2000	1	Bracket, Terminal Board Mounting
28	315-0302	1	Shelf, Current Transformer

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
29	800-0005	6	Screw, Cap - Hex Head (1/4-20 x 3/4")
30	850-0040	6	Washer, Lock - Spring (1/4")
31	862-0001	6	Nut, Hex (1/4-20)
32	232-1998	1	Board, Insulating
33	232-1995	1	Board, Insulating
34	520-0693	16	Stud (5/16-18 x 5/16-18 x 1-5/8")
35	232-1996	1	Bar, Bus (17-3/8" Lg)
36	232-2001	3	Bar, Bus (13-1/4" Lg)
37	232-1991	1	Bar, Bus (Double)
38	232-1990	3	Bar, Bus
39	800-0052	9	Screw, Cap - Hex Head (3/8-16 x 1-1/2")
40	526-0029	18	Washer, Flat (25/64" ID x 7/8" OD x 1/16" Thk)
41	850-0050	9	Washer, Lock - Spring (3/8")
42	862-0003	9	Nut, Hex (3/8-16)
43	800-0052	6	Screw, Cap - Hex Head (3/8-16 x 1-1/2")
44	526-0029	6	Washer, Flat (25/64" ID x 7/8" OD x 1/16" Thk)
45	850-0050	6	Washer, Lock - Spring (3/8")
46	862-0003	6	Nut, Hex (3/8-16)
47	802-0069	6	Screw, Cap - Socket Head (3/8-16 x 5/8")
48	526-0115	32	Washer, Flat (11/32" ID x 11/16" OD x 1/16" Thk)
49	850-0045	32	Washer, Lock - Spring (5/16")
50	862-0015	32	Nut, Hex (5/16-18)
51	800-0005	4	Screw, Cap - Hex Head (1/4-20 x 3/4")
52	850-0040	4	Washer, Lock - Spring (1/4")
53	862-0001	4	Nut, Hex (1/4-20)
54	232-1993	1	Jumper Bus Bar
55	TRANSFORMER, CURRENT (Check Transformer Nameplate—Select According to Rating)		
	302-0625	3	Nameplate Reads 750/5
	302-0589	3	Nameplate Reads 1000/5
	302-0644	3	Nameplate Reads 1500/5
	302-0645	3	Nameplate Reads 2000/5
56	862-0003	6	Nut, Hex (3/8-16)
57	800-0052	6	Screw, Cap - Hex Head (3/8-16 x 1-1/2")
58	526-0029	6	Washer, Flat (25/64" ID x 7/8" OD x 1/16" Thk)
59	850-0050	6	Washer, Lock - Spring (3/8")

† - Included in 201-1501 Exciter Rotor Assembly.

CONTROL (ENGINE SECTION)



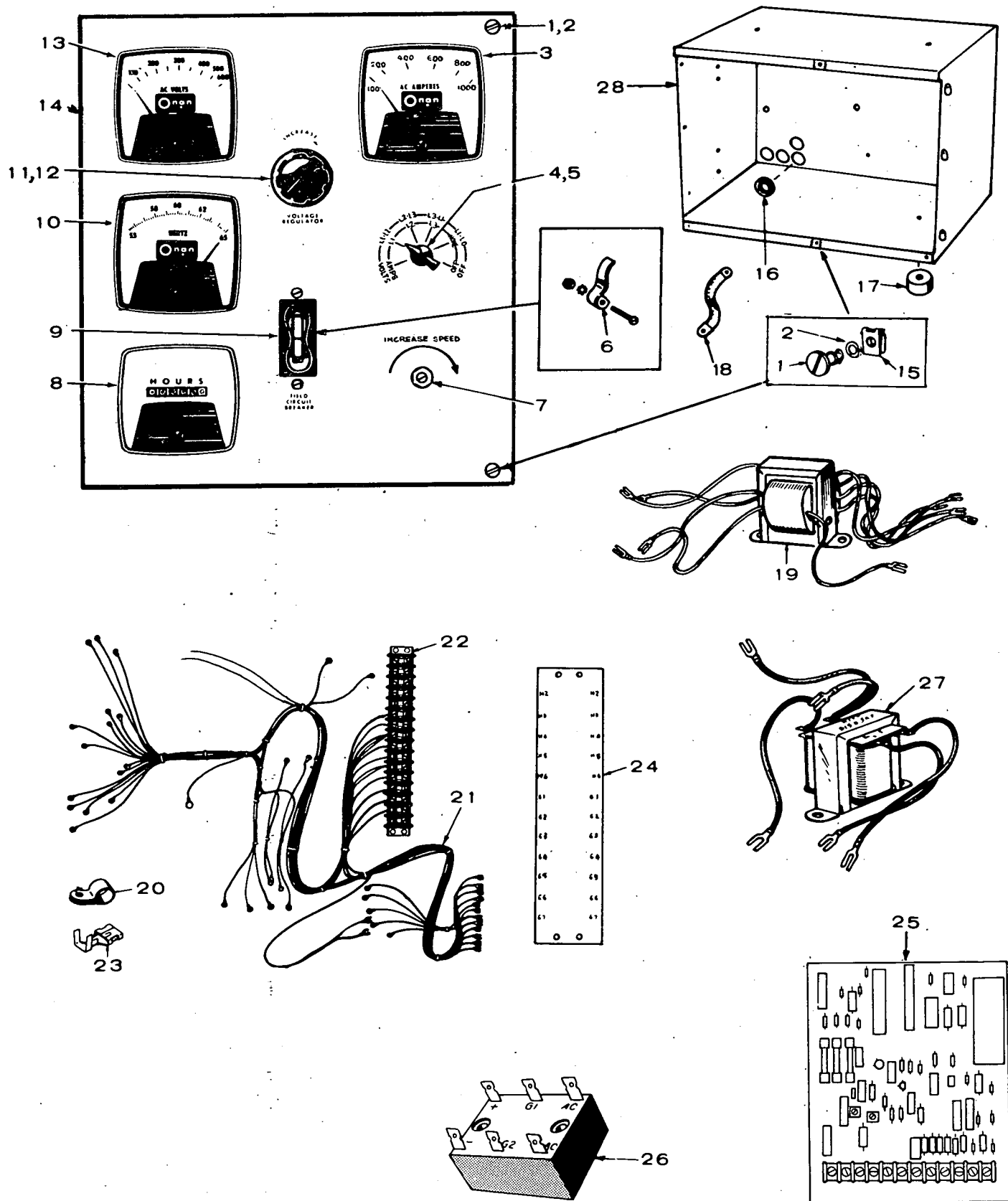
CONTROL (ENGINE SECTION)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	302-0061	1	Ammeter (30-0-30)	16	338-1016	1	Harness, Wiring (Includes Parts Marked †)
2	308-0410	1	Switch, Push	17	332-0984	2	†Connector, Plug, Electrical (12 Pin)
3	193-0243	1	Gauge, Oil Pressure (0-80)	18	300-1579	1	*Module, Time Delay Start-Stop
4	193-0245	1	Gauge, Water Temperature	19	323-0765	2	†Socket, Relay
5	SWITCH, TOGGLE			20	357-0004	1	†Diode
	308-0220	1	Standard Sets	21	332-1005	1	†Board, Terminal (20 Place)
	308-0347	1	Penn State Sets	22	332-1559	1	Strip, Marker
6	321-0147	1	Fuse - 5 Amp	23	315-0361	1	Transformer, Step-down
7	321-0217	1	Fuseholder	24	357-0004	2	Diode
8	LIGHT, INDICATOR			25	307-0061	1	Relay - Start Solenoid
	322-0119	1	Overcrank	26	815-0387	4	Screw, Machine - Pan Head, Cross-Recessed Drive (#6-32 x 1/4")
	322-0120	1	Low Oil Pressure				
	322-0121	1	High Engine Temperature	27	301-4015	1	Cover, Access - Control Modules
	322-0122	1	Low Engine Temperature				
	322-0123		Overspeed	28	300-1573	1	*Module, Cycle Cranker
	322-0135	1	Over Voltage	29	300-1574	1	*Module, Start-Disconnect
9	300-1572	1	*Chassis, Control	30	300-1575	1	*Module, Overspeed Control
10	301-4086	1	Panel, Control	31	300-1576	1	*Module, Monitor No. 1
11	193-0250	2	Resistor, Gauge	32	300-1577	1	*Module, Monitor No. 2
12	332-0052	1	Clamp, Loop	33	300-1578	1	*Module, Engine Shutdown
13	307-1157	2	Spring, Hold-down - Relay				
14	307-1061	1	Relay, Armature - Starter Protection				
15	307-1056	1	Relay, Armature - Start Disconnect				

* - See Separate Group for Components.

† - Included in Wiring Harness.

CONTROL (AC OUTPUT PORTION)

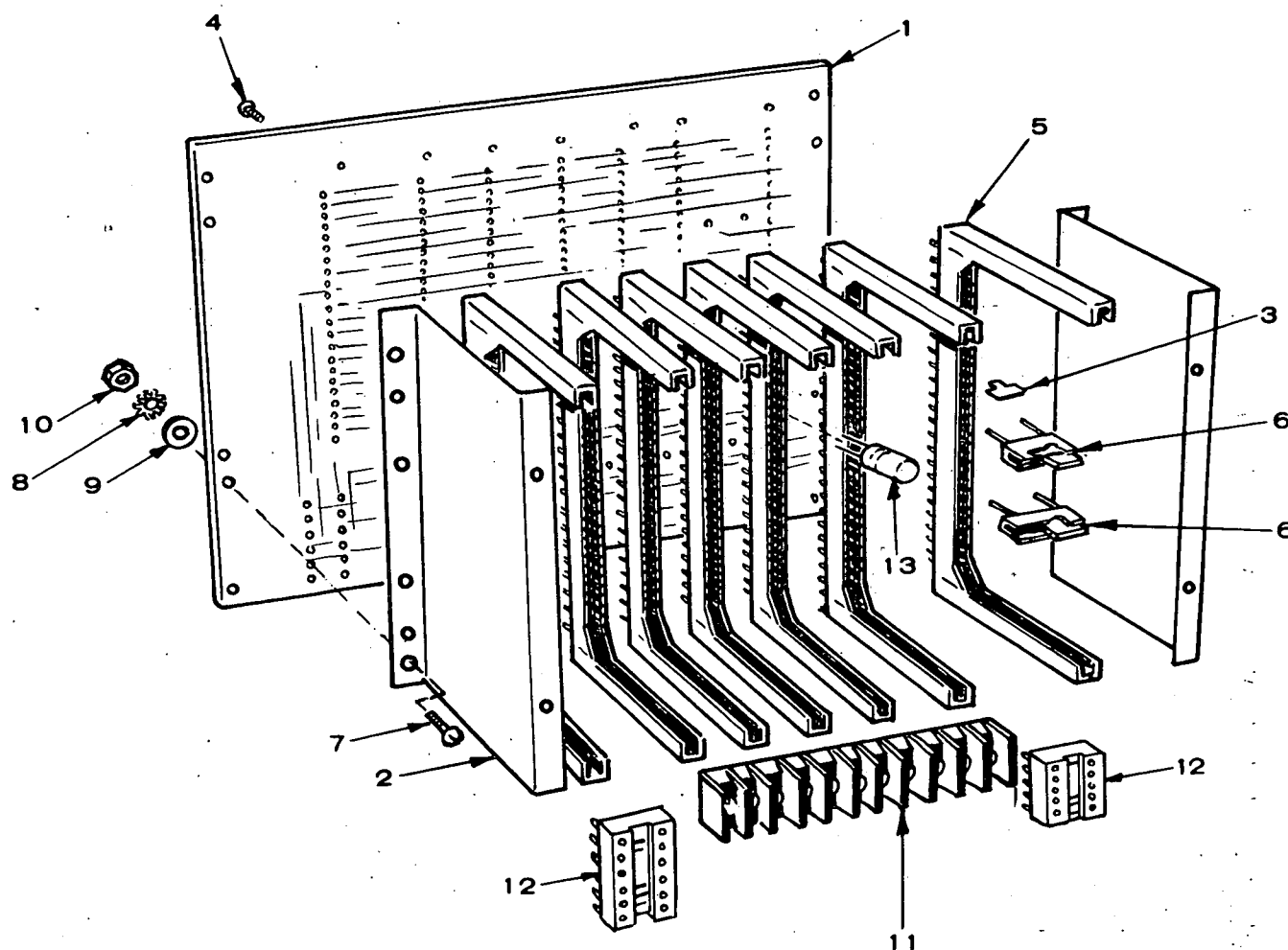


CONTROL (AC OUTPUT PORTION)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	406-0333	2	Stud, Turnbutton Fastener	14	301-3342	1	Panel, Control (Generator Section)
2	406-0334	2	Washer, Lock - Turnbutton Fastener	15	406-0332	2	Receptacle, Turnbutton Fastener
3	AMMETER (Check Meter Scale - Select According To Rating)			16	508-0001	4	Grommet, Rubber (1-1/16" OD)
	302-0415	1	Scale reads 0-750 Amperes	17	402-0078	4	Mount, Vibration
	302-0416	1	Scale reads 0-1000 Amperes	18	337-0049	1	Lead, Electrical - Ground
	302-0641	1	Scale reads 0-1500 Amperes	19	315-0431	1	Transformer, Voltage
	302-0642	1	Scale reads 0-2000 Amperes	20	332-0051	1	Clamp, Loop
4	303-0076	1	Knob, Pointer	21	HARNESS, WIRING (Includes Parts Marked †)		
5	308-0284	1	Switch, Rotary		338-0759	1	110/190, 115/200, 120/208 and 127/220 Volt - 50 Hertz Sets
6	320-0307	1	Lock, Handle - Circuit Breaker (Penn State Sets)		338-0759	1	120/208, and 277/480 Volt - 60 Hertz
7	151-0402	1	Potentiometer - Speed Control		338-0916	1	220/380, 230/400, 240/416, and 254/440 Volt - 50 Hertz
8	METER, TIME TOTALIZING (Select According to Rating)				338-0916	1	240/416 and 254/440 Volt - 60 Hertz
	302-0466	1	60 Hertz Sets	22	332-0795	1	†Terminal Board (16 Place)
	302-0469	1	50 Hertz Sets	23	332-0529	5	†Terminal, Lug
9	320-0455	1	Circuit Breaker - 3 Amp, 240 Volt	24	332-1242	1	Strip, Marker (16 Place)
10	METER, ELECTRICAL FREQUENCY (Select According to Rating)			25	332-2031	1	Regulator, Voltage (See Separate Group for Components)
	302-0810	1	60 Hertz, 208 Volt	26	305-0524	1	Rectifier Assembly, Bridge
	302-0811	1	60 Hertz, 240 Volt	27	315-0384	1	Reactor
	302-0894	1	50 Hertz, 208 Volt	28	301-4135	1	Box, Control
	302-0895	1	50 Hertz, 240 Volt				
11	303-0032	1	Knob				
12	303-0170	1	Rheostat - 35-Ohm, 25 Watt				
13	VOLTMETER (Select According to Rating)						
	302-0421	1	Scale Reads 0-300 Volts				
	302-0612	1	Scale Reads 0-500 Volts				
	302-1072	1	Scale Reads 0-600 Volts				

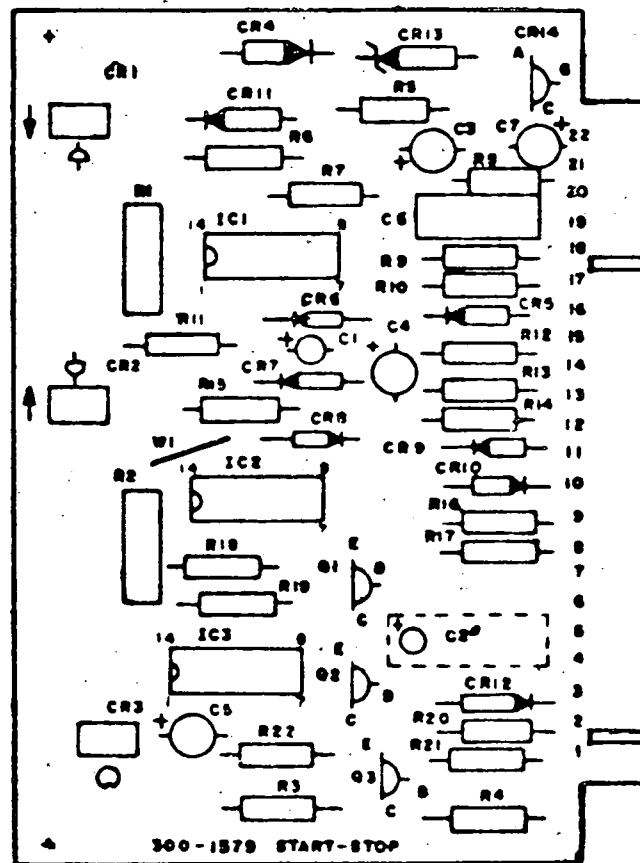
† - Included in Wiring Harness.

CONTROL CHASSIS



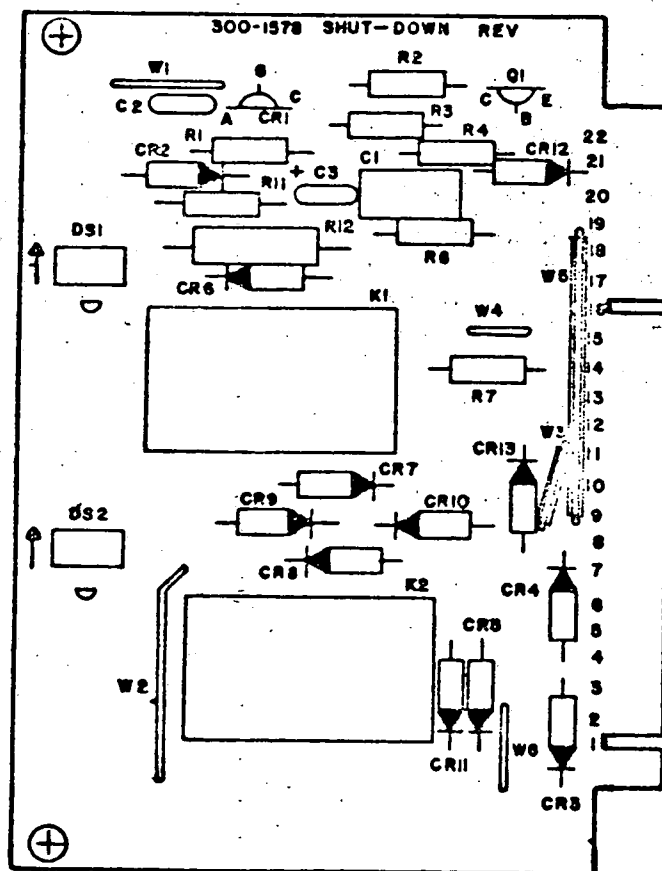
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	300-1572	1	Chassis, Control (Complete)
1	332-1884	1	Board, Printed Circuit
2	301-3880	2	Bracket, Module Cover Mtg.
3	332-1917	14	Plug, Keying
4	812-0029	14	Screw, Machine - Roundhead (#4-40 x 3/8" long)
5	332-1887	7	Socket Plug In Module
6	308-0324	2	Switch, Slide
7	812-0059	4	Screw, Machine - Roundhead (#6-32 x 1/4" long)
8	853-0003	4	Washer, Lock - External (#6)
9	526-0047	4	Washer, Flat (.147" ID x 5/16" OD x 1/32" Thk)
10	860-0006	4	Nut, Hex (#6-32)
11	332-1909	1	Block, Terminal (11 Place)
12	323-0983	2	Connector, Receptacle Electrical (12 Pin)
13	356-0068	1	Capacitor, Electrolytic (180 MFD - 40 Volt)

TIME DELAY START-STOP MODULE (300-1579)



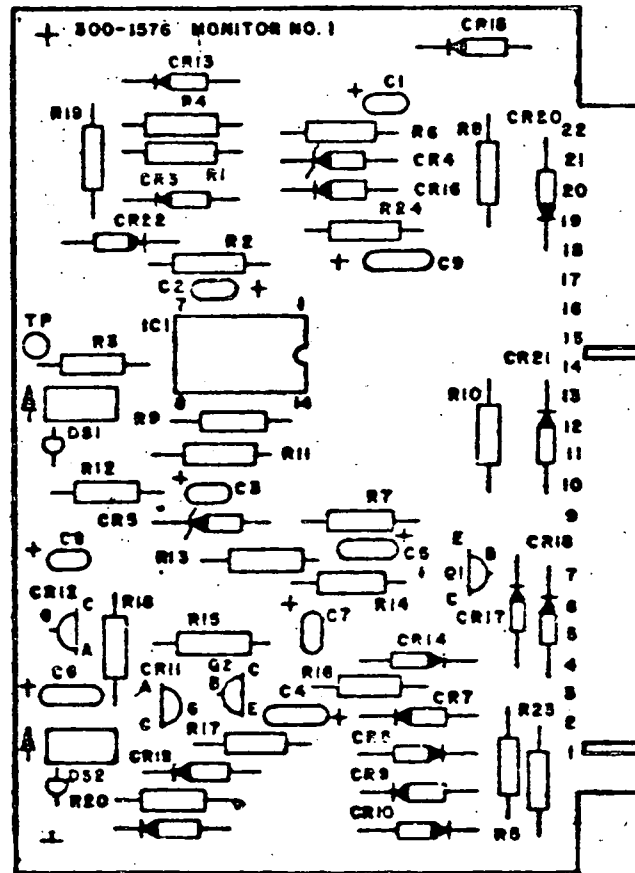
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	300-1579	1	Module, Time Delay Start-Stop (Complete)	1C3	367-0017	1	Integrated Circuit, Counter 7 Stage
C1,2	356-0059	2	Capacitor, Electrolytic (2.2 Mfd., 35 Volt)	Q1,2,3	362-0011	3	Transistor, Signal
C3,4,5	356-0051	3	Capacitor, Electrolytic (6.8 Mfd., 35 Volt)	R1,2	303-0169	2	Potentiometer (3.5 Megohm)
C6	355-0062	1	Capacitor, Composition (1 Mfd., 100 Volt)	R3,19	350-0418	2	Resistor (20,000-Ohm, 2 Watt)
C7	356-0053	1	Capacitor, Tantalum (1.0 Mfd., 35 Volt)	R7	350-0370	1	Resistor (200-Ohm, 1/2 Watt)
CR1	322-0172	1	Lamp, Indicator (Green)	R5,11,15,18	350-0548	4	Resistor (10,000-Ohm, 2 Watt)
CR2	322-0157	1	Lamp, Indicator (Red)	R6	350-0373	1	Resistor (470-Ohm, 1/2 Watt)
CR3	322-0171	1	Lamp, Indicator (Red-Green)	R8	350-0505	1	Resistor (2.7-Ohm, 1/2 Watt)
CR4-12	322-0175	3	Receptacle, Lamp	R10,14,16,22	350-0394	4	Resistor (2,000-Ohm, 1/2 Watt)
	357-0004	9	Rectifier, Diode (400 Volt, 400 MA)	R12	350-0443	1	Resistor (220,000-Ohm, 1/2 Watt)
CR13	359-0002	1	Diode, Zener (13 Volt, 400 MW)	R13,17,20,21	350-0537	4	Resistor (12,000-Ohm, 2 Watt)
CR14	364-0011	1	Rectifier, Gate Control	R4	350-0376	1	Resistor (360-Ohm, 1/2 Watt)
1C1,2	367-0016	2	Integrated Circuit, Timing	R9	350-0524	1	Resistor (100-Ohm, 1/2 Watt)

SHUTDOWN MODULE (300-1578)



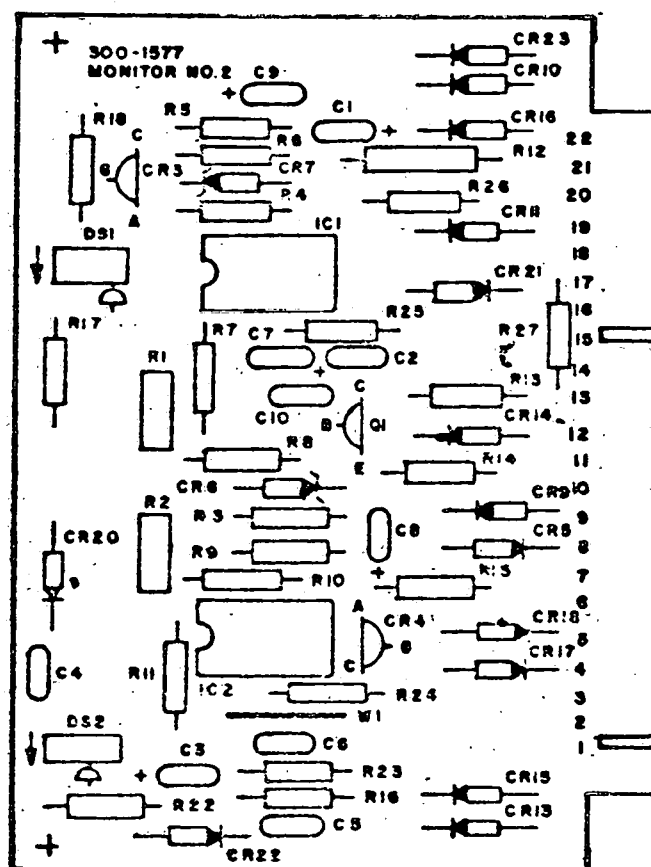
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	300-1578	1	Module, Shut Down (Complete)
C1	355-0045	1	Capacitor, Composition (1 Mfd., 200 Volt)
DS1	322-0175	2	Receptacle, Lamp
DS2	322-0157	1	Lamp, Indicator (Red)
C2	322-0172	1	Lamp, Indicator (Green)
	355-0041	1	Capacitor, Ceramic (.22 Mfd., 35 Volt)
C3	356-0051	1	Capacitor, Tantalum (6.8 Mfd., 35 Volt)
CR1	364-0011	1	Rectifier, Gate Control
CR2-13	357-0004	12	Rectifier, Diode (400 Volt, 400 MA)
K1,2	307-1076	2	Relay
Q1	362-0026	1	Transistor, Signal
R2	350-0398	1	Resistor (3,000-Ohm, 1/2 Watt)
R1	350-0505	1	Resistor (2.7-Ohm, 1/2 Watt)
R7	350-0533	1	Resistor (560-Ohm, 1/2 Watt)
R3	350-0529	1	Resistor (270-Ohm, 1/2 Watt)
R4	350-0540	1	Resistor (2,200-Ohm, 1/2 Watt)
R6	350-0379	1	Resistor (470-Ohm, 1/2 Watt)
R11,12	350-0393	2	Resistor (1,800-Ohm, 1/2 Watt)

MONITOR NUMBER ONE MODULE (300-1576)



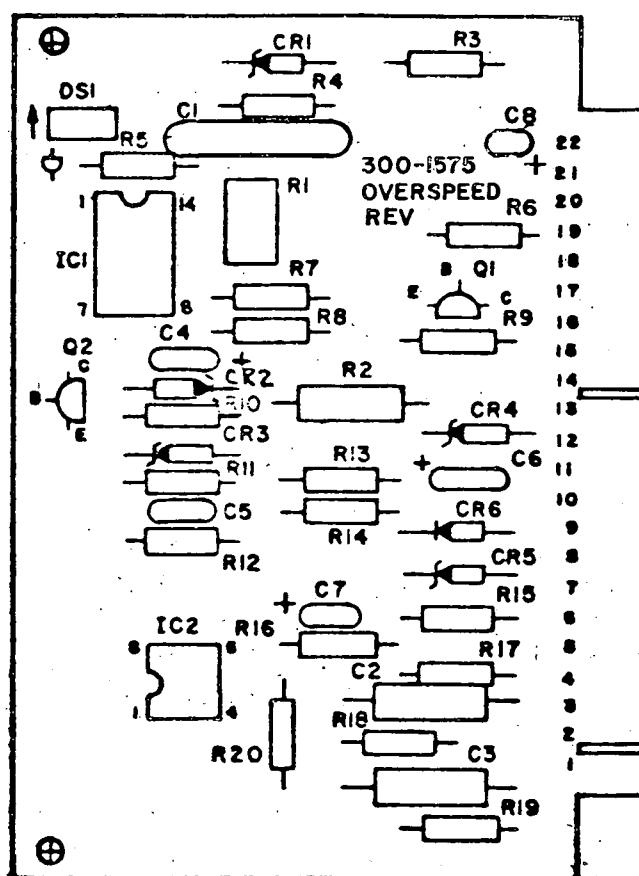
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	300-1576	1	Module, Monitor Number One (Complete)	R1	350-0397	1	Resistor (2,700-Ohm, 1/2 Watt)
C1,2,3	356-0051	5	Capacitor, Electrolytic (6.8 Mfd., 35 Volt)	R2	350-0446	1	Resistor (300,000-Ohm, 1/2 Watt)
7,8				R3	350-0584	1	Resistor (10 Megohm, 1/2 Watt)
C4	356-0053	1	Capacitor, Tantalum (1 Mfd., 35 Volt)	R4,6	350-0536	2	Resistor (1,000-Ohm, 1/2 Watt)
C5,6,9	355-0041	3	Capacitor, Ceramic (.22 Mfd., 35 Volt)	R5,23	350-0404	2	Resistor (5,100-Ohm, 1/2 Watt)
CR3,7-10, 13-23	357-0004	16	Rectifier, Diode (400 Volt, 400 MA)	R7,18	350-0505	2	Resistor (2.7-Ohm, 1/2 Watt)
CR4	359-0026	1	Diode, Zener (18 Volt, 400 MW)	R8	350-0544	1	Resistor (4,700-Ohm, 1/2 Watt)
CR5	359-0002	1	Diode, Zener (13 Volt, 400 MW)	R9	350-0548	1	Resistor (10,000-Ohm, 1/2 Watt)
CR11,12	364-0011	2	Rectifier, Gate Control	R10,17	350-0529	2	Resistor (270-Ohm, 1/2 Watt)
DS1,2	322-0157	2	Lamp, Indicator (Red)	R11,15	350-0398	2	Resistor (3,000-Ohm, 1/2 Watt)
IC1	367-0016	1	Integrated Circuit, Timing	R12	350-0380	1	Resistor (510-Ohm, 1/2 Watt)
Q1,2	362-0026	2	Transistor, Signal	R13,14	350-0379	2	Resistor (470-Ohm, 1/2 Watt)
				R16	350-0540	1	Resistor (2,200-Ohm, 1/2 Watt)
				R19,20	350-0393	2	Resistor (18,000-Ohm, 1/2 Watt)
				R24	350-0451	1	Resistor (470,000-Ohm, 1/2 Watt)
					322-0175	2	Receptacle, Lamp

MONITOR NUMBER TWO MODULE (300-1577)



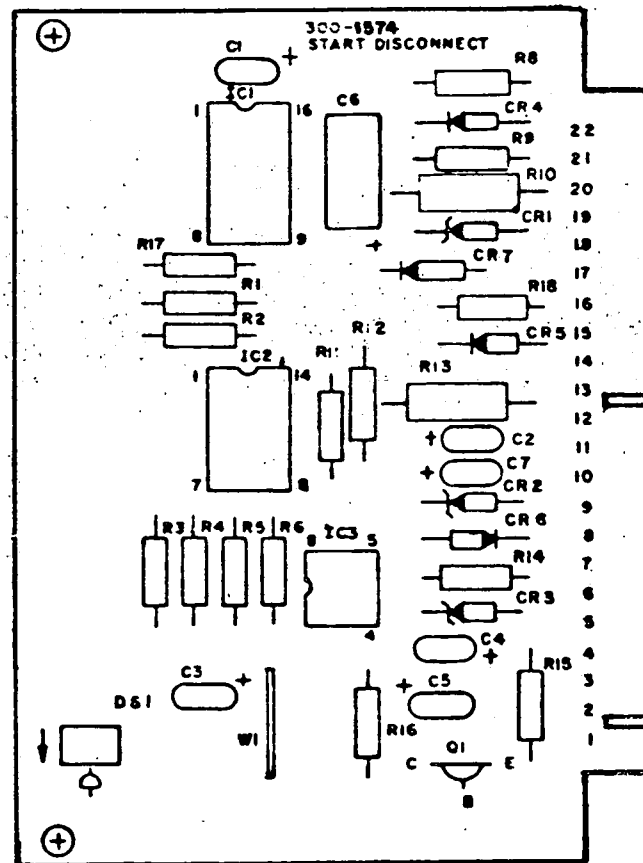
REF. NO.	PART NO.	QTY. used	PART DESCRIPTION
	300-1577	1	Module, Monitor Number Two
C1	356-0066	1	Capacitor, Electrolytic (47 Mfd.)
C2	356-0059	1	Capacitor, Electrolytic (2.2 Mfd., 35 Volt)
C3,8,9	356-0051	3	Capacitor, Electrolytic (6.8 Mfd., 35 Volt)
C4,5,6,7,10	355-0041	5	Capacitor, Ceramic (.22 Mfd.)
CR3,4	364-0011	2	Rectifier, Gate Control
CR5-9, 13-18,20-23	357-0004	14	Rectifier, Diode (400 Volt, 400 MA)
CR6	359-0016	1	Diode, Zener (6.8 Volt, 400 MW)
CR7	359-0033	1	Diode, Zener (14 Volt, 5 W)
IC1,2	367-0016	2	Integrated Circuit, Timing
DS1,2	322-0157	2	Lamp, Indicator (Red)
	322-0175	2	Receptacle, Lamp
Q1	362-0011	1	Transistor, Signal
R1,2	303-0169	2	Potentiometer (3.5 Megohm)
R3	350-0420	1	Resistor (24,000-Ohm, 1/2 Watt)
R4,7,10, 13,16	350-0548	5	Resistor (10,000-Ohm, 1/2 Watt)
R5,15	350-0379	2	Resistor (470-Ohm, 1/2 Watt)
R6,9	350-0398	2	Resistor (3,000-Ohm, 1/2 Watt)
R8	350-0418	1	Resistor (20,000-Ohm, 1/2 Watt)
R11	350-0466	1	Resistor (2 Megohm, 1/2 Watt)
R12	350-0672	1	Resistor (240-Ohm, 1/2 Watt)
R14	350-0389	1	Resistor (1,200-Ohm, 1/2 Watt)
R17,18	350-0393	2	Resistor (1,800-Ohm, 1/2 Watt)
R22,23	350-0505	2	Resistor (2,700-Ohm, 1/2 Watt)
R24,25,27	350-0451	3	Resistor (470,000-Ohm, 1/2 Watt)
R26	350-0421	1	Resistor (27,000-Ohm, 1/2 Watt)

OVERSPEED MODULE (300-1575)



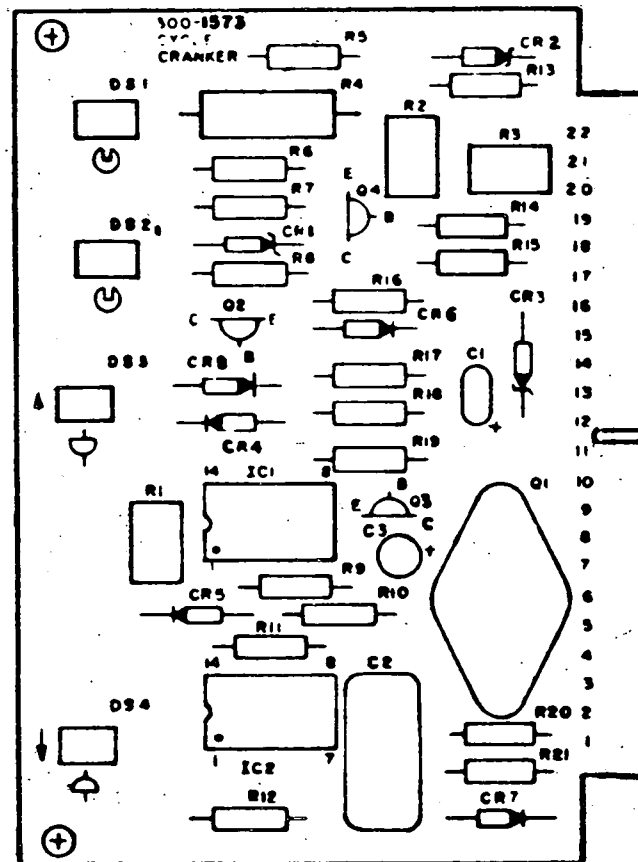
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	300-1575	1	Module, Overspeed (Complete)	CR6	357-0004	1	Rectifier, Diode (400 Volt, 400 MA)
C1	355-0043	1	Capacitor, Composition (22 Mfd., 200 Volt)	DS1	322-0172	1	Lamp, Indicator (Green)
C2,3	355-0010	2	Capacitor, Composition (.0022 Mfd., 100 Volt)		322-0175	1	Receptacle, Lamp
C4,8	356-0051	2	Capacitor, Electrolytic (6.8 Mfd., 35 Volt)	IC1	367-0002	1	Integrated Circuit
C5	355-0049	1	Capacitor, Ceramic (22 Mfd., 1000 Volt)	IC2	367-0001	1	Integrated Circuit
C6,7	356-0066	2	Capacitor, Tantalum (47 Mfd., 20 Volt)	Q1,2	362-0011	2	Transistor, Signal
CR1,3	359-0016	2	Diode, Zener (6.8 Volt, 400,000 Watt)	R1	303-0191	1	Potentiometer (5,000-Ohm, 4 Watt)
CR2	359-0017	1	Diode, Zener (5.1 Volt, 400 MW)	R2	350-0683	1	Resistor (680-Ohm, 1 Watt)
CR4	359-0032	1	Diode, Zener (8.2 Volt, 400 MW)	R3	350-0379	1	Resistor (470-Ohm, 2 Watt)
CR5	359-0002	1	Diode, Zener (13 Volt, 400 MW)	R4,6,7	350-0411	7	Resistor (10,000-Ohm, 1/2 Watt)
				8,10,17,19			
				R5	350-0414	1	Resistor (13,000-Ohm, 1/2 Watt)
				R9	350-0427	1	Resistor (47,000-Ohm, 1/2 Watt)
				R11,13	350-0394	2	Resistor (2,000-Ohm, 1/2 Watt)
				R14	350-0380	1	Resistor (510-Ohm, 1/2 Watt)
				R15,18	350-0536	2	Resistor (1,000-Ohm, 2 Watt)
				R12,16,20	350-0451	3	Resistor (470,000-Ohm, 1/2 Watt)

START DISCONNECT MODULE (300-1574)



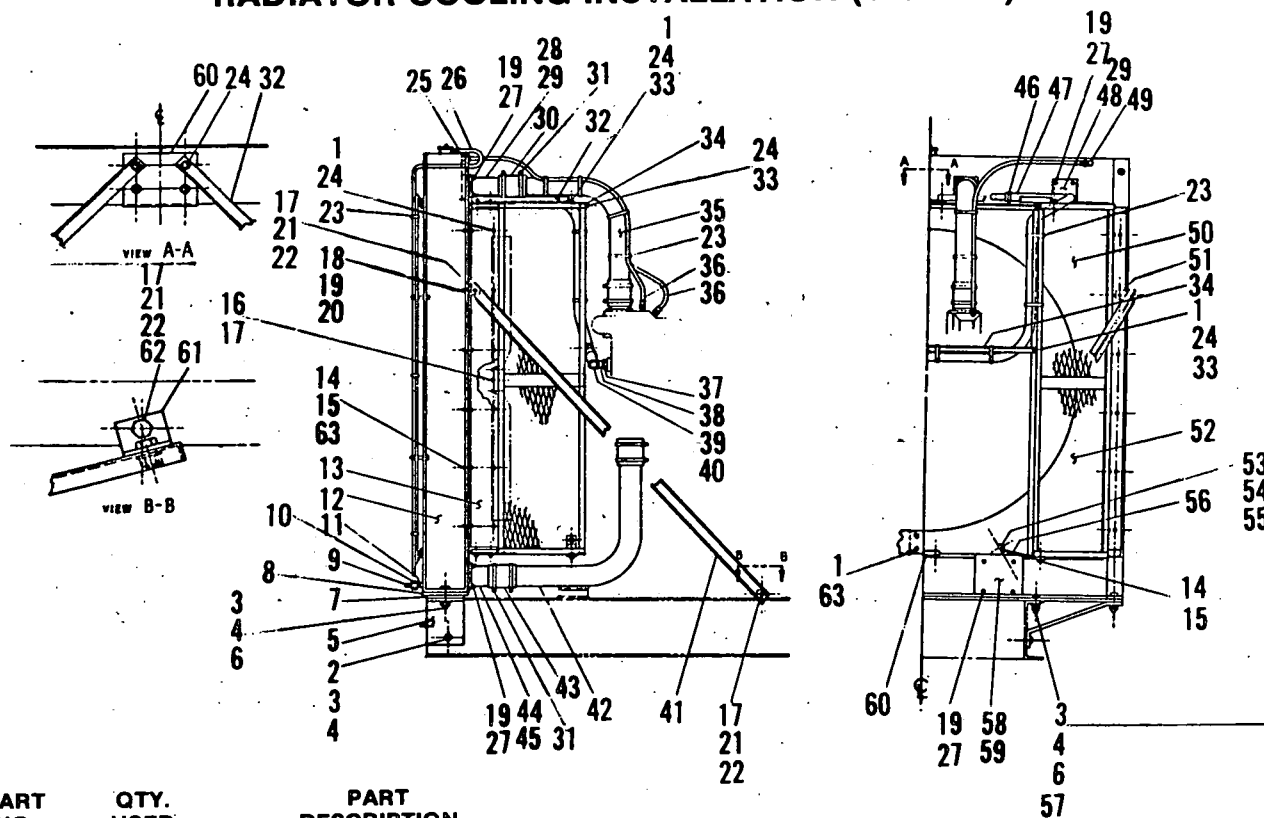
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	300-1574	1	Module, Start Disconnect (Complete)
C1,2,3	356-0051	3	Capacitor, Electrolytic (6.8 Mfd., 35 Volt)
C4,7	356-0066	2	Capacitor, Tantalum (.47 Mfd.)
C5	356-0059	1	Capacitor, Electrolytic (2.2 Mfd)
C6	355-0045	1	Capacitor, Composition (.1 Mfd)
DS1	322-0172	1	Lamp, Indicator
CR1,2	359-0033	2	Diode, Zener (14 Volt, 5 Watt)
CR3	359-0032	1	Diode, Zener (8.2 Volt)
CR4,5,6,7	357-0004	4	Rectifier, Diode (400 Volt, 400 Milliampere)
1C1	367-0014	1	Integrated Circuit (Multivibrator)
1C2	367-0013	1	Integrated Circuit (Dual, 2 Input, and Gate)
1C3	367-0001	1	Integrated Circuit (Oral Amp)
Q1	362-0011	1	Transistor, Signal
R1,2,5,6	350-0418	1	Resistor (20,000-Ohm, 1/2 Watt)
R3,11,12,15,16	350-0548	5	Resistor (10,000-Ohm, 1/2 Watt)
R4,8	350-0422	2	Resistor (30,000-Ohm, 1/2 Watt)
R9	350-0435	1	Resistor (100,000-Ohm, 1/2 Watt)
R10,13	350-0672	2	Resistor (240-Ohm, 1 Watt)
R14	350-0404	1	Resistor (1,000-Ohm, 1/2 Watt)
R18	350-0536	1	Resistor (1,000-Ohm, 1/2 Watt)
R17	350-0459	1	Resistor (1 Megohm, 1/2 Watt)
	322-0175	1	Receptacle, Lamp

CYCLE CRANKER MODULE (300-1573)



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	300-1573	1	Module, Cycle Cranker (Complete)	R1	303-0171	1	Potentiometer (100,000-Ohm)
C1	356-0066	1	Capacitor, Tantalum (47 Mfd., 20 Volt)	R2,3	303-0191	2	Potentiometer (5000-Ohm)
C2	355-0042	1	Capacitor (.47 Mfd., 250 Volt)	R4	350-1132	1	Resistor (470-Ohm, 2 Watt)
DS1,2	322-0171	2	Lamp, Indicator (Red-Green)	R5,18	350-0532	2	Resistor (470-Ohm, 1/2 Watt)
DS3	322-0157	1	Lamp, Indicator, (Red)	R6,8	350-0537	2	Resistor (1200-Ohm, 1/2 Watt)
DS4	322-0172	1	Lamp, Indicator (Green)	R7	350-0382	1	Resistor (620-Ohm, 1/2 Watt)
CR1	359-0032	1	Diode, Zener - 8.2 Volt	R9	350-0394	1	Resistor (2000-Ohm, 1/2 Watt)
CR2	359-0016	1	Diode, Zener - 6.8 Volt	R10	350-0418	1	Resistor (20,000-Ohm, 1/2 Watt)
CR3	359-0002	1	Diode, Zener - 13 Volt	R11,13,16	350-0548	5	Resistor (10,000-Ohm, 1/2 Watt)
CR4-8	357-0004	5	Rectifier, Diode - 400 Volt 400 MA	17,21			
IC1	367-0017	1	Integrated Circuit, Counter	R12	350-0437	1	Resistor (120,000-Ohm, 1/2 Watt)
IC2	367-0016	1	Integrated Circuit, Timing	R14,15	350-0538	2	Resistor (1,000-Ohm, 1/2 Watt)
Q1	362-0038	1	Transistor, Power	R19	350-0380	1	Resistor (510-Ohm, 1/2 Watt)
Q2,3,4	362-0011	3	Transistor, Signal	R20	350-0387	1	Resistor (1,000-Ohm, 1/2 Watt)
				C3	356-0051	1	Capacitor, Electrolytic (6.8 Mfd., 35 Volt)
					322-0175	4	Receptacle, Lamp

RADIATOR COOLING INSTALLATION (179-1056)

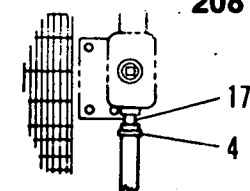


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	526-0018	26	Washer, Flat (17/64" ID x 5/8" OD x 1/16" Thk)
2	800-0156	2	Screw, Cap - Hex Head (3/4-10 x 2-1/4")
3	850-0079	6	Washer, Lock - Spring (3/4")
4	862-0020	6	Nut, Hex (3/4-10)
5	130-1199	2	Support, Radiator
6	800-0159	4	Screw, Cap - Hex Head (3/4-10 x 3")
7	130-1198	1	Plate, Radiator Mounting
8	370-0028	2	Plate
9	505-0185	1	Nipple, Pipe - Half (1/2 x 1-1/2")
10	504-0011	1	Valve
11	505-0100	1	Nipple, Close (1/2 x 1-1/8")
12	130-1197	1	Radiator
13	130-1213	2	Guard, Fan
14	821-0016	14	Screw, Cap - Hex Head (5/16-18 x 3/4")
15	870-0257	14	Nut, Hex - Locking (5/16-18)
16	800-0094	6	Screw, Cap - Hex Head (1/2-13 x 2")
17	850-0060	8	Washer, Lock - Spring (1/2")
18	800-0051	2	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
19	850-0050	26	Washer, Lock - Spring (3/8")
20	862-0003	2	Nut, Hex (3/8-16)
21	800-0091	6	Screw, Cap - Hex Head (1/2-13 x 1-1/4")
22	862-0005	6	Nut, Hex (1/2-13)
23	332-0941	16	Tie, Cable
24	821-0018	34	Screw, Cap - Hex Head Locking (1/4-20 x 5/8")
25	503-0547	1	Clamp, Hose
26	503-0803	1	Hose, Rubber
27	800-0050	24	Screw, Cap - Hex Head (3/8-16 x 1")
28	130-1203	2	Adapter, Inlet Tube
29	130-1227	4	Gasket, Radiator Inlet
30	503-0788	4	Hose, Radiator

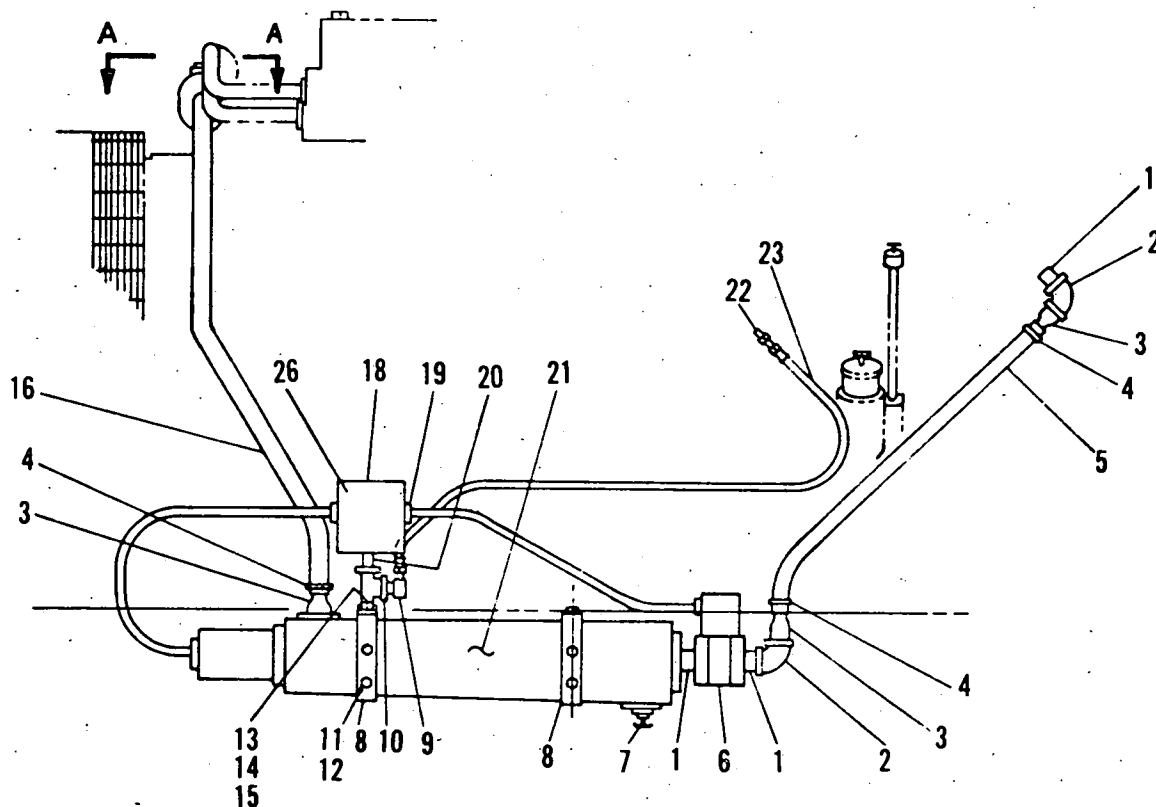
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
31	503-0612	12	Clamp, Hose
32	130-1226	2	Brace, Fan Guard
33	870-0243	6	Nut, Hex - Locking (1/4-20)
34	130-1205	2	Brace, Fan Guard
35	130-1206	2	Tube, Radiator Inlet
36	501-0247	2	Line, Flexible
37	505-0023	1	Bushing, Reducer (1-1/4" to 1")
38	505-0004	1	Nipple, Close (1 x 1-1/2")
39	505-0041	1	Elbow, Pipe (1")
40	505-0759	1	Adapter, Pipe
41	130-1045	2	Support, Radiator
42	130-1202	1	Tube, Radiator Outlet
43	503-0856	2	Hose, Radiator
44	130-1222	1	Adapter, Outlet Tube
45	130-1193	1	Gasket, Radiator Outlet
46	503-0398	2	Clamp, Hose
47	503-0860	1	Hose
48	130-1223	2	Cap, Radiator Inlet
49	502-0041	2	Elbow, Inverted Male (1/4")
50	130-1215	2	Shroud, Partial - Fan
51	130-1228	2	Bracket, Brace Mounting
52	130-1214	2	Shroud, Partial - Fan
53	800-0028	2	Screw, Cap - Hex Head (5/16-18 x 1")
54	850-0045	2	Washer, Lock - Spring (5/16")
55	862-0015	2	Nut, Hex (5/16-18)
56	130-1218	2	Brace, Fan Guard
57	403-1141	2	Washer, Square Bevel
58	130-1229	1	Gasket, Radiator
59	130-1221	1	Plate, Radiator Outlet
60	130-1225	2	Bracket, Fan Shroud
61	130-0944	2	Bracket, Brace Mounting
62	526-0028	2	Washer, Flat (1/2")
63	526-0155	12	Washer, Flat (5/16")

NOTE: to order all parts listed for conversion, order by number 179-1056.

ENGINE COOLANT HEATER INSTALLATION 208 VOLT (179-2072) - OPTIONAL



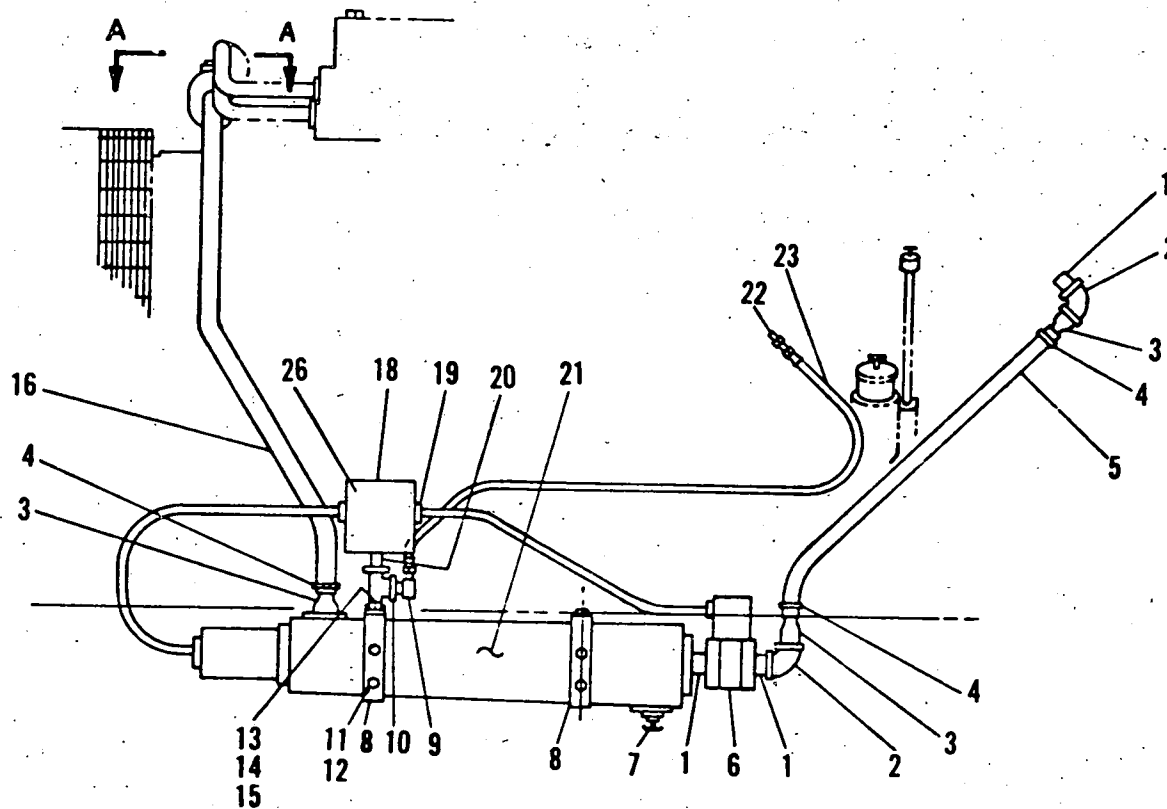
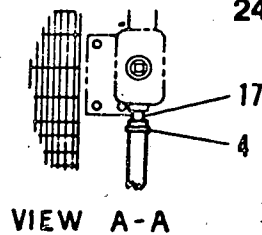
VIEW A-A



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	505-0004	3	Nipple, Pipe - Close (1 x 1-1/2")	14	850-0040	4	Washer, Lock - Spring (1/4")
2	505-0041	2	Elbow, Pipe (90° x 1")	15	862-0001	4	Nut, Hex (1/4-20)
3	505-0759	3	Adapter, Pipe	16	503-0798	1	Hose
4	503-0429	4	Clamp, Hose	17	505-0324	1	Nipple, Pipe - Half (3/4 x 2")
5	503-0847	1	Hose	18	309-0307	1	Switch, Oil Pressure
6	309-0304	1	Switch, Thermostat	19	508-0008	2	Grommet, Rubber
7	504-0003	1	Valve, Drain	20	505-0099	1	Nipple, Pipe - Close (1/4 x 7/8")
8	130-1192	2	Bracket, Heater Mounting	21	333-0143	1	Heater, Coolant (208 Volt)
9	502-0287	1	Elbow, Male (90°)	22	502-0193	1	Connector, Male
10	333-0142	1	Support, Pressure Switch	23	501-0199	1	Line, Flex - Oil
11	821-0016	4	Screw, Cap - Hex Head Locking (5/16-18 x 3/4")	24	323-0957	2	Connector
12	870-0257	4	Nut, Hex - Locking (5/16-18)	25	332-0149	2	Terminal
13	800-0007	4	Screw, Cap - Hex Head (1/4-20 x 1")				

NOTE: to order all parts listed for conversion, order by number 179-2072.

ENGINE COOLANT HEATER INSTALLATION 240 VOLT (179-2064) - OPTIONAL

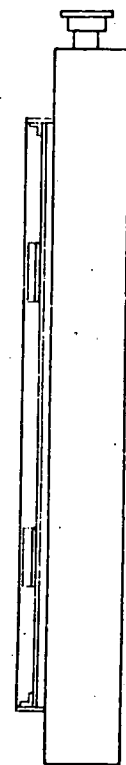
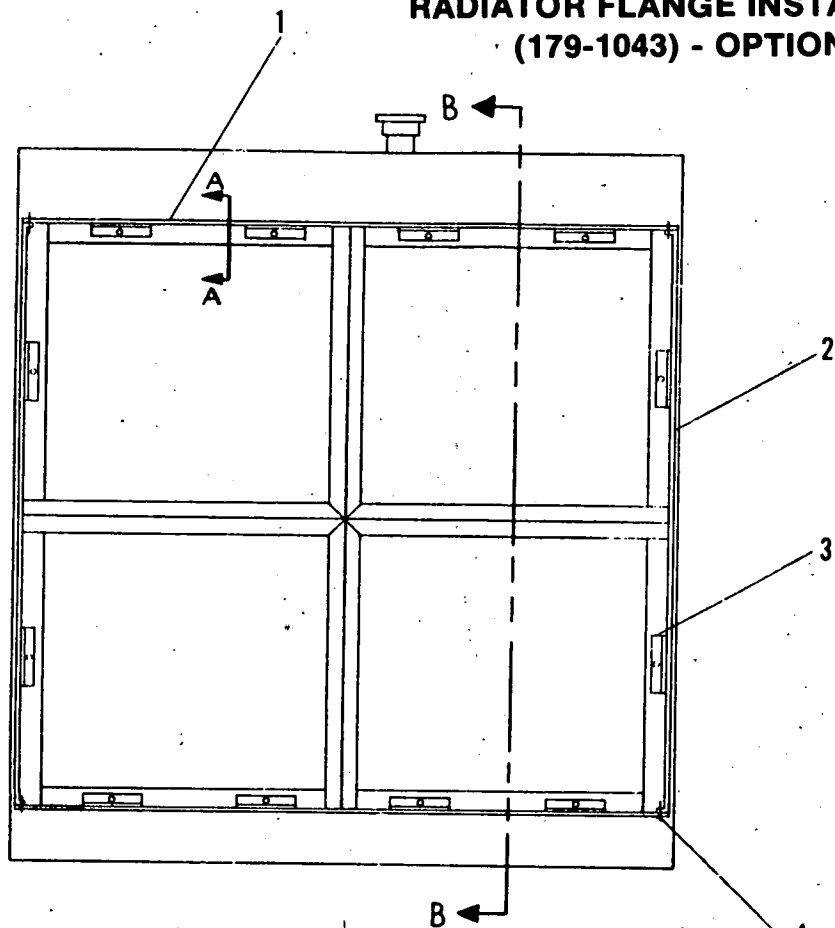


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	505-0004	3	Nipple, Pipe - Close (1 x 1-1/2")
2	505-0041	2	Elbow, Pipe (90° x 1")
3	505-0759	3	Adapter, Pipe
4	503-0429	4	Clamp, Hose
5	503-0847	1	Hose
6	309-0304	1	Switch, Thermostat
7	504-0003	1	Valve, Drain
8	130-1192	2	Bracket, Heater Mounting
9	502-0287	1	Elbow, Male (90°)
10	333-0142	1	Support, Pressure Switch
11	821-0016	4	Screw, Cap - Hex Head Locking (5/16-18 x 3/4")
12	870-0257	4	Nut, Hex - Locking (5/16-18)
13	800-0007	4	Screw, Cap - Hex Head (1/4-20 x 1")

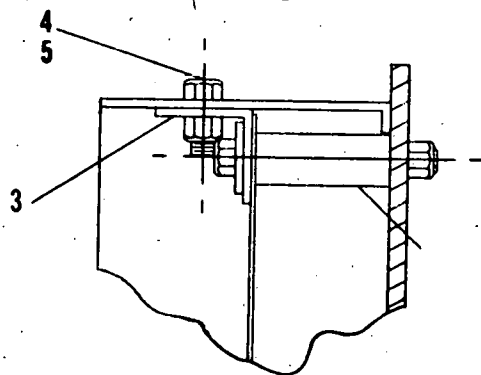
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
14	850-0040	4	Washer, Lock - Spring (1/4")
15	862-0001	4	Nut, Hex (1/4-20)
16	503-0798	1	Hose
17	505-0324	1	Nipple, Pipe - Half (3/4 x 2")
18	309-0307	1	Switch, Oil Pressure
19	508-0008	2	Grommet, Rubber
20	505-0099	1	Nipple, Pipe - Close (1/4 x 7/8")
21	333-0136	1	Heater, Coolant (240 Volt)
22	502-0193	1	Connector, Male
23	501-0199	1	Line, Flex - Oil
24	323-0957	1	Connector
25	332-0149	2	Terminal

NOTE: to order all parts listed for conversion, order by number 179-2064.

RADIATOR FLANGE INSTALLATION (179-1043) - OPTIONAL



SECTION B-B



VIEW A-A

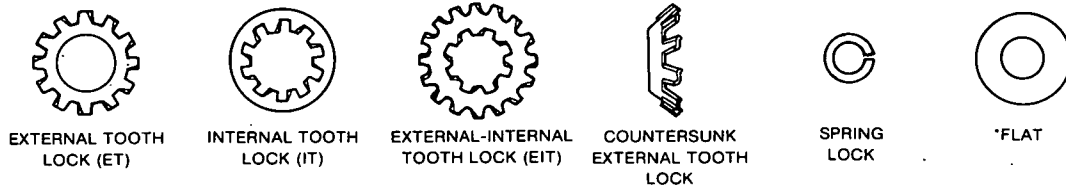
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	130-1115	2	Flange, Radiator (top and bottom)
2	130-1114	2	Flange, Radiator (sides)
3	370-1025	12	Support, Angle
4	862-0001	16	Nut, Hex (1/4-20)
5	821-0010	16	Screw, Cap - Hex Head (1/4-20 x 1/2")

NOTE: to order all parts listed for conversion, order by number 179-1043.

HARDWARE IDENTIFICATION

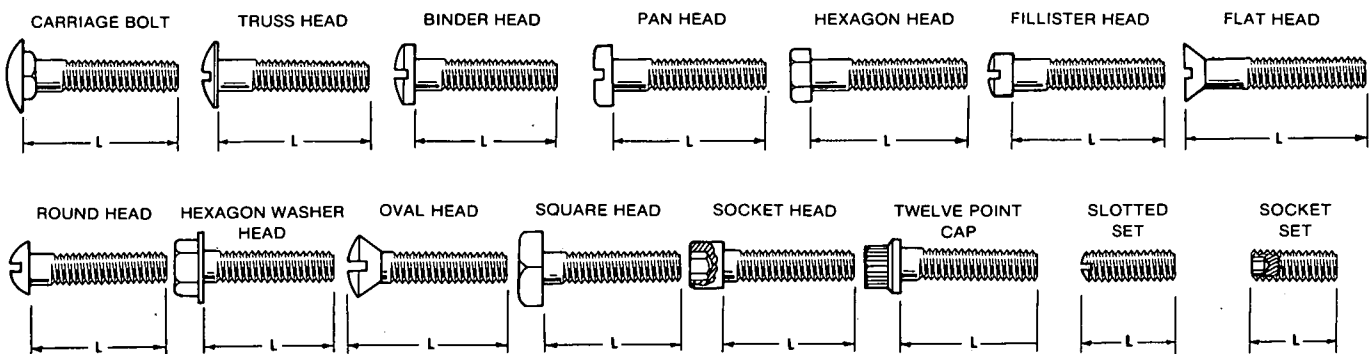
Illustrated hardware items are only for identification purposes. All hardware items listed throughout this parts catalog are steel SAE grade five (5) or lower (zinc plated with clear chromate dip) unless parts description indicates differently. All dimensions are in inches.

WASHER TYPES



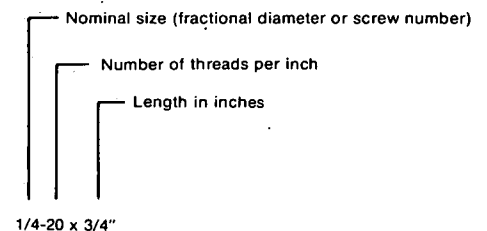
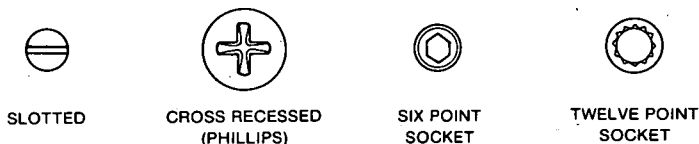
* - Flat washer dimensions given are: Inside Diameter (ID), Outside Diameter (OD) and Thickness (Thk).

BOLT AND SCREW TYPES



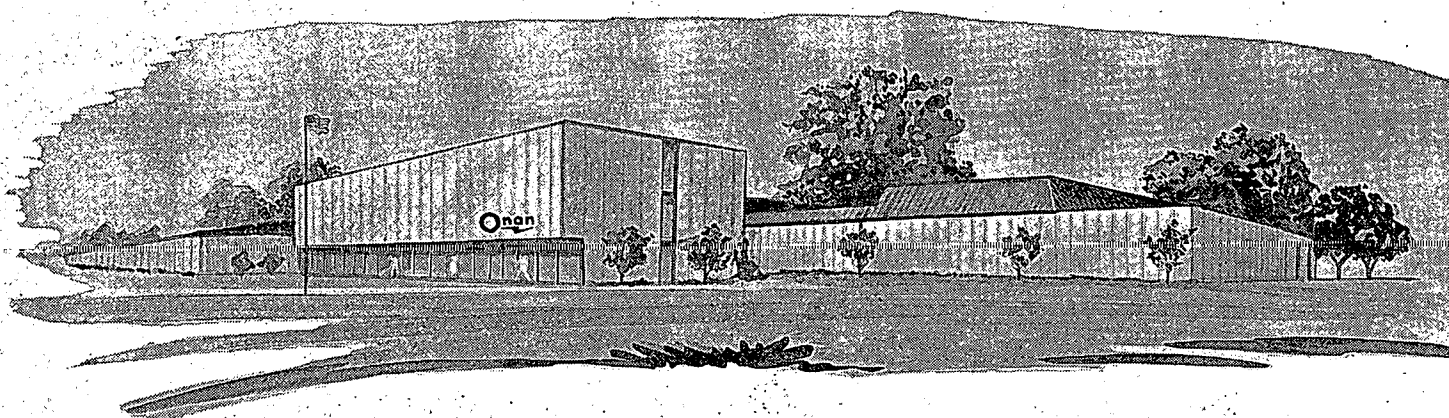
L - Measure length between these points.

INTERNAL DRIVE TYPES



NUT TYPES





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