

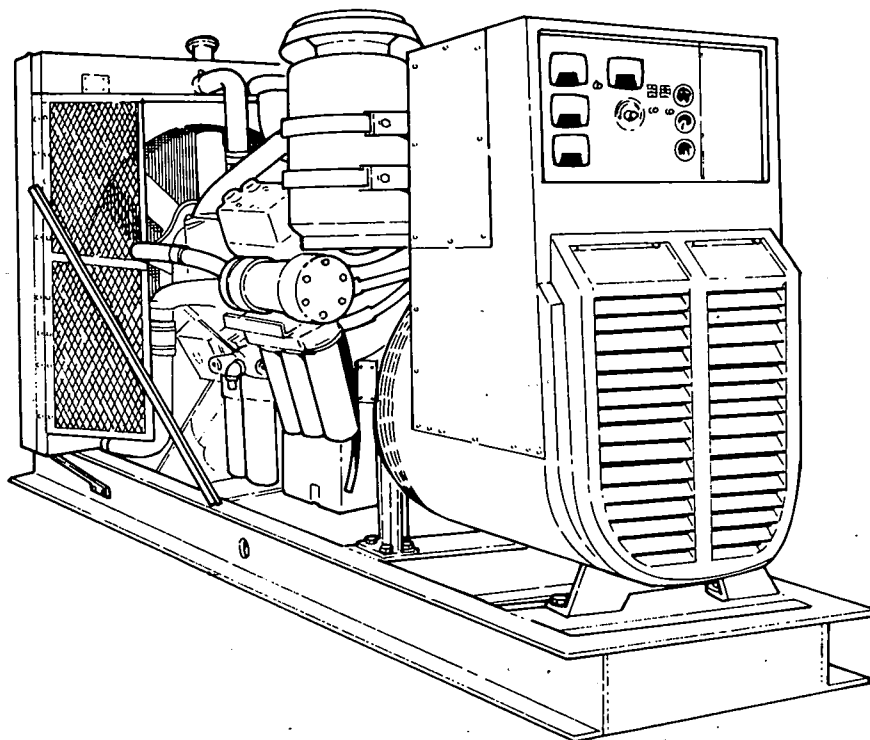
PARTS CATALOG

FOR

DFW

SERIES

ELECTRIC GENERATING SETS



BEGIN SPEC E

FORM NUMBER
960-0227

ISSUE DATE
1-78
(SPEC E)
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
VOLTS 120/208 127/220 139/240 120/240 240/416	
AMPS	
VOLTS 254/440 277/480 347/600 120/240	
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.

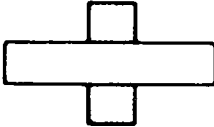
		CUMMINS ENGINE COMPANY, INC. COLUMBUS, INDIANA, U.S.A.			
SBM NO.		MODEL		ENG NO.	
				OTHER REF. NO.	

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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.

MODEL AND SPEC NUMBER	ELECTRICAL DATA				
	WATTS	VOLTS	HERTZ	WIRE	PHASE
385.0DFW-519R	385,000	110/190 or 115/200	50	4	3
385.0DFW-520R	385,000	220/380 or 230/400	50	4	3
385.0DFW-521R	385,000	120/208 or 127/220	50	4	3
385.0DFW-522R	385,000	240/416 or 254/440	50	4	3
450.0DFW-4R	450,000	120/208	60	4	3
450.0DFW-4XR	450,000	277/480	60	4	3
450.0DFW-7XR	450,000	240/416	60	4	3

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

REPLACEMENT ENGINE

100-1467

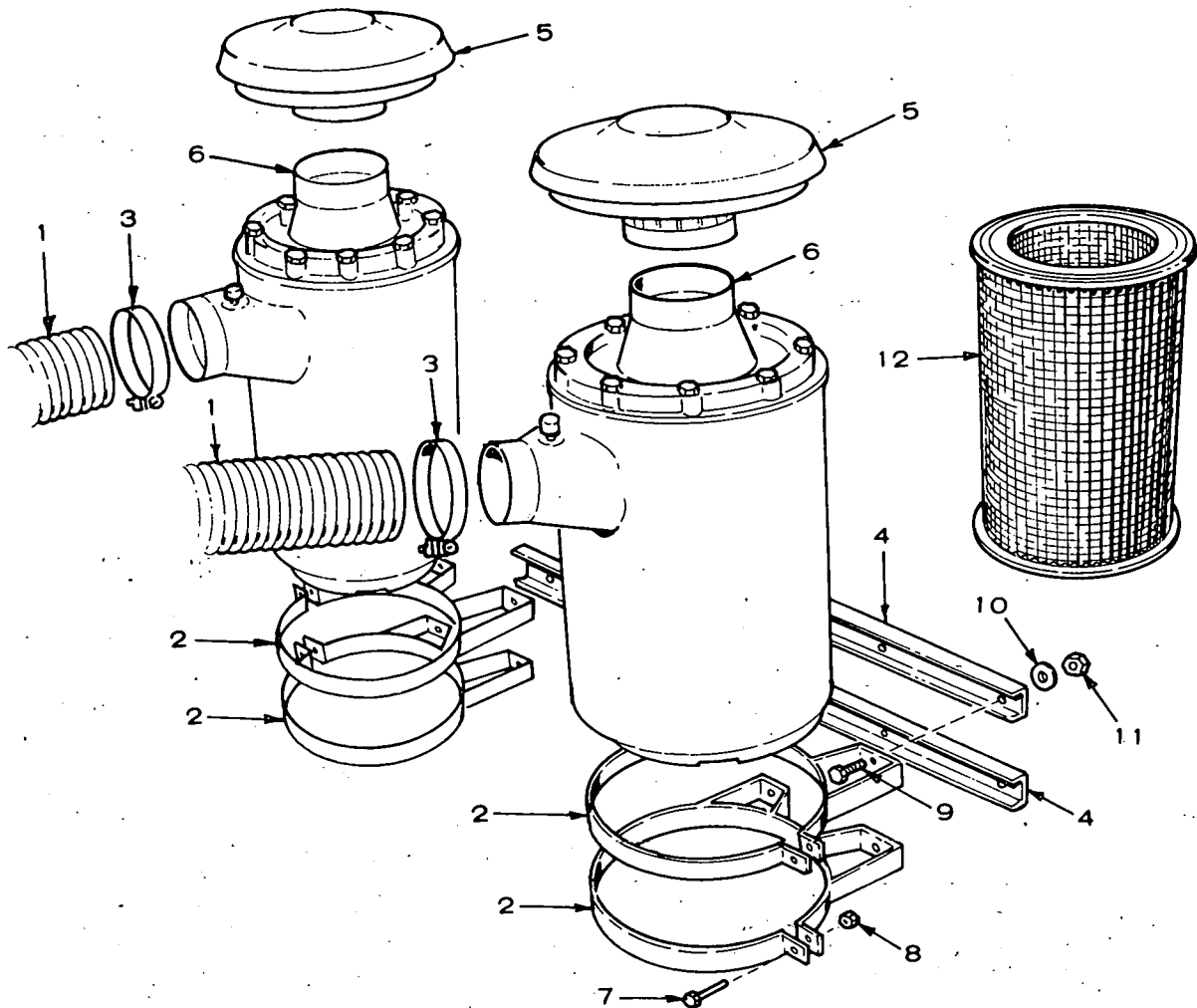
Replacement Engine (NOTE: This engine is for standard spec 1 Generator Sets. For all other specs finish Model and Spec)

GENERAL DESCRIPTION

Includes — Complete Cylinder Block, Fuel Pump (24 Volt); Fuel Filter; Oil Filter (Full Flow); Starter Motor (24 Volt); Governor (Woodward SG-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.

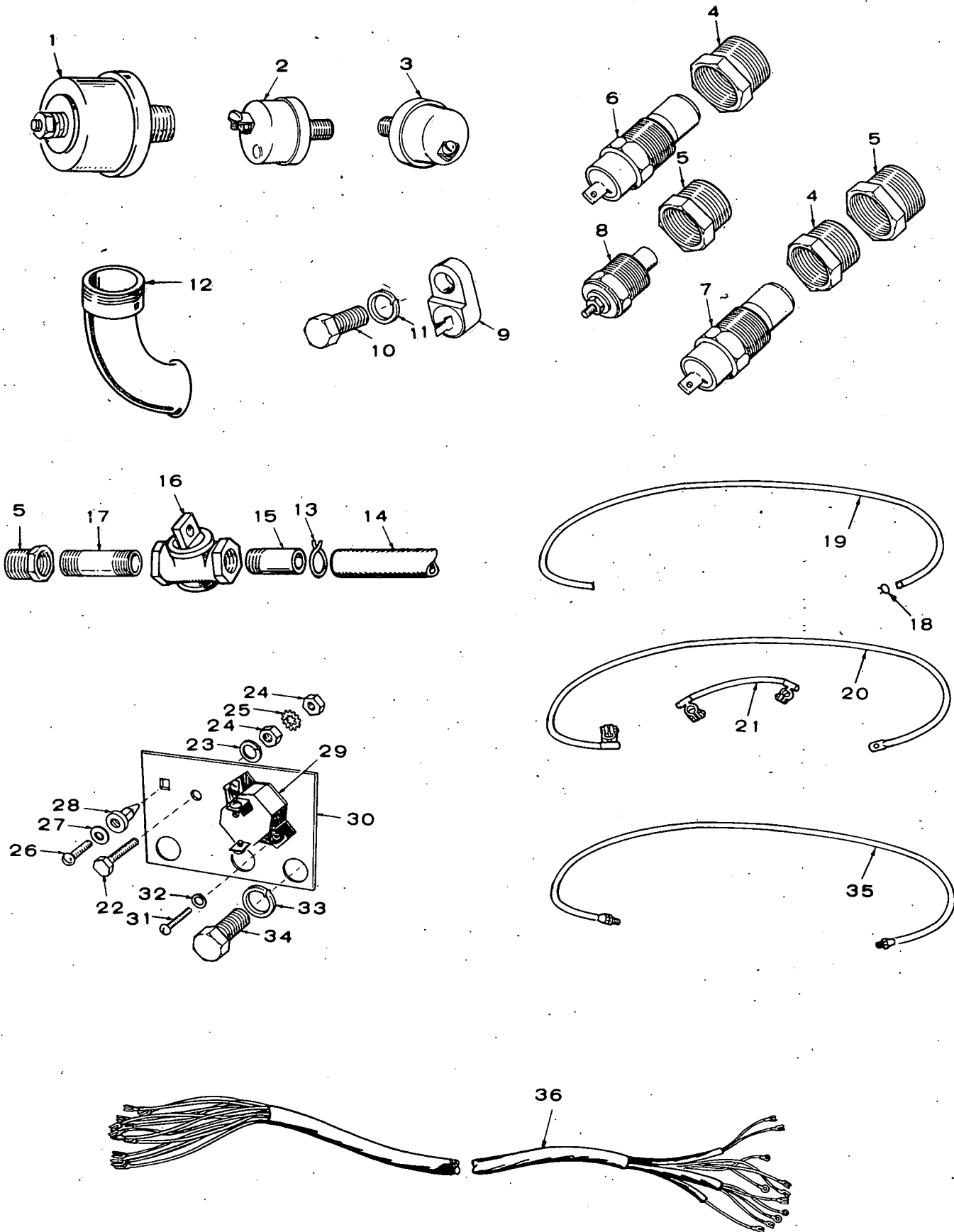
AIR CLEANER



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	HOSE, FLEXIBLE - AIR CLEANER		
	503-0855	1	18" Long
	503-0854	1	21" Long
2	140-1345	4	Band, Air Cleaner
3	503-0748	4	Clamp, Hose
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")

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
8	870-0257	4	Nut, Hex - Locking (5/16-18)
9	821-0030	10	Screw, Cap - Hex Head Locking (3/8-16 x 1")
10	526-0013	10	Washer, Flat (25/64" ID x 1" OD x 1/16" Thk)
11	870-0281	10	Nut, Hex - Locking (3/8-16)
12	140-1376	2	Element, Air Cleaner

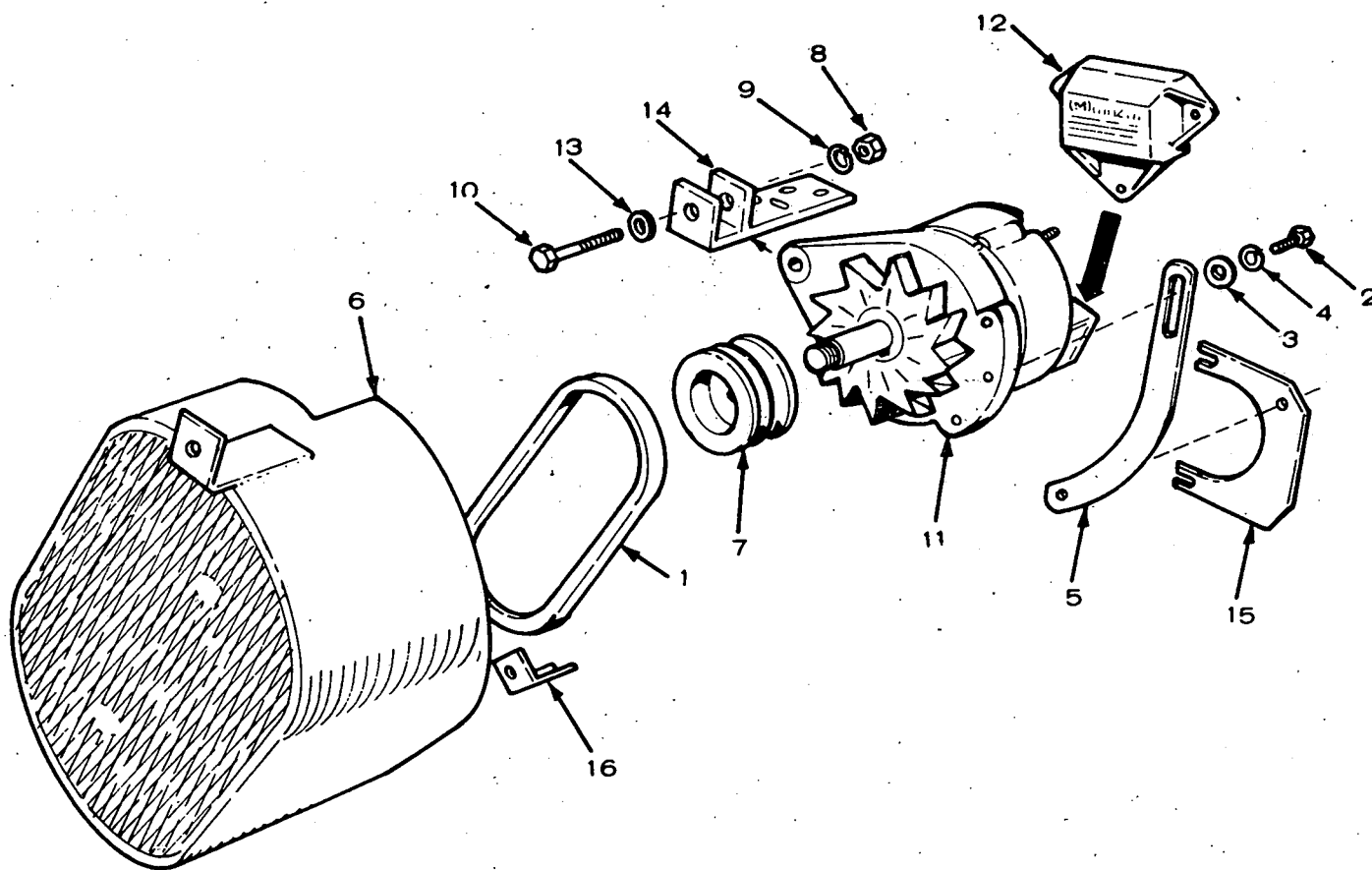
MISCELLANEOUS ENGINE PARTS



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

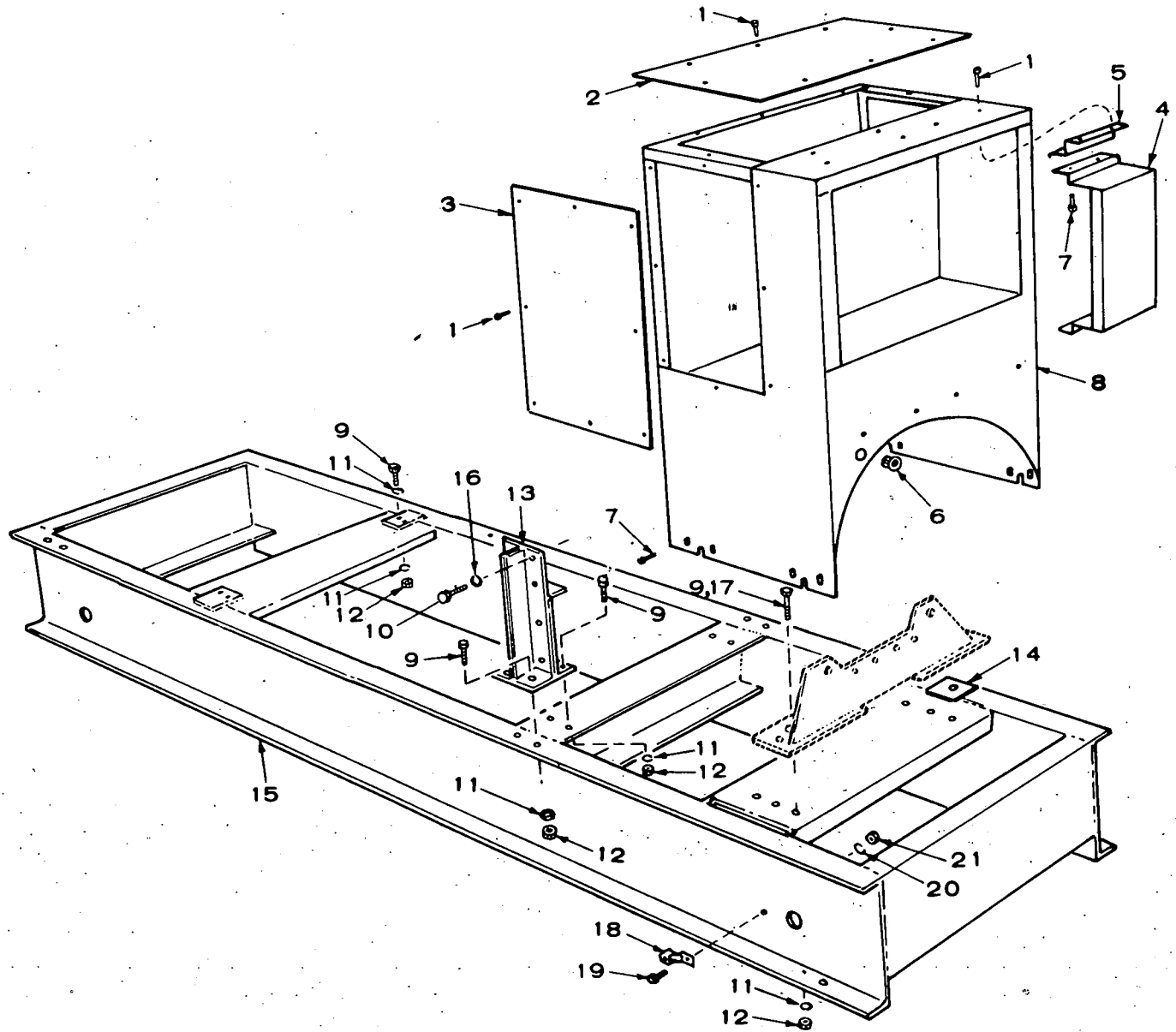
ALTERNATOR



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.

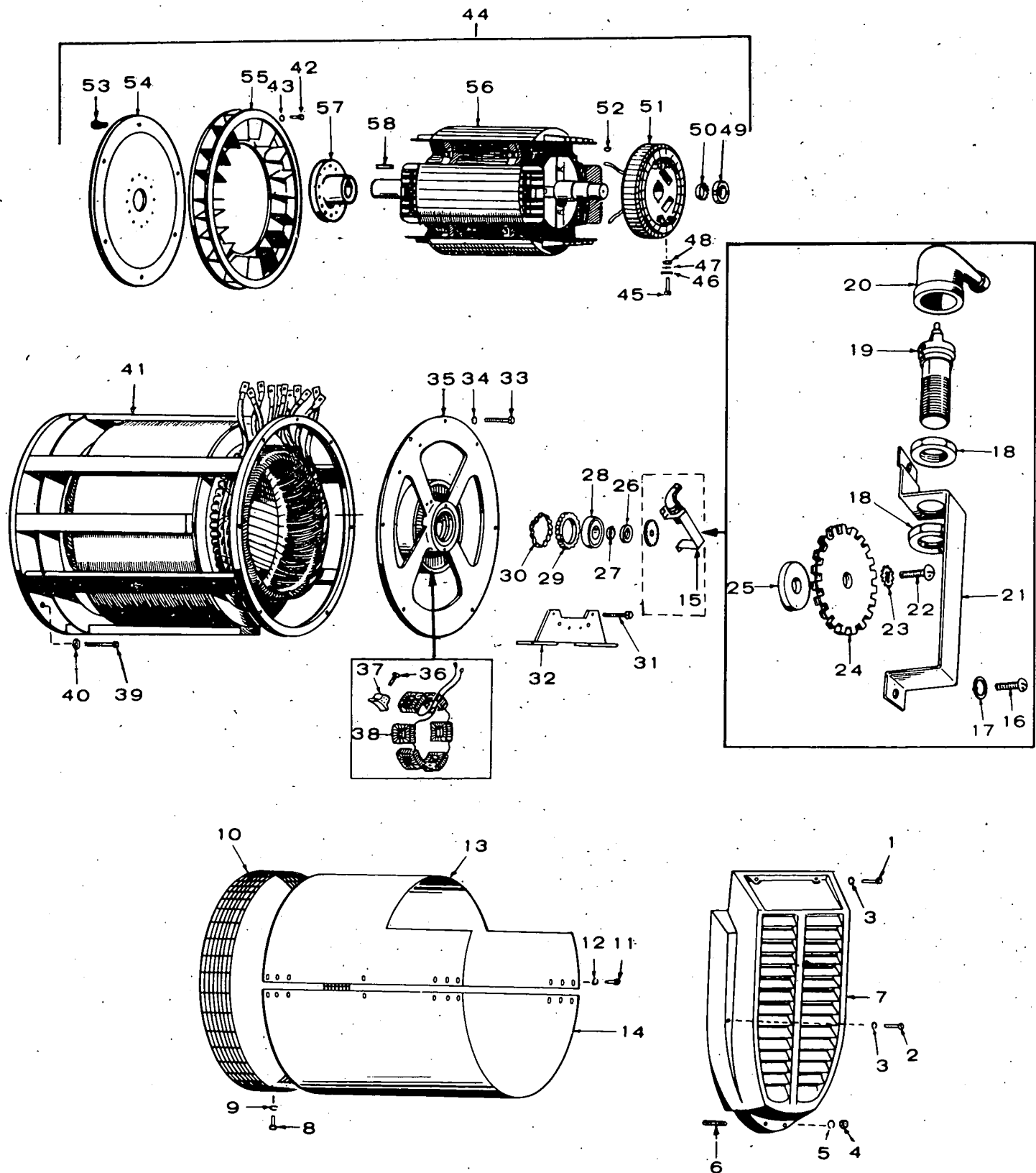
CHASSIS



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

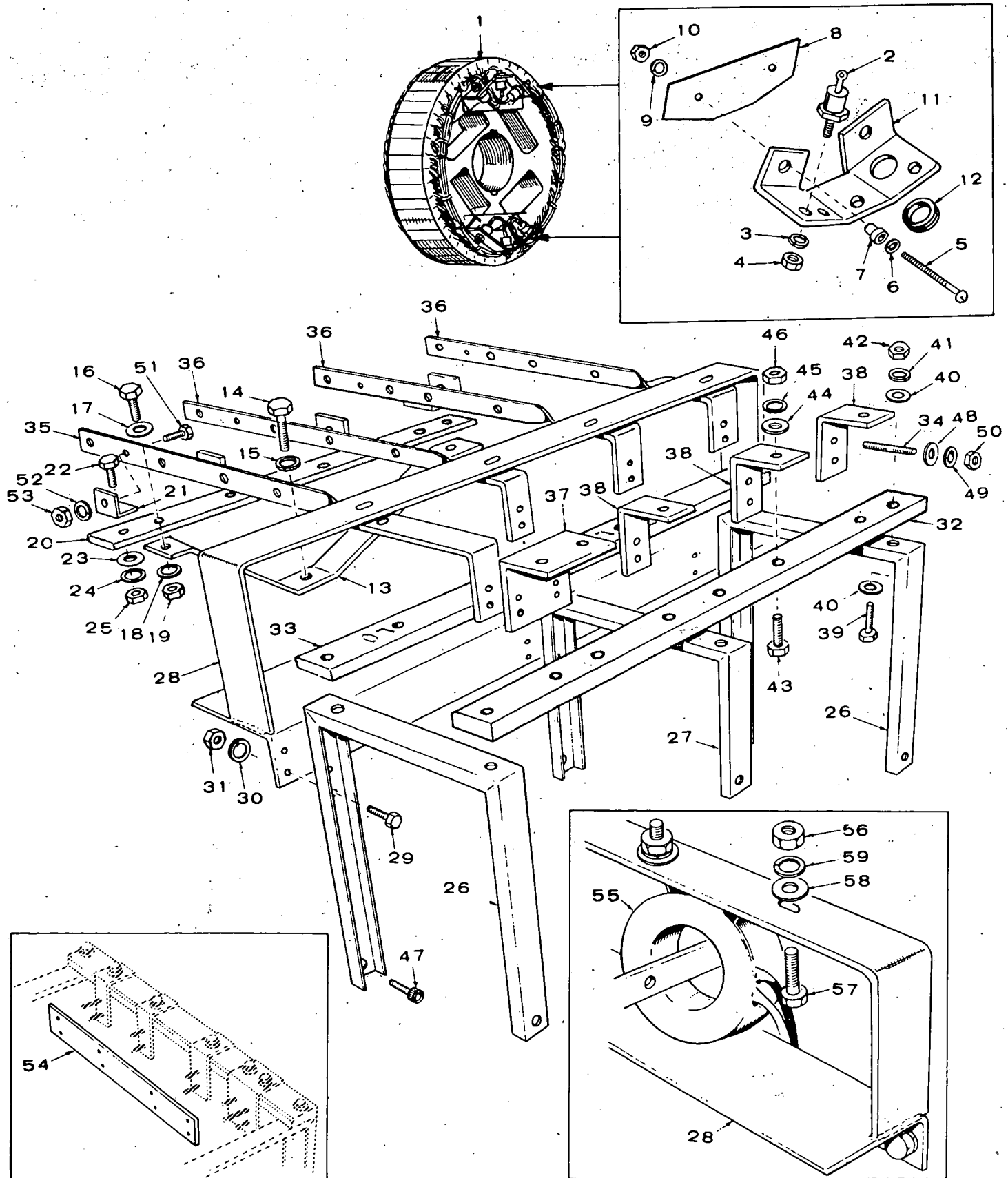
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	800-0009	4	Screw, Cap - Hex Head (1/4-20 x 1-1/2")	37	221-0153	6	*Shoe, Pole - Exciter Stator
2	800-0013	2	Screw, Cap - Hex Head (1/4-20 x 2-1/2")	38	222-1693	1	*Coil Assembly, Field - Exciter Stator (Set of Six Coils)
3	850-0040	6	Washer, Lock - Spring (1/4")	39	800-0092	16	Screw, Cap - Hex Head (1/2-13 x 1-1/2")
4	862-0007	6	Nut, Hex (5/8-11)	40	850-0060	16	Washer, Lock - Spring (1/2")
5	850-0070	6	Washer, Lock - Spring (5/8")	41	STATOR, WOUND - GENERATOR (Includes Bus Bar)		
6	520-0692	2	Stud (5/8-11 x 5/11 x 3-3/4")				60 Hertz Sets
7	232-1973	1	Grill - Generator End Bell				240/416 Volts
8	800-0003	1	Screw, Cap - Hex Head (1/4-20 x 1/2")		220-2769	1	120/208 Volts
9	850-0040	1	Washer, Lock - Spring (1/4")		220-2770	1	277/408 Volts
10	234-0272	1	Cover, Fan		220-2771	1	50 Hertz Sets
11	800-0026	6	Screw, Cap - Hex Head (5/16-18 x 3/4")		220-2778	1	220/380, 230/400 Volt Sets
12	850-0045	6	Washer, Lock - Spring (5/16")		220-2779	1	110/190, 115/200 Volt Sets
13	234-0288	1	Band, Stator - Top		220-2780	1	240/416, 254/440 Volt Sets
14	234-0278	1	Band, Stator - Bottom		220/2781	1	120/208, 127/220 Volt Sets
15	150-1556	1	Sensor Assembly - Speed (Includes parts marked †)	42	805-0035	6	Bolt, Place (5/8-11 x 1-1/2")
16	812-0148	2	Screw, Machine - Round Head (1/4-20 x 1/2")	43	850-0070	6	Washer, Lock - Spring (5/8")
17	850-0040	2	Washer, Lock - Spring (1/4")	44	*ROTOR ASSEMBLY, EXCITER (See Separate Group for Components)		
18	868-0011	2	†Nut, Hex - Jam (3/4-16)		201-1501	1	60 Hertz Sets
19	150-1406	1	†Sensor, Magnetic - Speed		201-1549	1	50 Hertz Sets
20	150-1410	1	†Cap, Insulator	45	820-1067	2	*Screw, Machine - Pan Head, Cross-Recessed (#10-32 x 1")
21	150-1555	1	†Bracket, Mounting - Speed Sensor	46	526-1009	2	*Washer, Flat - Cadmium Plated (7/32" ID x 1/2" OD x 1/16" Thk)
22	812-0192	1	Screw, Machine - Round Head (3/8-16 x 1")	47	850-1030	2	*Washer, Lock - Spring, Cadmium Plated (#10)
23	856-0010	1	Washer, Lock - External/ Internal Tooth (3/8")	48	870-1053	2	*Nut, Hex (#10-32)
24	150-1557	1	Wheel - Speed Sensor	49	510-0092	1	*Nut, Lock - Bearing
25	526-0077	1	Washer, Flat (13/32" ID x 1-1/4" OD x 1/4" Thk)	50	510-0094	1	*Washer, Lock - Bearing
26	510-0091	1	*Nut, Lock - Bearing	51	ROTOR ASSEMBLY, EXCITER (See Separate Group for Component Parts)		
27	510-0093	1	*Washer, Lock - Bearing		201-1501	1	60 Hertz Sets
28	510-0090	1	*Bearing, Ball		201-1549	1	50 Hertz
29	232-1923	1	Ring, Holder - Bearing	52	515-0162	1	*Key, Rectangular
30	232-1924	1	Spring - Bearing Ring Holder	53	805-0035	12	*Bolt Place (5/8-11 x 1-1/2")
31	805-0035	2	Bolt - Hex Head (5/8-11 x 1-1/2")	54	232-1880	1	*Disc, Drive - Rotor
32	232-1957	1	Support, Generator	55	205-0076	1	*Fan, Generator
33	800-0051	6	Screw, Cap - Hex Head (3/8-16 x 1-1/4")	56	201-1503	1	*Rotor, Wound - Generator (Includes Drive Hub and Key)
34	850-0050	6	Washer, Lock - Spring (3/8")	57	232-1870	1	*Hub, Drive
35	211-0170	1	End Bell Assembly (Includes Replaceable Parts Marked *)	58	515-0161	1	*Key, Rectangular
36	800-0031	12	*Screw, Cap - Hex Head (5/16-18 x 1-1/2")				

† - Included in Speed Sensor Assembly.

* - Included in End Bell Assembly.

★ - Included in Generator Rotor Assembly.

EXCITER ROTOR AND BUS BAR

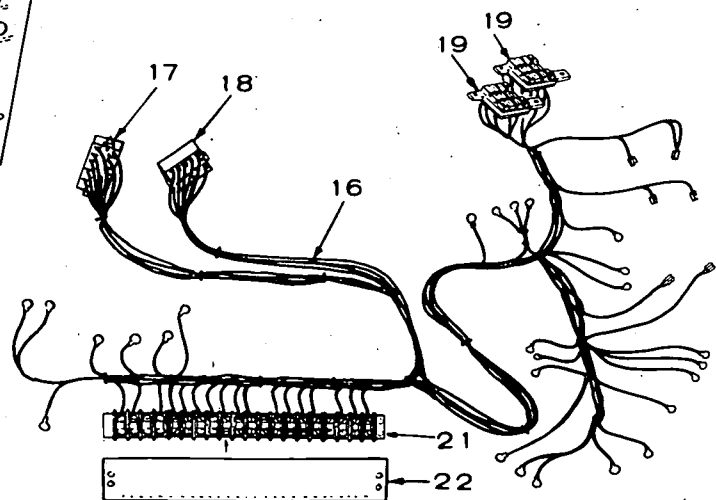
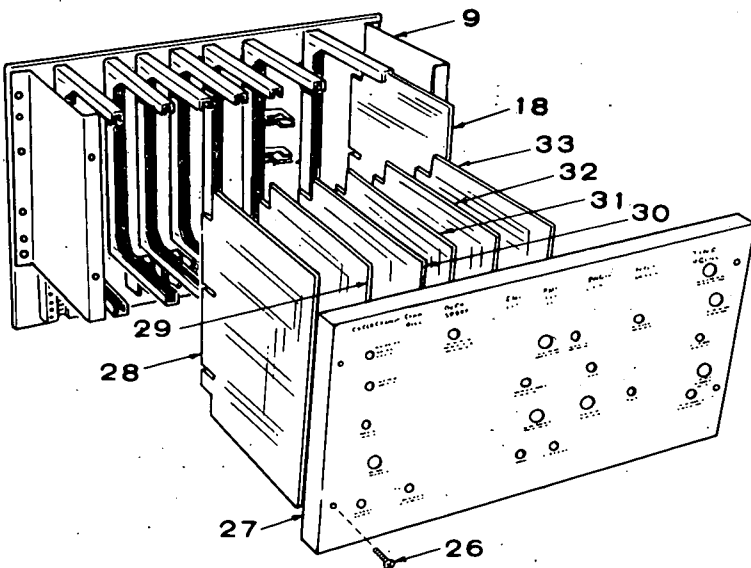
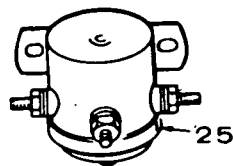
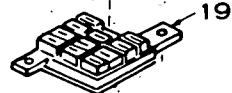
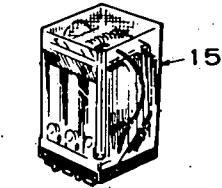
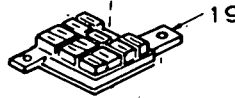
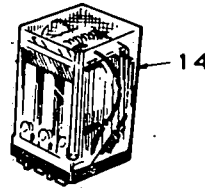
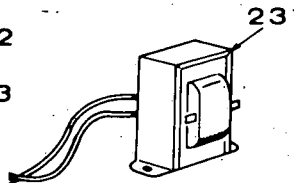
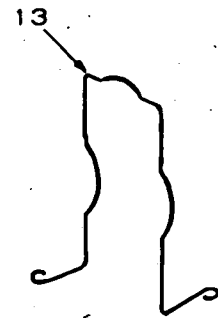
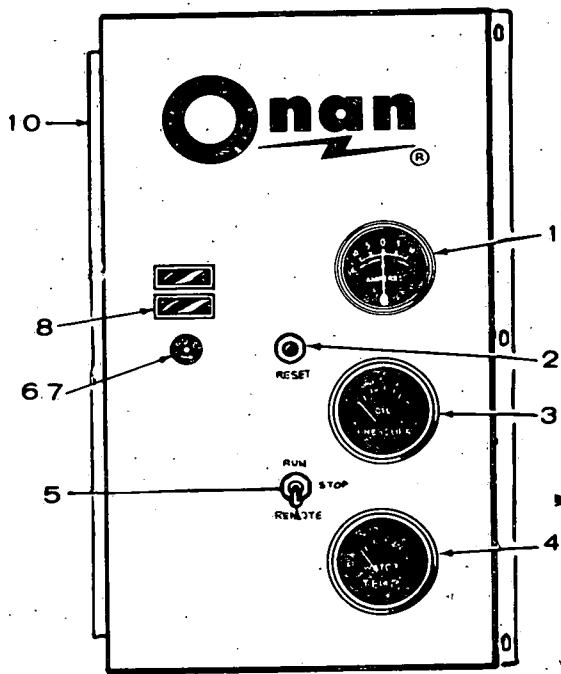


EXCITER ROTOR AND BUS BAR

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	ROTOR ASSEMBLY, EXCITER - WOUND (Includes Parts Marked †) - Also shown in Generator Group			29	800-0005	6	Screw, Cap - Hex Head (1/4-20 x 3/4")
	201-1501	1	60 Hertz Sets	30	850-0040	6	Washer, Lock - Spring (1/4")
	201-1549	1	50 Hertz Sets	31	862-0001	6	Nut, Hex (1/4-20)
2	†RECTIFIER			32	232-1998	1	Board, Insulating
	358-0011	3	Positive Stud	33	232-1995	1	Board, Insulating
	358-0012	3	Negative Stud	34	520-0693	16	Stud (5/16-18 x 5/16-18 x 1-5/8")
3	850-0040	6	†Washer, Lock - Spring (1/4")	35	232-1996	1	Bar, Bus (17-3/8" Lg)
4	868-0001	6	†Nut, Hex - Jam (1/4-28)	36	232-2001	3	Bar, Bus (13-1/4" Lg)
5	813-0114	4	†Screw, Machine - Round Head (#10-32 x 3")	37	232-1991	1	Bar, Bus (Double)
6	526-0008	4	†Washer, Flat (13/64" ID x 7/16" OD x 1/32" Thk)	38	232-1990	3	Bar, Bus
7	508-0124	4	†Bushing, Shoulder - Insulating	39	800-0052	9	Screw, Cap - Hex Head (3/8-16 x 1-1/2")
8	508-0156	8	†Insulator, Heat Shield	40	526-0029	18	Washer, Flat (25/64" ID x 7/8" OD x 1/16" Thk)
9	850-0030	4	†Washer, Lock - Spring (#10)	41	850-0050	9	Washer, Lock - Spring (3/8")
10	870-0053	4	†Nut, Hex (#10-32)	42	862-0003	9	Nut, Hex (3/8-16)
11	†RECTIFIER HEAT SINK			43	800-0052	6	Screw, Cap - Hex Head (3/8-16 x 1-1/2")
	363-0033	1	Negative	44	526-0029	6	Washer, Flat (25/64" ID x 7/8" OD x 1/16" Thk)
	363-0025	1	Positive	45	850-0050	6	Washer, Lock - Spring (3/8")
12	508-0093	2	†Grommet, Rubber	46	862-0003	6	Nut, Hex (3/8-16)
13	232-1994	1	Bracket, Bus Bar	47	802-0069	6	Screw, Cap - Socket Head (3/8-16 x 5/8")
14	800-0151	1	Screw, Cap - Hex Head (3/4-10 x 1")	48	526-0115	32	Washer, Flat (11/32" ID x 11/16" OD x 1/16" Thk)
15	850-0079	1	Washer, Lock - Spring (3/4")	49	850-0045	32	Washer, Lock - Spring (5/16")
16	800-0051	2	Screw, Cap - Hex Head (3/8-16 x 1-1/4")	50	862-0015	32	Nut, Hex (5/16-18)
17	526-0029	2	Washer, Flat (25/64" ID x 7/8" OD x 1/16" Thk)	51	800-0005	4	Screw, Cap - Hex Head (1/4-20 x 3/4")
18	850-0050	2	Washer, Lock - Spring (3/8")	52	850-0040	4	Washer, Lock - Spring (1/4")
19	862-0003	2	Nut, Hex (3/8-16)	53	862-0001	4	Nut, Hex (1/4-20)
20	232-1997	1	Board, Insulating	54	232-1993	1	Jumper Bus Bar
21	232-1992	4	Bracket, Bus Bar	55	TRANSFORMER, CURRENT (Check Transformer Nameplate—Select According to Rating)		
22	800-0007	4	Screw, Cap - Hex Head (1/4-20 x 1")		302-0625	3	Nameplate Reads 750/5
23	526-0018	4	Washer, Flat (17/64" ID x 5/8" OD x 1/16")		302-0589	3	Nameplate Reads 1000/5
24	850-0040	4	Washer, Lock - Spring (1/4")		302-0644	3	Nameplate Reads 1500/5
25	862-0001	4	Nut, Hex (1/4-20)		302-0645	3	Nameplate Reads 2000/5
26	232-1999	2	Bracket, Terminal Board Mounting	56	862-0003	6	Nut, Hex (3/8-16)
27	232-2000	1	Bracket, Terminal Board Mounting	57	800-0052	6	Screw, Cap - Hex Head (3/8-16 x 1-1/2")
28	315-0302	1	Shelf, Current Transformer	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)



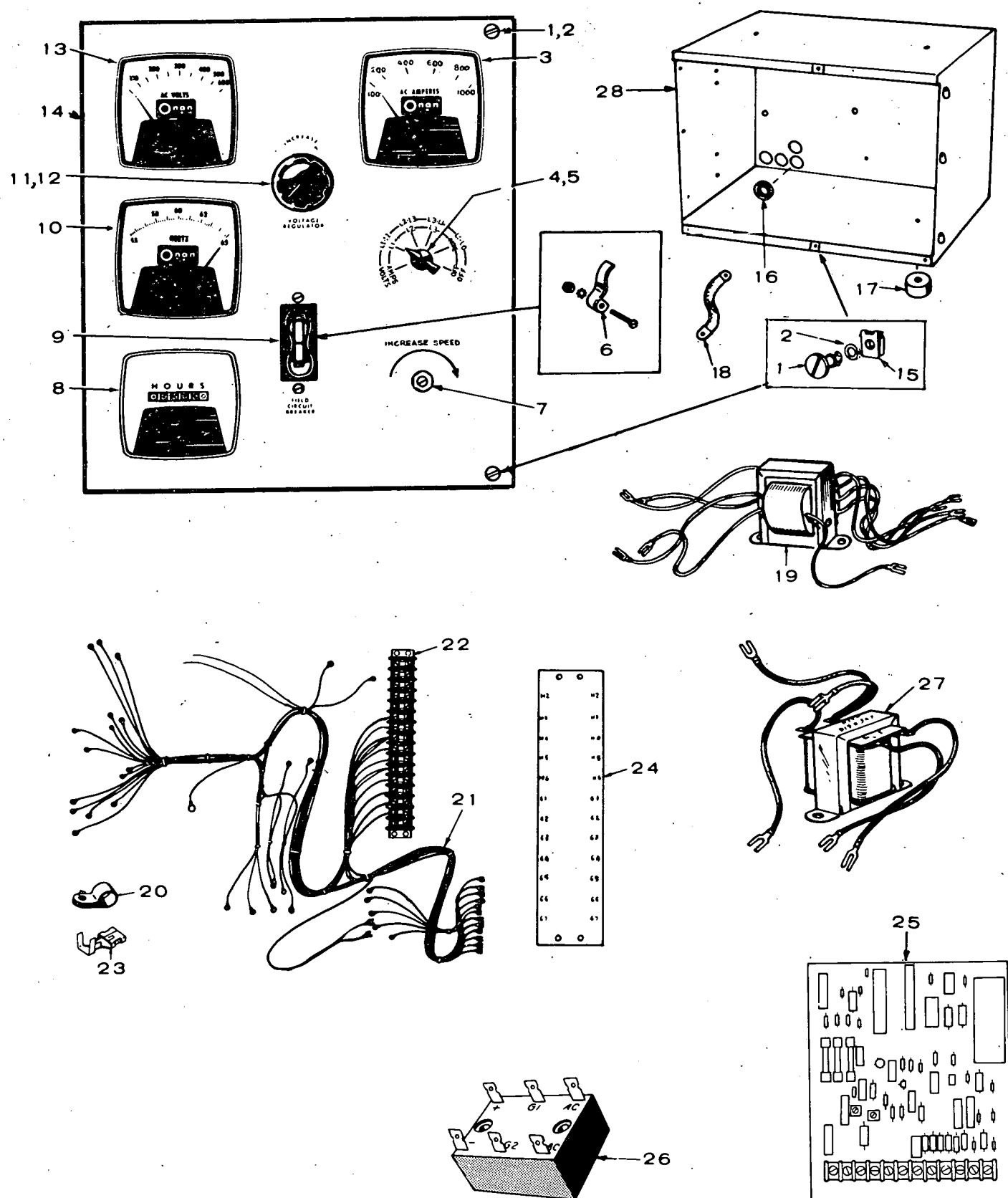
CONTROL (ENGINE SECTION)

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	27	301-4015	1	Cover, Access - Control Modules
	322-0121	1	High Engine Temperature	28	300-1573	1	*Module, Cycle Cranker
	322-0122	1	Low Engine Temperature	29	300-1574	1	*Module, Start-Disconnect
	322-0123		Overspeed	30	300-1575	1	*Module, Overspeed Control
	322-0135	1	Over Voltage	31	300-1576	1	*Module, Monitor No. 1
9	300-1572	1	*Chassis, Control	32	300-1577	1	*Module, Monitor No. 2
10	301-4086	1	Panel, Control	33	300-1578	1	*Module, Engine Shutdown
11	193-0250	2	Resistor, Gauge				
12	332-0052	1	Clamp, Loop				
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)

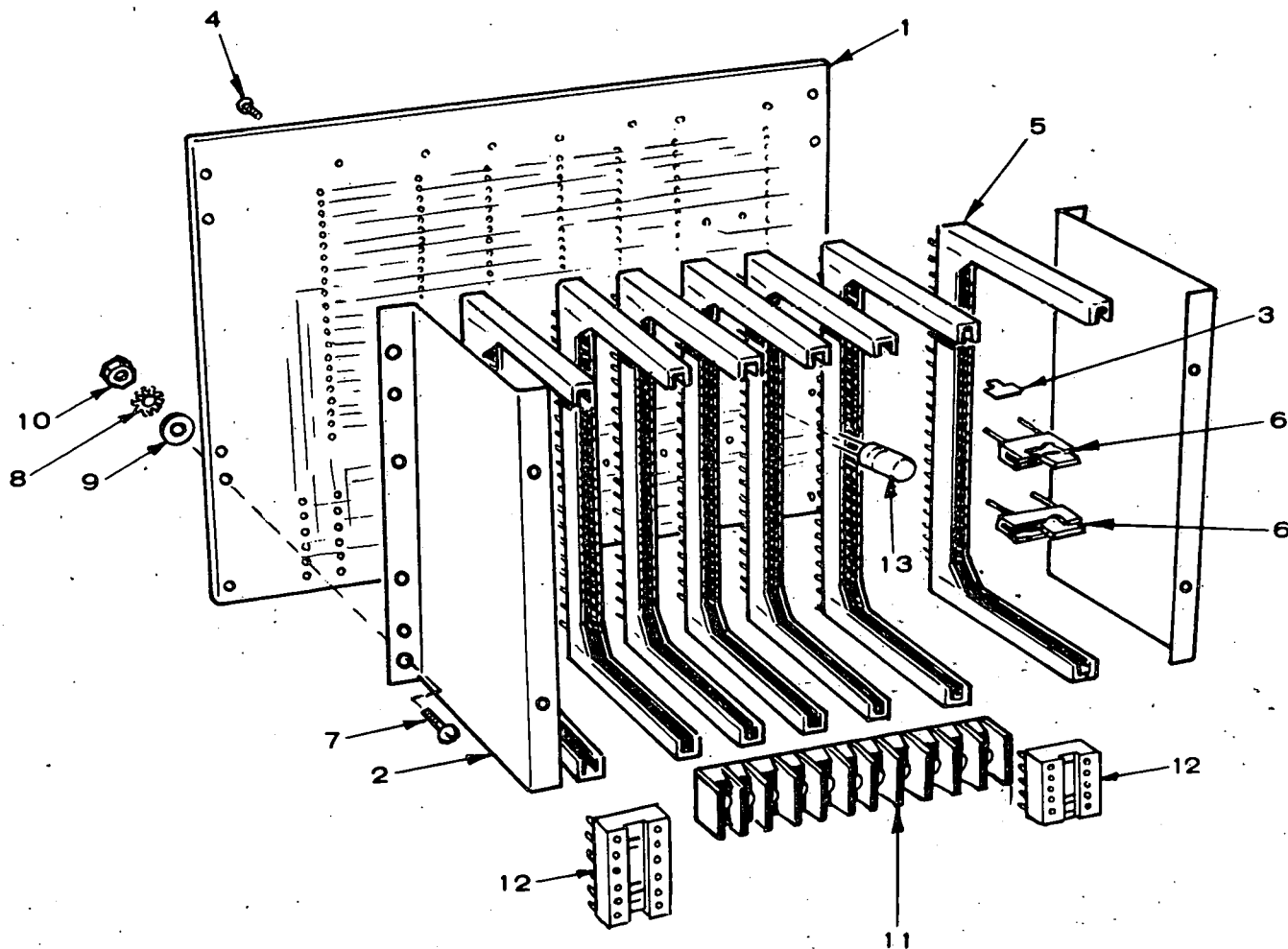


CONTROL (AC OUTPUT PORTION)

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	HARNES, 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				

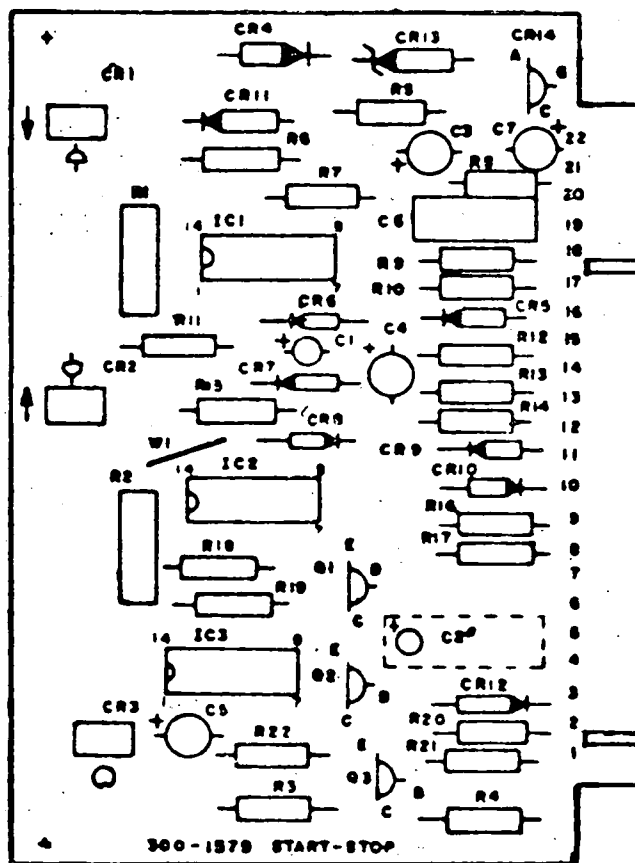
† - Included in Wiring Harness.

CONTROL CHASSIS



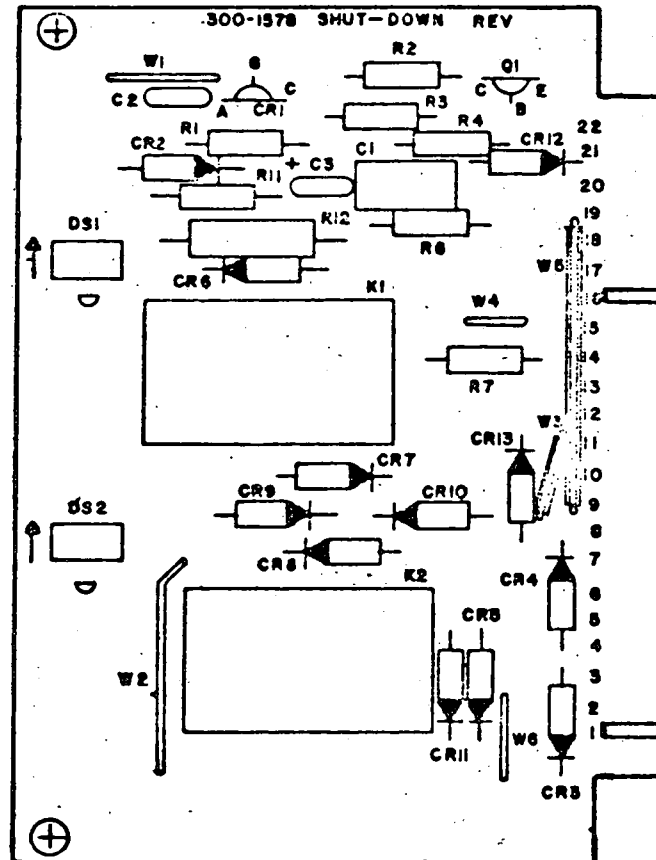
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	300-1572	1	Chassis, Control (Complete)
1	332-1884	1	Board, Printed Circuit
2	301-3880	2	Bracket, Module Cover Mtg.
3	332-1917	14	Plug, Keying
4	812-0029	14	Screw, Machine - Roundhead (#4-40 x 3/8" long)
5	332-1887	7	Socket Plug In Module
6	308-0324	2	Switch, 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)



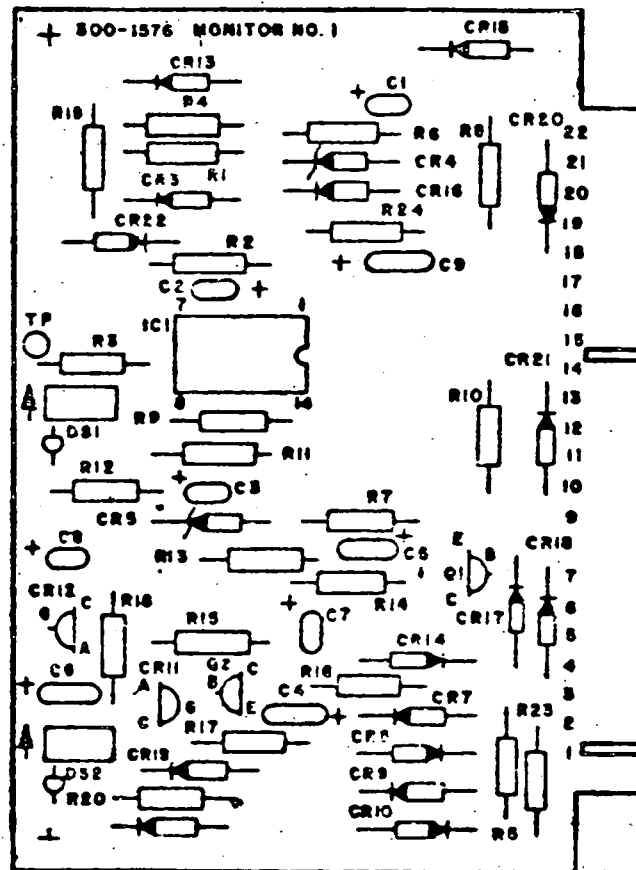
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	300-1579	1	Module, Time Delay Start-Stop (Complete)	1C3	367-0017	1	Integrated Circuit, Counter 7 Stage
C1,2	356-0059	2	Capacitor, Electrolytic (2.2 Mfd., 35 Volt)	Q1,2,3	362-0011	3	Transistor, Signal
C3,4,5	356-0051	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	357-0004	9	Receptacle, Lamp (400 Volt, 400 MA)	R10,14,16,22	350-0394	4	Resistor (2,000-Ohm, 1/2 Watt)
CR13	359-0002	1	Diode, Zener (13 Volt, 400 MW)	R12	350-0443	1	Resistor (220,000-Ohm, 1/2 Watt)
CR14	364-0011	1	Rectifier, Gate Control	R13,17,20,21	350-0537	4	Resistor (12,000-Ohm, 2 Watt)
1C1,2	367-0016	2	Integrated Circuit, Timing	R4	350-0376	1	Resistor (360-Ohm, 1/2 Watt)
				R9	350-0524	1	Resistor (100-Ohm, 1/2 Watt)

SHUTDOWN MODULE (300-1578)



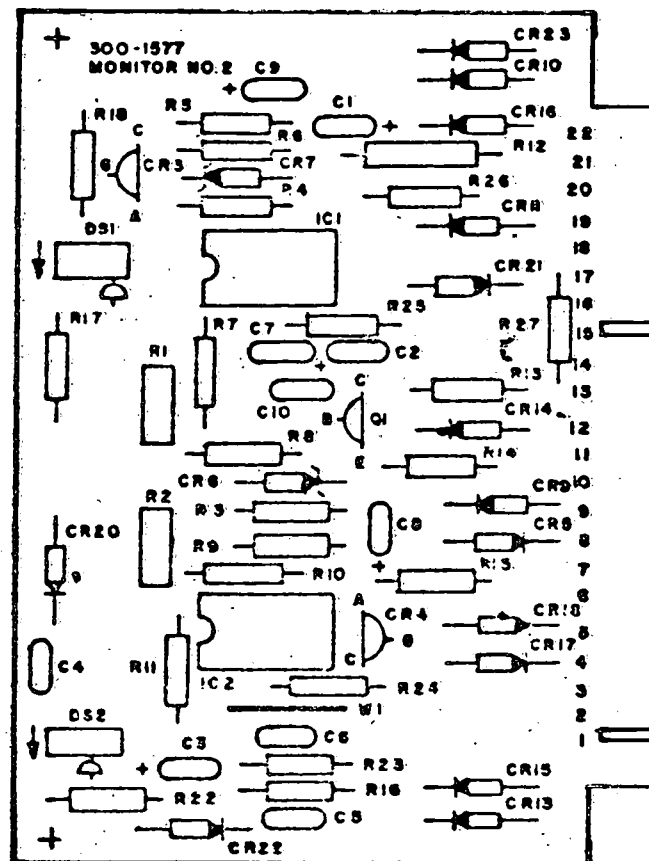
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	300-1578	1	Module, Shut Down (Complete)
C1	355-0045	1	Capacitor, Composition (1 Mfd., 200 Volt)
	322-0175	2	Receptacle, Lamp
DS1	322-0157	1	Lamp, Indicator (Red)
DS2	322-0172	1	Lamp, Indicator (Green)
C2	355-0041	1	Capacitor, Ceramic (.22 Mfd., 35 Volt)
C3	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)



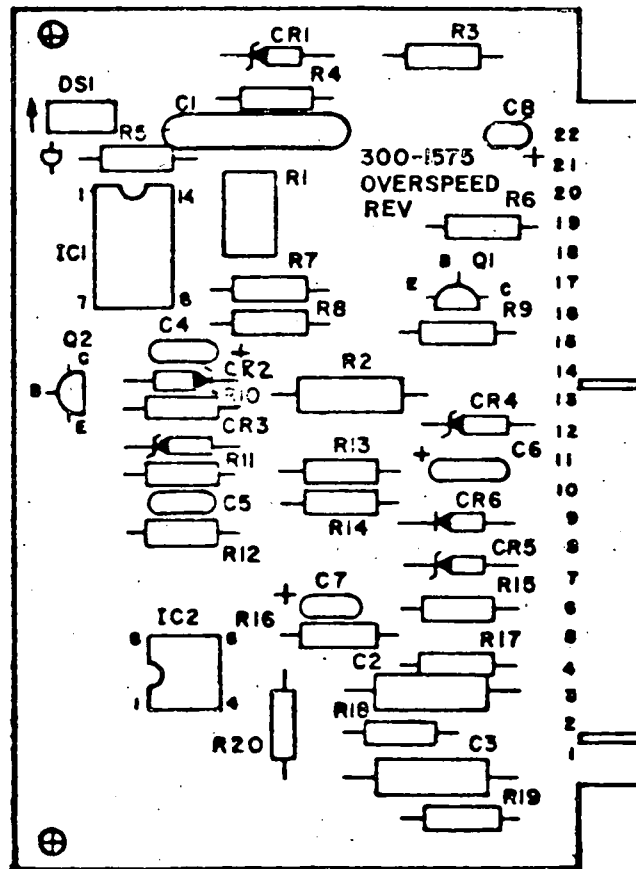
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	300-1576	1	Module, Monitor Number One (Complete)	R1	350-0397	1	Resistor (2,700-Ohm, 1/2 Watt)
C1,2,3,7,8	356-0051	5	Capacitor, Electrolytic (6.8 Mfd., 35 Volt)	R2	350-0446	1	Resistor (300,000-Ohm, 1/2 Watt)
C4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



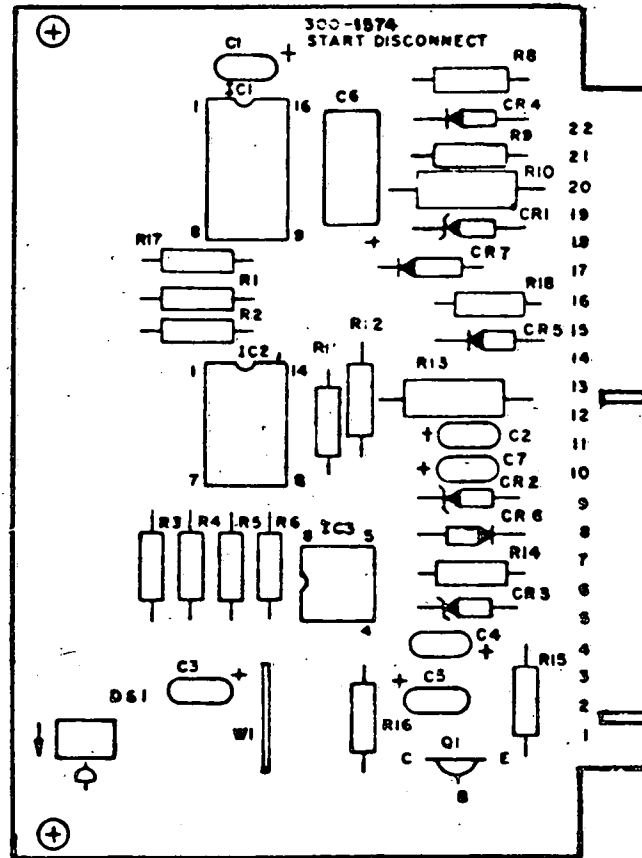
REF. NO.	PART NO.	QTY. used	PART DESCRIPTION
	300-1577	1	Module, Monitor Number Two
C1	356-0066	1	Capacitor, Electrolytic (47 Mfd.)
C2	356-0059	1	Capacitor, Electrolytic (2.2 Mfd., 35 Volt)
C3,8,9	356-0051	3	Capacitor, Electrolytic (6.8 Mfd., 35 Volt)
C4,5,6,7,10	355-0041	5	Capacitor, Ceramic (.22 Mfd.)
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)



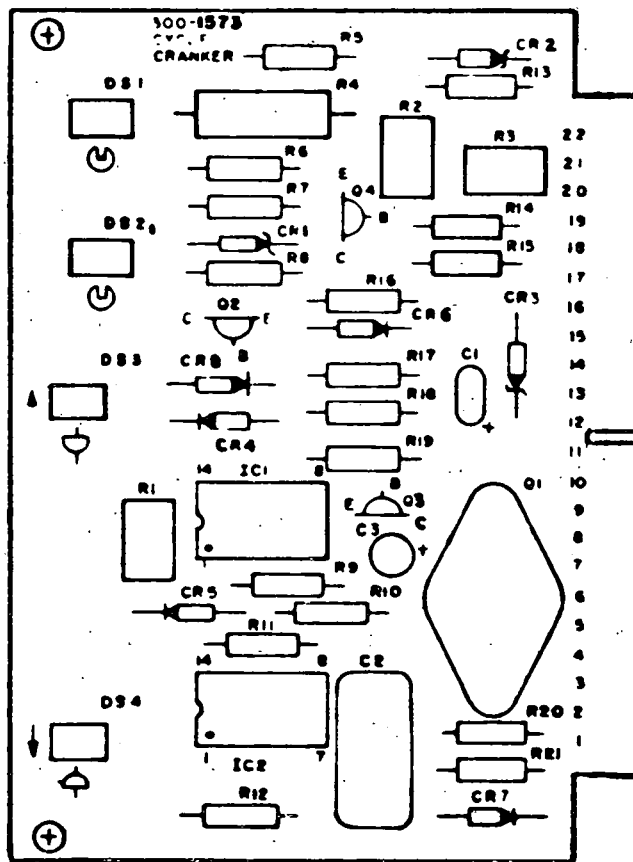
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	300-1575	1	Module, Overspeed (Complete)	CR6	357-0004	1	Rectifier, Diode (400 Volt, 400 MA)
C1	355-0043	1	Capacitor, Composition (22 Mfd., 200 Volt)	DS1	322-0172	1	Lamp, Indicator (Green)
C2,3	355-0010	2	Capacitor, Composition (.0022 Mfd., 100 Volt)		322-0175	1	Receptacle, Lamp
C4,8	356-0051	2	Capacitor, Electrolytic (6.8 Mfd., 35 Volt)	1C1	367-0002	1	Integrated Circuit
C5	355-0049	1	Capacitor, Ceramic (22 Mfd., 1000 Volt)	1C2	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)



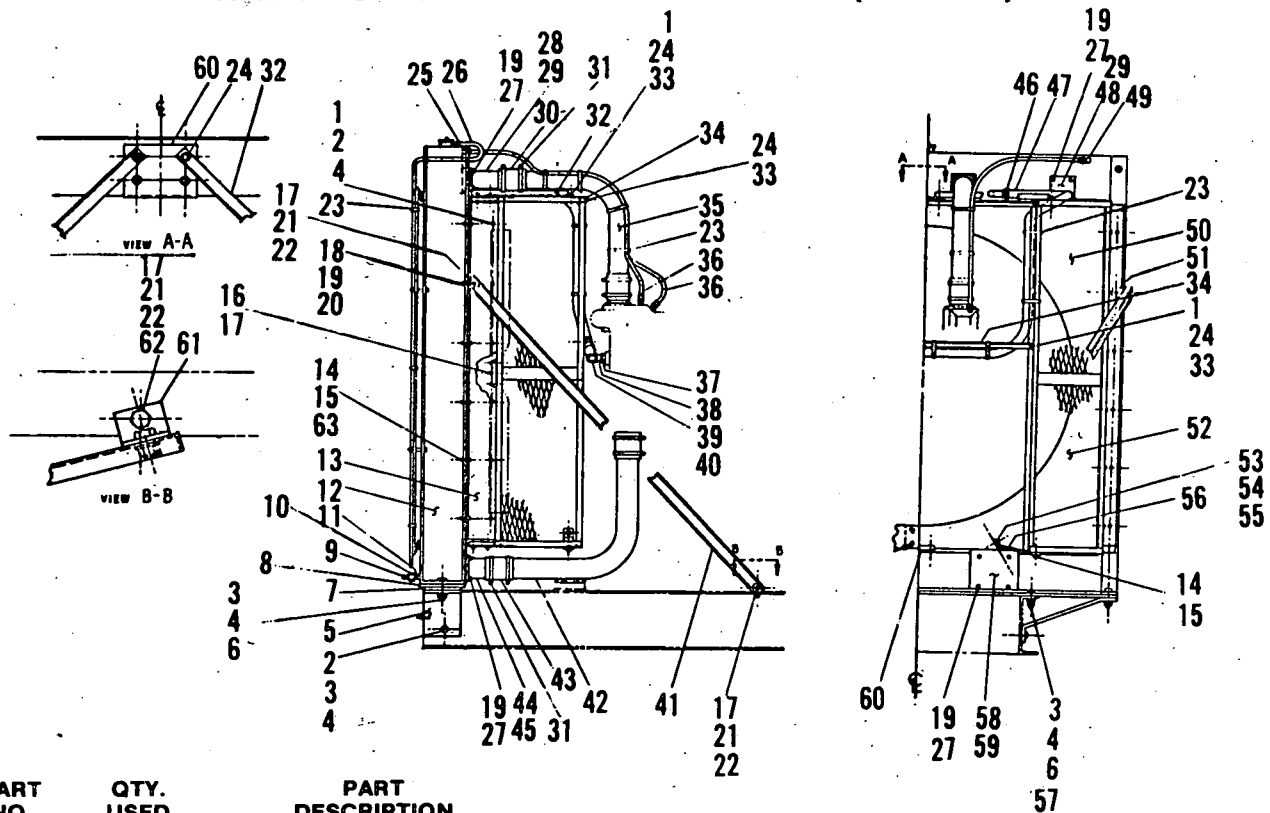
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	300-1574	1	Module, Start Disconnect (Complete)
C1,2,3	356-0051	3	Capacitor, Electrolytic (6.8 Mfd., 35 Volt)
C4,7	356-0066	2	Capacitor, Tantalum (.47 Mfd.)
C5	356-0059	1	Capacitor, Electrolytic (2.2 Mfd)
C6	355-0045	1	Capacitor, Composition (.1 Mfd)
DS1	322-0172	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)
IC1	367-0014	1	Integrated Circuit (Multivibrator)
IC2	367-0013	1	Integrated Circuit (Dual, 2 Input, and Gate)
IC3	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	R12	350-0437	1	Resistor (120,000-Ohm, 1/2 Watt)
IC1	367-0017	1	Integrated Circuit, Counter	R14,15	350-0538	2	Resistor (1,000-Ohm, 1/2 Watt)
IC2	367-0016	1	Integrated Circuit, Timing	R19	350-0380	1	Resistor (510-Ohm, 1/2 Watt)
Q1	362-0038	1	Transistor, Power	R20	350-0387	1	Resistor (1,000-Ohm, 1/2 Watt)
Q2,3,4	362-0011	3	Transistor, Signal	C3	356-0051	1	Capacitor, Electrolytic (6.8 Mfd., 35 Volt)
					322-0175	4	Receptacle, Lamp

RADIATOR COOLING INSTALLATION (179-1056)

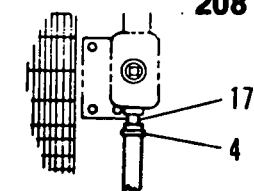


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	526-0018	26	Washer, Flat (17/64" ID x 5/8" OD x 1/16" Thk)
2	800-0156	2	Screw, Cap - Hex Head (3/4-10 x 2-1/4")
3	850-0079	6	Washer, Lock - Spring (3/4")
4	862-0020	6	Nut, Hex (3/4-10)
5	130-1199	2	Support, Radiator
6	800-0159	4	Screw, Cap - Hex Head (3/4-10 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

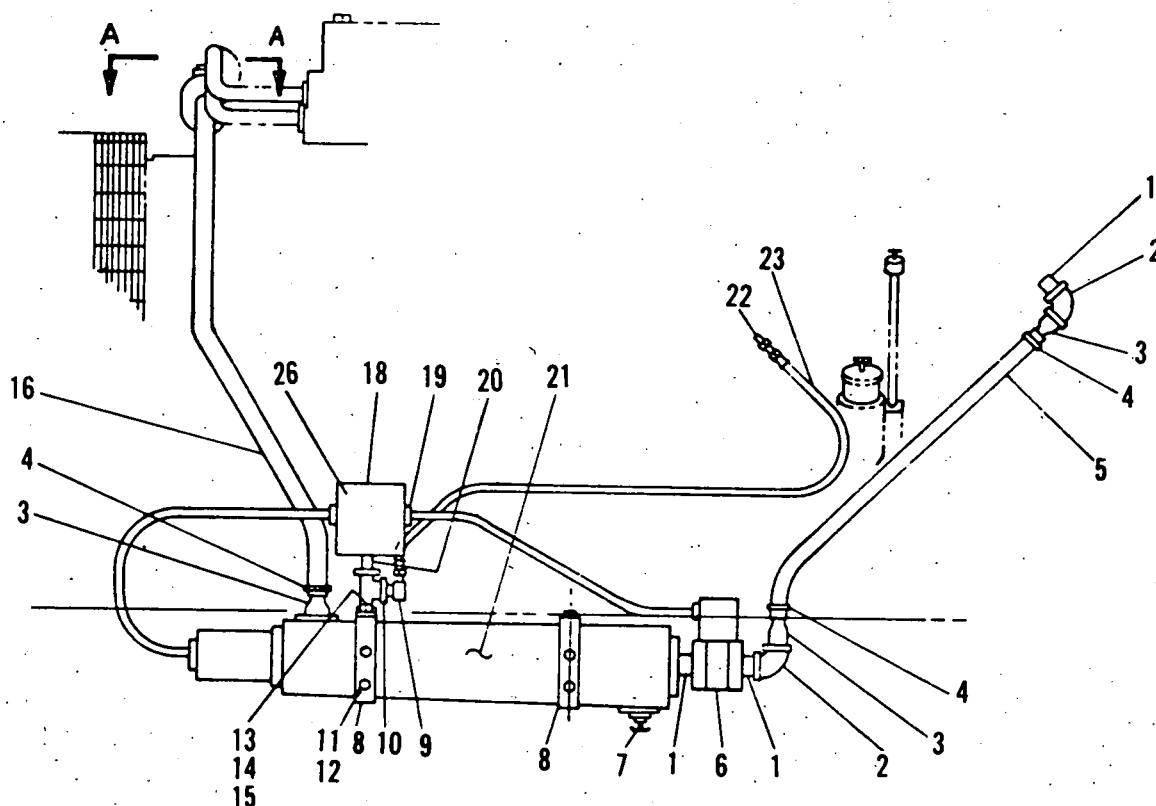
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
31	503-0612	12	Clamp, Hose
32	130-1226	2	Brace, Fan Guard
33	870-0243	6	Nut, Hex - Locking (1/4-20)
34	130-1205	2	Brace, Fan Guard
35	130-1206	2	Tube, Radiator Inlet
36	501-0247	2	Line, Flexible
37	505-0023	1	Bushing, Reducer (1-1/4" to 1")
38	505-0004	1	Nipple, 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

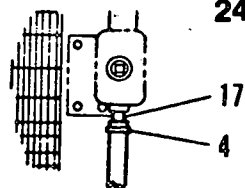


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	505-0004	3	Nipple, Pipe - Close (1 x 1-1/2")
2	505-0041	2	Elbow, Pipe (90° x 1")
3	505-0759	3	Adapter, Pipe
4	503-0429	4	Clamp, Hose
5	503-0847	1	Hose
6	309-0304	1	Switch, Thermostat
7	504-0003	1	Valve, Drain
8	130-1192	2	Bracket, Heater Mounting
9	502-0287	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")

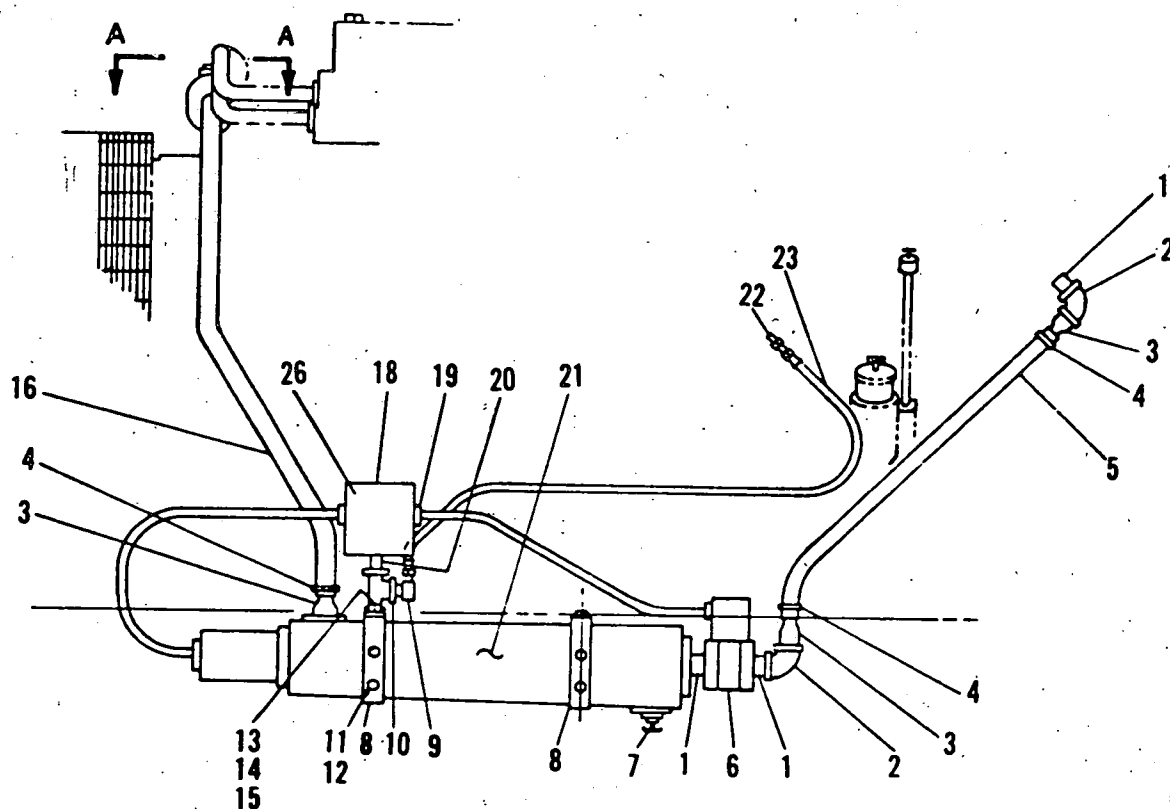
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
14	850-0040	4	Washer, Lock - Spring (1/4")
15	862-0001	4	Nut, Hex (1/4-20)
16	503-0798	1	Hose
17	505-0324	1	Nipple, Pipe - Half (3/4 x 2")
18	309-0307	1	Switch, Oil Pressure
19	508-0008	2	Grommet, Rubber
20	505-0099	1	Nipple, Pipe - Close (1/4 x 7/8")
21	333-0143	1	Heater, Coolant (208 Volt)
22	502-0193	1	Connector, Male
23	501-0199	1	Line, Flex - Oil
24	323-0957	2	Connector
25	332-0149	2	Terminal

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

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



VIEW A-A

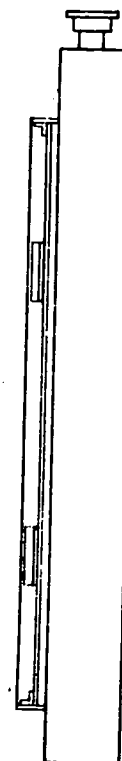
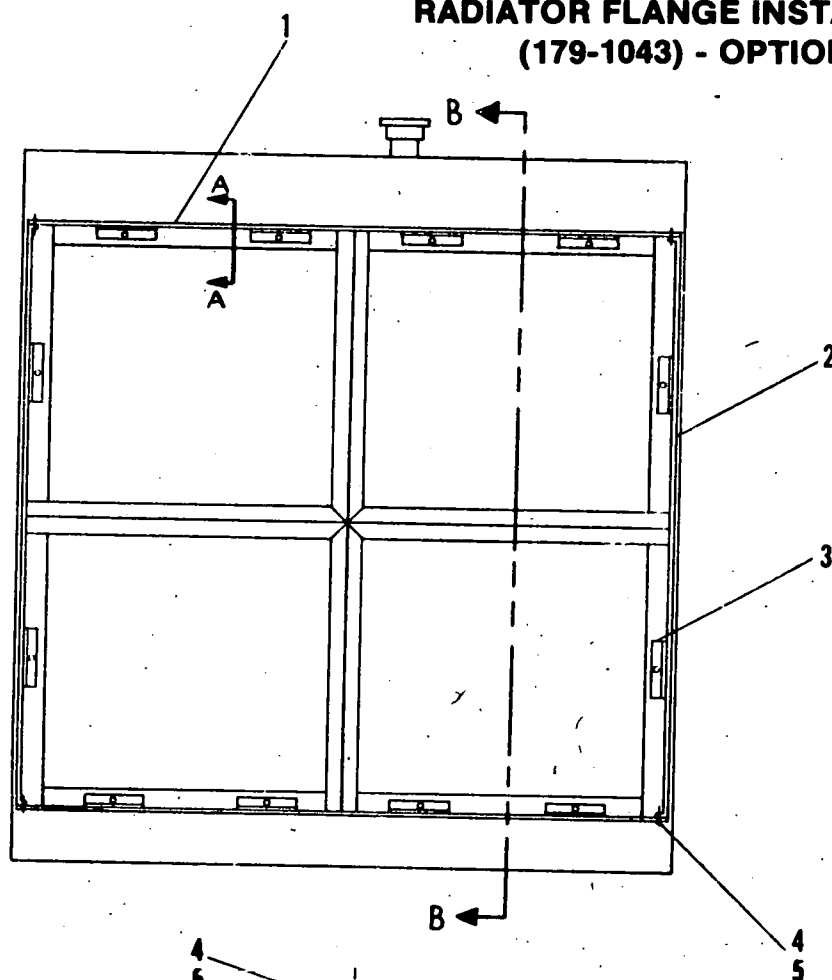


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	505-0004	3	Nipple, Pipe - Close (1 x 1-1/2")
2	505-0041	2	Elbow, Pipe (90° x 1")
3	505-0759	3	Adapter, Pipe
4	503-0429	4	Clamp, Hose
5	503-0847	1	Hose
6	309-0304	1	Switch, Thermostat
7	504-0003	1	Valve, Drain
8	130-1192	2	Bracket, Heater Mounting
9	502-0287	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")

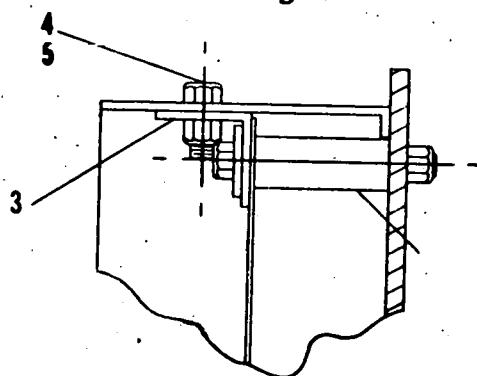
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
14	850-0040	4	Washer, Lock - Spring (1/4")
15	862-0001	4	Nut, Hex (1/4-20)
16	503-0798	1	Hose
17	505-0324	1	Nipple, Pipe - Half (3/4 x 2")
18	309-0307	1	Switch, Oil Pressure
19	508-0008	2	Grommet, Rubber
20	505-0099	1	Nipple, Pipe - Close (1/4 x 7/8")
21	333-0136	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

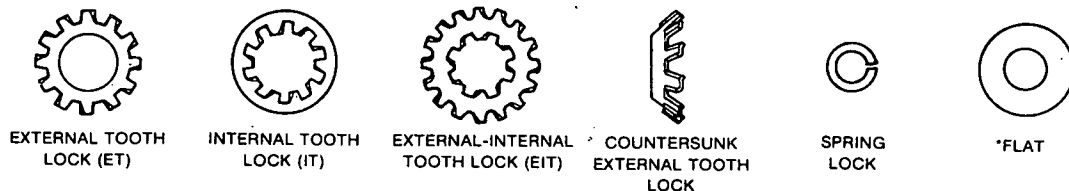
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	130-1115	2	Flange, Radiator (top and bottom)
2	130-1114	2	Flange, Radiator (sides)
3	370-1025	12	Support, Angle
4	862-0001	16	Nut, Hex (1/4-20)
5	821-0010	16	Screw, Cap - Hex Head (1/4-20 x 1/2")

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

HARDWARE IDENTIFICATION

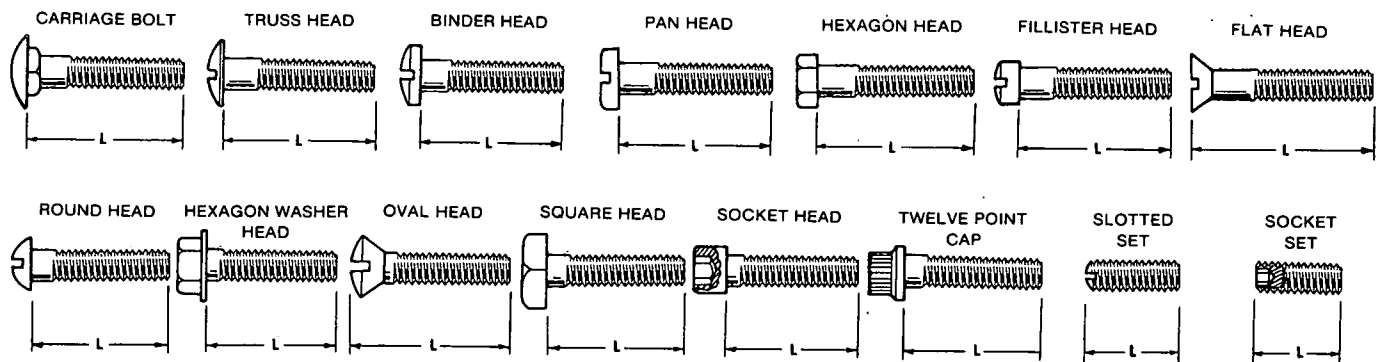
Illustrated hardware items are only for identification purposes. All hardware items listed throughout this parts catalog are steel SAE grade five (5) or lower (zinc plated with clear chromate dip) unless parts description indicates differently. All dimensions are in inches.

WASHER TYPES



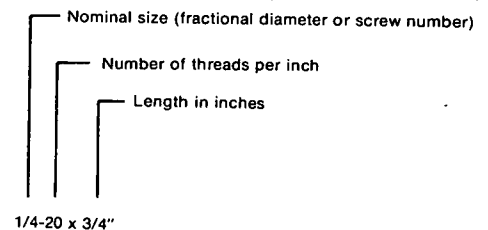
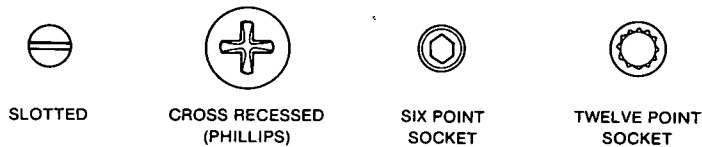
* - Flat washer dimensions given are: Inside Diameter (ID), Outside Diameter (OD) and Thickness (Thk).

BOLT AND SCREW TYPES



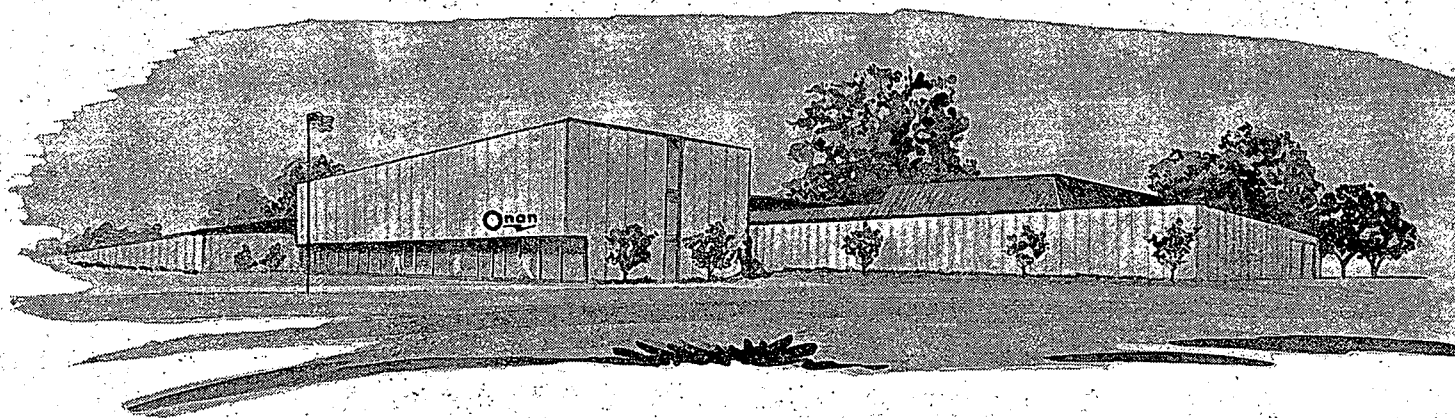
L - Measure length between these points.

INTERNAL DRIVE TYPES



NUT TYPES





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