

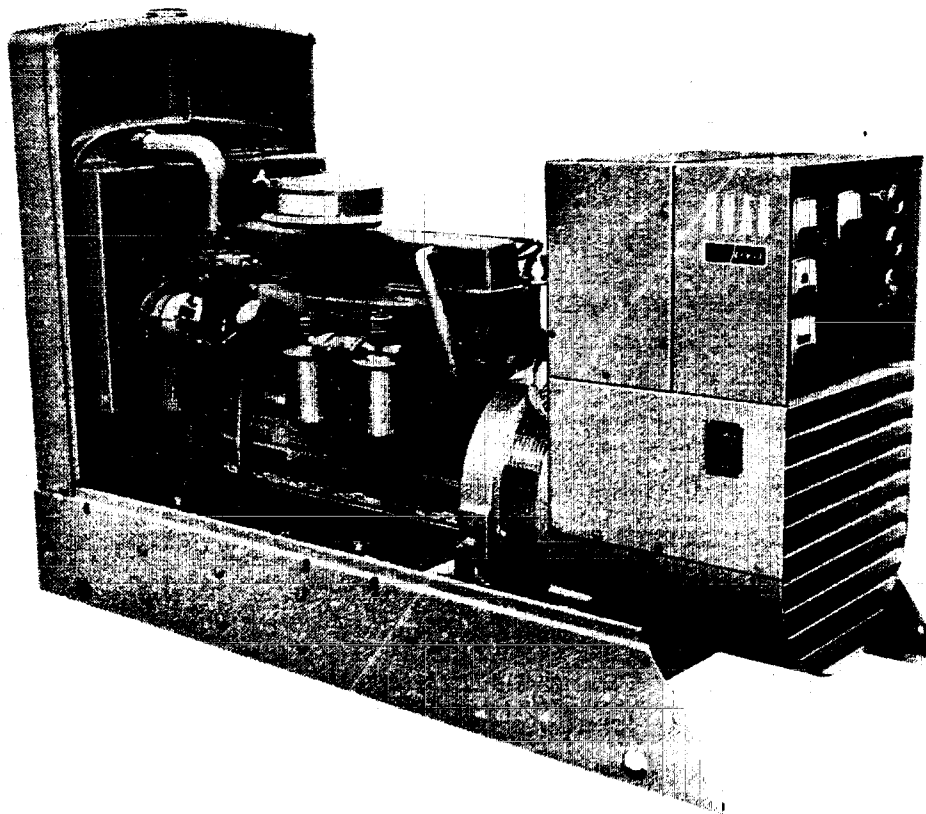
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has gaps in its page
numbers, or doesn't
have any numbers.
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order that Acrobat
assigns it.

Parts Catalog

SERIES

DYJ

GenSet



973-0226

Printed in U S A

8-80 (SPECS A-D)
Replaces
6-79 (Specs A-D)

A1

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973-0226 DYJ PARTS CATALOG

This catalog applies to the DYJ generator sets listed below. Engine parts modified or added by Onan will be in this list and have Onan part numbers. These supersede similar parts listed in the Allis-Chalmers manual. Onan parts are arranged in groups of related items and are identified by a reference. All part illustrations are typical. Using the Model and Specification from the Onan nameplate, select the parts from this catalog that apply to your set.

GENERATING SET DATA TABLE

MODEL AND SPEC NO.	ELECTRICAL DATA				
	WATTS	VOLTS	HERTZ	WIRE	PHASE
37.5DYJ-515R/*	37,500	£	50	12	3
45.0DYJ-3R/*	45,000	120/240	60	3	1
45.0DYJ-9XR/*	45,000	347/600	60	4	3
45.0DYJ-15R/*	45,000	£	60	12	3

* - The Specification letter advances (A to B, B to C, etc.) with Manufacturing Changes.

£ - These Sets are reconnectable (broad range). Refer to Wiring Diagram inside AC Control Box Panel.

REPLACEMENT ENGINE

100-1259

1

Engine, Replacement (Allis-Chalmers Model 2800 Mark I)

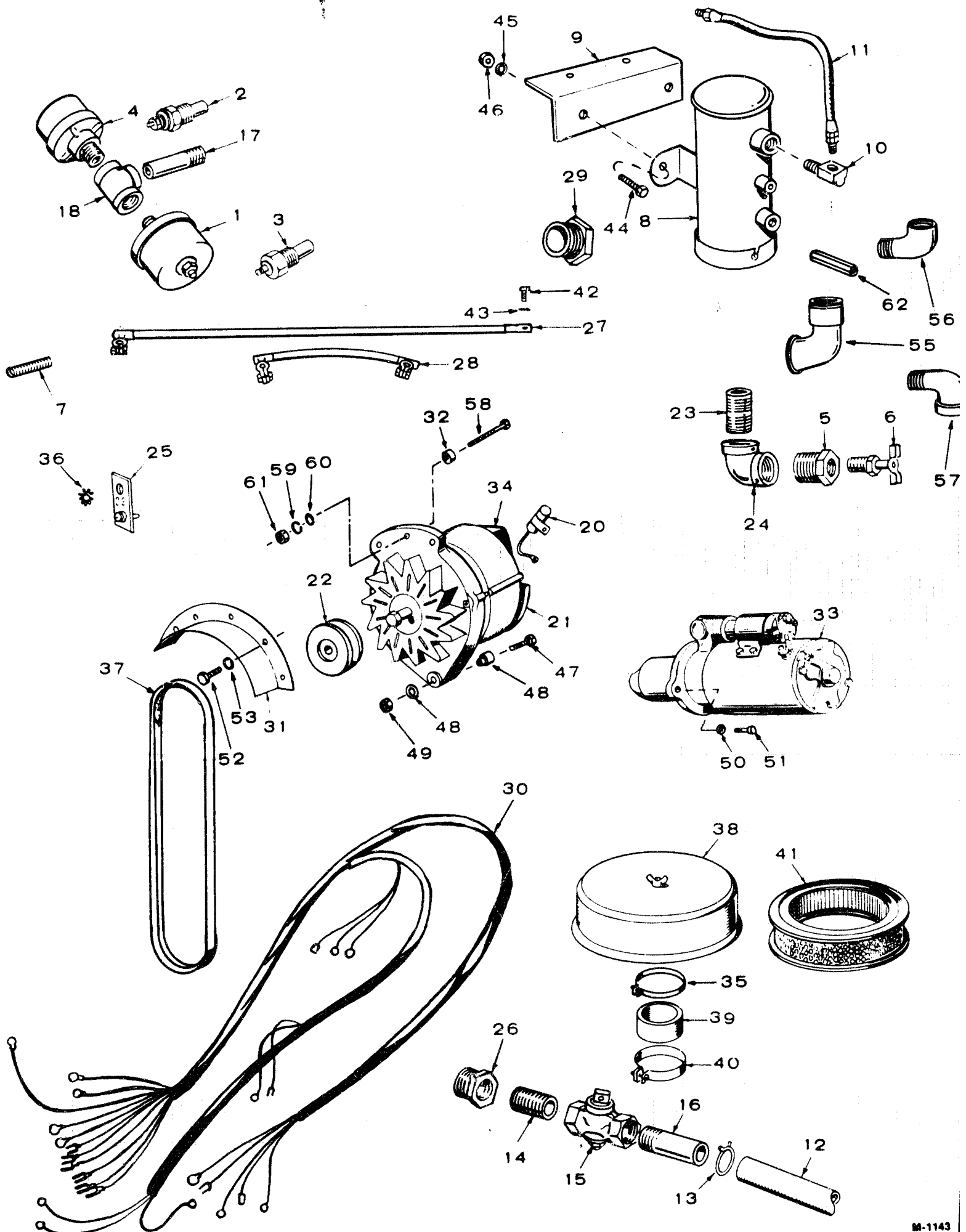
General Description

Includes—Complete Cylinder Block, Fuel Pump, Fuel Filter, Oil Filter, Governor, Fan Blades (pusher type), Flywheel, Water Pump, Oil Pan, Exhaust Manifold, Fan Belt and Fuel Shut-off Valve.

Excludes—Alternator, Alternator Mounting Brackets, Alternator Belt, Temperature Sender, Oil Pressure Sender, Starter, Radiator and Air Cleaner.

NOTE: Replacement engine is for standard Spec 1 generator sets. For all other Specs refer to factory.

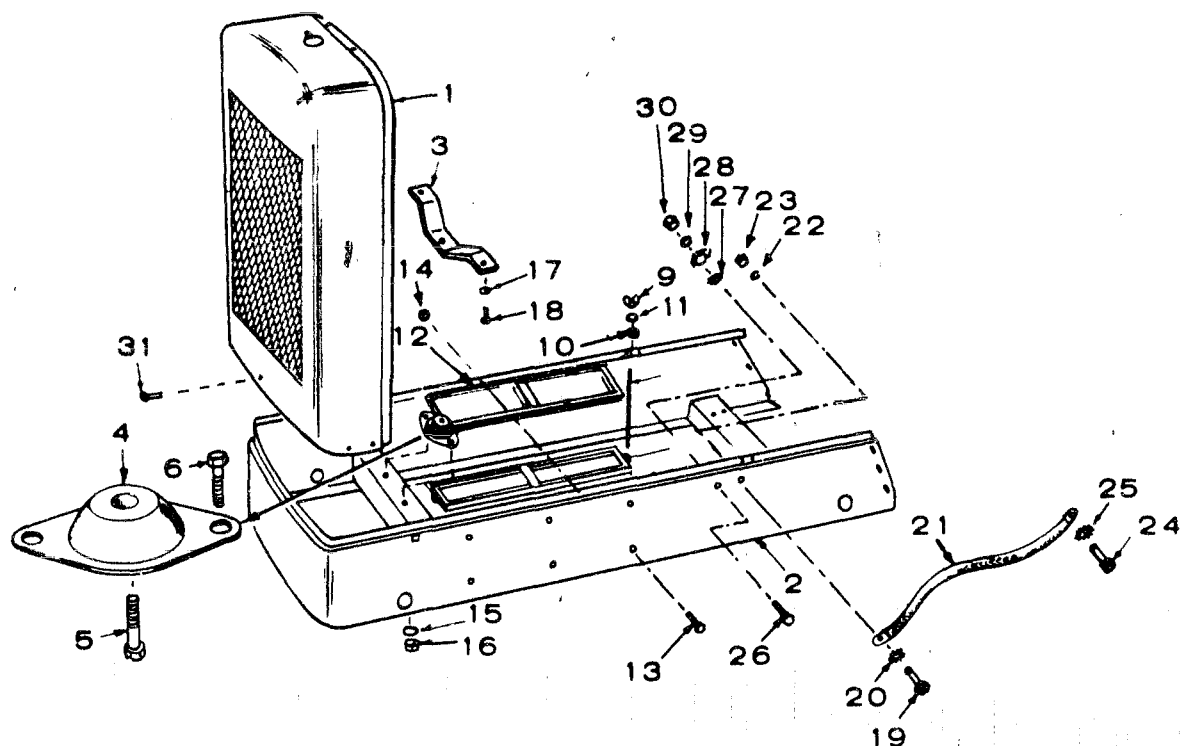
MISCELLANEOUS ENGINE PARTS



MISCELLANEOUS ENGINE PARTS

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	SENDER, OIL PRESSURE GAUGE			30	338-0519	1	Harness, Wiring - Engine Control
	193-0108	1	Spec A Only	31	191-0725	1	Guard, Alternator Belt
	193-0244	1	Begin Spec B	32	191-0791	1	Spacer, Alternator Adjusting
2	SENDER, WATER TEMPERATURE GAUGE			33	191-0721	1	Motor, Starting
	193-0109	1	Spec A Only	34	191-0732	1	Regulator, Voltage (Part of Alternator)
	193-0247	1	Begin Spec B	35	503-0354	1	Clamp, Hose (Air Cleaner)
3	309-0179	1	Switch, Hi Water Temperature	36	856-0008	1	Washer (5/16"), Shakeproof EIT - Terminal Bracket Mtg.
4	309-0169	1	Switch, Low Oil Pressure	37	511-0095	1	Belt, Alternator Drive
5	505-0117	1	Bushing (1/2 x 3/8"), Producer - Block Drain	38	140-1091	1	Cleaner, Air (Includes Element)
6	504-0028	1	Valve (3/8"), Drain - Block	39	503-0597	1	Hose, Air Cleaner
7	134-1437	1	Spring, Injection Pump Lever	40	503-0648	1	Clamp, Hose (Air Cleaner)
8	149-0554	1	Pump (Electric), Fuel (See Separate Group for Components)	41	140-1089	1	Element, Air Cleaner
9	149-1162	1	Bracket, Fuel Pump Mounting	42	800-0069	1	Screw, Cap - Hex Head - Battery Cable to Ground (7/16-14 x 3/4)
10	502-0002	1	Elbow, Fuel Pump Inlet	43	856-0012	1	Washer, Lock - EIT (7/16")
11	501-0002	1	Line (7"), Fuel - Flexible	44	821-0010	2	Screw, Cap - Hex Head Locking (1/4-20 x 1/2")
12	503-0808	1	Hose, Oil Drain	45	850-0040	2	Washer, Lock - Spring (1/4")
13	503-0197	1	Clamp, Oil Drain	46	862-0001	2	Nut, Hex (1/4-20)
14	505-0100	1	Nipple (1/2"), Close - Oil Drain	47	800-0059	1	Screw, Cap - Hex Head (3/8-16 x 3-1/4")
15	504-0011	1	Valve, Oil Drain	48	850-0050	2	Washer, Lock - Spring (3/8")
16	505-0185	1	Nipple (1/2 x 1-1/2"), Half - Oil Drain	49	862-0003	2	Nut, Hex (3/8-16)
17	505-0104	1	Nipple (1/8 x 1-1/2"), Close - Oil Sender and Switch	50	800-0055	3	Screw, Cap - Hex Head (3/8-16 x 2-1/4")
18	505-0059	1	Tee (1/8") - Oil Sender and Switch	51	850-0050	3	Washer, Lock - Spring (3/8")
19	191-0873	1	Spacer, Alternator Mounting	52	800-0024	1	Screw, Cap - Hex Head (5/16-18 x 1/2")
20	312-0058	1	Condenser, Alternator	53	850-0045	1	Washer, Lock - Spring (5/16")
21	191-0665	1	Alternator, Charge (Includes Fan)	54	LINE, FUEL		
22	191-0649	1	Pulley, Alternator		501-0225	1	Outlet
23	505-0099	1	Nipple (1/4 x 7/8"), Close - Block Drain		501-0227	1	Inlet
24	505-0038	1	Elbow (1/4 x 90°), Pipe - Block Drain	55	155-0996	1	Elbow, Exhaust
25	332-1292	1	Bracket, Terminal Mounting	56	502-0020	1	Elbow, Street
26	102-0778	1	Adapter, Oil Drain	57	502-0024	1	Elbow, Male
27	CABLE, BATTERY			58	800-0031	1	Screw, Cap - Hex Head (5/16-18 x 1-1/2")
	416-0618	1	Positive (42")	59	850-0045	1	Washer, Lock - Spring (5/16")
	416-0619	1	Negative (18")	60	526-0030	1	Washer, Flat (13/32" ID x 7/8" OD x 1/8" Thk)
28	416-0446	1	Cable, Battery Jumper	61	862-0015	1	Nut, Hex (5/16-18)
29	502-0429	1	Adapter, Fuel Line	62	502-0051	1	Coupling, Hex (1/8")

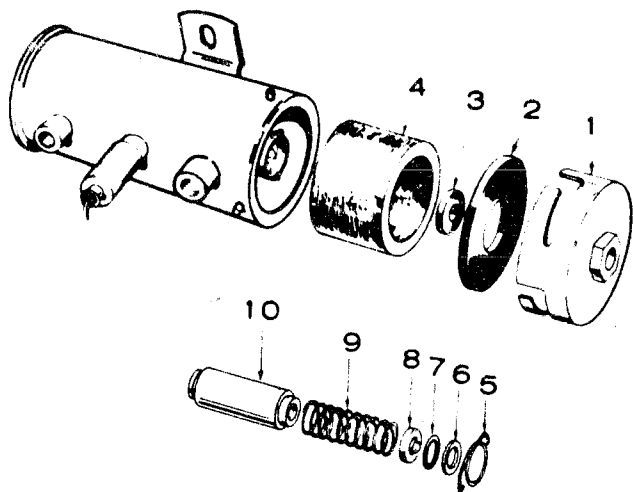
CHASSIS



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	405-1153	1	Panel, Front
2	403-0900	1	Chassis, Mounting
3	403-0908	1	Support, Engine Mount
4	402-0030	1	Mount, Vibration - Engine
5	800-0520	1	Screw, Cap - Hex Head (3/4-10 x 1")
6	800-0090	2	Screw, Cap - Hex Head (1/2-13 x 1")
7	416-0480	1	Frame, Battery Holddown
8	520-0663	2	Stud, Battery Holddown
9	865-0007	2	Nut, Wing (5/16-18)
10	526-0115	2	Washer, Flat (11/32" ID x 11/16" OD x 1/16" Thk)
11	850-0045	2	Washer, Lock - Spring (5/16")
12	416-0666	1	Tray, Battery
13	821-0029	6	Screw, Cap - Hex Head Locking (3/8-16 x 3/4")
14	870-0281	6	Nut, Hex - Locking (3/8-16)
15	850-0060	2	Washer, Lock - Spring (1/2")
16	862-0016	2	Nut, Hex (1/2-13)

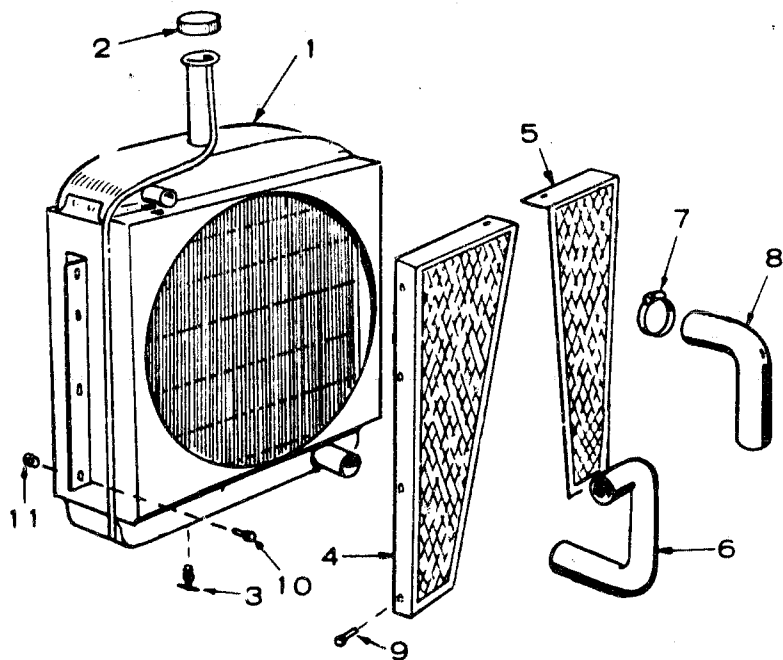
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
17	850-0055	2	Washer, Lock - Spring (7/16")
18	800-0073	2	Screw, Cap - Hex Head (7/16-14 x 1-1/2")
19	800-0091	1	Screw, Cap - Hex Head (1/2-13 x 1-1/4")
20	856-0013	1	Washer, Lock - EIT (1/2")
21	337-0090	1	Strap, Ground
22	850-0060	1	Washer, Lock - Spring (1/2")
23	862-0016	1	Nut, Hex (1/2-13)
24	800-0071	1	Screw, Cap - Hex Head (7/16-14 x 1")
25	856-0012	1	Washer, Lock - EIT (7/16")
26	800-0028	1	Screw, Cap - Hex Head (5/16-18 x 1")
27	856-0008	1	Washer, Lock - EIT (5/16")
28	332-1473	1	Lug, Solderless
29	850-0045	1	Washer, Lock - Spring (5/16")
30	862-0015	1	Nut, Hex (5/16-18)
31	821-0014	8	Screw, Cap - Hex Head Locking (5/16-18 x 1/2")

FUEL PUMP (ELECTRIC)

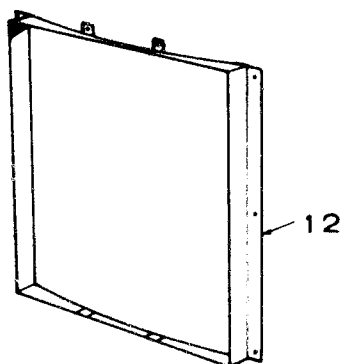


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	149-0554	1	Pump, Fuel (Complete)
1	149-1453	1	Cover
2	149-1446	1	Gasket, Cover
3	149-1447	1	Magnet
4	149-1445	1	Filter
5	149-1448	1	Retainer, Cup and Plunger
6	149-1449	1	Washer, Cup Gasket
7	149-1450	1	Gasket, Spring Cup
8	149-1451	1	Spring Cup and Valve
9	149-0705	1	Spring, Plunger Return
10	149-1452	1	Plunger

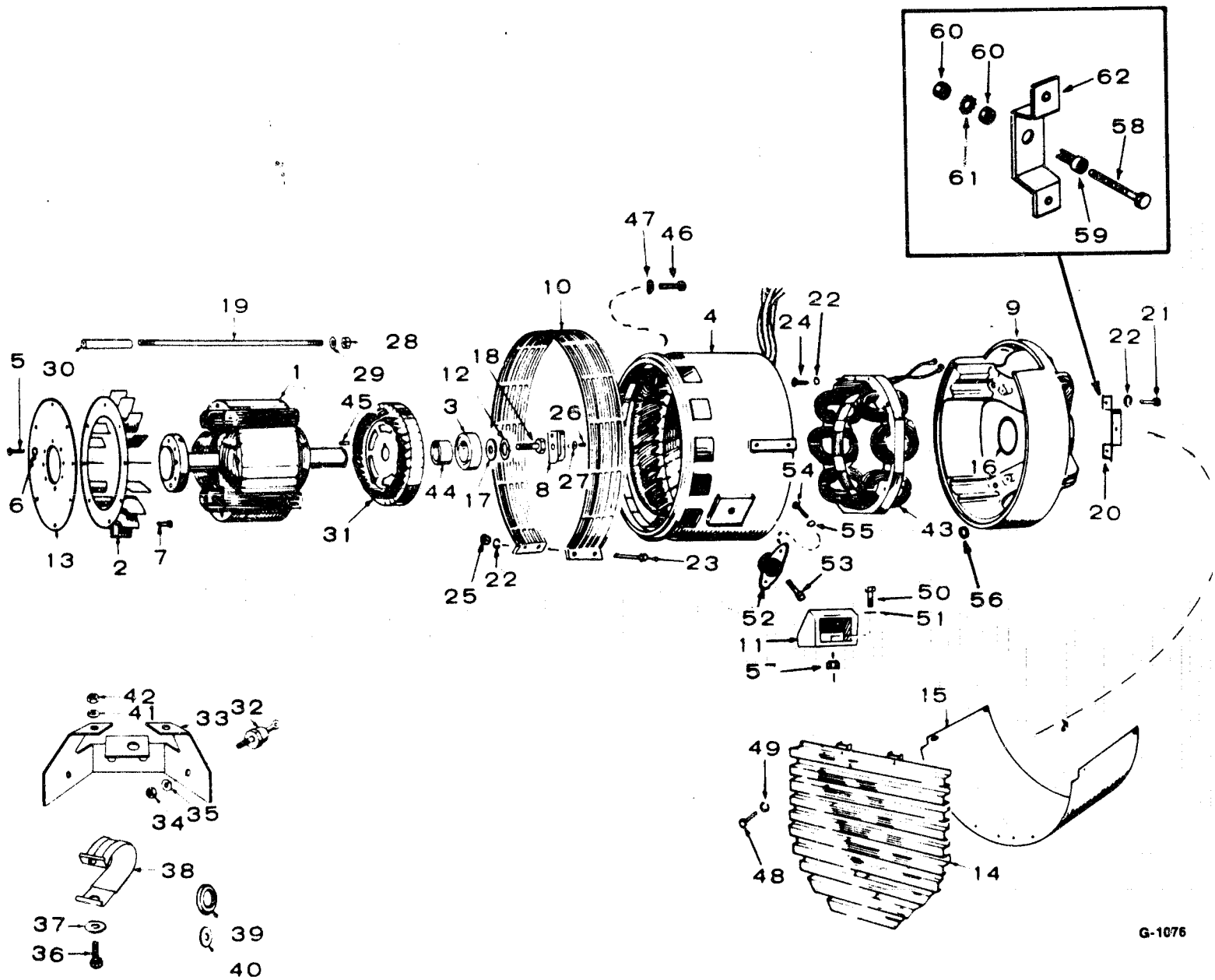
COOLING SYSTEM



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	130-0809	1	Radiator
2	130-0449	1	Cap, Radiator
3	504-0028	1	Valve, Radiator Drain
4	130-0810	1	Guard, Fan (R.H.)
5	130-0811	1	Guard, Fan (L.H.)
6	503-0595	1	Hose, Radiator - Lower
7	503-0365	4	Clamp, Hose
8	503-0594	1	Hose, Radiator - Upper
9	821-0010	10	Screw (1/4-20 x 1/2"), Self Locking - Fan Guard Mounting
10	821-0014	8	Screw (5/16-18 x 1/2"), Self Locking - Radiator Mounting
11	870-0113	8	Nut (5/16-18), Retainer - Radiator Mounting
12	405-1182	1	Flange, Radiator - Optional



GENERATOR



G-1076

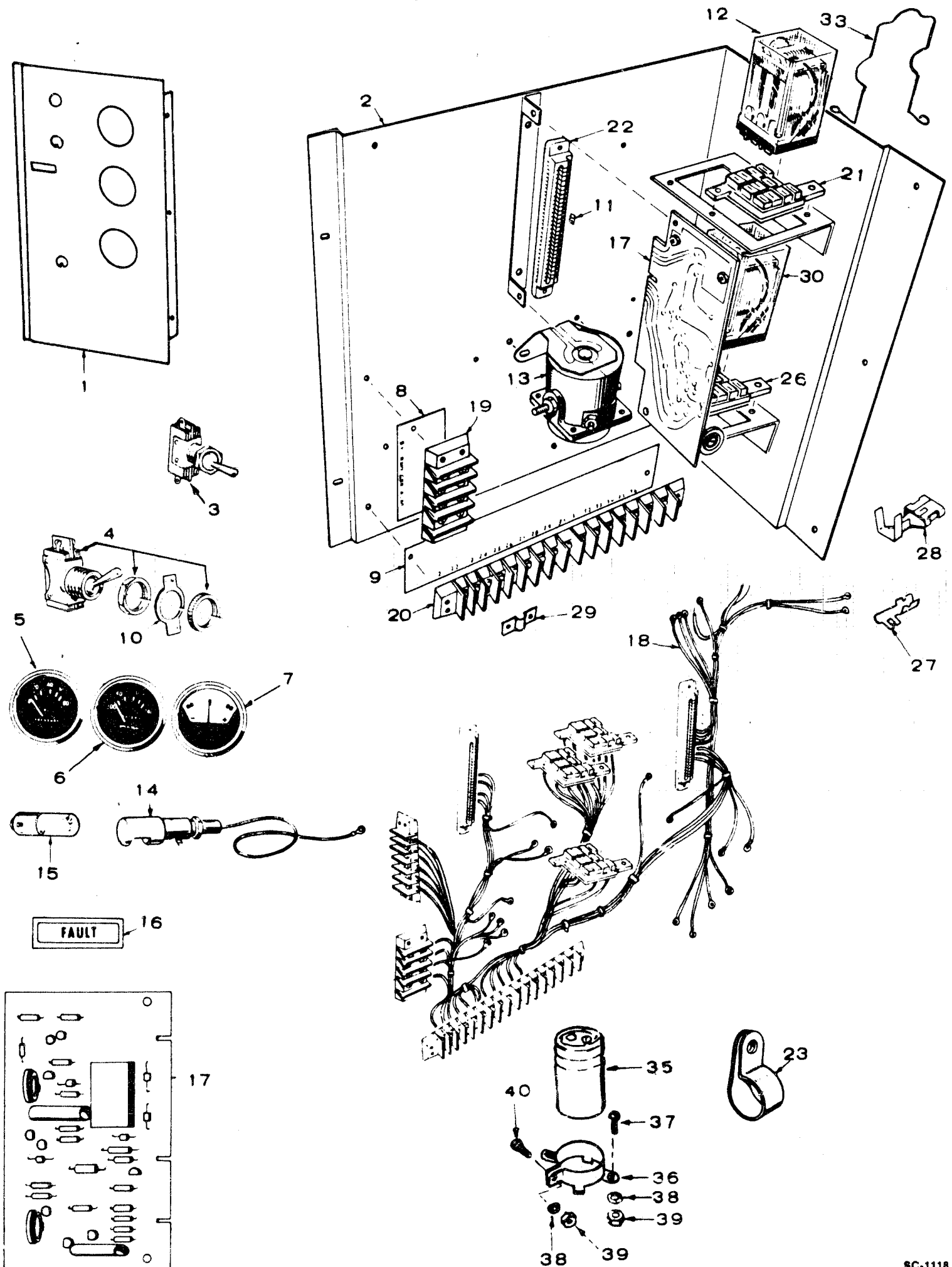
GENERATOR

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	ROTOR ASSEMBLY, WOUND (INCLUDES PARTS MARKED ▲)		
			Specs A and B
	201-1719	1	15R, 9XR and 515R Sets
	201-1721	1	3R Sets
			Begin Spec C
	201-2669	1	15R, 9XR, 515R Sets
	201-2671	1	3R Sets
2	205-0089	1	▲Blower
3	510-0101	1	▲Bearing
4	STATOR ASSEMBLY, WOUND		
	220-1554	1	3R Sets
	220-1454	1	15R Sets
	220-1602	1	9XR Sets
	220-1997	1	515R Sets
5	805-0033	8	▲Bolt, Place (5/8-11 x 1")
6	526-0259	8	▲Washer, Flat (11/16" ID x 1-3/8" OD x 12 Ga. Thk)
7	805-0018	8	Bolt, Place (3/8-16 x 1")
8	150-0717	1	Switch, Overspeed
9	211-0185	1	Bell, End
10	234-0368	1	Screen
11	232-2106	2	Bracket, Generator Mtg - Spec A
12	850-0079	1	▲Washer, Lock - Spring (3/4")
13	232-2078	1	▲Disc, Generator Drive
14	234-0370	1	Grille, Generator Air Inlet
15	234-0361	1	Wrapper, Generator End Bell
16	509-0125	1	Seal, "O" Ring
17	526-0238	1	▲Washer, Flat (13/16" ID x 2" OD x 3/16" Thk)
18	800-0513	1	▲Screw, Cap - Hex Head (3/4-10 x 1-1/2")
19	STUD, GENERATOR THROUGH		
	520-0723	4	3R Sets
	520-0721	4	9XR, 15R and 515R Sets
20	150-1456	1	Bracket and Point Assy. - Overspeed (Includes Parts Marked †)
21	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")
22	850-0040	8	Washer, Lock - Spring (1/4")
23	800-0008	2	Screw, Cap - Hex Head (1/4-20 x 1-1/4")
24	800-0009	4	Screw, Cap - Hex Head (1/4-20 x 1-1/2")
25	862-0001	2	Nut, Hex (1/4-20)
26	812-0189	1	Screw, Machine - Round Head (3/8-16 x 3/4")
27	856-0010	1	Washer, Lock - EIT (3/8")
28	862-0011	4	Nut, Hex (3/8-16)
29	850-0050	4	Washer, Lock - Spring (3/8")

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
30	503-0611	4	Hose, Insulator
31	201-1739	1	▲Rotor Assembly, Wound - Exciter (Includes Parts Marked *)
32	RECTIFIER, DIODE		
	358-0015	3	*Negative
	358-0016	3	*Positive
33	HEAT SINK, DIODE		
	363-0055	1	*Negative
	363-0054	1	*Positive
34	870-0053	6	*Nut, Hex (#10-32)
35	850-0030	6	*Washer, Lock - Spring (#10)
36	813-0110	4	*Screw, Machine - Round Head (#10-32 x 2")
37	526-0009	4	*Washer, Flat (7/32" ID x 1/2" OD x 1/16" Thk)
38	332-0050	2	*Clip, Wire
39	508-0187	4	*Bushing, Insulator
40	508-0156	4	*Washer, Insulating
41	850-0030	4	*Washer, Lock - Spring (#10)
42	870-0053	4	*Nut, Hex (#10-32)
43	220-1774	1	Stator Assembly, Wound - Exciter
44	232-2102	1	▲Spacer, Bearing
45	515-0145	1	▲Key, Exciter Rotor
46	800-0052	8	Screw, Cap - Hex Head (3/8-16 x 1-1/2")
47	850-0050	8	Washer, Lock - Spring (3/8")
48	812-0146	4	Screw, Machine - Round Head (1/4-20 x 3/8")
49	850-0040	4	Washer, Lock - Spring (1/4")
50	800-0091	4	Screw, Cap - Hex Head (1/2-13 x 1-1/4") - Spec A
51	850-0060	4	Washer, Lock - Spring (1/2") - Spec A
52	402-0030	2	Mount, Vibration - Generator
53	800-0520	2	Screw, Cap - Hex Head (3/4-10 x 1")
54	800-0071	4	Screw, Cap - Hex Head (7/16-14 x 1")
55	850-0055	4	Washer, Lock - Spring (7/16")
56	508-0093	2	Grommet, Rubber
57	862-0004	4	Nut, Hex (7/16-14)
58	150-0723	1	†Point, Overspeed Switch
59	870-0250	1	†Nut, Insulation
60	862-0001	2	†Nut, Hex (1/4-20)
61	853-0013	1	†Washer, Lock - ET (1/4")
62	150-1356	1	†Bracket, Overspeed Cam

- ▲ - Parts included in the complete Wound Rotor Assembly.
 * - Parts included in 201-1739 Exciter Rotor Assembly.
 † - Parts included in 150-1456 Bracket and Point Assembly.

CONTROL (ENGINE PORTION)

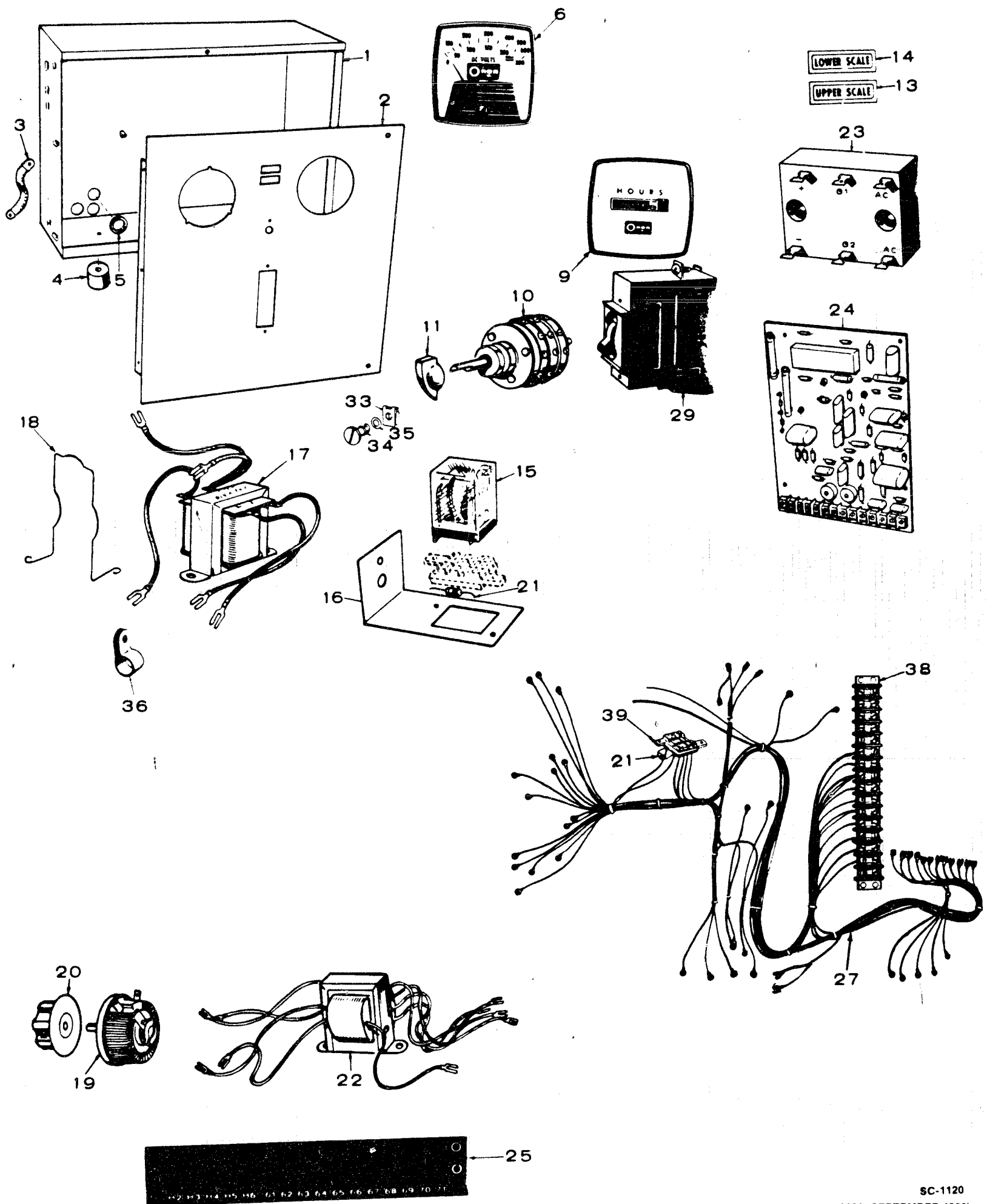


CONTROL (ENGINE PORTION)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	301-3165	1	Panel, Engine Control	20	332-0795	1	*Block, Terminal (16 Place)
2	301-3253	1	Bracket, Control Mounting	21	323-0765	2	*Socket, Relay
3	308-0138	1	Switch, Toggle (SPDT)	22	332-1271	2	*Housing, Connector (PC Boards)
4	308-0002	1	Switch, Toggle (SPST) - Spec A	23	332-0051	1	Clamp, Loop
5	GAUGE, OIL PRESSURE			26	323-0764	1	*Socket, Relay
	193-0107	1	Spec A	27	332-1269	As Req	*Contact, Electrical (PC Boards)
	193-0243	1	Begin Spec B	28	332-1280	As Req	*Terminal, Lug
6	GAUGE, WATER TEMPERATURE			29	332-1043	1	*Jumper
	193-0106	1	Spec A	30	307-1061	1	Relay, Starter Protection
	193-0245	1	Begin Spec B	33	307-1157	3	Clip, Relay Retaining
7	302-0061	1	Ammeter, Charge (30-0-30)	35	356-0072	1	Capacitor - Begin Serial #780293785 During Spec B
8	332-1239	1	Strip, Marker (B+, Remote, Ground-Alarm)	36	356-0070	1	Bracket, Capacitor - Begin Serial #780293785 During Spec B
9	332-1241	1	Strip, Marker (21 thru 26)	37	812-0063	2	Screw, Machine - Round Head (#6-32 x 1/2") - Begin Serial #780293785 During Spec B
10	308-0003	1	Plate, Switch (On-Off) - Spec A	38	853-0003	3	Washer, Lock - ET (#6) - Begin Serial #780293785 During Spec B
11	332-1276	2	Plug, Keying	39	860-0006	3	Nut, Hex (#6-32) - Begin Serial #780293785 During Spec B
12	307-1058	2	Relay (1) Start Disconnect (1) Ignition	40	812-0061	1	Screw, Machine - Round Head (#6-32 x 3/8") - Begin Serial #780293785 During Spec B
13	307-1031	1	Relay, Start Solenoid				
14	322-0149	1	Light, Panel - Spec A				
15	322-0004	1	Lamp - Spec A				
16	322-0128	1	Light, Indicator - Fault				
17	MODULE, CONTROL (SEE SEPARATE GROUP FOR COMPONENTS)						
	300-0679	1	Engine Monitor				
	300-0733	1	Cranker				
18	HARNESS, WIRING (Includes Parts Marked *)						
	338-0528	1	Spec A				
	338-1065	1	Begin Spec B				
19	332-0537	1	*Block, Terminal (4 Place)				

* - Parts included in Wiring Harness.

CONTROL (AC PORTION)

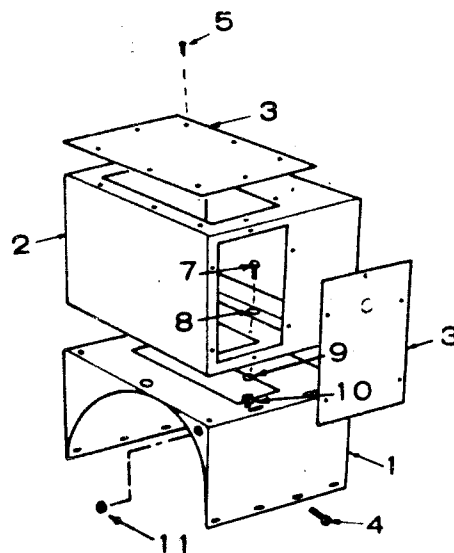


CONTROL (AC PORTION)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	301-3158	1	Box, Control
2	PANEL, CONTROL BOX		
	301-3822	1	3R Sets
	301-3821	1	9XR Sets
	301-3274	1	15R and 515R Sets
3	337-0049	1	Strap, Bond
4	402-0078	4	Dampener, Vibration
5	508-0001	4	Grommet, Rubber (1-1/16")
6	VOLTMETER, AC		
	302-0421	1	3R Sets (0-300)
	302-0779	1	9XR Sets (0-750)
	302-0718	1	15R and 515R Sets (0-300, 0-600)
9	METER, RUNNING TIME		
	302-0466	1	60 Hertz
	302-0469	1	50 Hertz
10	308-0012	1	Switch, Selector - 9XR, 15R and 515R Sets
11	303-0076	1	Knob, Selector Switch - 9XR, 15R and 515R Sets
13	322-0131	1	Light, Upper Scale - 15R and 515R Sets
14	322-0130	1	Light, Lower Scale - 15R and 515R Sets
15	307-1061	1	Relay, Voltage Selector - 15R and 515R Sets
16	301-3244	1	Bracket, Relay Mounting - 15R and 515R Sets

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
17	315-0384	1	Reactor
18	307-1157	1	Spring, Relay Holddown
19	303-0170	1	Rheostat, Voltage Adjustment
20	303-0032	1	Knob, Rheostat
21	350-0556	1	*Resistor - 15R and 515R Sets
22	TRANSFORMER, VOLTAGE		
	315-0342	1	Spec A
	315-0431	1	Begin Spec B
23	305-0524	1	Rectifier, Bridge
24	BOARD ASSEMBLY, PRINTED CIRCUIT (See Separate Group for Components)		
	332-1268	1	Spec A
	332-1956	1	Begin Spec B
25	STRIP, MARKER		
	332-1242	1	3R Sets
	332-1248	1	9XR, 15R and 515R Sets
27	HARNESS ASSEMBLY, WIRING - AC CONTROL (Includes Parts Marked *)		
	338-0765	1	3R Sets
	338-0766	1	9XR Sets
	338-0764	1	15R and 515R Sets
29	320-0431	1	Breaker, Circuit
33	406-0332	2	Receptacle, Fastener
34	406-0333	2	Stud, Fastener
35	406-0334	2	Washer, Stud Fastener
36	332-0051	1	Clip, Tinnerman
38	332-0607	1	*Block, Terminal (12 Place)
39	323-0764	1	*Socket, Relay - 15R and 515R Sets

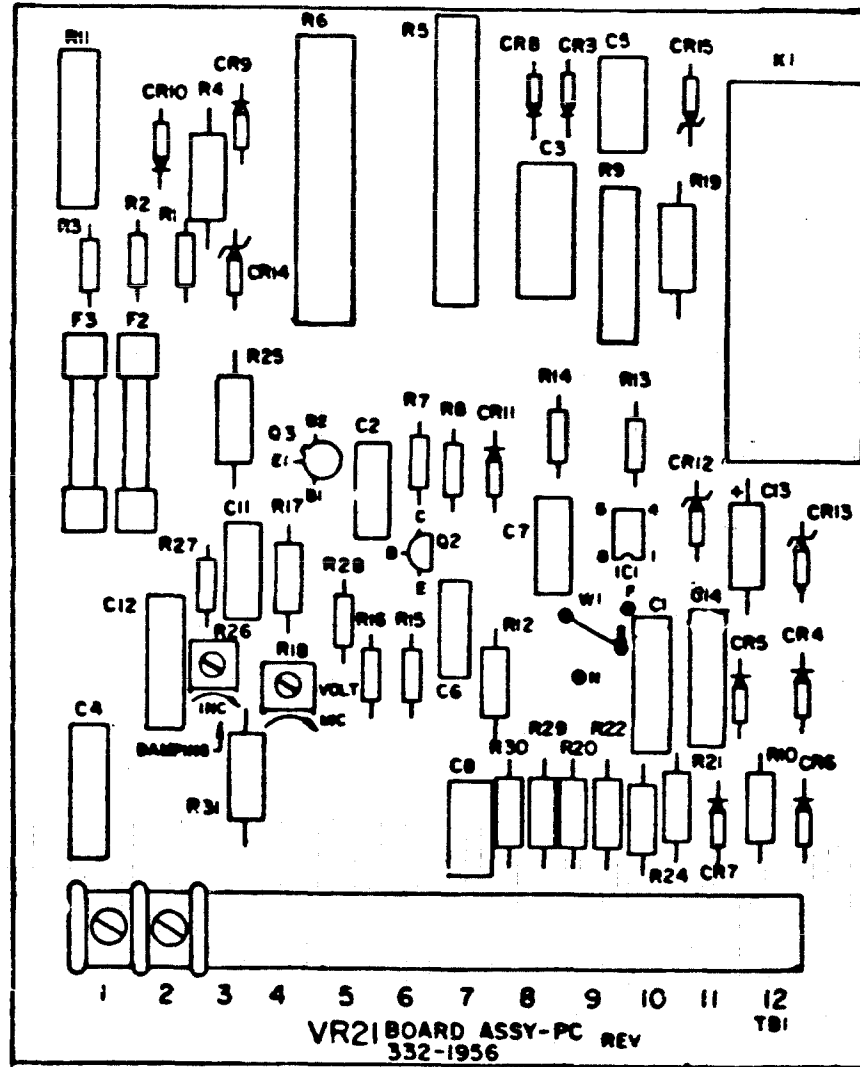
CONTROL HOUSING



M-1145

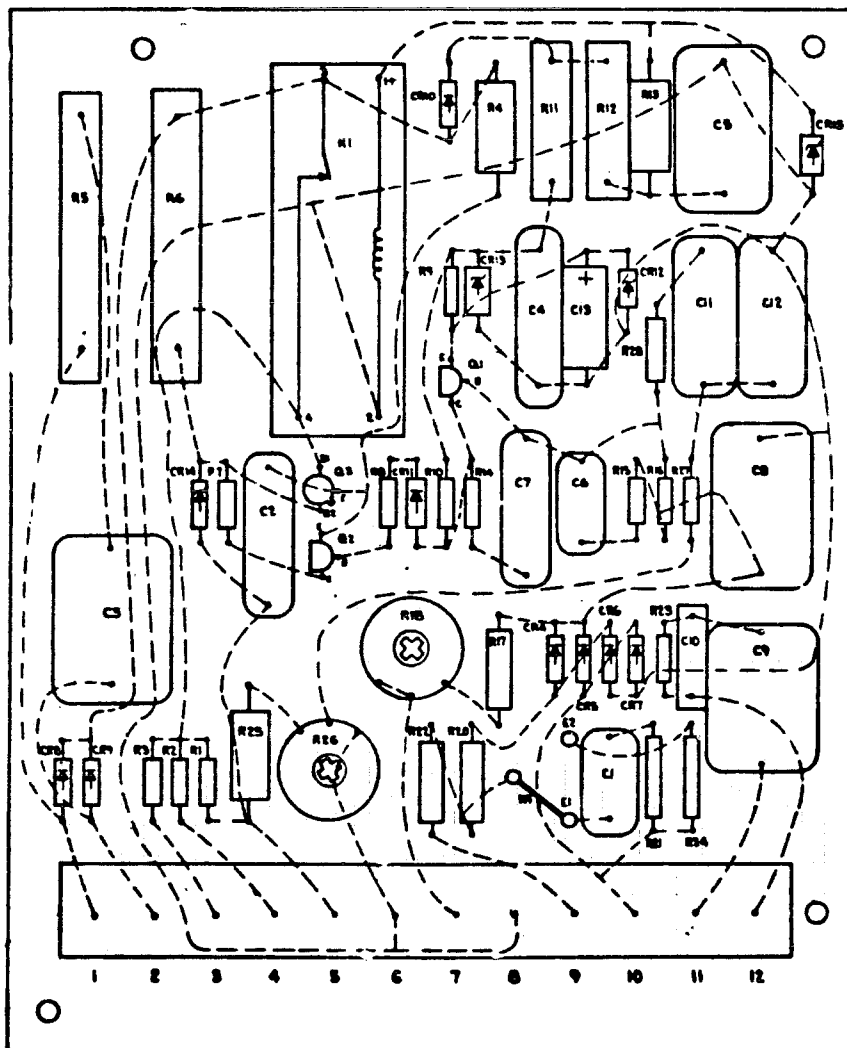
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	301-3154	1	Saddle, Control Box
2	301-3155	1	Housing, Control Box
3	301-3156	3	Panel, Control Box Housing
4	821-0014	8	Screw, Cap - Hex Head Locking (5/16-18 x 1/2")
5	815-0350	6	Screw, Cap - Hex Head Locking (#10-32 x 3/8")
7	821-0018	6	Screw, Cap - Hex Head Locking (1/4-20 x 5/8")
8	526-0018	5	Washer, Flat (17/64" ID x 5/8" OD x 1/16" Thk)
9	856-0006	1	Washer, Lock - EIT (1/4")
10	870-0212	6	Nut, Hex - Locking (1/4-20)
11	508-0203	1	Bushing, Nylon

PRINTED CIRCUIT BOARD ASSEMBLY - BEGIN SPEC B (332-1956)



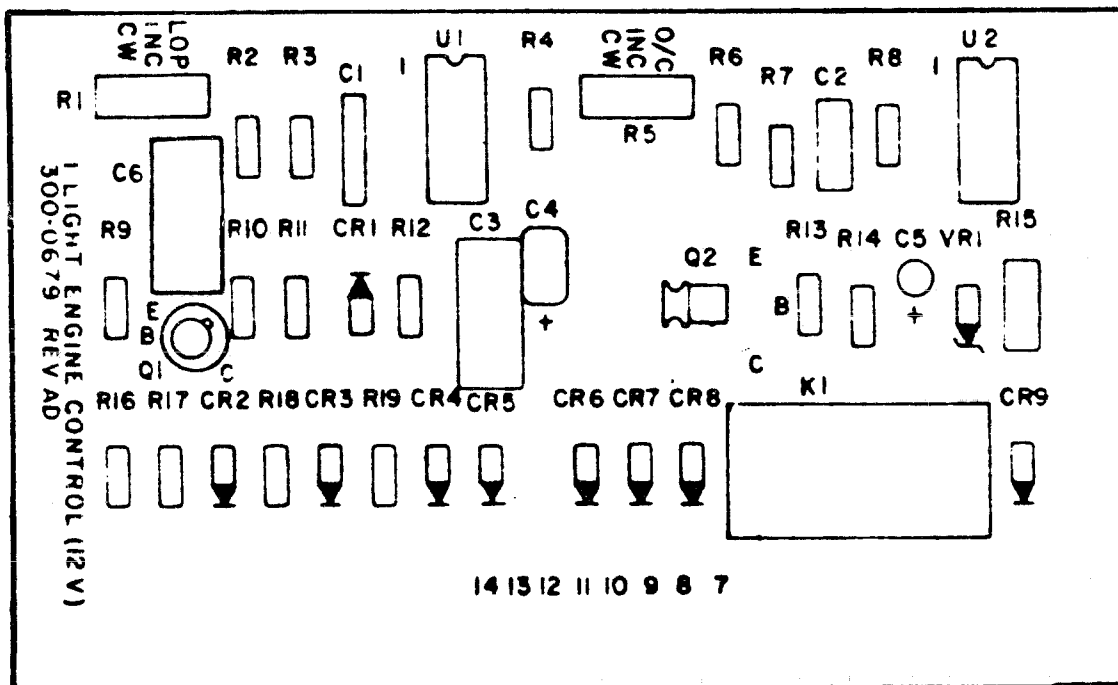
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	332-1956	1	Board Assembly, Printed - Complete	R11, R9	352-0151	2	Resistor - Fixed 5 Watt, 15,000-Ohm
C1, 14	355-0042	2	Capacitor - 47 Mfd, 250 Volt	R12	351-0909	1	Resistor - 1/2 Watt, 90,900-Ohm
C2, C7	355-0043	2	Capacitor - 22 Mfd, 250 Volt	R13	350-0411	1	Resistor - 1/2 Watt, 10,000-Ohm
C3	355-0047	1	Capacitor - 47 Mfd, 400 Volt	R14	350-0443	1	Resistor - 1/2 Watt, 220,000-Ohm
C4, C12	355-0044	2	Capacitor - 47 Mfd, 250 Volt	R15, R27	350-0435	2	Resistor - 1/2 Watt, 100,000-Ohm
C5, C8	355-0046	2	Capacitor - 1 Mfd, 100 Volt	R17	351-0293	1	Resistor, Metal Film - 1/4 Watt, 11,000-Ohm
C6	355-0056	1	Capacitor - .33 Mfd, 250 Volt	R18	303-0210	1	Potentiometer - 5,000-Ohm, 1/2 Watt
C11	355-0048	1	Capacitor - 1 Mfd, 400 Volt	R20, 22, 29 & 30	351-0520	4	Resistor - 1/4 Watt, 28,000-Ohm
C13	356-0039	1	Capacitor - Electrolytic - 100 Mfd, 10 Volt	R21	351-0522	1	Resistor - Metal Film - 1/4 Watt, 5,110-Ohm
CR3 Thru 11	357-0014	9	Rectifier - Silicon	R24	351-0523	1	Resistor - Metal Film - 1/4 Watt, 8,870-Ohm
CR12	359-0036	1	Diode - Zener 5.6 Volt	R25, R31	350-1011	2	Resistor - 2 Watt, 10,000-Ohm
CR13	359-0025	1	Diode - Zener 20 Volt	R26	303-0211	1	Potentiometer - 1/2 Watt, 100,000-Ohm
CR14	359-0026	1	Diode - Zener 18 Volt	R28	350-0568	1	Resistor - 1/2 Watt, .47 Meg-Ohm
F2, F3	321-0204	2	Fuse 1/4 Amp	TB1	332-1252	1	Terminal Block
1C1	367-0005	1	Integrated Circuit	CR15	359-0015	1	Diode - Zener - 24 Volt
Q2	362-0017	1	Transistor - Silicon NPN		321-0163	6	Clip - Fuse
Q3	361-0004	1	Transistor - Unijunction	K1	307-1063	1	Relay, Magnetic Reed
R1	350-0355	1	Resistor - 1/2 Watt, 47-Ohm	R19	350-1007	1	Resistor - 2 Watt, 6,800-Ohm
R2, R3	350-0351	2	Resistor - 1/2 Watt, 33-Ohm				
R4	350-1075	1	Resistor - 2 Watt, 4.7 Meg-Ohm				
R5	353-0040	1	Resistor - Fixed 10 Watt, 270-Ohm				
R6	353-0039	1	Resistor - Fixed 15 Watt, 5,000-Ohm				
R7	350-0398	1	Resistor - 1/2 Watt, 3,000-Ohm				
R8, R16	350-0447	2	Resistor - 1/2 Watt, 330,000-Ohm				
R10	351-0885	1	Resistor - 1/2 Watt, 51,100-Ohm				

PRINTED CIRCUIT BOARD ASSEMBLY (AC) - SPEC A **(332-1268)**



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	332-1268	1	Board Assembly, Printed - Complete	R6	353-0039	1	Resistor, Fixed (5,000-Ohm, 15 Watt)
TB1	332-1252	1	Terminal Block	R7	350-0398	1	Resistor (3,000-Ohm, 1/2 Watt)
C1	355-0018	1	Capacitor (.47 Mfd, 100 Volt)	R8, R16	350-0447	2	Resistor (330,000-Ohm, 1/2 Watt)
C2, C7	355-0005	2	Capacitor (.22 Mfd, 200 Volt)	R9, R10	350-0423	2	Resistor (33,000-Ohm, 1/2 Watt)
C3, C9	355-0017	2	Capacitor (.47 Mfd, 400 Volt)	R11	352-0151	1	Resistor, Fixed (15,000-Ohm, 5 Watt)
C4, C12	355-0006	2	Capacitor (.47 Mfd, 200 Volt)	R12	350-1014	1	Resistor (13,000-Ohm, 2 Watt)
C5, C8	355-0016	2	Capacitor (1 Mfd, 100 Volt)	R13	350-1007	1	Resistor (6,800-Ohm, 2 Watt)
C6	355-0015	1	Capacitor (.1 Mfd, 200 Volt)	R14	350-0443	1	Resistor (220,000-Ohm, 2 Watt)
C10	355-0014	1	Capacitor (.047 Mfd, 200 Volt)	R15, R27	350-0435	2	Resistor (100,000-Ohm, 1/2 Watt)
C11	355-0020	1	Capacitor (.1 Mfd, 400 Volt)	R17	351-0524	1	Resistor, Metal Film (13,000-Ohm, 1/4 Watt)
C13	356-0039	1	Capacitor (100 Mfd, 10 Volt)	R18	303-0168	1	Potentiometer
CR4 thru 11	357-0014	8	Rectifier, Silicon	R20, R22	351-0520	2	Resistor, Metal Film (28,000-Ohm, 1/4 Watt)
CR12	359-0035	1	Diode, Zener (6.8 Volt)	R21	351-0522	1	Resistor, Metal Film (5,110-Ohm, 1/4 Watt)
CR13	359-0025	1	Diode, Zener (20 Volt)	R24	351-0523	1	Resistor, Metal Film (8,870-Ohm, 1/4 Watt)
CR14	359-0026	1	Diode, Zener (18 Volt)	R25	350-1011	1	Resistor (10,000-Ohm, 2 Watt)
CR15	359-0015	1	Diode, Zener (24 Volt)	R26	303-0164	1	Potentiometer
K1	307-1063	1	Relay, Magnetic Read	R28	350-0459	1	Resistor (1.0 Megohm, 1 Watt)
Q1, Q2	362-0017	2	Transistor, Silicon (NPN)				
Q3	361-0004	1	Transistor, Unijunction				
R1, R23	350-0355	2	Resistor (47-Ohm, 1/2 Watt)				
R2, R3	350-0351	2	Resistor (33-Ohm, 1/2 Watt)				
R4	350-1075	1	Resistor (4.7 Megohm, 2 Watt)				
R5	353-0040	1	Resistor, Fixed (270-Ohm, 10 Watt)				

ENGINE CONTROL MONITOR (12 VOLT) (300-0679)



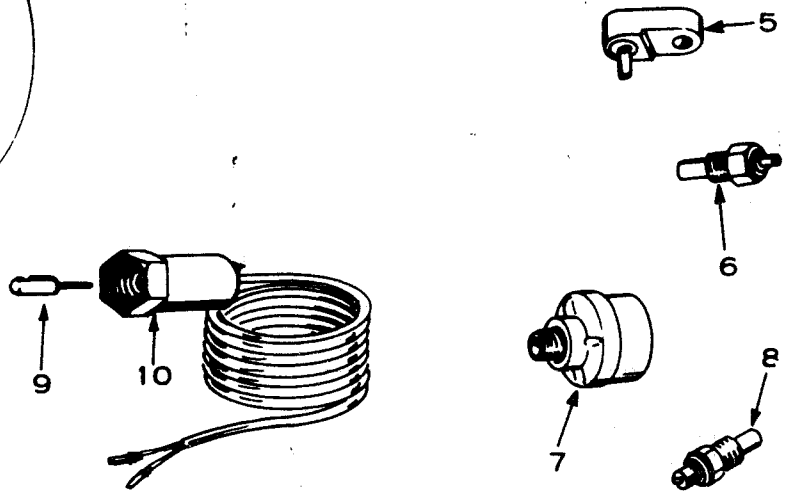
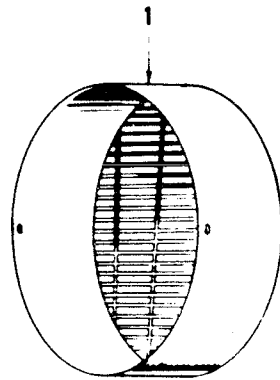
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	300-0679	1	Monitor Assembly, Complete - Engine Control
K1	307-1039	1	Relay
R3,7	350-0137	2	Resistor (120,000-Ohm)
C2	355-0069	1	Capacitor (.15 Mfd)
C3	356-0056	2	Capacitor (.33 Mfd)
C4	356-0066	1	Capacitor (47 Mfd)
CR1-9	357-0004	9	Diode
Q1	362-0048	1	Transistor
Q2	362-0044	4	Transistor
R1	303-0171	1	Potentiometer
R2,6	350-0121	1	Resistor (27,000-Ohm)
R4	350-0099	1	Resistor (3,300-Ohm)
R5	303-0222	1	Potentiometer
R8,11,13,14	350-0111	4	Resistor (10,000-Ohm)
R9,16,18,19	350-0103	1	Resistor (47,000-Ohm)
R12	350-0127	3	Resistor (47,000-Ohm)
R15	350-0363	2	Resistor (100-Ohm)
R17	350-0087	1	Resistor (1,000-Ohm)
C5	356-0051	1	Capacitor - Tantalum
C1	355-0070	1	Capacitor (.22 Mfd)
R10	350-0095	1	Resistor (2,200-Ohm)
U1,2	367-0025	2	Timer, IC Programmable
VR1	359-0002	1	Diode, Zener
	362-0049	1	Pad, Transistor Mounting

OPTIONAL EQUIPMENT SECTION

This section contains parts listing of factory installed options.

NOTE: options may not be applicable to all models; for field installations, additional parts are usually required.

MISCELLANEOUS OPTIONAL PARTS



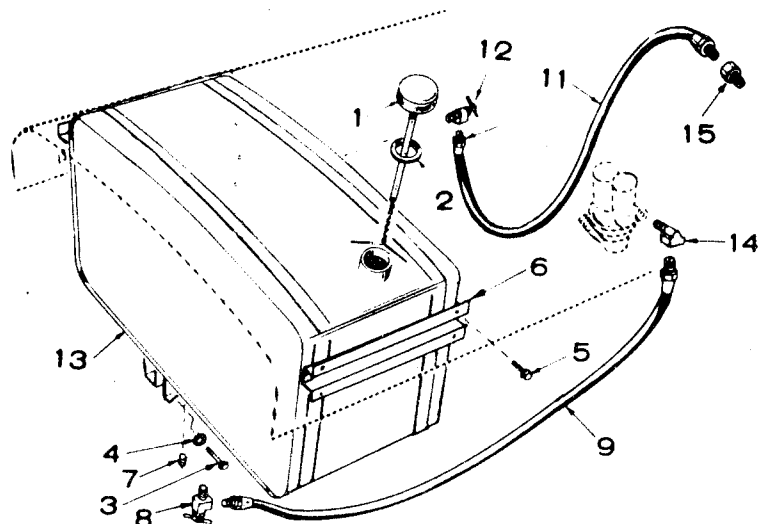
M-1148

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	234-0369	1	Cover, End Bell - Housed Sets
5	309-0269	1	Switch, Low Engine Temperature

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
6	SWITCH, HIGH WATER TEMPERATURE - SETS WITH FIVE FAULT LIGHTS		
	309-0178	1	Pre-Alarm
	309-0179	1	Shutdown
7	SWITCH, LOW OIL PRESSURE - SETS WITH FIVE FAULT LIGHTS		
	309-0169	1	Pre-Alarm
	309-0064	1	Shutdown
8	SENDER, OIL TEMPERATURE		
	193-0202	1	Spec A
	193-0249	1	Begin Spec B
9	302-0967	1	Tang, Drive - Tachometer Sender
10	302-0750	1	Sender, Tachometer

MOUNTED FUEL TANK (HOUSED SETS) - OPTIONAL EQUIPMENT

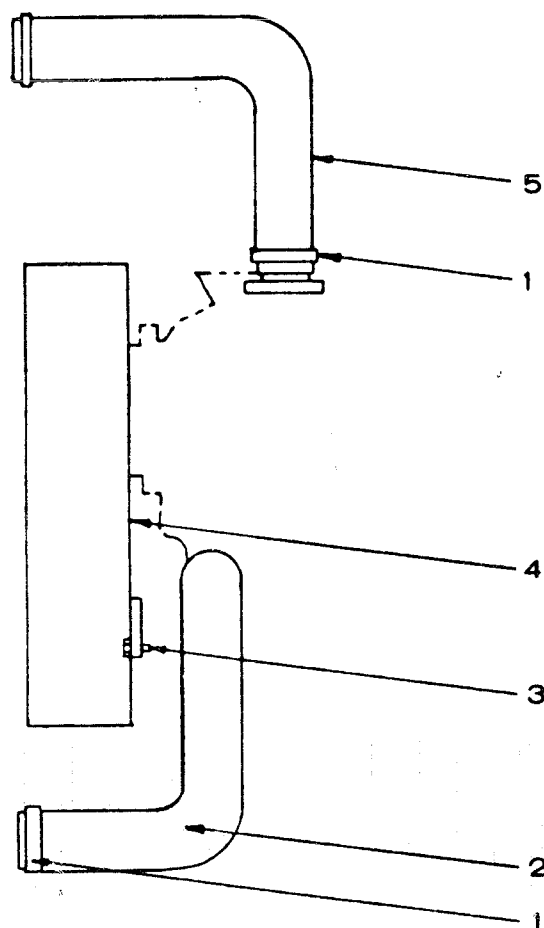
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	159-0512	1	Cap and Indicator
2	159-0751	1	Gasket, Gas Cap
3	812-0158	2	Screw, Machine - Round Head (1/4-20 x 2")
4	850-0040	2	Washer, Lock - Spring (1/4)
5	821-0010	8	Screw, Self-Locking - Hex Head (1/4-20 x 1/2")
6	159-0489	1	Strap Assembly, Mounting
7	505-0057	1	Plug, Pipe - Square Head
8	504-0013	1	Valve, Globe
9	501-0010	1	Line, Fuel (42")
11	501-0066	1	Line, Fuel (31")
12	504-0007	1	Valve, Globe
13	159-0490	1	Tank, Fuel (20 gallon)
14	502-0002	1	Elbow, Pipe - 90°
15	502-0017	1	Connector



FS-1137

973-0226 (SEPTEMBER 1980)

REMOTE RADIATOR INSTALLATION - OPTIONAL

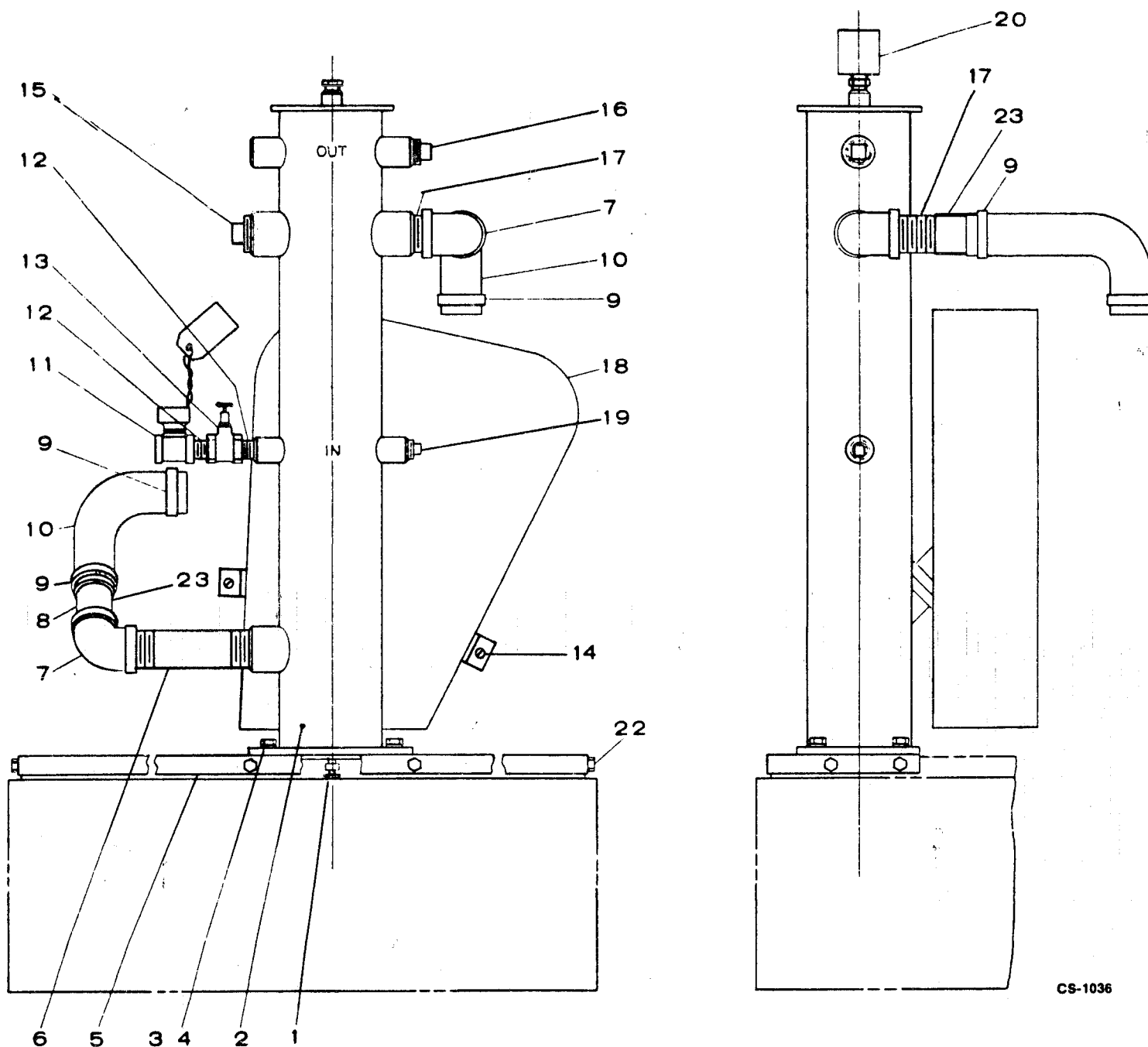


CS-1034

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	179-2516	1	Package, Remote Radiator Installation - Complete
1	503-0465	4	Clamp, Hose
2	503-0595	1	Hose, Lower
3	800-0052	2	Screw, Cap - Hex Head (3/8-16 x 1-1/2")
4	130-0946	1	Guard, Belt
5	503-0594	1	Hose, Upper

STANDPIPE COOLING INSTALLATION - OPTIONAL

179-1014



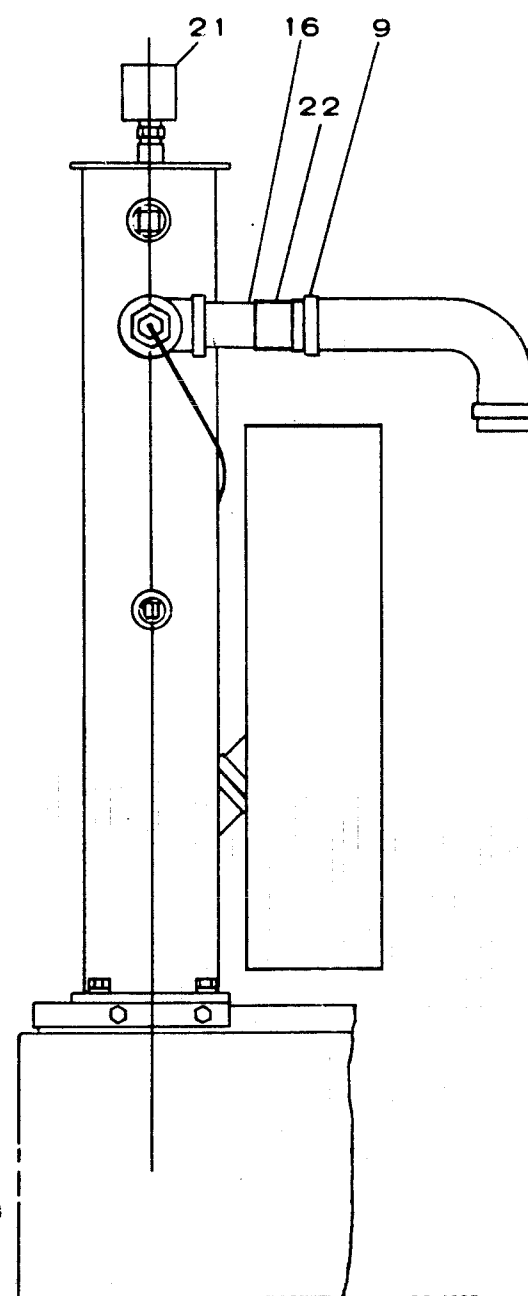
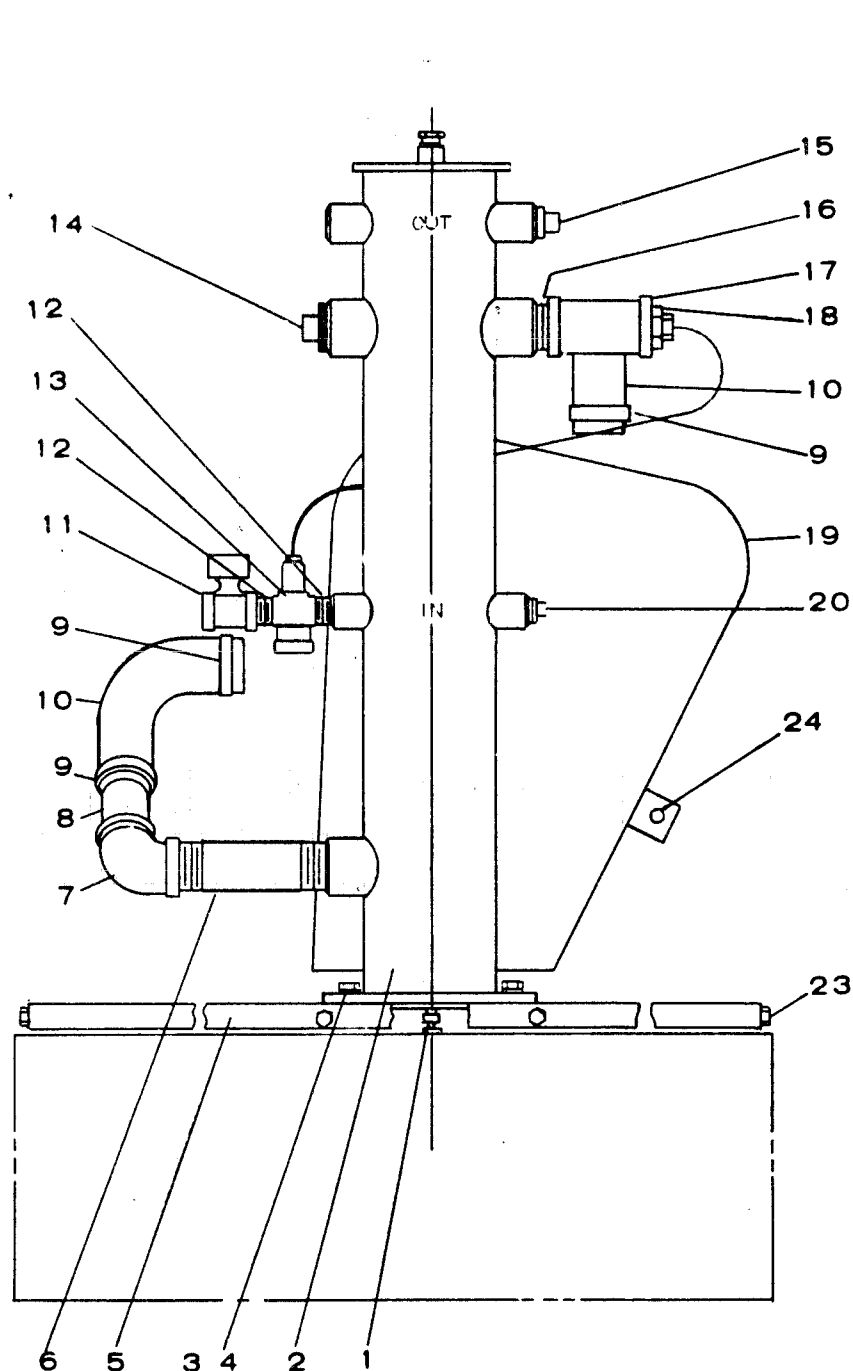
CS-1036

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	179-1014	1	Package, Standpipe Cooling - Complete
1	504-0028	1	Valve, Drain
2	130-0835	1	Standpipe
3	800-0050	4	Screw, Cap - Hex Head (3/8-16 x 1")
4	850-0050	4	Washer, Lock - Spring (3/8")
5	130-0636	1	Bracket, Mounting
6	505-0841	1	Nipple, Pipe (1-1/2 x 6")
7	505-0043	2	Elbow, Pipe (1-1/2")
8	505-0642	1	Nipple, Pipe
9	503-0465	4	Clamp, Hose
10	503-0576	2	Hose, Exhaust
11	307-0835	1	Valve, Solenoid

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
12	505-0102	2	Nipple, Close (3/4 x 1-3/8")
13	504-0048	1	Valve, Globe
14	800-0052	1	Screw, Cap - Hex Head (3/8-16 x 1-1/2")
15	505-0402	1	Plug, Square Head (1-1/2")
16	505-0140	1	Plug, Square Head (1")
17	505-0220	2	Nipple, Close (1-1/2 x 1-3/4")
18	130-0946	1	Guard, Belt
19	505-0130	1	Plug, Square Head (3/4")
20	504-0082	1	Valve, Vacuum Relief
22	821-0014	8	Screw, Cap - Hex Head Locking (5/16-18 x 1/2")
23	505-0032	2	Coupling (1-1/2")

973-0226 (SEPTEMBER 1980)

STANDPIPE INSTALLATION - OPTIONAL **(WITH WATER TEMPERATURE CONTROL VALVE)** **(179-1015)**



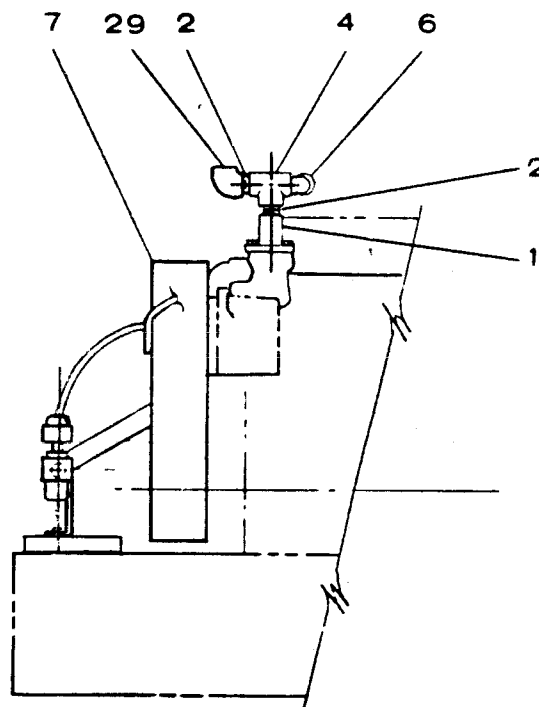
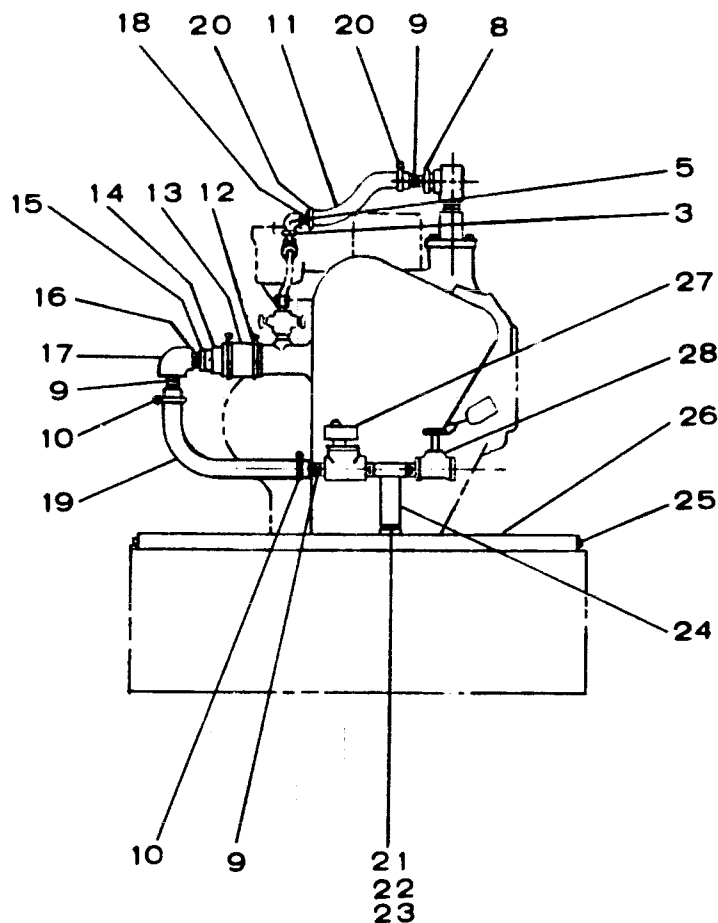
CS-1035

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	179-1015	1	Standpipe Package (Complete)
1	504-0028	1	Valve, Drain
2	130-0635	1	Standpipe
3	800-0050	4	Screw (3/8-16 x 1")
4	850-0050	4	Washer (3/8"), Lock
5	130-0636	1	Bracket, Standpipe
6	505-0641	1	Nipple (1-1/2 x 6"), Pipe
7	505-0043	1	Elbow (1-1/2" x 90°), Pipe
8	505-0642	1	Nipple (1-1/2 x 4" lg) - Half
9	503-0465	4	Clamp, Hose
10	503-0576	2	Hose, Exhaust
11	307-0835	1	Valve, Solenoid
12	505-0102	2	Nipple (3/4 x 1-3/8"), Close
13	309-0241	1	Valve, Water Temperature Control

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
14	505-0402	1	Plug (1-1/2"), Pipe
15	505-0140	1	Plug (1"), Pipe
16	505-0220	2	Nipple (1-1/2" x 1-3/4"), Close
17	505-0317	1	Tee (1-1/2"), Pipe
18	505-0289	1	Bushing (1-1/2 x 1"), Reducer
19	130-0946	1	Guard, Belt
20	505-0130	1	Plug (3/4"), Pipe
21	504-0062	1	Valve, Vacuum Relief
22	505-0032	1	Coupling (1-1/2")
23	821-0014	6	Screw (5/16-18 x 1/2"), Self Locking
24	800-0052	2	Screw, Cap - Hex Head (3/8-16 x 1-1/2")

973-0226 (SEPTEMBER 1960)

CITY WATER COOLED INSTALLATION - OPTIONAL



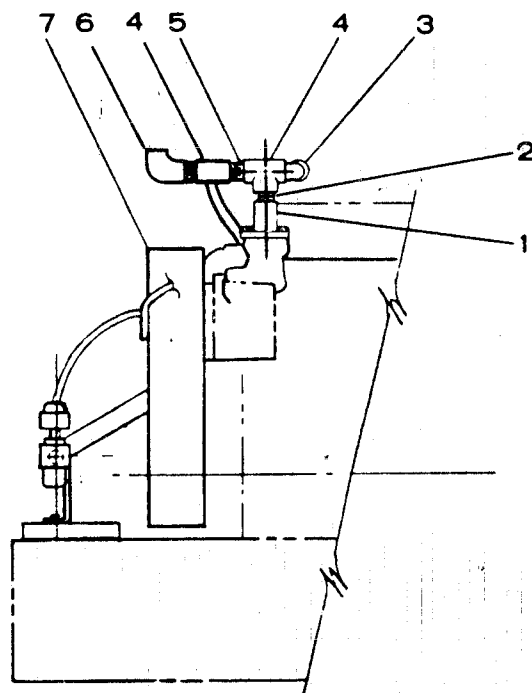
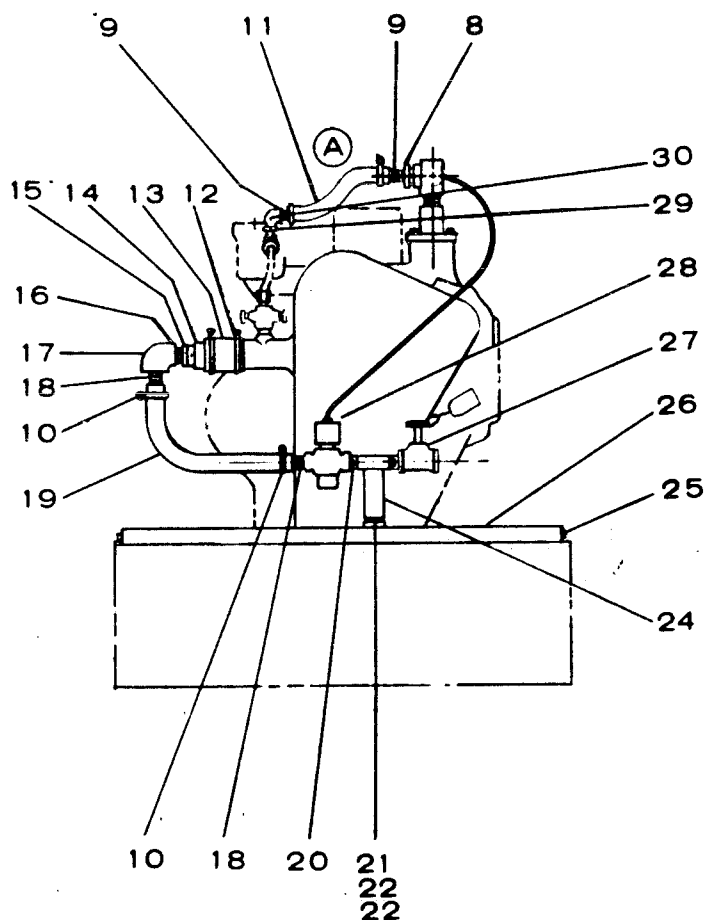
CS-1032

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	179-1026	1	Package, City Water Cooled - Complete
1	130-0954	1	Outlet, Water
2	505-0004	2	Nipple, Pipe - Close (1 x 1-1/2")
3	505-0018	1	Bushing, Reducer (1/2 x 1/4)
4	505-0304	1	Tee, Pipe (1")
5	505-0011	1	Elbow, Street (1/4" x 90°)
6	505-0003	1	Elbow, Pipe - Street (1" x 90°)
7	130-0946	1	Guard, Belt
8	505-0802	1	Bushing, Reducer (1 x 1/4")
9	505-0185	2	Nipple, Half (1/2 x 1-1/2")
10	503-0189	2	Clamp, Hose
11		1	Hose (Order 12" of Bulk Hose #503-0110)
12	503-0465	2	Clamp, Hose
13		1	Hose (Order 4" of Bulk Hose #503-0646)
14	505-0294	1	Coupling, Pipe (1-1/2")

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
15	505-0399	1	Bushing, Reducer (1-1/2 x 1/2")
16	505-0100	1	Nipple, Close (1/2 x 1-1/8")
17	505-0040	1	Elbow, Pipe (1/2 x 90°)
18	505-0302	2	Nipple, Half (1/4 x 1-1/2")
19		1	Hose (Order 17" of Bulk Hose #503-0191)
20	503-0183	2	Clamp, Hose
21	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1")
22	850-0040	2	Washer, Lock - Spring (1/4")
23	862-0001	2	Nut, Hex (1/4-20)
24	110-0526	1	Bracket and Nipple
25	821-0014	6	Screw, Cap - Hex Head Locking (5/16-18 x 1/2")
26	130-0499	1	Bracket, Heat Exchanger Mtg.
27	307-0833	1	Valve, Solenoid
28	504-0019	1	Valve, Globe
29	505-0041	1	Elbow, 90°

CITY WATER COOLED INSTALLATION (WITH WATER TEMPERATURE CONTROL VALVE)

179-1025



CS-1033

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	130-0954	1	Outlet, Water
2	505-0004	1	Nipple, Pipe (1 x 1-1/2")
3	505-0129	1	Bushing, Reducer (1 x 3/4")
4	505-0304	2	Tee, Pipe (1")
5	505-0086	1	Nipple, Pipe (1 x 2-1/2")
6	505-0003	1	Elbow, Street (1" x 90°)
7	130-0946	1	Guard, Belt
8	505-0802	1	Bushing, Reducer (1 x 1/4")
9	505-0302	2	Nipple, Pipe - Half (1/4 x 1-1/2")
10	503-0189	2	Clamp, Hose
11		1	Hose, Rubber (Order 12" of Bulk Hose #503-0110)
12	503-0465	2	Clamp, Hose
13		1	Hose, Rubber (Order 4" of Bulk Hose #503-0646)
14	505-0294	1	Coupling, Pipe (1-1/2")
15	505-0289	1	Bushing, Reducer (1-1/2" x 3/4")
16	505-0102	1	Nipple, Close (3/4 x 1-3/8")

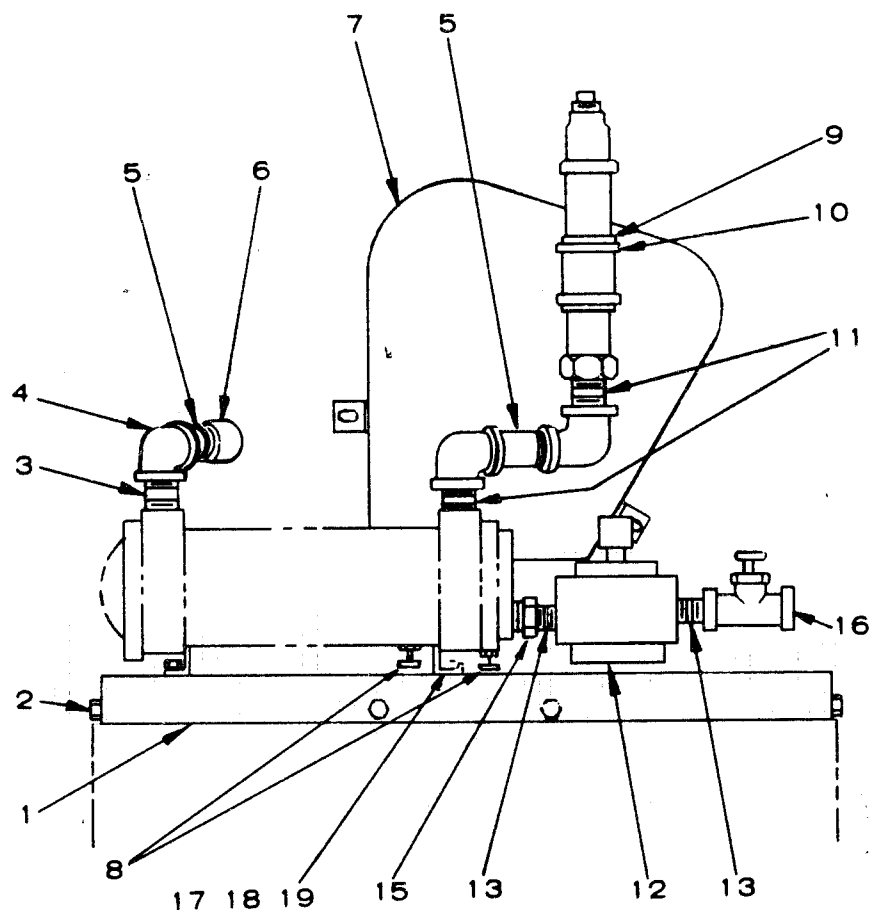
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
17	505-0132	1	Elbow, Pipe (3/4" x 90°)
18	505-0324	2	Nipple, Pipe - Half (3/4 x 2")
19		1	Hose, Rubber (Order 17" of Bulk Hose #503-0249)
20	505-0021	1	Bushing, Reducer (3/4 x 1/2")
21	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1")
22	850-0040	2	Washer, Lock - Spring (1/4")
23	862-0001	2	Nut, Hex (1/4-20)
24	110-0526	1	Bracket & Nipple
25	821-0014	6	Screw, Cap - Hex Head Locking (5/16-18 x 1/2")
26	130-0499	1	Bracket, Heat Exchanger
27	307-0833	1	Valve, Solenoid (12 Volt)
28	309-0241	1	Valve, Water Temperature Control
29	505-0018	1	Bushing, Reducer (1/2 x 1/4")
30	505-0011	1	Elbow, Pipe (1/4" x 90°)
31	503-0183	2	Clamp, Hose

973-0226 (SEPTEMBER 1980)

SOLENOID VALVE & REGULATOR INSTALLATION - OPTIONAL (HEAT EXCHANGER COOLED)

179-0410

179-1018

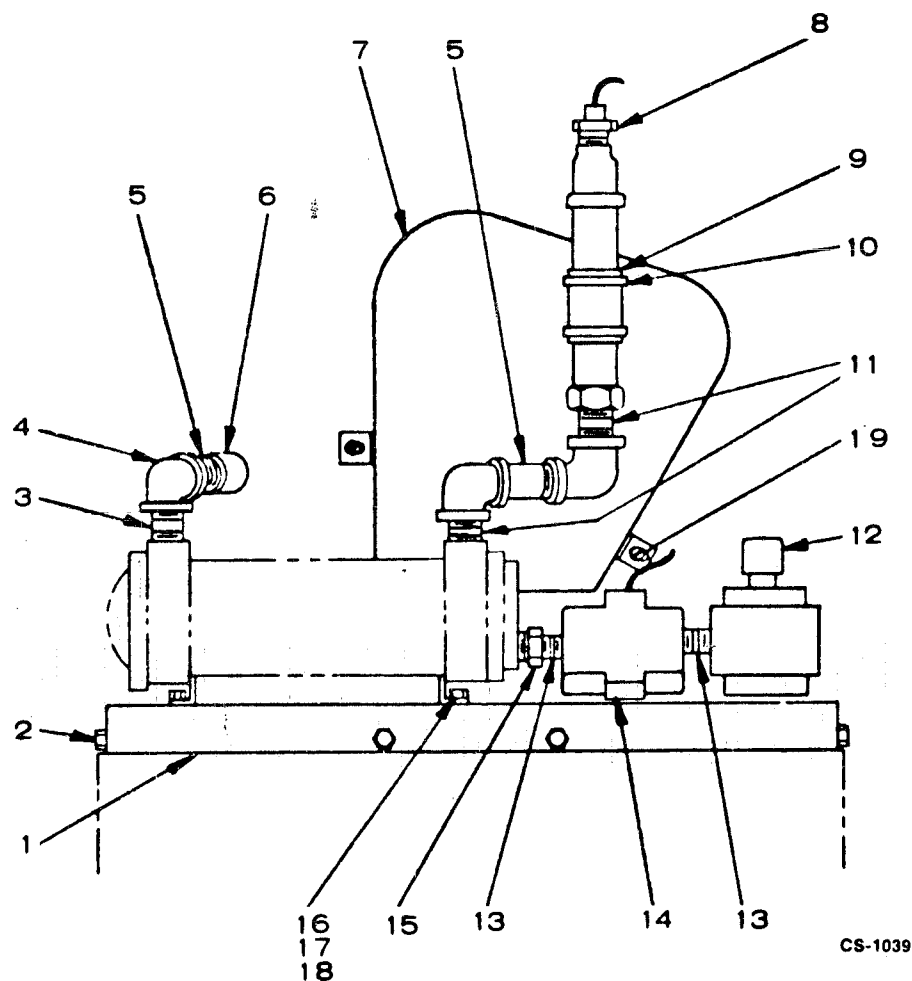


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
SOLENOID VALVE & REGULATOR PACKAGE (COMPLETE)			
	179-0410	1	With 1" Inlet
	179-1018	1	With 3/4" Inlet
1	130-0863	1	Bracket, Heat Exchanger Mtg.
2	821-0014	6	Screw (5/16-18 x 1/2"), Self Locking
3	505-0109	1	Nipple (1-1/2 x 2-1/2"), Short
4	505-0043	3	Elbow (1-1/2" x 90°), Pipe
5	505-0642	2	Nipple (1-1/2 x 4"), Pipe
6	505-0032	1	Coupling (1-1/2"), Pipe
7	130-0946	1	Guard, Belt
8	504-0003	2	Valve, Drain
9		1	Hose (Order 3" of Bulk Hose #503-0250)
10	503-0465	2	Clamp, Hose

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
11	505-0220	2	Nipple (1-1/2 x 1-3/4"), Close
12	VALVE, SOLENOID (12 Volt)		
	307-0835	1	3/4" (179-1018)
	307-1139	1	1" (179-0410)
13	NIPPLE, CLOSE		
	505-0102	2	3/4 x 1-1/8" (179-1018)
	505-0004	2	1 x 1-1/2" (179-0410)
14	800-0052	2	Screw, Cap - Hex Head (3/8-16 x 1-1/2")
15	BUSHING, REDUCER		
	505-0289	1	1-1/2 to 3/4" (179-1018)
	505-0024	1	1-1/2 to 1" (179-0410)
16	504-0090	1	Valve, Globe
17	800-0049	4	Screw (3/8-16 x 7/8")
18	850-0050	4	Washer (3/8"), Lock
19	862-0003	4	Nut (3/8-16), Hex

SOLENOID VALVE & REGULATOR INSTALLATION - OPTIONAL (HEAT EXCHANGER COOLED WITH MARSH REGULATOR)

179-0409



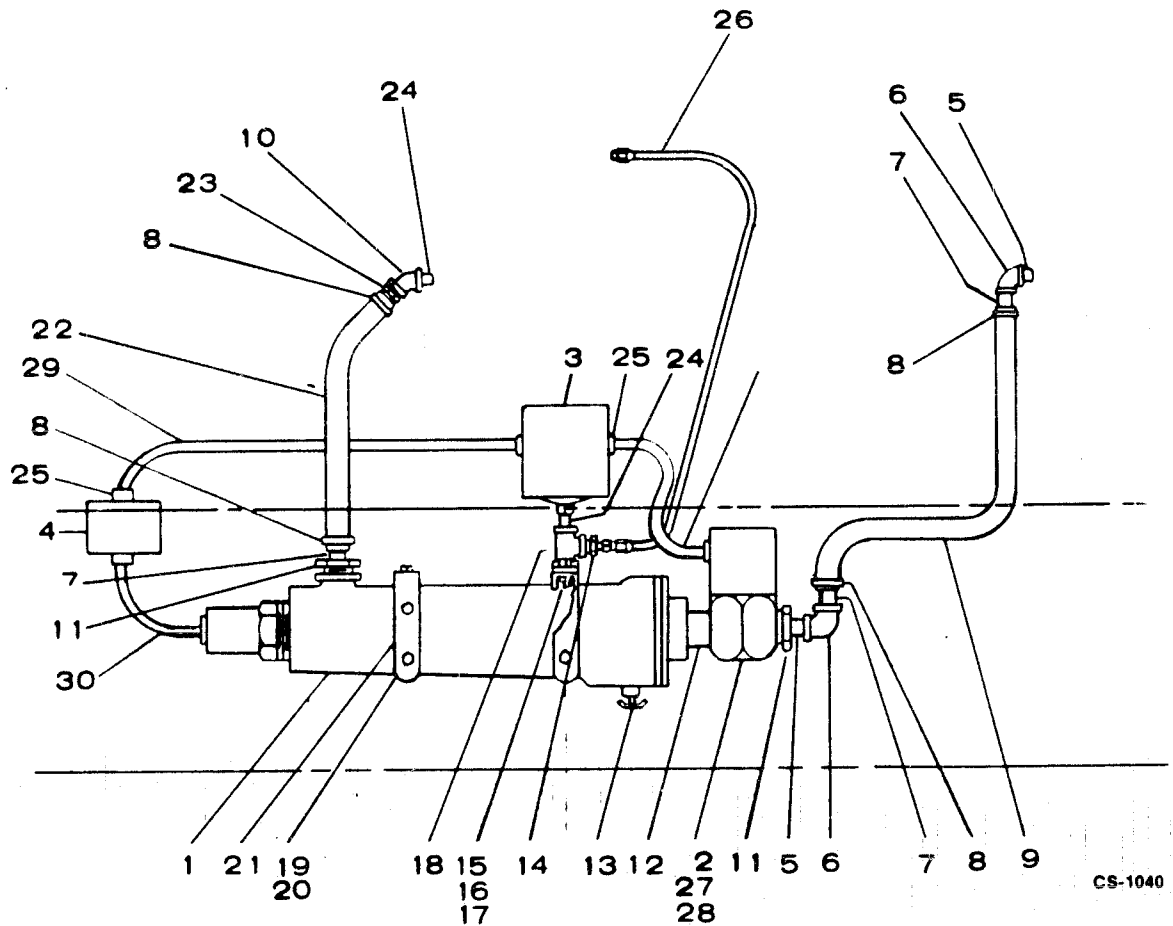
CS-1039

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	179-0409	1	Solenoid Valve & Regulator Package (Complete)
1	130-0863	1	Bracket, Heat Exchanger Mounting
2	821-0014	6	Screw (5/16-18 x 1/2"), Self Locking
3	505-0109	1	Nipple (1-1/2 x 2-1/2"), Short
4	505-0043	3	Elbow (1-1/2" x 90°), Pipe
5	505-0642	2	Nipple (1-1/2 x 4"), Pine
6	505-0032	1	Coupling (1-1/2"), Pipe
7	130-0946	1	Guard, Belt
8	505-0129	1	Bushing (3/4 x 1"), Reducer
9		1	Hose (Order 3" of Bulk Hose #503-0250)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
10	503-0465	2	Clamp, Hose
11	505-0220	2	Nipple (1-1/2 x 1-3/4"), Close
12	307-1139	1	Valve, Solenoid (12 Volt)
13	505-0004	2	Nipple (1 x 1-1/2"), Close
14	309-0242	1	Valve, Water Temperature Control (12 Volt)
15	505-0024	1	Bushing (1-1/2 x 1"), Reducer
16	800-0049	4	Screw (3/8-16 x 7/8")
17	850-0050	4	Washer (3/8"), Lock
18	862-0003	4	Nut (3/8-16), Hex
19	800-0052	1	Screw, Cap - Hex Head (3/8-16 x 1-1/2")

ENGINE COOLANT HEATER (HORIZONTAL) INSTALLATIONS - OPTIONAL

179-2059
179-2097
179-2100
179-2108
179-2111
179-2120
179-2140
179-2144

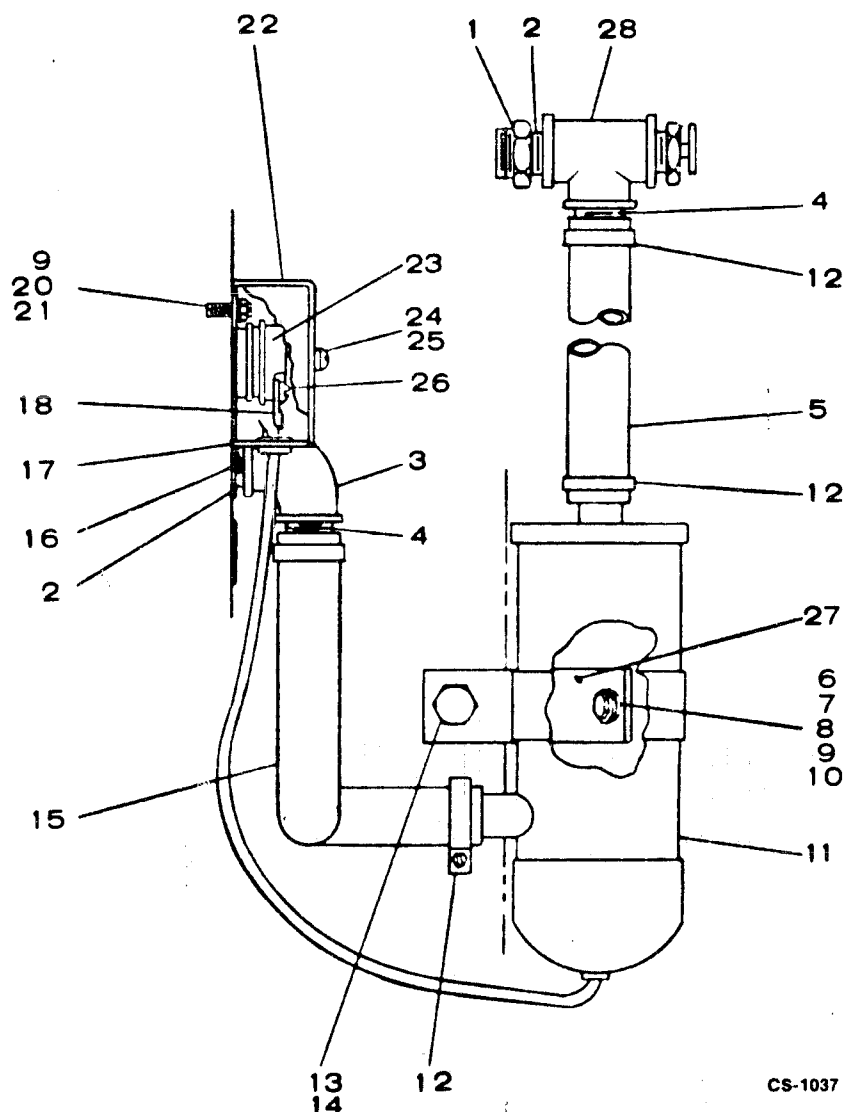


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	PACKAGE, COOLANT HEATER - COMPLETE (2000 WATT)		
	179-2059	1	120 Volt, Single Phase
	179-2100	1	208 Volt, Single Phase
	179-2140	1	208 Volt, Three Phase
	179-2108	1	230 Volt, Single Phase
	179-2144	1	380 Volt, Single Phase
	179-2111	1	380 Volt, Three Phase
	179-2097	1	480 Volt, Single Phase
	179-2120	1	480 Volt, Three Phase
1	HEATER, COOLANT (2000 Watt)		
	333-0158	1	120 Volt, Single Phase
	333-0167	1	208 Volt, Single Phase
	333-0148	1	208 Volt, Three Phase
	333-0141	1	230 Volt, Single Phase
	333-0176	1	380 Volt, Single Phase
	333-0170	1	380 Volt, Three Phase
	333-0147	1	480 Volt, Single Phase
	333-0146	1	480 Volt, Three Phase
2	309-0304	1	Switch, Thermostat
3	309-0307	1	Switch, Oil Pressure
4	CONTACTOR		
	307-1460	1	Used on 208 Volt, 3 Phase Units
	307-1164	1	Used on 380 and 480 Volt Units
5	505-0101	2	Nipple, Pipe (3/8 x 1")
6	505-0039	2	Elbow, Pipe (3/8 x 90°)
7	505-0135	3	Nipple, Half - Pipe (3/8 x 1-1/2")
8	503-0183	4	Clamp, Hose
9	503-0843	1	Hose, Rubber (5/8" ID x 40")
10	505-0112	1	Elbow, Pipe (1/4 x 45°)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
11	505-0455	2	Bushing, Reducer (1 x 3/8")
12	505-0004	1	Nipple, Pipe (1 x 1-1/2")
13	504-0003	1	Valve, Drain
14	505-0007	1	Bushing, Reducer (1/4 x 1/8")
15	800-0007	4	Screw, Cap - Hex Head (1/4-20 x 1")
16	850-0040	4	Washer, Lock - Spring (1/4")
17	862-0001	4	Nut, Hex (1/4-20)
18	333-0142	1	Support, Pressure Switch
19	821-0016	4	Screw, Cap - Hex Head Locking (5/16-18 x 3/4")
20	870-0257	4	Nut, Hex - Locking (5/16-18)
21	130-1192	2	Bracket, Heater Mounting
22	503-0113	1	Hose, Rubber (5/8" ID x 16")
23	502-0613	1	Connector, Hose
24	505-0099	2	Nipple, Pipe (1/4 x 7/8")
25	CONNECTOR, ROMAX		
	331-0027	2	120 Volt, 1 Phase; 208 Volt, 1 Phase; 250 Volt, 1 Phase
	331-0027	4	208 Volt, 1 Phase; 380 Volt and 480 Volt
26	501-0227	1	Line, Flexible
27	323-0957	2	Connector, Wire Nut (Black Leads)
28	332-0149	2	Terminal (White Leads)
29		As Req	Cord, Electrical (Order Bulk Cord #334-0130)
30		As Req	Cable, Electrical (Order Bulk Cable #334-0142) - Single Phase Units
30		As Req	Cable, Electrical (Order Bulk Cable #334-0143) - Three Phase Units

973-0226 (SEPTEMBER 1990)

ENGINE COOLANT JACKET HEATER (VERTICAL) INSTALLATION - OPTIONAL 179-2020



CS-1037

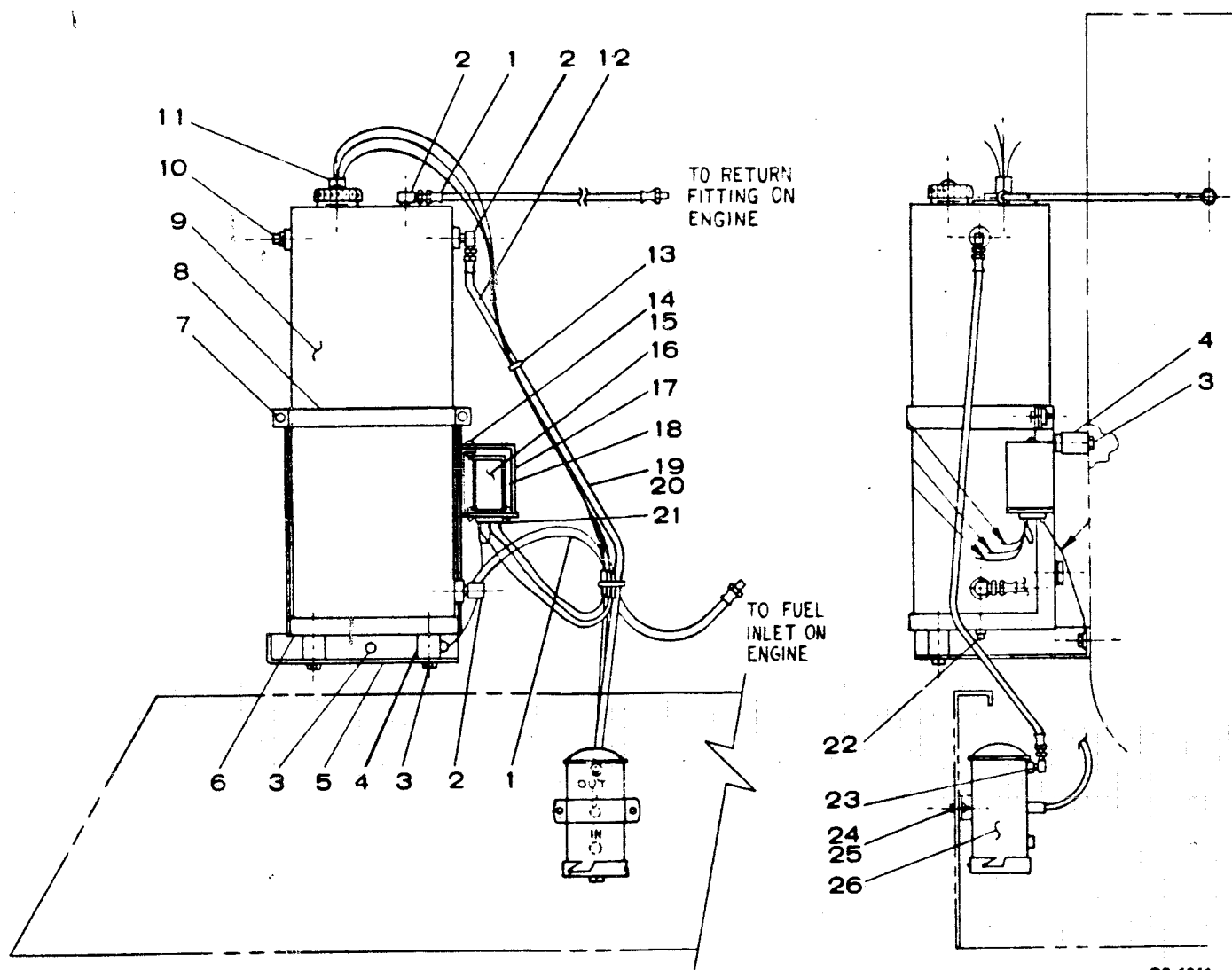
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	179-2020	1	Coolant Jacket Heater Package (Complete)
1	505-0019	1	Bushing (1/2-3/8"), Reducer
2	505-0101	2	Nipple (3/8 x 1"), Close
3	505-0039	1	Elbow (3/8 x 90°), Pipe
4	505-0135	2	Nipple (3/8 x 1-1/2"), Half
5		1	Hose (Order 34" of Bulk Hose #503-0386)
6	800-0031	1	Screw (5/16-18 x 1-1/2")
7	526-0115	2	Washer (5/16"), Flat
8	856-0008	2	Washer (5/16"), Shake-proof EIT
9	850-0045	1	Washer (5/16"), Lock
10	862-0015	1	Nut (5/16-18)
11	333-0052	1	Heater, Coolant
12	503-0183	4	Clamp, Hose
13	856-0010	1	Washer (3/8"), Shake-proof EIT

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
14	850-0050	1	Washer (3/8"), Lock
15		1	Hose (Order 21" of Bulk Hose #503-0386)
16	508-0008	1	Grommet
17	333-0012	1	Box, Thermostat Mounting
18	332-0149	1	Terminal
19	520-0446	2	Stud (#10-32)
20	850-0030	2	Washer (#10), Lock
21	870-0053	2	Nut (10-32), Lock
22	333-0013	1	Cover, Thermostat Mounting Box
23	309-0106	1	Thermostat
24	812-0076	2	Screw (#8-32)
25	850-0025	2	Washer (#8), Lock
26		2	Screw (Part of #23)
27	130-0755	1	Bracket, Water Heater
28	505-0060	1	Tee, Pipe (3/8")

973-0226 (SEPTEMBER 1980)

RESERVOIR (DAY) TANK INSTALLATION (UNHOUSED SETS) - OPTIONAL

179-0465



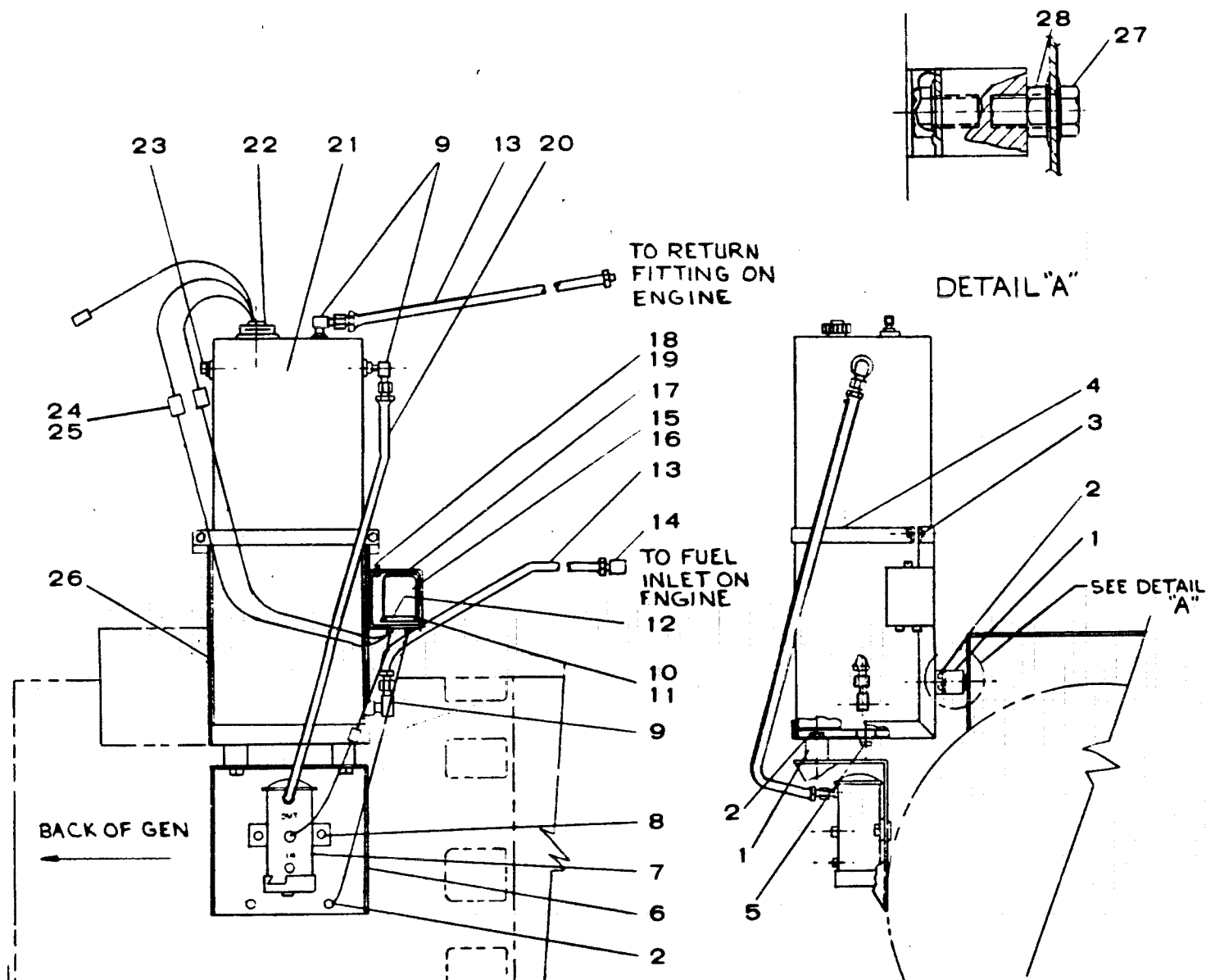
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	179-0465	1	Package, Reservoir (Day) Tank (Unhoused Sets) - Complete
1	501-0007	2	Line, Flex - Fuel
2	502-0041	3	Elbow, Inverted Male
3	821-0014	10	Screw, Cap - Hex Head (5/16-18 x 1/2")
4	402-0078	4	Dampener, Vibration
5	403-1118	1	Bracket, Tank Mounting
6	415-0324	1	Bracket, Tank Mounting
7	821-0013	2	Screw, Cap - Hex Head (1/4-20 x 1")
8	415-0323	1	Strap, Tank Mounting
9	415-0325	1	Tank, Reservoir (Day)
10	505-0054	1	Plug, Square Head (1/4")
11	415-0335	1	Switch, Float
12	501-0008	1	Line, Flex - Fuel

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
13	332-0942	2	Tie, Cable
14	813-0098	1	Screw, Machine - Round Head (#10-32 x 3/8")
15	850-0030	1	Washer, Lock - Spring (#10)
16	307-1058	1	Relay, 12 Volt
17	415-0326	1	Cover, Tank Control
18	307-1157	1	Spring, Relay Holddown
19	870-1183	2	Nut, Hex W/ET (#6-32)
20	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")
21	323-0897	1	Socket & Lead
22	505-0110	1	Plug, Square Head
23	502-0020	1	Elbow, Street
24	821-0018	2	Screw, Cap - Hex Head Locking (1/4-20 x 5/8")
25	870-0212	2	Nut, Hex - Locking (1/4-20)
26	149-0554	1	Pump, Electric - 12 Volt

973-0226 (SEPTEMBER 1990)

RESERVOIR (DAY) TANK INSTALLATION (HOUSED SETS) - OPTIONAL

179-1034

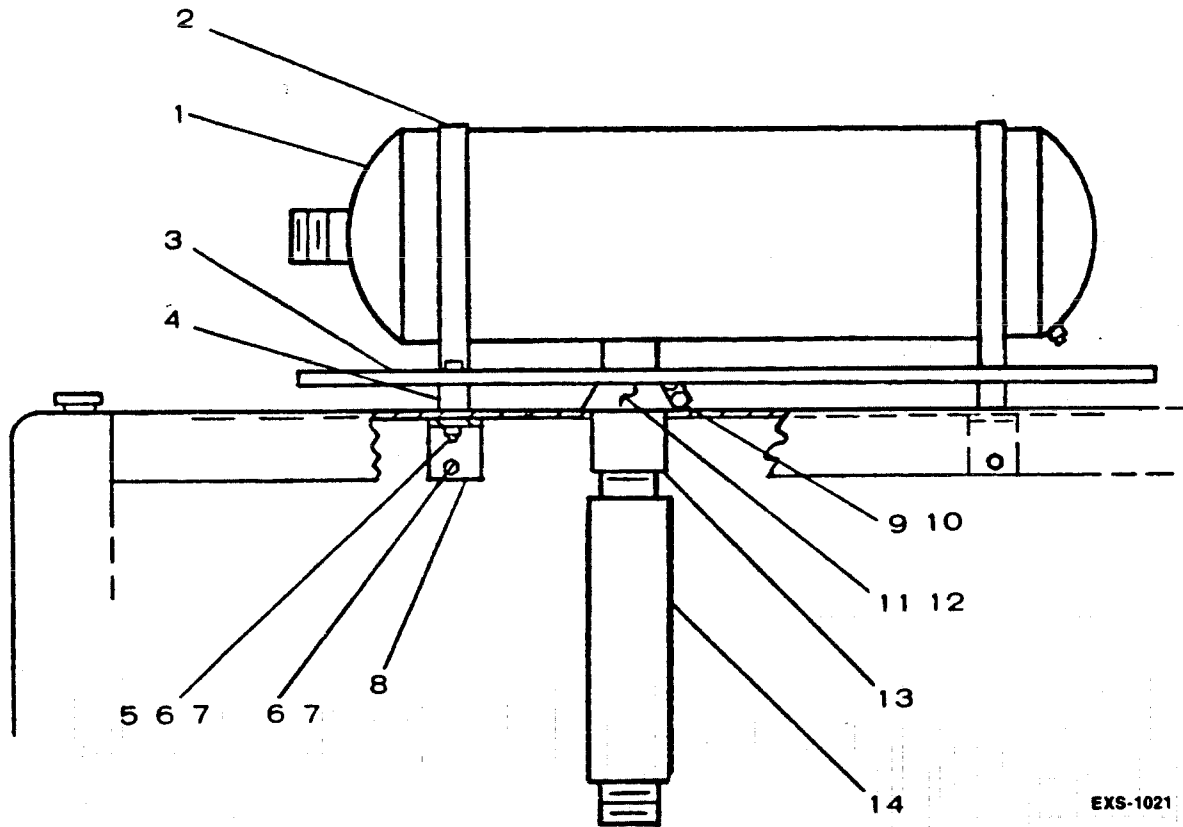


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	179-1034	1	Package, Reservoir (Day) Tank (Housed Sets) - Complete
1	402-0078	4	Mount, Rubber
2	821-0014	8	Screw, Cap - Hex Head Locking (5/16-18 x 1/2")
3	821-0013	2	Screw, Cap - Hex Head Locking (1/4-20 x 1")
4	415-0323	1	Strap, Tank Mounting
5	505-0110	1	Plug, Square Head (3/8")
6	130-1005	1	Bracket, Tank
7	149-0554	1	Pump, Electric (12 Volt) (See Separate Group for Components)
8	821-0018	2	Screw, Cap - Hex Head Locking
9	502-0041	3	Elbow, Inverted Male
10	870-1183	2	Nut, Hex W/ET (#6-32)
11	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
12	323-0897	1	Socket and Lead
13	501-0008	2	Line, Fuel
14	502-0051	1	Coupling
15	307-1058	1	Relay, 12 Volt
16	307-1157	1	Spring, Relay Holddown
17	415-0326	1	Cover, Tank Control
18	813-0098	1	Screw, Machine - Round Head (#10-32 x 3/8")
19	850-0030	1	Washer, Lock - Spring (#10)
20	501-0015	1	Line, Flex - Fuel
21	415-0325	1	Tank, Day (Reservoir)
22	415-0335	1	Switch, Tank
23	505-0054	1	Plug, Square (1/4")
24	332-0529	4	Terminal, Faston
25	332-0550	4	Connector
26	415-0324	1	Bracket, Tank Mounting
27	821-0016	2	Screw, Cap - Hex Head (5/16-18 x 3/4")
28	870-0048	2	Nut, Hex - Locking (5/16-18)

973-0226 (SEPTEMBER 1990)

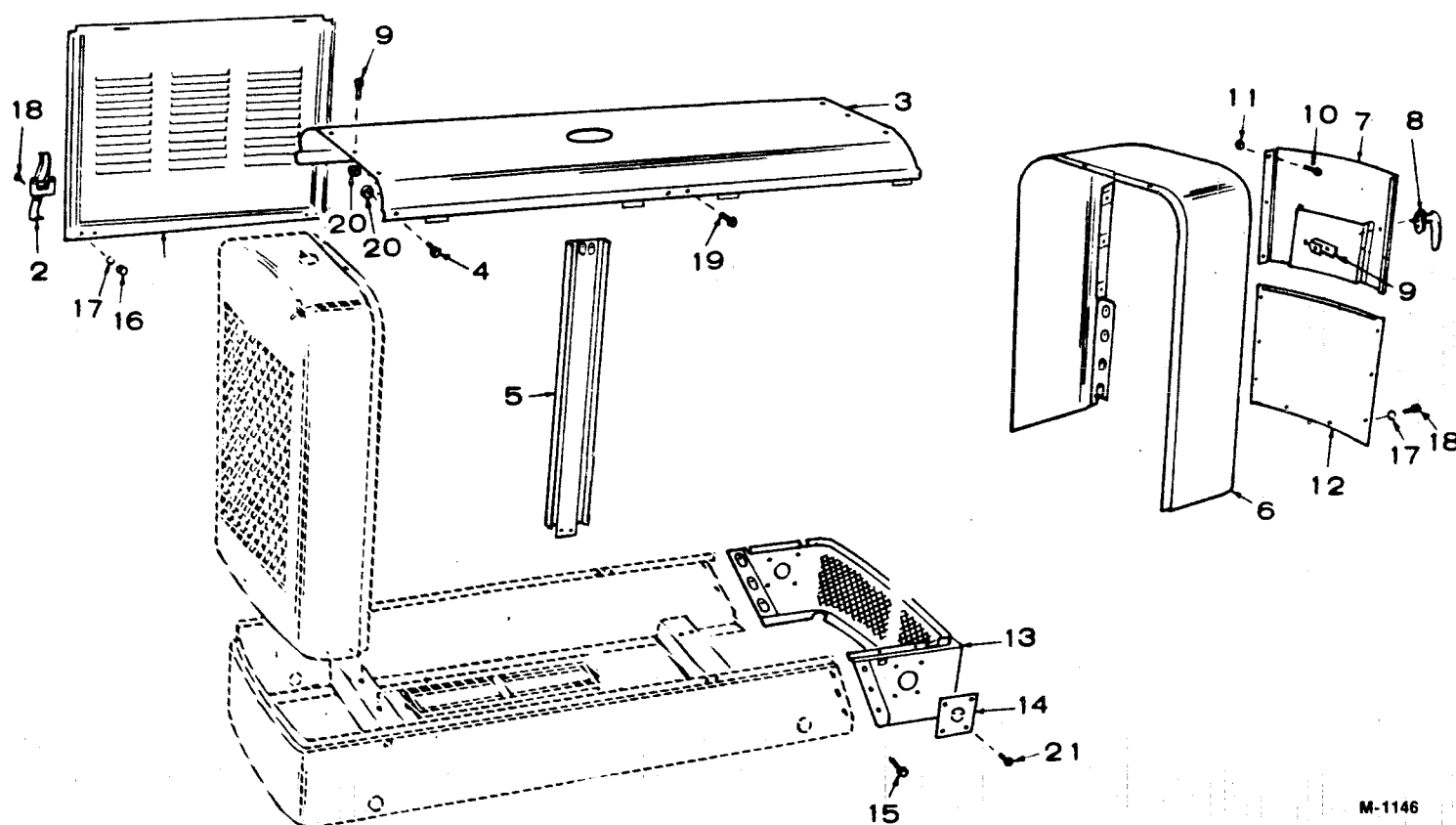
MUFFLER INSTALLATION - OPTIONAL **179-1519**



EXS-1021

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	179-1519	1	Muffler Package (Complete)
1	155-1268	1	Muffler
2	140-0649	2	Band, Muffler
3	155-1340	1	Shield, Heat
4	155-1430	4	Spacer, Muffler
5	800-0037	4	Screw, Cap - Hex Head (5/16-18 x 3" lg)
6	870-0048	10	Nut, Lock - Hex (5/16-18)
7	800-0026	6	Screw, Cap - Hex Head (5/16-18 x 3/4" lg)
8	155-0789	2	Bracket, Muffler Support
9	813-0105	2	Screw, Machine - Round Head (10-32 x 1" lg)
10	870-0188	2	Nut, Lock - Hex (10-32)
11	155-1420	1	Shield, Rain
12	895-0157	1	Asbestos
13	505-0454	1	Union, Ground Joint
14	155-1655	1	Tube Assembly, Exhaust

HOUSING - OPTIONAL

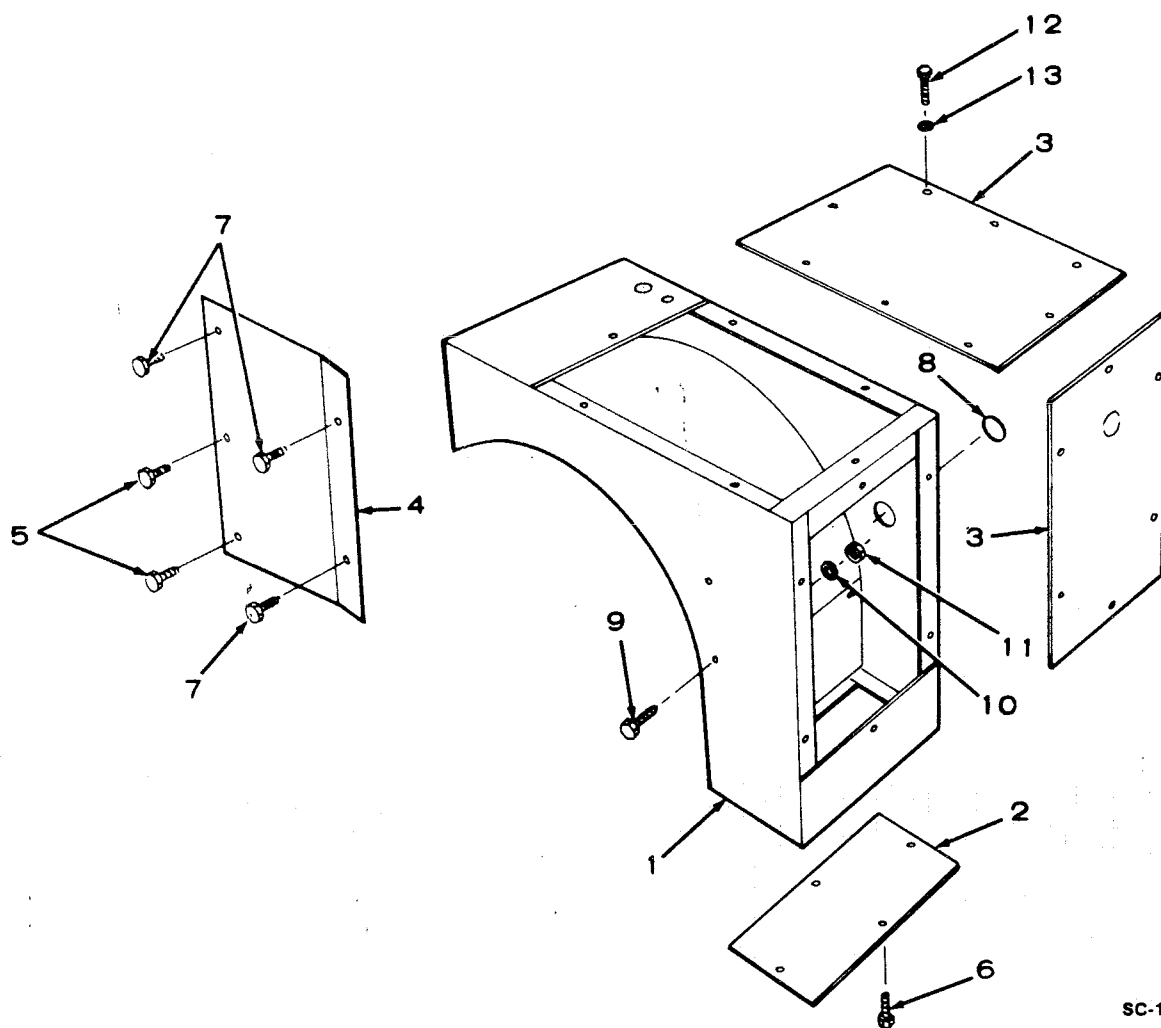


M-1146

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	405-2196	1	Housing Package, Complete
1	405-1804	4	Panel, Door
2	406-0105	8	Clamp, Door
3	405-2149	1	Panel, Top
4	821-0016	4	Screw, Cap - Hex Head Locking (5/16-18 x 3/4")
5	405-1776	2	Support, Housing - Center
6	405-2159	1	Panel, Rear
7	405-1777	1	Panel, Rear Door
8	406-0157	1	Handle, Rear Door (Includes Key)
9	406-0089	1	Catch, Rear Door
10	809-0059	3	Screw, Tapping (#14 x 1/2")
11	870-0106	3	Nut, Speed (#14)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
12	405-2158	1	Panel, Rear Housing
13	403-0894	1	Chassis, Rear
14	403-0895	2	Cover, Conduit Opening
15	821-0029	6	Screw, Cap - Hex Head Locking (3/8-16 x 3/4")
16	870-0053	16	Nut, Hex (#10-32)
17	850-0030	22	Washer, Lock - Spring (#10)
18	813-0098	22	Screw, Machine - Round Head (#10-32 x 3/8")
19	821-0014	22	Screw, Cap - Hex Head Locking (5/16-18 x 1/2")
20	870-0113	12	Nut, Retainer (5/16-18)
21	821-0010	8	Screw, Cap - Hex Head Locking (1/4-20 x 1/2")

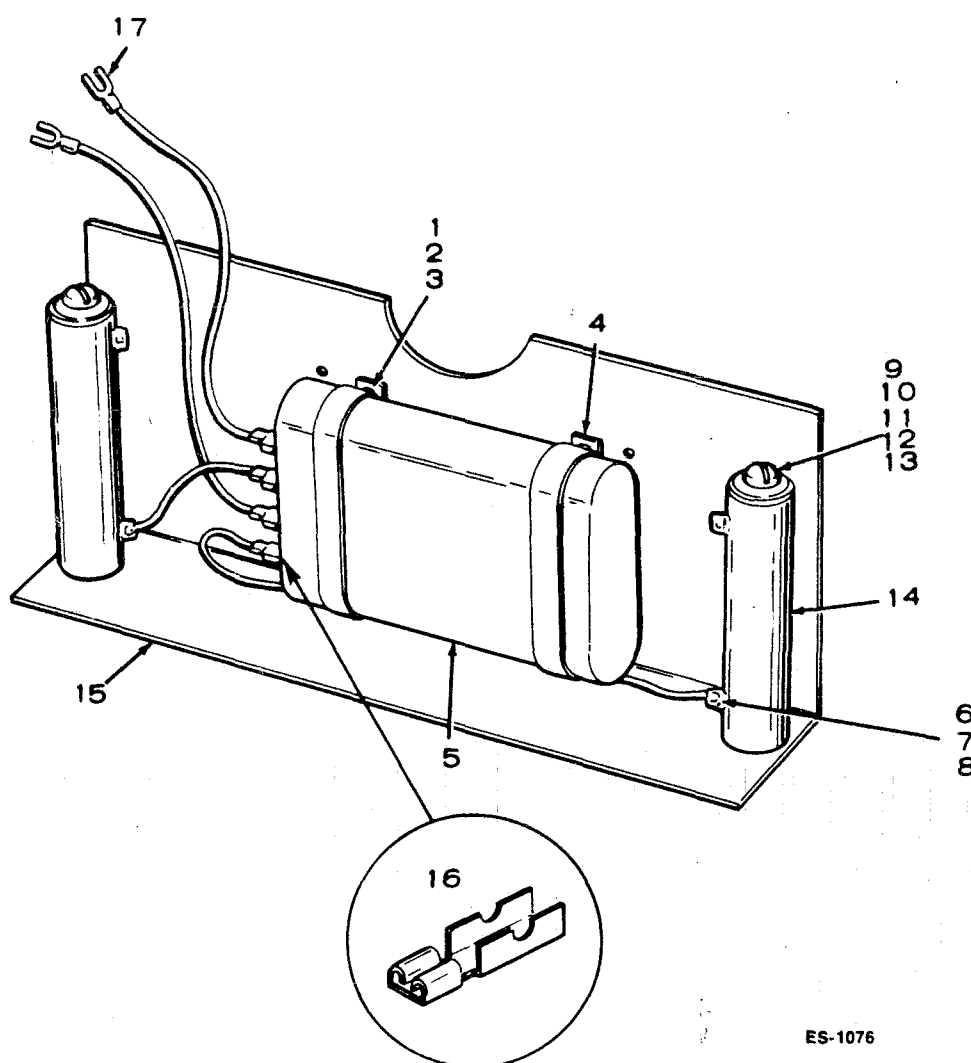
JUNCTION BOX - HOUSED SETS - OPTIONAL



SC-1126

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	301-3191	1	Box, Junction
2	301-3195	1	Plate, Junction Box Bottom
3	301-3156	2	Plate, Junction Box (NOTE: One only used on Sets with Circuit Breaker)
4	301-3196	1	Bracket, Circuit Breaker Mounting
5	821-0014	2	Screw, Cap - Hex Head Locking (5/16-18 x 1/2")
6	815-0350	6	Screw, Cap - Hex Head Locking (#10-32 x 3/8")
7	821-0010	4	Screw, Cap - Hex Head Locking (1/4-20 x 1/2")
8	508-0203	1	Bushing, Nylon
9	800-0008	1	Screw, Cap - Hex Head (1/4-20 x 1-1/4")
10	850-0040	1	Washer, Lock - Spring (1/4)
11	862-0001	1	Nut, Hex (1/4-20)
12	815-0026	14	Screw, Machine - Truss Head (#10-32 x 3/8")
13	853-0018	14	Washer, Lock - ET (#10)

VOLTAGE REGULATOR FILTER - OPTIONAL

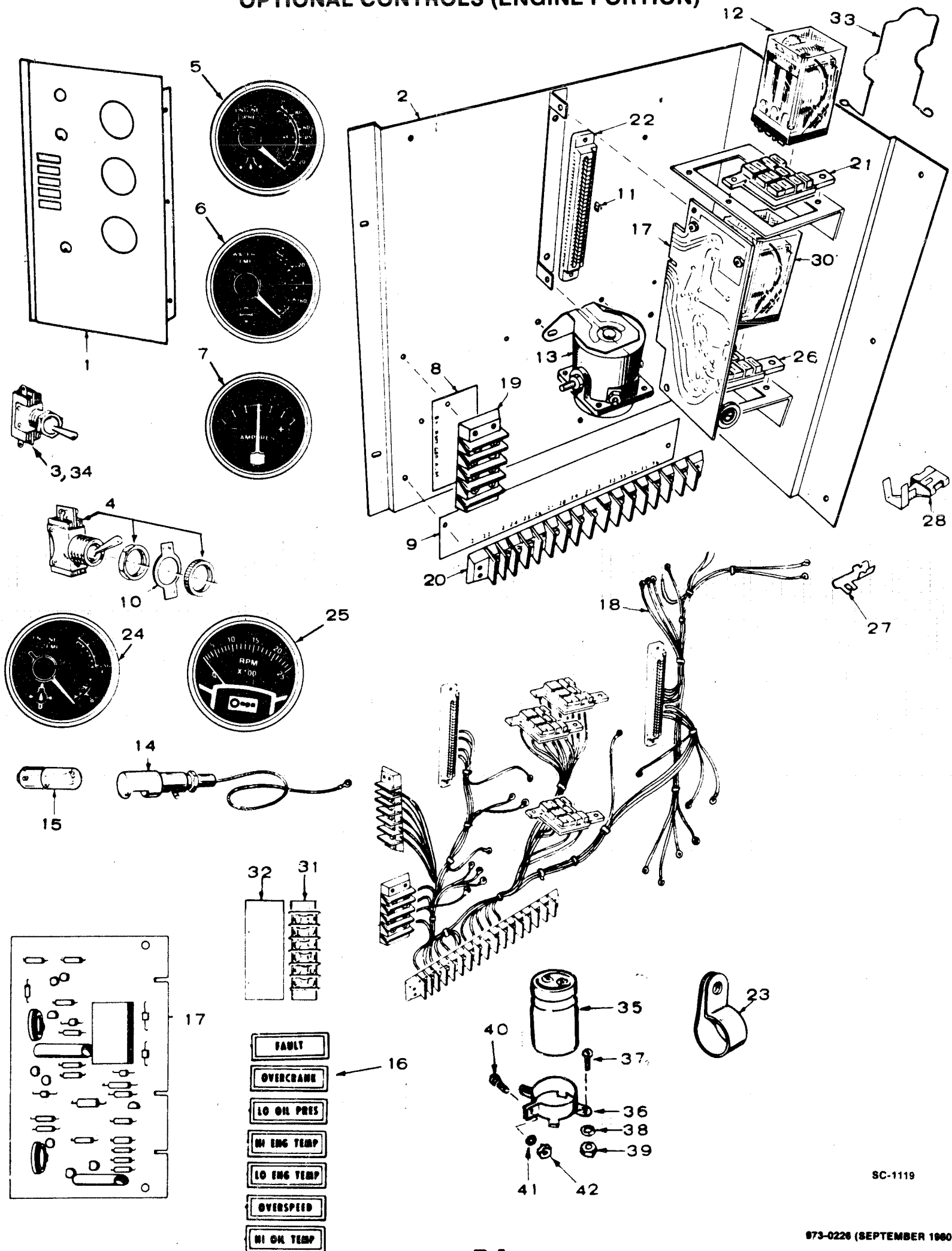


ES-1076

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	232-2692	1	Filter Assembly, Regulator - Complete
1	813-0098	4	Screw, Machine - Round Head (#10-32 x 3/8")
2	850-0030	4	Washer, Lock - Spring (#10)
3	870-0053	4	Nut, Hex (#10-32)
4	312-0189	2	Bracket, Holddown - Capacitor
5	312-0188	1	Capacitor
6	815-0001	4	Screw, Machine - Binding Head, Brass (#6-32 x 1/4")
7	853-0003	4	Washer, Lock - External Tooth (#6)
8	860-0006	4	Nut, Hex (#6-32) - Spec B through F
9	812-0165	2	Screw, Machine - Round Head (1/4-20 x 4-1/2")
10	304-0427	4	Washer, Shoulder - Centering
11	304-0292	2	Insulator, Disk
12	850-0040	2	Washer, Lock - Spring (1/4)
13	862-0001	2	Nut, Hex (1/4-20)
14	354-0025	2	Resistor, Wirewound (10-Ohm, 100 Watts, 5%)
15	232-2218	1	Bracket, Angle - Mounting
16	332-0529	4	Terminal, Receptacle
17	332-1279	8	Terminal, Crimp

973-0226 (SEPTEMBER 1980)

OPTIONAL CONTROLS (ENGINE PORTION)



SC-1119

973-0226 (SEPTEMBER 1960)

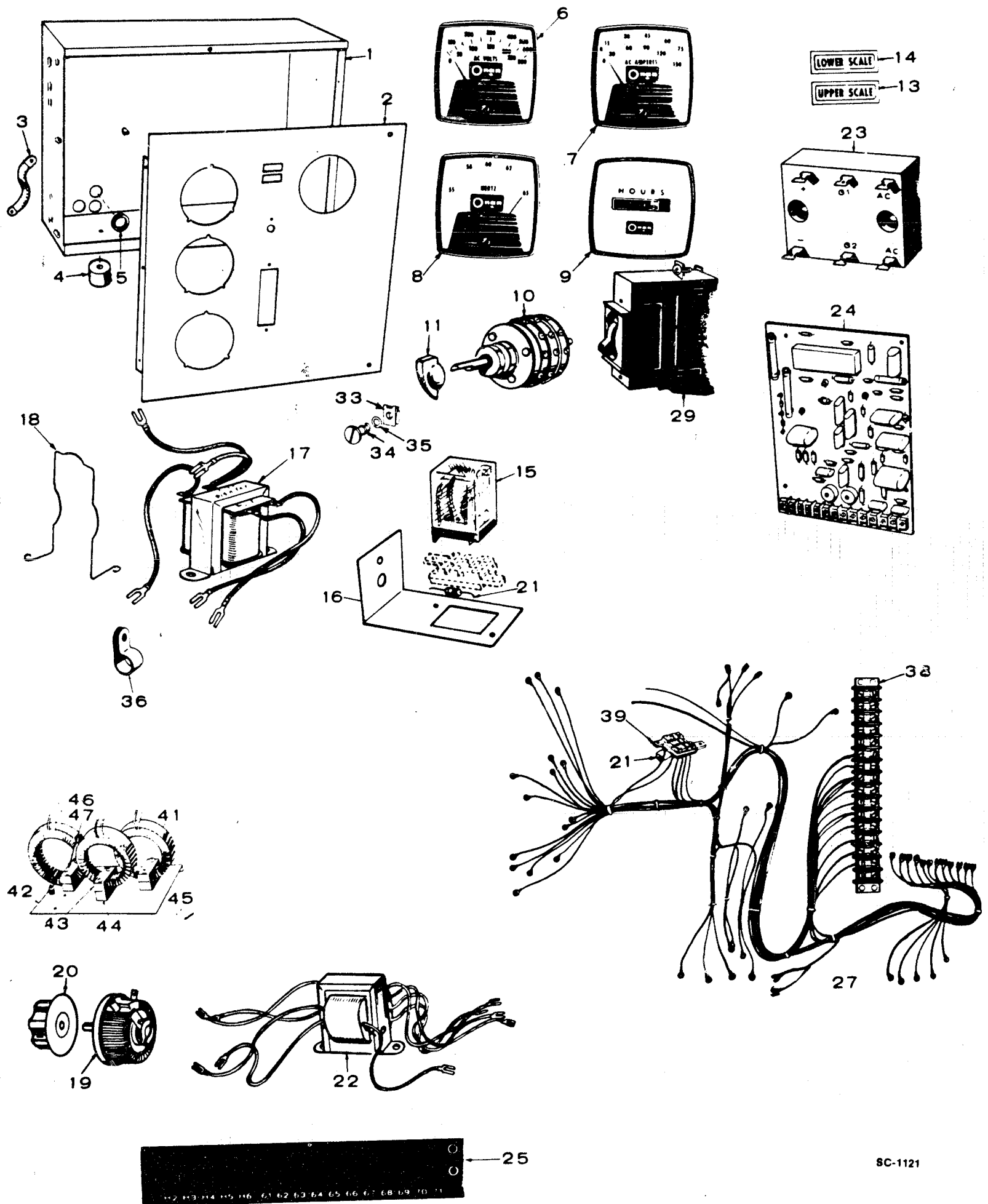
OPTIONAL CONTROLS (ENGINE PORTION)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	PANEL, ENGINE CONTROL		
	301-3267	1	Five Light, Three Gauges
	301-3268	1	Five Light, Four Gauges
	301-3166	1	Five Light, Five Gauges
	301-3286	1	One Light, Four Gauges
	301-3396	1	One Light, Five Gauges
2	301-3253	1	Bracket, Control Mounting
3	308-0138	1	Switch, Toggle (SPDT)
4	308-0002	1	Switch, Toggle (SPST) - Spec A
5	GAUGE, OIL PRESSURE		
	193-0107	1	Spec A
	193-0243	1	Begin Spec B
6	GAUGE, WATER TEMPERATURE		
	193-0106	1	Spec A
	193-0245	1	Begin Spec B
7	302-0061	1	Ammeter
8	332-1239	1	Strip, Marker (B+, Remote, Grd-Alarm)
9	332-1559	1	Strip, Marker (26 thru 36)
10	308-0003	1	Plate, Switch - Spec A
11	332-1276	2	Plug, Keying (Sets With Five Fault Lights use Quantity of One)
12	307-1058	2	Relay (1) Start Disconnect (1) Ignition
13	307-1031	1	Relay, Start Solenoid
14	322-0149	1	Light, Panel - Spec A
15	322-0004	1	Lamp, Light - Spec A
16	LIGHT, INDICATOR		
	322-0128	1	Fault
	322-0107	1	Overcrank
	322-0108	1	Hi Engine Temperature
	322-0110	1	Low Engine Temperature
	322-0111	1	Overspeed
	322-0112	1	High Oil Temperature
17	MODULE, CONTROL (See Separate Group for Components)		
	300-0679	1	Engine Monitor - One Fault Light
	300-0733	1	Standard Cranker
	300-0714	1	Cycle Cranker
	300-0681	1	Engine Monitor - Five Fault Light

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
18	HARNESS, WIRING (INCLUDES PARTS MARKED *)		
			Spec A
	338-0528	1	One Fault Light
	338-0534	1	Five Fault Light
			Begin Spec B
	338-1065	1	One Fault Light
	338-1066	1	Five Fault Light
19	332-0537	1	*Block, Terminal (4 Place)
20	*BLOCK, TERMINAL		
	332-0795	1	Spec A (16 Place)
	332-1005	1	Begin Spec B (20 Place)
21	323-0765	2	*Socket, Relay (11 Pin)
22	332-1271	1	*Housing, Connector (PC Boards)
23	332-0051	1	Clamp, Loop
24	GAUGE, OIL TEMPERATURE		
	193-0187	1	Spec A
	193-0248	1	Begin Spec B
25	302-0749	1	Tachometer, Electrical
26	323-0764	1	*Socket, Relay (10 Pin)
27	332-1269	As Req	*Contact, Electrical (PC Boards)
28	332-1280	As Req	*Terminal, Lug
29	332-1043	1	*Jumper (One Fault Light Sets)
30	307-1061	1	Relay, Starter Protection
31	332-0699	1	*Block, Terminal (6 Place)
32	332-1240	1	Marker Strip (53 thru 58)
33	307-1157	3	Clip, Relay Retaining
35	356-0072	1	Capacitor - Begin Serial #780293785 During Spec B
36	356-0070	1	Bracket, Capacitor Mounting - Begin Serial #780293785 During Spec B
37	812-0063	2	Screw, Machine - Round Head (#6-32 x 1/2") - Begin Serial #780293785 During Spec B
38	853-0003	3	Washer, Lock - ET (#6) - Begin Serial #780293785 During Spec B
39	860-0006	3	Nut, Hex (#6-32) - Begin Serial #780293785 During Spec B
40	812-0061	1	Screw, Machine - Round Head (#6-32 x 3/8")

* - Parts included in Wiring Harness.

CONTROL WITH METER PANEL (AC PORTION) - OPTIONAL



8C-1121

973-0226 (SEPTEMBER 1980)

CONTROL WITH METER PANEL (AC PORTION) - OPTIONAL

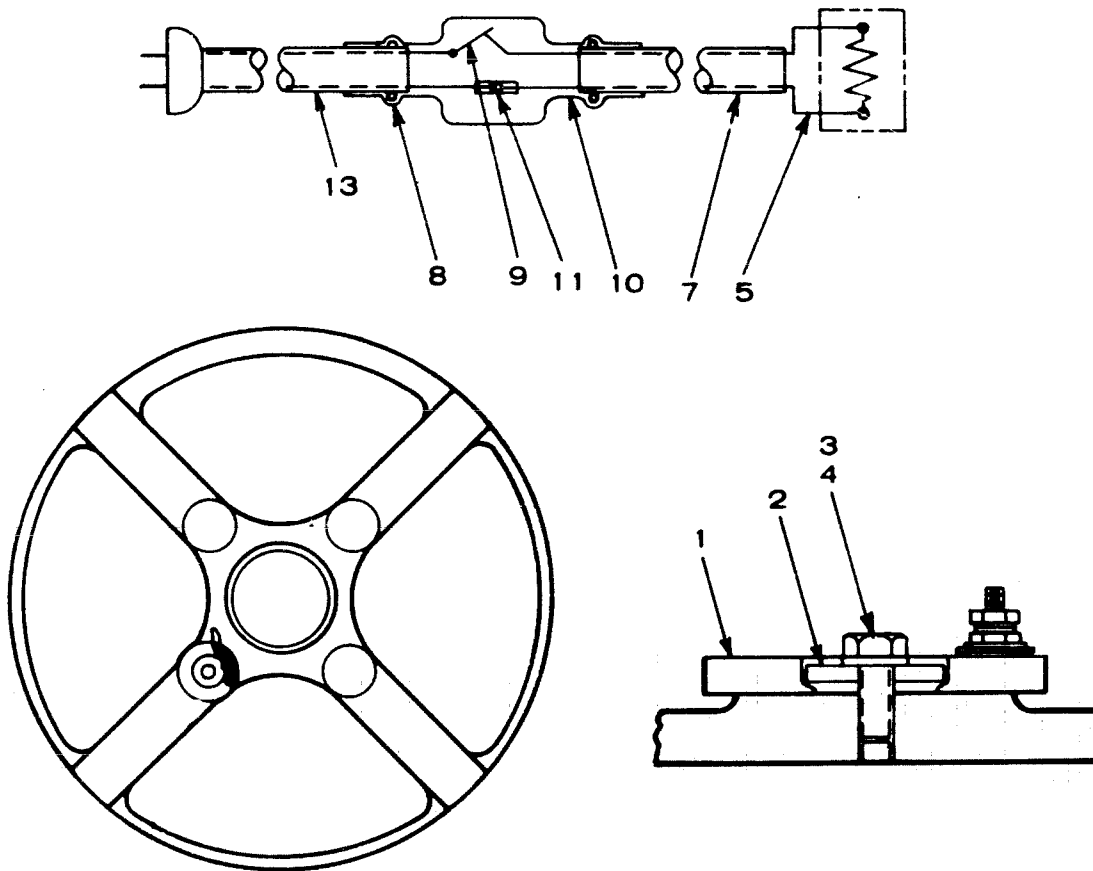
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	301-3158	1	Box, Control
2	PANEL, CONTROL BOX		
	301-3169	1	3R Sets
	301-3342	1	9XR Sets
	301-3170	1	15R and 515R Sets
3	337-0049	1	Strap, Bond
4	402-0078	4	Dampener, Vibration
5	508-0001	4	Grommet (1-1/16") Rubber
6	VOLTMETER, AC		
	302-0421	1	3R Sets (0-300)
	302-0779	1	9XR Sets (0-750)
	302-0718	1	15R and 515R Sets (0-300, 0-600)
7	AMMETER, AC		
	302-0412	2	3R Sets (0-250)
	302-0406	1	9XR Sets (0-75)
	302-0720	1	15R Sets (0-100, 0-200)
	302-0719	1	515R Sets (0-75, 0-150)
8	METER, FREQUENCY		
	302-0221	1	60 Hertz
	302-0256	1	50 Hertz
9	METER, RUNNING TIME		
	302-0466	1	60 Hertz
	302-0469	1	50 Hertz
10	308-0284	1	Switch, Selector
11	303-0076	1	Knob, Selector Switch
13	322-0131	1	Light, Upper Scale - 15R and 515R Sets
14	322-0130	1	Light, Lower Scale - 15R and 515R Sets
15	307-1061	1	Relay, Voltage Selector - 15R and 515R Sets
16	301-3244	1	Bracket, Relay Mounting - 15R and 515R Sets
17	315-0384	1	Reactor
18	307-1157	1	Spring, Relay Holddown - 15R and 515R Sets
19	303-0170	1	Rheostat, Voltage Adjustment
20	303-0032	1	Knob, Rheostat
21	350-0556	1	*Resistor - 15R and 515R Sets

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
22	TRANSFORMER, VOLTAGE		
	315-0342	1	Spec A Only
	315-0431	1	Begin Spec B
23	305-0524	1	Rectifier, Bridge
24	BOARD ASSEMBLY, PRINTED CIRCUIT (See Separate Group for Components)		
	332-1268	1	Spec A
	332-1956	1	Begin Spec B
25	332-1242	1	Strip, Marker
27	HARNESS ASSEMBLY, WIRING (Includes Parts Marked *)		
	338-0735	1	3R Sets
	338-0759	1	9XR Sets
	338-0730	1	15R and 515R Sets
29	320-0431	1	Breaker, Circuit
33	406-0332	2	Receptacle, Fastener
34	406-0333	2	Stud, Fastener
35	406-0334	2	Washer, Stud Fastener
36	332-0051	1	Clip, Tinnerman
38	332-0795	1	*Block, Terminal (16 Place)
39	323-0764	1	*Socket, Relay - 15R and 515R Sets
41	TRANSFORMER, CURRENT		
	302-0209	2	3R Sets
	302-0076	3	9XR Sets
	302-0106	3	15R Sets
	302-0079	3	515R Sets
42	302-0729	1	Bracket, Transformer Mounting
43	CLAMP, TRANSFORMER MOUNTING - UPPER		
	302-0235	2	3R Sets
	302-0235	3	9XR, 15R and 515R Sets
44	CLAMP, TRANSFORMER MOUNTING - LOWER		
	302-0236	2	3R Sets
	302-0236	3	9XR, 15R and 515R Sets
45	302-0253	As Req	Shim, Transformer Mounting
46	SCREW, MACHINE, ROUND HEAD (#10-32 x 2")		
	813-0110	4	3R Sets
	813-0110	6	9XR, 15R and 515R Sets
47	WASHER, LOCK - IT (#10)		
	854-0010	4	3R Sets
	854-0010	6	9XR, 15R and 515R Sets

* - Parts included in Wiring Diagram.

GENERATOR HEATER INSTALLATION - OPTIONAL

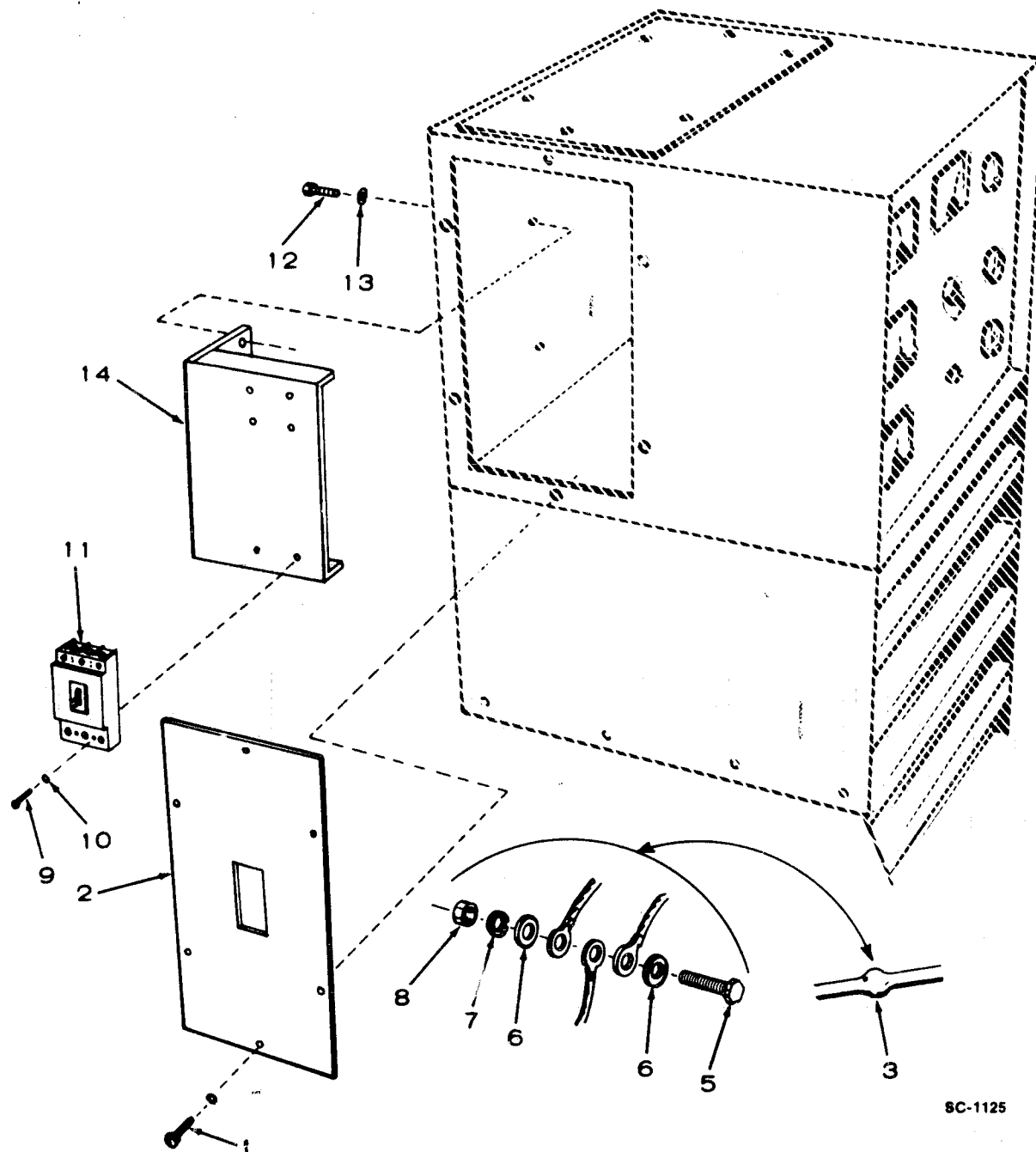
179-0369



G-1077

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	179-0369	1	Package, Generator Heater - Complete
1	333-0059	1	Heater, 120 Volt, 125 Watt
2	526-0158	1	Washer, Flat (.261" ID x 1" OD x 1/8" Thk)
3	850-0038	1	Washer, Lock - Spring (1/4")
4	800-000	1	Screw, Cap - Hex Head (1/4-20 x 5/8")
5	226-0090	2	Lead
7		1	Sleeve, Insulating (Order 15" of Bulk Sleeving #898-0020)
8	508-0114	2	Grommet, Rubber
9	309-0258	1	Thermostat
10		1	Sleeve, Insulating - Heat Shrink (Order 4" of Bulk Sleeving #898-0863)
11	332-1506	1	Connector, Insulated
13	335-0087	1	Cable, Electrical

CIRCUIT BREAKER - OPTIONAL

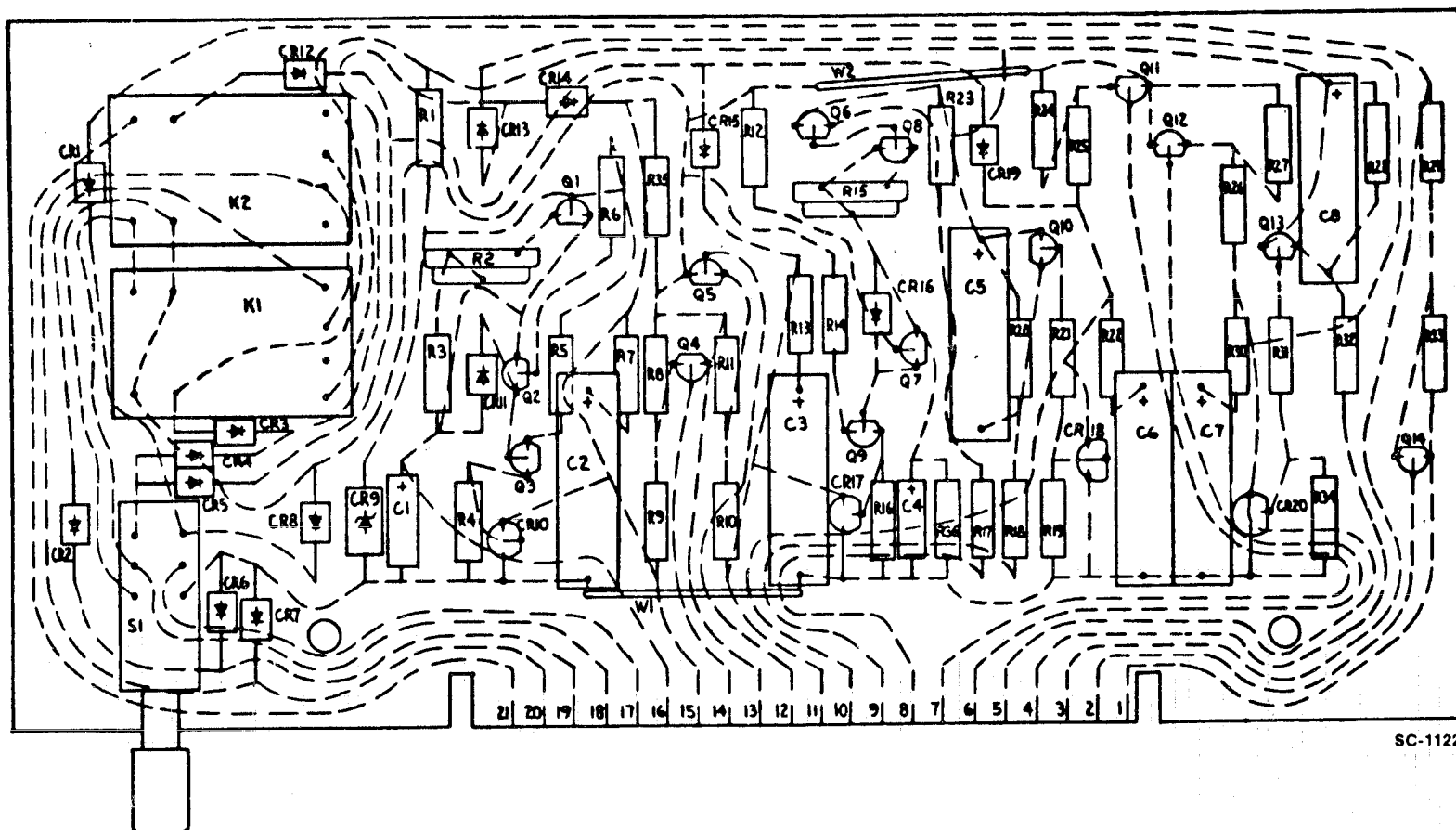


8C-1125

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	815-0350	6	Screw, Tapping - Hex Washer Head (#10-32 x 3/8)
2	301-3192	1	Panel, Cover - Circuit Breaker
3	SLEEVING, INSULATION - SHRINKABLE (Bulk Sleeving, order length required)		
	898-0863		3/4" ID
	898-0865		1" ID
	898-0875		1-1/2" ID
	898-0869		2" ID
5	800-0028	5	Screw, Cap - Hex Head (5/16-18 x 1")
6	526-0022	10	Washer, Flat (21/64" ID x 9/16" OD x 1/16" Thk)
7	850-0045	5	Washer, Lock - Spring (5/16")
8	862-0015	5	Nut, Hex (5/16-18)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
9	812-0094	4	Screw, Machine - Round Head (#8-32 x 3-5/8")
10	850-0025	4	Washer, Lock - Spring (#8)
11	CIRCUIT BREAKER (SELECT AS REQUIRED)		
	320-0346	1	150 AMP. 3PH. 120/208 - 120/240 VAC
	320-0359	1	225 AMP. 1PH. 120/240 VAC
	320-0379	1	90 AMP. 3PH. 200/346 - 220/380 - 277/480 VAC
	320-0414	1	70 AMP. 3 PH. 277/480 VAC
	320-0416	1	60 AMP. 3 PH. 347/600 VAC
12	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")
13	850-0040	2	Washer, Lock - Spring (1/4")
14	301-3197	1	Bracket, Mounting - Circuit Breaker

ENGINE CONTROL MONITOR (SETS WITH FIVE FAULT LIGHTS) - OPTIONAL

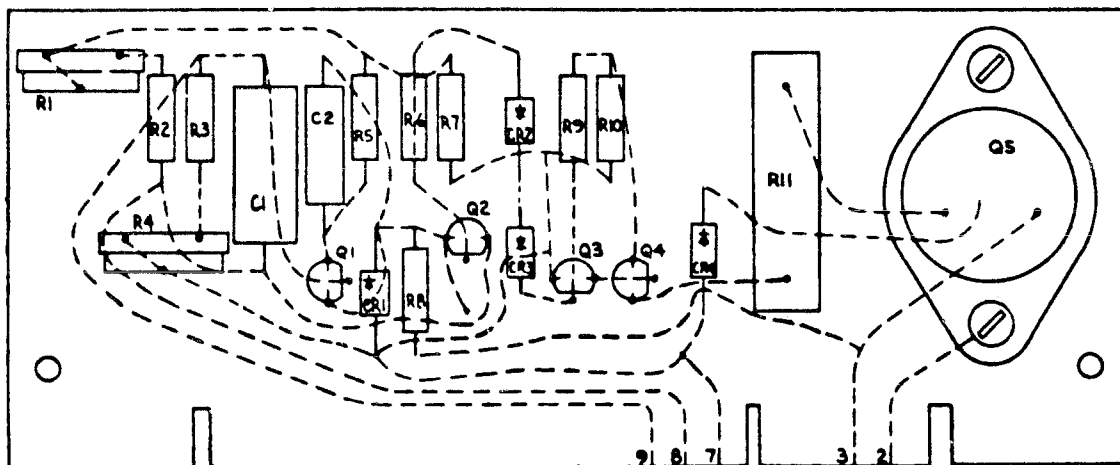


SC-1122

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	300-0681	1	Monitor Assembly, Complete - Engine Control
K1,K2	307-1039	2	Relay
R6	350-0548	1	Resistor (10,000-Ohm)
C2,3,5,6,7,8	355-0043	6	Capacitor (22 Mfd)
C1	356-0040	1	Capacitor (10 Mfd)
C4	356-0030	1	Capacitor (1 Mfd)
CR9	359-0027	1	Diode, Zener
CR1 thru 8, 11 thru 16,19 CR10,17,18, 20	357-0004	15	Rectifier, Diode
Q3,9	364-0017	4	Rectifier, Gate Control
Q1,2,7,8	362-0003	2	Transistor
Q5,6,7, 11 thru 14	362-0031	4	Transistor, Field Effect
R5,14	362-0008	8	Transistor, Silicon
R1	350-0536	2	Resistor (1000-Ohm)
R12	350-0526	1	Resistor (150-Ohm)
R2,15	350-0552	1	Resistor (22,000-Ohm)
R3	303-0169	2	Potentiometer
R7,13,22,30	350-0572	1	Resistor (1-Megohm)
R4,16,19,34	350-0505	4	Resistor (2.7-Ohm)
R36	350-0517	4	Resistor (27-Ohm)
R8,11,20,21, 23,24,27,28, 31,33	350-0584	1	Resistor (10-Megohm)
R9,17,18,25, 26,29,32	350-0529	10	Resistor (270-Ohm)
R35	350-0540	7	Resistor (2,200-Ohm)
S1	350-1128	1	Resistor (220-Ohm)
C9	308-0280	1	Switch, Push Button
	356-0066	1	Capacitor

973-0226 (SEPTEMBER 1960)

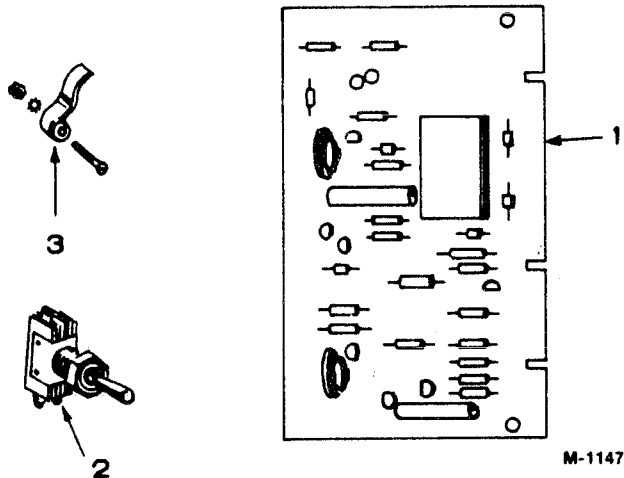
CONTROL, CYCLE CRANKER (OPTIONAL EQUIPMENT)



SC-1123

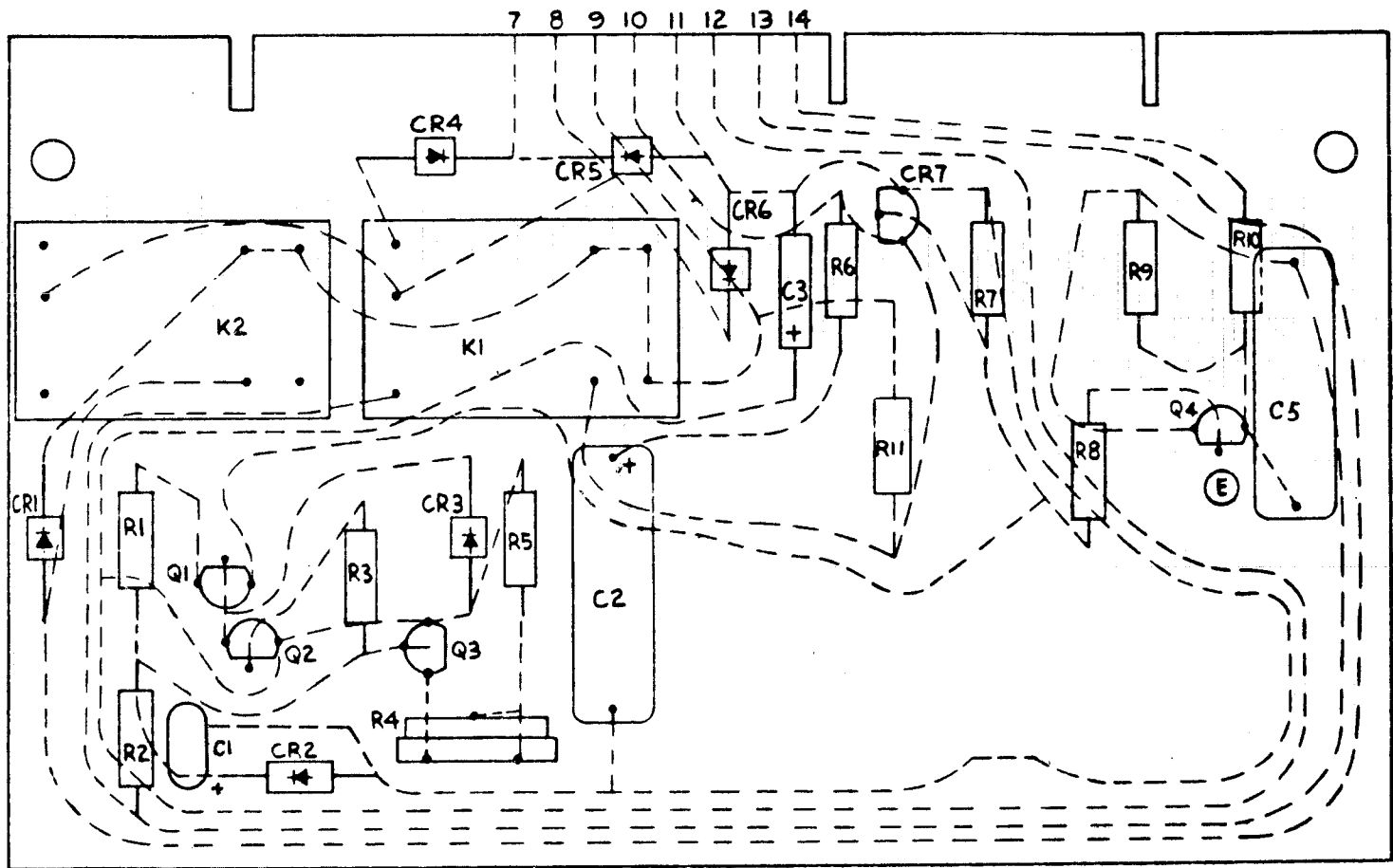
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	300-0714	1	Control, Cycle Cranker - Complete
C1	356-0039	1	Capacitor, Electrolytic (100 Mfd)
CR1	359-0027	1	Diode, Zener (7.5 Volts)
CR2,3,4	357-0004	3	Rectifier, Diode
Q1,2	362-0008	2	Transistor, Signal
Q3	362-0017	1	Transistor
Q4	362-0026	1	Transistor, Signal
Q5	362-0033	1	Transistor, Power
R1, R4	303-0171	2	Potentiometer (5,000-Ohm)
R2	350-0560	1	Resistor, Fixed (1 Megohm)
R3, R9	350-0548	2	Resistor, Fixed (10,000-Ohm)
R5	350-0558	1	Resistor, Fixed (68,000-Ohm)
R6	350-0420	1	Resistor, Fixed (24,000-Ohm)
R7	350-0546	1	Resistor, Fixed (6,800-Ohm)
R8	350-0526	1	Resistor, Fixed (150-Ohm)
R10	350-0500	1	Resistor, Fixed (1.0-Ohm)
R11	352-0152	1	Resistor, Fixed (5 Watt, 2.5-Ohm)
C2	355-0029	1	Capacitor, Composition (.015 Mfd, 100 Volt)
C3	356-0045	1	Capacitor, Electrolytic (25 Mfd, 15 Volt)
C4	355-0010	1	Capacitor, Composition (.0022 Mfd, 10 Volt)

SPECIAL PARTS - PENN STATE MODELS



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	300-0730	1	Module, Engine Control Monitor (See Separate Group for Components)
2	308-0327	1	Switch, Toggle (SPDT) - Engine Control
3	320-0307	1	Lock, Circuit Breaker Handle - AC Control

ENGINE CONTROL MONITOR (12 VOLT PENN STATE) - SETS WITH ONE FAULT LIGHT



SC-1124

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	300-0730	1	Monitor, Engine Control - Complete
K1, K2	307-1039	2	Relay
C2,5	355-0043	2	Capacitor (.22 Mfd)
C3	356-0040	1	Capacitor (10 Mfd)
CR1,3,4,5,6	357-0004	5	Rectifier - Diode
CR2	359-0027	1	Diode - Zener (7.5 Volt)
CR7	364-0017	1	Rectifier - Gate Control
Q1	361-0003	1	Transistor 2N4871
Q2,Q3	362-0031	2	Transistor - Field Effect
Q4	362-0008	1	Transistor - Silicon (PNP) 2N3702

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
R1	350-0536	1	Resistor (1000-Ohm)
R2	350-0526	1	Resistor (150-Ohm)
R3	350-0552	1	Resistor (22,000-Ohm)
R4	303-0169	1	Potentiometer (3.5 Megohm)
R5	350-0572	1	Resistor (1.0 Megohm)
R6	350-0505	1	Resistor (2.7-Ohm)
R7	350-0517	1	Resistor (27-Ohm)
R8, R9	350-0529	2	Resistor (270-Ohm)
R10	350-0540	1	Resistor (2,200-Ohm)
R11	350-0971	1	Resistor (220-Ohm)
C1	356-0066	1	Capacitor (47 Mfd)

973-0226 (SEPTEMBER 1980)