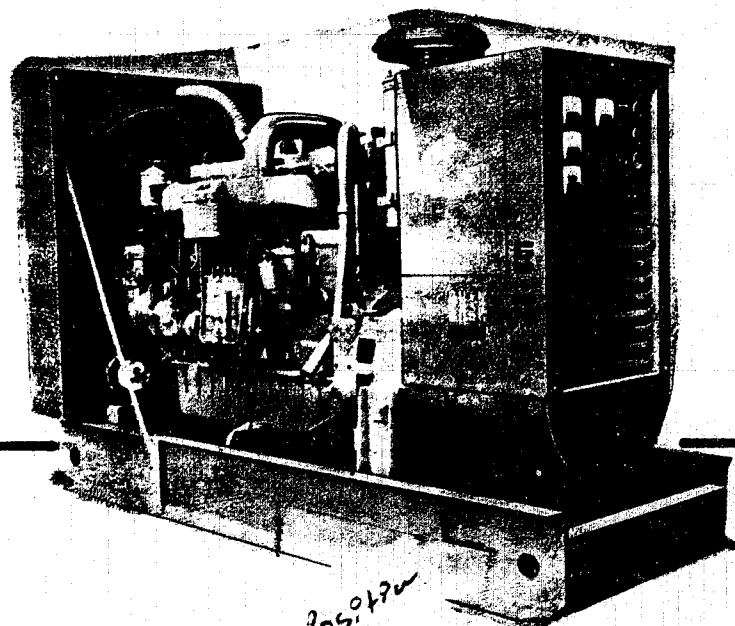


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Parts Manual

DYH GenSet



973-0225
SPEC C-D (6-81)
Replaces
6-77 (Spec C-D)

Printed in U.S.A.

INDEX

LOCATION

GENERAL INFORMATION	A2
SET DATA TABLE	A4
REPLACEMENT ENGINE	A5
EQUIPMENT PARTS SECTION	
Air Cleaner	A6
Alternator	A7
Bus Bars	B8
Chassis	A11
Control, Engine (With One Fault Light)	B2
Control, Generator	B4
Cooling System (With Radiator)	A12
Current Transformer Assembly	B10
Engine Parts, Miscellaneous (Left Side)	A8
Engine Parts, Miscellaneous (Right Side)	A10
Generator Assembly	B6
Housing Control	B1
Rotor, Exciter	B9
OPTIONAL EQUIPMENT SECTION	
Circuit Breaker	C2
Control, Engine (With Five Fault Lights)	C4
Control, Engine (With Mechanical Gauges)	C6
Filter, Engine Coolant	D1
Filter, Voltage Regulator	C7
Cooling System (With Heat Exchanger)	C8
Cooling System (With Standpipe)	C10
Gauge, Fuel Pressure	D4
Heater, Control	C12
Heater, Engine Coolant (Horizontal Tank)	D12
Heater, Engine Coolant (Vertical Tank)	D2
Heater, Generator	C14
Housing, Set	D14
Muffler, Exhaust - Industrial Type (Housed Sets)	D8
Muffler, Exhaust - Residential & Critical Types (Housed Sets)	D10
Switch, Thermostatic - Low Engine Temperature	D2
Tachometer	C4
Tank, Fuel - Day	D5
Tank, Fuel and Sub Base	D6
Vernier Throttle	D7
Wattmeter	C13

This parts catalog applies to the standard generator sets listed below. Any engine parts modified or added by Onan will be listed in this catalog and have been assigned Onan part numbers for identification. These modified or added parts supersede similar parts listed in the Engine Manufacturer's manuals. The illustrations are arranged in groups of related items, and each part or assembly is identified by a reference number. All parts illustrated are typical, and unless otherwise mentioned, parts are interchangeable. These typical illustrations are subject to change and reflect only the latest replacement parts arrangement. The Right and Left generator set sides are determined by facing the front end of the engine.

DATA TABLE - SPEC "C" ONLY

MODEL AND SPEC NO. £	ELECTRICAL DATA				
	WATTS	VOLTS	HERTZ	WIRE	PHASE
200.0 DYH-5D/	200,000	120/240	60	4	3
200.0 DYH-6D/	200,000	240/480	60	4	3
200.0 DYH-7/	200,000	220/380	60	4	3
200.0 DYH-9X/	200,000	340/600	60	4	3
200.0 DYH-17/	200,000	‡	60	12	3
165.0 DYH-517/	165,000	‡	50	12	3
* DYH-17R50/	*	‡	60	12	3

DATA TABLE - BEGIN SPEC "D" ONLY

MODEL AND SPEC NO. £	ELECTRICAL DATA				
	WATTS	VOLTS	HERTZ	WIRE	PHASE
250.0 DYH-5D/	250,000	120/240	60	4	3
250.0 DYH-6D/	250,000	240/480	60	4	3
250.0 DYH-7/	250,000	220/380	60	4	3
250.0 DYH-9X/	250,000	340/600	60	4	3
250.0 DYH-17/	250,000	‡	60	12	3
210.0 DYH-517/	210,000	‡	50	12	3
* DYH-17R50/	*	‡	60	12	3

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

‡ - These sets are reconnectible, refer to Specifications (Generator Details) in Operator's Manual for Electrical Data

* - Penn State Sets - Special Parts Are Identified where applicable.

NOTICE!

ITEMS REFERENCED AS **OPTIONAL** INDICATE PART IS FACTORY INSTALLED AND MAY NOT BE APPLICABLE TO ALL MODELS. FOR FIELD CONVERSIONS ADDITIONAL PARTS ARE USUALLY REQUIRED.

REPLACEMENT ENGINE

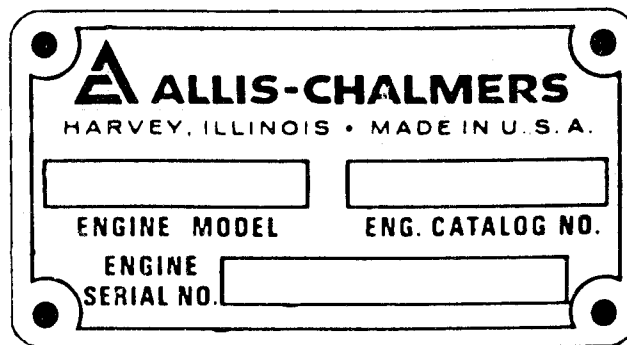
ONAN PART NO.

100-1248 ***Engine, Replacement**
Standard 60 Hertz Sets - Spec "C" Only.
100-1478 Standard 60 Hertz Sets - Begin Spec "D".

Includes: Complete Cylinder Block, Fuel Pump, Fuel Oil Filter, Air Cleaner, 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 and Radiator.

***NOTE:** This replacement engine is for Onan's Standard Spec 1 generator sets, for all other refer to the factory for replacement information.

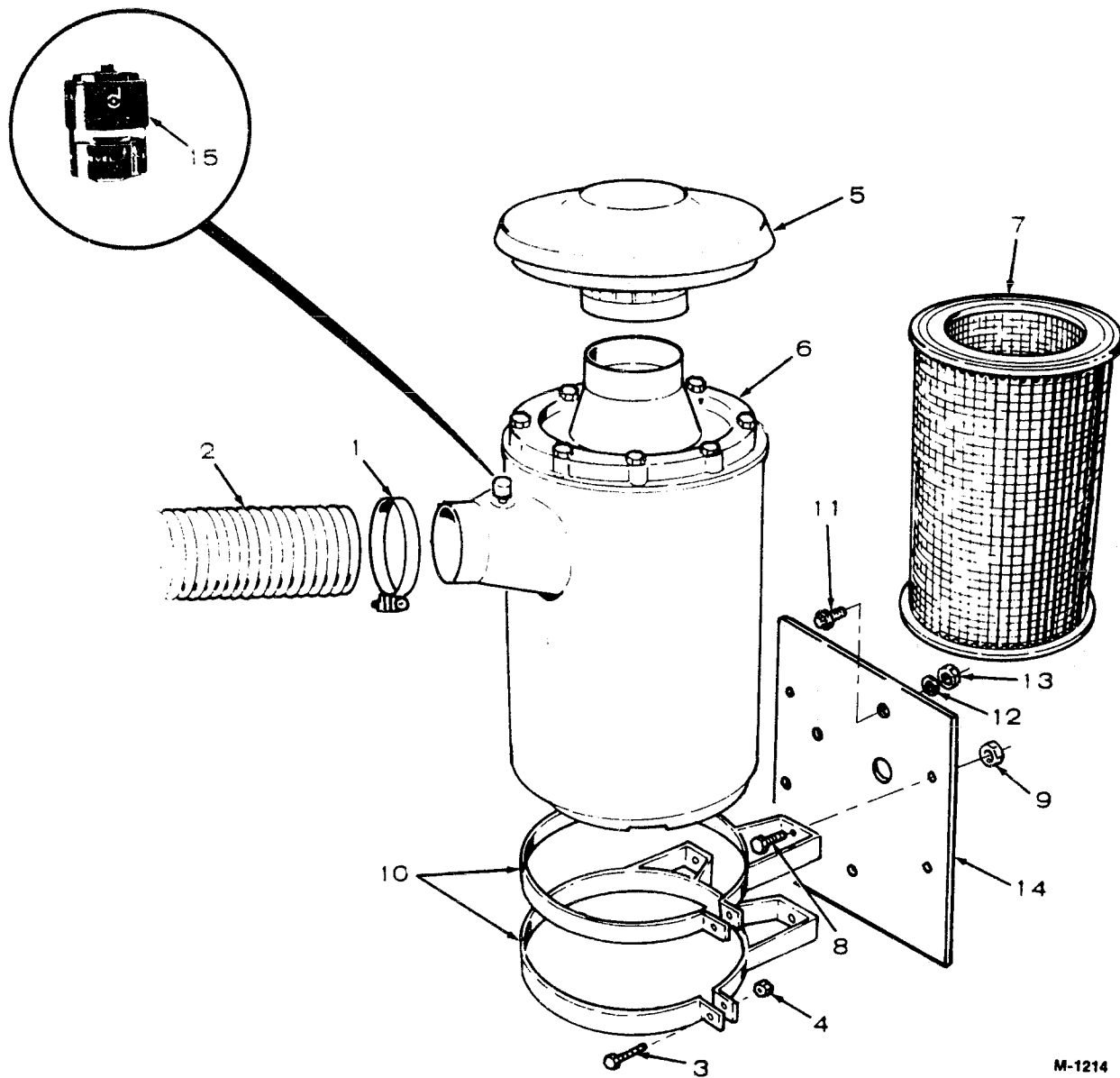


For handy reference, insert "YOUR" nameplate information in the spaces above.

ENGINE REPLACEMENT PARTS

All engine replacement parts must be ordered from the engine manufacturer, except those modified or added by Onan. When ordering engine parts, refer to the manufacturer's nameplate and supply the Model, Spec, Serial numbers and other available information. Refer to the engine manufacture's manuals for your nearest authorized distributor or parts center; or contact the Onan distributor from whom you purchased this set for assistance in ordering replacement parts.

AIR CLEANER



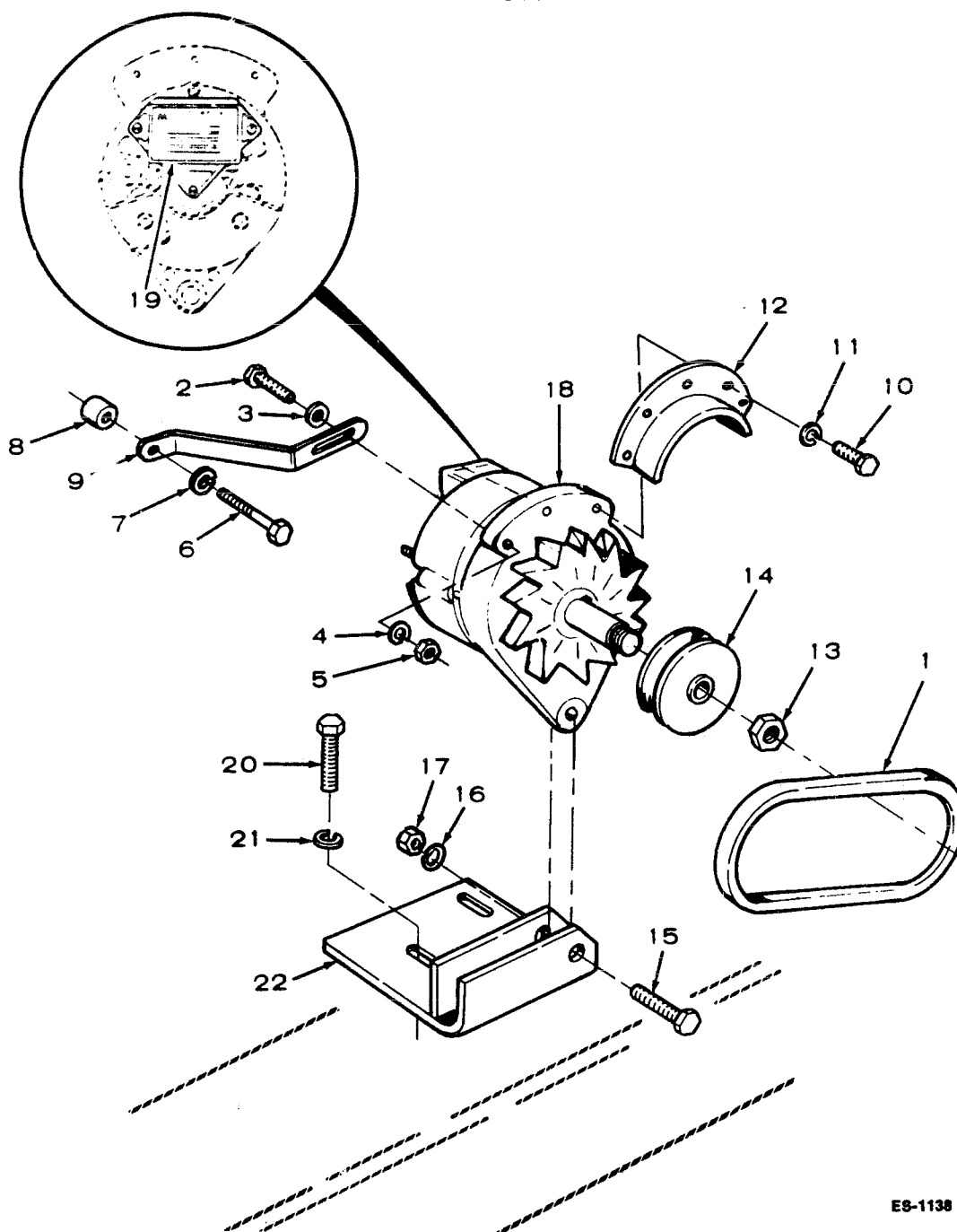
M-1214

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	503-0748	2	Clamp, Hose
2	503-0855	1	Hose, Air - Flexible
3	800-0031	2	Screw, Cap - Hex Head (5/16-18 x 1-1/2")
4	870-0257	2	Nut, Self-locking - Hex (5/16-18)
5	140-1347	1	Cap, Air Cleaner
6	140-1346	1	Air Cleaner (Includes Element)
7	140-1376	1	Filter Element - Air Cleaner
8	821-0029	4	Screw, Self-locking - Hex Washer Head (3/8-16 x 3/4")

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
9	870-0281	4	Nut, Self-locking - Hex (3/8-16)
10	140-1345	2	Band, Mounting - Air Cleaner
11	821-0030	1	Screw, Self-locking - Hex Washer Head (3/8-16 x 1")
12	526-0195	1	Washer, Flat (29/64" ID x 3-1/4" OD x 1/8" Thk)
13	870-0281	1	Nut, Self-locking - Hex (3/8-16)
14	140-1475	1	Bracket, Mounting - Air Cleaner
15	140-1548	1	Indicator, Service - Air Cleaner

973-0225 (JUNE 1981)

ALTERNATOR

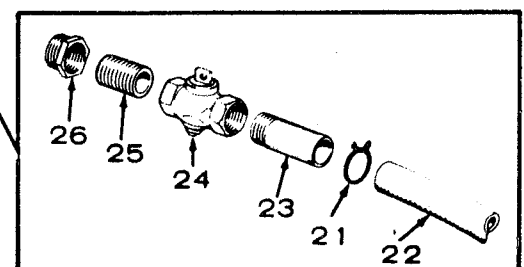
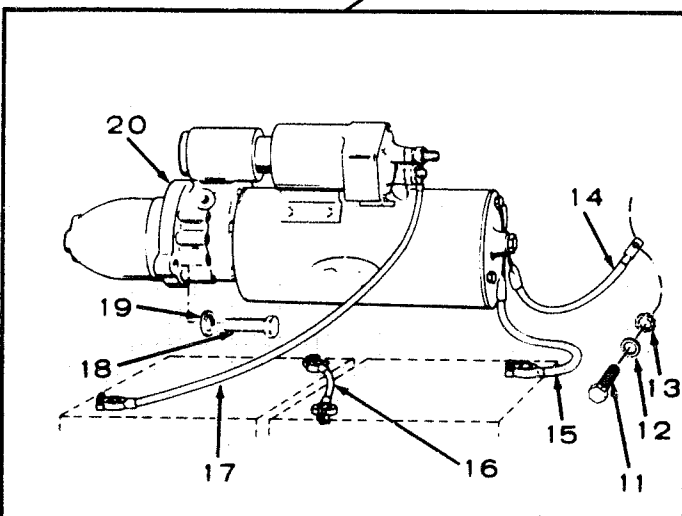
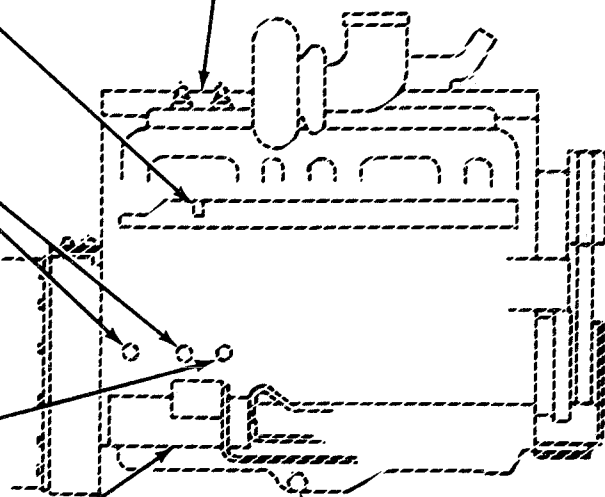
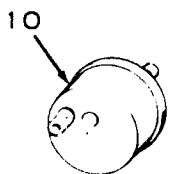
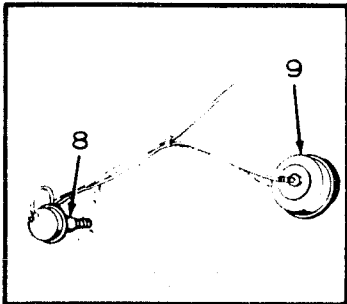
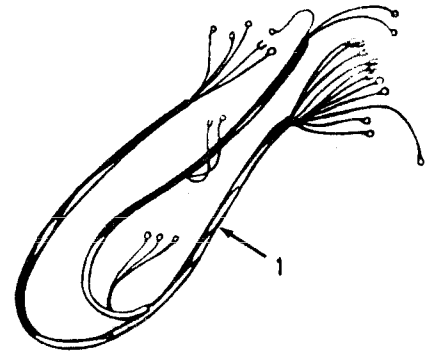
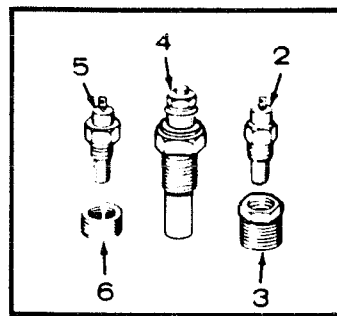
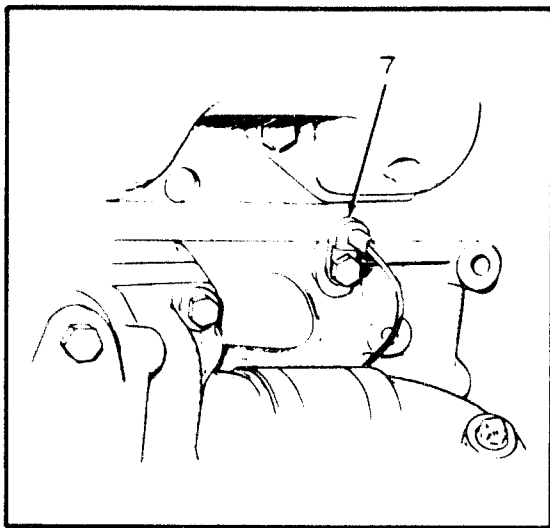


ES-1138

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	511-0092	1	Belt, Drive
2	800-0030	1	Screw, Cap - Hex Head (5/16-18 x 1-1/4")
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	862-0015	1	Nut, Hex (5/16-18)
6	800-0055	1	Screw, Cap - Hex Head (3/8-16 x 2-1/4")
7	850-0050	1	Washer, Lock-Spring (3/8")
8	130-0988	1	Spacer, Sleeve
9	191-0856	1	Bracket, Adjusting - Alternator
10	800-0025	1	Screw, Cap - Hex Head (5/16-18 x 5/8")
11	850-0045	1	Washer, Lock-Spring (5/8")
12	191-0725	1	Guard, Belt
13		1	Nut, Hex (5/8-18 NF-2A) - Part of Alternator

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
14	191-0781	1	Pulley - Alternator Drive
15	800-0095	1	Screw, Cap - Hex Head (1/2-13 x 2-1/4")
16	850-0060	1	Washer, Lock-Spring (1/2")
17	862-0016	1	Nut, Hex (1/2-13)
18	191-0688	1	Alternator
19	191-0733	1	Regulator, Voltage - Part of Alternator
20	800-0132	2	Screw, Cap - Hex Head (5/8-11 x 1-1/2")
21	850-0070	2	Washer, Lock-Spring (5/8")
22	191-0858	1	Bracket, Mounting - Alternator

MISCELLANEOUS ENGINE PARTS (LEFT SIDE)



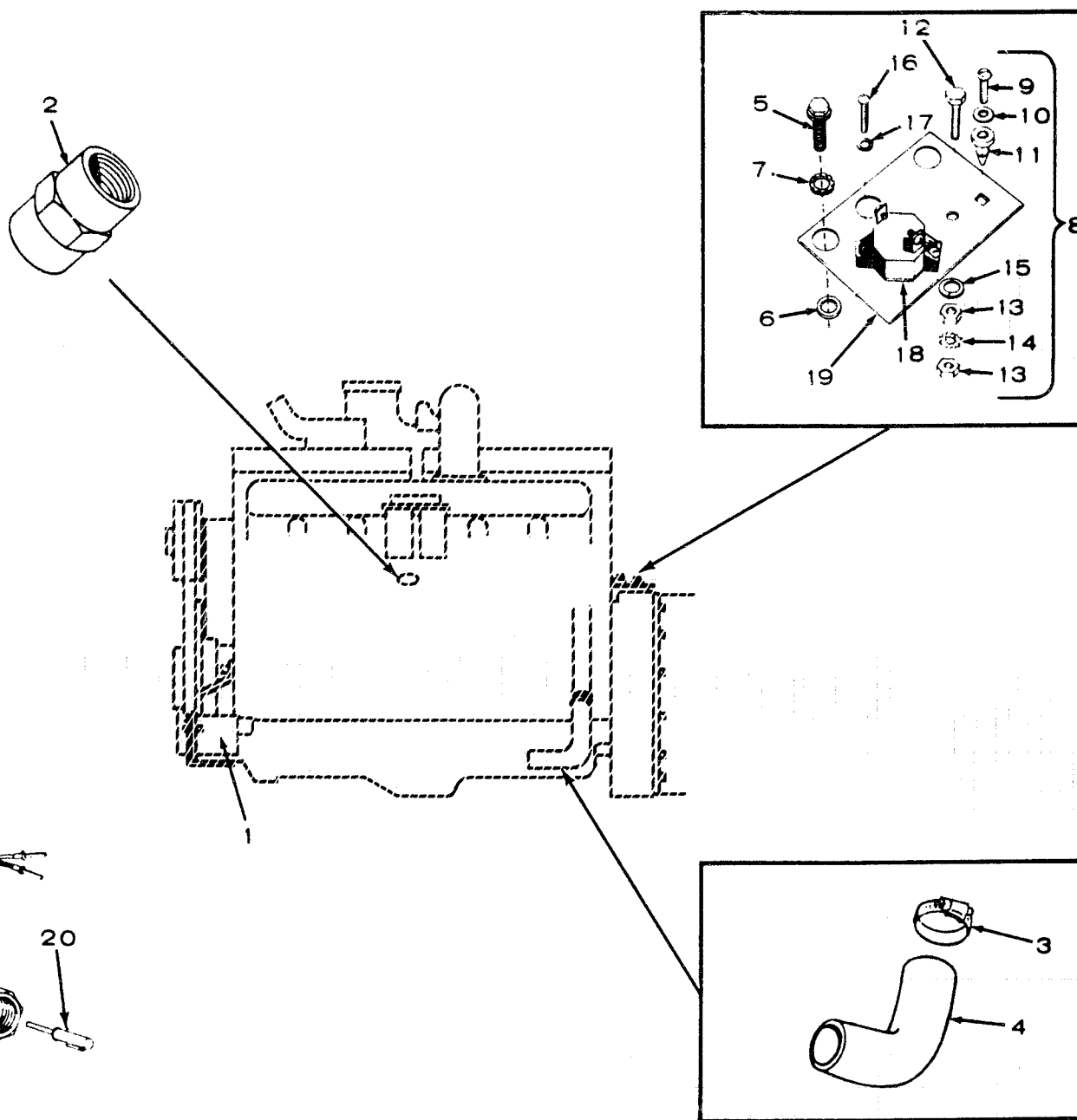
MISCELLANEOUS ENGINE PARTS (LEFT SIDE)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	WIRING HARNESS - ENGINE 338-0706	1	Standard Special (NOTE: Use Standard Wiring Harness and electrical leads as required for optional sensors, switches per Gen Set wiring diagram).
2	309-0179	1	†Switch, Thermostatic - High Coolant Temperature
3	505-0455	1	†Reducer, Bushing - Hex (1 NPT x 3/8 NPT)
4	193-0247	1	Sender, Temperature - Engine Coolant
5	309-0178	1	Switch, Thermostatic - High Coolant Temperature
6	505-0117	1	Reducer, Bushing - Brass (1/2 NPT x 3/8 NPT)
7	309-0269	1	†Switch, Thermostatic - Low Engine Temperature
8	309-0169	1	Switch, Pressure - Low Oil
9	193-0244	1	Sender, Pressure - Oil
10	309-0272	1	†Switch Pressure - Low Oil
11	800-0090	1	Screw, Cap - Hex Head (1/2-13 x 1")
12	850-0060	1	Washer, Lock-Spring (1/2")

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
13	853-0013	1	Washer, Lock-EIT (1/2")
14	416-0632	1	Cable, Electrical - Starter To Ground
15	416-0444	1	Cable, Battery - Negative
16	416-0473	1	Cable, Battery - Jumper
17	416-0636	1	Cable, Battery - Positive
18	800-0135	3	Screw, Cap - Hex Head (5/8-11 x 2-1/4")
19	850-0070	3	Washer, Lock-Spring (5/8")
20	191-1348	1	Starter, Electrical - 24 Volt
21	503-0197	1	Clamp, Hose
22	503-0509	1	Hose, Rubber (3/4" ID x 1" OD x 13")
23	505-0185	1	Nipple, Pipe - Half (1/2 NPT x 1-1/2")
24	504-0011	1	Valve, Cock
25	505-0100	1	Nipple, Pipe - Close (1/2 NPT x 1-1/8")
26	505-0022	1	Reducer, Bushing - Hex

† - Optional Items, Used With Fault Lights or Gauges on Engine Control Panel.

MISCELLANEOUS ENGINE PARTS (RIGHT SIDE)



M-1216

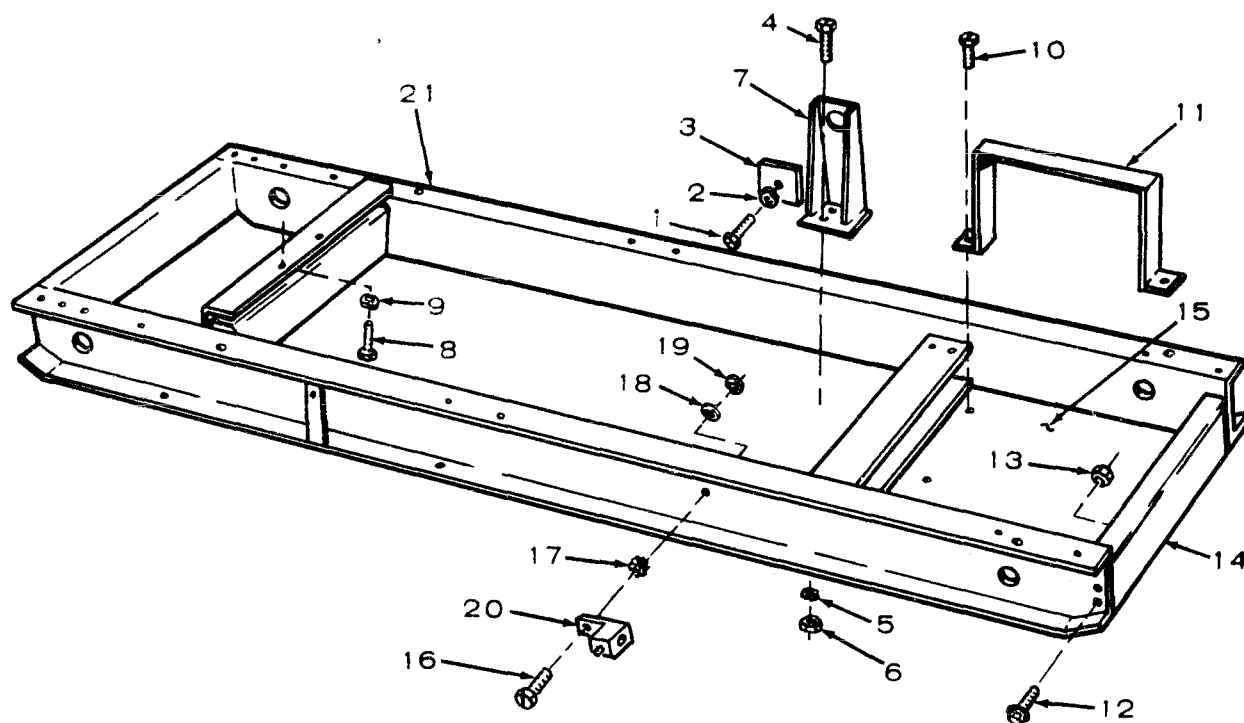
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	REF		Alternator Assembly (See Separate Group for Components)
2	502-0168	1	Coupling, Pipe - Hex, Brass (3/8 NPT)
3	503-0365	1	Clamp, Hose
4	503-0441	1	Hose, Rubber - Preformed (Crankcase Breather System)
5	821-0029	1	Screw, Self-Locking - Hex Washer Head (3/8-16 x 3/4")
6	526-0013	1	Washer, Flat (25/64" ID x 1" OD x 1/16" Thk)
7	853-0018	1	Washer, Lock-ET (3/8")
8	332-1383	1	Assembly - Circuit Breaker & Terminal (Includes Items Marked #)
9	809-0035	1	#Screw, Tapping - Roundhead (#8-34")

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
10	508-0015	1	#Washer, Insulating - Fiber
11	870-0196	1	#Nut, Insulated
12	800-0005	1	#Screw, Cap - Hex Head (1/4-20 x 3/4")
13	862-0001	2	#Nut, Hex (1/4-20)
14	856-0006	1	#Washer, Lock - EIT (1/4")
15	850-0040	1	#Washer, Lock - Spring (1/4")
16	813-0103	2	#Screw, Machine - Roundhead (#10-32 x 3/4")
17	850-0030	2	#Washer, Lock - Spring (#10)
18	320-0240	1	#Circuit Breaker
19	332-1382	1	#Board, Mounting
20	302-0753	1	†Tang, Drive - Tachometer
21	302-0750	1	†Sender, Tachometer

† - Optional Items, Used With Fault Lights or Gauges on Engine Control Panel.

- Parts Included in Circuit Breaker Assembly.

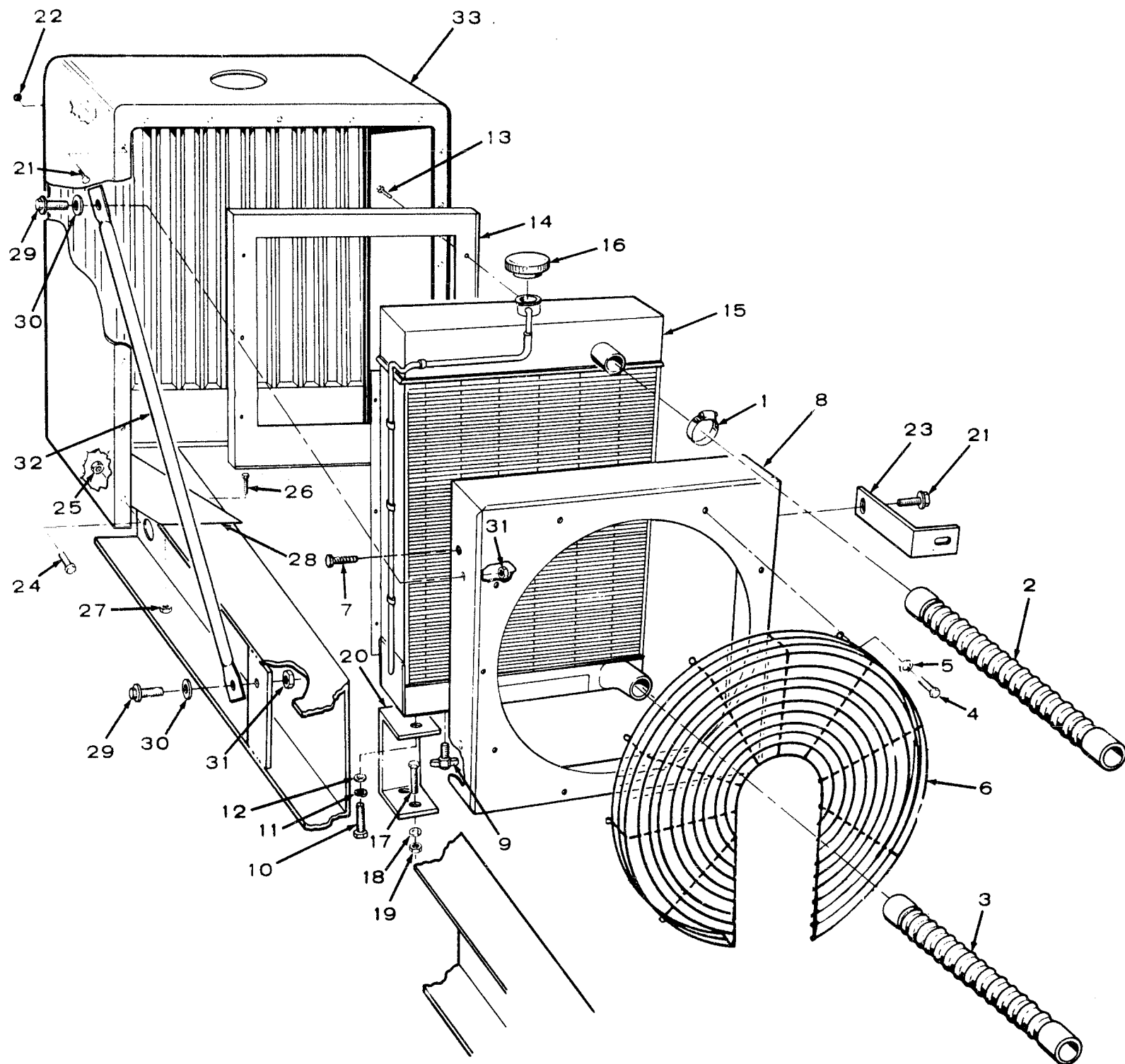
CHASSIS



M-1217

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	800-0153	2	Screw, Cap - Hex Head (3/4-10 x 1-1/2")	11	416-0635	2	Strap, Holddown - Battery
2	850-0079	2	Washer, Lock-Spring (3/4")	12	821-0016	10	Screw, Self-Locking - Hex Washer Head (5/16-18 x 3/4")
3	232-2385	2	Plate, Mounting - Generator	13	870-0257	10	Nut, Self-Locking - Hex (5/16-18)
4	800-0156	4	Screw, Cap - Hex Head (3/4-10 x 2-1/4")	14	403-1200	1	Panel, Rear - Chassis
5	850-0079	4	Washer, Lock-Spring (3/4")	15	416-0674	1	Tray, Support-Battery
6	862-0020	4	Nut, Hex (3/4-10)	16	800-0028	1	Screw, Cap - Hex Head (5/16-18 x 1")
7	232-2389	2	Bracket, Mounting - Generator	17	856-0008	1	Washer, Lock-EIT (5/16")
8	800-0132	2	Screw, Cap - Hex Head (5/8-11 x 1-1/2")	18	850-0045	1	Washer, Lock-Spring (5/16")
9	850-0070	2	Washer, Lock-Spring (5/8")	19	862-0015	1	Nut, Hex (5/16-18)
10	800-0035	4	Screw, Cap - Hex Head (5/16-18 x 2-1/2")	20	332-1473	1	Lug, Terminal
				21	403-1025	1	Base, Skid

COOLING SYSTEM (WITH RADIATOR)



XCB-1098

COOLING SYSTEM (WITH RADIATOR)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	503-0364	4	Clamp, Hose	17	800-0092	4	Screw, Cap - Hex Head (1/2-13 x 1-1/2")
2	503-0616	1	Hose, Rubber - Upper	18	862-0016	4	Nut, Hex (1/2-13)
3	503-0615	1	Hose, Rubber - Lower	19	850-0060	4	Washer, Lock-Spring (1/2")
4	821-0018	8	Screw, Self-Locking - Hex Washer Head (1/4-20 x 5/8")	20	BRACKET, SUPPORT — RADIATOR		
5	526-0045	8	Washer, Flat (21/64" ID x 5/8" OD x 1/8" Thk)		130-0843	2	150/175 kW Sets
6	130-0924	1	Guard, Fan		130-1412	2	200 kW Sets
7	821-0014	6	Screw, Self-Locking - Hex Washer Head (5/16-18 x 1/2")	21	821-0016	4	Screw, Self-Locking - Hex Washer Head (5/16-18 x 3/4")
8	130-0918	1	Shroud, Fan	22	870-0257	2	Nut, Self-Locking - Hex (5/16-18)
9	504-0028	1	Cock, Drain	23	130-0848	2	Brace, Support - Radiator
10	800-0130	4	Screw, Cap - Hex Head (5/8-11 x 1")	24	821-0016	4	Screw, Self-Locking - Hex Washer Head (5/16-18 x 3/4")
11	850-0070	4	Washer, Lock-Spring (5/8")	25	870-0257	4	Nut, Self-Locking - Hex (5/16-18)
12	526-0112	4	Washer, Flat (11/16" ID x 1-3/8" OD x 7/64" Thk)	26	800-0030	4	Screw, Cap - Hex Head (5/16-18 x 1-1/4")
13	821-0014	8	Screw, Self-Locking - Hex Washer Head (5/16-18 x 1/2")	27	870-0048	6	Nut, Self-Locking - Hex (5/16-18)
14	130-0842	1	Shroud, Radiator	28	405-2016	2	Bracket, Mounting - Front Panel
15	130-0836	1	Radiator (Includes Cap)	29	821-0030	4	Screw, Self-Locking - Hex Washer Head (3/8-16 x 1")
16	130-0449	1	Cap, Radiator	30	526-0013	4	Washer, Flat (25/64" ID x 1" OD x 1/16" Thk)
				31	870-0133	4	Nut, Self-Locking - Hex (3/8-16)
				32	405-1888	2	Brace, Support - Radiator
				33	405-1884	1	Panel, Housing - Front

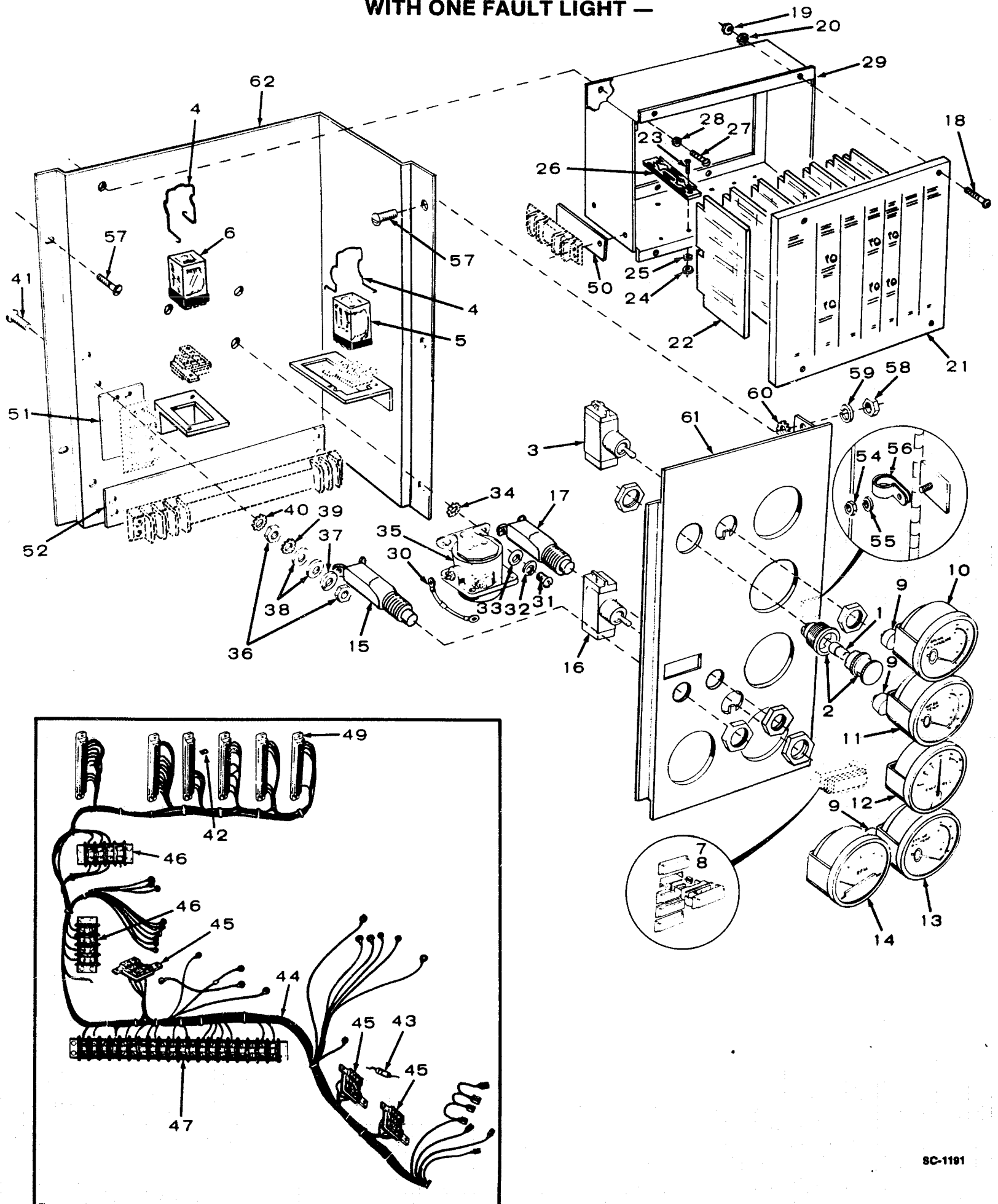
This exploded view diagram illustrates the assembly of a mechanical unit. The components are numbered as follows:

- 1**: A small circular component, possibly a pin or a small wheel, located near the base of the main frame.
- 2**: A small circular component, likely a pin or a small wheel, located near the top of the main frame.
- 3**: A rectangular plate or cover, shown in two positions: one above the main frame and one to the left, attached to a side panel.
- 4**: A small circular component, likely a pin or a small wheel, located near the base of the main frame.
- 5**: A small circular component, likely a pin or a small wheel, located near the base of the main frame.
- 6**: A small circular component, likely a pin or a small wheel, located near the base of the main frame.
- 7**: A long, narrow, rectangular component, possibly a guide or a support, located to the right of the main frame.
- 8**: A long, narrow, rectangular component, possibly a guide or a support, located to the right of the main frame.
- 9**: A small circular component, likely a pin or a small wheel, located near the base of the main frame.
- 10**: A long, narrow, rectangular component, possibly a guide or a support, located to the right of the main frame.
- 11**: A small circular component, likely a pin or a small wheel, located near the base of the main frame.
- 12**: A curved, semi-circular component, possibly a guard or a cover, located at the bottom of the main frame.
- 13**: A small circular component, likely a pin or a small wheel, located near the base of the main frame.
- 14**: A small circular component, likely a pin or a small wheel, located near the base of the main frame.
- 15**: The main rectangular frame or housing of the assembly.

The diagram shows the relative positions and assembly sequence of these components. Dashed lines indicate the alignment and movement of parts during assembly. The main frame (15) is the central component, with various panels and covers (3, 12) and internal components (1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14) being attached to it.

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	508-0203	1	Bushing, Grommet
2	821-0010	24	Screw, Self-locking - Hex Washer Head (1/4-20 x 1/2")
3	301-3731	3	Plate, Access
4	813-0102	1	Screw, Machine - Round Head (#10-32 x 5/8")
5	850-0030	1	Washer, Lock - Spring (#10)
6	332-0052	3	Clamp, Loop
7	821-0010	6	Screw, Self-locking - Hex Washer Head (1/4-20 x 1/2")
8	234-0490	1	Grille - Generator Air Inlet
9	821-0010	4	Screw, Self-locking - Hex Washer Head (1/4-20 x 1/2")
10	301-3604	1	Shelf, Mounting - Control Box
11	821-0014	10	Screw, Self-locking - Hex Washer Head (5/16-18 x 1/2")
12	234-0489	1	Cover - Generator End Bell
13	821-0016	2	Screw, Self-locking - Hex Washer Head (5/16-18 x 3/4")
14	870-0257	2	Nut, Self-locking - Hex (5/16-18)
15	301-3605	1	Housing, Control

ENGINE CONTROL WITH ONE FAULT LIGHT —



8C-1181

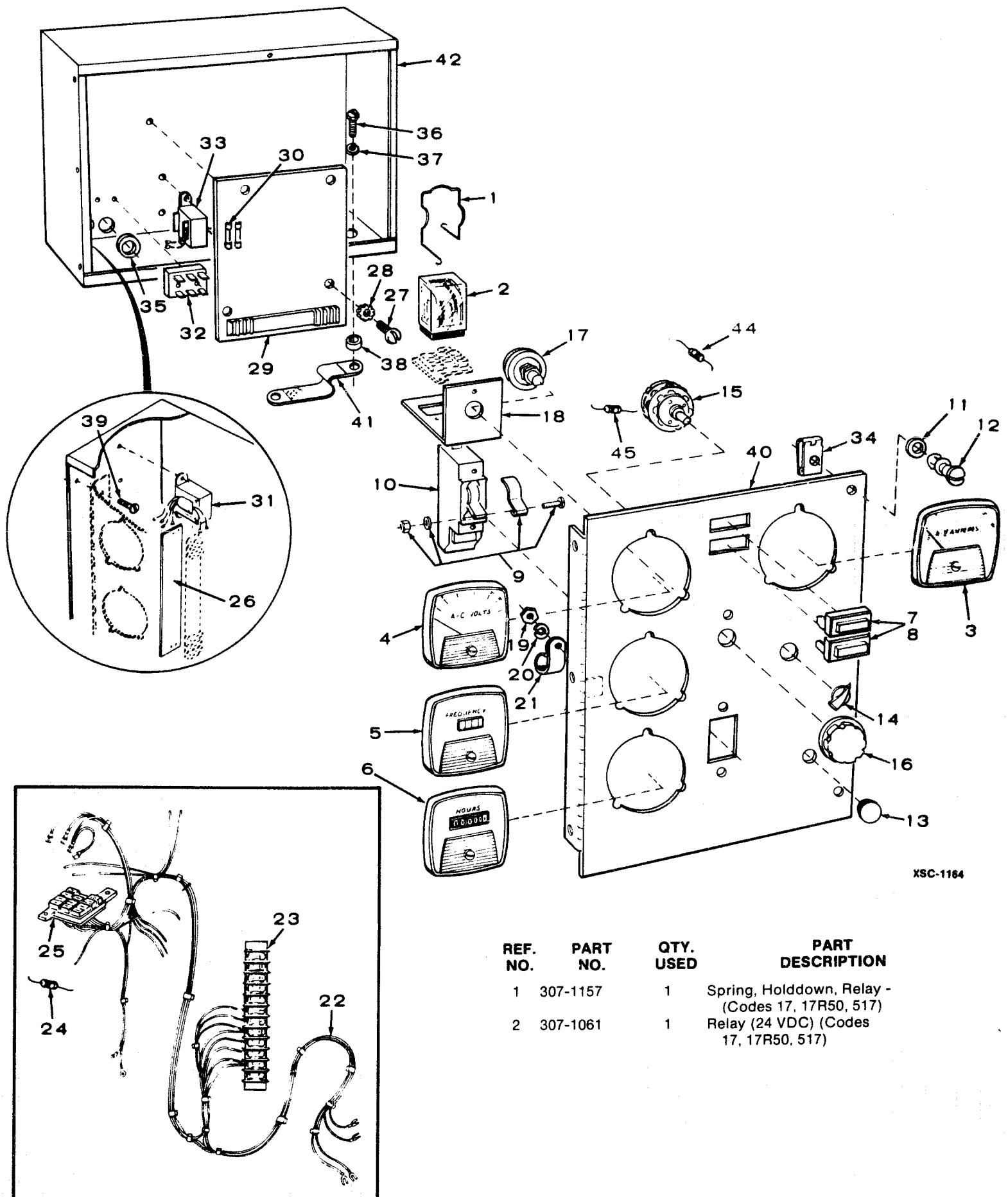
ENGINE CONTROL WITH ONE FAULT LIGHT —

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	322-0017	1	Lamp, Incandescent (24 VDC)
2	322-0149	1	Lampholder
3	308-0002	1	Switch, Toggle (SPST)
4	307-1157	3	Spring, Holddown - Relay
5	307-1056	2	Relay
6	307-1061	1	Relay
7	LIGHT, INDICATOR - 28 VDC (Lens Color & Legend Listed Below)		
	322-0129	1	Red - Fault
	NOTE: For lamp replacement order 322-0137 remove and discard plain red lens, install lens with legend from burned out light — lights snap in and out of panel.		
8	322-0137	1	Light, Indicator 28 VDC (Red Lens - No Legend)
9	193-0250	3	Resistor - Gauge
10	193-0243	1	Gauge - Oil Pressure (12 VDC)
11	193-0245	1	Gauge - Water Temperature (12 VDC)
12	302-0061	1	Ammeter
13	193-0248	1	£Gauge - Oil Temperature (12 VDC)
14	302-0749	1	£Tachometer - Electrical
15	308-0337	1	Switch, Push - Lamp Test
16	SWITCH, TOGGLE - SELECTOR		
	308-0220	1	Standard Control (DPDT-3 Position)
	308-0347	1	Penn State Control (DPDT)
17	308-0051	1	Switch, Push - Alarm Reset
18	812-0063	4	Screw, Machine - Round Head (#6-32 x 1/2")
19	860-0006	4	Nut, Hex (#6-32)
20	853-0003	4	Washer, Lock-ET (#6)
21	301-3635	1	Corer, Printed Circuit Assembly
22	PRINTED CIRCUIT BOARD ASSEMBLY		
	300-0953	1	Control, Engine Monitor
	300-0954	1	Control, Engine Shutdown
	300-0956	1	Control, Cyle Cranker
	300-0957	1	Control, Overspeed Sensor
	300-0958	1	Control, Starter Disconnect
	300-0973	1	Control, Start-Stop Time Delay
	300-0977	1	Control, Standard Cranker
	300-0987	1	Control, Bypass
23	812-0063	24	Screw, Machine - Round Head (#6-32 x 1/2")
24	860-0006	24	Nut, Hex (#6-32)
25	853-0003	24	Washer, Lock-ET (#6)
26	323-0814	12	Guide, Printed Circuit Board
27	813-0100	4	Screw, Machine - Round Head (#10-32 x 1/2")
28	850-0030	4	Washer, Lock-Spring (#10)
29	301-3588	1	Rack
30	357-0018	1	Diode, with Terminals

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
31	813-0098	2	Screw, Machine - Round Head (#10-32 x 3/8")
32	850-0030	2	Washer, Lock - Spring (#10)
33	526-0009	2	Washer, Flat (7/32" ID x 1/2" OD x 1/16" Thk)
34	856-0003	2	Washer, Lock - EIT (#10)
35	307-0061	1	Relay, Solenoid - Start (24 VDC)
	GROUND TERMINAL ASSEMBLY (Includes the Following Items)		
36	871-0010	2	Nut, Hex - Brass (#10-32)
37	850-0030	1	Washer, Lock - Spring (#10)
38	526-0062	2	Washer, Flat - Brass (13/64" ID x 1/2" OD x 1/16" Thk)
39	853-0008	1	Washer, Lock - ET (#10)
40	856-0003	1	Washer, Lock - EIT (#10)
41	815-0203	1	Screw, Machine - Round Head, Brass (#10-32 x 7/8")
42	332-1276	7	Plug, Keying - PC Board
43	357-0004	1	Diode
	ATTACHING HARDWARE FOR WIRING HARNESS		
	812-0063	6	Screw, Machine - Round Head (#6-32 x 1/2")
	812-0066	6	Screw, Machine - Round Head (#6-32 x 3/4")
	853-0003	26	Washer, Lock - ET (#6)
	860-0006	18	Nut, Hex (#6-32)
44	338-0715	1	Harness, Wiring (Includes Following Items)
45	323-0765	3	Socket, Relay
46	332-0537	2	Block, Terminal - 4 Place
47	332-1005	1	Block, Terminal - 20 Place
49	332-1271	6	Connector - Printed Circuit Board
50	332-1561	1	Strip, Marker - Terminal
51	332-1239	1	Strip, Marker - Terminal
52	332-1559	1	Strip, Marker - Terminal
54	870-0053	1	Nut, Hex (#10-32)
55	850-0030	1	Washer, Lock - Spring (#10)
56	332-0051	1	Clamp, Loop
57	815-0026	5	Screw, Machine - Truss Head (#10-32 x 3/8")
58	870-0053	1	Nut, Hex (#10-32)
59	850-0030	1	Washer, Lock - Spring (#10)
60	856-0003	1	Washer, Lock - EIT (#10)
61	PANEL, CONTROL - ENGINE		
	301-3661	1	With Three Gauge Mtg. Holes
	301-3978	1	With Four Gauge Mtg. Holes
	301-3979	1	With Five Gauge Mtg. Holes
62	301-3621	1	Bracket, Mounting - Engine Control

£ - Optional Items Used With Engine Mounted Senders.

GENERATOR CONTROL —



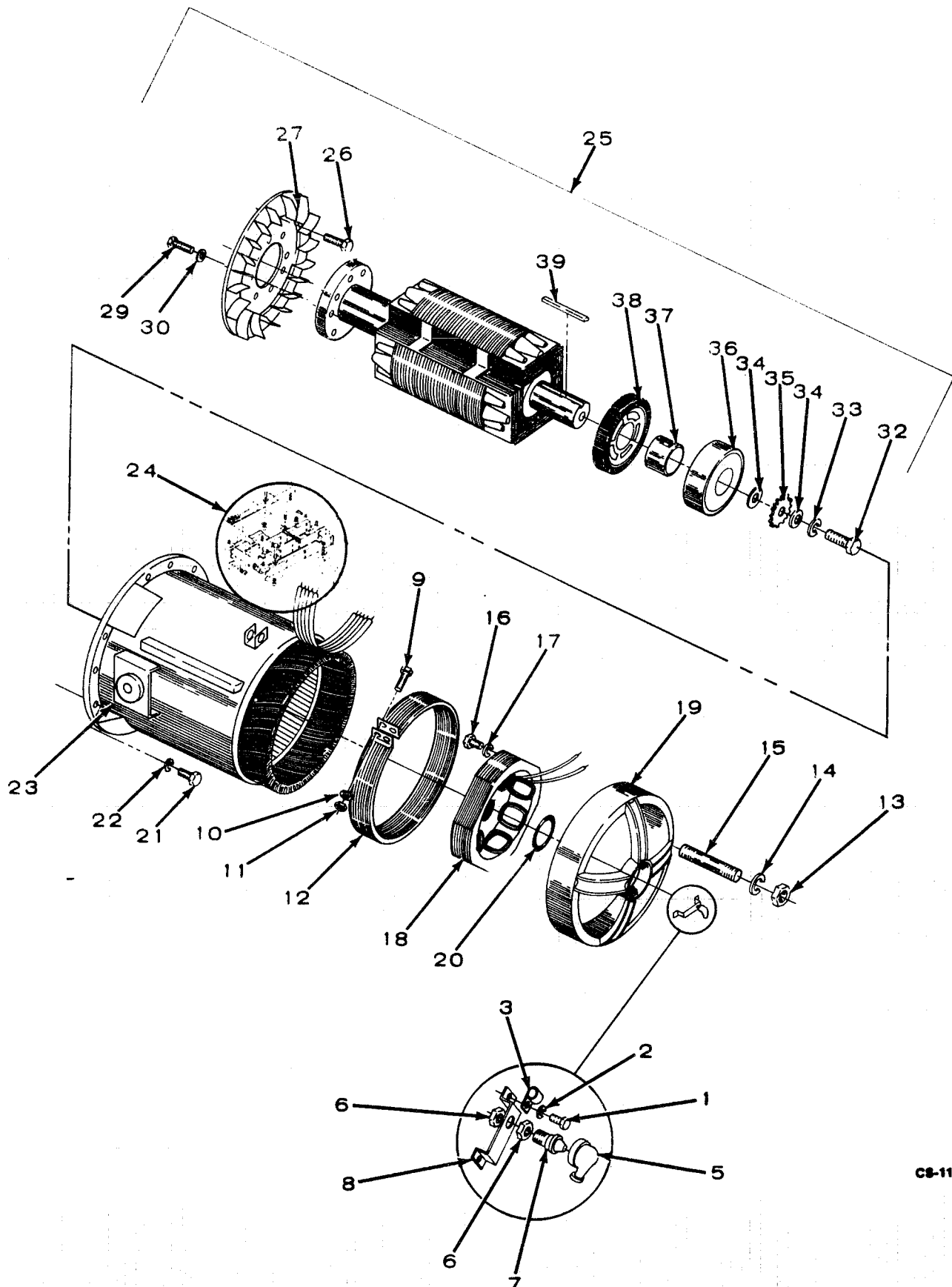
XSC-1164

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	307-1157	1	Spring, Holddown, Relay - (Codes 17, 17R50, 517)
2	307-1061	1	Relay (24 VDC) (Codes 17, 17R50, 517)

GENERATOR CONTROL

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
3	AMMETER (Select As Required)			22	HARNESS, WIRING - GENERATOR CONTROL (Includes Item 23)		
			DUAL SCALE (Codes 17, 17R50, 517)	338-0730	1		Codes 17, 17R50, 517 (Includes Items 24, 25)
	302-0877	1	0-400, 0-800 Amp	338-0759	1		Codes 5D, 6D, 9XR
	302-0878	1	0-500, 0-1000 Amp	338-0916	1		Code 7
	302-0879	1	0-600, 0-1200 Amp				ATTACHING HARDWARE FOR WIRING HARNESS
	302-0880	1	0-750, 0-1500 Amp	812-0061	2		Screw, Machine - Round Head (#6-32 x 3/8")
			SINGLE SCALE (Codes 5D, 6D, 7, 9XR)	812-0066	2		Screw, Machine - Round Head (#6-32 x 3/4")
	302-0413	1	0-300 Amp	850-0020	2		Washer, Lock - Spring (#6)
	302-0414	1	0-500 Amp	853-0003	4		Washer, Lock - ET (#6)
	302-0415	1	0-750 Amp	860-0006	2		Nut, Hex (#6-32)
	302-0416	1	0-1000 Amp	23	332-0795	1	Block, Terminal - 16 Place
	302-0605	1	0-400 Amp	24	350-0556	1	Resistor, Fixed, Composition (47 K Ohms, 1/2 Watt)
	302-0640	1	0-1200 Amp	25	323-0765	1	Socket, Relay - 11 Place
	302-0641	1	0-1500 Amp	26	332-1242	1	Strip, Marker - Terminal
4	VOLTMETER (Select As Required)			27	812-0065	4	Screw, Machine - Round Head (#6-32 x 5/8")
			DUAL SCALE (Codes 17, 17R50, 517)	28	853-0003	4	Washer, Lock - ET #6)
	302-0718	1	0-300, 0-600 Volt	29	REGULATOR, VOLTAGE (Select As Required)		
			SINGLE SCALE (Codes 5D, 6D, 7, 9XR)				NOTE: REGULATOR MATCHED TO VOLTAGE TRANSFORMER, Item #31.
	302-0421	1	0-300 Volt	332-1268	1		Used With 120 VAC Input Signal
	302-0612	1	0-500 Volt	332-1956	1		Used with 240 VAC Input Signal
	302-0422	1	0-600 Volt	30	321-0204	2	Fuse, Cartridge (1/4 Amp) - Part of 332-1956 Voltage Regulator
	302-0779	1	0-750 Volt	31	TRANSFORMER, VOLTAGE (Select as Required)		
5	METER, FREQUENCY (Select as Required)			315-0342	1		120 VAC
			POINTER TYPE	315-0431	1		240 VAC
	302-0810	1	60 Hz (Codes 7, 17, 17R50)				NOTE: Transformer Matched to Voltage Regulator, Item #29
	302-0810	1	60 Hz (Codes 5D, 6D, 9XR)				ATTACHING PARTS FOR TRANSFORMER
	302-0894	1	50 Hz (Code 517)	812-0061	2		Screw, Machine - Round Head (#6-32 x 3/8")
			REED TYPE	853-0003	2		Washer, Lock - ET (#6)
	302-0221	1	60 Hz	32	305-0524	1	Rectifier Bridge
	302-0256	1	50 Hz				ATTACHING PARTS FOR RECTIFIER BRIDGE
6	METER, TIME TOTALIZING (Select As Required)			812-0066	2		Screw, Machine - Round Head (#6-32 x 3/4")
	302-0466	1	60 Hz	853-0003	2		Washer, Lock - ET (#6)
	302-0469	1	50 Hz	33	315-0384	1	Reactor
7	LIGHT, INDICATOR - 125 VAC (Codes 17, 17R50, 517)						ATTACHING PARTS FOR REACTOR
	322-0130	1	Red Lens, Lower Scale Legend)	812-0061	2		Screw, Machine - Round Hat (#6-32 x 3/8")
	322-0131	1	Red Lens, Upper Scale Legend	853-0003	2		Washer, Lock - ET (#6)
8	322-0178	1	Light, Indicator - 125 VAC (Replacement) - Discard Lens - Used Lens From Original Light	34	406-0332	2	Receptacle, Turnbutton Fastener
9	320-0307	1	Lock - Circuit Breaker Handle (Penn State Sets)	35	508-0001	4	Grommet, Rubber
	ATTACHING HARDWARE FOR LOCK			36	800-0045	4	Screw, Cap - Hex Head (5/16-18 x 3/8")
	815-0203	1	Screw, Machine - Round Head (#10-32 x 7/8")	37	850-0045	4	Washer, Lock - Spring (5/16")
	854-0010	1	Washer, Lock - IT (#10)	38	402-0070	4	Dampener, Vibration
	871-0010	1	Nut, Hex (#10-32)	39	815-0026	3	Screw, Machine - Truss Head (#10-32 x 3/8")
10	320-0455	1	Circuit Breaker - 3 Amp	40	PANEL, CONTROL		
	ATTACHING HARDWARE FOR CIRCUIT BREAKER			301-3170	1		Codes 17, 17R50, 517
	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")	301-3342	1		Codes 5D, 6D, 7, 9XR
	850-0020	2	Washer, Lock - Spring (#6)	41	337-0049	1	Strap, Ground
	815-0203	1	Screw, Machine - Round Head, Brass (#10-32 x 7/8")				ATTACHING PARTS FOR STRAP
	871-0010	1	Nut, Hex - Brass (#10-32)	800-0046	1		Screw, Cap - Hex Head (5/16-18 x 3/8")
	853-0008	1	Washer, Lock - ET (#10)	850-0045	1		Washer, Lock - Spring (5/16")
	526-0049	1	Washer, Flat - Brass (13/64" ID x 7/16" OD x 1/32" Thk)	856-0008	2		Washer, Lock - EIT (5/16")
11	406-0334	2	Clip, Retaining - Turnbutton Fastener	862-0015	1		Nut, Hex (5/16-18)
12	406-0333	2	Stud, Turnbutton Fastener	42	301-3158	1	Box, Control
13	517-0131	1	Plug, Plastic	43	821-0010	2	Screw, Self-Locking - Hex Washer Head (1/4-20 x 1/2")
14	303-0076	1	Knob, Pointer	44	350-0098	1	Resistor, Fixed, Composition (3000 Ohms, 1/2 Watt)
15	308-0284	1	Switch, Selector	45	350-0101	1	Resistor, Fixed, Composition (3900 Ohms, 1/2 Watt)
16	303-0032	1	Knob				
17	303-0170	1	Rheostat (35K Ohms, 25 Watt)				
18	301-3244	1	Bracket, Mounting, Relay - Code 17, 17R50, 517				
19	870-0053	1	Nut, Hex (#10-32)				
20	850-0030	1	Washer, Lock - Spring (#10)				
21	332-0051	1	Clamp, Loop				

GENERATOR ASSEMBLY . .



C8-1102

GENERATOR ASSEMBLY

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	800-0005	2	Screw, Cap - Hex Head (1/4-20 x 1-1/2")
2	850-0040	2	Washer, Lock - Spring (1/4")
3	332-1554	1	Clamp, Loop
4	150-1411	1	Sensor Assembly - Speed (Includes Parts Marked †)
5	150-1410	1	†Cap, Insulator
6	868-0011	2	†Nut, Hex, Jam (3/4-16)
7	150-1406	1	†Sensor, Magnetic - Speed
8	150-1407	1	†Bracket, Mounting - Speed Sensor
9	800-0008	2	Screw, Cap - Hex Head (1/4-20 x 1-1/4")
10	850-0040	2	Washer, Lock - Spring (1/4")
11	862-0001	2	Nut, Hex (1/4-20)
12	234-0455	1	Screen, Air - Generator
13	862-0016	4	Nut, Hex (1/2-13)
14	850-0060	4	Washer, Lock - Spring (1/2")
15	520-0780	4	Stud (1/2-13 x 6-1/2" lg)
16	800-0009	4	Screw, Cap - Hex Head (1/4-20 x 1-1/2")
17	850-0040	4	Washer, Lock - Spring (1/4")
18	STATOR, EXCITER		
	220-1920	1	Standard
	220-2607	1	£Environmental Protected
19	211-0214	1	End Bell
20	509-0151	1	Seal "O" Ring
21	800-0073	12	Screw, Cap - Hex Head (7/16-14 x 1-1/2")
22	850-0055	12	Washer, Lock - Spring (7/16")
23	STATOR, GENERATOR (Includes Bus Bars)		
			SPEC C ONLY
	220-2135	1	Code 517, 50 Hz, 165 kw
	220-2341	1	Code 5D, 60 Hz, 200 kw
	220-2347	1	Code 6D, 60 Hz, 200 kw
	220-	1	Code 7, 60 Hz, 200 kw
	220-2317	1	Code 9X, 60 Hz, 200 kw
	220-1912	1	Code 17, 60 Hz, 200 kw
	220-2611	1	£Code 17, 60 Hz, 200 kw, Environmental Protected
			BEGIN SPEC D
	220-2137	1	Code 517, 50 Hz, 210 kw
	220-2343	1	Code 5D, 60 Hz, 250 kw
	220-2349	1	Code 6D, 60 Hz, 250 kw
	220-2445	1	Code 7, 60 Hz, 250 kw
	220-2319	1	Code 9X, 60 Hz, 250 kw
	220-1914	1	Code 17, 60 Hz, 250 kw
	220-2612	1	£Code 17, 60 Hz, 250 kw, Environmental Protected

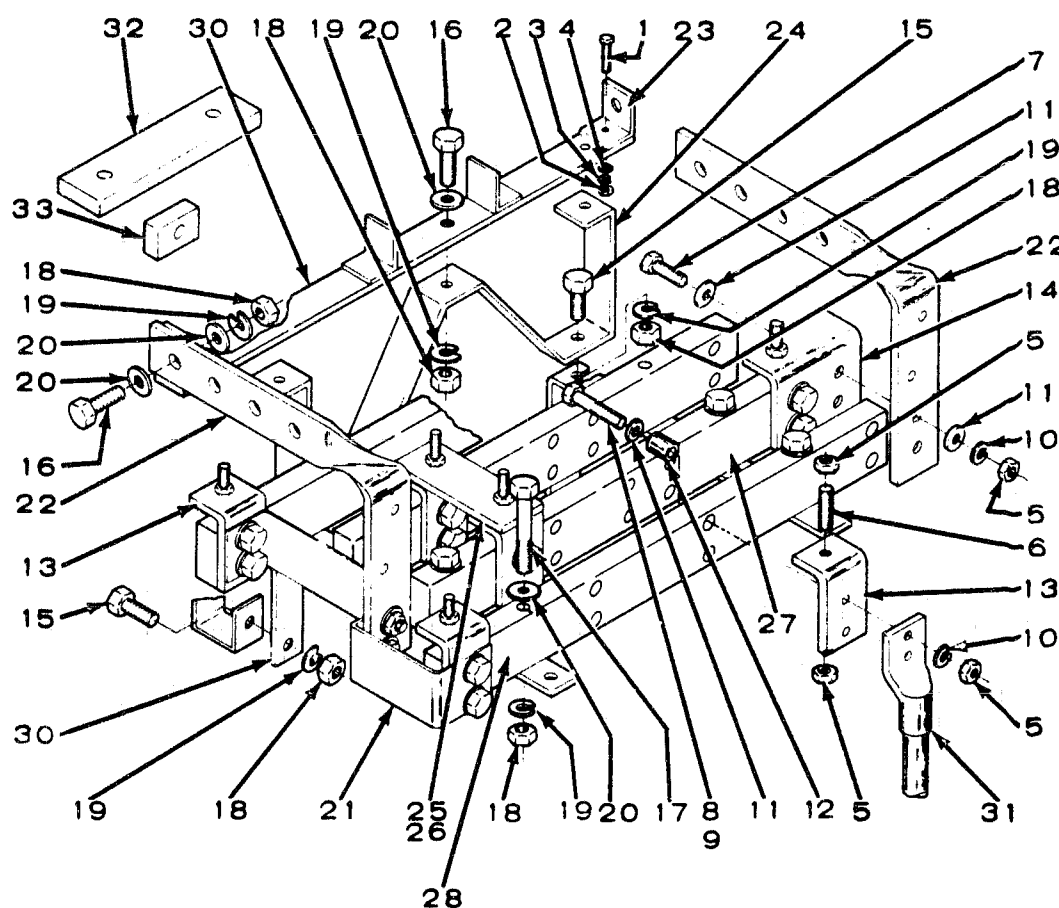
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
24		REF	Bus Bars (See Separate Group for Component Parts)
25	ROTOR ASSEMBLY, GENERATOR (Includes Parts Marked *)		
			SPEC C ONLY
	201-1940	1	Standard
	201-2456	1	£Environmental Protected
			BEGIN SPEC D
	201-1942	1	Standard
	201-2458	1	£Environmental Protected
26	805-0032	8	*Bolt, Cap - Hex Head (1/2-13 x 1-1/4")
27	205-0095	1	*Fan, Generator
28	526-0028	8	*Washer, Flat (9/16" ID x 15/16" OD x 1/16" Thk)
29	805-0035	8	*Bolt, Cap - Hex Head (5/8-11 x 1-1/2")
30	526-0002	8	*Washer, Flat (5/32" ID x 3/8" OD x 3/64" Thk)
31	232-2580	1	*Disc, Drive - Generator
32	800-0092	1	*Screw, Cap - Hex Head (1/2-13 x 1-1/2")
33	850-0060	1	*Washer, Lock - Spring (1/2")
34	526-0252	2	*Washer, Flat (13/16" ID x 2-3/8" OD x 5/32" Thk)
35	150-1405	1	*Wheel - Speed Sensor
36	510-0136	1	*Bearing
37	232-2317	1	*Spacer, Sleeve
38	*ROTOR ASSEMBLY, EXCITER (See Separate Group for Component Parts)		
	201-1902	1	Standard
	201-2453	1	£Environmental Protected
39	515-0145	1	*Key, Rectangular

† - Parts Included in Speed Sensor Assembly.

* - Parts Included in Generator Rotor Assembly.

£ - Parts Environmental Protected by Expoy Impregnation.

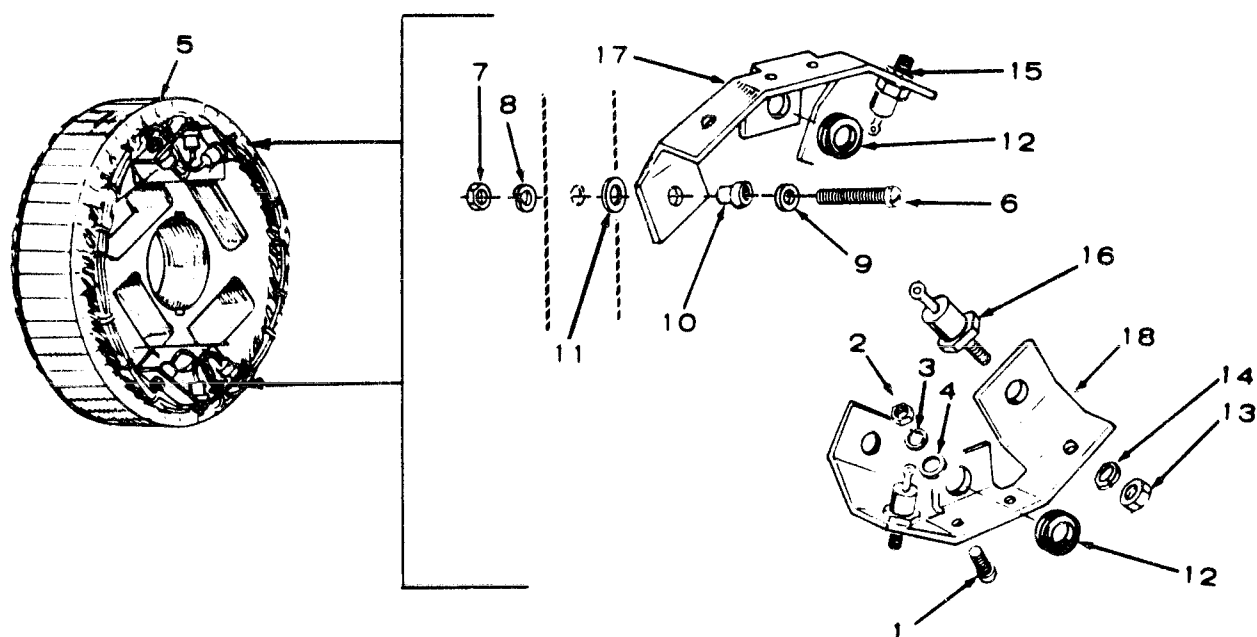
BUS BARS



XES-1154

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	800-0007	4	Screw, Cap - Hex Head (1/4-20 x 1")	16	800-0051	7	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
2	862-0001	4	Nut, Hex (1/4-20)	17	800-0056	8	Screw, Cap - Hex Head (3/8-16 x 2-1/2")
3	850-0040	4	Washer, Lock - Spring (1/4")	18	862-0003	19	Nut, Hex (3/8-16)
4	526-0018	4	Washer, Flat (21/64" ID x 3/4" OD x 1/16" Thk)	19	850-0050	19	Washer, Lock - Spring (3/8")
5	862-0015	50	Nut, Hex (5/16-18)	20	526-0029	19	Washer, Flat (25/64" ID x 7/8" OD x 1/16 Thk)
6	520-0142	14	Stud (5/16-18 x 1-1/4")	21	232-2238	1	Bracket, Bus Bar
7	800-0028	4	Screw, Cap - Hex Head (5/16-18 x 1")	22	232-2240	2	Bus Bar
8	800-0032	24	Screw, Cap - Hex Head (5/16-18 x 1-3/4")	23	232-2387	4	Bracket, Angle
9	800-0033	8	Screw, Cap - Hex Head (5/16-18 x 2")	24	232-2237	1	Bracket, Support
10	850-0045	36	Washer, Lock - Spring (5/16")	25	232-2248	3	Bar, Reconnection - Short
11	526-0115	36	Washer, Flat (11/32" ID x 11/16" OD x 1/16" Thk)	26	232-2246	2	Bar, Reconnection - Long
12	232-2344	32	Spacer, Sleeve	27	232-2242	2	Board, Insulator
13	232-2241	11	Bus Bar	28	232-2243	2	Board, Insulator
14	232-2343	3	Bus Bar	29	232-2245	1	Board, Insulator
15	800-0050	4	Screw, Cap - Hex Head (3/8-16 x 1")	30	232-2249	2	Bracket, Mounting - Bus Bar
				31	332-1152	12	Terminal, Lug - Stator Leads
				32	232-2582	1	Jumper - Bus Bar
				33	232-2583	1	Spacer - Bus Bar

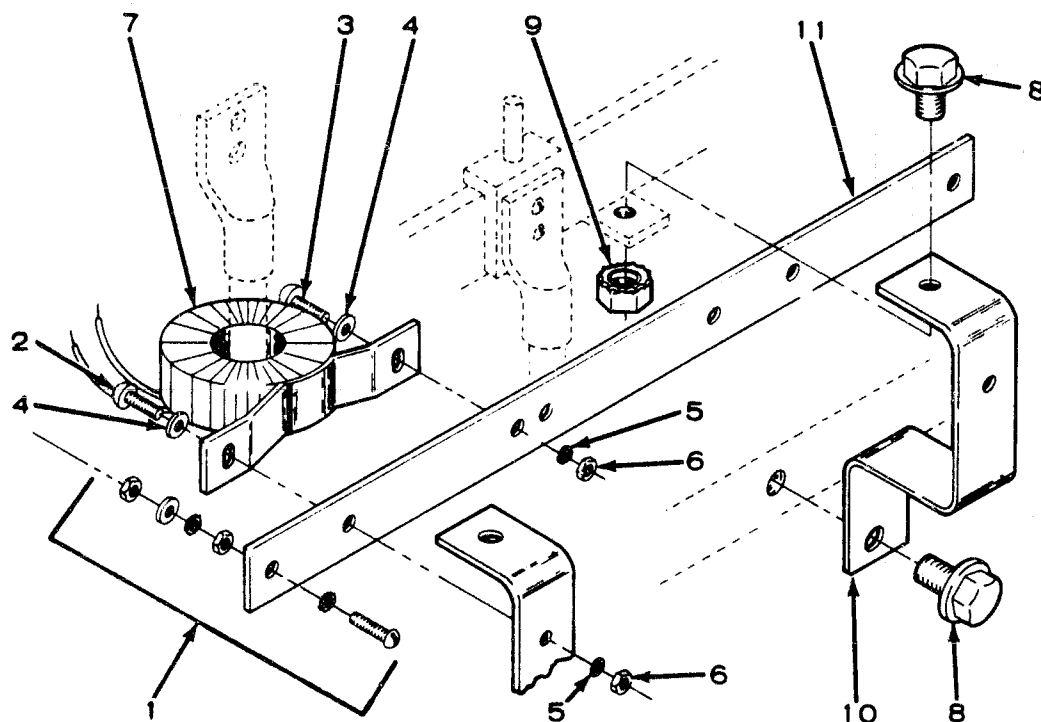
EXCITER ROTOR



G-1092

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	813-0100	2	Screw, Machine - Round Head (#10-32 x 1/2")
2	870-0053	2	Nut, Hex (#10-32)
3	850-0030	2	Washer, Lock - Spring (#10)
4	526-0008	2	Washer, Flat (13/64" ID x 7/16" OD x 1/32" Thk)
5	ROTOR ASSEMBLY, EXCITER (Includes items 6 thru 18)		
	201-1902	1	Standard
	201-2453	1	Environmental Protected
6	813-0110	4	Screw, Machine - Round Head (#10-32 x 2")
7	870-0053	4	Nut, Hex (#10-32)
8	850-0030	4	Washer, Lock - Spring (#10)
9	526-0009	4	Washer, Flat (7/32" ID x 1/2" OD x 1/16" Thk)
10	508-0187	4	Spacer, Stepped
11	508-0156	4	Washer, Insulating
12	508-0093	2	Grommet, Rubber
13	862-0001	6	Nut, Hex (1/4-28)
14	850-0040	6	Washer, Lock - Spring (1/4")
15	358-0011	3	Diode, Rectifier - Positive (CR1, CR2, CR3)
16	358-0012	3	Diode, Rectifier - Negative (CR4, CR5, CR6)
17	363-0049	1	Heat, Sink - Positive Diodes
18	363-0050	1	Heat, Sink - Negative Diodes

CURRENT TRANSFORMER ASSEMBLY



XES-1155

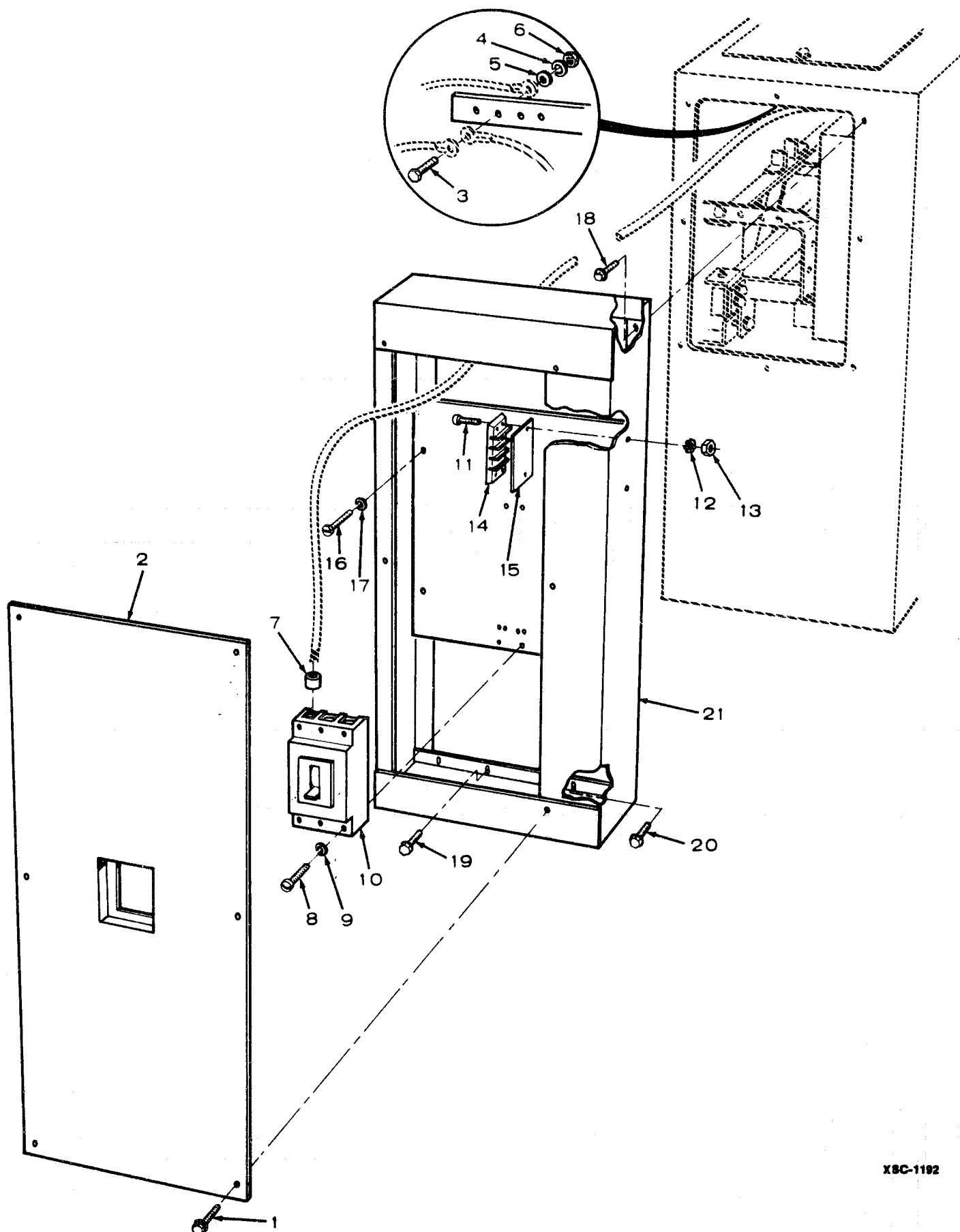
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
CURRENT TRANSFORMER ASSEMBLY (Select Components As Required)				7	CURRENT TRANSFORMER (Select Size Required)		
1	GROUND TERMINAL ASSEMBLY (Includes Following Items)			302-0865	3	Ratio 200/5, 2VA	
815-0203	1	Screw, Machine - Round Head, Brass (#10-32 x 7/8")		302-0866	3	Ratio 300/5, 2VA	
871-0010	2	Nut, Hex - Brass (#10-32)		302-0608	3	Ratio 400/5, 2VA	
856-0003	2	Washer, Lock - EIT (#10)		302-0609	3	Ratio 400/5, 5VA	
526-0049	1	Washer, Flat - Brass (13/64" ID x 7/32" OD x 1/32" Thk)		302-0547	3	Ratio 500/5, 2VA	
2	813-0103	2	Screw, Machine - Round Head (#10-32 x 3/4")	302-0438	3	Ratio 500/5, 5VA	
3	813-0100	4	Screw, Machine - Round Head (#10-32 x 1/2")	302-0876	3	Ratio 600/5, 2VA	
4	526-0008	6	Washer, Flat (13/64" x 7/16" OD x 1/32 Thk)	302-0471	3	Ratio 750/5, 2VA	
5	856-0003	6	Washer, Lock - EIT (#10)	302-1090	3	Ratio 750/5, 5VA	
6	870-0053	6	Nut, Hex (#10-32)	302-0963	3	Ratio 1000/5, 2VA	
				302-0643	3	Ratio 1000/5, 5VA	
				302-0964	3	Ratio 1200/5, 2VA	
				302-0589	3	Ratio 1200/5, 5VA	
				8	821-0029	4	Screw, Self-locking - Hex Washer Head (3/8-16 x 3/4)
				9	870-0281	4	Nut, Self-locking - Hex (3/8-16)
				10	232-2342	2	Bracket, Mounting - Transformer
				11	315-0389	1	Plate, Mounting - Transformer

973-0225 (JUNE 1961)

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.

OPTIONAL CIRCUIT BREAKER



X8C-1192

OPTIONAL CIRCUIT BREAKER

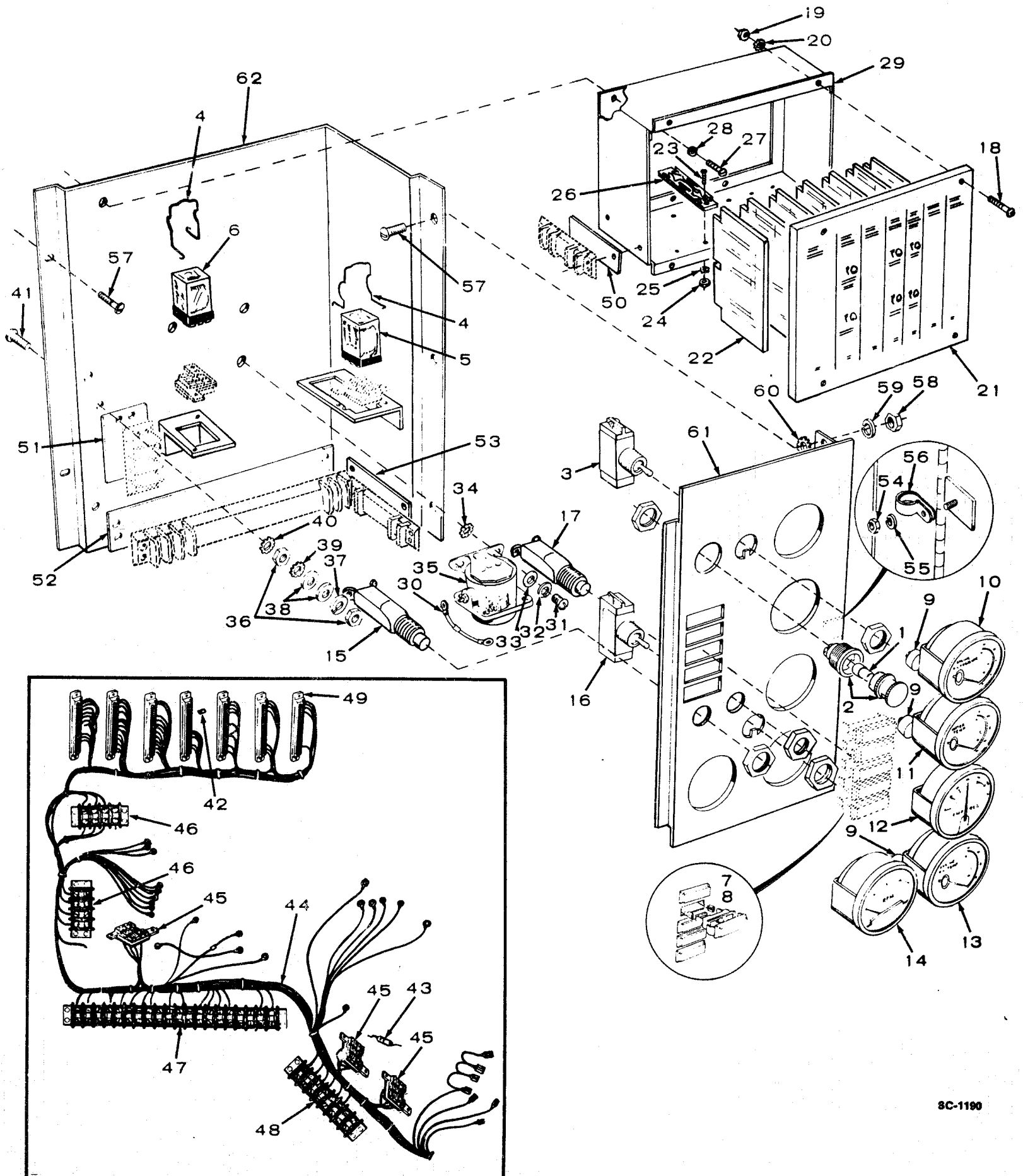
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	815-0350	6	Screw, Tapping - Hex Washer Head (#10-32 x 3/8")	10	CIRCUIT BREAKER (SELECT AS REQUIRED)		
2	COVER, CIRCUIT BREAKER BOX			320-0445	1		£250 Amp, 3 PH, 347/600 VAC
	301-3729	1	Used with Circuit Breakers Marked #	320-0401	1		£300 Amp, 3 PH, 240/480 - 347/600 VAC
	301-3730	1	Used with Circuit Breakers Marked £	320-0523	1		£350 Amp, 3 PH, 200/346 - 220/380 VAC
3	SCREW, CAP - HEX HEAD (SELECT AS REQUIRED)			320-0405	1		£400 Amp, 3 PH, 200/346 - 220/380 - 240/480 - 277/480 - 347/600 VAC
	800-0071	8	7/16-14 x 1"	320-0625	1		£450 Amp, 3 PH, 200/346 - 347/600 VAC
	800-0072	8	7/16-14 x 1-1/2"	320-0598	1		£500 Amp, 3 PH, 200/346 - 220/380 - 240/480 - 277/480 VAC
	800-0090	8	1/2-13 x 1"	320-0599	1		£600 Amp, 3 PH, 120/208 - 120/240 - 200/346 - 220/360 - 277/480 VAC
	800-0092	8	1/2-13 x 1-1/2"	320-0518	1		£700 Amp, 3 PH - 120/208 - 120/240 VAC
4	WASHER, LOCK - SPRING (SELECT AS REQUIRED)			320-0519	1		£800 Amp, 3 PH - 120/208 - 120/240 VAC
	850-0055	8	7/16"	320-0520	1		#900 Amp, 3 PH - 120/208 - 120/240 VAC
	850-0060	8	1/2"	320-0779	1		*#900 Amp, With AUX Contacts 3 PH, 127/220 VAC
5	WASHER, FLAT (SELECT AS REQUIRED)			320-0521	1		#1000 Amp, 3 PH, 120/208 - 120/240 VAC
	526-0141	8	15/32" ID x 1-1/4" OD x 1/8" Thk)	320-0522	1		#1200 Amp, 3 PH, 120/208 - 120/240 VAC
	526-1194	8	33/64" ID x 1-1/4" OD x 1/8" Thk)	11	812-0063	4	Screw, Machine - Round Head (#6-32 x 1/2")
6	NUT, HEX (SELECT AS REQUIRED)			12	853-0003	4	Washer, Lock - External Tooth (#6)
	862-0004	8	7/16-14	13	860-0006	4	Nut, Hex (#6-32)
	862-0005	8	1/2-13	14	332-0604	1	*Terminal, Strip
7	WIRE CONNECTOR (USED AS ADAPTER - CABLE) TO CIRCUIT BREAKER			15	332-0613	1	*Marker, Strip
	332-0397	3	Size 1/0, AWG	16	813-0103	2	Screw, Machine - Round Head (#10-32 x 3/4")
	332-0521	3	Size 2/0, AWG	17	850-0030	2	Washer, Lock - Spring (#10)
8	SCREW, MACHINE - ROUND HEAD (SELECT AS REQUIRED)			18	815-0350	3	Screw, Tapping - Hex Washer Head (#10-32 x 3/8")
	812-0156	4	1/4-20 x 1-1/2"	19	821-0010	1	Screw, Self-locking - Hex Washer Head (1/4-20 x 1/2")
	812-0157	4	1/4-20 x 1-3/4"	20	821-0014	2	Screw, Self-locking - Hex Washer Head (5/16-18 x 1/2")
	812-0182	4	5/16-18 x 1-1/2"	21	301-3728	1	Box - Circuit Breaker
	812-0183	4	5/16-18 x 1-3/4"				
9	WASHER, LOCK - SPRING (SELECT AS REQUIRED)						
	850-0040	4	1/4"				
	850-0045	4	5/16"				

* - Used with AUX Contact Type Circuit Breakers

- Cover Used with Circuit Breakers Marked

£ - Cover Used with Circuit Breakers Marked £

OPTIONAL ENGINE CONTROL WITH FIVE FAULT LIGHTS —



3C-1190

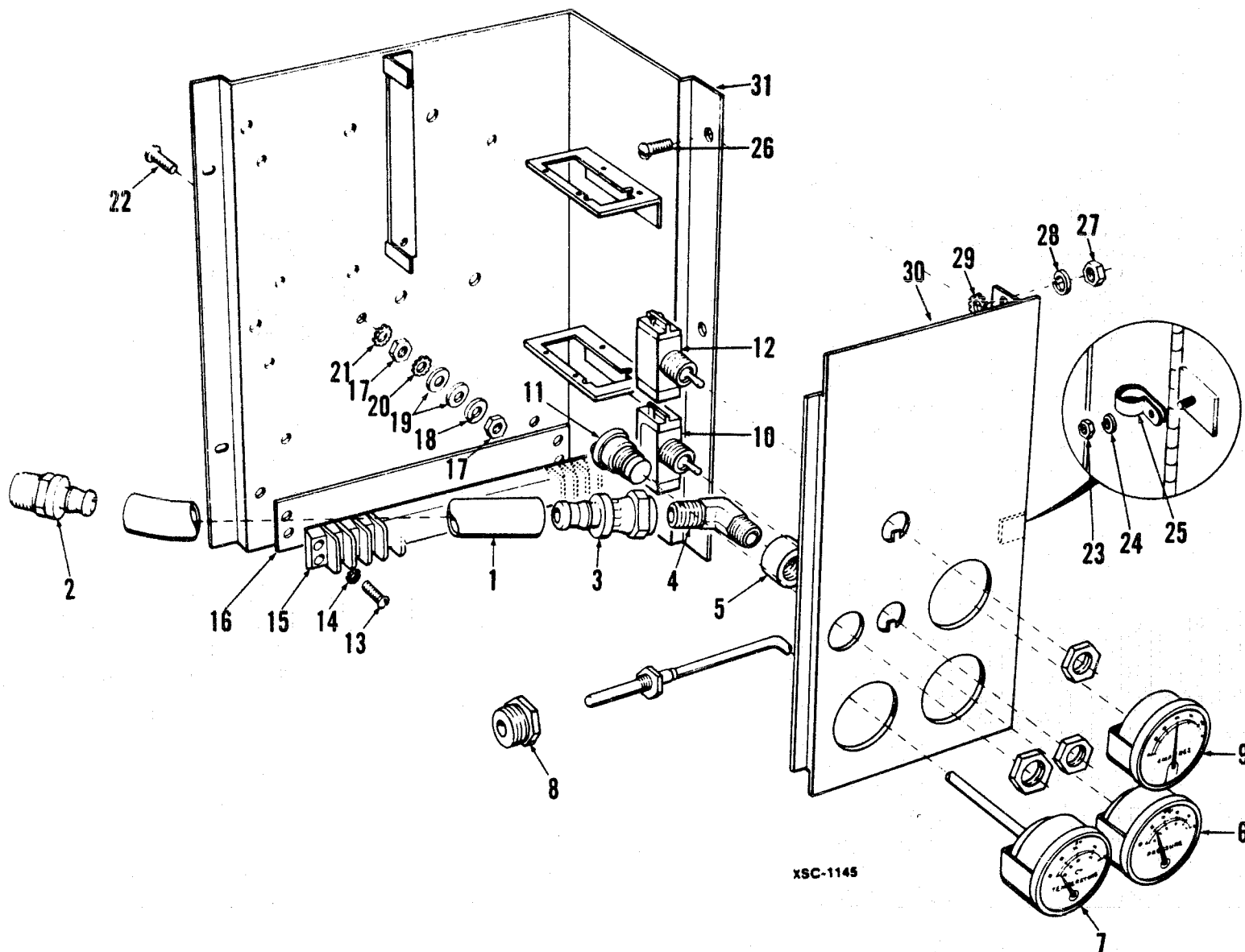
OPTIONAL ENGINE CONTROL WITH FIVE FAULT LIGHTS —

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	322-0017	1	Lamp, Incandescent (24 VDC)
2	322-0149	1	Lampholder
3	308-0002	1	Switch, Toggle (SPST)
4	307-1157	3	Spring, Holddown - Relay
5	307-1056	2	Relay
6	307-1061	1	Relay
7	LIGHT, INDICATOR - 28 VDC Lens Color & Legend Listed Below)		
	322-0119	1	Red - OVERCRANK
	322-0123	1	Red - OVERSPEED
	322-0120	1	Red - LO OIL PRESS
	322-0121	1	Red - HI ENG TEMP
	322-0122	1	Red - LO ENG TEMP
	NOTE: For lamp replacement order 322-0137 remove and discard plain red lens, install lens with legend from burned out light — lights snap in and out of panel.		
8	322-0137	1	Light, Indicator 28 VDC (Red Lens - No Legend)
9	193-0250	3	Resistor - Gauge
10	193-0243	1	Gauge - Oil Pressure (12 VDC)
11	193-0245	1	Gauge - Water Temperature (12 VDC)
12	302-0061	1	Ammeter
13	193-0248	1	£Gauge - Oil Temperature (12 VDC)
14	302-0749	1	£Tachometer - Electrical
15	308-0337	1	Switch, Push - Lamp Test
16	SWITCH, TOGGLE - SELECTOR		
	308-0220	1	Standard Control (DPDT - 3 Position)
	308-0539	1	Alarm Control (DPDT - Position & Aux Contact)
	308-0347	1	Penn State Control (DPDT)
17	308-0051	1	Switch, Push - Alarm Reset
18	812-0063	4	Screw, Machine - Round Head (#16-32 x 1/2")
19	860-0006	4	Nut, Hex (#6-32)
20	853-0003	4	Washer, Lock - ET (#6)
21	301-3635	1	Corer, Printed Circuit Assembly
22	PRINTED CIRCUIT BOARD ASSEMBLY		
	300-0953	1	Control, Engine Monitor
	300-0954	1	Control, Engine Shutdown
	300-0955	1	Control, Remote Indicator
	300-0956	1	Control, Cyle Cranker
	300-0957	1	Control, Overspeed Sensor
	300-0958	1	Control, Starter Disconnect
	300-0973	1	Control, Start-Stop Time Delay
	300-0977	1	Control, Standard Cranker
	300-0987	1	Control, Bypass
23	812-0063	28	Screw, Machine - Round Head (#6-32 x 1/2")
24	860-0006	28	Nut, Hex (#6-32)
25	853-0003	28	Washer, Loct - ET (#6)
26	323-0814	14	Guide, Printed Circuit Board
27	813-0100	4	Screw, Machine - Round Head (#10-32 x 1/2")
28	850-0030	4	Washer, Lock - Spring (#10)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
29	301-3588	1	Rack
30	357-0018	1	Diode, with Terminals
31	813-0098	2	Screw, Machine - Round Head (#10-32 x 3/8")
32	850-0030	2	Washer, Lock - Spring (#10)
33	526-0009	2	Washer, Flat (7/32" ID x 1/2" OD x 1/16" Thk)
34	856-0003	2	Washer, Lock - EIT (#10)
35	307-0061	1	Relay, Solenoid - Start (24 VDC)
	GROUND TERMINAL ASSEMBLY (Includes the Following Items)		
36	871-0010	2	Nut, Hex - Brass (#10-32)
37	850-0030	1	Washer, Lock - Spring (#10)
38	526-0062	2	Washer, Flat - Brass (13/64" ID x 1/2" OD x 1/16" Thk)
39	853-0008	1	Washer, Lock - ET (#10)
40	856-0003	1	Washer, Lock - EIT (#10)
41	815-0203	1	Screw, Machine - Round Head Brass (#10-32 x 7/8")
	----- *		
42	332-1276	7	Plug, Keying - PC Board
43	357-0004	1	Diode
	ATTACHING HARDWARE FOR WIRING HARNESS		
	812-0063	8	Screw, Machine - Round Head (#6-32 x 1/2")
	812-0066	6	Screw, Machine - Round Head (#6-32 x 3/4")
	853-0003	28	Washer, Lock - ET (#6)
	860-0006	20	Nut, Hex (#6-32)
	----- *		
44	338-0705	1	Harness Wiring (Includes the Following Items)
45	323-0765	3	Socket, Relay
46	332-0537	2	Block, Terminal - 4 Place
47	332-1005	1	Block, Terminal - 20 Place
48	332-0699	1	Block, Terminal - 8 Place
49	332-1271	7	Connector - Printed Circuit Board
	----- *		
50	332-1561	1	Strip, Marker - Terminal
51	332-1239	1	Strip, Marker - Terminal
52	332-1559	1	Strip, Marker - Terminal
53	332-1560	1	Strip, Marker - Terminal
54	870-0053	1	Nut, Hex (#10-32)
55	850-0030	1	Washer, Lock - Spring (#10)
56	332-0051	1	Clamp, Loop
57	815-0026	5	Screw, Machine - Truss Head (#10-32 x 3/8")
58	870-0053	1	Nut, Hex (#10-32)
59	850-0030	1	Washer, Lock - Spring (#10)
60	856-0003	1	Washer, Lock - EIT (#10)
61	PANEL, CONTROL - ENGINE		
	301-3661	1	With Three Gauge Mtg. Holes
	301-3976	1	With Four Gauge Mtg. Holes
	301-3977	1	With Five Gauge Mtg. Holes
62	301-3621	1	Bracket, Mounting - Engine Control

£ - Optional Items Used With Engine Mounted Senders.

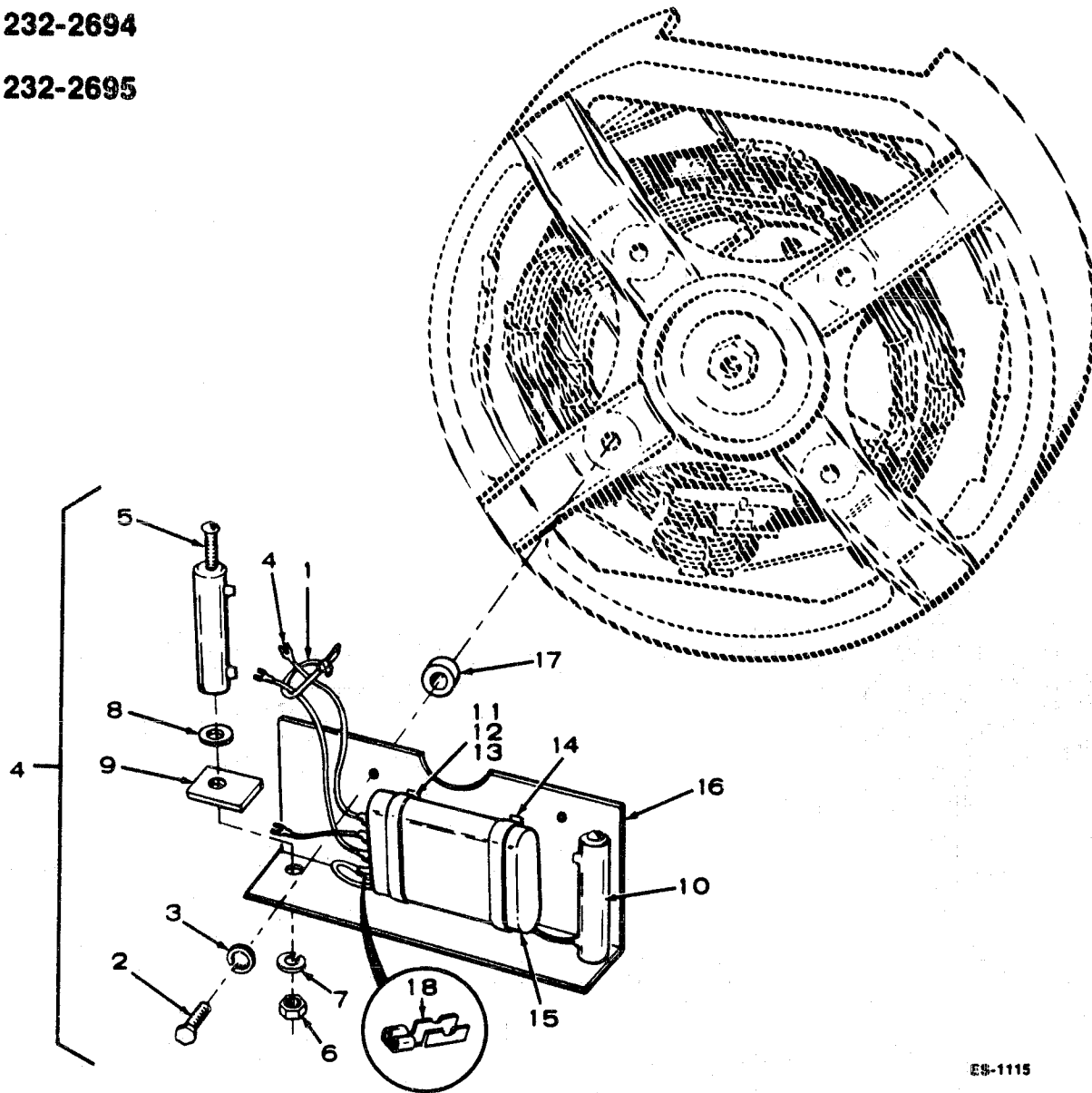
OPTIONAL ENGINE CONTROL WITH MECHANICAL GAUGES



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	503-1077	1	Hose, Rubber - High Pressure (1/4" ID x 1/2" OD x 96" lg)
2	502-0444	1	Adapter, Pipe to Hose - Male (1/8" NPT x 1/4" ID Hose)
3	502-0445	1	Adapter, Pipe to Hose - Female (7/16-20 UNF x 1/4" ID Hose)
4	502-0583	1	Elbow, Pipe - 45 Deg. (7/16-20 UNF x 1/8" NPT)
5	502-0051	1	Coupling, Pipe (1/8" NPT)
6	GAUGE, OIL PRESSURE (Select as Required)		
	193-0232	1	Scale Range 0 to 75 PSI
	193-0233	1	Scale Range 0 to 150 PSI
7	GAUGE, TEMPERATURE (Select as Required)		
	193-0234	1	With 72" Capillary Tube
	193-0235	1	With 84" Capillary Tube
	193-0236	1	With 96" Capillary Tube
	193-0305	1	With 144" Capillary Tube
8	REF		Reducer, Hex (Included with Gauge) (5/8-18 UNF x 1/2" NPT)
9	302-0061	1	Ammeter
10	308-0088	1	Switch, Toggle (DPST)
11	308-0297	1	Switch, Push
12	308-0155	1	Switch, Toggle (SPST)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
13	812-0066	2	Screw, Machine - Round Head (#6-32 x 3/4")
14	853-0003	2	Washer, Lock - ET (#6)
15	332-0795	1	Block, Terminal - 20 Place
16	332-1241	1	Strip, Marker - Terminal
	GROUND TERMINAL ASSEMBLY		
17	871-0010	2	Nut, Hex - Brass (#10-32)
18	850-0030	1	Washer, Lock - Spring (#10)
19	526-0062	2	Washer, Flat - Brass (13/64" ID 1/2" OD x 1/16" Thk)
20	853-0008	1	Washer, Lock - ET (#10)
21	856-0003	1	Washer, Lock - EIT (#10)
22	815-0203	1	Screw, Machine - Round Head, Brass (#10-32 x 7/8")
23	870-0053	1	Nut, Hex (#10-32)
24	850-0030	1	Washer, Lock - Spring (#10)
25	332-0051	1	Clamp, Loop
26	815-0026	5	Screw, Machine - Truss Head (#10-32 x 3/8")
27	870-0053	1	Nut, Hex (#10-32)
28	850-0030	1	Washer, Lock - Spring (#10)
29	856-0003	1	Washer, Lock - EIT (#10)
30	301-4009	1	Panel, Control - Engine
31	301-3253	1	Bracket, Mounting - Engine Control

K524



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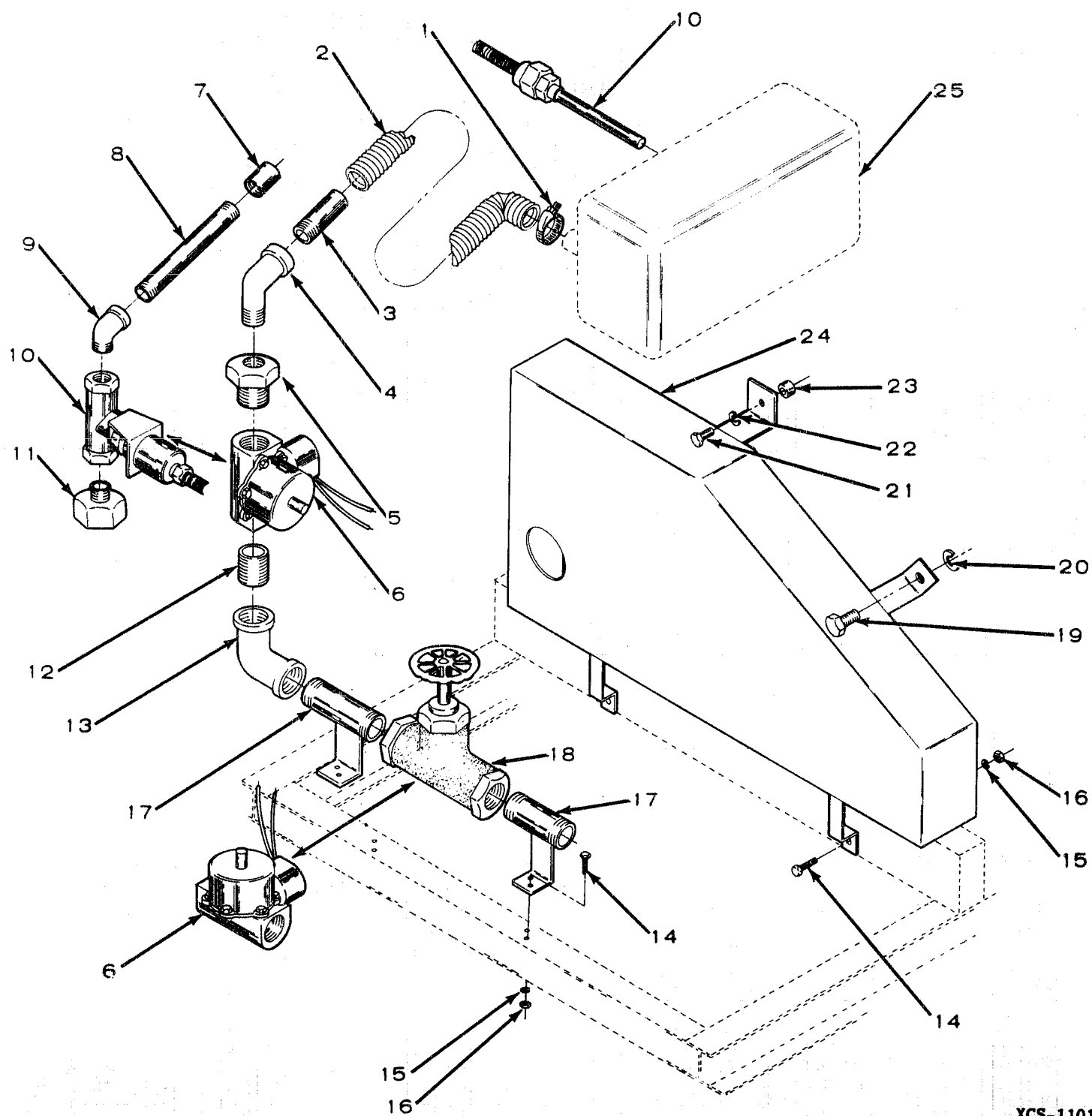
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	KIT, FILTER - VOLTAGE REGULATOR (Includes Parts Marked *)			7	850-0040	2	Washer, Lock - Spring (1/4")
	232-2694	1	Used on Sets with End Bell Mounted Voltage Regulator	8	304-0427	4	Washer, Centering (1/4")
	232-2695	1	Used on Sets with Voltage Regulator Mounted in Control Box	9	304-0292	2	Insulator
				10	354-0025	2	Resistor, Fixed, Wire Wound (10-Ohm, 100 Watt)
1	332-0941	5	*Tie, Cable	11	813-0098	4	Screw, Machine - Round Head (#10-32 x 3/8")
2	800-0003	2	*Screw, Cap - Hex Head (1/4-20 x 1/2")	12	870-0053	4	Nut, Hex (#10-32)
3	850-0040	2	*Washer, Lock - Spring (1/4")	13	850-0030	4	Washer, Lock - Spring (#10)
4	*FILTER ASSEMBLY (Includes all parts except as indicated)			14	312-0189	2	Bracket, Mounting - Capacitor
	232-2219	REF	Part of Kit 232-2694	15	312-0188	1	Capacitor, Fixed - 15 MFD, 440 VAC
	232-2692	REF	Part of Kit 232-2695	16	232-2210	1	Bracket, Mounting
5	812-0165	2	Screw, Machine - Round Head (1/4-20 x 4-1/2")	17	232-2693	3	Spacer (Part of 232-2692 Only)
6	862-0001	2	Nut, Hex (1/4-20)	18	TERMINALS (Select as required)		
					332-1279	8	Insulated 14-16 AWG
					332-0529	4	Lug 14-16 AWG

* - Parts included in kits.

* - Parts included in kits.

973-0225 (JUNE 1981)

OPTIONAL COOLING SYSTEM WITH HEAT EXCHANGER —



XCS-1101

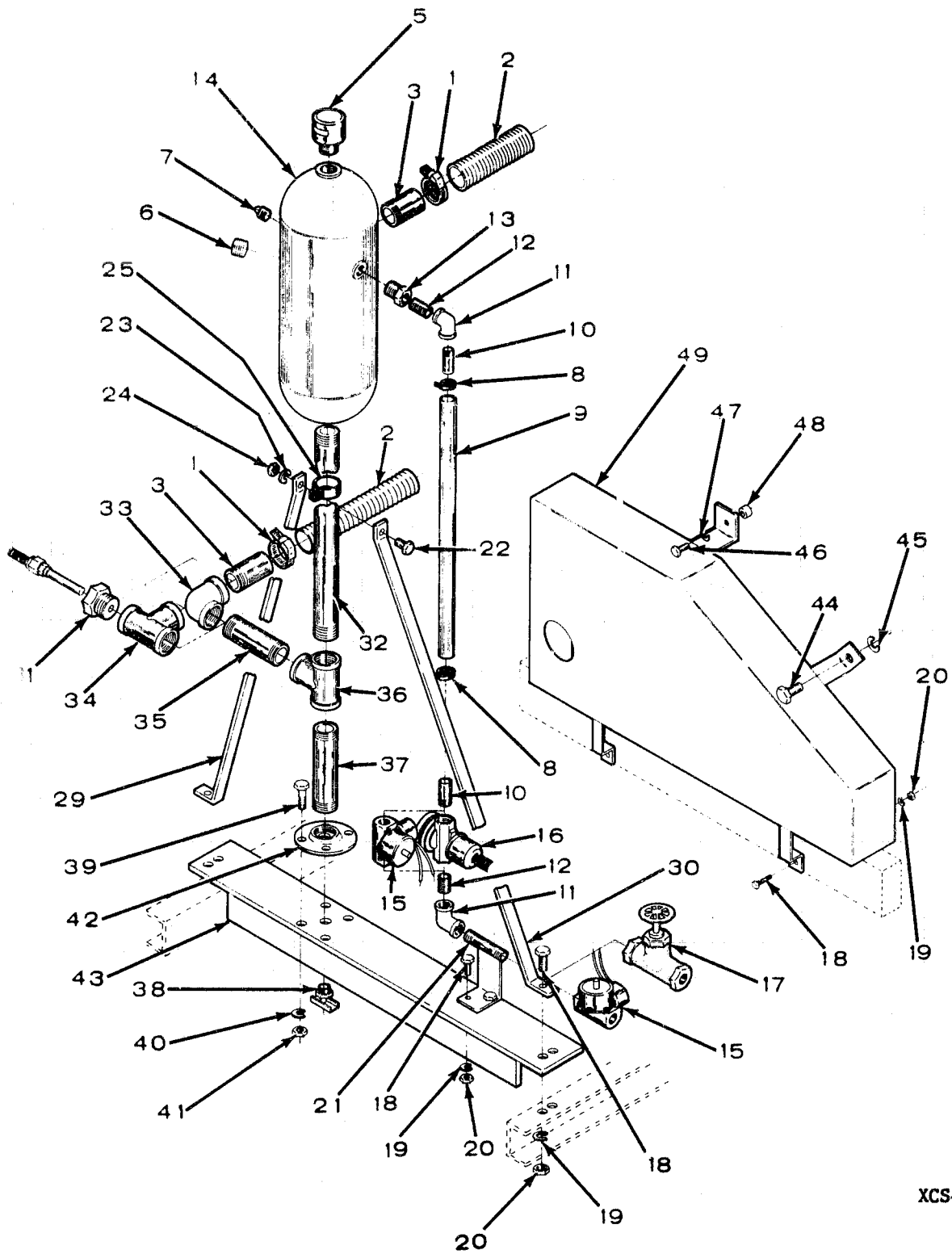
OPTIONAL COOLING SYSTEM WITH HEAT EXCHANGER

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
HEAT EXCHANGER COOLING SYSTEM (All Parts Common Except as Marked)				11	502-0270	1	£Bushing, Reducer (2" NPT x 1-1/4" NPT)
		1	#Without Coolant Temperature Regulator	12	505-0172	1	Nipple, Pipe - Close (2" NPT x 2")
		1	£With Coolant Temperature Regulator	13	505-0175	1	Elbow, Pipe - 95 DEG (2" NPT)
1	503-0365	2	Clamp, Hose	14	800-0007	6	Screw, Cap - Hex Head (1/4-20 x 1")
2	503-0635	1	Hose, Rubber - Flexible (1-3/4" ID x 2" OD x 19" Lg)	15	850-0040	6	Washer, Lock - Spring (1/4")
3	505-1040	1	#Nipple, Pipe-Half (1-1/2" NPT x 7")	16	862-0001	6	Nut, Hex (1/4-20)
4	505-0644	1	#Elbow, Pipe - Street, 45 DEG (1-1/2" NPT)	17	130-0801	2	Nipple, Support Assembly
5	505-0187	1	#Bushing, Reducer (2" NPT x 1-1/2" NPT)	18	504-0057	1	#Valve, Globe
6	307-0844	1	Valve, Control - Solenoid	19	800-0058	1	Screw, Cap - Hex Head (3/8-16 x 3")
7	505-0349	1	£Coupling, Pipe - Half (1-1/4" NPT)	20	526-0030	1	Washer, Flat (13/32" ID x 7/8" OD x 1/8" Thk)
8	505-0311	1	£Nipple, Pipe (1-1/4" NPT x 8-1/2")	21	800-0092	1	Screw, Cap, Hex Head (1/2-13 x 1-1/2")
9	505-0362	1	£Elbow, Pipe - Street, 45 DEG (1-1/4" NPT)	22	850-0060	1	Washer, Lock - Spring (1/2")
10	309-0243	1	£Valve, Control - Temperature Regulating	23	191-0879	1	Spacer, Sleeve
				24	191-0878	1	Guard, Belt
				25		REF	Tank, Heat Exchanger - Supplied With Engine (Modify as Necessary)

- Parts Included in Non-Regulated System.

£ - Parts Included in Regulated System.

OPTIONAL COOLING SYSTEM WITH STANDPIPE

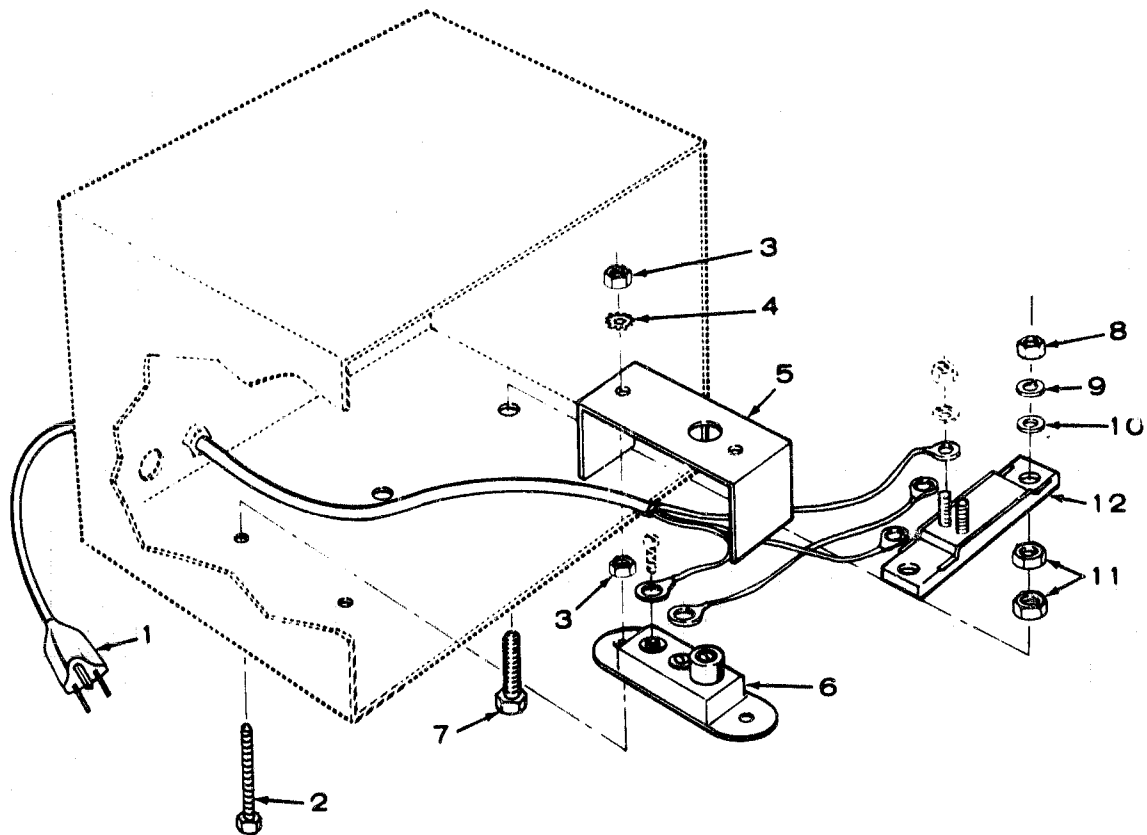


XCS-1103

OPTIONAL COOLING SYSTEM WITH STANDPIPE

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
STANDPIPE COOLING SYSTEM (All Parts Common Except as Marked)				22	800-0051	1	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
		1	Without Coolant Temperature Regulator	23	850-0050	1	Washer, Lock - Spring (3/8")
		1	With Coolant Temperature Regulator	24	862-0003	1	Nut, Hex (3/8-16)
1	503-0354	4	Clamp, Hose	25	130-0871	1	Clamp, Loop
2	503-0631	2	Hose, Rubber - Flexible (2-1/4" ID x 2-1/2" ID x 18" Lg)	26	800-0092	4	Screw, Cap - Hex Head (1/2-13 x 1-1/2")
3	505-0204	1	Nipple, Pipe - Half (2" NPT x 2")	27	850-0060	4	Washer, Lock - Spring (1/2")
4	505-0764	1	Nipple, Pipe - Half (2" NPT x 4")	28	862-0005	4	Nut, Hex (1/2-13)
5	504-0062	1	Valve, Vacuum Relief	29	130-0870	1	Brace, Support - Standpipe
6	505-0949	1	Plug, Pipe - Square Socket Drive (1-1/4" NPT)	30	130-0869	1	Brace, Support - Standpipe
7	505-0140	1	Plug, Pipe - Square Head (1" NPT)	31	505-0351	1	Bushing, Reducer (2" NPT x 3/4" NPT) Part of Regulated System
8	503-0189	2	Clamp, Hose	32	505-0377	1	Nipple, Pipe (2" NPT x 18-1/2")
9	503-0361	1	Hose, Rubber (1-1/4" ID x 1-5/8" OD x 36" Lg)	33	505-0175	1	Elbow, Pipe - 90 DEG (2" NPT) - Part of Non-Regulated System
10	505-0330	2	Nipple, Pipe - Half (1" NPT x 2")	34	505-0374	1	Tee, Pipe (2" NPT) - Part of Regulated System.
11	505-0041	2	Elbow, Pipe - 90 DEG (1" NPT)	35	505-0405	1	Nipple, Pipe (2" NPT x 5")
12	505-0004	2	Nipple, Pipe - Close (1" NPT x 1-1/2")	36	505-0374	1	Tee, Pipe (2" NPT)
13	505-0023	1	Bushing, Reducer (1-1/4" NPT x 1" NPT)	37	505-0421	1	Nipple, Pipe (2" NPT x 8")
14	130-0425	1	Tank, Standpipe	38	504-0006	1	Cock, Drain
15	307-1135	1	Valve, Control - Solenoid	39	800-0092	4	Screw, Cap - Hex Head (1/2-13 x 1-1/2")
16	309-0242	1	Valve, Control - Temperature Regulating (Part of Regulated System)	40	850-0060	4	Washer, Lock - Spring (1/2")
17	504-0090	1	Valve, Globe (Part of Non-Regulated System)	41	862-0005	4	Nut, Hex (1/2-13)
18	800-0007	4	Screw, Cap - Hex Head (1/4-20 x 1")	42	130-0442	1	Base, Standpipe
19	850-0040	4	Washer, Lock - Spring (1/4")	43	130-0927	1	Support, Mounting - Standpipe
20	862-0001	4	Nut, Hex (1/4-20)	44	800-0058	1	Screw, Cap - Hex Head (3/8-16 x 3")
21	130-0797	1	Nipple, Support Assembly	45	526-0030	1	Washer, Flat (13/32" ID x 7/8" OD x 1/8" Thk)
				46	800-0092	1	Screw, Cap - Hex Head (1/2-13 x 1-1/2")
				47	850-0060	1	Washer, Lock - Spring (1/2")
				48	191-0879	1	Spacer, Sleeve
				49	191-0878	1	Guard, Belt

OPTIONAL CONTROL HEATER

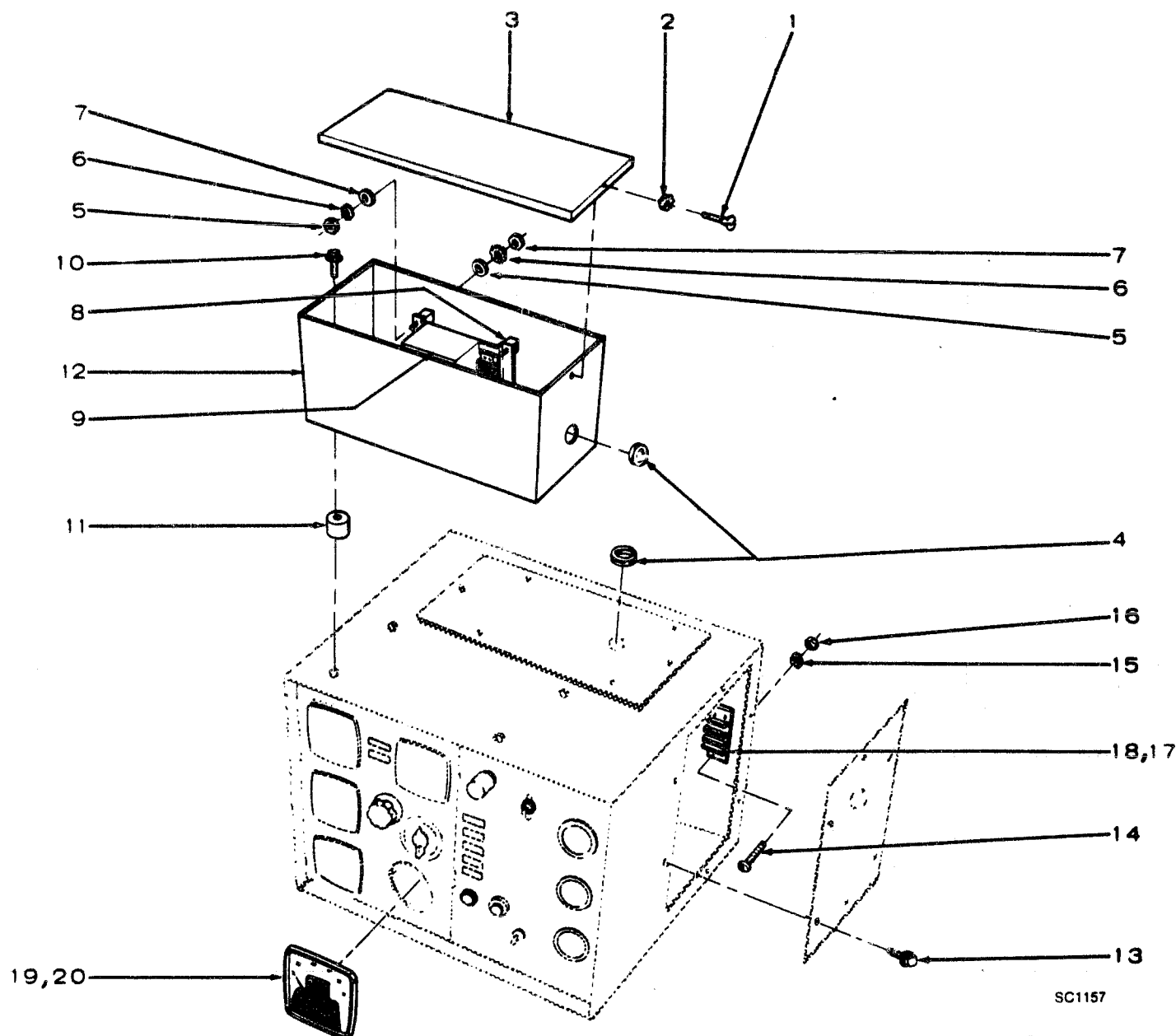


SC-1156

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	335-0110	1	Cable, Electrical (3 Wire)
2	812-0090	2	Screw, Machine - Round Head (#6-32 x 2-1/4")
3	860-0006	4	Nut, Hex (#6-32)
4	856-0001	2	Washer, Lock - EIT (#6)
5	301-1886	1	Cover, Thermostat
6	309-0128	1	Thermostat - Adjustable
7	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1")
8	862-0001	2	Nut, Hex (1/4-20)
9	850-0040	2	Washer, Lock - Spring (1/4)
10	526-0052	2	Washer, Flat (17/64" ID x 9/16" OD x 1/16" Thk)
11	862-0015	4	Nut, Hex (5/16-18) - Used As Spacers
12	333-0151	1	Heater - 75 Watt, 120 VAC; 300 Watt, 240 VAC

OPTIONAL WATTMETER

K185

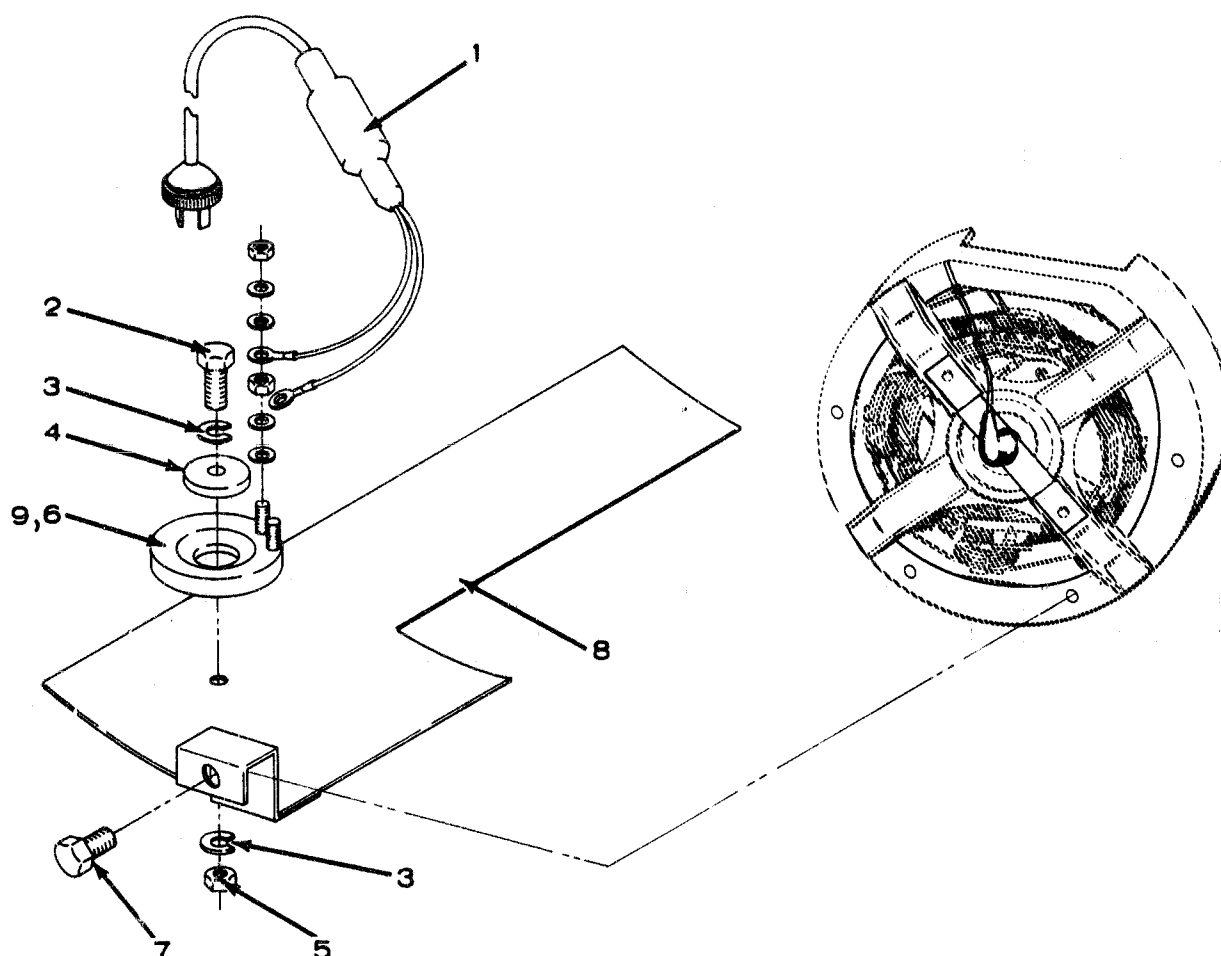


SC1157

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	815-0026	2	Screw, Machine - Truss Head (#10-32 x 3/8")
2	853-0008	2	Washer, Lock - External Tooth (#10)
3	301-3476	1	Cover - Transducer Box
4	508-0001	2	Grommet, Rubber (1-1/6" OD)
5	860-0008	8	Nut, Hex (#8-32)
6	853-0005	8	Washer, Lock - External Tooth (#8)
7	526-0003	8	Washer, Flat (11/64" ID x 3/8" OD x 1/32" Thk)
8	402-0354	4	Mount, Vibration
9	TRANSDUCER (Select as Required)		
	302-1082	1	60 Hertz
	302-1083	1	50 Hertz
10	821-0014	8	Screw, Self-locking - Hex Washer Head (5/16-18 x 1/2")
11	402-0070	4	Mount, Vibration
12	301-3477	1	Box, Transducer
13	815-0350	6	Screw, Tapping - Hex Washer Head (#10-32 x 3/8")
14	812-0063	4	Screw, Machine - Round Head (#6-32 x 1/2")

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
15	853-0003	4	Washer, Lock - External Tooth (#6)
16	860-0006	4	Nut, Hex (#6-32)
17	332-0609	1	Terminal, Strip
18	332-0610	1	Marker, Strip
19	302-1102	1	Wattmeter (Less Replaceable Dial)
20	DIAL, WATTMETER (Select as Required)		
	302-1103	1	Scale 0-35 kw
	302-1104	1	Scale 0-50 kw
	302-1105	1	Scale 0-70 kw
	302-1106	1	Scale 0-90 kw
	302-1107	1	Scale 0-115 kw
	302-1108	1	Scale 0-160 kw
	302-1109	1	Scale 0-180 kw
	302-1110	1	Scale 0-200 kw
	302-1115	1	Scale 0-250 kw
	302-1116	1	Scale 0-300 kw
	302-1117	1	Scale 0-350 kw
	302-1118	1	Scale 0-400 kw
	302-1119	1	Scale 0-450 kw
	302-1120	1	Scale 0-550 kw
	302-1121	1	Scale 0-650 kw
	302-1122	1	Scale 0-750 kw

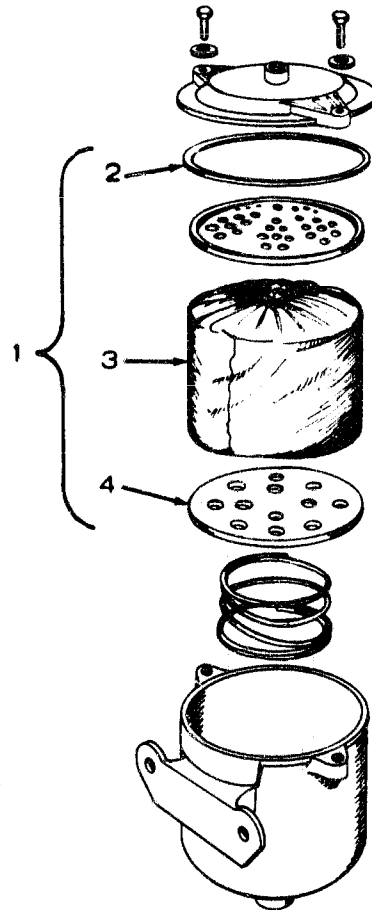
OPTIONAL GENERATOR HEATER —



XG-1107

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
HEATER, GENERATOR			
		1	120 Volt
		1	240 Volt
1	338-1420	1	Cable Assembly (Includes Thermostat)
2	850-0004	1	Screw, Cap - Hex Head (1/4-20 x 5/8")
3	850-0038	2	Washer, Lock - Spring (1/4")
4	526-0158	1	Washer, Flat - .261" ID x 1" OD x 1/8" Thk)
5	862-0001	1	Nut, Hex (1/4-20)
6	HEATER, ELECTRICAL		
	333-0059	1	120 Volt, 125 Watt
	333-0192	1	240 Volt, 200 Watt
7	821-0014	1	Screw, Self-locking - Hex Washer Head (5/16-18 x 1/2")
8	BRACKET, MOUNTING		
	232-2446	1	120 Volt Heater
	232-2832	1	240 Volt Heater

OPTIONAL ENGINE COOLANT FILTER ASSEMBLY



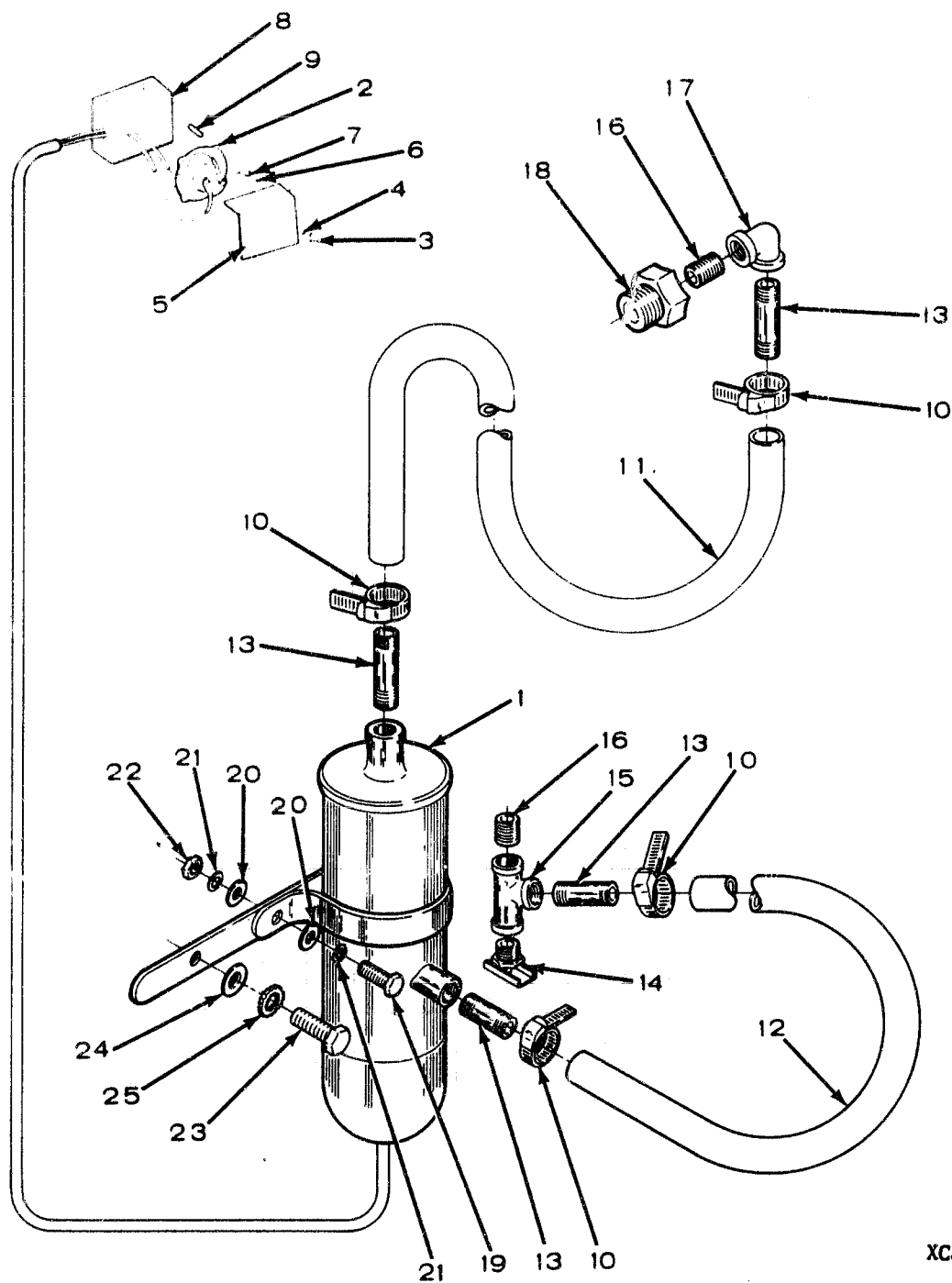
CS-1059

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	FILTER ASSEMBLY, ENGINE COOLANT		
	130-0462	1	15 to 30 Gallon Capacity (Replacement Items Marked £)
	130-0497	1	5 to 10 Gallon Capacity (Replacement Items Marked †)
1	KIT REPLACEMENT - FILTER (Includes Items 2 Thru 4)		
	130-0769	1	£Original Equipment (Water Coolant)
	130-0770	1	£Special (Perm. Anti-freeze Coolant)
	130-0771	1	†Original Equipment (Water Coolant)
	130-0772	1	†Special (Perm. Anti-Freeze Coolant)
2	GASKET, COVER		
	130-0777	1	£
	130-0778	1	†
3	ELEMENT, FILTER		
	130-0773	1	£Chromate (Water Coolant)
	130-0774	1	£Special (Perm. Anti-Freeze Coolant)
4	PLATE, SACRIFICIAL		
	130-0779	1	£
	130-0780	1	†

£ - **NOTE:** Used on 130-0462 Filter Assembly.
† - **NOTE:** Used on 130-0497 Filter Assembly.

973-0225 (JUNE 1951)

OPTIONAL ENGINE COOLANT HEATER ASSEMBLY

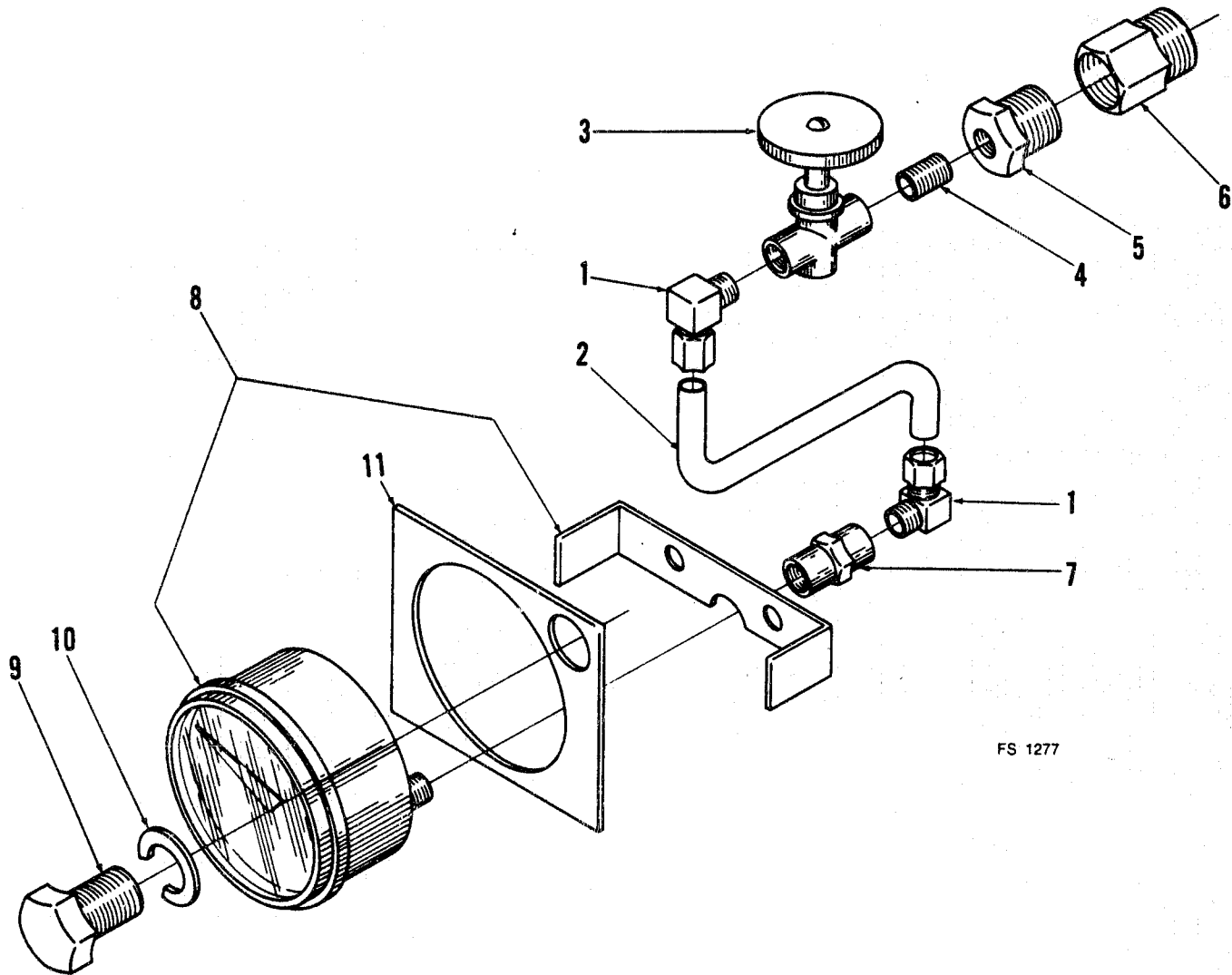


XCS-1102

OPTIONAL ENGINE COOLANT HEATER ASSEMBLY

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	ENGINE COOLANT HEATERS ASSEMBLY			10	503-0183	4	Clamp, Hose
		1	120 Volt, 1 Phase	11	503-1000	1	Hose, Rubber - (5/8" ID x 61/64" OD x 50")
		1	208/240 Volt, 1 Phase	12	503-0800	1	Hose, Rubber (5/8" ID x 61/64" OD x 19" Lg)
1	HEATER, ENGINE COOLANT			13	505-0135	4	Nipple, Pipe (3/8" NPT x 1-1/2")
	333-0053	1	120 Volt, 2000 Watts	14	504-0028	1	Cock, Drain (3/8" NPT)
	333-0073	1	208/240 Volt, 1875-2000 Watts	15	505-0060	1	Tee, Pipe (3/8" NPT)
2	SWITCH, THERMOSTATIC			16	505-0101	2	Nipple, Pipe - Close (3/8" NPT x 1")
	309-0106	1	120 Volt, 25 Amp, SPST (120 Deg Close, 130 Deg Open)	17	505-0039	1	Elbow, Pipe - 90 Deg (3/8" NPT)
	309-0256	1	120/250 Volt, 40-25 Amp, DPST (100 Deg Close, 130 Deg Open)	18	505-0455	1	Bushing, Reducer (1" NPT to 3/8" NPT)
3	812-0075	2	Screw, Machine - Roundhead (#8-32 x 1/4")	19	800-0031	1	Screw, Cap - Hex Head (5/16-18 x 1-1/2")
4	850-0025	2	Washer, Lock - Spring (#8)	20	526-0115	2	Washer, Flat (11/32" ID x 11/16" OD x 1/16" Thk)
5	COVER, THERMOSTAT BOX			21	856-0008	2	Washer, Lock - EIT (5/16")
	333-0013	1	Used On 120 Volt Applications	22	862-0015	1	Nut, Hex (5/16-18)
	333-0056	1	Used On 240 Volt Applications	23	800-0091	1	Screw, Cap - Hex Head (1/2-13 x 1-1/4")
6	870-0053	2	Nut, Hex (#10-32)	24	850-0050	1	Washer, Lock - Spring (1/2")
7	850-0030	2	Washer, Lock - Spring (#10)	25	856-0013	1	Washer, Lock - EIT (1/2")
8	BOX, THERMOSTAT			26	130-0755	1	Bracket, Mounting
	333-0012	1	Used On 120 Volt Applications				
	333-0057	1	Used On 240 Volt Applications				
9	STUD						
	520-0446	2	#10-32 x 3/4" - Part of 179-0326				
	332-0672	2	#10-32 x 1" - Part of 179-2000				

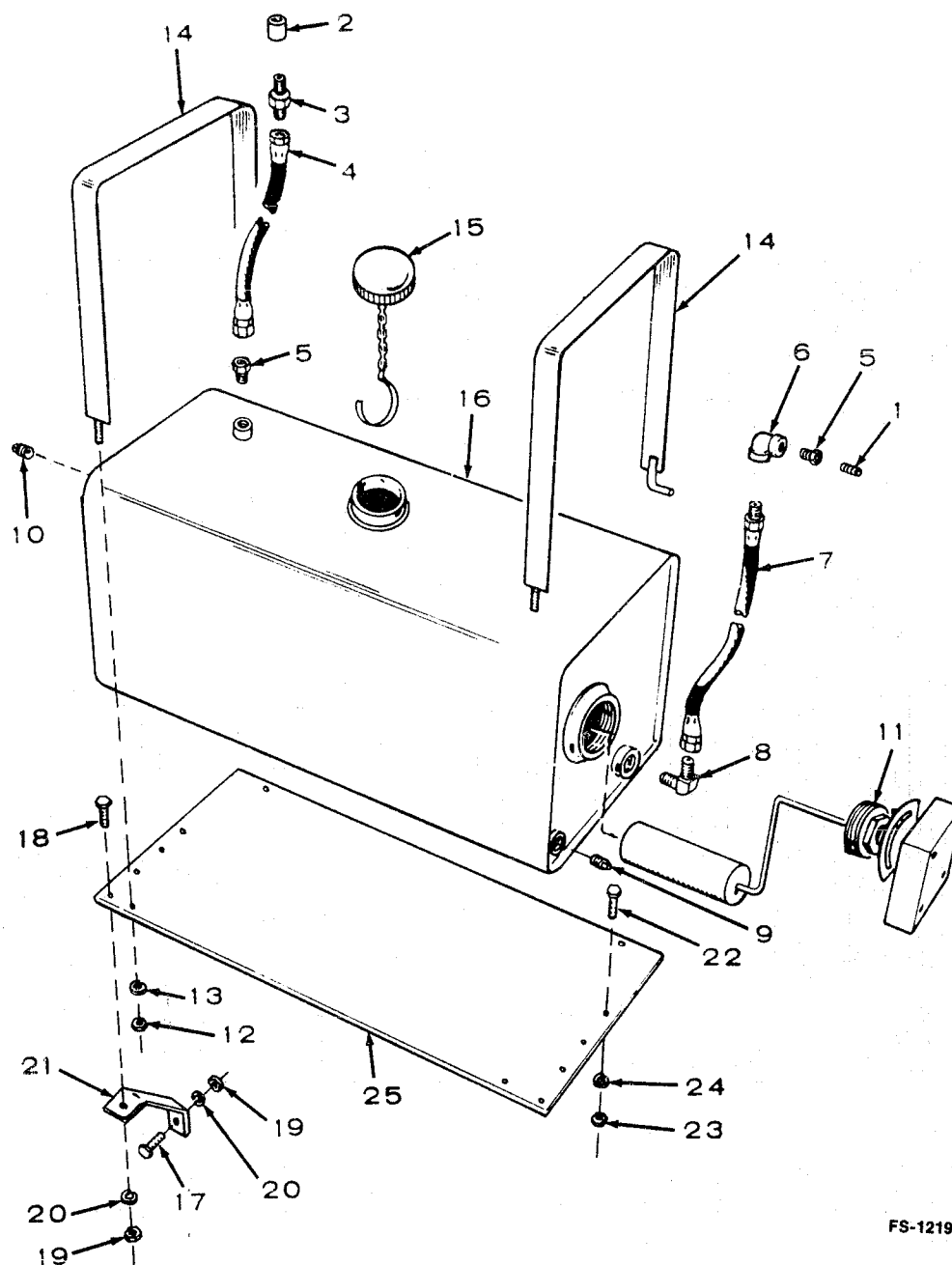
OPTIONAL FUEL PRESSURE GAUGE



FS 1277

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
FUEL PRESSURE GAUGE ASSEMBLY			
		1	0 to 15 Lbs Range
		1	0 to 30 Lbs Range
1	370-4003	1	Tube, Copper (3/16" OD x .030" Thk x 72 Lg)
2	502-0034	2	Elbow with Compression Nut & Ring - 90 DEG, Brass (1/8" NPT x 3/16" Tube)
3	504-0064	1	Valve, Gate (1/8" NPT)
4	502-0046	1	Nipple, Pipe - Close, Brass (1/8" NPT x 3/4" Lg)
5	502-0029	1	Bushing, Reducer - Hex, Brass (1/4" NPT x 1/8" NPT)
6	502-0639	1	Adapter, Pipe - Brass (1/4" NPT x 9/16-18 UNF)
7	502-0051	1	Coupling, Pipe - Brass
8	GAUGE, PRESSURE WITH BRACKET AND HARDWARE		
	193-0146	1	0 to 15 Lbs Range
	193-0200	1	0 to 30 Lbs Range
9	800-0130	1	Screw, Cap - Hex Head (5/8-11 x 1")
10	850-0070	1	Washer, Lock - Spring (5/8")
11	193-0308	1	Bracket, Mounting - Gauge

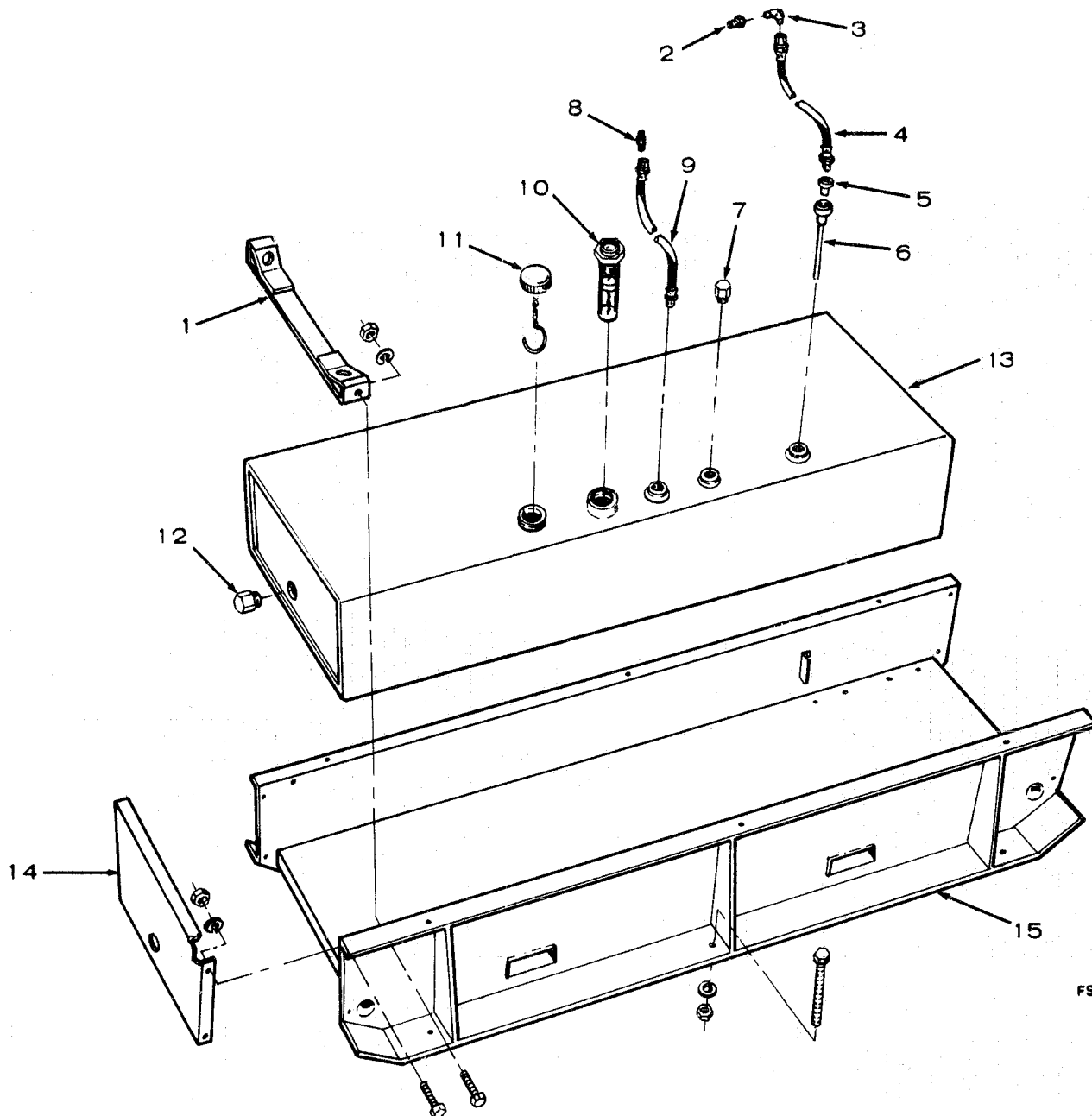
OPTIONAL FUEL TANK RESERVOIR



FS-1219

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	505-0105	1	Nipple, Pipe (1/4" NPT x 1-1/2")	11	415-0170	1	Switch, Fuel Level
2	502-0168	1	Coupling, Pipe (1/4" NPT)	12	862-0001	2	Nut, Hex (1/4-20)
3	502-01	1	Connector, Pipe - Male	13	850-0040	2	Washer, Lock - Spring (1/4")
4	501-0085	1	Line, Fuel - Flexible (Injector Return to Tank)	14	415-0331	2	Strap, Hold-down
5	505-0017	2	Bushing, Reducer (3/8" x 1/4" NPT)	15	159-0020	1	Cap, Fuel Tank
6	502-0039	1	Elbow, Pipe - 90 Deg, Brass (3/8" NPT)	16	415-0322	1	Tank, Fuel (8.5 Gal)
7	501-0083	1	Line, Fuel - Flexible (Tank to Filters)	17	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1")
8	502-0268	1	Elbow, Pipe - 90 Deg, Brass (1/2" NPT)	18	800-0005	2	Screw, Cap - Hex Head (1/4-20 x 3/4")
9	505-0110	1	Plug, Pipe - Square Head (3/8" NPT)	19	862-0001	4	Nut, Hex (1/4-20)
10	505-0056	1	Plug, Pipe - Square Head (1/2" NPT)	20	850-0040	4	Washer, Lock - Spring (1/4")
				21	415-0329	2	Brace, Tank Support
				22	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1")
				23	862-0001	2	Nut, Hex (1/4-20)
				24	850-0040	2	Washer, Lock - Spring (1/4")
				25	415-0330	1	Plate, Mounting - Fuel Tank

OPTIONAL FUEL TANK AND SUB BASE

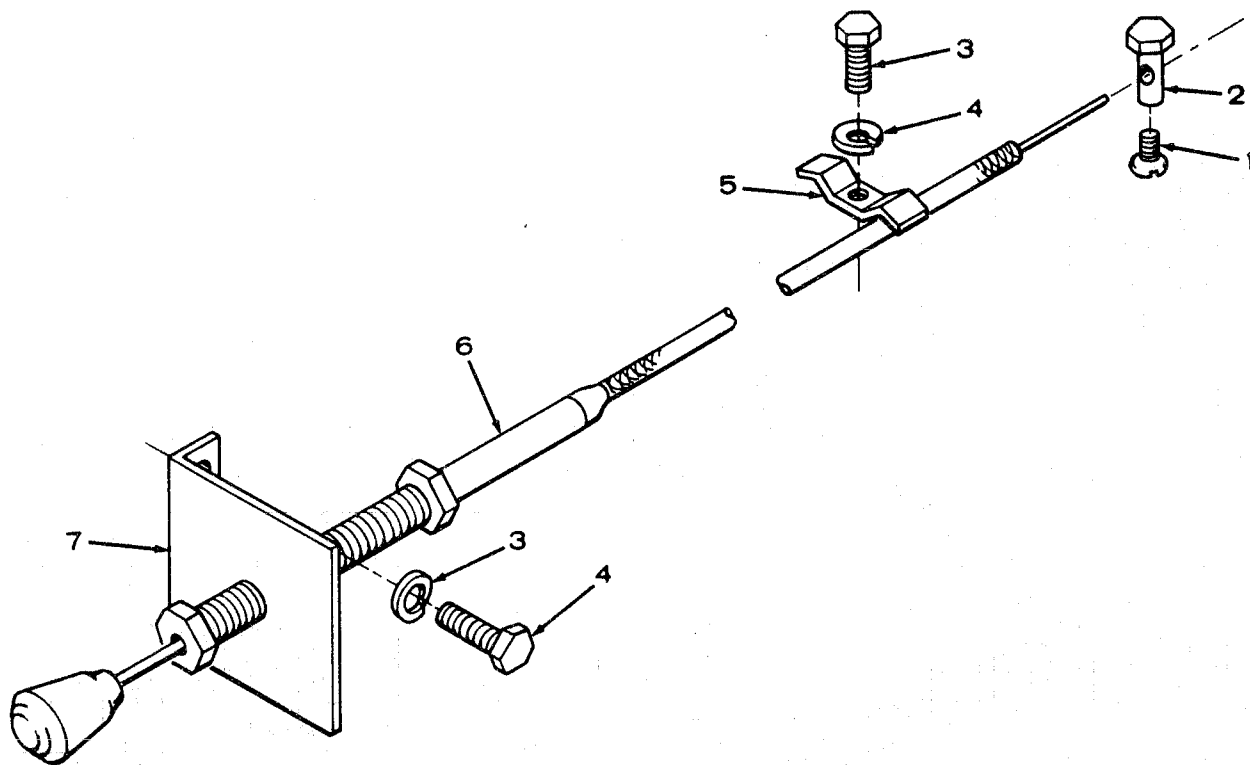


FS-1168

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	159-1102	1	Kit, Fuel Tank and Sub Base
1	159-1100	2	Strap, Tank Holddown
2	502-0270	1	Adapter
3	502-0218	1	Elbow
4	501-0192	1	Line, Fuel
5	505-0018	1	Bushing, Reducer
6	415-0317	1	Pipe, Suction
7	505-0334	1	Plug, Pipe
8	502-0189	1	Connector
9	501-0193	1	Line, Fuel
10	193-0216	1	Gauge, Fuel
11	159-0020	1	Cap, Tank
12	505-0247	1	Plug, Pipe
13	159-1101	1	Tank, Fuel
14	403-1743	2	Plate, End

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
15	403-1744	1	Base, Sub
ATTACHING HARDWARE			
	800-0050	8	Screw, Cap - Hex Head (3/8-16 x 1")
	800-0051	4	Screw, Cap - Hex Head (3/8-16 x 1")
	800-0156	6	Screw, Cap - Hex Head (3/4-10 x 2-1/4")
	850-0050	12	Washer, Lock - Spring (3/8")
	850-0079	6	Washer, Lock - Spring (3/4")
	526-0013	4	Washer, Flat (25/64" ID x 1" OD x 1/16" Thk)
	862-0003	12	Nut, Hex (3/8-16")
	862-0020	6	Nut, Hex (3/4-10")

OPTIONAL VERNIER THROTTLE



M-1179

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	812-0075	1	Screw, Machine - Round Head (#8-32 x 1/4")
2	152-0158	1	Swivel
3	800-0005	3	Screw, Cap - Hex Head (1/4-20 x 3/4")
4	850-0040	3	Washer, Lock - Spring (1/4")
5	152-0036	1	Clamp, Holddown - Cable
6	152-0120	1	Throttle Control - Vernier
7	151-0230	1	Bracket, Mounting - Throttle Control

(HOUSED SETS)

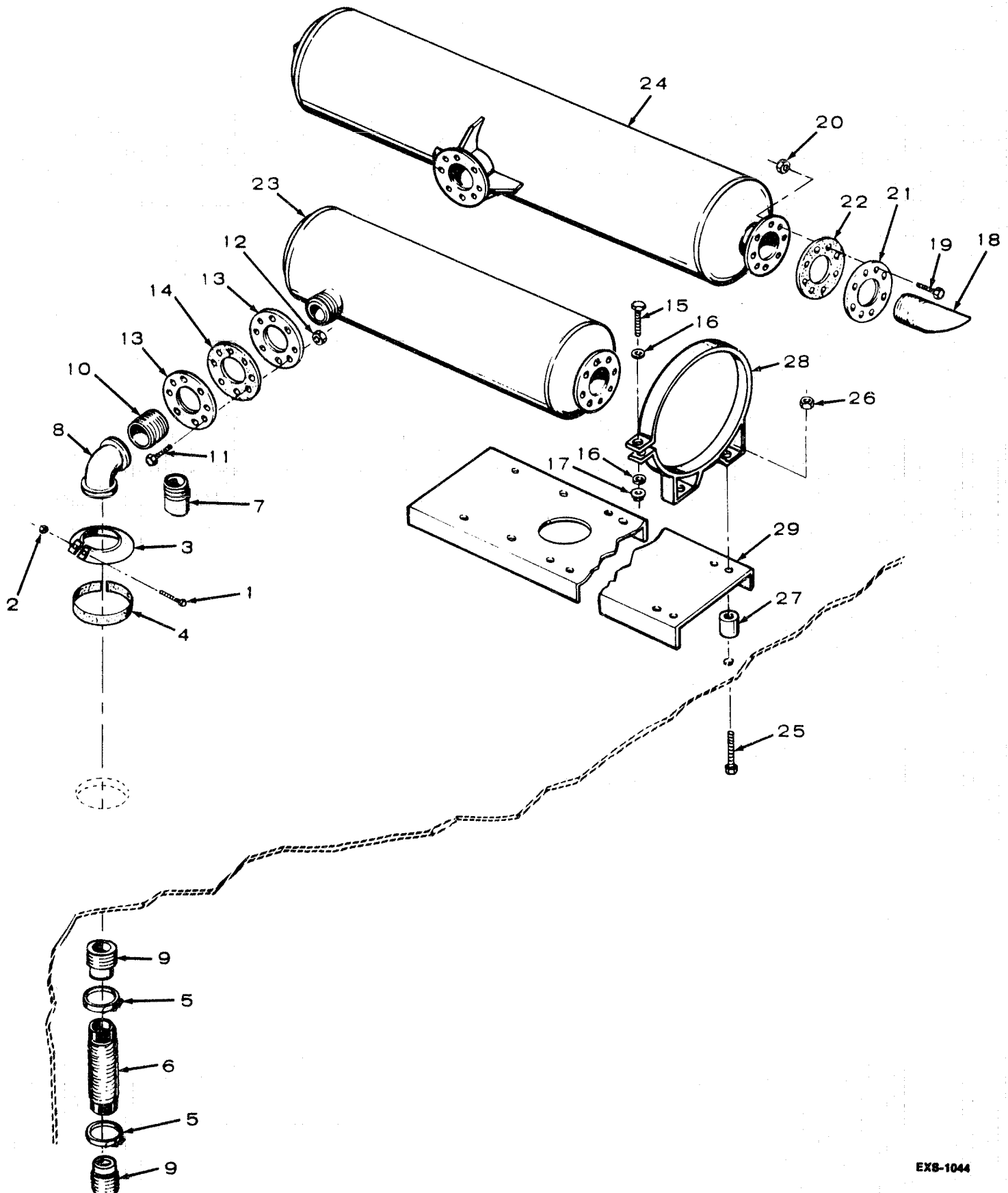


**OPTIONAL
EXHAUST MUFFLER - INDUSTRIAL TYPE
(HOUSED SETS)**

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
			EXHAUST MUFFLER - INDUSTRIAL TYPE
			HOUSED SETS
		1	Includes One Piece Horizontal Flex Tube
		1	Includes Multi Piece Horizontal Flex Tube
			OUTDOOR SHELTER SETS
		1	Includes One Piece Horizontal Flex Tube
1	813-0105	2	Screw, Machine - Round Head (#10-32 x 1")
2	870-0188	2	Nut, Self-locking, Hex (#10-32)
3	155-1426	1	Shield, Rain
4	895-0163	1	Asbestos, Strip (2" x 22" x 1/16" Thk)
5	503-0701	2	Clamp, Loop
6	155-1321	1	Tube, Exhaust - Flexible, CRES
7	155-1160	1	Tube, Exhaust - Flexible, CRES
8	155-1282	2	Nipple, Pipe - Half, Modified (6" NPT)
9	505-0741	2	Elbow, Pipe - 90 DEG (6" NPT)
10	505-0740	1	Nipple, Pipe - Close (6" NPT x 4-1/2")

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
11	NIPPLE, PIPE (6" NPT)		
	505-0821	1	16-1/2" Lg (Housed Sets)
	505-0961	1	26-1/2" Lg (Outdoor Sheltered Sets)
12	800-0160	8	Screw, Cap - Hex Head (3/4-10 x 3-1/4")
13	862-0008	8	Nut, Hex (3/4-10)
14	155-0652	2	Flange, Pipe - Companion (6" NPT)
15	155-0676	1	Gasket, Flange - Asbestos (6" ID)
16	800-0037	3	Screw, Cap - Hex Head (5/16-18 x 3")
17	526-0113	6	Washer, Flat (11/32" ID x 1" OD x 3/32" Thk)
18	870-0257	3	Nut, Self-locking, Hex Washer Head (5/16-18)
19	155-1158	1	Muffler, Exhaust - Industrial (14" OD x 80" Lg)
20	800-0037	6	Screw, Cap - Hex Head (5/16-18 x 3")
21	870-0048	6	Nut, Self-locking, Hex (5/16-18)
22	155-1430	6	Spacer, Sleeve (1/2" ID x 1-1/2" OD x 2" Thk)
23	140-0757	2	Band, Mounting
24	155-1161	1	Heat Shield (13" x 74" Lg)

**OPTIONAL
EXHAUST MUFFLER
RESIDENTIAL & CRITICAL TYPES
(HOUSED SETS)**

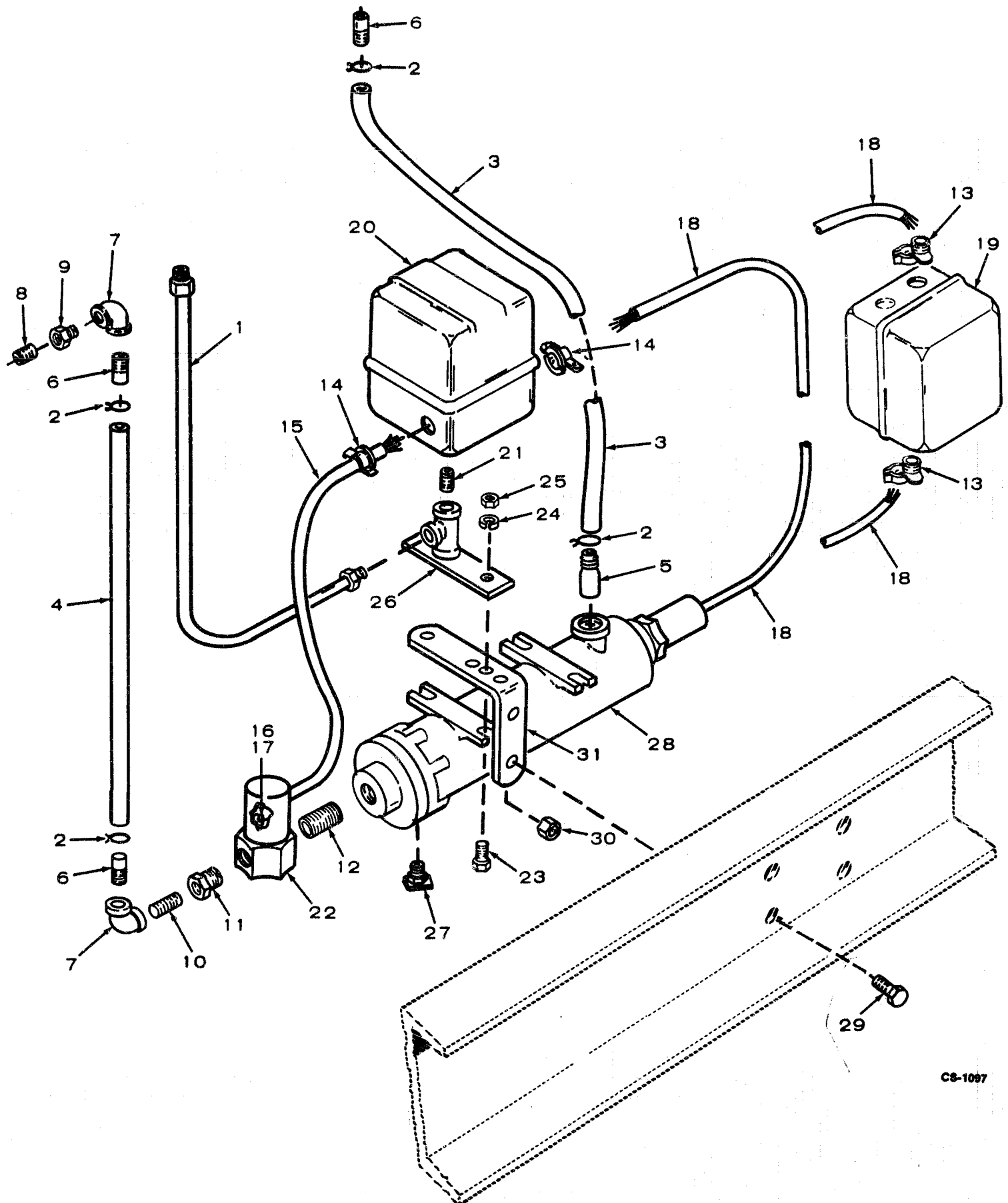


EXB-1044

**OPTIONAL
EXHAUST MUFFLER
RESIDENTIAL & CRITICAL TYPES
(HOUSED SETS)**

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
EXHAUST MUFFLER — RESIDENTIAL CRITICAL TYPE				14	155-0676	1	Gasket, Flange - Asbestos (6" ID)
			HOUSED SETS	15	SCREW, CAP - HEX HEAD (Select as Required)		
		1	Residential Type	800-0035	3	5/16-18 x 2-1/2"	
		1	Critical Type	800-0036	3	5/16-18 x 2-3/4"	
		1	Critical Type w/Flanged Inlet	800-0037	3	5/16-18 x 3"	
			OUTDOOR SHELTER SETS	16	526-0113	6	Washer, Flat (11/32" ID x 1" OD x 3/32" Thk)
		1	Residential Type	17	870-0257	3	Nut, Self-locking, Hex Washer Head (5/16-18)
		1	Critical Type	18	505-0785	1	Nipple, Pipe - Half, Modified With Diagonal Cutoff
1	813-0105	2	Screw, Machine - Round Head (#10-32 x 1)	19	800-0160	8	Screw, Cap - Hex Head (3/4-10 x 3-1/4")
2	870-0188	2	Nut, Self-locking, Hex (#10-32)	20	862-0008	8	Nut, Hex (3/4-10)
3	SHIELD, RAIN			21	155-0652	1	Flange, Pipe - Companion (6" NPT)
	155-1426	1	6" ID	22	155-0676	1	Gasket, Flange - Asbestos (6" ID)
	155-1428	1	7-1/2" ID	23	MUFFLER, EXHAUST - RESIDENTIAL		
4	STRIP, ASBESTOS			155-1289	1	18" OD x 60" Lg	
	895-0163	1	2" x 22" x 1/16" Thk	155-1288	1	22" OD x 70" Lg	
	895-0164	1	2" x 28" x 1/16" Thk	24	MUFFLER, EXHAUST - CRITICAL		
5	503-0701	2	Clamp, Loop	155-0308	1	18" OD x 93" Lg	
6	TUBE, EXHAUST — FLEXIBLE, CRES			155-1584	1	18" OD x 93" Lg (With Flanged Inlet)	
	155-1354	1	6" ID x 25" Lg	25	800-0037	6	Screw, Cap - Hex Head (5/16-18 x 3")
	155-1478	1	6" ID x 16" Lg	26	870-0048	6	Nut, Self-locking, Hex (5/16-18)
	155-1480	1	6" ID x 19" Lg	27	155-1430	6	Spacer, Sleeve (1/2" ID x 1-1/2" OD x 2" Thk)
	155-1582	1	6" ID x 9" Lg	28	BAND, MOUNTING		
7	505-0786	1	Coupling, Pipe - 6" NPT (Used When Muffler Exhaust Inlet is Vertical Down.)	140-0751	3	18" ID	
8	505-0741	1	Elbow, Pipe - 90 DEG, 6" NPT (Used Direct or With Flanges to Muffler Side Inlet)	155-1291	3	22" ID	
9	155-1282	2	Nipple, Pipe - Half, Modified (6" NPT)	29	HEAT SHIELD		
10	505-0745	1	Nipple, Pipe - Close (6" NPT x 6-1/2") - Used With Flanges	155-1296	1		
11	800-0160	8	Screw, Cap - Hex Head (3/4-10 x 3-1/4")	155-1313	1	18" x 84"	
12	862-0008	8	Nut, Hex (3/4-10)	155-1331	1	18" x 84" With 8" Cutout	
13	155-0652	2	Flanges, Pipe - Companion (6" NPT)	155-1583	1	18" x 93"	

OPTIONAL ENGINE COOLANT HEATER



CS-1097

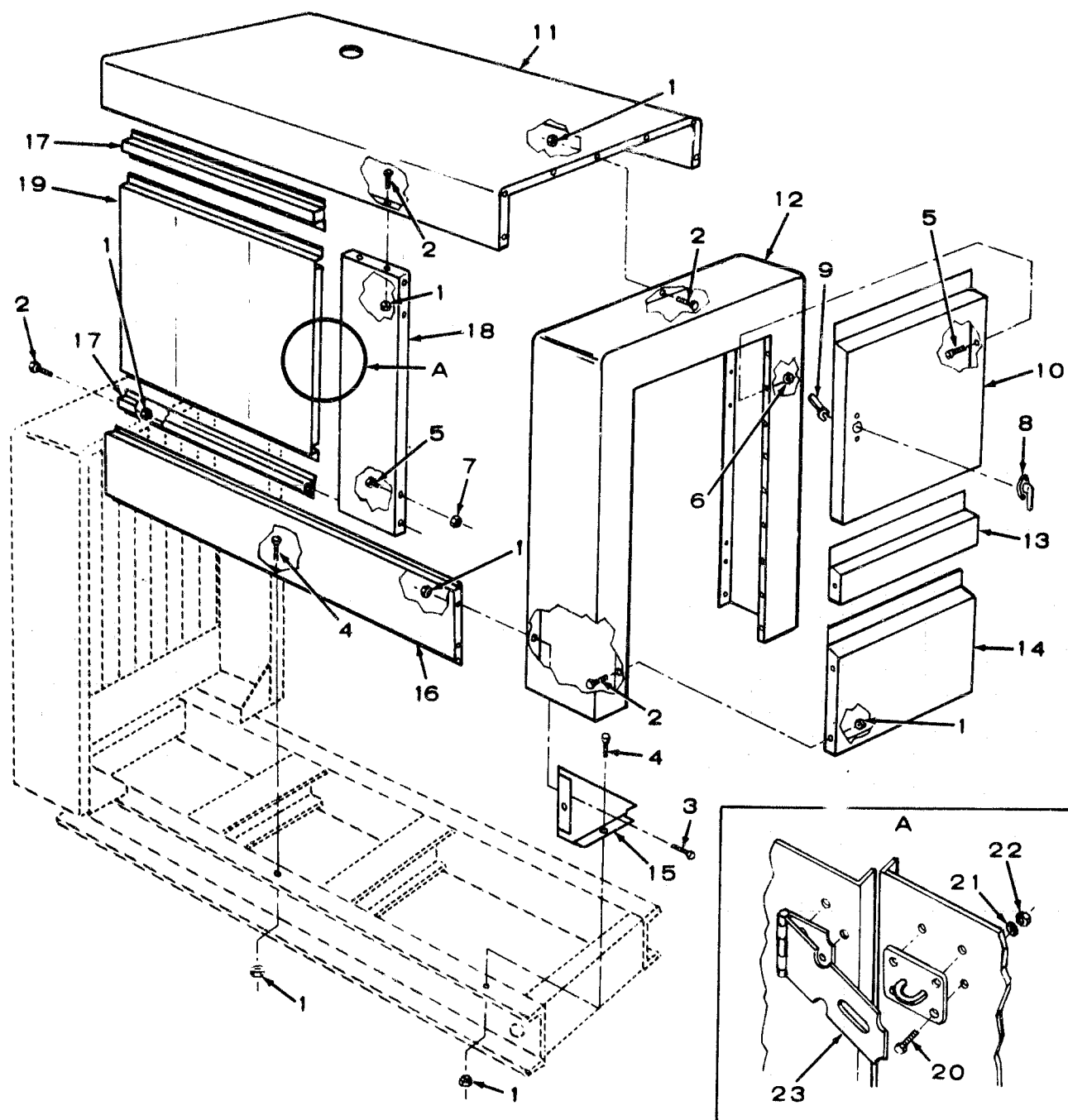
OPTIONAL ENGINE COOLANT HEATER

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
ENGINE COOLANT HEATER			
		1	208 VAC, 1 Phase
		1	208 VAC, 3 Phase
		1	240 VAC, 1 Phase
		1	240 VAC, 3 Phase
		1	277 VAC, 1 Phase
		1	380 VAC, 1 Phase
		1	380 VAC, 3 Phase
		1	440/480 VAC, 1 Phase
		1	440/480 VAC, 3 Phase
1	501-0227	1	Line, Fuel - Flexible
2	503-0429	4	Clamp, Hose
3	503-0847	1	Hose, Rubber (1" ID x 1-3/8" OD x 30" Lg)
4	503-0792	1	Hose, Rubber (1" ID x 1-3/8" OD x 12-1/2" Lg)
5	505-0759	1	Adapter - Hose to Pipe
6	505-0324	3	Nipple, Pipe - Half (3/4" NPT x 2")
7	505-0132	2	Elbow, Pipe - 90 DEG (3/4" NPT)
8	505-0100	1	Nipple, Pipe - Close (1/2" NPT x 1-1/8")
9	505-0027	1	Bushing, Reducer (3/4" NPT x 1/2" NPT)
10	505-0102	1	Nipple, Pipe - Close (3/4" NPT x 1-3/8")
11	505-0129	1	Bushing Reducer (1" NPT x 3/4" NPT)
12	505-0004	1	Nipple, Pipe - Close (1" NPT x 1-1/2")
13	331-0027	6	Clamp, Cable (3/8" OD Cable) - used with Contactor
14	331-0027	2	Clamp, Cable (3/8" OD Cable)
15	#	REF	Cable, Electrical - (2-#14, Type S0, 600 Volt)
16	323-0957	1	Nut, Wire - Used on Ground Lead
17	332-0149	8	Lug, Terminal - Used on White Leads

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
18	CABLE, ELECTRICAL (Type S0, 600 Volt)		
	#	REF	3-#12 Wires (Single Phase Heaters)
	#	REF	4-#14 Wires (Three Phase Heaters)
19	CONTACTOR, ELECTRICAL		
	307-1460	1	230 VAC, 3 Pole
	307-1164	1	460 VAC, 3 Pole
20	309-0307	1	Switch, Pressure
21	505-0099	1	Nipple, Pipe - Close (1/4" NPT x 7/8")
22	309-0304	1	Switch, Thermostatic
23	800-0007	4	Screw, Cap - Hex Head (1/4-20 x 1")
24	850-0040	4	Washer, Lock - Spring (1/4")
25	862-0001	4	Nut, Hex (1/4-20)
26	333-0142	1	Support with Tee, Pressure Switch Mounting
27	504-0003	1	Cock, Drain (1/4" NPT)
28	HEATER, ELECTRICAL - ENGINE COOLANT (Select as Applicable to Match Voltage and Phase)		
	333-0143	1	4000 Watt, 208 VAC, 1 Phase
	333-0164	1	4000 Watt, 208 VAC, 3 Phase
	333-0138	1	4000 Watt, 240 VAC, 1 Phase
	333-0190	1	4000 Watt, 240 VAC, 3 Phase
	333-0150	1	4000 Watt, 277 VAC, 1 Phase
	333-0183	1	4000 Watt, 380 VAC, 1 Phase
	333-0174	1	4000 Watt, 380 VAC, 3 Phase
	333-0161	1	4000 Watt, 440/480 VAC, 1 Phase
	333-0144	1	4000 Watt, 440/480 VAC, 3 Phase
29	821-0016	4	Screw, Self-locking - Hex Washer Head (5/16-18 x 3/4")
30	870-0257	4	Nut, Hex (5/16-18)
31	130-1192	2	Bracket, Mounting - Heater

- Electrical Cable and Cord Shown for Reference Purpose Only.

OPTIONAL SET HOUSING



M-1004

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	870-0257	42	Nut, Hex (5/16-18)
2	821-0014	48	Screw, Cap - Locking Head (5/16-18 x 1/2")
3	821-0016	6	Screw, Cap - Locking Head (5/16-18 x 3/4")
4	800-0030	6	Screw, Cap - Hex Head (5/16-18 x 1-1/4")
5	821-0010	18	Screw, Cap - Locking Head (1/4-20)
6	870-0212	4	Nut, Hex (1/4-20)
7	870-0258	16	Nut, Weld - Door Mounting
8	406-0157	1	Handle, Lock
9	406-0089	1	Catch
10	405-1880	1	Door, Rear

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
11	405-2013	1	Panel, Top Housing
12	405-1883	1	Panel, Rear
13	405-1858	2	Panel, Rear Louver
14	405-1856	1	Panel, Lower Rear Housing
15	405-2016	4	Bracket, Panel Mounting
16	405-2015	2	Panel, Base
17	405-2014	8	Panel, Louver
18	405-1873	2	Panel, Center
19	405-2011	4	Door, Removable
20	814-0079	28	Screw, Machine - Flat Head (#8-32 x 1/2")
21	850-0025	28	Washer, Lock - Spring (#8)
22	860-0008	28	Nut, Hex (#8-32)
23	406-0249	4	Hasp Set - Optional

973-0225 (JUNE 1981)