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Onan

Parts Manual

400 kW

DFN

GenSet



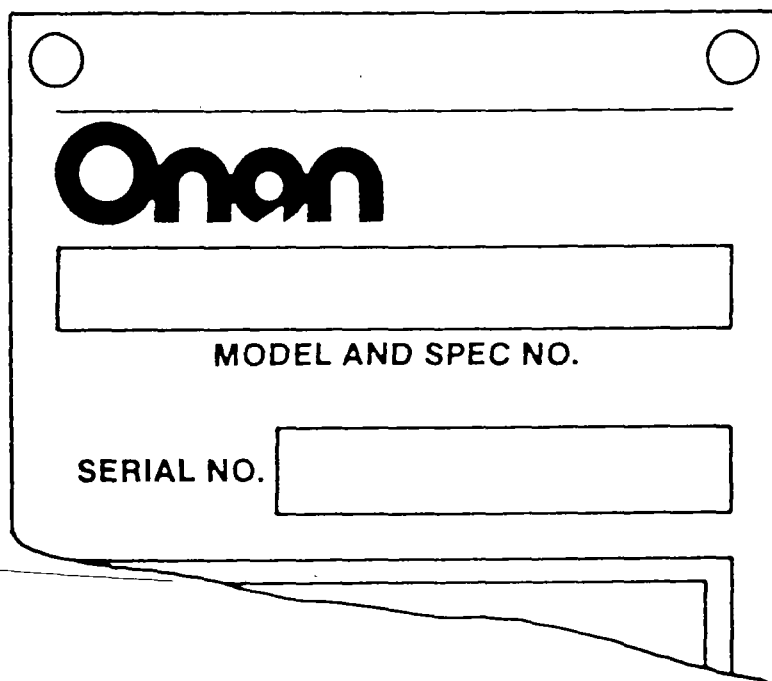
Onan Service Parts

960-0224
1-87 (Spec C-D)
Replaces 3-83 (Spec C)
Printed in U.S.A.

General Information

For parts or service, contact the dealer from whom you purchased this equipment or refer to your Nearest Authorized Onan Parts and Service Center.

To avoid errors or delay in filling your parts order, always give the MODEL, SPEC NO. and SERIAL NO. from the Onan nameplate.

A rectangular form with rounded corners and two circular punch holes at the top. The Onan logo is at the top left. Below it is a large rectangular box for 'MODEL AND SPEC NO.'. Below that is a smaller rectangular box for 'SERIAL NO.'. The bottom right corner of the form is torn.

Onan

MODEL AND SPEC NO.

SERIAL NO.

M-1149

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

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Introduction

This Parts Manual applies to the Standard Sets Listed below. 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 in the description column the parts are interchangeable between models.

These typical illustrations are subject to change and reflect only the latest replacement parts arrangement. The Right and Left sides of the Set are determined by FACING the FRONT of the Set (Engine End)

Set Data Table

MODEL IDENTIFICATION	RATING	RPM RATING	BATTERY VOLTAGE
330.0 DFN - */ # @	330,000 WATTS	1500 RPM	24 VDC
400.0 DFN - */ # @	400,000 WATTS	1800 RPM	24 VDC

Electrical Data Table

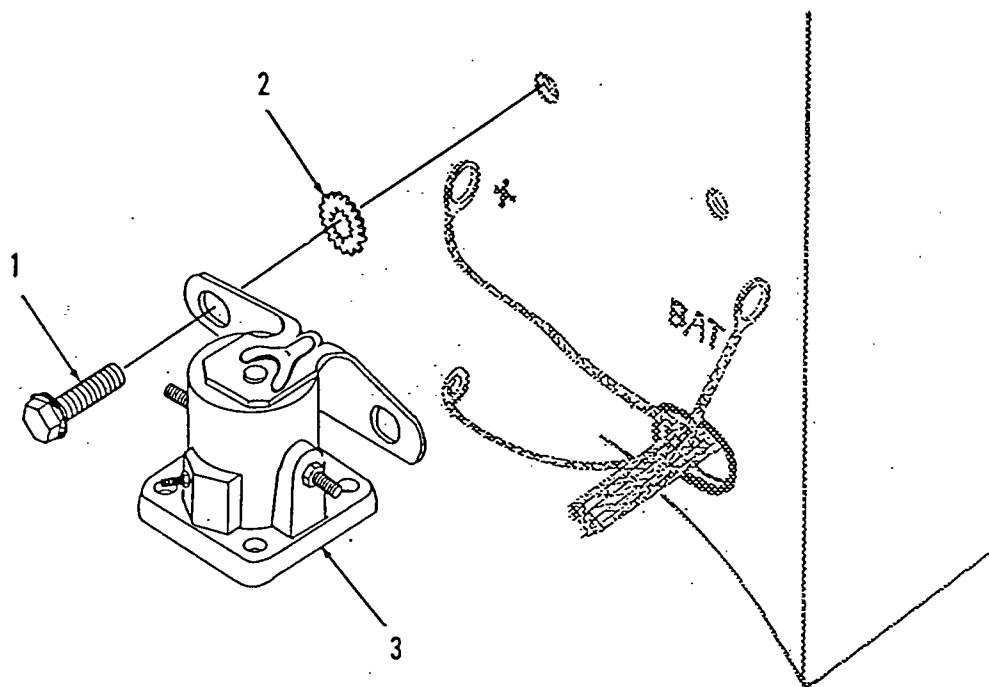
*VOLTAGE CODE	VOLTS	HERTZ	WIRE	PHASE	NOTES
4	120/208	60	4	3	
4X	277/480	60	4	3	
5D	120/240	60	4	3	
6D	240/480	60	4	3	
7	220/380	60	4	3	
7X	240/416	60	4	3	
9X	347/600	60	4	3	
	139/240	60	4	3	
519	110/190,	50	4	3	
	115/200				
521	120/208,	50	4	3	
	127/220				
520	220/380,	50	4	3	
	230/400				
522	240/416,	50	4	3	
	254/440				

- * - Voltage Codes follow Model Letter designations.
- # - Specification Number: Number 1 is Standard, all others indicate variations.
- @ - Specification Letter: Letter advances (A to B, B to C, etc) with major manufacturing changes.
- + - No Standard Voltage Code, number 99 is marked on the nameplate for reference information.

Engine Replacement Parts

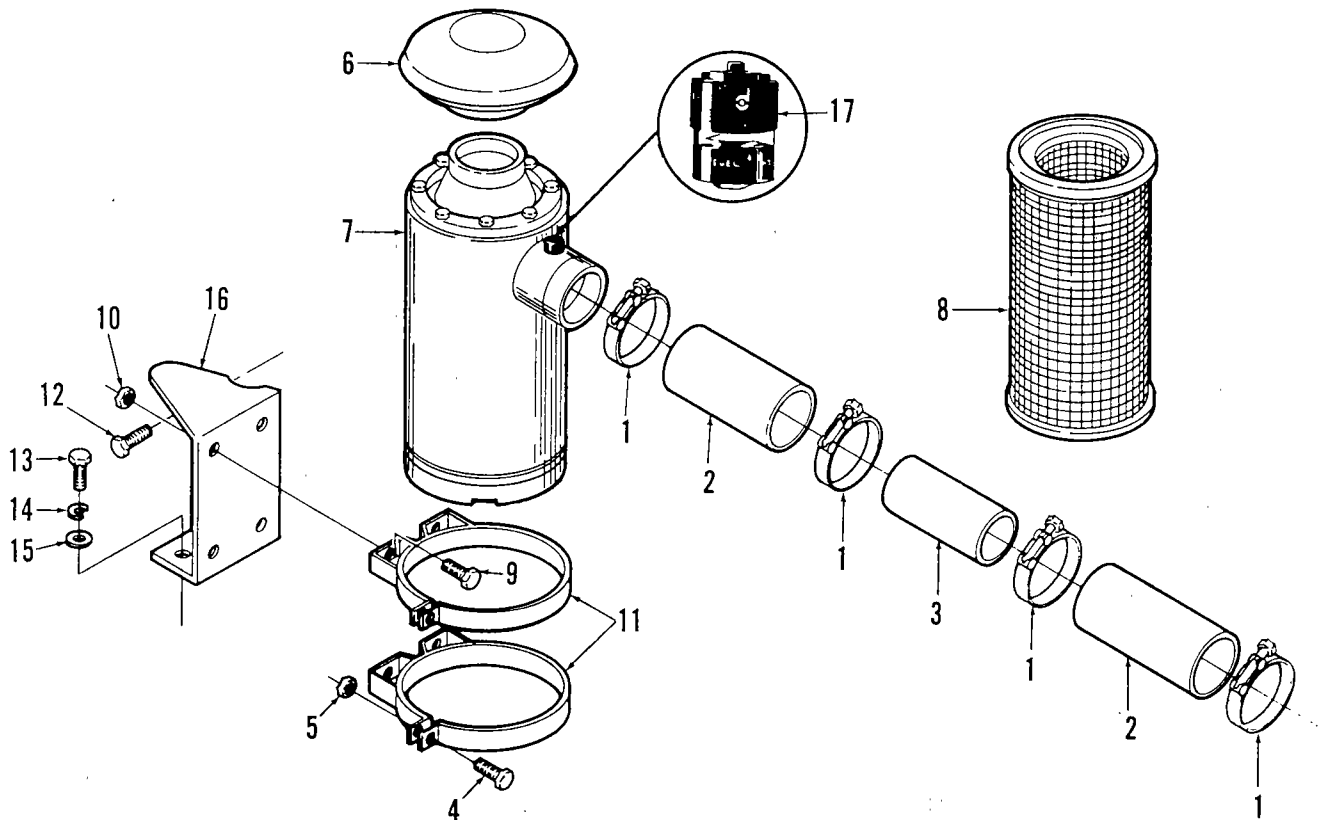
All Engine replacement parts must be ordered from the Engine Manufacturer, except those modified or added by Onan. When ordering engine parts, refer to the Engine Manufacturer's Nameplate and supply the Model, Specification, Serial Numbers and other available information. Refer to the Engine Manufacturer's Manuals for your nearest authorized Parts Distributor; or contact the Onan Distributor from whom you purchased this set, for assistance in ordering the replacement parts.

Start Solenoid
Begin Spec D



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0010	2	Screw, Self-locking - Hex Head (1/4-20 x 1/2")	2	856-0006	2	Washer, Lock - EIT (1/4")
				3	307-2167	1	Solenoid, Start (K2)

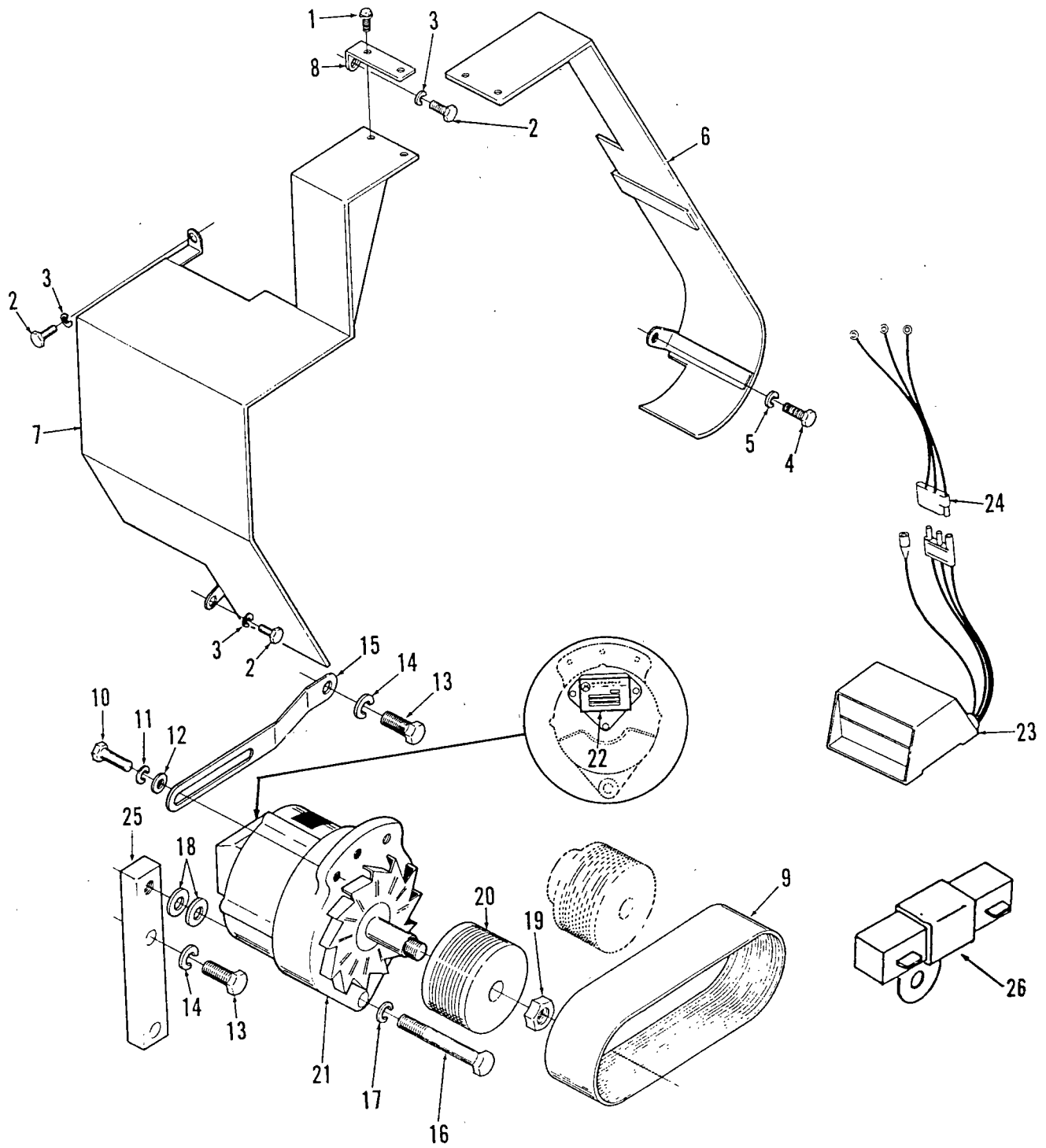
Air Cleaner



XFS 1379

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0863	2	Clamp, Hose	9	821-0029	4	Screw, Self-locking - Hex (3/8-16 x 3/4")
2	503-0806	1	Hose	10	870-0281	4	Nut, Self-locking - Hex (3/8-16)
3	140-1578	1	Tube	11	140-1345	2	Band, Mounting
4	800-0032	2	Screw, Cap - Hex Head (5/16-18 x 1-3/4")	12	821-0029	2	Screw, Self-locking - Hex (3/8-16 x 3/4")
5	870-0257	2	Nut, Self-locking - Hex (5/16-18)	13	800-0071	2	Screw, Cap - Hex Head (7/16-14 x 1")
6	140-1347	1	Cap, Air Cleaner	14	850-0055	2	Washer, Lock - Spring (7/16")
7	140-1346	1	Cleaner, Air (Includes Element)	15	526-0032	2	Washer, Flat (7/16")
8	140-1376	1	Element	16	140-1822	1	Bracket, Mounting
				17	140-1548	1	Indicator, Service

Alternator Radiator Sets

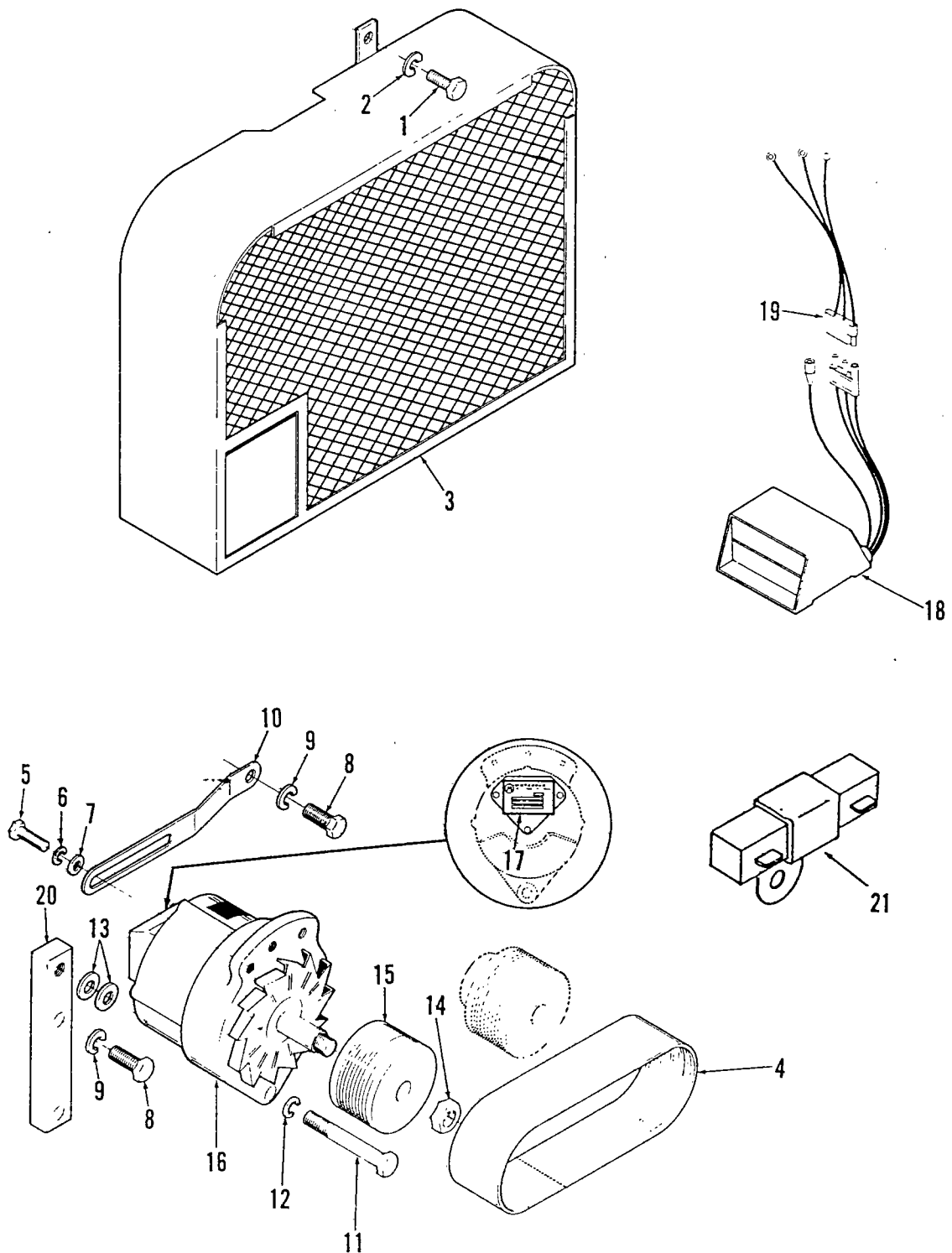


XES 1249

Alternator Radiator Sets

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0018	2	Screw, Self-locking - Hex Head (1/4-20 x 5/8")	15	191-0101	1	Bracket, Adjusting
2	800-0048	3	Screw, Cap - Hex Head (3/6-16 x 3/4")	16	800-0100	1	Screw, Cap - Hex Head (1/2-13 x 3-1/2")
3	850-0050	3	Washer, Lock - Spring (3/8")	17	850-0060	1	Washer, Lock - Spring (1/2")
4	800-0069	2	Screw, Cap - Hex Head (7/16-14 x 3/4")	18	526-0219	2	Washer, Flat (1/2")
5	850-0055	2	Washer, Lock - Spring (7/16")	19	868-0007	1	Nut, Hex (5/8-18)
6	191-1517	1	Guard, Belt	20	191-1391	1	Pulley
7	130-1812	1	Guard, Belt	21			Alternator
8	191-1151	1	Bracket, Mounting - Belt Guard		191-0688	1	Standard
9	511-0119	1	Belt, Drive - Multi Groove		191-1258	1	Marine
10	821-0016	1	Screw, Self-locking - Hex Head (5/16-18 x 3/4")	22	191-0733	1	Regulator, Voltage (Used with Standard Alternator)
11	850-0045	1	Washer, Lock - Spring (5/16")	23	191-0548	1	Regulator, Voltage (Used with Marine Alternator)
12	526-0022	1	Washer, Flat (5/16")	24	191-0681	1	Cable, Electrical (Used with Marine Alternator)
13	800-0090	3	Screw, Cap - Hex Head (1/2-13 x 1")	25	191-1376	1	Bracket, Mounting
14	850-0060	3	Washer, Lock - Spring (1/2")	26	191-0550	1	Resistor (Used with Marine Alternator)

Alternator Heat Exchanger/Standpipe Sets

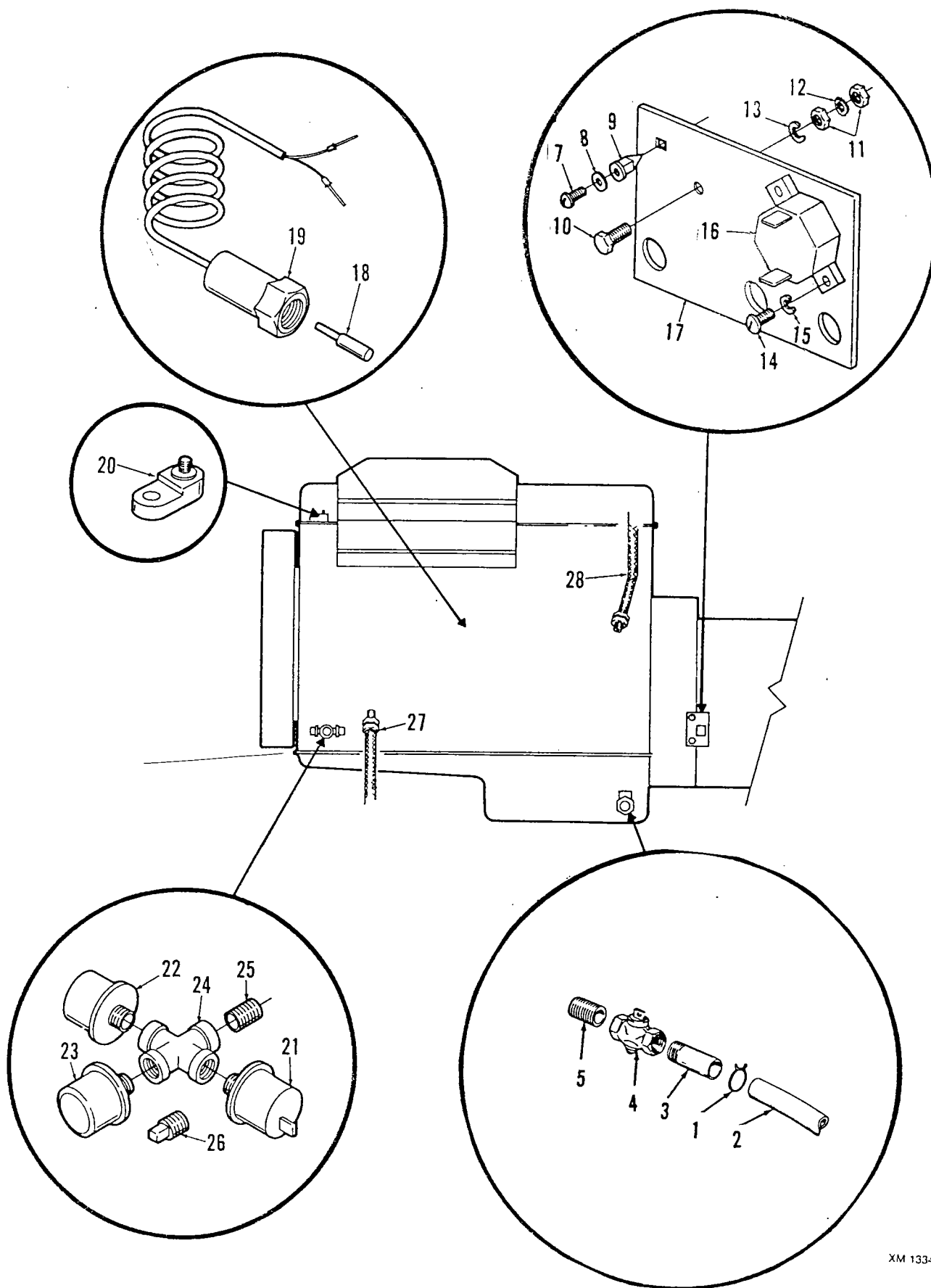


XES 1250

Alternator Heat Exchanger/Standpipe Sets

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-0069	2	Screw, Cap - Hex Head (7/16-14 x 3/4")	13	526-0219	2	Washer, Flat (1/2")
2	850-0055	2	Washer, Lock - Spring (7/16")	14	868-0007	1	Nut, Hex (5/8-18)
3	130-1118	1	Guard, Belt	15	191-1391	1	Pulley
4	511-0119	1	Belt, Drive - Multi Groove	16			Alternator
5	821-0016	1	Screw, Self-locking - Hex Head (5/16-18 x 3/4")		191-0688	1	Standard
6	850-0045	1	Washer, Lock - Spring (5/16")		191-1258	1	Marine
7	526-0022	1	Washer, Flat (5/16")	17	191-0733	1	Regulator, Voltage (Used with Standard Alternator)
8	800-0090	3	Screw, Cap - Hex Head (1/2-13 x 1")	18	191-0548	1	Regulator, Voltage (Used with Marine Alternator)
9	850-0060	3	Washer, Lock - Spring (1/2")	19	191-0681	1	Cable, Electrical (Used with Marine Alternator)
10	191-0101	1	Bracket, Adjusting	20	191-1376	1	Bracket, Mounting
11	800-0100	1	Screw, Cap - Hex Head (1/2-13 x 3-1/2")	21	191-0550	1	Resistor (Used with Marine Alternator)
12	850-0060	1	Washer, Lock - Spring (1/2")				

Miscellaneous Engine Parts Right Side



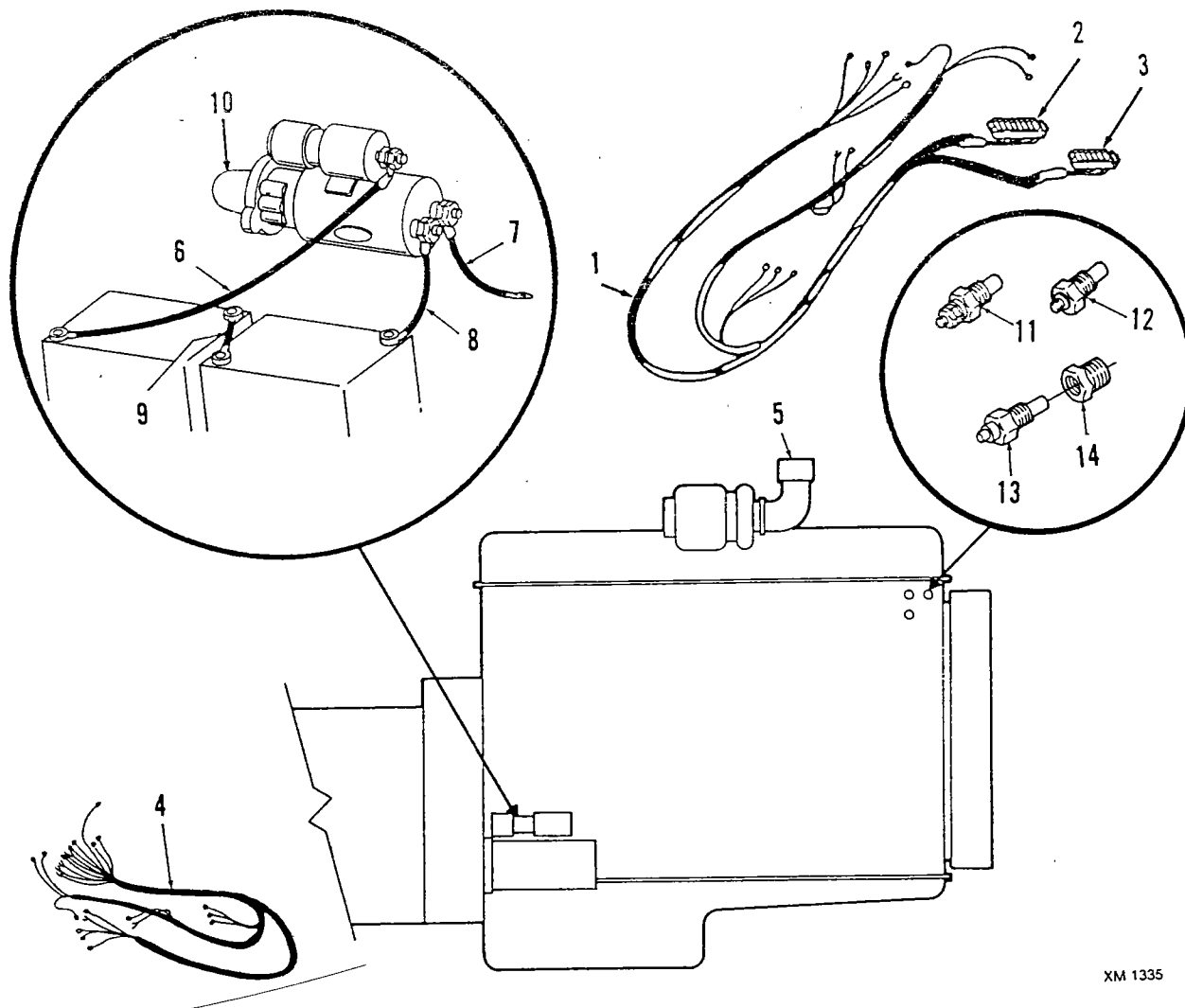
XM 1334

Miscellaneous Engine Parts Right Side

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0197	1	Clamp, Loop	15	850-0030	2	*Washer, Lock - Spring (#10)
2	503-0888	1	Hose	16	320-0240	1	*Breaker, Circuit
3	505-0185	1	Nipple, Pipe - Half	17	332-1382	1	*Board, Terminal
4	504-0011	1	Valve	18	302-0753	1	Tang, Drive - Tachometer
5	505-0100	1	Nipple, Pipe - Close	19	302-0750	1	Sender - Tachometer
6	332-1383	1	Terminal Assembly (Includes Parts Marked*)	20	309-0269	1	Switch, Temperature - Low Engine Temperature (S4)
7	809-0035	1	*Screw, Tapping - Round Head (#8 x 3/4")	21	309-0272	1	Switch, Pressure - Oil - Alarm (S5)
8	508-0015	1	*Washer, Insulating	22	193-0244	1	Sender, Pressure - Oil (E1)
9	870-0196	1	*Nut, Insulated	23	309-0169	1	Switch, Pressure - Oil - Shutdown (S1)
10	800-0005	1	*Screw, Cap - Hex Head (1/4-20 x 3/4")	24	505-0763	1	Cross, Pipe
11	862-0001	2	*Nut, Hex (1/4-20)	25	505-0104	1	Nipple, Pipe - Close
12	856-0006	1	*Washer, Lock - EIT (1/4")	26	505-0057	1	Plug, Pipe - Square Head
13	850-0040	1	*Washer, Lock - Spring (1/4")	27	501-0216	1	Line, Fuel - Return
14	813-0103	2	*Screw, Machine - Round Head (#10-32 x 3/4")	28	501-0084	1	Line, Fuel - Incoming

*- Parts included in Circuit Breaker Assembly.

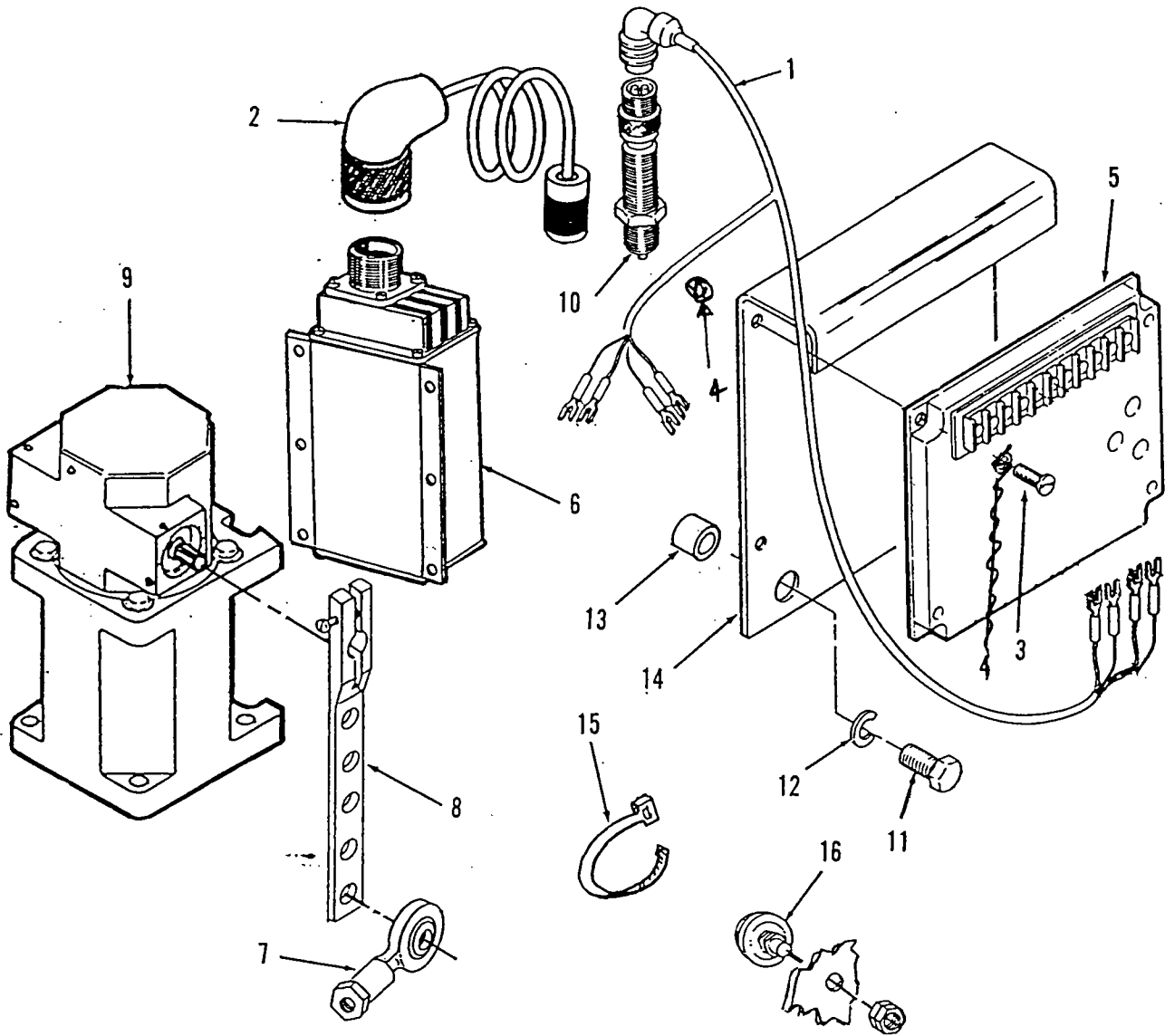
Miscellaneous Engine Parts Left Side



XM 1335

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	338-2069	1	Harness, Wiring - Begin Spec D (Includes Connectors)	8	416-0639	1	Cable, Battery - Negative
2	323-1304	1	Housing, Connector - 6 Place	9	416-0473	1	Cable, Electrical - Jumper
	323-1200	6	Contact, Pin	10	191-1588	1	Starter
3	323-1306	1	Housing, Connector - 8 Place	11	193-0247	1	Sender, Temperature - Engine Coolant (E2)
	323-1200	8	Contact, Pin	12	309-0178	1	Switch, Thermostatic - Coolant Temperature - Alarm (S2)
4	338-0976	1	Harness, Wiring - Spec C	13	309-0179	1	Switch, Thermostatic - Coolant Temperature - Shutdown (S6)
5	155-1393	1	Elbow, Exhaust	14	505-0117	2	Bushing, Reducer - Flush
6	416-0636	1	Cable, Battery - Positive				
7	416-0632	1	Cable, Electrical - Ground				

Electric Governor



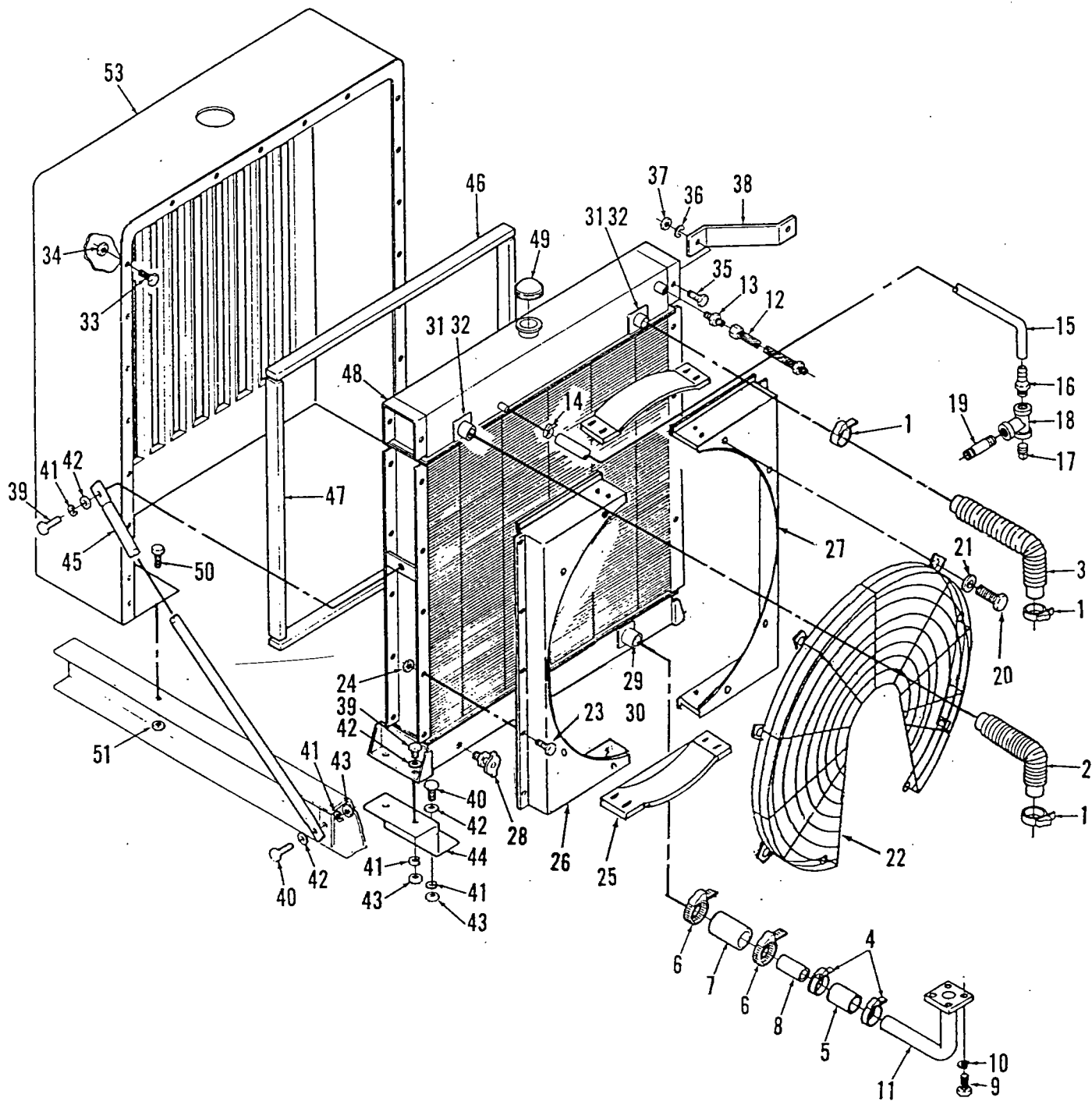
REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	338-1777	1	Harness, Wiring - Begin Spec D
2	338-1086	1	Harness, Wiring - Spec A Thru C
3	813-0103	4	Screw, Machine - Round Head (#10-32 x 3/4")
4	870-0131	4	Nut, Self-locking, Hex (#10-32)
5	151-0637	1	Controller, Governor - Begin Spec D
6	151-0399	1	Controller, Governor - Spec A Thru C
7	151-0443	2	Joint, Ball - Spec A Thru C

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
8	151-0441	1	Lever - Spec A Thru C
9	151-0419	1	Actuator - Spec A Thru C
10	151-0411	1	Pickup, Magnetic
11	800-0151	2	Screw, Cap - Hex Head (3/4-10 x 1")
12	850-0079	2	Washer, Lock - Spring (3/4")
13	370-4040	2	Spacer, Sleeve
14	150-2007	1	Bracket, Mounting - Begin Spec D
15	332-1445	9	Tie, Cable
16	151-0402	1	Potentiometer - Speed Control - Spec A Thru C (Mounted in Set Control)

Cooling System - Radiator

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0354	4	Clamp, Hose	30	130-1193	1	Gasket
2	503-0629	1	Hose	31	130-1002	2	Adapter, Inlet
3	503-0616	1	Hose	32	130-1194	2	Gasket
4	503-0612	2	Clamp, Hose	33	821-0016	6	Screw, Self-locking - Hex (5/16-18 x 3/4")
5	503-0782	1	Hose				
6	503-0612	2	Clamp, Hose	34	870-0257	6	Nut, Self-locking - Hex (5/16-18)
7	503-1114	1	Hose				
8	130-1741	1	Tube	35	800-0090	2	Screw, Cap - Hex Head (1/2-13 x 1")
9	800-0072	4	Screw, Cap - Hex Head (7/16-14 x 1-1/4")	36	850-0060	2	Washer, Lock - Spring (1/2")
10	850-0055	4	Washer, Lock - Spring (7/16")	37	862-0016	2	Nut, Hex (1/2-13)
11	130-1030	1	Elbow, Tube	38	130-0996	2	Brace, Support
12	501-0087	1	Line, Fuel	39	800-0133	6	Screw, Cap - Hex Head (5/8-11 x 1-3/4")
13	502-0184	1	Connector				
14	503-0429	2	Clamp, Hose	40	800-0131	6	Screw, Cap - Hex Head (5/8-11 x 1-1/4")
15	503-0924	1	Hose				
16	505-0759	1	Adapter	41	850-0070	12	Washer, Lock - Spring (5/8")
17	505-0140	1	Plug, Pipe	42	526-0112	24	Washer, Flat (5/8")
18	505-0304	1	Tee, Pipe	43	862-0007	12	Nut, Hex (5/8-11)
19	505-0087	1	Nipple, Pipe	44	130-1292	2	Bracket, Support
20	821-0018	8	Screw, Self-locking - Hex (1/4-20 x 5/8")	45	130-0994	2	Brace, Support
21	526-0018	8	Washer, Flat (1/4")	46	130-1007	2	Strip, Foam
22	130-1013	1	Guard, Fan	47	130-1006	2	Strip, Foam
23	821-0029	10	Screw, Self-locking - Hex (3/8-16 x 3/4")	48	130-2117	1	Radiator (Include Cap)
24	870-0281	10	Nut, Self-locking - Hex (3/8-16)	49	130-0449	1	Cap, Radiator
25	130-2119	1	Shroud, Fan	50	800-0030	4	Screw, Cap - Hex Head (5/16-18 x 1-1/4")
26	504-0003	1	Cock, Drain	51	870-0257	4	Nut, Self-locking - Hex (5/16-18)
27	800-0072	12	Screw, Cap - Hex Head (7/16-14 x 1-1/4")	52			Bracket
28	850-0055	12	Washer, Lock - Spring (7/16")	405-2236	1		Right Side
29	130-1907	1	Adapter, Outlet	405-2237	1		Left Side
				53	405-2228	1	Panel, Front

Cooling System - Hi Ambient

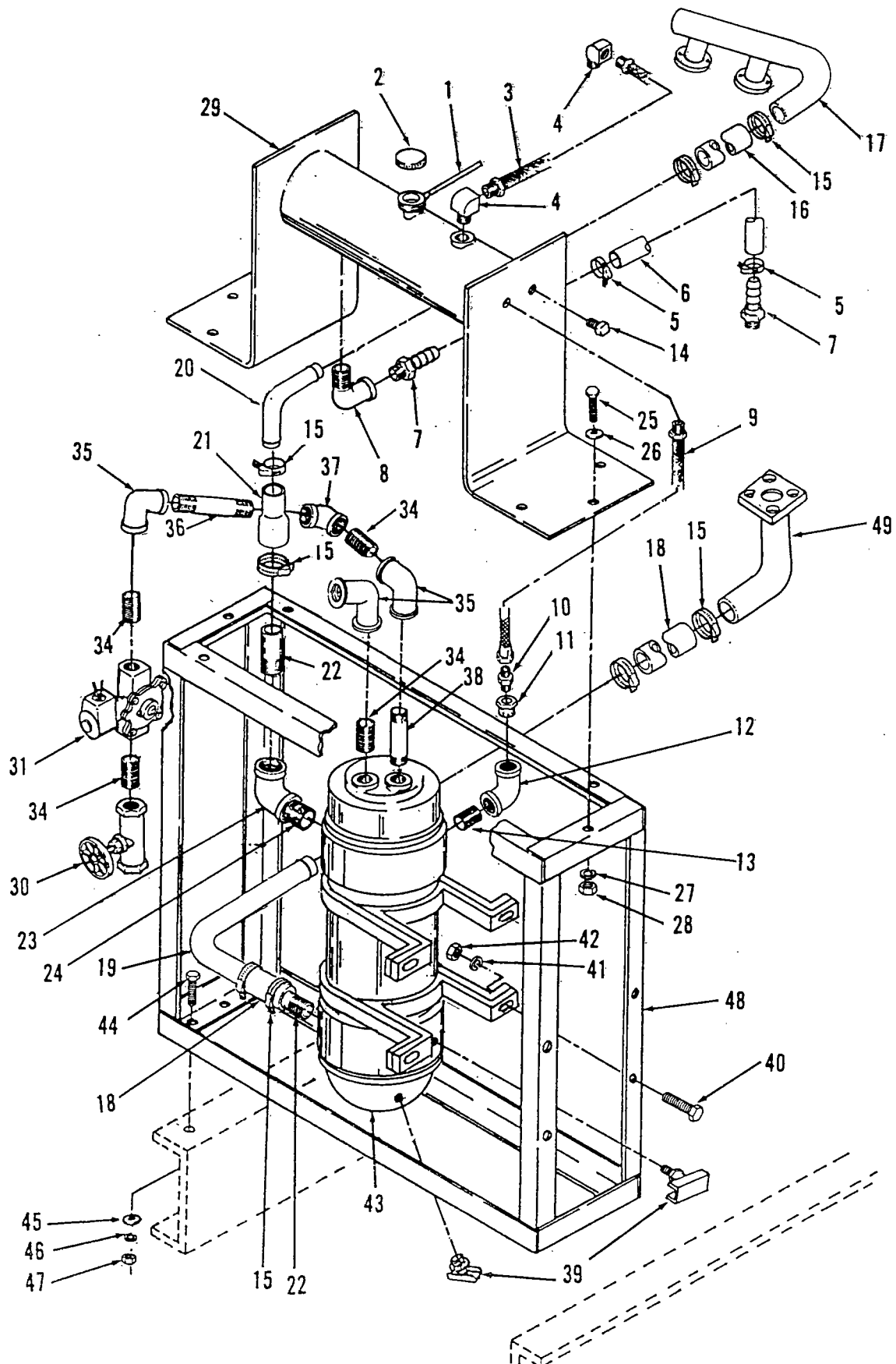


XCS1154-1A

Cooling System - Hi Ambient

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0354	4	Clamp, Hose	30	130-1193	1	Gasket
2	503-0629	1	Hose	31	130-1002	2	Adapter, Inlet
3	503-0616	1	Hose		800-0072	8	Screw (7/16-14 x 1-1/4")
4	503-0612	2	Clamp, Hose		850-0055	8	Washer, Lock (7/16")
5	503-0782	1	Hose	32	130-1194	2	Gasket
6	503-0612	2	Clamp, Hose	33	821-0016	6	Screw, Self-locking - Hex (5/16-18 x 3/4")
7	503-1114	1	Hose				
8	130-1741	1	Tube	34	870-0257	6	Nut, Self-locking - Hex (5/16-18)
9	800-0072	4	Screw, Cap - Hex Head (7/16-14 x 1-1/4")	35	800-0090	2	Screw, Cap - Hex Head (1/2-13 x 1")
10	850-0055	4	Washer, Lock - Spring (7/16")	36	850-0060	2	Washer, Lock - Spring (1/2")
11	130-1030	1	Elbow, Tube	37	862-0016	2	Nut, Hex (1/2-13)
12	501-0087	1	Line, Fuel	38	130-0996	2	Brace, Support
13	502-0184	1	Connector	39	800-0133	6	Screw, Cap - Hex Head (5/8-11 x 1-3/4")
14	503-0429	2	Clamp, Hose				
15	503-0924	1	Hose	40	800-0131	6	Screw, Cap - Hex Head (5/8-11 x 1-1/4")
16	505-0759	1	Adapter	41	850-0070	12	Washer, Lock - Spring (5/8")
17	505-0140	1	Plug, Pipe	42	526-0112	24	Washer, Flat (5/8")
18	505-0304	1	Tee, Pipe	43	862-0007	12	Nut, Hex (5/8-11)
19	505-0087	1	Nipple, Pipe	44	130-1004	2	Bracket, Support
20	821-0018	8	Screw, Self-locking - Hex (1/4-20 x 5/8")	45	130-0994	2	Brace, Support
21	526-0018	8	Washer, Flat (1/4")	46	130-1007	2	Strip, Foam
22	130-1347	1	Guard, Fan	47	130-1006	2	Strip, Foam
23	821-0029	10	Screw, Self-locking - Hex (3/8-16 x 3/4")	48	130-2181	1	Radiator (Include Cap)
24	870-0281	10	Nut, Self-locking - Hex (3/8-16)	49	130-0449	1	Cap, Radiator
25	130-1344	2	Bridge	50	800-0030	4	Screw, Cap - Hex Head (5/16-18 x 1-1/4")
	821-0016	8	Screw (1/4-20 x 5/8")	51	870-0257	4	Nut, Self-locking - Hex (5/16-18)
	526-0018	8	Washer, Flat (1/4")				
26	130-1346	1	Shroud, Half	52			Bracket
27	130-1345	1	Shroud, Half		405-2236	1	Right Side
28	504-0003	1	Cock, Drain		405-2237	1	Left Side
29	130-1001	1	Adapter, Outlet	53	405-2228	1	Panel, Front
	800-0072	4	Screw (7/16-14 x 1-1/4")				
	850-0055	4	Washer, Lock (7/17")				

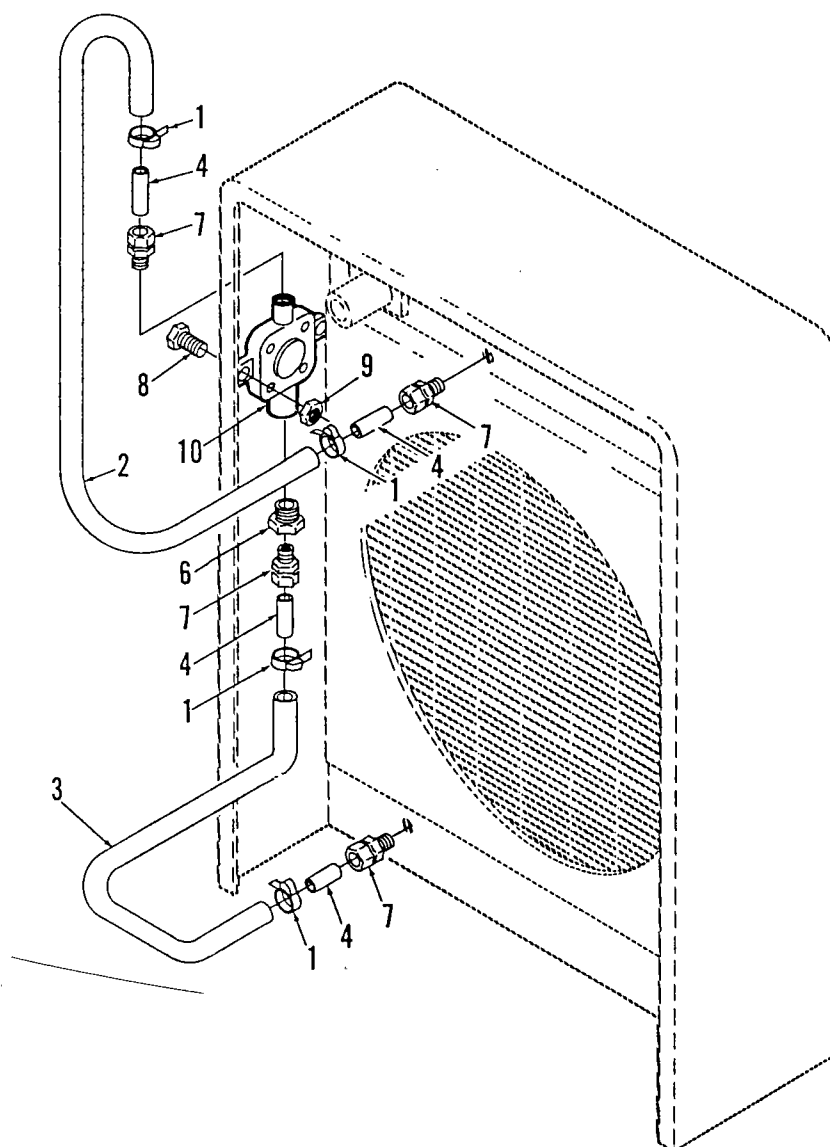
Cooling System - Heat Exchanger



Cooling System - Heat Exchanger

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0539	1	Hose	27	850-0050	6	Washer, Lock - Spring (3/8")
2	130-0449	1	Cap, Radiator	28	862-0003	6	Nut, Hex (3/8-16)
3	501-0007	1	Line, Fuel	29	130-2125	1	Tank, Expansion
4	502-0041	2	Elbow, Inverted Male - 90 Degree	30	504-0057	1	Valve, Globe
5	503-0429	2	Clamp, Hose	31	307-0844	1	Valve, Solenoid
6	503-0924	1	Hose	34	505-0172	4	Nipple, Pipe - Close
7	505-0759	2	Adapter, Pipe to Hose	35	505-0175	3	Elbow, Pipe - 90 Degree
8	505-0003	1	Elbow, Pipe - Street, 90 Degree	36	505-0401	1	Nipple, Pipe
9	501-0087	1	Line, Fuel	37	505-0872	1	Elbow, Pipe - 45 Degree
10	502-0184	1	Adapter, Pipe - Hex	38	505-0173	1	Nipple, Pipe
11	502-0049	1	Bushing, Reducer	39	504-0028	2	Cock, Drain
12	505-0039	1	Elbow, Pipe - 90 Degree	40	800-0091	4	Screw, Cap - Hex Head (1/2-13 x 1-1/4")
13	505-0101	1	Nipple, Pipe - Close	41	850-0060	4	Washer, Lock - Spring (1/2")
14	505-0057	3	Plug, Pipe - Square Head	42	862-0016	4	Nut, Hex (1/2-13)
13	505-0759	2	Adapter, Pipe to Hose	43	130-1431	1	Exchanger, Heat
14	505-0003	1	Elbow, Pipe - Street, 90 Degree	44	800-0051	4	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
15	503-0612	16	Clamp, Hose	45	526-0013	4	Washer, Flat (3/8")
16	503-0788	1	Hose	46	850-0050	4	Washer, Lock - Spring (3/8")
17	130-2126	1	Outlet, Water	47	862-0003	4	Nut, Hex (3/8-16)
18	503-0782	2	Hose	48	130-1833	1	Frame, Support
19	130-2194	1	Tube	49	130-1030	1	Inlet, Water
20	130-2193	1	Tube		800-0072	4	Screw, Cap - Hex Head (7/16-14 x 1-1/4")
21	503-1200	1	Hose	850-0055	4	Washer, Lock - Spring (7/16")	
22	505-1299	2	Nipple, Pipe - Half				
23	505-0453	1	Elbow, Pipe - 90 Degree				
24	505-0382	1	Nipple, Pipe - Close				
25	800-0051	6	Screw, Cap - Hex Head (3/8-16 x 1-1/4")				
26	526-0013	6	Washer, Flat (3/8")				

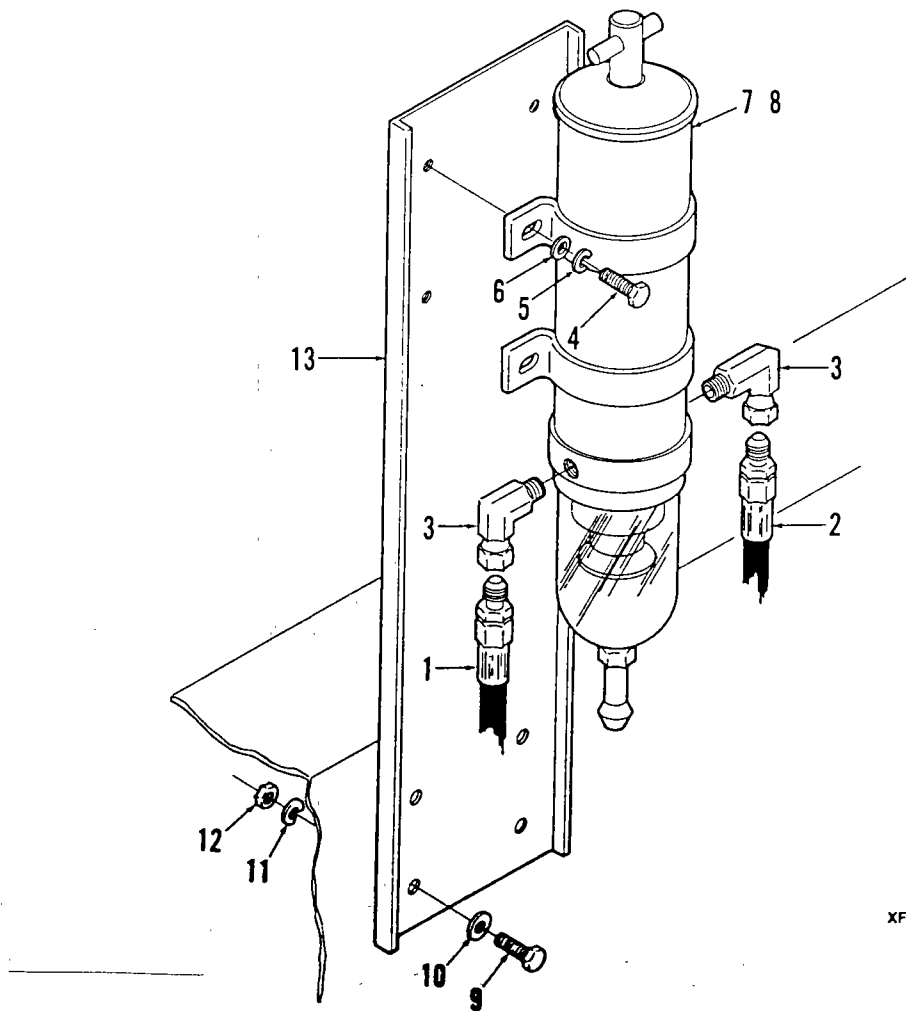
Coolant Level Switch



CS 1161

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0685	4	Clamp, Hose	7	502-0801	4	Connector, Tube, Brass
2	503-1117	1	Hose	8	821-0011	2	Screw, Self-locking - Hex (1/4-20 x 7/8")
3	503-1118	1	Hose	9	870-0212	2	Nut, Self-locking - Hex (1/4-20)
4	130-2053	4	Tube	10	193-0329	1	Switch, Level - Coolant
6	502-0802	1	Bushing, Reducer - Hex				

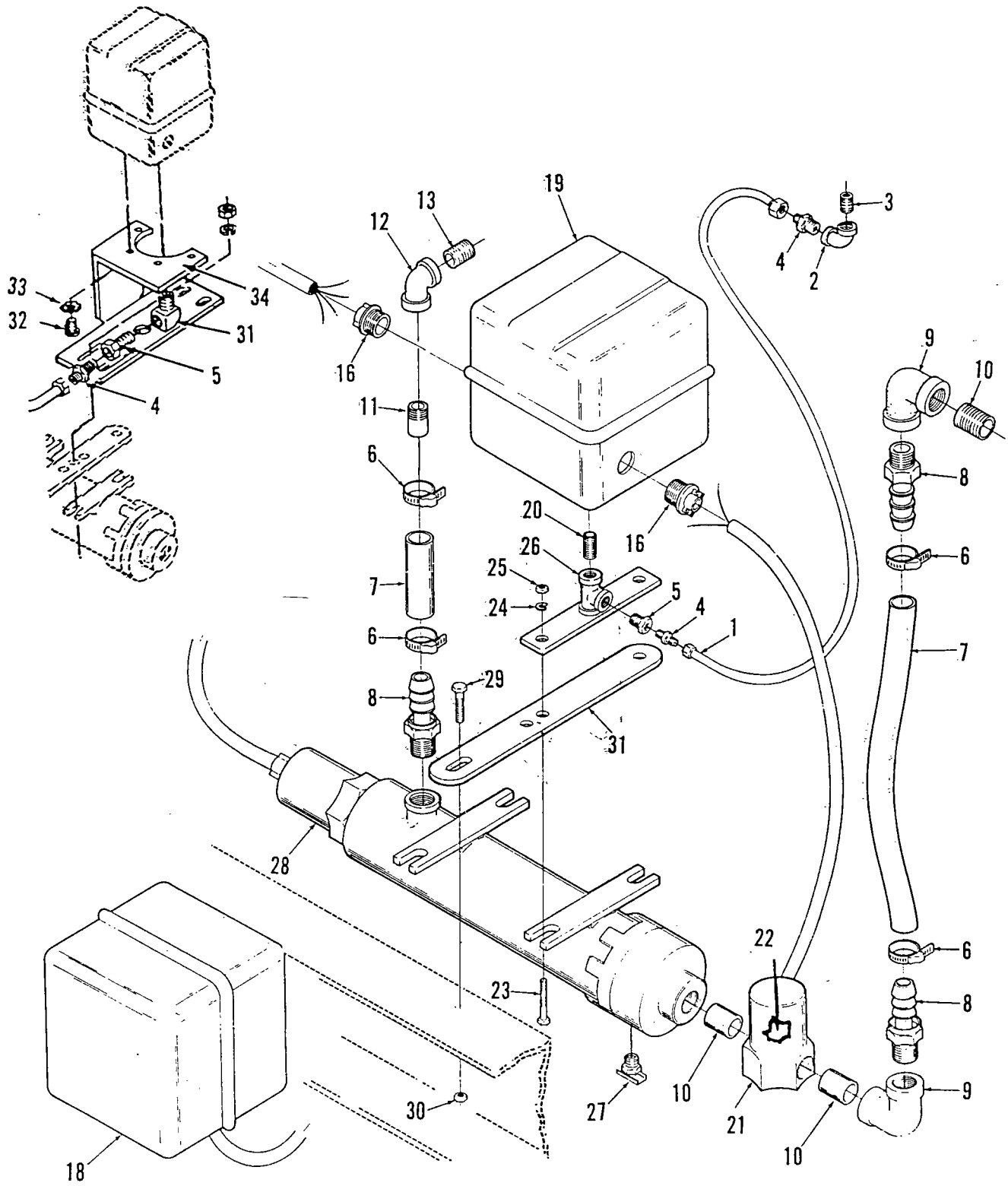
Fuel/Water Separator



XFS 1378

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0287	1	Line, Fuel	7	149-1625	1	Separator (Includes Element)
2	501-0288	1	Line, Fuel	8	149-1689	1	Element
3	502-0641	2	Elbow, Pipe - Swivel, 90 Degree	9	800-0051	4	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
4	800-0028	4	Screw, Cap - Hex Head (5/16-18 x 1")	10	526-0026	4	Washer, Flat (3/8")
5	850-0045	4	Washer, Lock - Spring (5/16")	11	850-0050	4	Washer, Lock Spring (3/8")
6	526-0022	4	Washer, Flat (5/16")	12	862-0003	4	Nut, Hex (3/8-16)
				13	149-1679	1	Bracket, Mounting

Heater Horizontal Tank

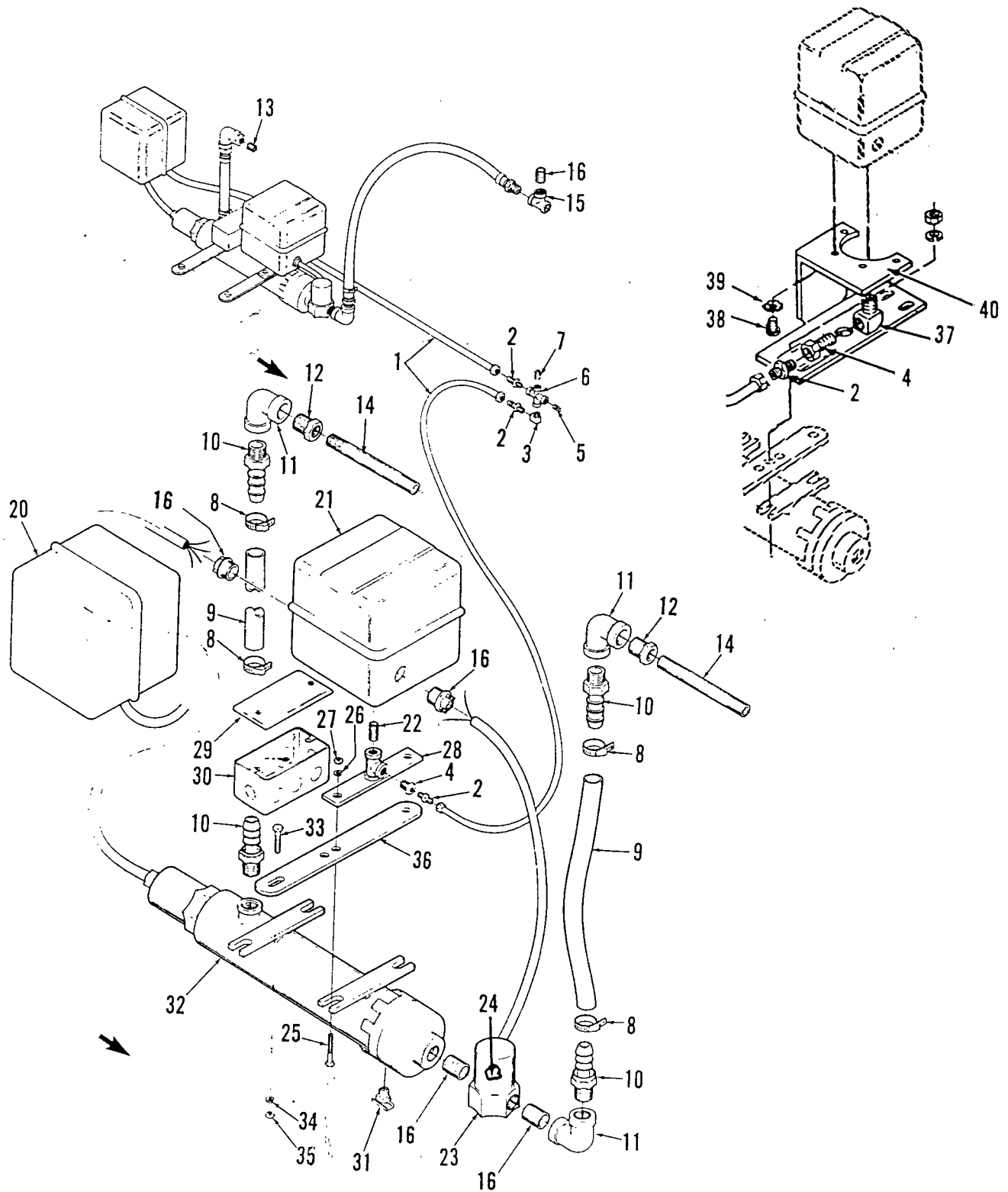


XCS 1162

Heater Horizontal Tank

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0199	1	Line, Fuel	23	800-0007	4	Screw, Cap - Hex Head (1/4-20 x 1")
2	505-0037	1	Elbow, Pipe - 90 Degree	24	850-0040	4	Washer, Lock - Spring (1/4")
3	505-0098	1	Nipple, Pipe - Close	25	862-0001	4	Nut, Hex (1/4-20)
4	502-0193	2	Connector	26	333-0142	1	Support with Tee (1970 Thru 1982)
5	505-0007	1	Bushing, Reducer - Hex	27	504-0003	1	Cock, Drain
6	503-0429	4	Clamp, Hose	28			Heater, Electrical
7			Hose		333-0143	1	4000 Watt, 208 VAC - 1 Phase
	503-1163	1	24"		333-0164	1	4000 Watt, 208 VAC - 3 Phase
	503-1164	1	48"		333-0138	1	4000 Watt, 240 VAC - 1 Phase
8	505-0759	3	Adapter, Hose to Pipe		333-0190	1	4000 Watt, 240 VAC - 3 Phase
9	505-0041	2	Elbow, Pipe - 90 Degree		333-0150	1	4000 Watt, 277 VAC - 1 Phase
10	505-0004	2	Nipple, Pipe - Close		333-0183	1	4000 Watt, 380 VAC - 1 Phase
11	505-0324	1	Nipple, Pipe - Half		333-0174	1	4000 Watt, 380 VAC - 3 Phase
12	505-0132	1	Elbow, Pipe - 90 Degree		333-0161	1	4000 Watt, 480 VAC - 1 Phase
13	505-0102	1	Nipple, Pipe - Close		333-0144	1	4000 Watt, 480 VAC - 3 Phase
14	505-0289	1	Bushing, Reducer - Hex	29	821-0016	4	Screw, Self-locking - Hex Head (5/16-18 x 3/4")
16	331-0027	6	Clamp, Cable	29	870-0257	4	Nut, Self-locking, Hex (5/16-18)
18			Contactor	30	130-1191	2	Bracket, Mounting
	307-1460	1	230 VAC, 3 Pole	31	502-0054	1	Elbow, Pipe - Street, 90 Degr (Begin 1983)
	307-1164	1	460 VAC, 3 Pole	32	812-0079	4	Screw, Machine - Round Head (#8-32 x 1/2") (Begin 1983)
19	309-0307	1	Switch, Pressure - Oil	33	854-0007	4	Washer, Lock - ET (#8) (Begin 1983)
20	505-0099	2	Nipple, Pipe - Close (1970 Thru 1982)	34	333-0224	1	Bracket, Support (Begin 1983)
21			Switch, Thermostatic				
	309-0304	1	80° - 100° Fahrenheit				
	309-0490	1	100° - 120° Fahrenheit				
	309-0253	1	120° - 140° Fahrenheit				
22			Terminals				
	323-0957	2	Nut, Wire				
	332-0149	8	Lug, Terminal				

Dual Heater Horizontal Tank

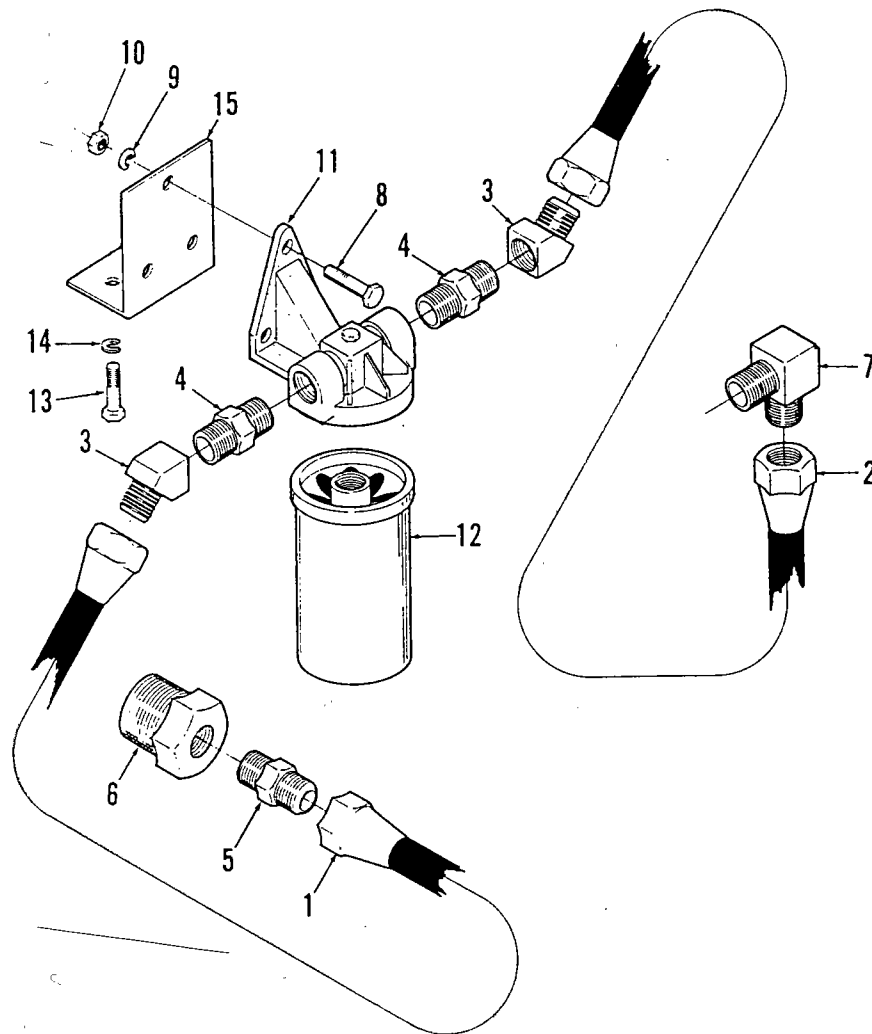


XCS 1159

Dual Heater Horizontal Tank

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0199	2	Line, Fuel	26	850-0040	8	Washer, Lock - Spring (1/4")
2	502-0193	4	Connector	27	862-0001	8	Nut, Hex (1/4-20)
3	505-0020	1	Elbow, Pipe - Street, 90 Degree	28	333-0142	2	Support with Tee (1970 Thru 1982)
4	505-0007	2	Bushing, Reducer - Hex	29	330-0004	2	Cover, Outlet Box (Includes Screws)
5	505-0057	1	Plug, Pipe - Square Head	30	330-0005	2	Box, Outlet
6	505-0763	1	Cross, Pipe	31	504-0003	2	Cock, Drain
7	505-0098	1	Nipple, Pipe - Close	32			Heater, Electrical
8	503-0189	9	Clamp, Hose				4000 Watt, 208 VAC - 1 Phase
9			Hose				4000 Watt, 208 VAC - 3 Phase
	503-1163	2	24"		333-0143	2	4000 Watt, 240 VAC - 1 Phase
	503-1164	2	48"		333-0164	2	4000 Watt, 240 VAC - 3 Phase
10	505-0759	9	Adapter, Hose to Pipe		333-0138	2	4000 Watt, 277 VAC - 1 Phase
11	505-0041	5	Elbow, Pipe - 90 Degree		333-0190	2	4000 Watt, 380 VAC - 1 Phase
12	505-0129	3	Bushing, Reducer - Hex		333-0150	2	4000 Watt, 380 VAC - 3 Phase
13	505-0102	1	Nipple, Pipe - Close		333-0183	2	4000 Watt, 480 VAC - 1 Phase
14	505-0165	2	Nipple, Pipe		333-0174	2	4000 Watt, 480 VAC - 3 Phase
15	505-0304	1	Tee, Pipe		333-0161	2	4000 Watt, 480 VAC - 3 Phase
16	331-0027	16	Clamp, Cable		333-0144	2	Screw, Cap - Hex Head (5/16-18 x 1-1/4")
20			Contactor	33	800-0030	8	Washer, Lock - Spring (5/16")
	307-1460	2	230 VAC, 3 Pole	34	850-0045	8	Nut, Hex (5/16-18)
	307-1164	2	460 VAC, 3 Pole	35	862-0015	8	Bracket, Mounting
21	309-0271	2	Switch, Pressure - Oil	36	130-1191	4	Elbow, Pipe - Street, 90 Degr (Begin 1983)
22	505-0099	2	Nipple, Pipe - Close (1970 Thru 1982)	37	502-0054	2	Screw, Machine - Round Head (#8-32 x 1/2") (Begin 1983)
23			Switch, Thermostatic	38	812-0079	8	Washer, Lock - ET (#8) (Begin 1983)
	309-0304	2	80° - 100° Fahrenheit	39	854-0007	8	Bracket, Support (Begin 1983)
	309-0490	2	100° - 120° Fahrenheit	40	333-0224	2	
	309-0253	2	120° - 140° Fahrenheit				
24			Terminals				
	323-0957	4	Nut, Wire				
	332-0149	16	Lug, Terminal				
25	800-0009	8	Screw, Cap - Hex Head (1/4-20 x 1-1/2")				

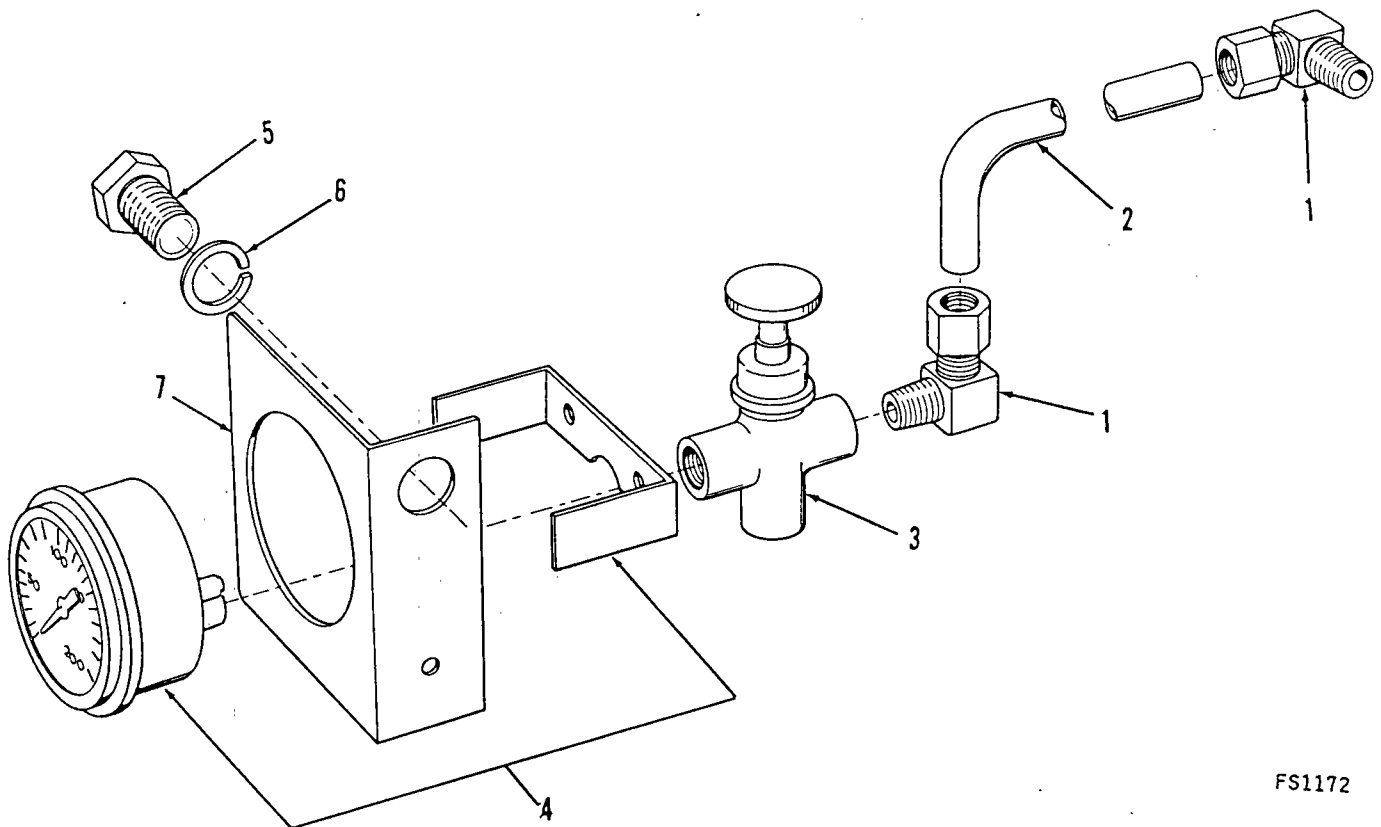
Lube Oil Filter



XLS 1079

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0379	1	Line, Fuel	9	850-0050	3	Washer, Lock - Spring (3/8")
2	501-0380	1	Line, Fuel	10	862-0003	3	Nut, Hex (3/8-16)
3	505-0119	2	Elbow, Pipe - Street, 90 Degree	11	122-0524	1	Head, Filter
4	502-0321	2	Adapter, Line to Pipe	12	122-0526	1	Element, Filter
5	502-0594	1	Adapter, Line to Pipe	13	800-0053	2	Screw, Cap - Hex Head (3/8-16 x 1-3/4")
6	505-0022	1	Bushing, Reducer - Hex	14	850-0050	2	Washer, Lock - Spring (3/8")
7	502-0277	2	Elbow, Pipe - 90 Degree	15	122-0544	1	Bracket, Mounting
8	800-0053	3	Screw, Cap - Hex Head (3/8-16 x 1-3/4")				

Fuel Pressure Gauge

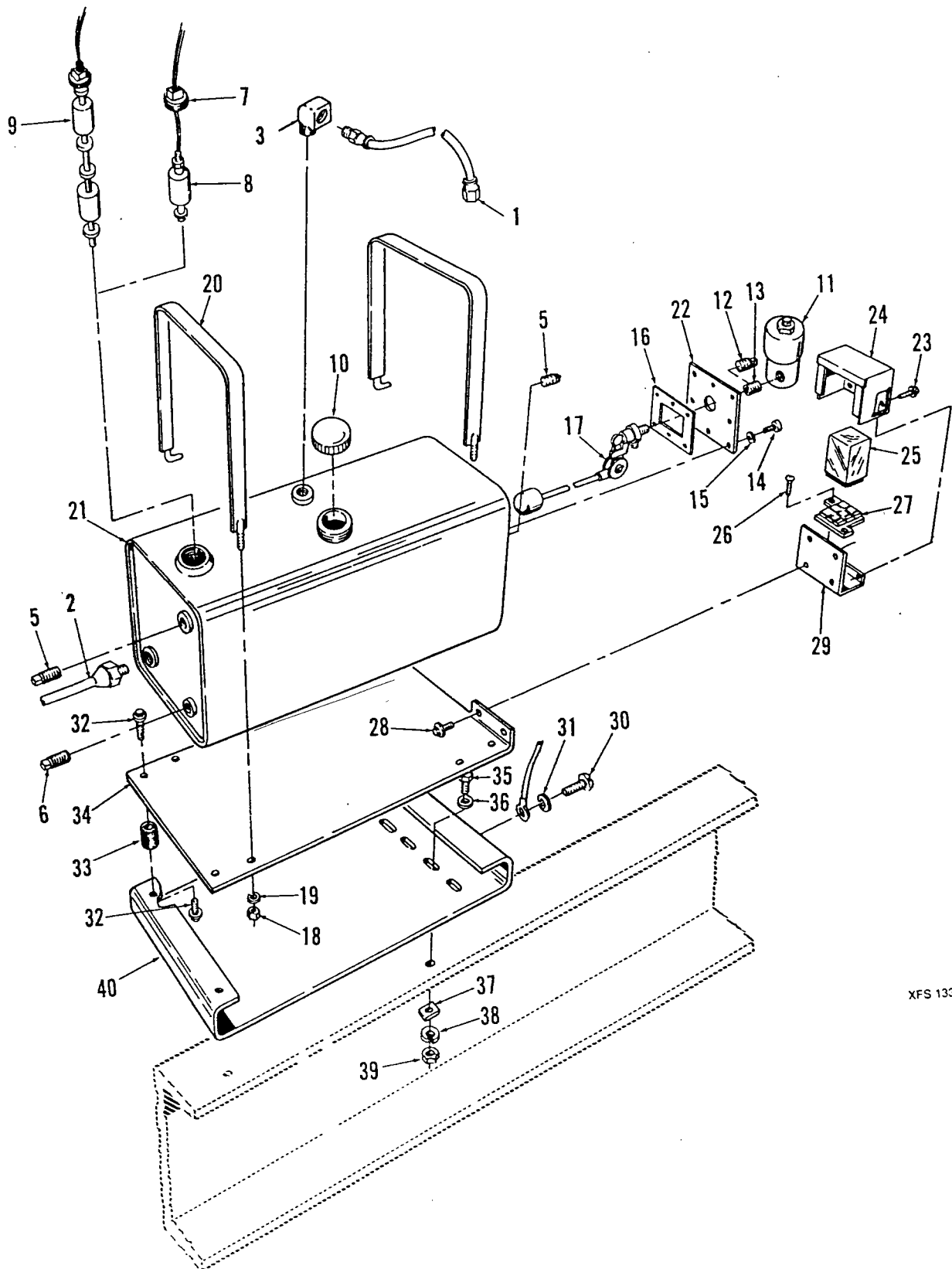


FS1172

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	502-0034	2	Elbow, Tube - 90 Degree (Includes Nut and Ring)
2	370-4003	1	Tube, Copper
3	504-0064	1	Valve, Gate

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
4	193-0128	1	Gauge, Pressure (Includes Bracket and Hardware)
5	800-0130	1	Screw, Cap - Hex Head (5/8-11 x 1")
6	850-0070	1	Washer, Lock - Spring (5/8")
7	193-0029	1	Bracket, Mounting

Fuel Tank Overhead/Underground Supply

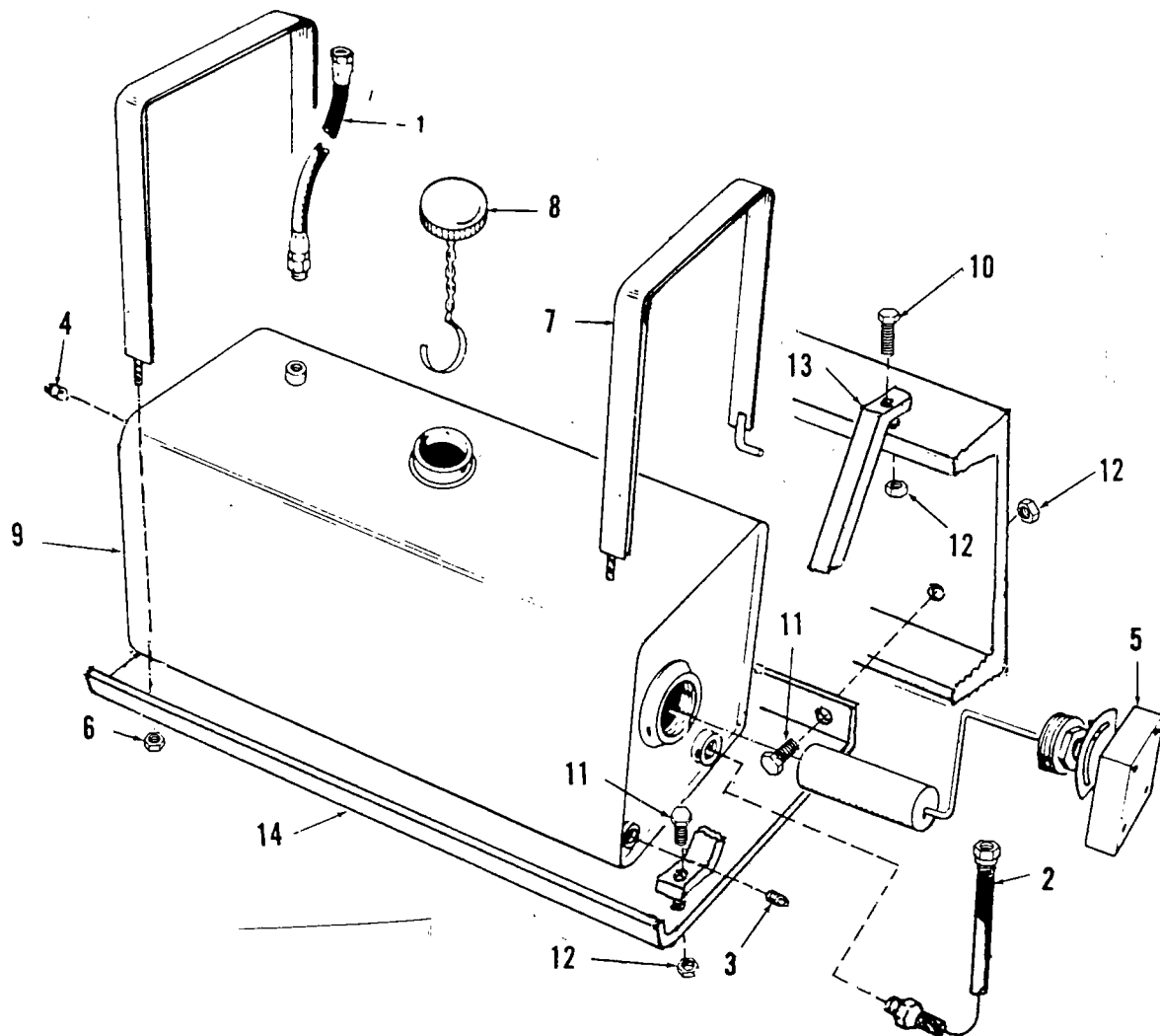


XFS 1334-1

Fuel Tank Overhead/Underground Supply

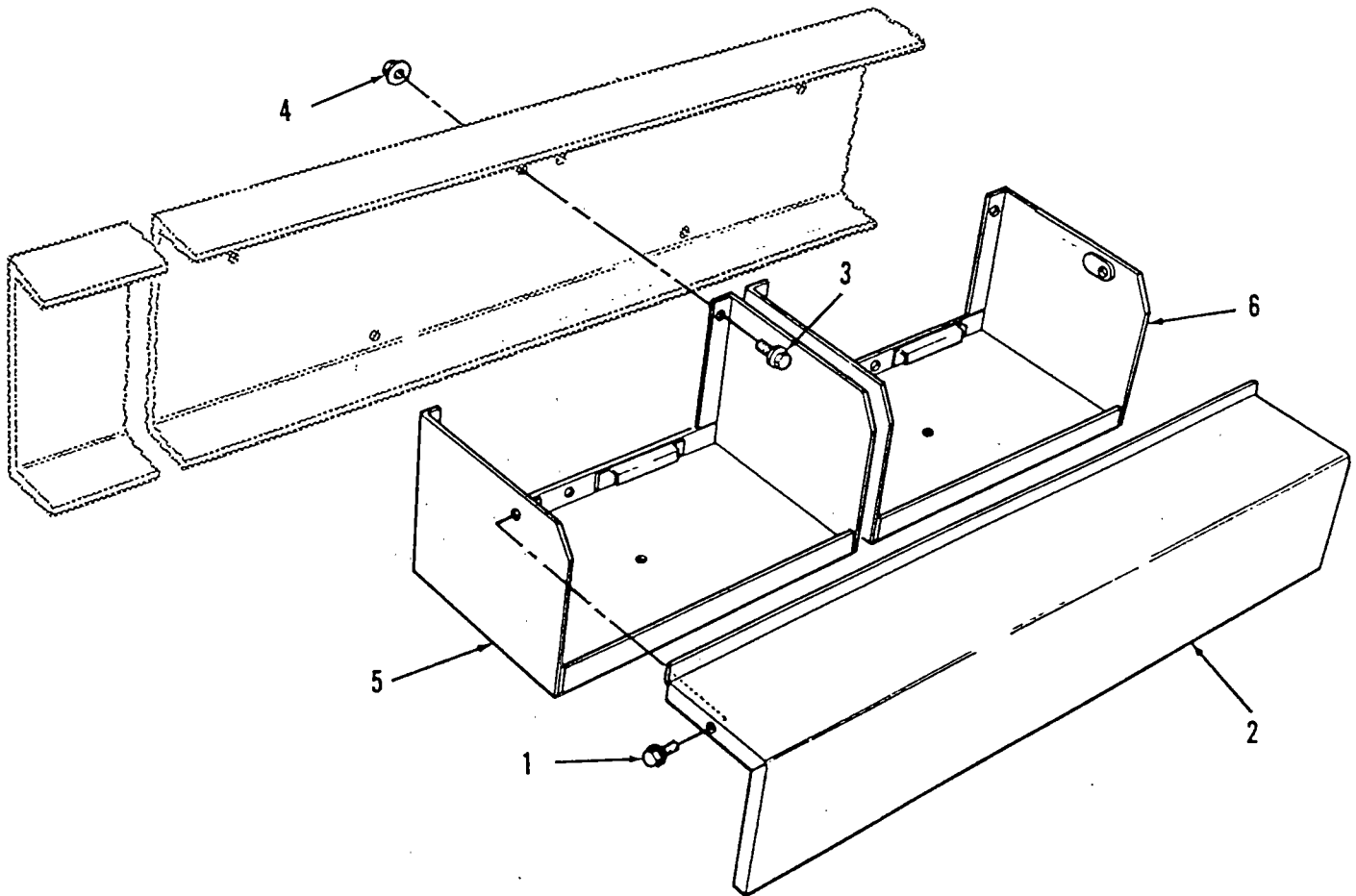
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0216	1	Line, Fuel	23	821-0004	2	Screw, Self-locking - Hex (#10-32 x 5/16")
2	501-0084	1	Line, Fuel	24	415-0464	1	Cover, Access
3			Elbow, Pipe	25	307-1056	1	Relay
	505-0120	1	90 Degree (Underground Supply)	26	812-0079	2	Screw, Machine - Round Head (#8-32 x 1/2")
	502-0586	1	45 Degree (Overhead Supply)	27	323-0804	1	Socket, Relay
5	505-0056	2	Plug, Pipe - Square Head	28	821-0008	2	Screw, Self-locking - Hex (1/4-20 x 5/16")
6	505-0110	1	Plug, Pipe - Square Head	29	415-0463	1	Box
7	505-1050	1	Plug, Pipe - Modified	30	813-0097	1	Screw, Machine - Round Head (#10-32 x 5/16")
8	415-0466	1	Switch, Float (Overhead Supply)	31	850-0030	1	Washer, Lock - Spring (#10)
9	415-0476	1	Switch, Float (Underground Supply)	32	821-0014	8	Screw, Self-locking - Hex (5/16-18 x 1/2")
10	159-0020	1	Cap, Tank	33	402-0078	4	Mount, Vibration
11	307-1816	1	Valve, Solenoid (Overhead Supply)	34	415-0479	1	Plate, Mounting
12	505-0098	1	Nipple, Pipe	35	800-0093	2	Screw, Cap - Hex Head (1/2-13 x 1-3/4")
13	505-0057	1	Plug, Pipe - Square Head	36	526-0219	2	Washer, Flat (1/2")
14	800-0002	8	Screw, Cap - Hex Head (1/4-20 x 3/8")	37	526-0278	2	Washer, Bevel
15	526-0063	8	Washer, Flat (1/4")	38	850-0060	2	Washer, Lock - Spring (1/2")
16	415-0486	1	Gasket	39	862-0016	2	Nut, Hex (1/2-13)
17	309-0404	1	Valve, Float (Overhead Supply)	40	415-0478	1	Bracket, Mounting
18	862-0001	2	Nut, Hex (1/4-20)				
19	850-0040	2	Washer, Lock - Spring (1/4")				
20	415-0509	2	Strap				
21	415-0465	1	Tank, Fuel - 8-1/2 Gallon				
22	415-0515	1	Plate, Access				

Fuel Tank



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0216	1	Line, Fuel	9	415-0322	1	Tank, Fuel - 8-1/2 Gallon
2	501-0194	1	Line, Fuel	10	821-0021	2	Screw, Self-locking - Hex (5/16-18 x 1")
3	505-0110	1	Plug, Pipe - Square Head	11	821-0016	4	Screw, Self-locking - Hex (5/16-18 x 3/4")
4	505-0056	1	Plug, Pipe - Square Head	12	870-0048	6	Nut, Self-locking - Hex (5/16-18)
5	415-0170	1	Switch, Level	13	159-1129	2	Brace
6	870-0212	2	Nut, Self-locking - Hex (1/4-20)	14	159-1130	1	Plate, Mounting
7	159-1128	2	Strap, Hold Down				
8	159-0020	1	Cap, Tank				

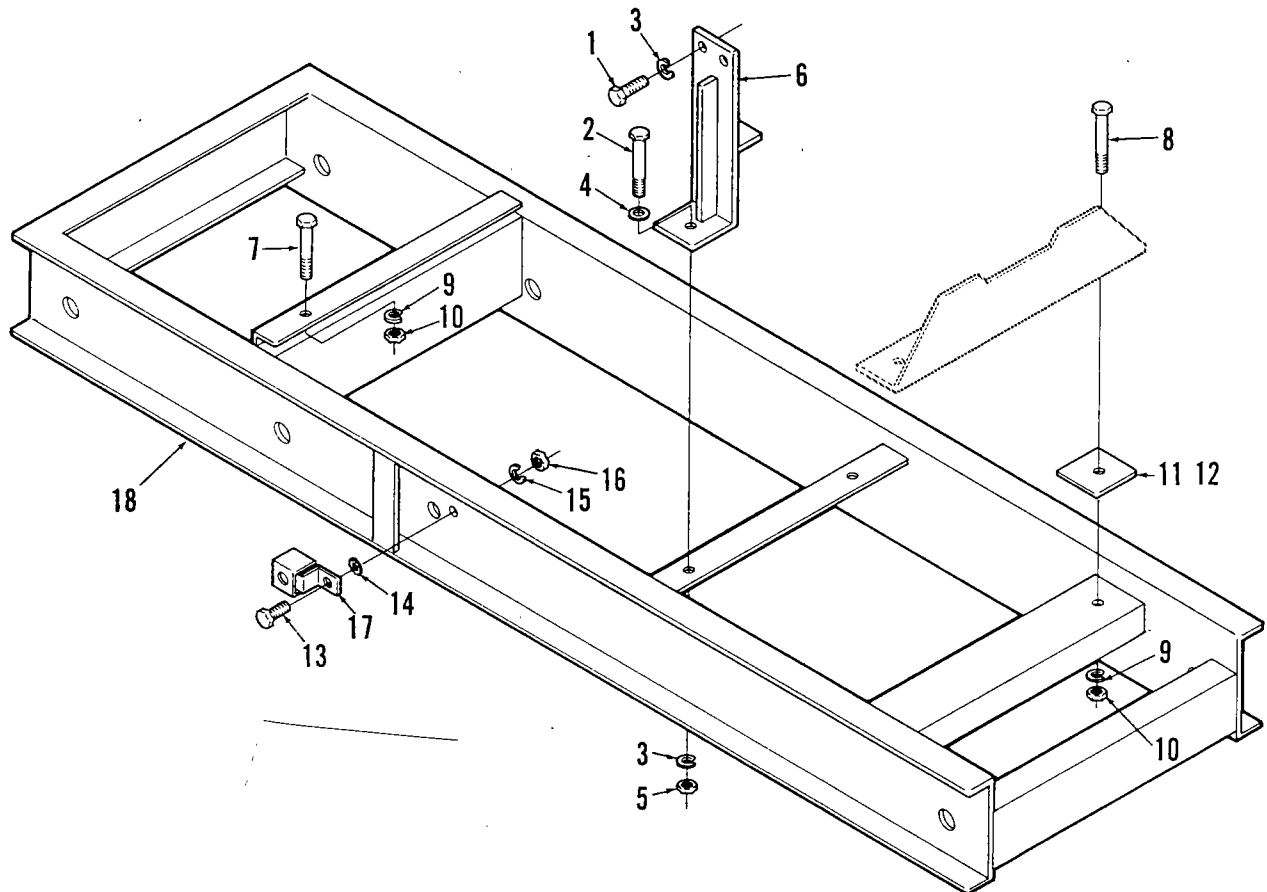
Battery Rack



M-1434

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0030	2	Screw, Self-locking - Hex (3/8-16 x 1")	4	870-0281	6	Nut, Self-locking - Hex (3/8-16)
2	416-0805	1	Cover, Rack	5	416-0809	1	Rack, Battery
3	821-0030	6	Screw, Self-locking - Hex (3/8-16 x 1")	6	416-0808	1	Rack, Battery

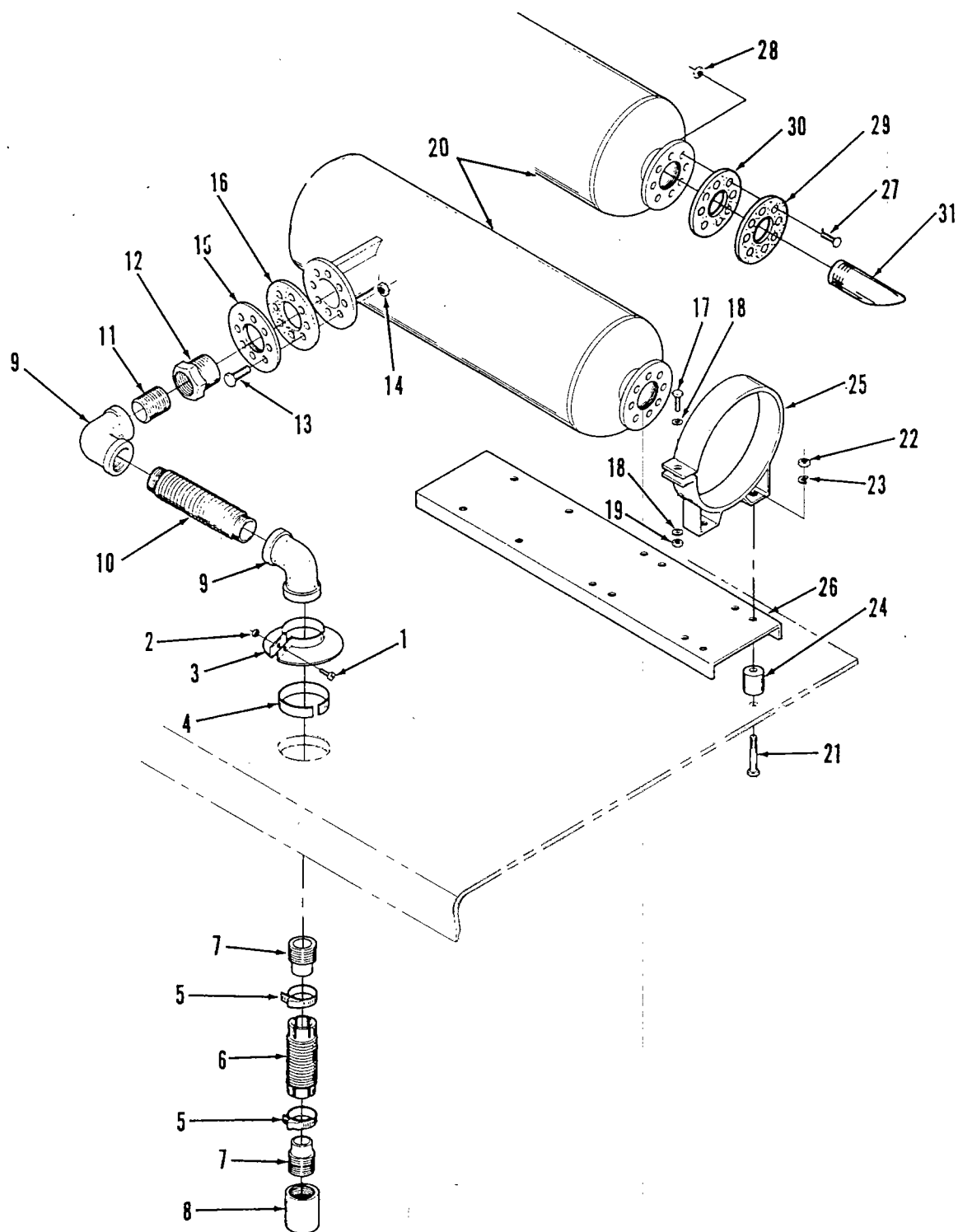
Chassis



Chassis

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-0131	4	Screw, Cap - Hex Head (5/8-11 x 1-1/4")	9	850-0079	4	Washer, Lock - Spring (3/4")
2	800-0035	6	Screw, Cap - Hex Head (5/8-11 x 1-1/2")	10	862-0008	4	Nut, Hex (3/4-10)
3	850-0070	10	Washer, Lock - Spring (5/8")	11	232-1489	6	Shim
4	526-0112	6	Washer, Flat (5/8-11 x 1-1/2")	12	232-1490	6	Shim
5	862-0007	6	Nut, Hex (5/8-11)	13	800-0028	1	Screw, Cap - Hex Head (5/16-18 x 1")
6	403-1939	2	Support	14	856-0008	1	Washer, Lock - EIT (5/16")
7	800-0156	2	Screw, Cap - Hex Head (3/4-10 x 2-1/2")	15	850-0045	1	Washer, Lock - Spring (5/16")
8	800-0157	2	Screw, Cap - Hex Head (3/4-10 x 2-1/2")	16	862-0015	1	Nut, Hex (5/16-18)
				17	332-1473	1	Lug, Terminal
				18	403-1936	1	Base, Skid

Exhaust Muffler Residential and Critical

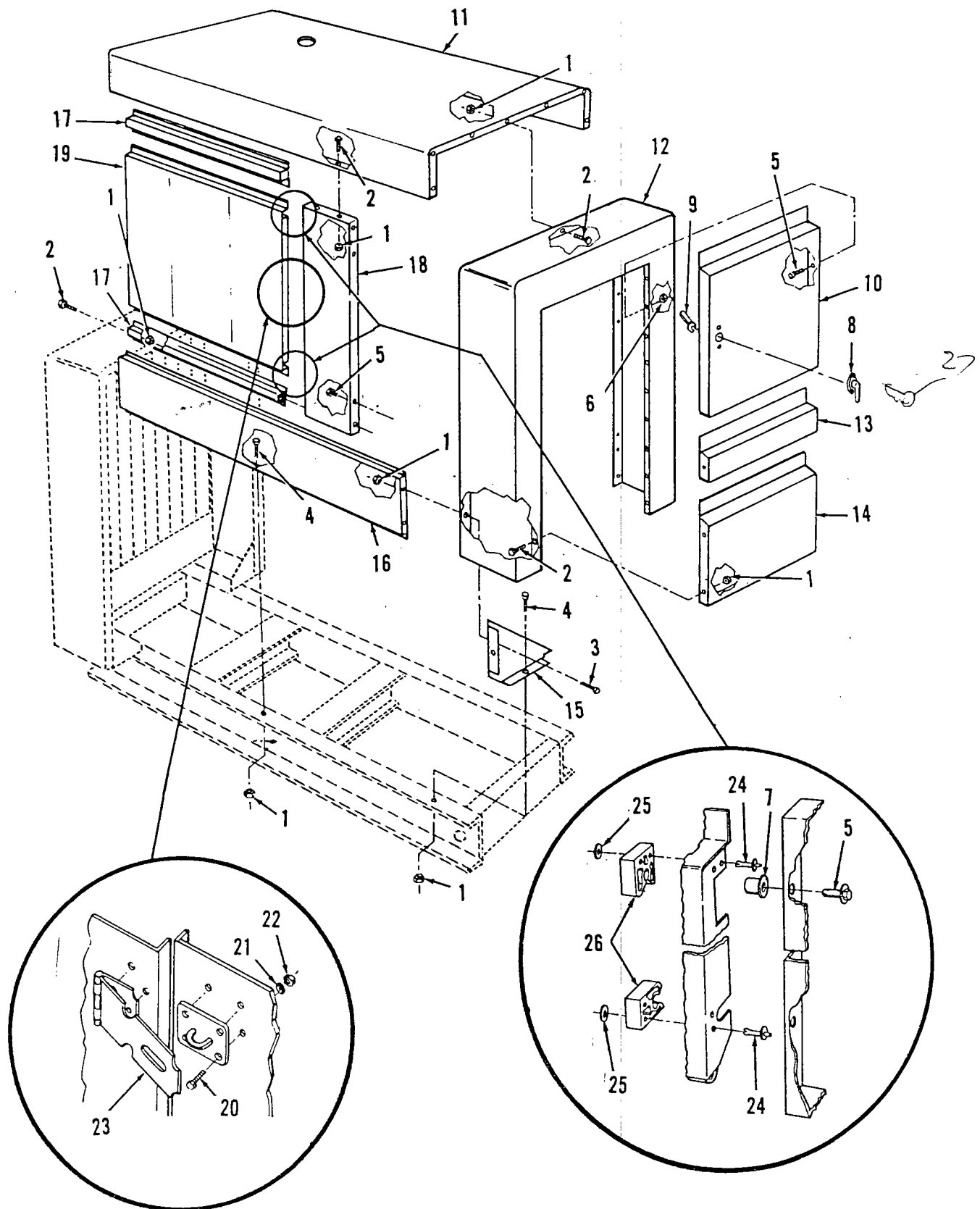


XEXS-1068

Exhaust Muffler Residential and Critial

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	813-0105	2	Screw, Machine - Round Head (#10-32 x 1")	15	505-1219	1	Flange, Companion - Pipe
2	870-0188	2	Nut, Self-locking - Hex (#10-32)	16	155-0677	1	Gasket
3			Shield, Rain	17	800-0037	3	Screw, Cap - Hex Head (5/16-18 x 3")
	155-1425	1	Standard	18	526-0113	6	Washer, Flat (5/16")
	155-1639	1	Stainless Steel	19	870-0257	3	Nut, Self-locking - Hex (5/16-18)
4	895-0163	1	Strip, Asbestos	20			Muffler, Exhaust
5	503-0605	2	Clamp		155-1433	1	Critical
6			Tube, Exhaust - Stainless Steel		155-1615	1	Residential
	155-1143	1	10"	21	800-0037	8	Screw, Cap - Hex Head (5/16-18 x 3")
	155-1435	1	39"	22	870-0048	8	Nut, Self-locking - Hex (5/16-18)
7	155-1275	1	Connector, Tube	23	850-0045	8	Washer, Lock - Spring (5/16")
8	505-0784	1	Coupling, Pipe	24	155-1430	8	Spacer
9	505-0665	2	Elbow, Pipe - 90 Degree	25	155-1310	4	Band, Mounting
10			Tube, Exhaust - Stainless Steel	26	155-1434	1	Shield, Heat
	155-1950	1	19"	27	800-0160	8	Screw, Cap - Hex Head (3/4-10 x 3-1/4")
	155-1431	1	23-1/2"	28	862-0008	8	Nut, Hex (3/4-10)
	155-1436	1	47-1/2"	29	155-0652	1	Flange, Companion - Pipe
11			Nipple, Pipe	30	155-0676	1	Gasket
	505-0664	1	4-1/2"	31	505-0785	1	Nipple, Pipe - Modified
	505-0696	1	9"				
12	505-0695	1	Bushing, Reducer - Hex				
13	800-0160	8	Screw, Cap - Hex Head (3/4-10 x 3-1/4")				
14	862-0008	8	Nut, Hex (3/4-10)				

Set Housing



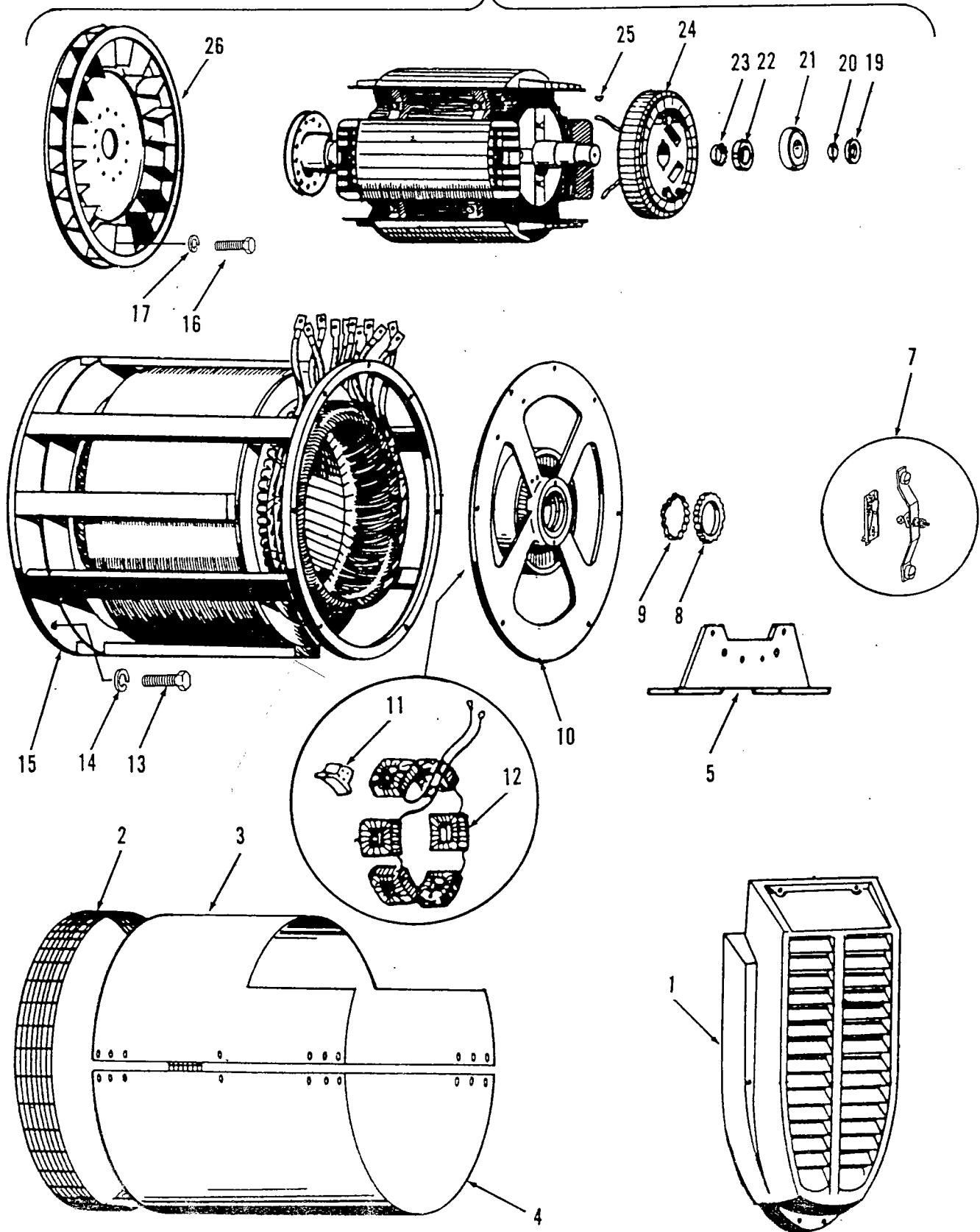
M1004

Set Housing

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	870-0257	64	Nut, Self-locking - Hex (5/16-18)	13	405-3035	4	Panel, Louver - Rear
2	821-0014	50	Screw, Self-locking - Hex (5/16-18 x 1/2")	14	405-3034	1	Panel, Lower - Rear
3	821-0016	8	Screw, Self-locking - Hex (5/16-18 x 3/4")	15	405-2236	2	Bracket, Mounting - Right Side
4	800-0030	6	Screw, Cap - Hex Head (5/16-18 x 1-1/4")		405-2237	2	Left Side
5	821-0010	20	Screw, Self-locking - Hex (1/4-20 x 1/2")	16	405-2221	2	Panel, Base
6	870-0212	4	Nut, Self-locking - Hex (1/4-20)	17	405-2014	8	Panel, Louver
7	870-0258	16	Nut, Weld	18	405-2220	2	Panel, Center
8	406-0157	1	Handle, Lock	19	405-2011	4	Door
9	406-0089	1	Catch	20	814-0079	28	Screw, Machine - Flat Head (#8-32 x 1/2")
10	405-3038	1	Door, Rear	21	850-0025	28	Washer, Lock - Spring (#8)
11	405-3037	1	Panel, Top	22	860-0008	28	Nut, Hex (#8-32)
12	405-3039	1	Panel, Rear	23	406-0249	4	Set, Hasp
				24	818-0150	32	Rivet, Drive Pin
				25	526-0003	32	Washer, Flat (3/16")
				26	405-1872	16	Clip, Pivot - Door
				27	406-0565	1	Key

Generator
Begin Spec D

18



G1117

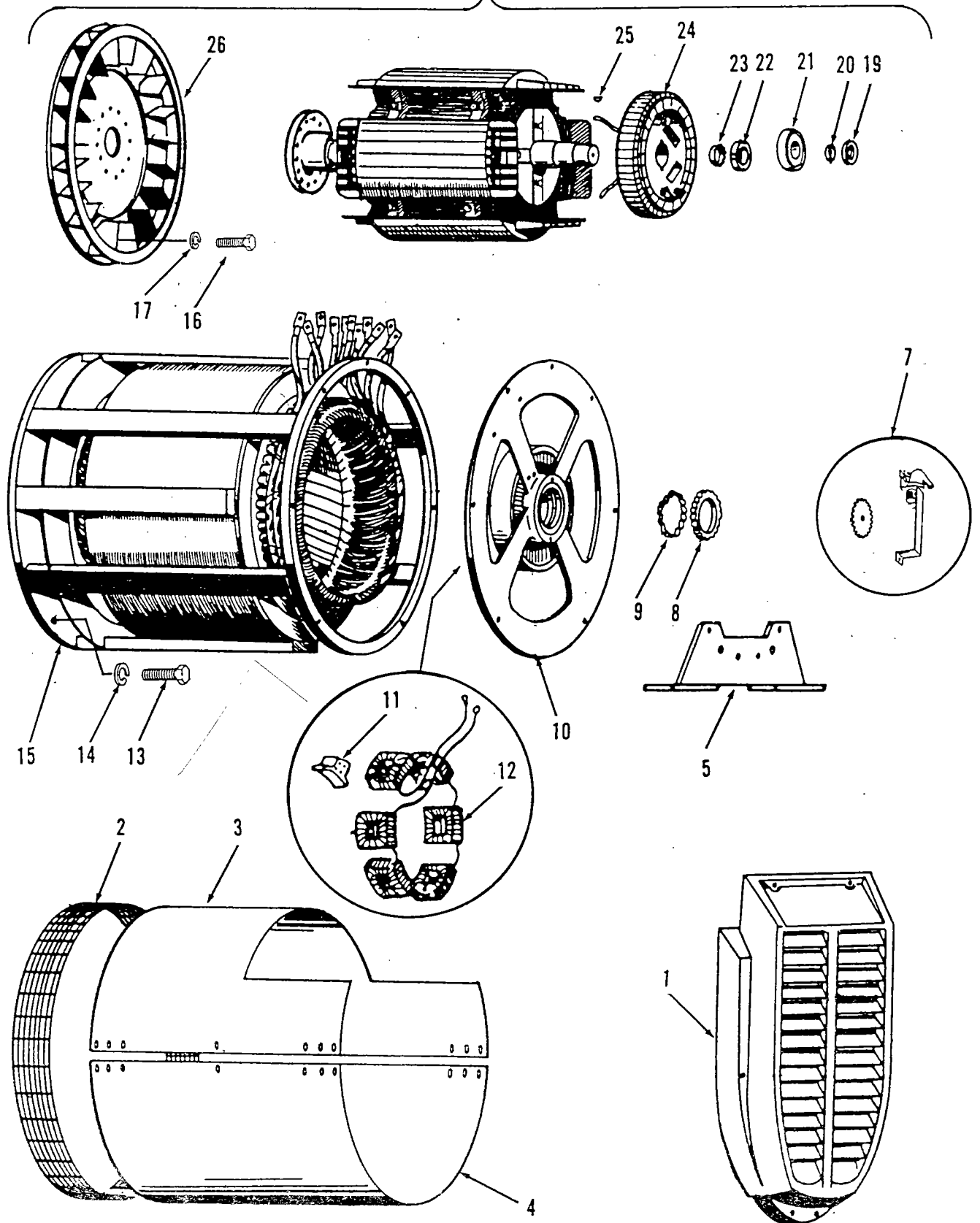
Generator
Begin Spec D

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	232-1973	1	Grille	12	222-1693	1	Set, Coil - Field
	520-0692	2	Stud (5/16-18)	13	800-0092	16	Screw, Cap - Hex Head (1/2-13 x 1-1/2")
	800-0009	4	Screw, Cap - Hex Head (1/4-20 x 1-1/2")	14	850-0060	16	Washer, Lock - Spring (1/2")
	800-0013	2	Screw, Cap - Hex Head (1/4-20 x 2-1/2")	15			Stator (Includes Bus Bar Assembly - See Separate Page for Bus Bar Components)
	850-0040	6	Washer, Lock - Spring (1/4")		220-2755	1	Code 4
	850-0070	4	Washer, Lock - Spring (5/16")		220-2756	1	Code 4X
					220-2759	1	Code 5
	862-0007	4	Nut, Hex (5/16-18)		220-2760	1	Code 6
2	234-0272	1	Screen		220-2761	1	Code 7
	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")		220-2754	1	Code 7X
					220-2758	1	Code 9X
	850-0040	2	Washer, Lock - Spring (1/4")		220-2757	1	No Code 139/240V
					220-2764	1	Code 519
3	234-0288	1	Band, Top		220-2763	1	Code 520
	800-0026	2	Screw, Cap - Hex Head (5/16-18 x 3/4")		220-2766	1	Code 521
					220-2765	1	Code 522
	850-0045	2	Washer, Lock - Spring (5/16")	16	800-0133	6	Screw, Cap - Hex Head (5/8-11 x 1-3/4")
4	234-0278	1	Band, Bottom	17	850-0070	6	Washer, Lock - Spring (5/8")
	800-0026	2	Screw, Cap - Hex Head (5/16-18 x 3/4")	18			Rotor Assembly (Includes Parts Marked *)
					201-3012	1	Codes 4, 4X, 5, 6, 7, 7X
	850-0045	2	Washer, Lock - Spring (5/16")		201-3012	1	Codes 9X, 139/240V
5	232-1957	1	Support		201-3013	1	Codes 519, 520, 521, 522
	805-0035	2	Bolt, Cap - Hex Head (5/8-11 x 1-1/2")	19	510-0091	1	*Nut, Locking - Bearing
7			Switch, Over Speed (See Separate Page for Components)	20	510-0093	1	*Washer, Locking - Nut
				21	510-0090	1	*Bearing, Ball
				22	510-0092	1	*Nut, Locking - Exciter
8	232-1923	1	Holder, Bearing	23	510-0094	1	*Washer, Locking - Nut
9	232-1924	1	Spring, Holder	24			*Rotor, Exciter (See Separate Page for Components)
10	211-0170	1	Bell, End (Includes Coil and Pole Shoes)	25	515-0162	1	*Key
11	221-0153	6	Shoe, Pole	26	232-2833	1	*Disk and Fan Assembly
	800-0031	12	Screw, Cap - Hex Head (5/16-18 x 1-1/2")		805-0035	12	*Bolt, Cap - Hex Head (5/8-11 x 1-1/2")

* - Parts included in Rotor Assembly.

Generator Spec C

18



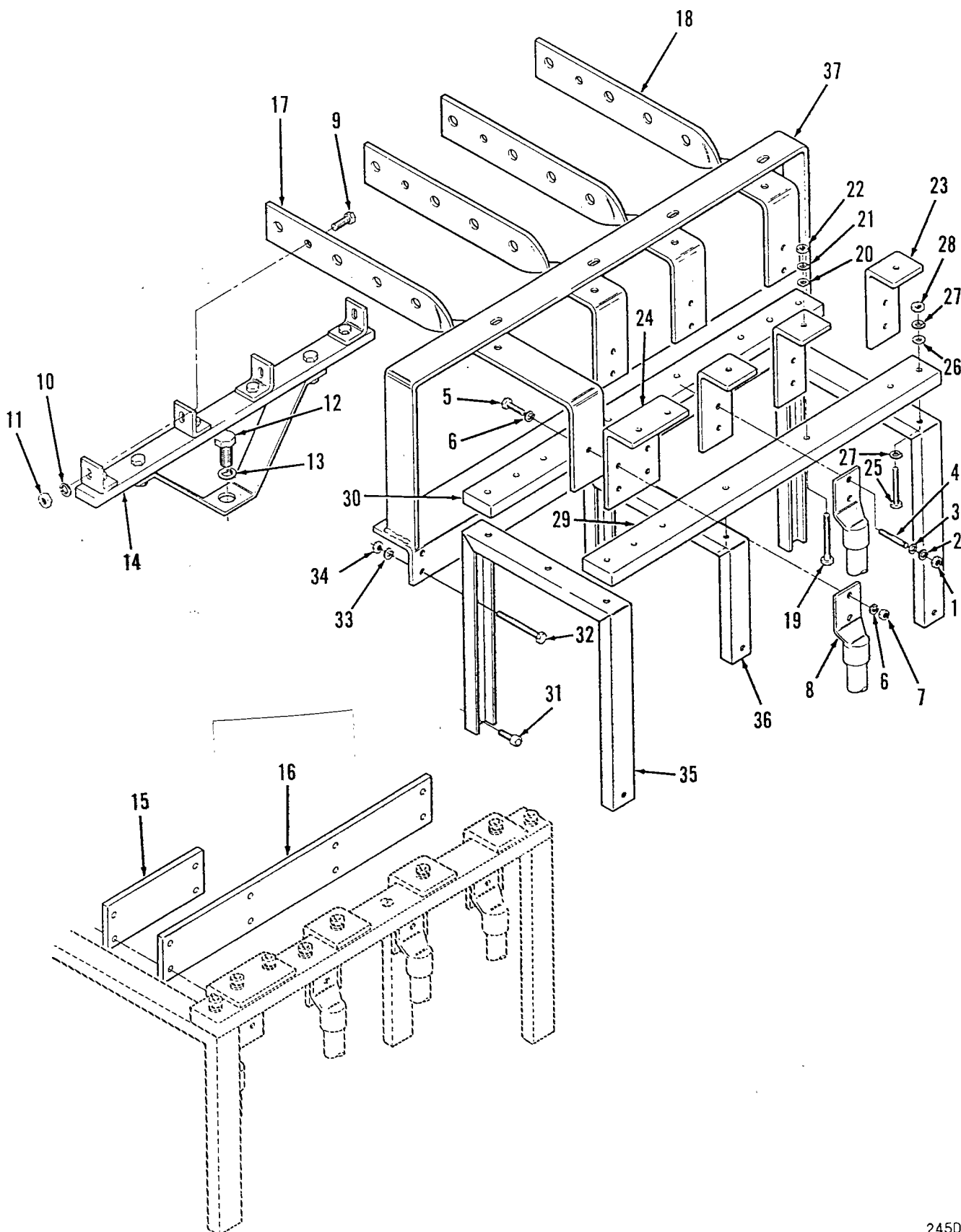
G1117

Generator
Spec C

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	232-1973	1	Grille	12	222-1693	1	Set, Coil - Field
	520-0692	2	Stud (5/16-18)	13	800-0092	16	Screw, Cap - Hex Head (1/2-13 x 1-1/2")
	800-0009	4	Screw, Cap - Hex Head (1/4-20 x 1-1/2")	14	850-0060	16	Washer, Lock - Spring (1/2")
	800-0013	2	Screw, Cap - Hex Head (1/4-20 x 2-1/2")	15			Stator (Includes Bus Bar Assembly - See Separate Page for Bus Bar Components)
	850-0040	6	Washer, Lock - Spring (1/4")		220-2755	1	Code 4
	850-0070	4	Washer, Lock - Spring (5/16")		220-2756	1	Code 4X
	862-0007	4	Nut, Hex (5/16-18)		220-2759	1	Code 5
2	234-0272	1	Screen		220-2760	1	Code 6
	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")		220-2761	1	Code 7
	850-0040	2	Washer, Lock - Spring (1/4")		220-2754	1	Code 7X
3	234-0288	1	Band, Top		220-2758	1	Code 9X
	800-0026	2	Screw, Cap - Hex Head (5/16-18 x 3/4")		220-2757	1	No Code 139/240V
	850-0045	2	Washer, Lock - Spring (5/16")		220-2764	1	Code 519
4	234-0278	1	Band, Bottom		220-2763	1	Code 520
	800-0026	2	Screw, Cap - Hex Head (5/16-18 x 3/4")		220-2766	1	Code 521
	850-0045	2	Washer, Lock - Spring (5/16")		220-2765	1	Code 522
5	232-1957	1	Support	16	800-0133	6	Screw, Cap - Hex Head (5/8-11 x 1-3/4")
	805-0035	2	Bolt, Cap - Hex Head (5/8-11 x 1-1/2")	17	850-0070	6	Washer, Lock - Spring (5/8")
7			Sensor, Over Speed (See Separate Page for Components)	18			Rotor Assembly (Includes Parts Marked *)
8	232-1923	1	Holder, Bearing		201-1784	1	Codes 4, 4X, 5, 6, 7, 7X
9	232-1924	1	Spring, Holder		201-1784	1	Codes 9X, 139/240V
10	211-0170	1	Bell, End (Includes Coil and Pole Shoes)		201-1785	1	Codes 519, 520, 521, 522
11	221-0153	6	Shoe, Pole	19	510-0091	1	*Nut, Locking - Bearing
	800-0031	12	Screw, Cap - Hex Head (5/16-18 x 1-1/2")	20	510-0093	1	*Washer, Locking - Nut
				21	510-0090	1	*Bearing, Ball
				22	510-0092	1	*Nut, Locking - Exciter
				23	510-0094	1	*Washer, Locking - Nut
				24			*Rotor, Exciter (See Separate Page for Components)
				25	515-0162	1	*Key
				26	232-2833	1	*Disk and Fan Assembly
					805-0035	12	*Bolt, Cap - Hex Head (5/8-11 x 1-1/2")

* - Parts included in Rotor Assembly.

Bus Bar Components Dual Insulator Bars



245D

Bus Bar Components Dual Insulator Bars

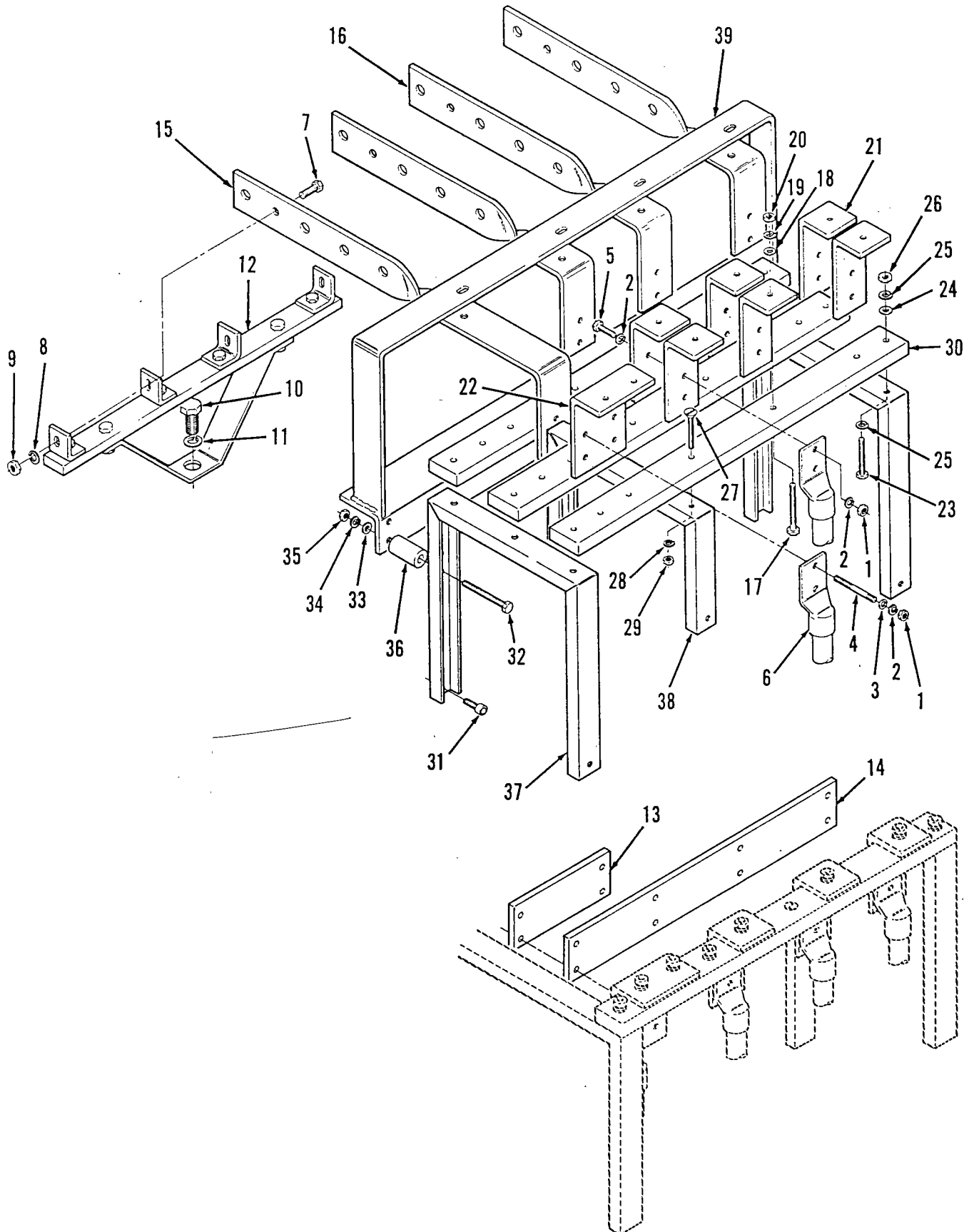
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	862-0015	32	#Nut, Hex (5/16-18)	17			*Bar, Bus
2	850-0045	32	#Washer, Lock - Spring (5/16")	232-1996	1	1	1/4"W x 17-3/8"Lg
3	526-0115	32	#Washer, Flat (5/16")	232-2852	1	1	1/2"W x 19-1/8"Lg
4	520-0693	16	#Stud	18			*Bar, Bus
5	800-0052	16	@Screw, Cap - Hex Head (3/8-16 x 1-1/2")	232-2001	3	3	1/4"W x 13-1/4"Lg
6	850-0050	32	@Washer, Lock - Spring (3/8")	232-2853	3	3	1/2"W x 15-1/2"LG
7	862-0003	32	@Nut, Hex (3/8-16)	800-0052	9	9	Screw, Cap - Hex Head (3/8-16 x 1-1/2")
8			Terminal	800-0053	9	9	(3/8-16 x 1-3/4")
	332-1151	12	#2 Wire Size	800-0054	9	9	(3/8-16 x 2")
	332-1152	12	#1/0 Wire Size	20	526-0029	18	Washer, Flat (3/8")
	332-1153	12	#2/0 Wire Size	21	850-0050	9	Washer, Lock - Spring (3/8")
	332-1154	12	#3/0 Wire Size	22	862-0003	9	Nut, Hex (3/8-16)
	332-1155	12	#4/0 Wire Size	23	232-1990	3	*Bar, Bus
	332-1156	12	250 Mil Wire Size	24	232-1991	1	*Bar, Bus
	332-1157	12	300 Mil Wire Size	25	800-0052	6	Screw, Cap - Hex Head (3/8-16 x 1-1/2")
	332-1158	12	350 Mil Wire Size	26	526-0029	12	Washer, Flat (3/8")
9	800-0005	4	Screw, Cap - Hex Head (1/4-20 x 3/4")	27	850-0050	6	Washer, Lock - Spring (3/8")
10	850-0040	4	Washer, Lock - Spring (1/4")	28	862-0003	6	Nut, Hex (3/8-16)
11	862-0001	4	Nut, Hex (1/4-20)	29	232-1998	1	Board, Insulating
12	800-0151	1	Screw, Cap - Hex Head (3/4-10 x 1")	30	232-1995	1	Board, Insulating
13	850-0079	1	Washer, Lock - Spring (3/4")	31	802-0069	6	Screw, Cap - Socket Head (3/8-16 x 5/8")
14		1	Support, Bus Bar (See Separate Page for Components)	32	800-0005	6	Screw, Cap - Hex Head (1/4-20 x 3/4")
15	232-2005	1	Bar, Bus - Jumper (Used on Delta Applications)	33	850-0040	6	Washer, Lock - Spring (1/4")
16	232-1993	1	Bar, Bus - Jumper (Used on Parallel Wye Applications)	34	862-0001	6	Nut, Hex (1/4-20)
				35	232-1999	2	Bracket, Mounting
				36	232-2000	1	Bracket, Mounting
				37	315-0302	1	Shelf - Current Transformer

- Terminal Hardware used thru June 1981.

@ - Terminal Hardware used beginning July 1981.

* - NOTE: Bus Bars contained tapped holes thru June 1981, beginning July 1981 the Terminal mounting holes were drilled out, requiring hardware marked @.

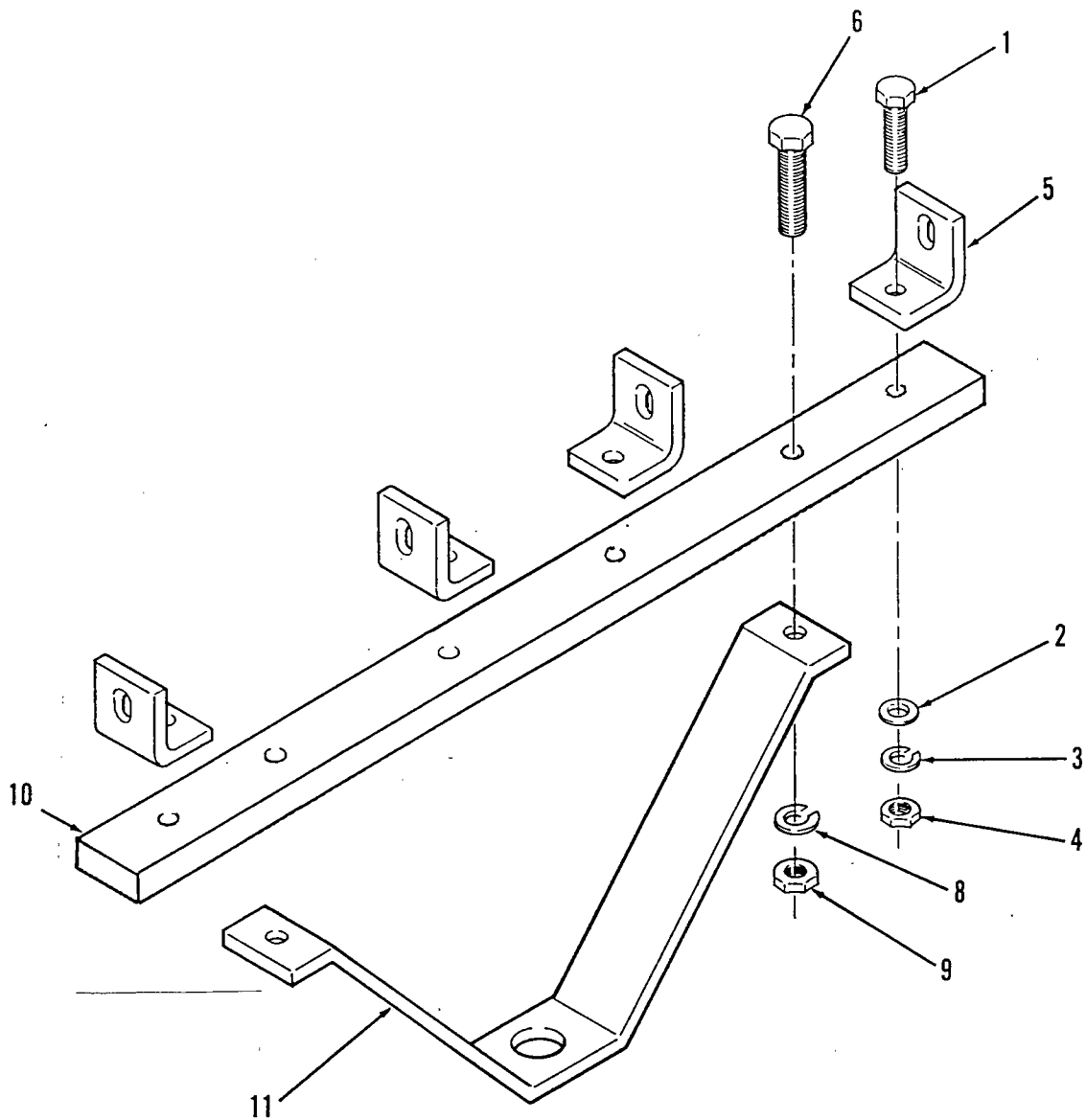
Bus Bar Components Triple Insulator Bars



Bus Bar Components Triple Insulator Bars

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	862-0015	24	Nut, Hex (5/16-18)	16	232-2249	3	Bar, Bus (1/4" x 13-1/4")
2	850-0045	44	Washer, Lock - Spring (5/16")	17	800-0562	11	Screw, Cap - Hex Head (3/8-16 x 2")
3	526-0115	24	Washer, Flat (5/16")	18	526-0029	11	Washer, Flat (3/8")
4	520-0693	2	Stud	19	850-0050	11	Washer, Lock - Spring (3/8")
5	800-0028	20	Screw, Cap - Hex Head (5/16-18 x 1")	20	862-0003	11	Nut, Hex (3/8-16)
6			Terminal	21	232-2758	6	Bar, Bus
	332-1151	12	#2 Wire Size	22	232-2759	1	Bar, Bus
	332-1152	12	#1/0 Wire Size	23	800-0052	8	Screw, Cap - Hex Head (3/8-16 x 1-1/2")
	332-1153	12	#2/0 Wire Size	24	526-0029	16	Washer, Flat (3/8")
	332-1154	12	#3/0 Wire Size	25	850-0050	8	Washer, Lock - Spring (3/8")
	332-1155	12	#4/0 Wire Size	26	862-0003	8	Nut, Hex (3/8-16)
	332-1156	12	250 Mil Wire Size	27	814-0182	1	Screw, Machine - Flat Head (5/16-18 x 1-1/2")
	332-1157	12	300 Mil Wire Size	28	850-0045	1	Washer, Lock - Spring (5/16")
	332-1158	12	350 Mil Wire Size	29	862-0015	1	Nut, Hex (5/16-18)
7	800-0005	4	Screw, Cap - Hex Head (1/4-20 x 3/4")	30	232-1998	3	Board, Insulating
8	850-0040	4	Washer, Lock - Spring (1/4")	31	802-0069	6	Screw, Cap - Socket Head (3/8-16 x 5/8")
9	862-0001	4	Nut, Hex (1/4-20)	32	800-0012	4	Screw, Cap - Hex Head (1/4-20 x 2-1/4")
10	800-0151	1	Screw, Cap - Hex Head (3/4-10 x 1")	33	526-0018	4	Washer, Flat (1/4")
11	850-0079	1	Washer, Lock - Spring (3/4")	34	850-0040	4	Washer, Lock - Spring (1/4")
12		1	Support, Bus Bar (See Separate Page for Components)	35	862-0001	4	Nut, Hex (1/4-20)
13	232-2005	1	Bar, Bus - Jumper (Used on Delta Applications)	36	232-2754	4	Spacer
14	232-1993	1	Bar, Bus - Jumper (Used on Parallel Wye Applications)	37	232-2752	2	Bracket, Mounting
15	232-1996	1	Bar, Bus (1/4" x 17-3/8")	38	232-2753	1	Bracket, Mounting
				39	301-5297	1	Shelf - Current Transformer

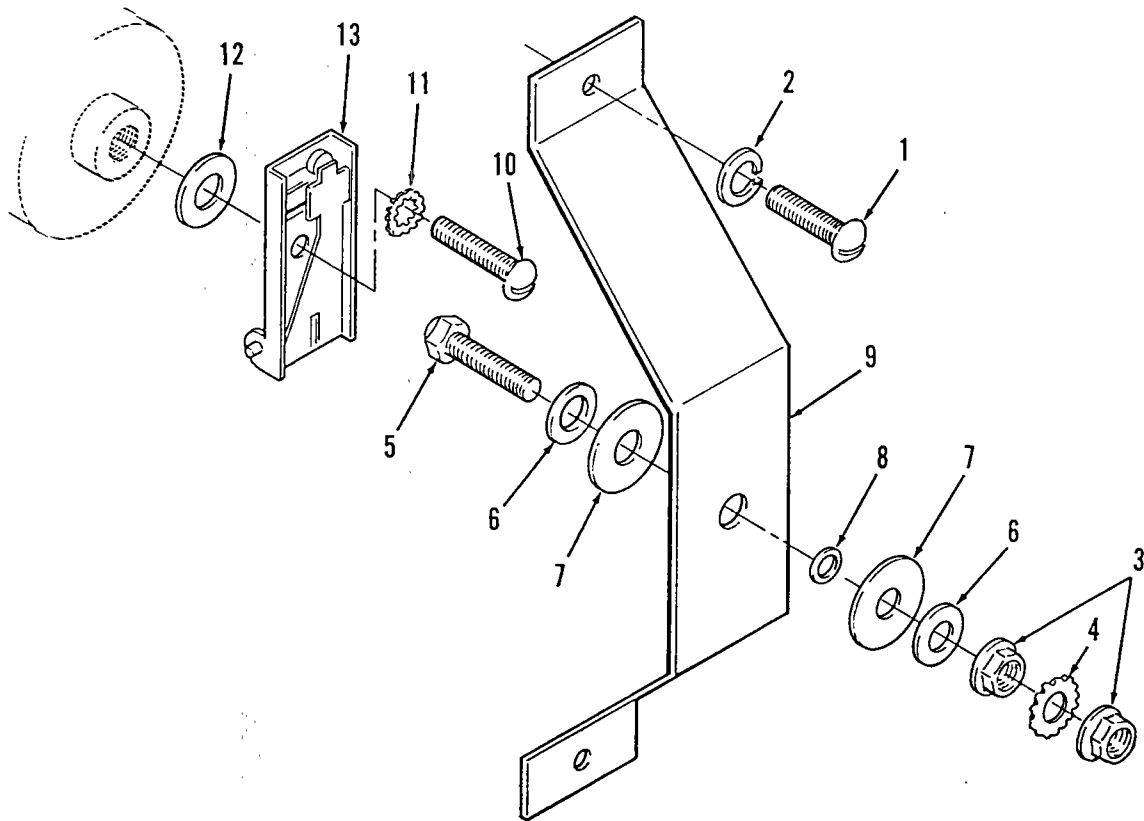
Support Components



244A

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")	6	800-0051	2	Screw, Cap - Hex Head
2	526-0018	4	Washer, Flat (1/4")	7	526-0029	2	Washer, Flat (3/8")
3	850-0040	4	Washer, Lock - Spring (1/4")	8	850-0050	2	Washer, Lock - Spring (3/8")
4	862-0001	4	Nut, Hex (1/4-20)	9	862-0003	2	Nut, Hex (3/8-16)
5	232-1992	4	Bracket	10	232-1997	1	Board, Insulating
				11	232-1994	1	Bracket, Support

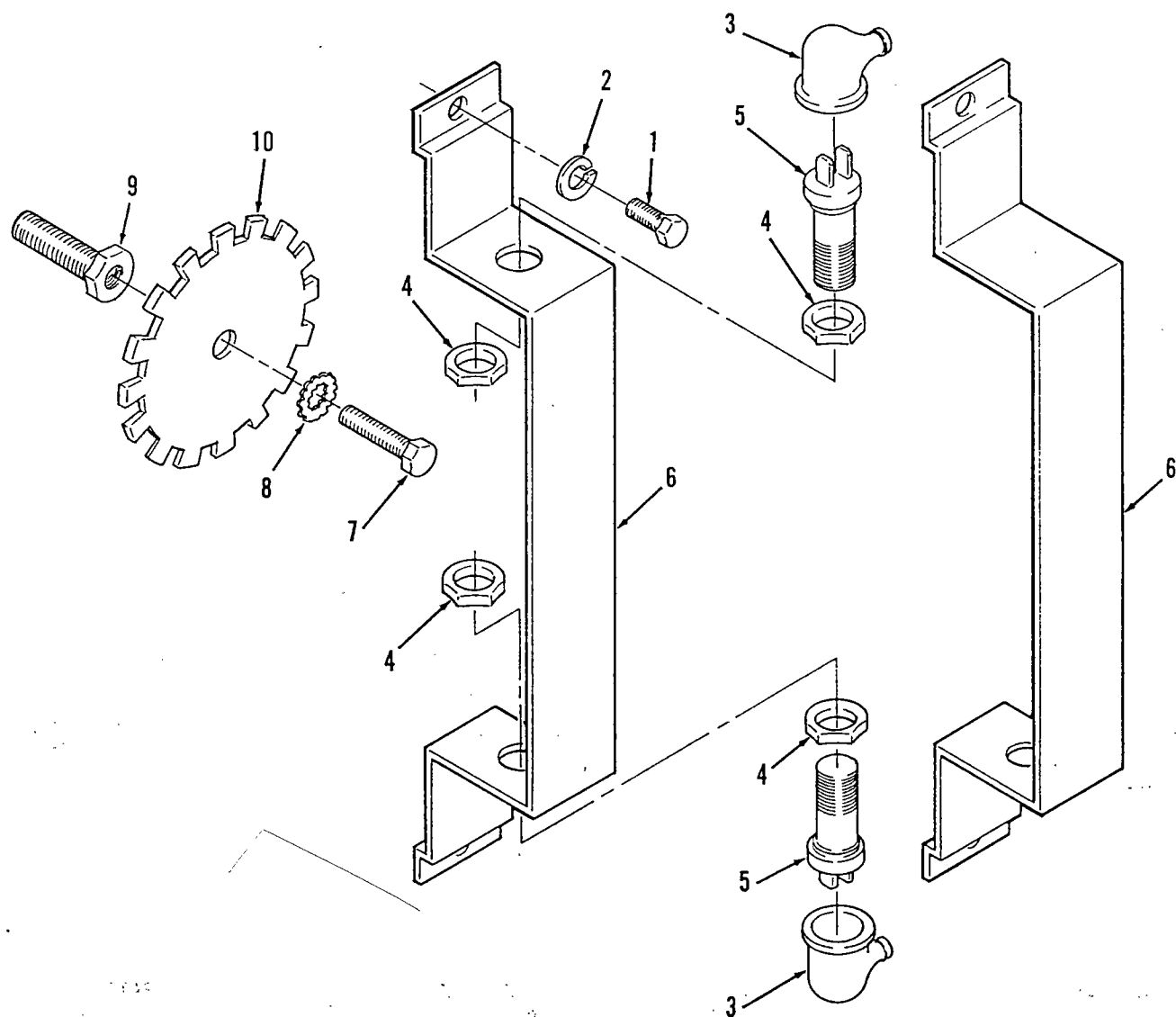
Over Speed Switch Components
Begin Spec D



241A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	812-0148	2	Screw, Machine - Round Head (1/4-20 x 1/2")	7	508-0018	2	Washer, Insulating
2	850-0040	2	Washer, Lock - Spring (1/4")	8	508-0006	1	Washer, Insulating (3/8"OD)
3	871-0016	2	Nut, Hex - Brass (1/4-20)	9	150-1194	1	Bracket
4	854-0014	1	Washer, Lock - IT (1/4")	10	812-0189	1	Screw, Machine - Round Head (3/8-16 x 3/4")
5	150-0723	1	Contact	11	856-0010	1	Washer, Lock - EIT (3/8")
6	526-0052	2	Washer, Flat - Brass (1/4")	12	526-0030	1	Washer, Flat (3/8")
				13	150-0717	1	Switch, Over Speed

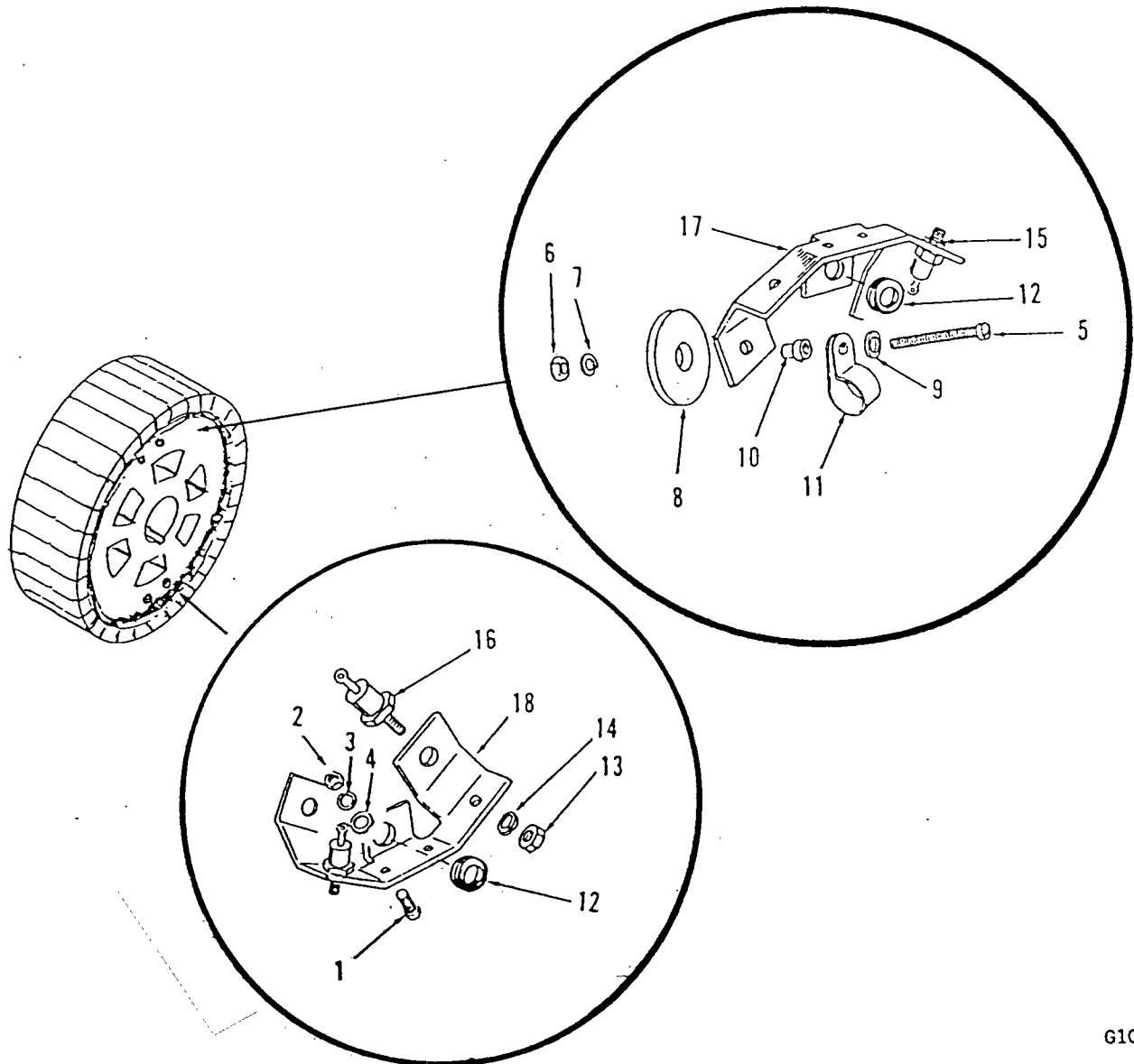
Over Speed Sensor Components Spec C



242A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")	6	150-1556	1	Bracket Standard
2	850-0040	2	Washer, Lock - Spring (1/4")		150-1878	1	Dual Application
3			Cap, Insulating Standard	7	800-0050	1	Screw, Cap - Hex Head (3/8-16 x 1")
	150-1410	1	Standard	8	856-0010	1	Washer, Lock - EIT (3/8")
	150-1410	2	Dual Application	9	800-0513	1	Screw, Cap - Hex Head Modified with Tapped Hole
4	868-0011	4	Nut, Hex - Jam (3/4-16)	10	150-1557	1	Wheel - Speed Sensor
5			Sensor				
	150-1406	1	Standard				
	150-1406	2	Dual Application				

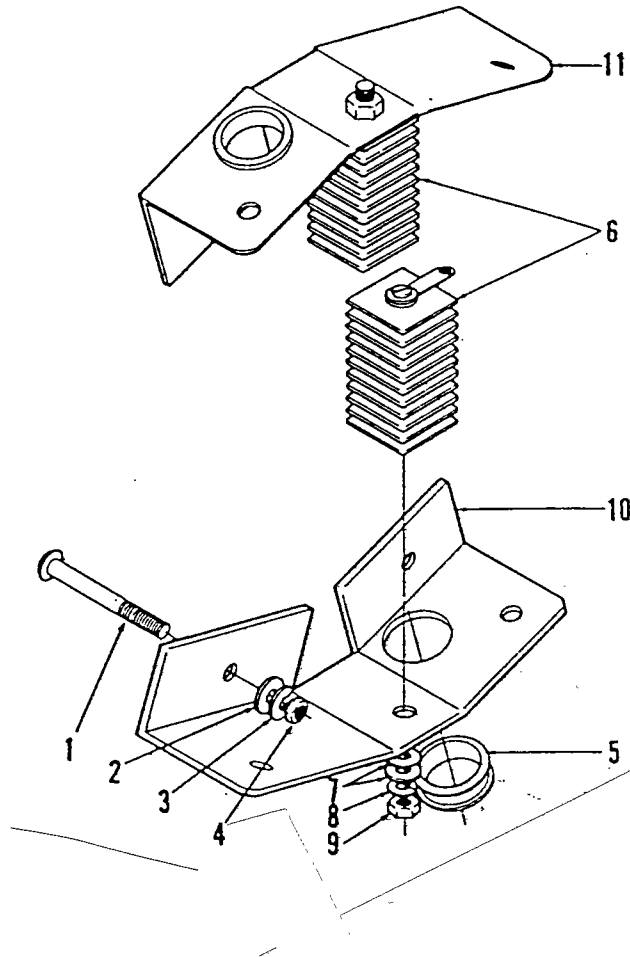
Exciter Rotor Components



G1092

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	201-1501	1	Rotor, Exciter - 60 Hz	9	526-0009	4	Washer, Flat (7/32"ID x 1/2"OD x 1/16"THK)
	201-1549	1	Rotor, Exciter - 50 Hz	10	508-0124	4	Spacer, Stepped
1	813-0100	2	Screw, Machine - Round Head (#10-32 x 1/2")	11	332-0050	2	Clamp, Loop
2	870-0053	2	Nut, Hex (#10-32)	12	508-0093	2	Grommet, Rubber
3	850-0030	2	Washer, Lock - Spring (#10)	13	868-0001	6	Nut, Hex (1/4-28)
4	526-0008	2	Washer, Flat (13/64"ID x 7/16"OD x 1/32"THK)	14	850-0040	6	Washer, Lock - Spring (1/4")
5	813-0114	4	Screw, Machine - Round Head (#10-32 x 3")	15	358-0011	3	Rectifier, Diode - Positive (CR1, CR2, CR3)
6	870-0053	4	Nut, Hex (#10-32)	16	358-0012	3	Rectifier, Diode - Negative (CR4, CR5, CR6)
7	850-0030	4	Washer, Lock - Spring (#10)	17	363-0025	1	Sink, Heat - Positive
8	508-0156	4	Washer, Insulating	18	363-0033	1	Sink, Heat - Negative

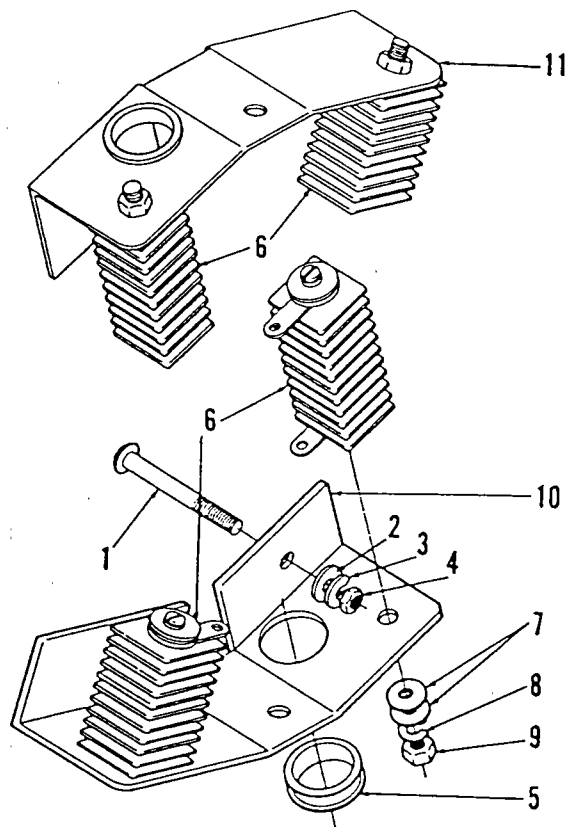
Voltage Suppressor Components



XES1229

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	232-2445	1	Suppressor, Voltage	6	305-0526	1	Set, Voltage Suppressor
1	813-0120	4	Screw, Machine - Round Head (#10-32 x 3-1/2")	7	526-0140	4	Washer, Flat (#10)
2	526-0140	4	Washer, Flat (#10)	8	850-0030	4	Washer, Lock - Spring (#10)
3	850-0030	4	Washer, Lock - Spring (#10)	9	870-0053	4	Nut, Hex (#10-32)
4	870-0053	4	Nut, Hex (#10-32)	10	363-0025	1	Sink, Heat - Positive
5	508-0093	2	Grommet	11	363-0033	1	Sink, Heat - Positive

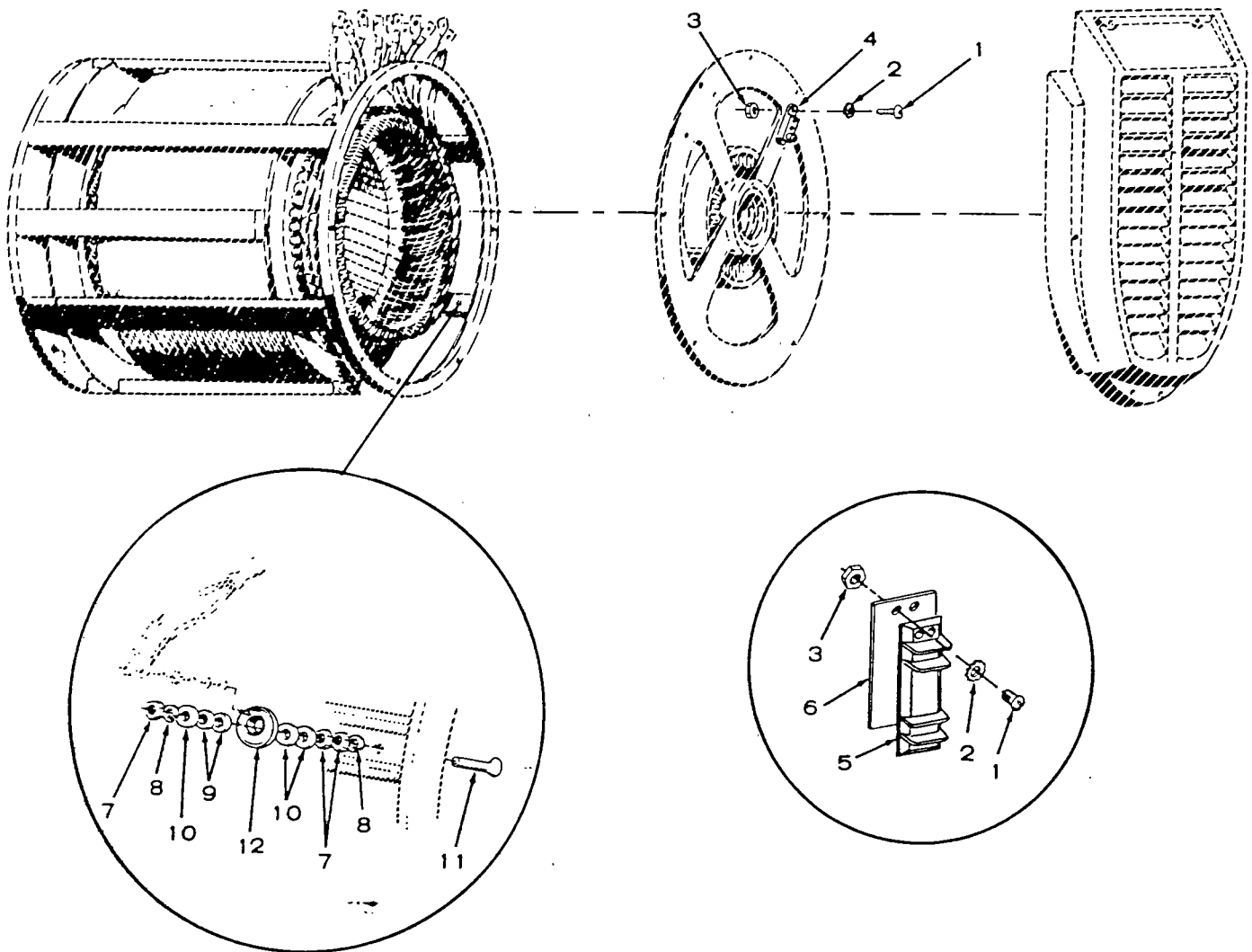
Dual Voltage Suppressor Components



XES1230

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	232-2766	1	Suppressor, Voltage - Dual	6	305-0526	2	Set, Voltage Suppressor
1	813-0120	8	Screw, Machine - Round Head (#10-32 x 3-1/2")	7	526-0140	8	Washer, Flat (#10)
2	526-0140	8	Washer, Flat (#10)	8	850-0030	8	Washer, Lock - Spring (#10)
3	850-0030	8	Washer, Lock - Spring (#10)	9	870-0053	8	Nut, Hex (#10-32)
4	870-0053	8	Nut, Hex (#10-32)	10	363-0025	1	Sink, Heat - Positive
5	508-0093	2	Grommet	11	363-0033	1	Sink, Heat - Positive

Generator Heater

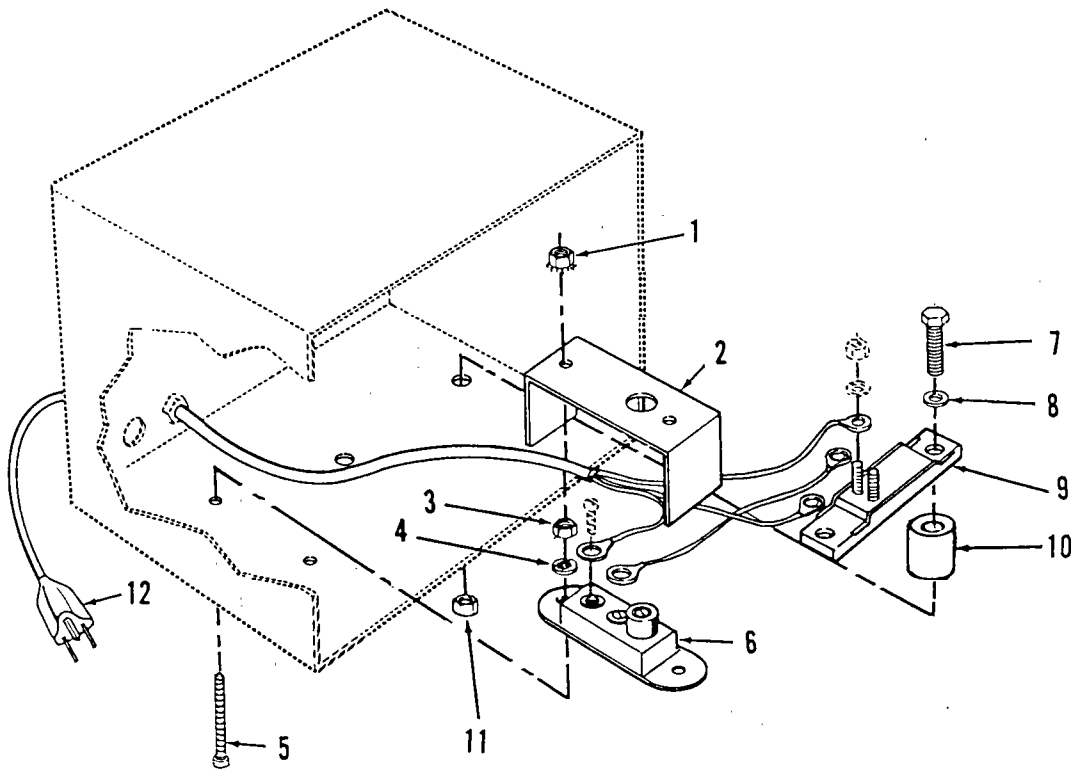


G1101

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	812-0068	4	Screw, Machine - Round Head (#6-32 x 1")
2	853-0003	4	Washer, Lock - ET (#6)
3	860-0005	4	Nut, Hex (#6-32)
4	309-0128	1	Thermostat
5	332-0333	1	Block, Terminal
6	332-0499	1	Strip, Marker
7	862-0003	6	Nut, Hex (3/8-16)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
8	850-0050	4	Washer, Lock - Spring (3/8")
9	526-0029	4	Washer, Flat (3/8")
10	526-0123	6	Washer, Flat (1-1/4"OD)
11	814-0203	2	Screw, Machine - Flat Head (3/8-16 x 2")
12	333-0059	2	Heater, Electrical (125 Watt, 120 VAC)

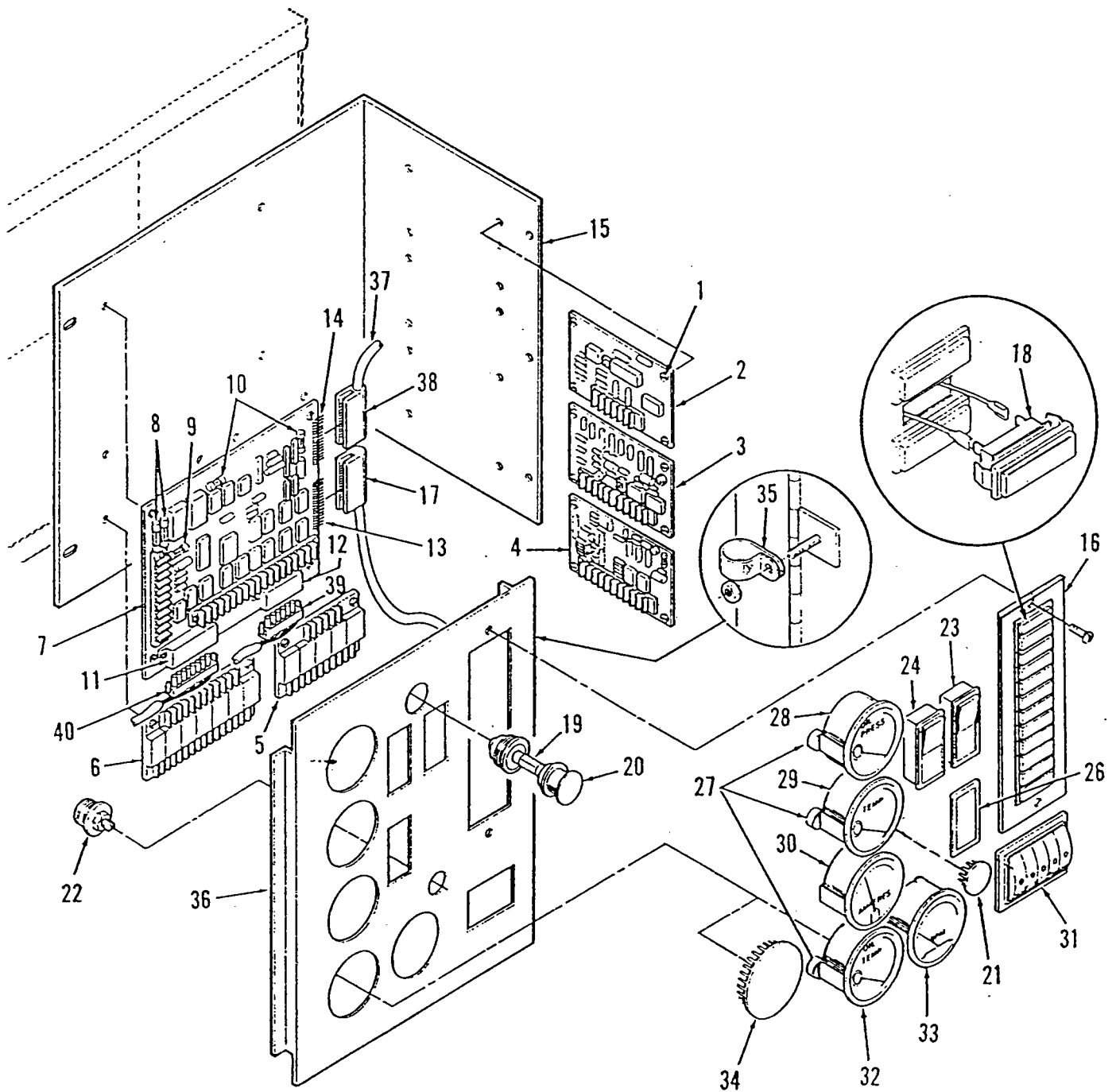
Control Heater



SC1156

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	870-0183	2	Nut, Self-locking - Hex (#6-32)	7	800-0034	2	Screw, Cap - Hex Head (5/16-18 x 2-1/4")
2	301-1886	1	Cover	8	526-0113	2	Washer, Flat (5/16")
3	860-0006	1	Nut, Hex (#6-32)	9	333-0151	1	Heater, Electrical
4	854-0006	2	Washer, Lock - IT (#6)	10	130-1107	2	Spacer
5	812-0070	2	Screw, Machine - Round Head (#6-32 x 1-1/4")	11	870-0257	2	Nut, Self-locking - Hex (5/16-18)
6	309-0128	1	Thermostat, Adjustable	12	335-0161	1	Cable, Electrical

Engine Control
Begin Spec D

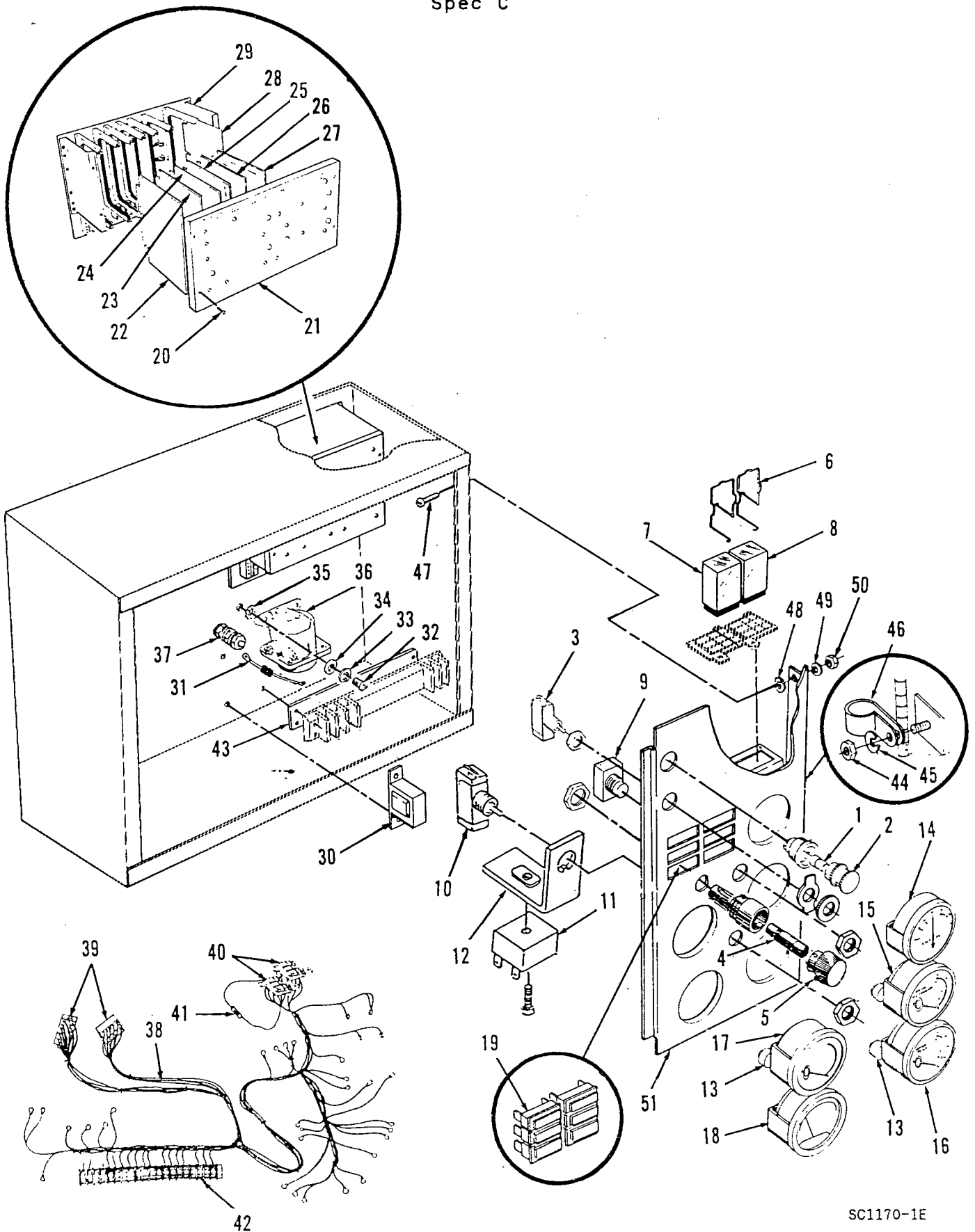


Engine Control
Begin Spec D

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	815-0544	24	Screw, Machine - Round Head With IT Lock Washer (#6-32 x 1/2")	17	323-1310	1	Housing, 13 Pin (J3)
					323-1302	13	Contact, Pin
2	300-2900	1	Board, Time Delay, Start/Stop - 24 VDC (A15)	18	322-0369-02	1	Lamp, Incandescent - 1/3 Watt, 28 VDC
3			Board, Magnetic Sensor, Start Disconnect/Over Speed Sensor (A16)	19	322-0017	1	Lamp, Incandescent - 28 VDC (DS11)
	300-2903	1	Standard	20	322-0361	1	Holder, Lamp
	300-2904	1	Precision	21	517-0131	1	Plug, Button
4	300-2906	1	Board, Over-Under Voltage Sensor - 24 VDC (A17)	22	151-0402	1	Potentiometer (R11)
5	300-2856	1	Board, Relay - 24 VDC (A13)	23	308-0785	1	Switch, Push (S11)
6	300-2863	1	Board, Relay - 24 VDC (A14)	24	308-0784	1	Switch, Push (S12)
7			Board, Engine Monitor (A11) (Includes Fuses and Connectors)	26	301-6257	1	Cover
	300-2808	1	24 VDC, 2 Light	27	193-0250	3	Resistor, Gauge (R12,R13,R14)
	300-2812	1	24 VDC, 12 Light	28	193-0352	1	Gauge, Pressure - Oil (M11)
8	321-0270	2	Fuse, Cartridge - 20 Amp (F1, F2)	29	193-0351	1	Gauge, Temperature - Water (M12)
9	321-0231	1	Fuse, Cartridge - 15 Amp (F3)	30	302-1790	1	Ammeter (M13)
10	321-0094	2	Fuse, Cartridge - 5 Amp (F4, F5)	31	302-0885	1	Meter, Totalizing - Time (M14)
11	323-1305	1	Connector, 8 Pin (P1)	32	193-0330	1	Gauge, Temperature - Oil (M15)
12	323-1303	1	Connector, 6 Pin (P2)	33	302-1823-01	1	Tachometer (M16)
13	323-1309	1	Connector, 13 Pin (P3)	34	517-0221	1	Plug, Button
14	323-1307	1	Connector, 12 Pin (P4)	35	332-0052	1	Clamp, Loop
15	301-8851	1	Bracket, Mounting		870-0131	1	Nut, Self-locking - Hex (#10-32)
	821-0004	4	Screw, Self-locking - Hex (#10-32 x 5/16")	36			Door, Control
16			Module, Indicator - Fault (A12) (Includes Connector)		301-9055-01	1	5 Meter Holes
	322-0358-02	1	24 VDC, 2 Light		301-9055-02	1	3 Meter Holes
	322-0360-02	1	24 VDC, 12 Light	37	338-1817	1	Harness, Wiring - DC (Includes Connector)
	815-0385	2	Screw, Machine - Round Head (#6-32 x 1/2")	38	323-1308	1	Housing, 12 Pin (J4)
	870-0183	2	Nut, Self-locking - Hex (#6-32)		323-1302	12	Contact, Pin
				39	323-1304	1	*Housing, 6 Pin
					323-1200	6	*Contact, Pin
				40	323-1306	1	*Housing, 8 Pin
					323-1200	8	*Contact, Pin

* - Parts Included in Engine Wiring Harness

Engine Control Spec C



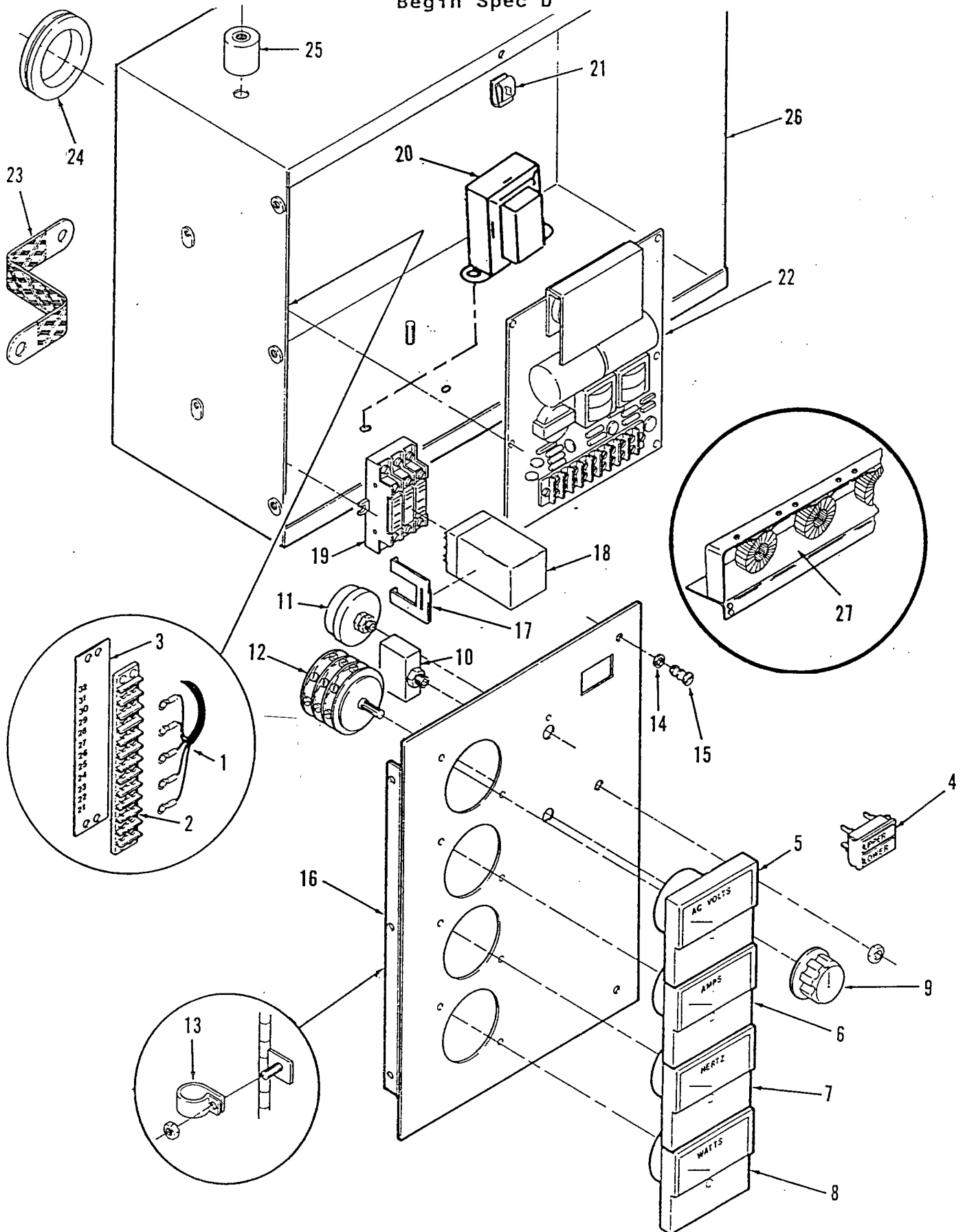
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Engine Control Spec C

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	322-0017	1	Lamp, 24 VDC (DS18)	30	315-0361	1	Transformer, Step-down
2	322-0149	1	Light, Panel		812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")
3	308-0002	1	Switch, Toggle (S16)		853-0003	2	Washer, Lock - EIT (#6)
4	321-0147	1	Fuse (F1)	31	357-0018	1	Diode with Terminals
5	321-0217	1	Fuseholder	32	813-0098	2	Screw, Machine - Round Head (#10-32 x 3/8")
6	307-1157	2	Spring, Holddown - Relay	33	850-0030	2	Washer, Lock - Spring (#10)
7	307-1061	1	Relay, Start Protection (K14)	34	526-0009	2	Washer, Flat (#10)
8	307-1056	1	Relay, Ignition (K12)	35	856-0003	2	Washer, Lock - EIT (#10)
9	308-0140	1	Switch, Push (S15)	36	307-0061	1	Relay, Starting - 24 VDC (K13)
10			Switch, Toggle - Selector (S15)	37			Terminal, Ground (Includes Parts Marked *)
	308-0220	1	Standard		871-0010	2	*Nut, Hex (#10-32)
	308-0347	1	Penn State		850-0030	1	*Washer, Lock - Spring (#10)
	308-0539	1	Alarm Control		526-0062	2	*Washer, Flat (#10)
11	333-0194-02	1	Flasher, 24 VDC		853-0008	1	*Washer, Lock - ET (#10)
	813-0105	1	Screw, Machine - Round Head (#10-32 x 1")		856-0003	1	*Washer, Lock - EIT (#10)
12	301-6053	1	Bracket, Mounting - Flasher		815-0203	1	*Screw, Machine - Round Head (#10-32 x 7/8")
13	193-0250	3	Resistor, Gauge (R11,R12,R13)	38	338-1016	1	Harness, Wiring
14	302-0061	1	Ammeter (M11)		812-0061	4	Screw, Machine - Round Head (#6-32 x 3/8")
15	193-0243	1	Gauge, Pressure - Oil, 12 VDC (M12)		812-0066	2	Screw, Machine - Round Head (#6-32 x 3/4")
16	193-0245	1	Gauge, Temperature - Water - 12 VDC (M13)		853-0003	6	Washer, Lock - Spring (#6)
17	193-0248	1	Gauge, Temperature - Oil - 12 VDC (M15)		860-0006	4	Nut, Hex (#6-32)
18	302-0749	1	Tachometer (M14)	39	323-0984	2	Housing, Connector - Less Terminals
19			Light, Indicator - 28 VDC		323-0488	24	Terminal
	322-0119	1	Overcrank (DS12)	40	323-0765	2	Socket, Relay (Less Terminals)
	322-0120	1	Low Oil Pressure (DS14)		332-1280	11	Terminal
	322-0121	1	High Engine Temperature (DS15)	41	357-0004	1	Diode (CR11)
	322-0122	1	Low Engine Temperature (DS16)	42	332-1005	1	Block, Terminal
	322-0123	1	Overspeed (DS13)	43	332-1559	1	Strip, Marker
	322-0129	1	Fault (DS12)	44	870-0053	1	Nut, Hex (#10-32)
	322-0315	1	Switch Off (DS17)	45	850-0030	1	Washer, Lock - Spring (#10)
20	815-0387	4	Screw, Machine - Pan Head (#6-32 x 1/4")	46	332-0052	1	Clamp, Loop
21	301-4015	1	Cover	47	815-0026	3	Screw, Machine - Truss Head (#10-32 x 3/8")
22	300-1573	1	Board, Cyle Cranker	48	856-0003	3	Washer, Lock - ET (#10)
23	300-1574	1	Board, Start Disconnet	49	850-0030	3	Washer, Lock - Spring (#10)
24	300-1575	1	Board, Overspeed Sensor	50	870-0053	3	Nut, Hex (#10-32)
25	300-1576	1	Board, Engine Monitor No.1	51			Panel, Control
26	300-1577	1	Board, Engine Monitor No.2		301-4086	1	3 Meters, 1 Panel Light
27	300-1578	1	Board, Engine Shutdown		301-4223	1	4 Meters, 1 Panel Light
28	300-1579	1	Board, Time Delay-StartStop		301-3997	1	5 Meters, 1 Panel Light
29	300-1572	1	Chassis				

* - Parts Included in Ground Terminal.

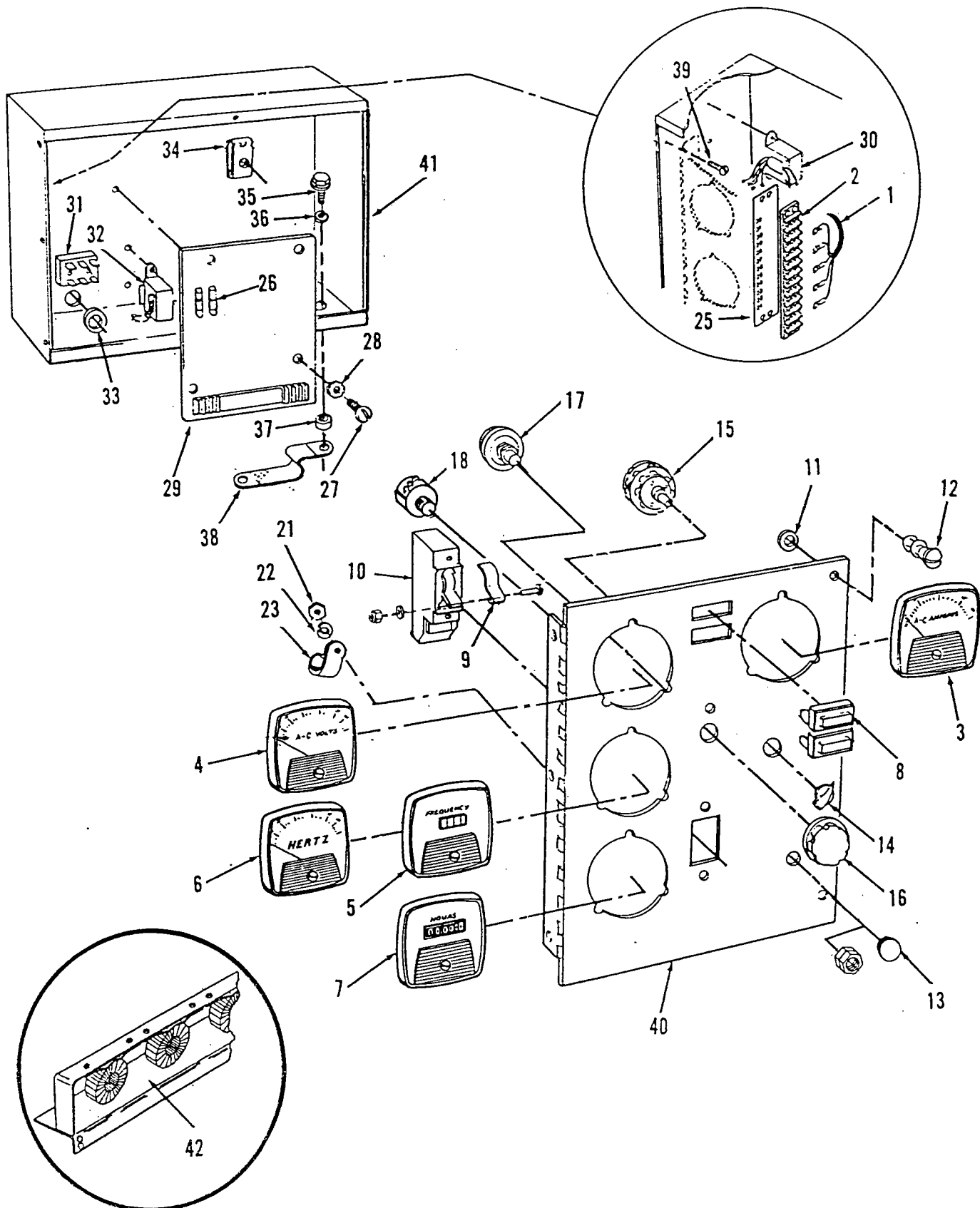
Generator Control
Begin Spec D



Generator Control Begin Spec D

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Harness, Wiring - (Includes Terminal Block)	301-9054-03		1	No Meter Holes
	338-1818	1	Control with Meters	821-0004		3	Screw, Self-locking - Hex (#10-32 x 5/16")
	338-1853	1	Control without Meters	17 307-1987		2	Clip, Relay
	812-0065	2	Screw, Machine - Round Head (#6-32 x 5/8")	18 307-1056		1	Relay, 24 VDC (K21)
2	332-0607	1	Block, Terminal (TB1)	19 323-0804		1	Socket, Relay
3	332-2723	1	Strip, Marker	815-0544		2	Screw, Machine - Round Head with IT Lock Washer (#6-32 x 1/2")
4	322-0363	1	Light, Indicator - Dual (DS21, DS22)	20 315-0642		1	Transformer, Step-down
5	302-1148	1	Voltmeter (M21) 0-300/600 VAC Code 4, 4X, 522	812-0077		2	Screw, Machine - Round Head (#8-32 x 3/8")
6			Ammeter (M22)	856-0002		2	Washer, Lock - EIT (#8)
	302-1729	1	0-750/1500 Amp Code 4X, 522	21 406-0332		2	Receptacle, Fastener
	302-1798	1	0-1000/2000 Amp Code 4	22 300-2977		1	Regulator, Voltage (VR21)
7	302-1720	1	Meter, Frequency (M23)	815-0544		6	Screw, Machine - Round Head with IT Lock Washer (#6-32 x 1/2")
8		1	Wattmeter (M24) (See Separate page for Components)	23 337-0049		1	Strap, Electrical
9	303-0032	1	Knob	800-0024		1	Screw, Cap - Hex Head (5/16-18 x 1/2")
10			Breaker, Circuit (CB21)	856-0008		1	Washer, Lock - EIT (5/16")
	320-1121	1	Standard	24 508-0051		1	Grommet
	320-1438	1	With Aux Contact	25 402-0527		2	Mount, Vibration
11	303-0261	1	Rheostat (R21)	800-0045		4	Screw, Cap - Hex Head (5/16-18 x 3/8")
12	308-0284	1	Switch, Rotary (S21)	850-0045		4	Washer, Lock - Spring (5/16")
13	332-0052	1	Clamp, Loop	26 301-8065		1	Box, Control
	870-0131	1	Nut, Self-locking - Hex with ET Lock Washer (#10-32)	27		1	Current Transformer (See Separate Page for Components)
14	406-0334	2	Clip, Fastener				
15	406-0333	2	Stud, Fastener				
16			Door, Control				
	301-9054-01	1	4 Meter Holes				
	301-9054-02	1	3 Meter Holes				

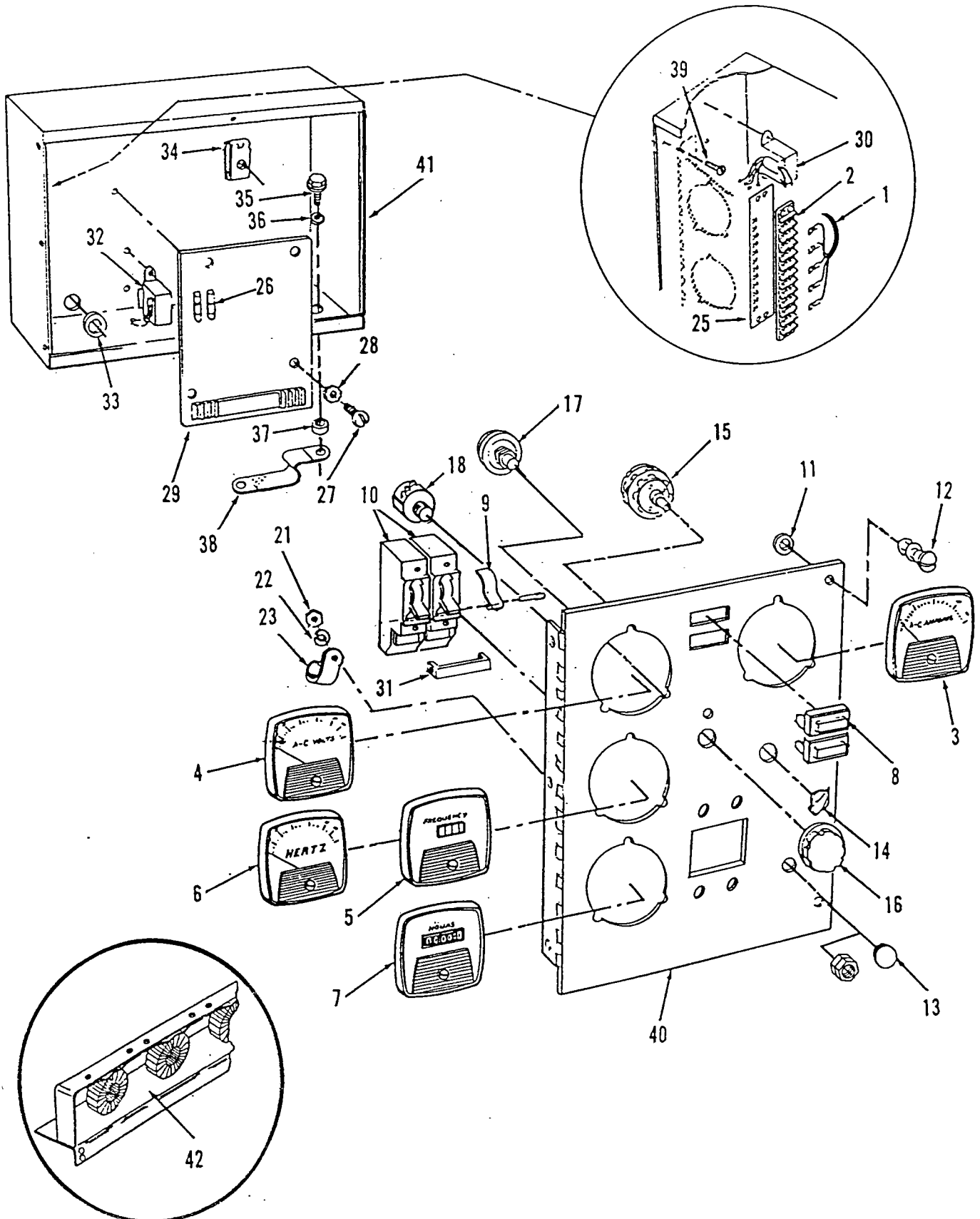
Generator Control Spec C



Generator Control Spec C

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	338-0759	1	Harness, Wiring	21	870-0053	1	Nut, Hex (#10-32)
	338-0916	1	Code 4,5,6,17,54,519,521	22	850-0030	1	Washer, Lock - Spring (#10)
2			Code 4X,7,7X,9X,520,522	23	332-0051	1	Clamp, Loop
	332-0607	1	Block, Terminal (TB21)	25			Strip, Marker
	332-0795	1	12 Place		332-1242	1	16 Place
	812-0066	2	16 Place		332-1248	1	12 Place
	853-0003	2	Screw, Machine - Round Head	26	321-0204	2	Fuse, Cartridge - 1/4 Amp
	850-0020	2	(#6-32 x 3/4")	27	812-0065	4	Screw, Machine - Round Head
3			Washer, Lock - ET (#6)				(#6-32 x 5/8")
	302-0415	1	Washer, Lock - Spring (#6)	28	853-0003	4	Washer, Lock - ET (#6)
	302-0640	1	Ammeter (M21)	29			Regulator, Voltage (VR21)
	302-0641	1	0-750 Amp Code 4X, 17		332-1704	1	120 VAC Input Signal Req'd
	302-1208	1	0-1200 Amp Code 4		332-2029	1	240 VAC Input Signal Req'd
4			0-1500 Amp Code 5				(Semi-Frequency Sensitive
	302-0421	1	0-1000/2000 Amp Code 31		332-2030	1	240 VAC Input Signal Req'd
	302-0422	1	Voltmeter (M22)				(Voltage Sensitive Type)
	302-0718	1	0-300 VAC Code 4, 5		332-2031	1	240 VAC Input Signal Req'd
5			0-600 VAC Code 4X, 17				(Frequency Sensitive Type)
	302-0221	1	0-300/600 VAC Code 31	30			Transformer, Voltage (T21)
	302-0256	1	Meter, Frequency - Reed (M23)		315-0342	1	120 VAC
6			230 VAC, 60 Hz		315-0431	1	240 VAC
	302-0810	1	230 VAC, 50 Hz		812-0061	2	Screw, Machine - Round Head
	302-0811	1	Meter, Frequency - Pointer (M23)				(#6-32 x 3/8")
	302-0894	1	208 VAC, 60 Hz		853-0003	2	Washer, Lock - ET (#6)
7			240 VAC, 60 Hz	31	305-0675	1	Rectifier, Bridge (CR21)
	302-0466	1	240 VAC, 50 Hz		812-0070	2	Screw, Machine - Round Head
	302-0469	1	Meter, Totalizing - Time (M24)				(#6-32 x 1-1/4")
8			60 Hz		850-0020	2	Washer, Lock - Spring (#6)
	322-0130	1	50 Hz	32	315-0384	1	Reactor (L21)
	322-0131	1	Light, Indicator - Red - 125 VAC		812-0061	2	Screw, Machine - Round Head
9	320-0307	1	Upper Scale (DS21)				(#6-32 x 3/8")
	815-0203	1	Lower Scale (DS22)		853-0003	2	Washer, Lock - ET (#6)
	854-0010	1	Lock, Handle	33	508-0001	1	Grommet
	871-0010	1	Screw, Machine - Round Head	34	406-0332	2	Receptacle, Fastener
10	320-0455	1	(#10-32 x 7/8")	35	800-0045	4	Screw, Cap - Hex Head
	812-0061	2	Washer, Lock - ET (#10)				(5/16-18 x 3/8")
	850-0020	2	Nut, Hex (#10-32)	36	850-0045	4	Washer, Lock - Spring (5/16")
11	406-0334	2	Breaker, Circuit (CB21)	37	402-0078	4	Dampener, Vibration
12	406-0333	2	Screw, Machine - Round Head	38	337-0049	1	Strap, Electrical - Ground
13	517-0131	1	(#6-32 x 3/8")	39	815-0026	3	Screw, Machine - Truss Head
14	303-0076	1	Washer, Lock - Spring (#6)				(#10-32 x 3/8")
15	308-0284	1	Clip, Fastener	40			Panel, Control
16	303-0032	1	Stud, Fastener		301-3342	1	4 Meters, No Ind Light Hole
17	303-0170	1	Plug, Plastic		301-3170	1	4 Meters
18	151-0402	1	Knob, Pointer		301-3449	1	5 Meters, No Ind Light Hole
			Switch, Selector (S21)		301-3312	1	5 Meters
			Knob	41	301-4135	1	Box, Control
			Rheostat (R21)	42			Current Transformer
			Potentiometer- 5k Ohm				(See Separate Page for Components)

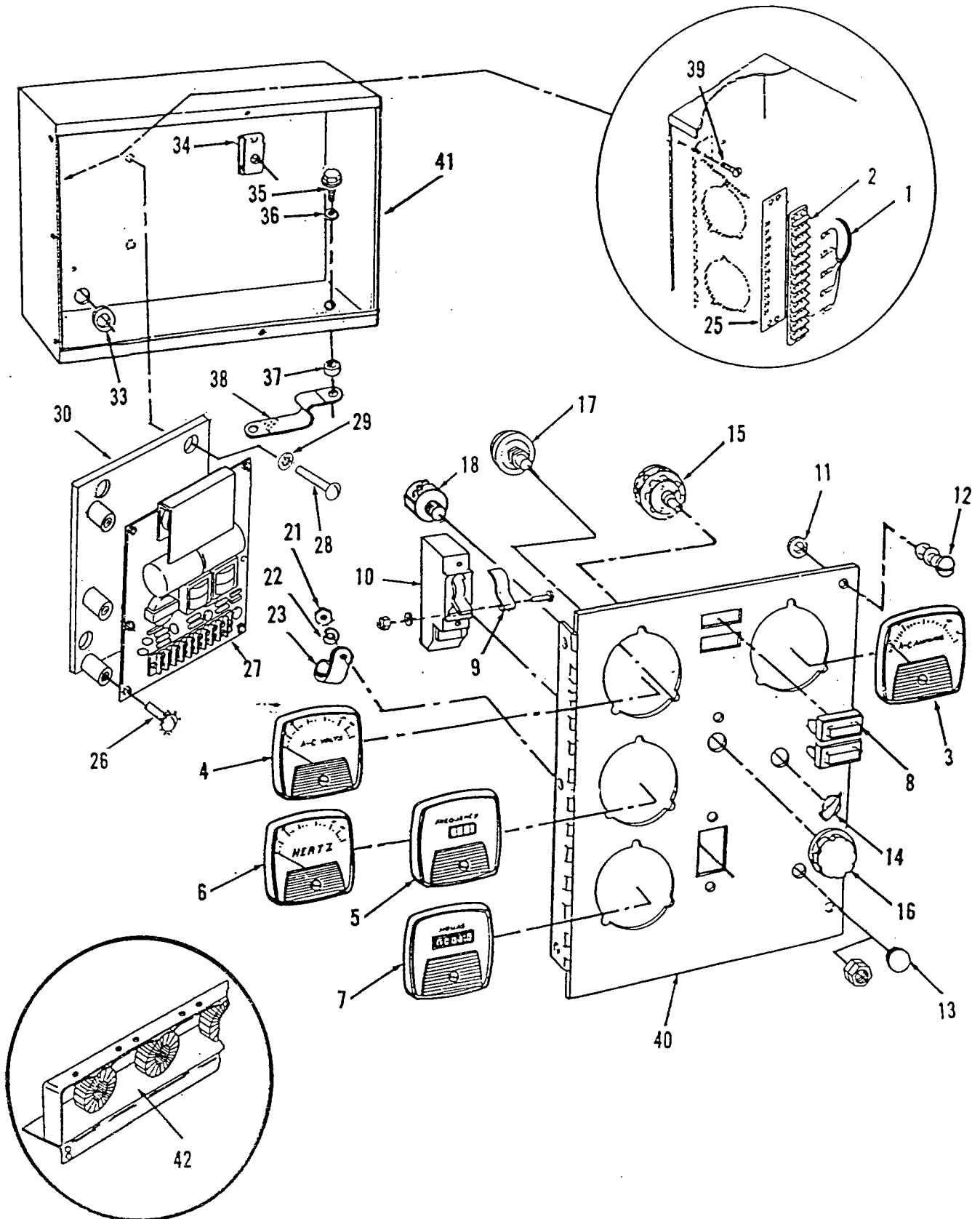
Generator Control Switching Regulator Spec C



**Generator Control
Switching Regulator
Spec C**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Harness, Wiring	16	303-0032	1	Knob
	338-0759	1	Code 4,5,6,8,54,58,519,521	17	303-0170	1	Rheostat (R21)
	338-0916	1	Code 4X,7,7X,9X,57,520,522	18	151-0402	1	Potentiometer - 5k Ohm
2			Block, Terminal (TB21)	21	870-0053	1	Nut, Hex (#10-32)
	332-0607	1	12 Place	22	850-0030	1	Washer, Lock - Spring (#10)
	332-0795	1	16 Place	23	332-0051	1	Clamp, Loop
	812-0066	2	Screw, Machine - Round Head (#6-32 x 3/4")	25			Strip, Marker
	853-0003	2	Washer, Lock - ET (#6)		332-1242	1	16 Place
	850-0020	2	Washer, Lock - Spring (#6)		332-1248	1	12 Place
3			Ammeter (M21)	27	812-0065	4	Screw, Machine - Round Head (#6-32 x 5/8")
	302-0414	1	0-500 Amp	28	853-0003	4	Washer, Lock - ET (#6)
	302-0415	1	0-750 Amp	29	332-1930	1	Regulator, Voltage (VR21)
	302-0879	1	0-600/1200 Amp	30	315-0431	1	Transformer, Voltage (T21) 240 VAC
	302-0880	1	0-750/1500 Amp				
4			Voltmeter (M22)		812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")
	302-0421	1	0-300 VAC				
	302-0612	1	0-500 VAC		853-0003	2	Washer, Lock - ET (#6)
	302-0422	1	0-600 VAC	31	320-0202	1	Bar, Locking - with Thru Pin
	302-0718	1	0-300/600 VAC	32	315-0384	1	Reactor (L21)
5			Meter, Frequency - Reed (M23)		812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")
	302-0221	1	230 VAC, 60 Hz				
	302-0256	1	230 VAC, 50 Hz		853-0003	2	Washer, Lock - ET (#6)
6			Meter, Frequency - Pointer (M23)	33	508-0001	1	Grommet
	302-0810	1	208 VAC, 60 Hz	34	406-0332	2	Receptacle, Fastener
	302-0811	1	240 VAC, 60 Hz	35	800-0045	4	Screw, Cap - Hex Head (5/16-18 x 3/8")
	302-0894	1	240 VAC, 50 Hz				
7			Meter, Totalizing - Time (M24)	36	850-0045	4	Washer, Lock - Spring (5/16")
	302-0466	1	60 Hz	37	402-0078	4	Dampener, Vibration
	302-0469	1	50 Hz	38	337-0049	1	Strap, Electrical - Ground
8			Light, Indicator - Red - 125 VAC	39	815-0026	3	Screw, Machine - Truss Head (#10-32 x 3/8")
	322-0130	1	Upper Scale (DS21)				Panel, Control
	322-0131	1	Lower Scale (DS22)	40			
9	320-0307	1	Lock, Handle		301-6412	1	4 Meters, No Ind Light Hole
10	320-0455	2	Breaker, Circuit (CB21)		301-6298	1	4 Meters
	812-0061	4	Screw, Machine - Round Head (#6-32 x 3/8")		301-7088	1	5 Meters, No Ind Light Hole
	850-0020	2	Washer, Lock - Spring (#6)		301-8775	1	5 Meters
11	406-0334	2	Clip, Fastener	41	301-4135	1	Box, Control
12	406-0333	2	Stud, Fastener	42			Current Transformer (See Separate Page for Components)
13	517-0131	1	Plug, Plastic				
14	303-0076	1	Knob, Pointer				
15	308-0284	1	Switch, Selector (S21)				

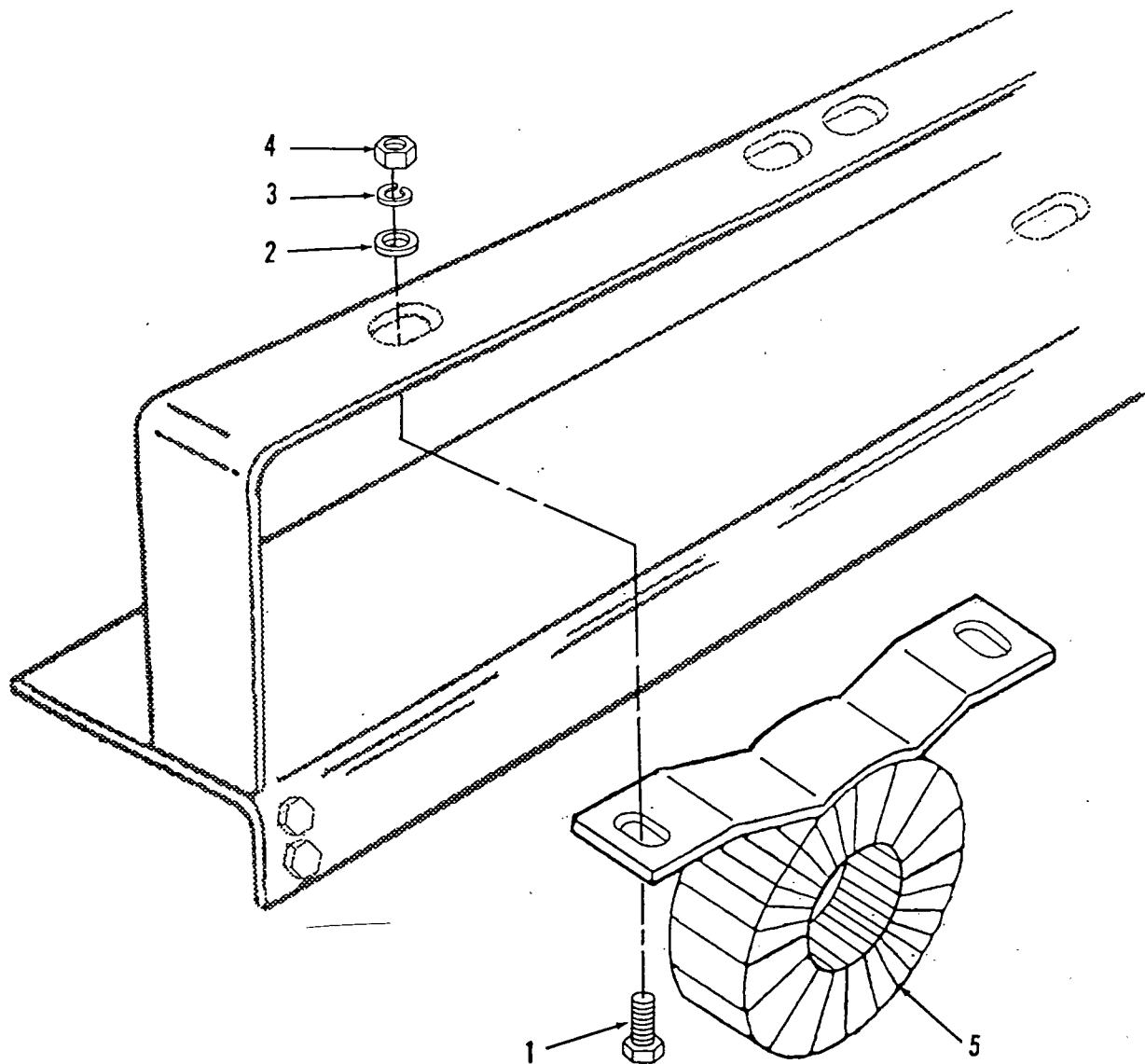
Generator Control
Torque Matched Regulator
Spec C



Generator Control
Torque Matched Regulator
Spec C

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	338-0759	1	Harness, Wiring	11	406-0334	2	Clip, Fastener
	338-0916	1	Code 4,5,6,8,54,58,519,521	12	406-0333	2	Stud, Fastener
2			Code 4X,7,7X,9X,57,520,522	13	517-0131	1	Plug, Plastic
	332-0607	1	Block, Terminal (TB21)	14	303-0076	1	Knob, Pointer
	332-0795	1	12 Place	15	308-0284	1	Switch, Selector (S21)
	812-0066	2	16 Place	16	303-0032	1	Knob
			Screw, Machine - Round Head	17	303-0170	1	Rheostat (R21)
	853-0003	2	(#6-32 x 3/4")	18	151-0402	1	Potentiometer- 5k Ohm
	850-0020	2	Washer, Lock - ET (#6)	21	870-0053	1	Nut, Hex (#10-32)
			Washer, Lock - Spring (#6)	22	850-0030	1	Washer, Lock - Spring (#10)
3			Ammeter (M21)	23	332-0051	1	Clamp, Loop
	302-0414	1	0-500 Amp	25			Strip, Marker
	302-0415	1	0-750 Amp		332-1242	1	16 Place
	302-0879	1	0-600/1200 Amp		332-1248	1	12 Place
	302-0880	1	0-750/1500 Amp	26	815-0544	6	Screw, Machine - Round Head
4			Voltmeter (M22)				with IT Lock Washer
	302-0421	1	0-300 VAC				(#6-32 x 1/2")
	302-0612	1	0-500 VAC	27	300-2977	1	Regulator, Voltage (VR21)
	302-0422	1	0-600 VAC	28	812-0065	4	Screw, Machine - Round Head
	302-0718	1	0-300/600 VAC				(#6-32 x 5/8")
5			Meter, Frequency - Reed (M23)	29	853-0003	4	Washer, Lock - ET (#6)
	302-0221	1	230 VAC, 60 Hz	30	301-9315	1	Bracket, Mounting
	302-0256	1	230 VAC, 50 Hz	33	508-0001	1	Grommet
6			Meter, Frequency - Pointer (M23)	34	406-0332	2	Receptacle, Fastener
	302-0810	1	208 VAC, 60 Hz	35	800-0045	4	Screw, Cap - Hex Head
	302-0811	1	240 VAC, 60 Hz				(5/16-18 x 3/8")
	302-0894	1	240 VAC, 50 Hz	36	850-0045	4	Washer, Lock - Spring (5/16")
7			Meter, Totalizing - Time (M24)	37	402-0078	4	Dampener, Vibration
	302-0466	1	60 Hz	38	337-0049	1	Strap, Electrical - Ground
	302-0469	1	50 Hz	39	815-0026	3	Screw, Machine - Truss Head
8			Light, Indicator				(#10-32 x 3/8")
	322-0130	1	Upper Scale (DS21)	40			Panel, Control
	322-0131	1	Lower Scale (DS22)		301-3342	1	4 Meters, No Ind Light Hole
9	320-0307	1	Lock, Handle		301-3170	1	4 Meters
	815-0203	1	Screw, Machine - Round Head		301-3449	1	5 Meters, No Ind Light Hole
			(#10-32 x 7/8")		301-3312	1	5 Meters
	854-0010	1	Washer, Lock - ET (#10)	41	301-4135	1	Box, Control
	871-0010	1	Nut, Hex (#10-32)	42			Current Transformer
10	320-0455	1	Breaker, Circuit (CB21)				(See Separate Page for
	812-0061	2	Screw, Machine - Round Head				Components)
			(#6-32 x 3/8")				
	850-0020	2	Washer, Lock - Spring (#6)				

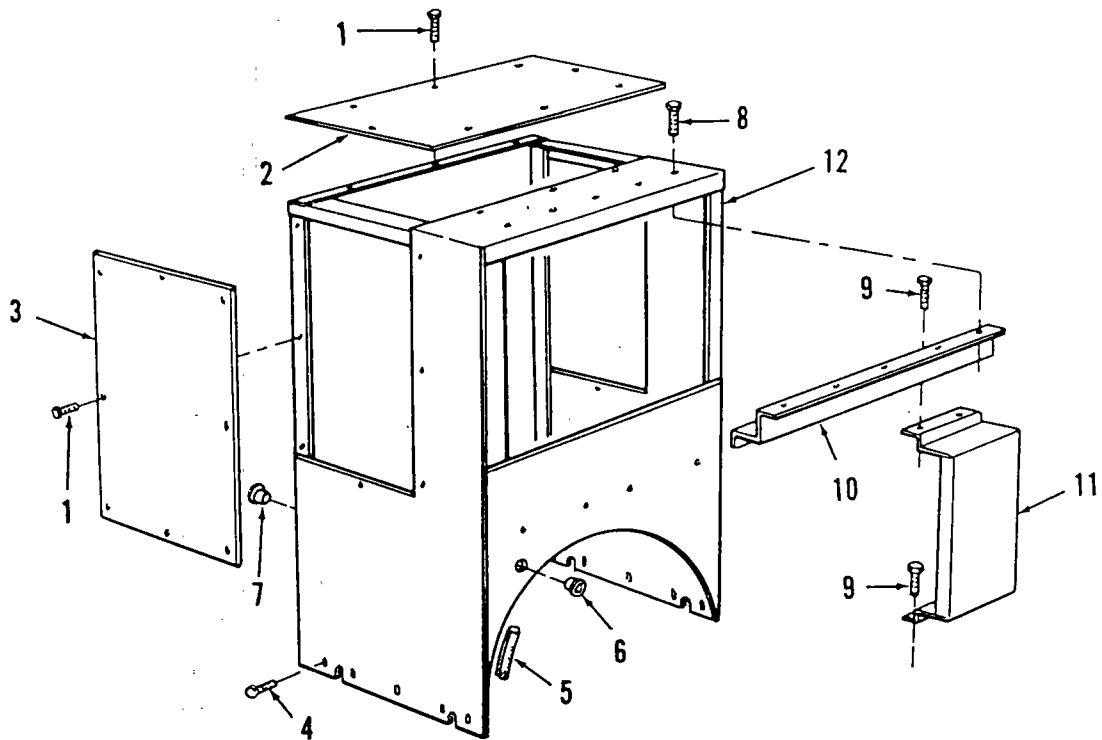
Current Transformer



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-0052	6	Screw, Cap - Hex Head (3/8-16 1-1/2")
2	526-0029	6	Washer, Flat (3/8")
3	850-0050	6	Washer, Lock - Spring (3/8")
4	862-0003	6	Nut, Hex (3/8-16)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
5	302-0625	3	Transformer, Current 750/5 Ratio Code 4X (Begin Spec D)
	302-0589	3	1000/5 Ratio Code 31
	302-0644	3	1500/5 Ratio Code 4X (Spec C)
	302-0644	3	1500/5 Ratio Code 5, 17, 522
	302-0645	3	2000/5 Ratio Code 4

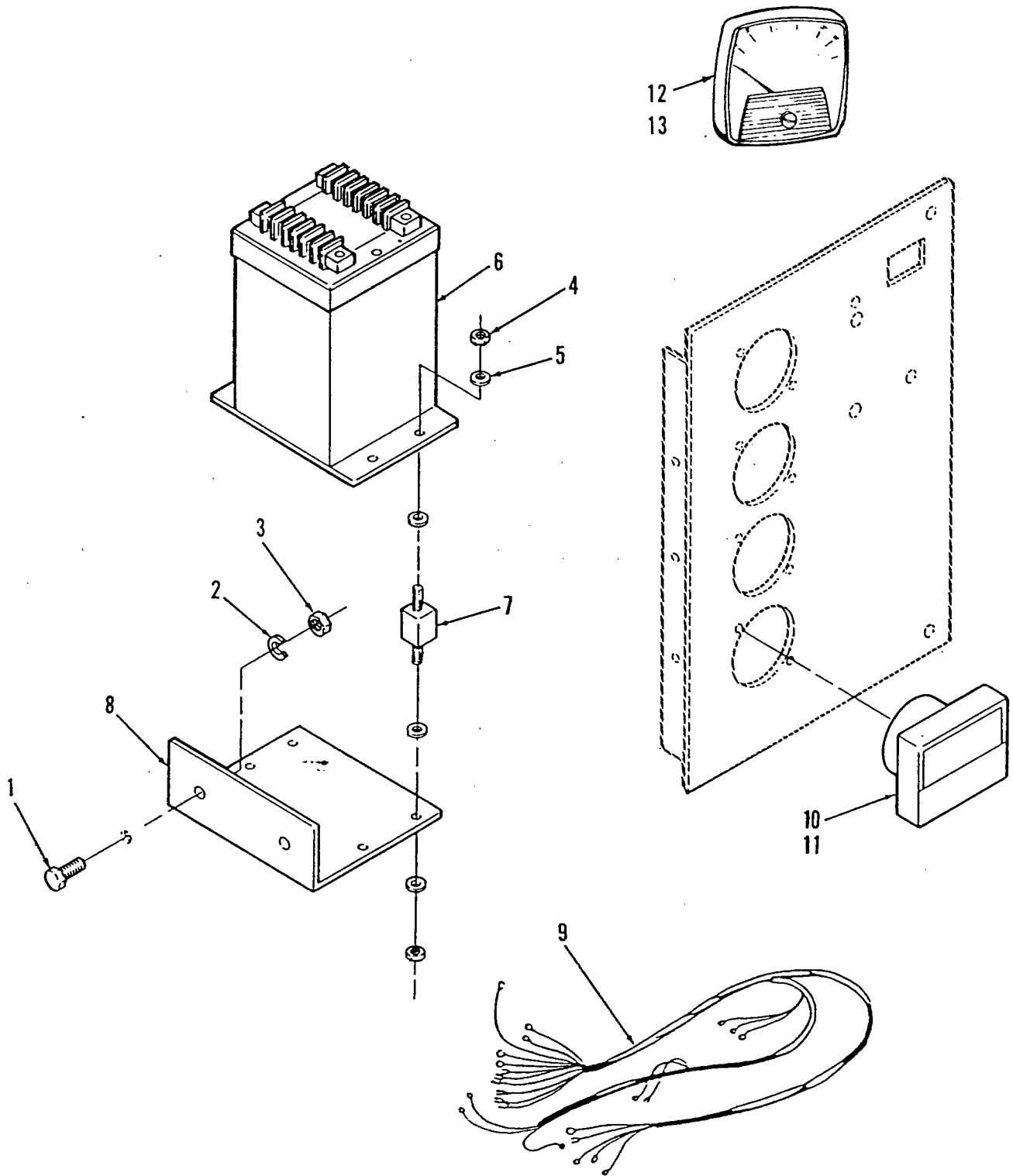
Control Housing



M-1202

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0010	24	Screw, Self-locking - Hex (1/4-20 x 1/2")	7	508-0203	1	Bushing, Cable
2	301-2904	1	Panel, Access - Top	8	821-0010	2	Screw, Self-locking - Hex (1/4-20 x 1/2")
3	301-2905	2	Panel, Access - Side	9	821-0014	4	Screw, Self-locking - Hex (5/16-18 x 1/2")
4	821-0014	8	Screw, Self-locking -Hex (5/16-18 x 1/2")	10	301-4125	1	Bracket, Double Angle
5	508-1000	4	Channel, Rubber	11	301-4110	1	Panel, Control - Blank
6	331-0088	1	Bushing, Cable	12	301-4118	1	Housing, Control

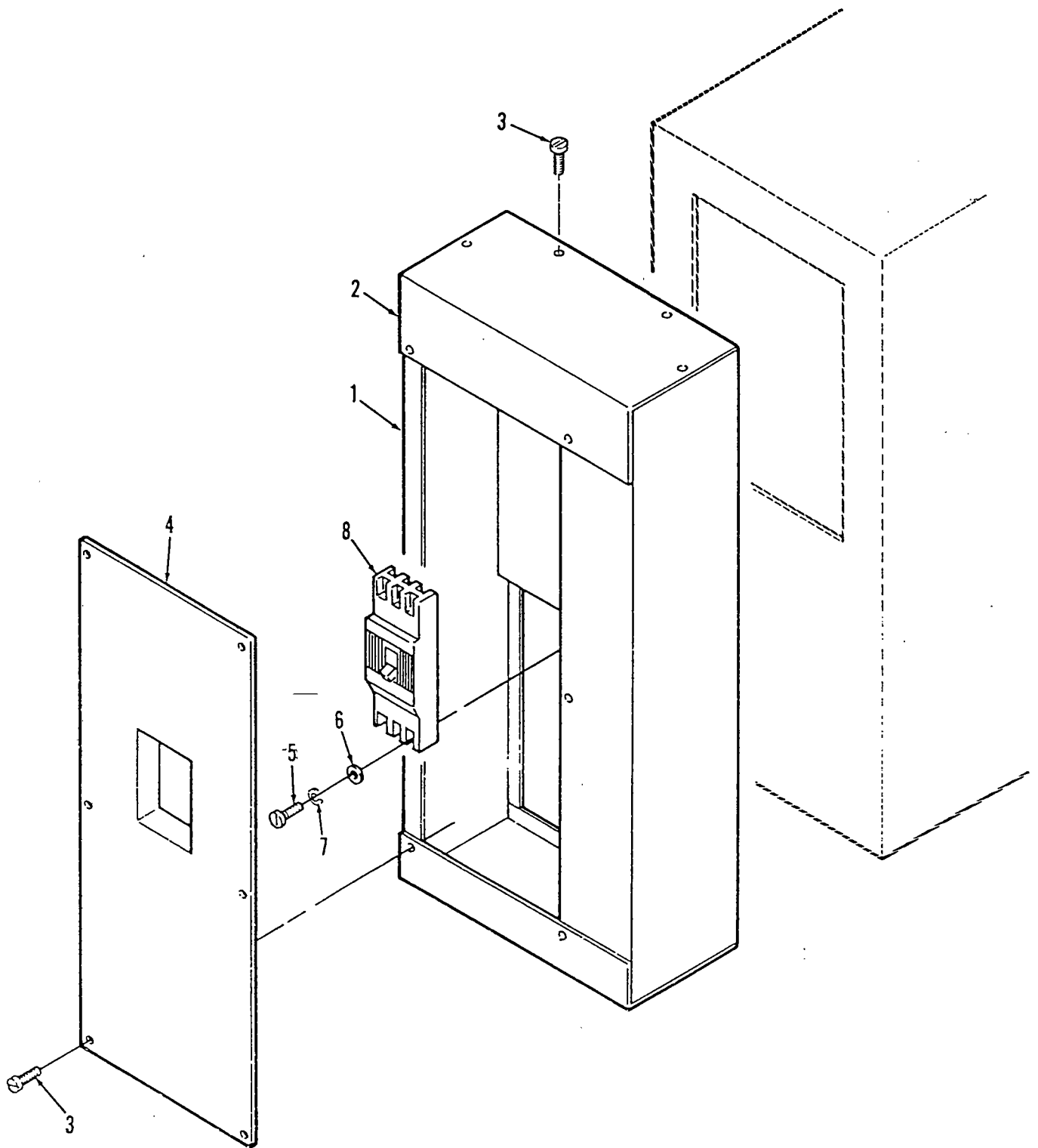
Wattmeter



Wattmeter

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0017	2	Screw, Self-locking - Hex (5/16-18 x 1/2")	8	301-6987	1	Bracket, Mounting
2	850-0045	2	Washer, Lock - Spring (5/16")	9	338-1936	1	Harness, Wiring
3	862-0014	2	Nut, Hex (5/16-18)	10	302-1722	1	Wattmeter (Less Dial) - Begin Spec D
4	860-0008	8	Nut, Hex (#8-32)	11	302-1721-12	1	Dial (Scale 0-400 kW)
5	856-0002	16	Washer, Lock - EIT (#8)	12	302-1102	1	Wattmeter (Less Dial) - Spec A thru C
6	302-1082	1	Transducer, Watt 3 Phase, 60 Hz	13	302-1118	1	Dial (Scale 0-400 kW)
	302-1083	1	3 Phase, 50 Hz				
7	402-0078	4	Mount, Vibration				

Circuit Breaker
Begin Spec D



Circuit Breaker Begin Spec D

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	301-9778	1	Box, Breaker	320-1480-11	1	500 Amp	
2	301-9779	2	Panel, Breaker	320-1480-12	1	600 Amp	
3	821-0010	8	Screw, Self-locking - Hex (1/4-20 x 1/2")	320-1481-07	1	700 Amp	
4			Cover, Box - Circuit Breaker	320-1481-08	1	800 Amp	
	301-9781	1	3" x 4" Breaker Hole	320-1481-09	1	1000 Amp	
	301-9793	1	2-1/2" x 3-5/8" Breaker Hole	320-1481-10	1	1200 Amp	
5			Screw, Mounting	320-1484-09	1	400 Amp	With 480 VAC Shunt Trip
	812-0157	4	400 - 600 Amp Breaker	320-1484-10	1	450 Amp	
	800-0031	4	700 - 1200 Amp Breaker	320-1484-11	1	500 Amp	
6			Washer, Flat	320-1484-12	1	600 Amp	
	526-0108	4	400 - 600 Amp Breaker	320-1485-07	1	700 Amp	
	526-0115	4	700 - 1200 Amp Breaker	320-1485-08	1	800 Amp	
7			Washer, Lock	320-1485-09	1	1000 Amp	
	850-0040	4	400 - 600 Amp Breaker	320-1485-10	1	1200 Amp	
	850-0045	4	700 - 1200 Amp Breaker				With 12 VDC Shunt Trip & Auxiliary Contacts
8			Breaker, Circuit - 3 Pole - Standard	320-1488-09	1	400 Amp	
	320-1460-09	1	400 Amp	320-1488-10	1	450 Amp	
	320-1460-10	1	450 Amp	320-1488-11	1	500 Amp	
	320-1460-11	1	500 Amp	320-1488-12	1	600 Amp	
	320-1460-12	1	600 Amp	320-1489-07	1	700 Amp	
	320-1461-07	1	700 Amp	320-1489-08	1	800 Amp	
	320-1461-08	1	800 Amp	320-1489-09	1	1000 Amp	
	320-1461-09	1	1000 Amp	320-1489-10	1	1200 Amp	
	320-1461-10	1	1200 Amp				With 24 VDC Shunt Trip & Auxiliary Contacts
			With Auxiliary Contacts	320-1491-09	1	400 Amp	
	320-1464-09	1	400 Amp	320-1491-10	1	450 Amp	
	320-1464-10	1	450 Amp	320-1491-11	1	500 Amp	
	320-1464-11	1	500 Amp	320-1491-12	1	600 Amp	
	320-1464-12	1	600 Amp	320-1492-07	1	700 Amp	
	320-1465-07	1	700 Amp	320-1492-08	1	800 Amp	
	320-1465-08	1	800 Amp	320-1492-09	1	1000 Amp	
	320-1465-09	1	1000 Amp	320-1492-10	1	1200 Amp	
	320-1465-10	1	1200 Amp				With 120 VAC Shunt Trip & Auxiliary Contacts
			With 12 VDC Shunt Trip	320-1495-09	1	400 Amp	
	320-1468-09	1	400 Amp	320-1495-10	1	450 Amp	
	320-1468-10	1	450 Amp	320-1495-11	1	500 Amp	
	320-1468-11	1	500 Amp	320-1495-12	1	600 Amp	
	320-1468-12	1	600 Amp	320-1496-07	1	700 Amp	
	320-1469-07	1	700 Amp	320-1496-08	1	800 Amp	
	320-1469-08	1	800 Amp	320-1496-09	1	1000 Amp	
	320-1469-09	1	1000 Amp	320-1496-10	1	1200 Amp	
	320-1469-10	1	1200 Amp				With 240 VAC Shunt Trip & Auxiliary Contacts
			With 24 VDC Shunt Trip	320-1500-09	1	400 Amp	
	320-1472-09	1	400 Amp	320-1500-10	1	450 Amp	
	320-1472-10	1	450 Amp	320-1500-11	1	500 Amp	
	320-1472-11	1	500 Amp	320-1500-12	1	600 Amp	
	320-1472-12	1	600 Amp	320-1501-07	1	700 Amp	
	320-1473-07	1	700 Amp	320-1501-08	1	800 Amp	
	320-1473-08	1	800 Amp	320-1501-09	1	1000 Amp	
	320-1473-09	1	1000 Amp	320-1501-10	1	1200 Amp	
	320-1473-10	1	1200 Amp				With 480 VAC Shunt Trip & Auxiliary Contacts
			With 120 VAC Shunt Trip	320-1504-09	1	400 Amp	
	320-1476-09	1	400 Amp	320-1504-10	1	450 Amp	
	320-1476-10	1	450 Amp	320-1504-11	1	500 Amp	
	320-1476-11	1	500 Amp	320-1504-12	1	600 Amp	
	320-1476-12	1	600 Amp	320-1505-07	1	700 Amp	
	320-1477-07	1	700 Amp	320-1505-08	1	800 Amp	
	320-1477-08	1	800 Amp	320-1505-09	1	1000 Amp	
	320-1477-09	1	1000 Amp	320-1505-10	1	1200 Amp	
	320-1477-10	1	1200 Amp				
			With 240 VAC Shunt Trip				
	320-1480-09	1	400 Amp				
	320-1480-10	1	450 Amp				