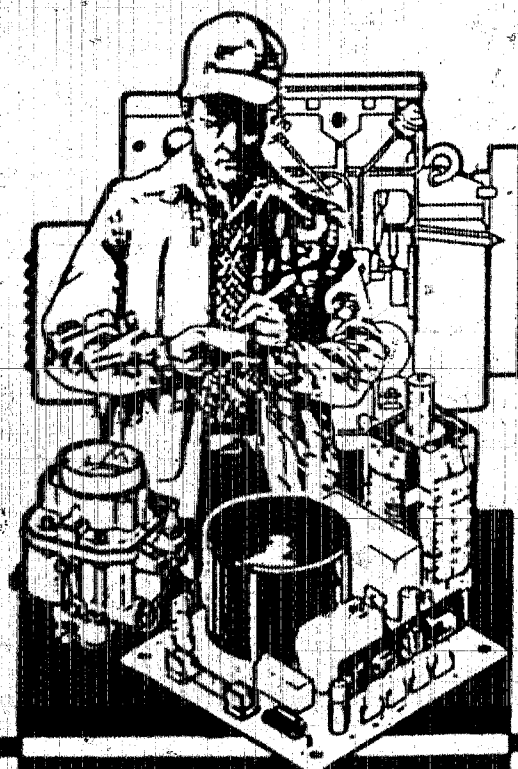


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# Onan

## Parts Manual 350 kW DFN GenSet



**Onan Service Parts**

960-0221

1-87 (Spec A-D)

Replaces 1-82 (Spec A-C)

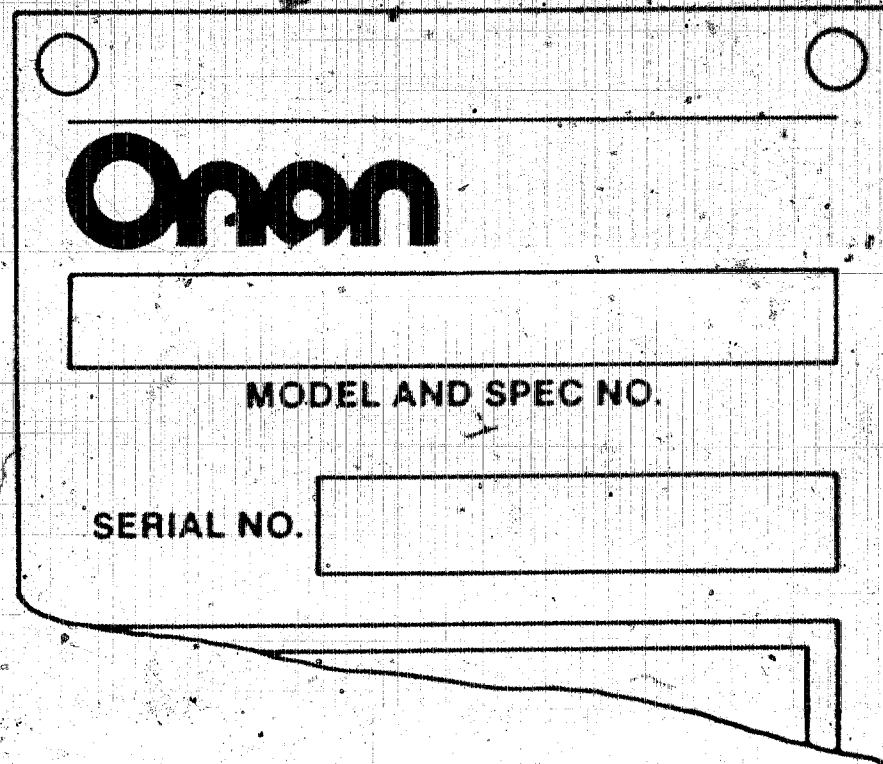
Printed in U.S.A.



## 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 diagram of an Onan nameplate. It is a rectangular plate with two circular mounting holes at the top. The word "Onan" is printed in a large, bold, stylized font. Below it is a horizontal rectangular box labeled "MODEL AND SPEC NO.". Below that is another horizontal rectangular box labeled "SERIAL NO.". The bottom right corner of the plate is cut off at an angle. The number "M-1149" is printed in the bottom right corner of the diagram.

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
290.0 DFN - */#0 350.0 DFN - */#0	290,000 WATTS 350,000 WATTS	1500 RPM 1800 RPM	24 VDC 24 VDC

### Electrical Data Table

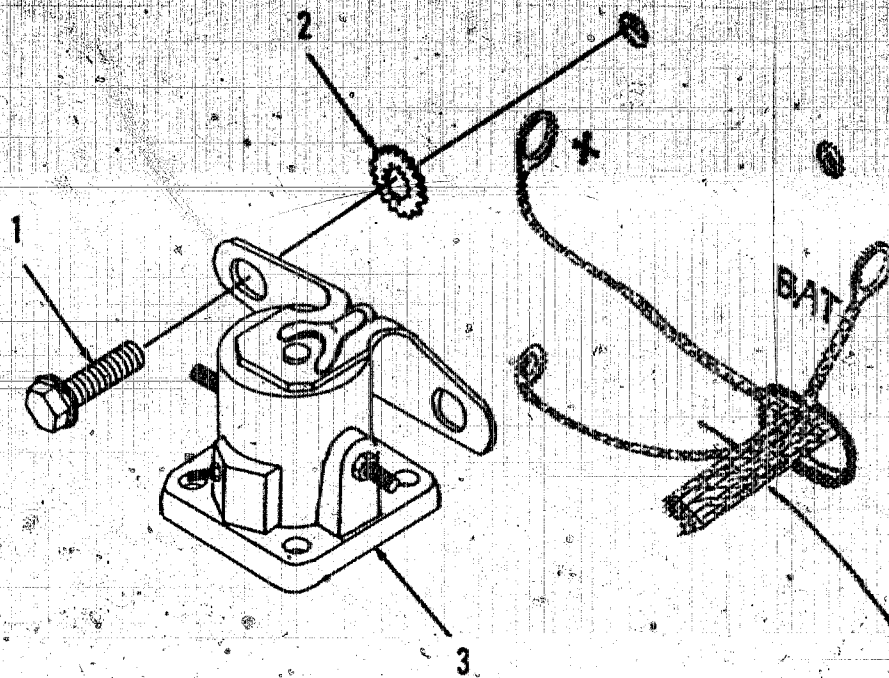
*VOLTAGE CODE	VOLTS	HERTZ	WIRE	PHASE	NOTES
5D	120/240	60	4	3	
6D	240/480	60	4	3	
7	220/380	60	4	3	
9X	347/600	60	4	3	
17	120/208	60	12	3	
	127/220	60	12	3	
	139/240	60	12	3	
	240/416	60	12	3	
	254/440	60	12	3	
	277/480	60	12	3	
517	110/190	50	12	3	
	115/200	50	12	3	
	120/208	50	12	3	
	127/220	50	12	3	
	220/380	50	12	3	
	230/400	50	12	3	
	240/416	50	12	3	
	254/440	50	12	3	

- \* - Voltage Codes follow Model Letter designations.
- # - Specification Number: Number 1 is Standard, all others indicate variations.
- 0 - Specification Letter: Letter advances (A to B, B to C, etc) with major manufacturing changes.
- The Stators are Reconnectible.

## 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 the set, for assistance in ordering the replacement parts.

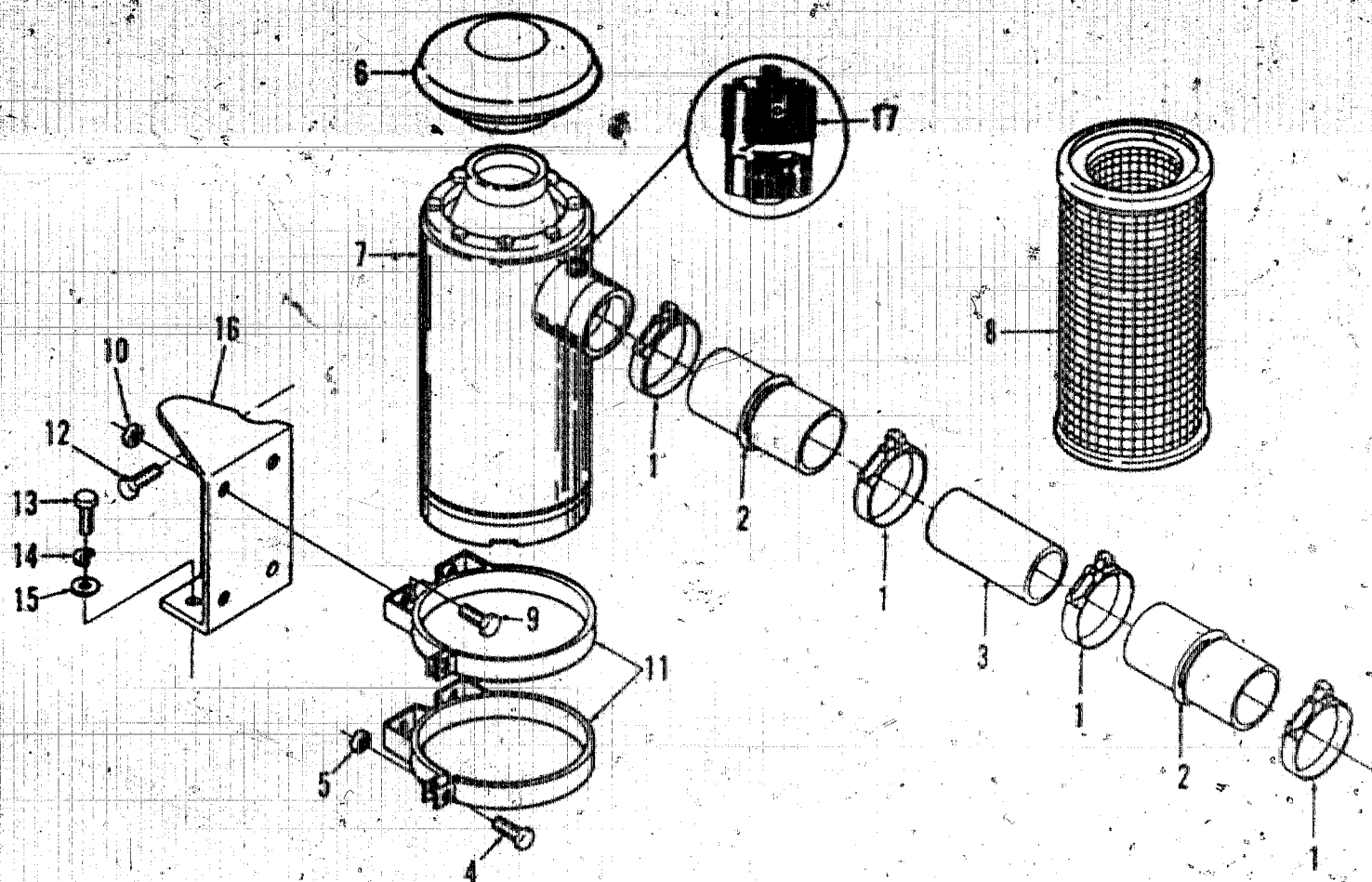
Start Solenoid  
Begin Spec D



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 Begin Spec D

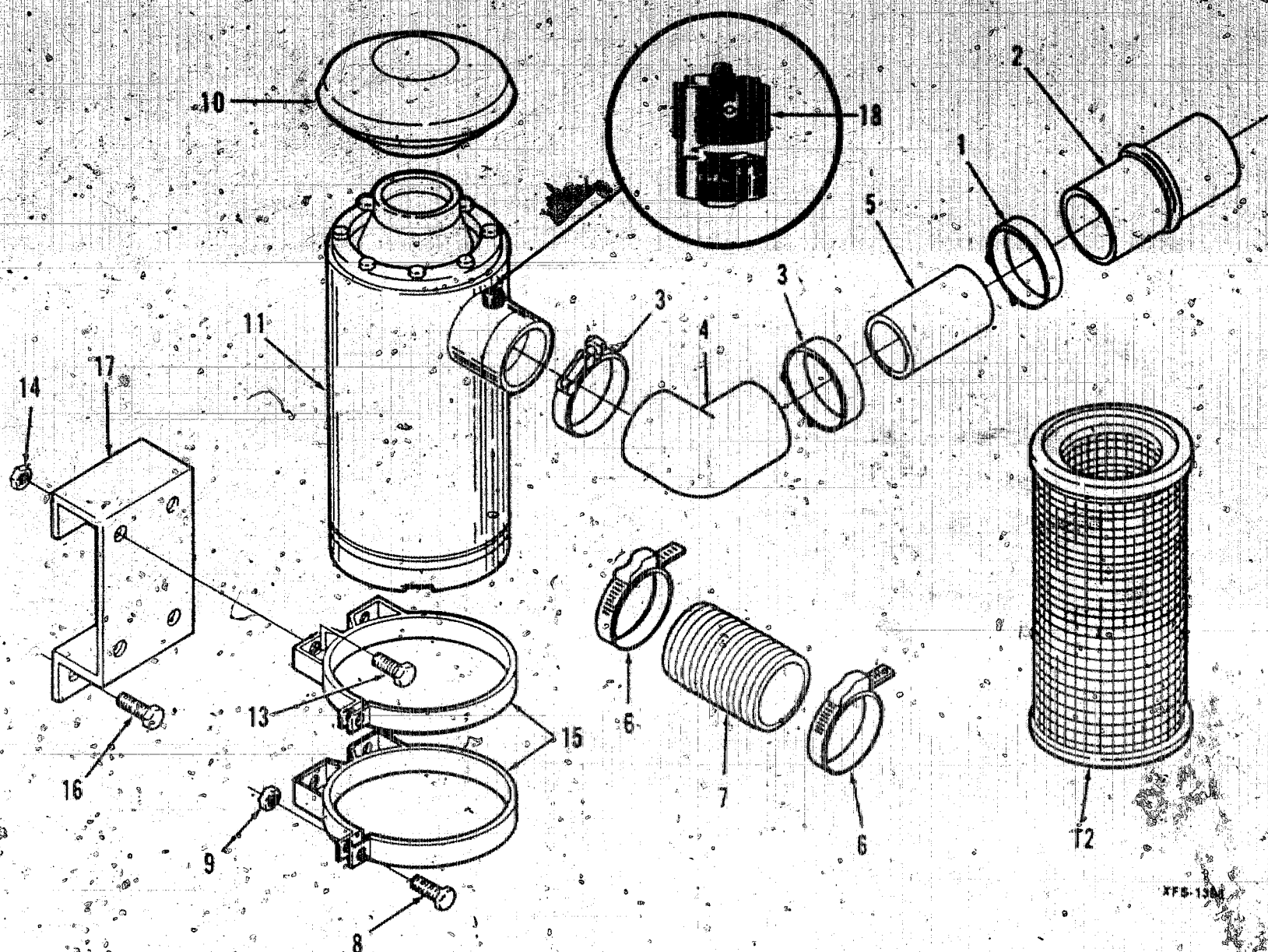


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REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0863	2	Clamp, Hose	9	821-0029	4	Screw, Self-locking - Hex (3/8-16 x 3/4")
2	503-0806	1	Hose	10	870-0281	4	Nut, Self-locking - Hex (3/8-16)
3	140-1578	1	Tube	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	528-0032	2	Washer, Flat (7/16")
8	140-1376	1	Element	16	140-1822	1	Bracket, Mounting
				17	140-1548	1	Indicator, Service



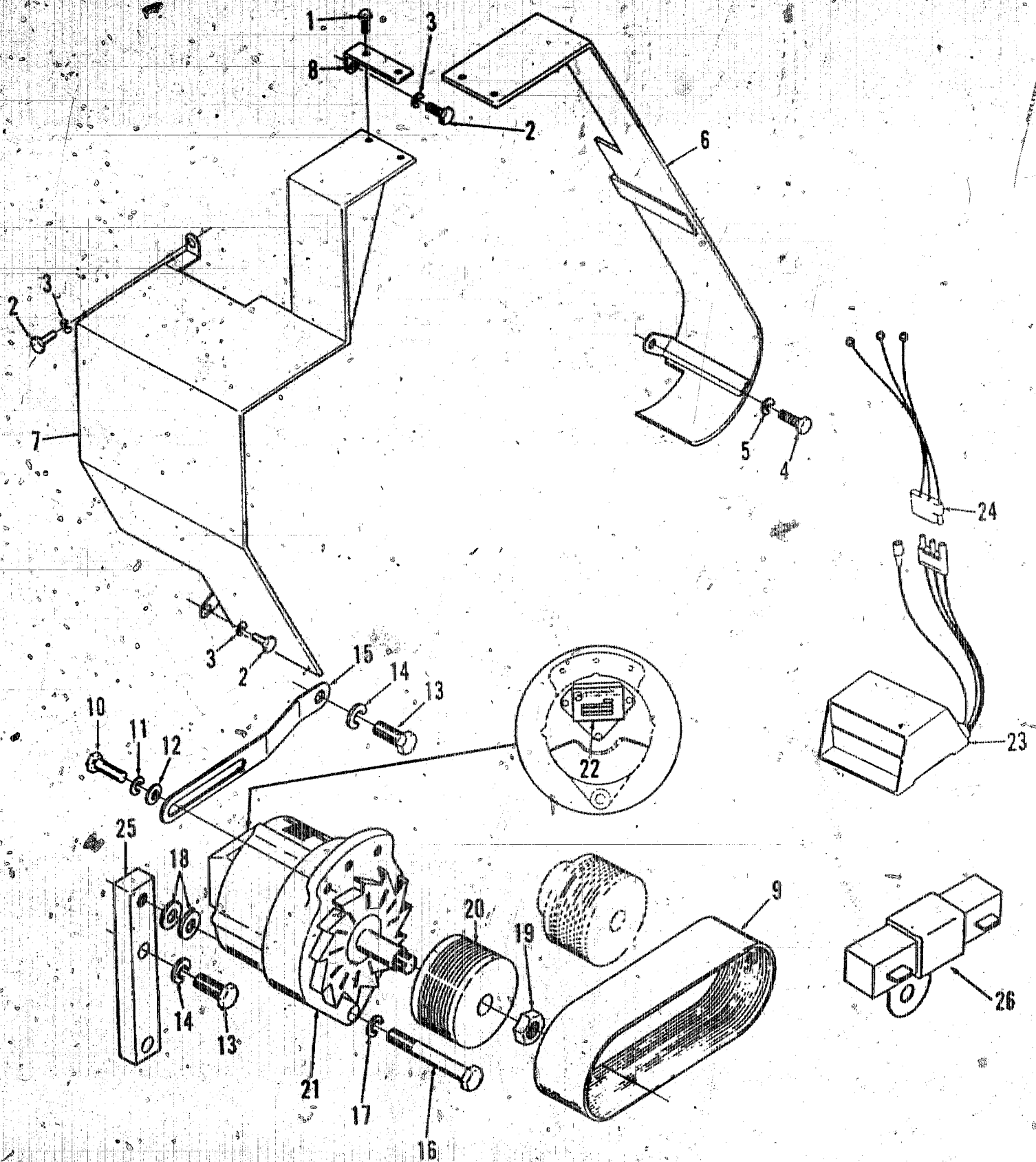
# **Air Cleaner Spec A Thru C**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0863	2	*Clamp, Hose	11	140-1346	1	Cleaner, Air (Includes Element)
2	503-0806	1	*Hose	12	140-1376	1	Element
3	503-0988	2	*Clamp, Hose	13	821-0029	5	Screw, Self-locking - Hex (3/8-16 x 3/4")
4	140-1415	1	*Elbow, Hose 90 Degree	14	870-0281	5	Nut, Self-locking - Hex
5	140-1816	1	*Tube, Air	15	140-1345	2	Band, Mounting
6	503-0748	2	Clamp, Hose (Thru 1981)	16	821-0029	2	Screw, Self-locking - Hex (3/8-16 x 3/4")
7	503-0641	1	Hose, Bulk - Order by Foot (4 Feet Required) (Thru 1981)	17	140-1372	1	Bracket, Mounting
8	800-0032	2	Screw, Cap - Hex Head (5/16-18 x 1-3/4")	18	140-1548	1	Indicator, Service
9	870-0257	2	Nut, Self-locking - Hex (5/16-18)				
10	140-1347	1	Cap, Air Cleaner				

\* - Used Begin 1982; may be used on sets built prior to 1982 in lieu of items 6 and 7.

Alternator  
Radiator Sets  
Begin September 1981

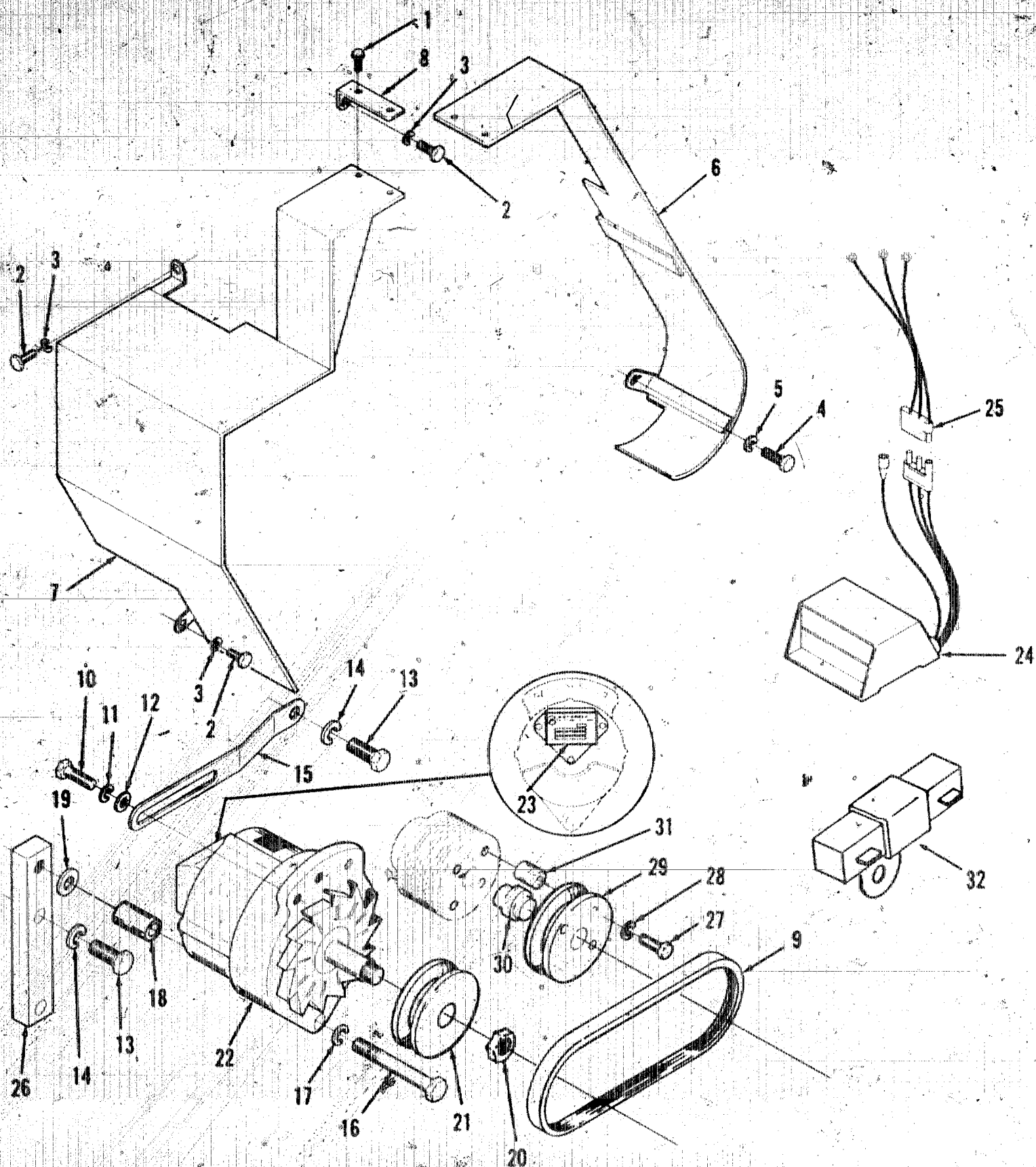


**Alternator  
Radiator Sets  
Begin September 1981**

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	191-0688	1	Alternator Standard
8	191-1151	1	Bracket, Mounting - Belt Guard	22	191-0733	1	Marine Regulator, Voltage (Used with Standard Alternator)
9	511-0119	1	Belt, Drive - Multi Groove	23	191-0548	1	Regulator, Voltage (Used with Marine Alternator)
10	821-0016	1	Screw, Self-locking - Hex Head (5/16-18 x 3/4")	24	191-0681	1	Cable, Electrical (Used with Marine Alternator)
11	850-0045	1	Washer, Lock - Spring (5/16")	25	191-1376	1	Bracket, Mounting
12	526-0022	1	Washer, Flat (5/16")	26	191-0550	1	Resistor (Used with Marine Alternator)
13	800-0090	3	Screw, Cap - Hex Head (1/2-13 x 1")				
14	850-0060	3	Washer, Lock - Spring (1/2")				



Alternator  
Radiator Sets  
December 1980 Thru August 1981



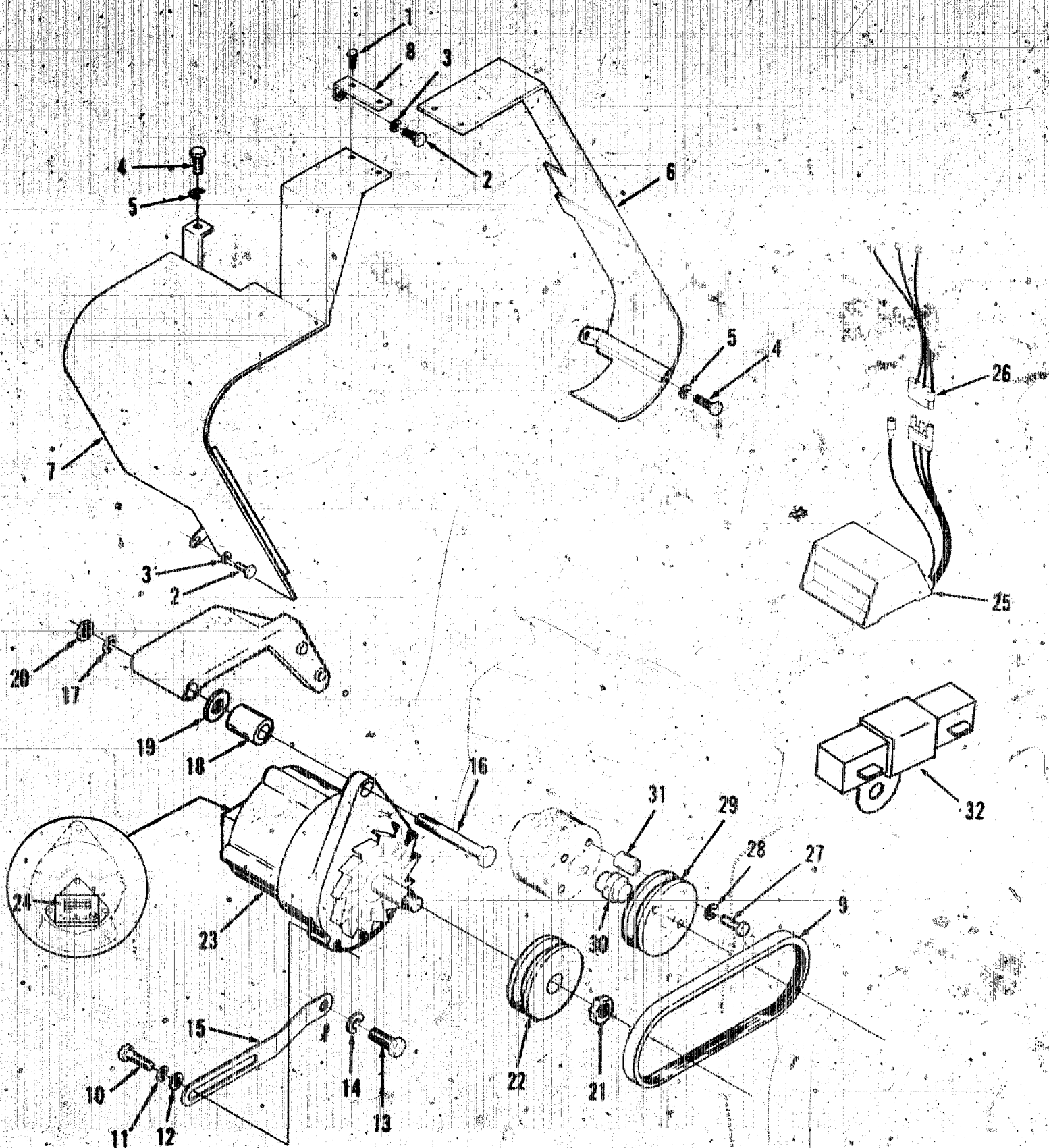
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**Alternator  
Radiator Sets  
December 1980 Thru August 1981**

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")	18	191-1153	1	Spacer, Sleeve
2	800-0048	3	Screw, Cap - Hex Head (3/8-16 x 3/4")	19	528-0219	2	Washer, Flat (1/2")
3	850-0050	3	Washer, Lock - Spring (3/8")	20	858-0007	1	Nut, Hex (5/8-18)
4	800-0069	2	Screw, Cap - Hex Head (7/16-14 x 3/4")	21	191-0781	1	Pulley
5	850-0055	2	Washer, Lock - Spring (7/16")	22	191-0688	1	Alternator
6	191-1149	1	Guard, Belt		191-1258	1	Standard
7	130-1812	1	Guard, Belt	23	191-0733	1	Marine
8	191-1151	1	Bracket, Mounting - Belt Guard	24	191-0548	1	Regulator, Voltage (Used with Standard Alternator)
9	511-0111	1	Belt, Drive - Multi Groove	25	191-0681	1	Regulator, Voltage (Used with Marine Alternator)
10	821-0016	1	Screw, Self-locking - Hex Head (5/16-18 x 3/4")	26	191-1376	1	Cable, Electrical (Used with Marine Alternator)
11	850-0045	1	Washer, Lock - Spring (5/16")	27	800-0069	1	Bracket, Mounting
12	526-0022	1	Washer, Flat (5/16")			2	Screw, Cap - Hex Head (7/16-3/4")
13	800-0090	3	Screw, Cap - Hex Head (1/2-13 x 1")	28	850-0055	2	Washer, Lock - Spring (7/16")
14	850-0060	3	Washer, Lock - Spring (1/2")	29	512-0063	1	Pulley
15	191-1377	1	Bracket, Adjusting	30	191-1164	1	Adapter, Pulley
16	800-0100	1	Screw, Cap - Hex Head (1/2-13 x 3-1/2")	31	191-1165	2	Spacer, Sleeve
17	850-0060	1	Washer, Lock - Spring (1/2")	32	191-0550	1	Resistor (Used with Marine Alternator)



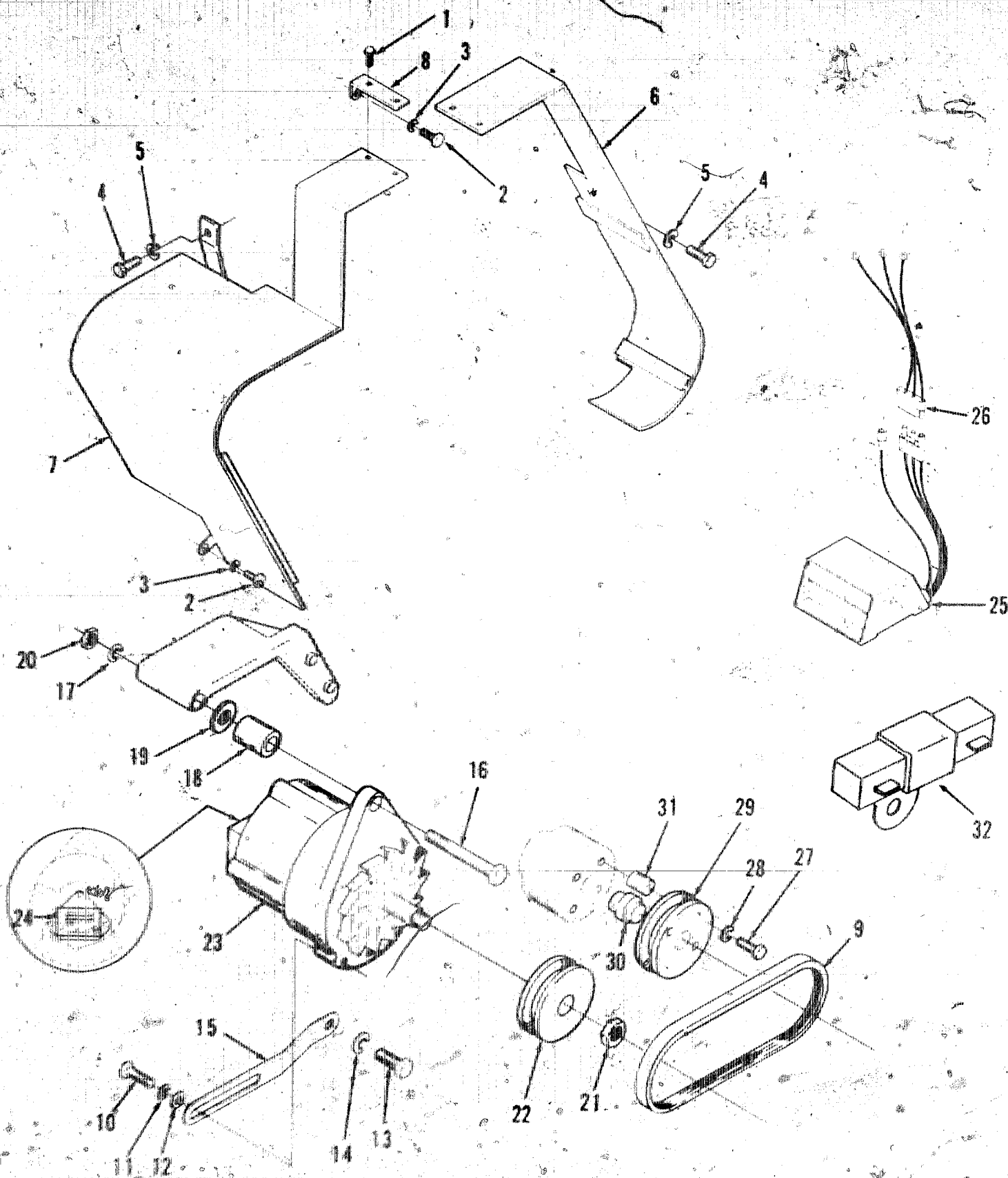
Alternator,  
Radiator Sets  
February 1980 Thru November 1980



**Alternator  
Radiator Sets  
February 1980 Thru November 1980**

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")	18	191-1153	1	Spacer, Sleeve
2	800-0048	2	Screw, Cap - Hex Head (3/6-16 x 3/4")	19	526-0219	2	Washer, Flat (1/2")
3	850-0050	2	Washer, Lock - Spring (3/8")	20	862-0016	1	Nut, Hex (1/2-13)
4	800-0069	3	Screw, Cap - Hex Head (7/16-14 x 3/4")	21	868-0007	1	Nut, Hex (5/8-18)
5	850-0055	3	Washer, Lock - Spring (7/16")	22	191-0781	1	Pulley
6	191-1497	1	Guard, Belt	23	191-0688	1	Alternator Standard
7	191-1518	1	Guard, Belt		191-1258	1	Marine
8	191-1151	1	Bracket, Mounting - Belt Guard	24	191-0733	1	Regulator, Voltage (Used with Standard Alternator)
9	511-0075	1	Belt, Drive - Multi Groove	25	191-0548	1	Regulator, Voltage (Used with Marine Alternator)
10	821-0016	1	Screw, Self-locking - Hex Head (5/16-18 x 3/4")	26	191-0681	1	Cable, Electrical (Used with Marine Alternator)
11	850-0045	1	Washer, Lock - Spring (5/16")	27	800-0069	2	Screw, Cap - Hex Head (7/16-3/4")
12	526-0022	1	Washer, Flat (5/16")	28	850-0055	2	Washer, Lock - Spring (7/16")
13	800-0090	3	Screw, Cap - Hex Head (1/2-13 x 1")	29	512-0063	1	Pulley
14	850-0060	3	Washer, Lock - Spring (1/2")	30	191-1164	1	Adapter, Pulley
15	191-1377	1	Bracket, Adjusting	31	191-1165	2	Spacer, Sleeve
16	800-0100	1	Screw, Cap - Hex Head (1/2-13 x 3-1/2")	32	191-0550	1	Resistor (Used with Marine Alternator)
17	850-0060	1	Washer, Lock - Spring (1/2")				

# Alternator Radiator Sets 1978 Thru January 1980



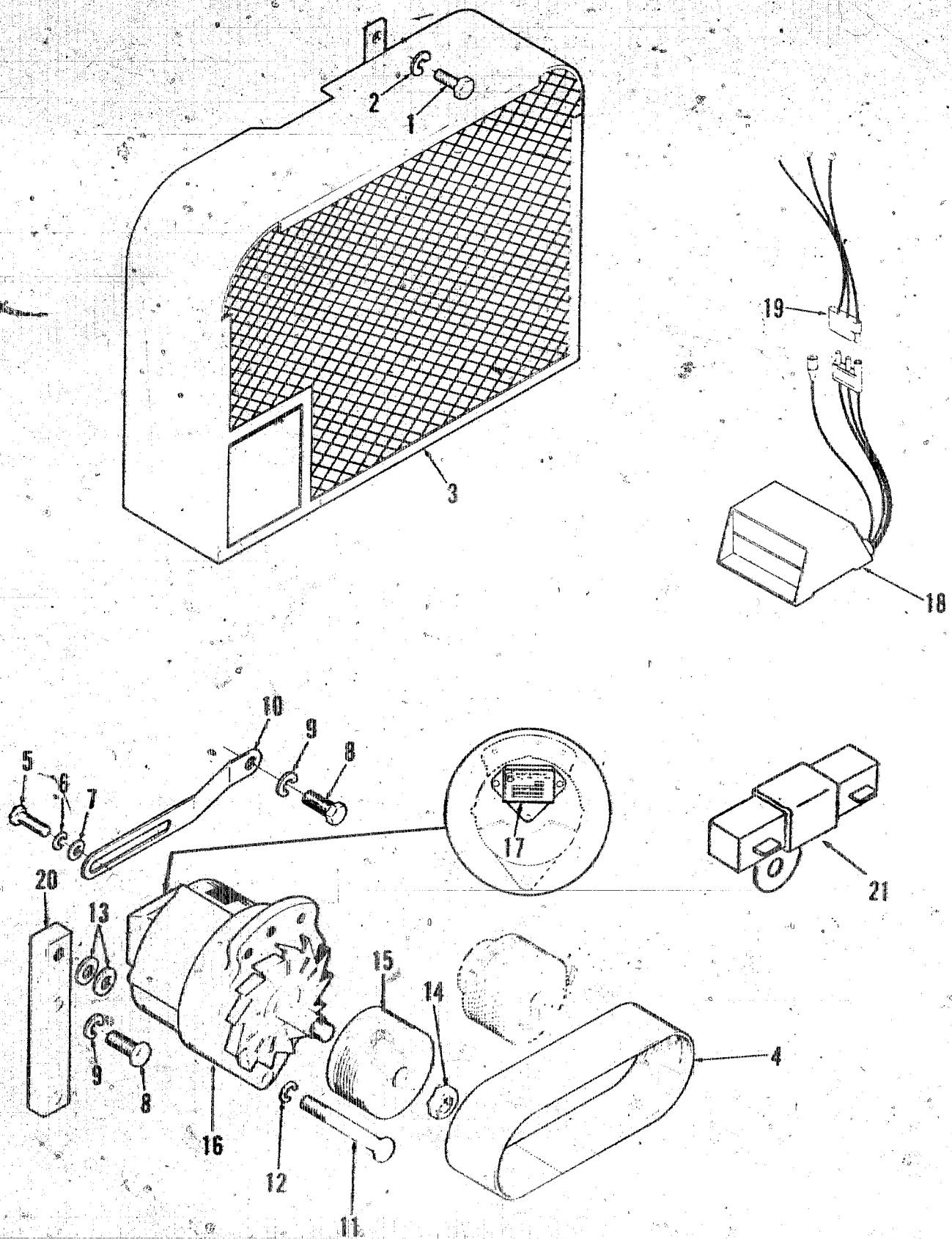
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# **Alternator Radiator Sets 1978 Thru January 1980**

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")	18	191-1153	1	Spacer, Sleeve
2	800-0048	2	Screw, Cap - Hex Head (3/8-16 x 3/4")	19	526-0219	2	Washer, Flat (1/2")
3	850-0050	2	Washer, Lock - Spring (3/8")	20	862-0016	1	Nut, Hex (1/2-13)
4	800-0069	3	Screw, Cap - Hex Head (7/16-14 x 3/4")	21	868-0007	1	Nut, Hex (5/8-18)
5	850-0055	3	Washer, Lock - Spring (7/16")	22	191-0781	1	Pulley
6	191-1149	1	Guard, Belt	23	191-0688	1	Alternator Standard
7	191-1150	1	Guard, Belt		191-1258	1	Marine
8	191-1151	1	Bracket, Mounting - Belt Guard	24	191-0733	1	Regulator, Voltage (Used with Standard Alternator)
9	511-0075	1	Belt, Drive - Multi Groove	25	191-0548	1	Regulator, Voltage (Used with Marine Alternator)
10	821-0016	1	Screw, Self-locking - Hex Head (5/16-18 x 3/4")	26	191-0681	1	Cable, Electrical (Used with Marine Alternator)
11	850-0045	1	Washer, Lock - Spring (5/16")	27	800-0069	2	Screw, Cap - Hex Head (7/16-3/4")
12	526-0022	1	Washer, Flat (5/16")	28	850-0055	2	Washer, Lock - Spring (7/16")
13	800-0090	3	Screw, Cap - Hex Head (1/2-13 x 1")	29	512-0063	1	Pulley
14	850-0060	3	Washer, Lock - Spring (1/2")	30	191-1164	1	Adapter, Pulley
15	191-1377	1	Bracket, Adjusting	31	191-1165	2	Spacer, Sleeve
16	800-0100	1	Screw, Cap - Hex Head (1/2-13 x 3-1/2")	32	191-0550	1	Resistor (Used with Marine Alternator)
17	850-0060	1	Washer, Lock - Spring (1/2")				



Alternator  
Heat Exchanger/Standpipe Sets  
Begin November 1981



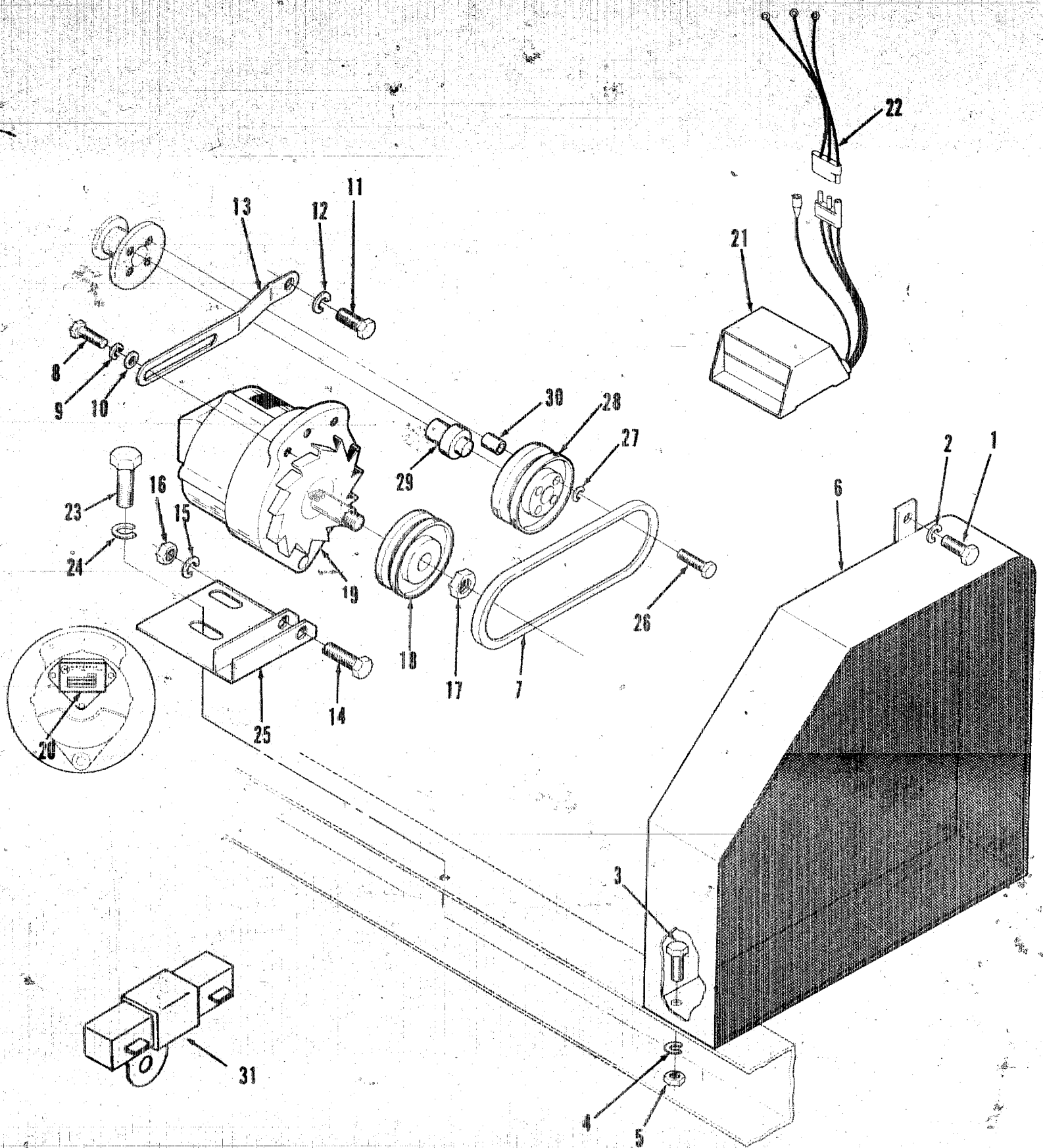
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**Alternator  
Heat Exchanger/Standpipe Sets  
Begin November 1981**

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	191-0688	1	Alternator
5	821-0016	1	Screw, Self-locking - Hex Head (5/16-18 x 3/4")		191-1258	1	Standard
6	850-0045	1	Washer, Lock - Spring (5/16")	17	191-0733	1	Marine
7	526-0022	1	Washer, Flat (5/16")	18	191-0548	1	Regulator, Voltage (Used with Standard Alternator)
8	800-0090	3	Screw, Cap - Hex Head (1/2-13 x 1")	19	191-0681	1	Regulator, Voltage (Used with Marine Alternator)
9	850-0060	3	Washer, Lock - Spring (1/2")			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")				

Alternator  
Heat Exchanger/Standpipe Sets  
1978 Thru October 1981



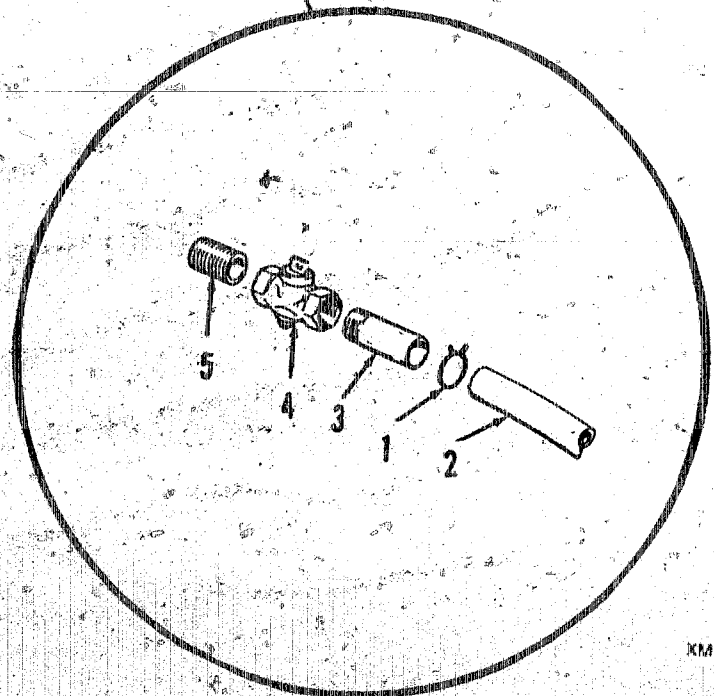
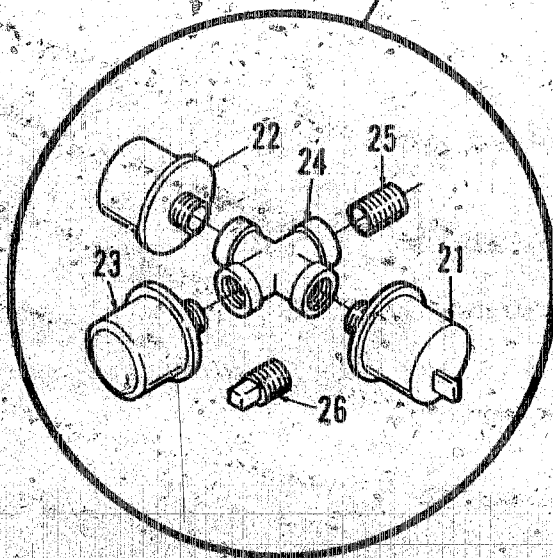
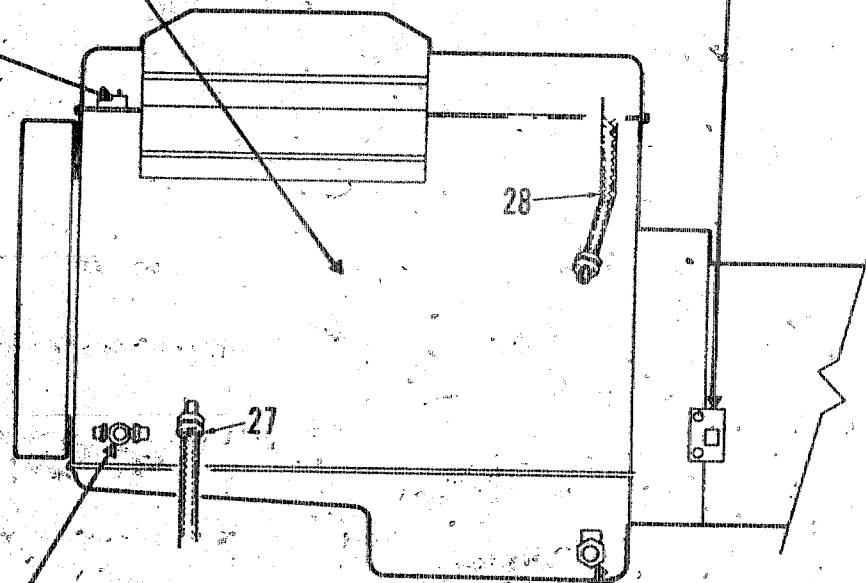
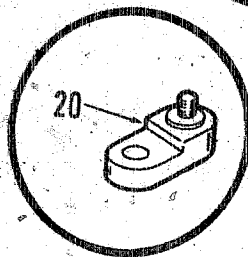
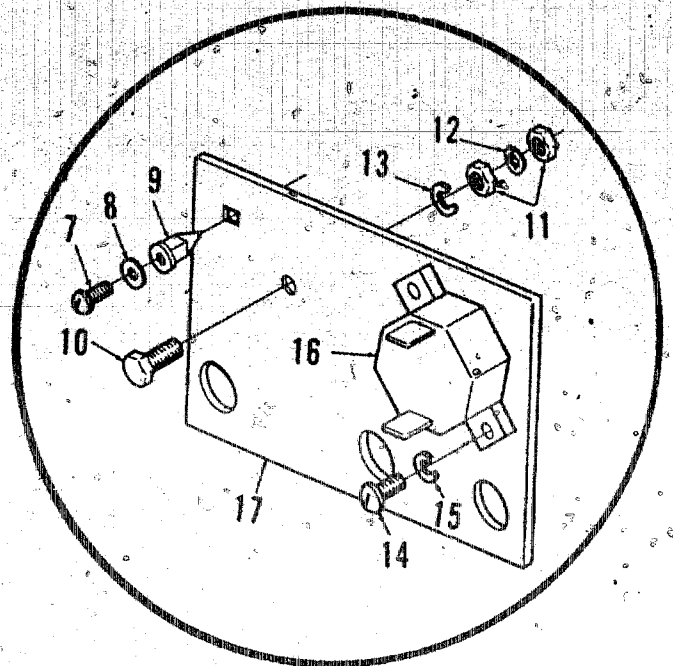
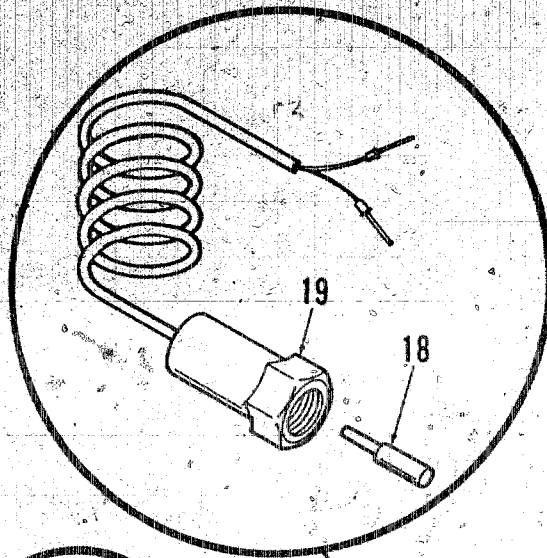
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**Alternator  
Heat Exchanger/Standpipe Sets  
1978 Thru October 1981**

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")	15	191-0781	1	Pulley
2	850-0055	2	Washer, Lock - Spring (7/16")	19	191-0688	1	Alternator
3	800-0028	1	Screw, Cap - Hex Head (5/16-18 x 1")		191-1258	1	Standard
4	850-0045	1	Washer, Lock - Spring (5/16")	20	191-0733	1	Marine
5	862-0015	1	Nut, hex (5/16-18)	21	191-0548	1	Regulator, Voltage (Used with Standard Alternator)
6	*	1	Guard, Belt	22	191-0681	1	Regulator, Voltage (Used with Marine Alternator)
7	511-0075	1	Belt, Drive	23	800-0132	2	Cable, Electrical (Used with Marine Alternator)
8	821-0016	1	Screw, Self-locking - Hex Head (5/16-18 x 3/4")	24	850-0070	2	Screw, Cap - Hex Head (5/8-11 x 1-1/2")
9	850-0045	1	Washer, Lock - Spring (5/16")	25	191-0858	1	Washer, Lock - Spring (5/8")
10	526-0022	1	Washer, Flat (5/16")	26	800-0069	2	Bracket, Mounting
11	800-0090	3	Screw, Cap - Hex Head (1/2-13 x 1")	27	850-0055	2	Screw, Cap - Hex Head (7/16-14 x 3/4")
12	850-0060	3	Washer, Lock - Spring (1/2")	28	512-0063	1	Washer, Lock - Spring (7/16")
13	191-0101	1	Bracket, Adjusting	29	191-1164	1	Pulley
14	800-0094	1	Screw, Cap - Hex Head (1/2-13 x 2")	30	191-1165	2	Adapter, Pulley
15	850-0060	1	Washer, Lock - Spring (1/2")	31	191-0550	1	Spacer, Sleeve
16	862-0016	1	Nut, Hex (1/2-13)				Resistor (Used with Marine Alternator)
17	868-0007	1	Nut, Hex (5/8-18)				

\* - Obsolete, No Longer Available.

# Miscellaneous Engine Parts Right Side



KM 1334

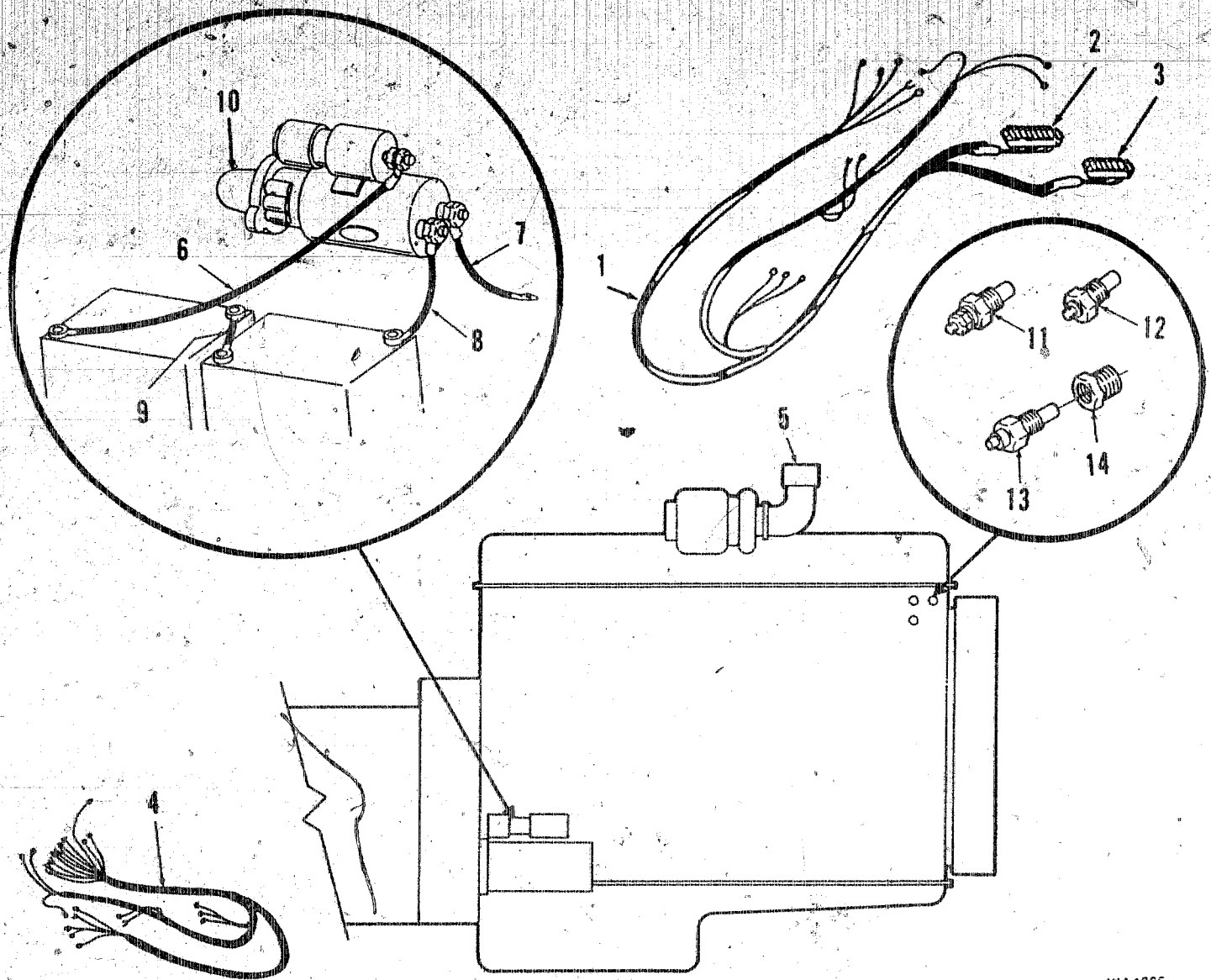
# Miscellaneous Engine Parts Right Side

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
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	505-0703	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.



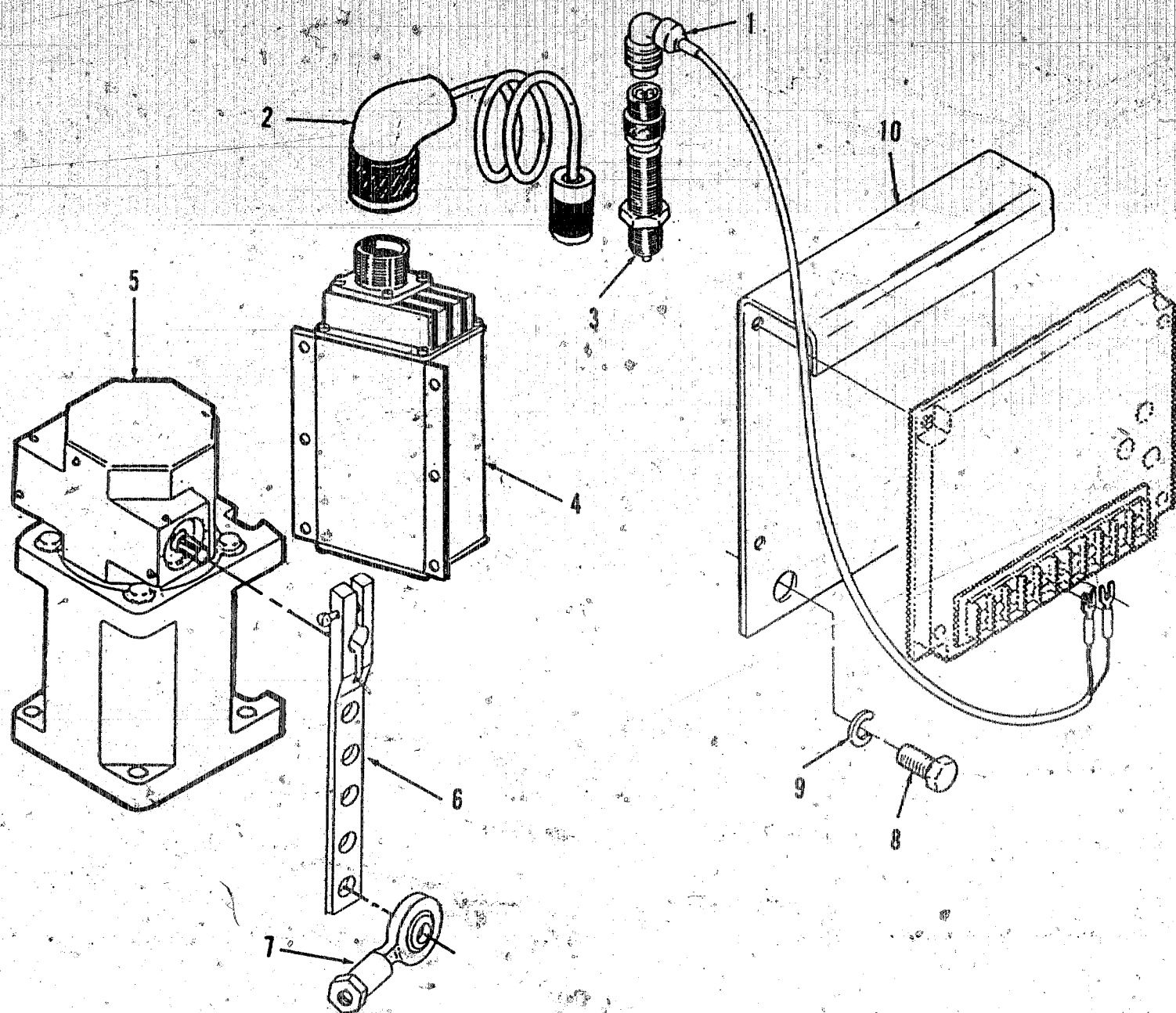
# Miscellaneous Engine Parts Left Side



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	338-0957	1	Harness, Wiring - Spec A Thru C	13	309-0179	1	Switch, Thermostatic - Coolant Temperature - Shutdown (S6)
5	155-1035	1	Elbow, Exhaust	14	505-0117	2	Bushing, Reducer - Flush
6	416-0636	1	Cable, Battery - Positive				
7	416-0632	1	Cable, Electrical - Ground				

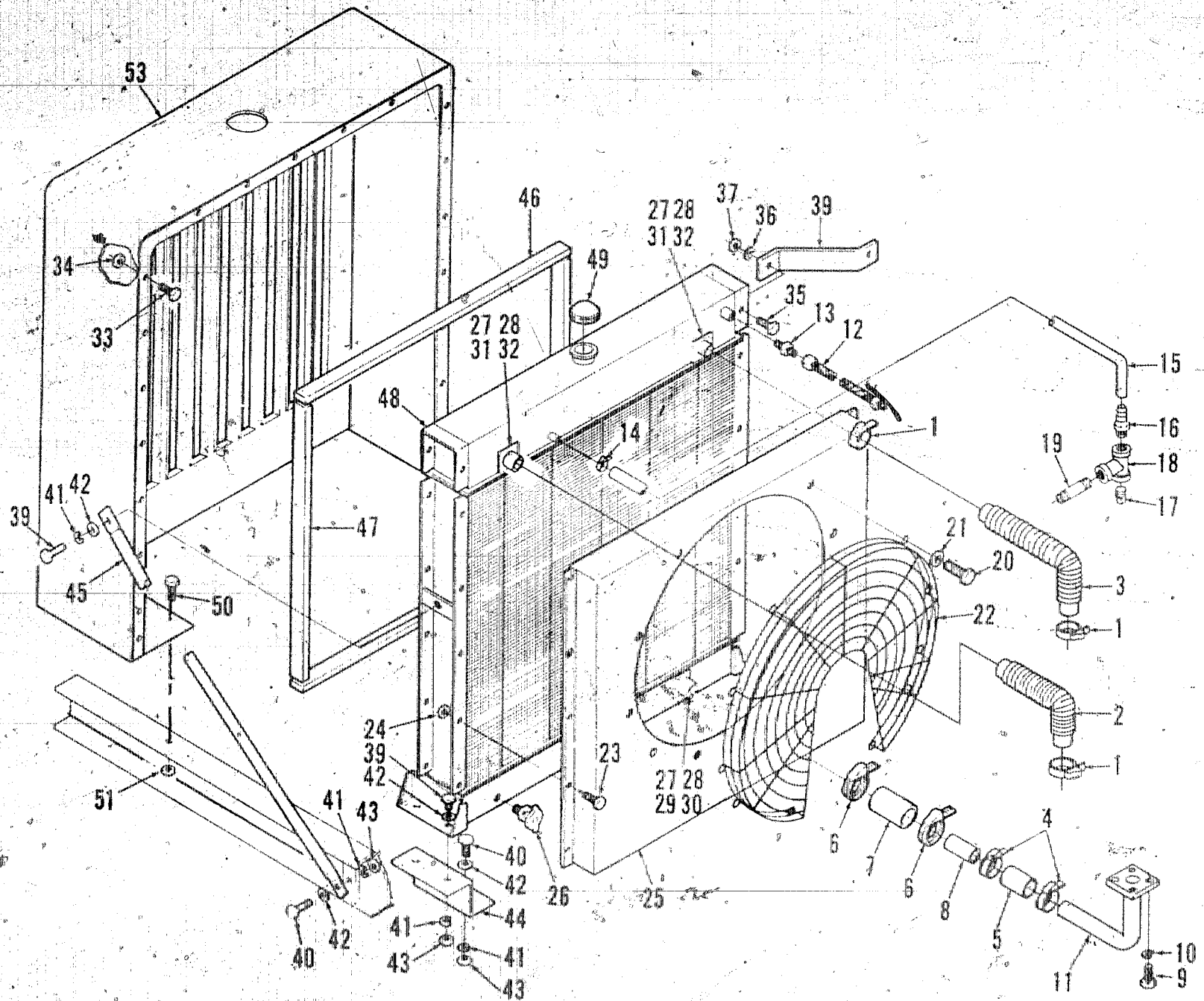
# Electric Governor



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	338-1777	1	Harness, Wiring - Standard - Begin Spec D
2	338-1086	1	Harness, Wiring - Used With Controller #151-0399
3	151-0411	1	Pickup, Magnetic
4	151-0399	1	Controller
5	151-0419	1	Actuator

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
6	151-0441	1	Lever
7	151-0443	2	Joint, Ball
8	800-0151	2	Screw, Cap - Hex Head (3/4-10" x 1")
9	850-0079	2	Washer, Lock - Spring (3/4")
10	150-2007	1	Bracket, Mounting - Control - Begin Spec D

# Cooling System - Radiator



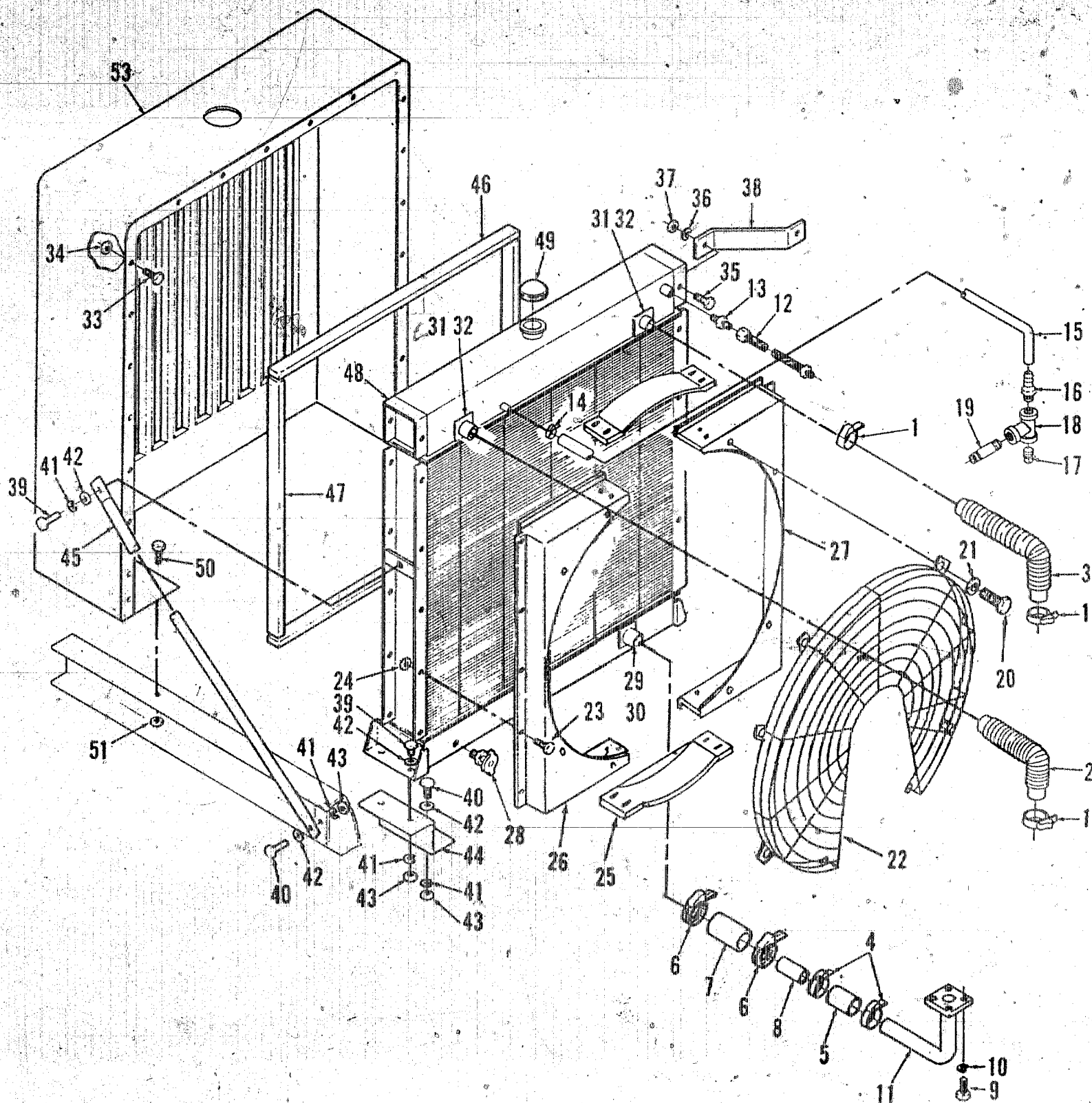
KCS 1154-1

# 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	503-0906	1	Hose	34	870-0257	6	Nut, Self-locking - Hex (5/16-18)
6	503-0612	2	Clamp, Hose	35	800-0090	2	Screw, Cap - Hex Head (1/2-13 x 1")
7	503-1114	1	Hose	36	850-0060	2	Washer, Lock - Spring (1/2")
8	130-1741	1	Tube	37	862-0016	2	Nut, Hex (1/2-13)
9	800-0072	4	Screw, Cap - Hex Head (7/16-14 x 1-1/4")	38	130-0996	2	Brace, Support
10	850-0055	4	Washer, Lock - Spring (7/16")	39	800-0133	6	Screw, Cap - Hex Head (5/8-11 x 1-3/4")
11	130-1030	1	Elbow, Tube	40	800-0131	6	Screw, Cap - Hex Head (5/8-11 x 1-1/4")
12	501-0087	1	Line, Fuel	41	850-0070	12	Washer, Lock - Spring (5/8")
13	502-0184	1	Connector	42	526-0112	24	Washer, Flat (5/8")
14	503-0429	2	Clamp, Hose	43	862-0007	12	Nut, Hex (5/8-11)
15	503-0924	1	Hose	44	130-1004	2	Bracket, Support
16	505-0759	1	Adapter	45	130-0994	2	Brace, Support
17	505-0140	1	Plug, Pipe	46	130-1007	2	Strip, Foam
18	505-0304	1	Tee, Pipe	47	130-1006	2	Strip, Foam
19	505-0087	1	Nipple, Pipe	48	130-1011	1	Radiator (Include Cap)
20	821-0018	8	Screw, Self-locking - Hex (1/4-20 x 5/8")	49	130-0449	1	Cap, Radiator
21	526-0018	8	Washer, Flat (1/4")	50	800-0030	4	Screw, Cap - Hex Head (5/16-18 x 1-1/4")
22	130-1013	1	Guard, Fan	51	870-0257	4	Nut, Self-locking - Hex (5/16-18)
23	821-0029	10	Screw, Self-locking - Hex (3/8-16 x 3/4")	52			Bracket
24	870-0281	10	Nut, Self-locking - Hex (3/8-16)		405-2236	1	Right Side
25	130-1003	1	Shroud, Fan		405-2237	1	Left Side
26	504-0003	1	Cock, Drain	53	405-2228	1	Panel, Front
27	800-0072	12	Screw, Cap - Hex Head (7/16-14 x 1-1/4")				
28	850-0055	12	Washer, Lock - Spring (7/16")				
29	130-1001	1	Adapter, Outlet				



# Cooling System - Hi Ambient



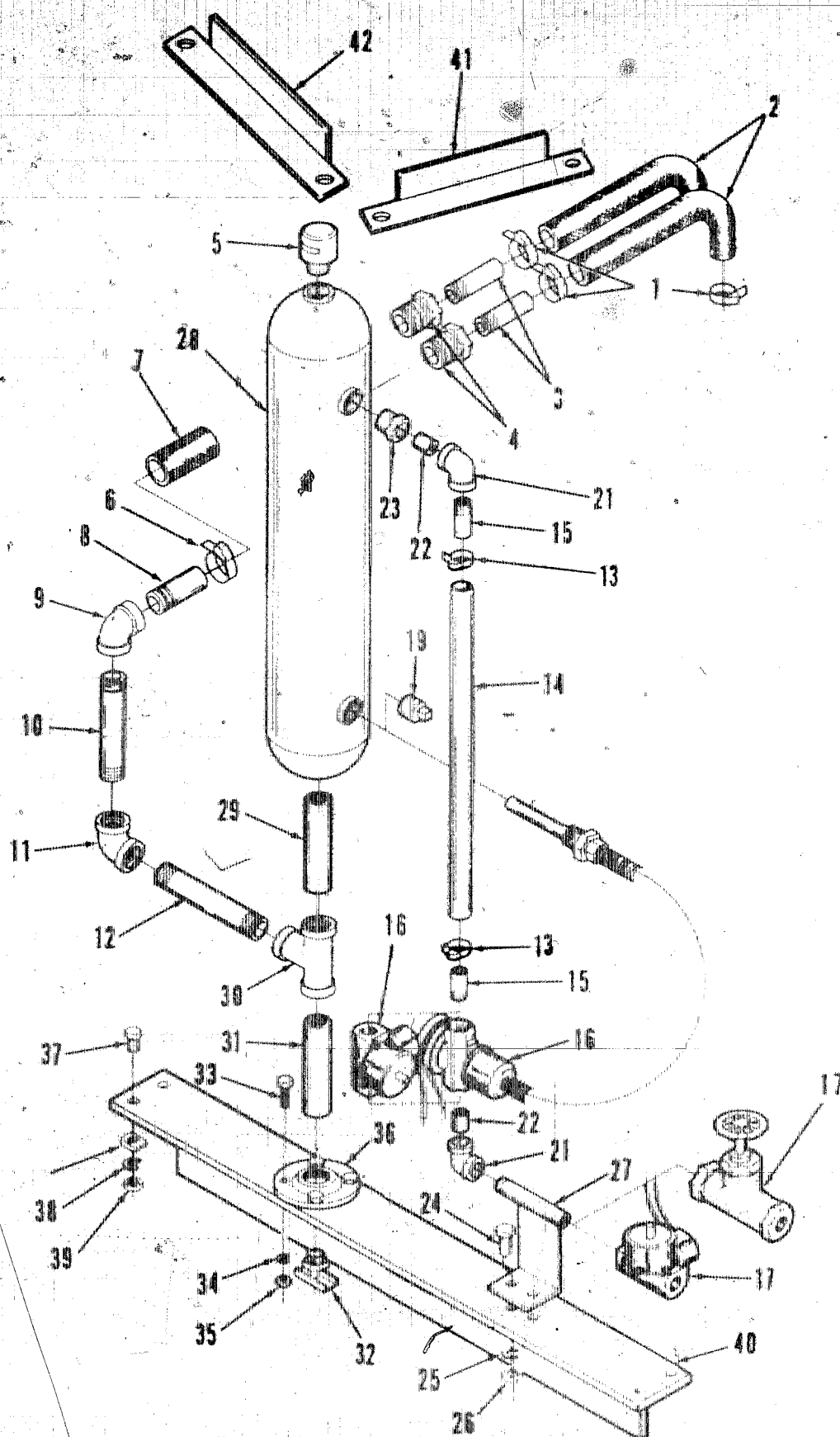
XCSI154-1A



# 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	34	870-0257	6	Nut, Self-locking - Hex (5/16-18)
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	800-0153	6	Screw, Cap - Hex Head (5/8-11 x 1-3/4")
13	502-0184	1	Connector	40	800-0131	6	Screw, Cap - Hex Head (5/8-11 x 1-1/4")
14	503-0429	2	Clamp, Hose	41	850-0070	12	Washer, Lock - Spring (5/8")
15	503-0924	1	Hose	42	526-0112	24	Washer, Flat (5/8")
16	505-0759	1	Adapter	43	862-0007	12	Nut, Hex (5/8-11)
17	505-0140	1	Plug, Pipe	44	130-1004	2	Bracket, Support
18	505-0304	1	Tee, Pipe	45	130-0994	2	Brace, Support
19	505-0087	1	Nipple, Pipe	46	130-1007	2	Strip, Foam
20	821-0018	8	Screw, Self-locking - Hex (1/4-20 x 5/8")	47	130-1006	2	Strip, Foam
21	526-0018	8	Washer, Flat (1/4")	48	130-2181	1	Radiator (Include Cap)
22	130-1347	1	Guard, Fan	49	130-0449	1	Cap, Radiator
23	821-0029	10	Screw, Self-locking - Hex (3/8-16 x 3/4")	50	800-0030	4	Screw, Cap - Hex Head (5/16-18 x 1-1/4")
24	870-0281	10	Nut, Self-locking - Hex (3/8-16)	51	870-0257	4	Nut, Self-locking - Hex (5/16-18)
25	130-1344	2	Bridge	52			Bracket
	821-0016	8	Screw (1/4-20 x 5/8")		405-2236	1	Right Side
	526-0018	8	Washer, Flat (1/4")		405-2237	1	Left Side
26	130-1346	1	Shroud, Half	53	405-2226	1	Panel, Front
27	130-1345	1	Shroud, Half				
28	504-0003	1	Cock, Drain				
29	130-1001	1	Adapter, Outlet				
	800-0072	4	Screw (7/16-14 x 1-1/4")				
	850-0055	4	Washer, Lock (7/17")				

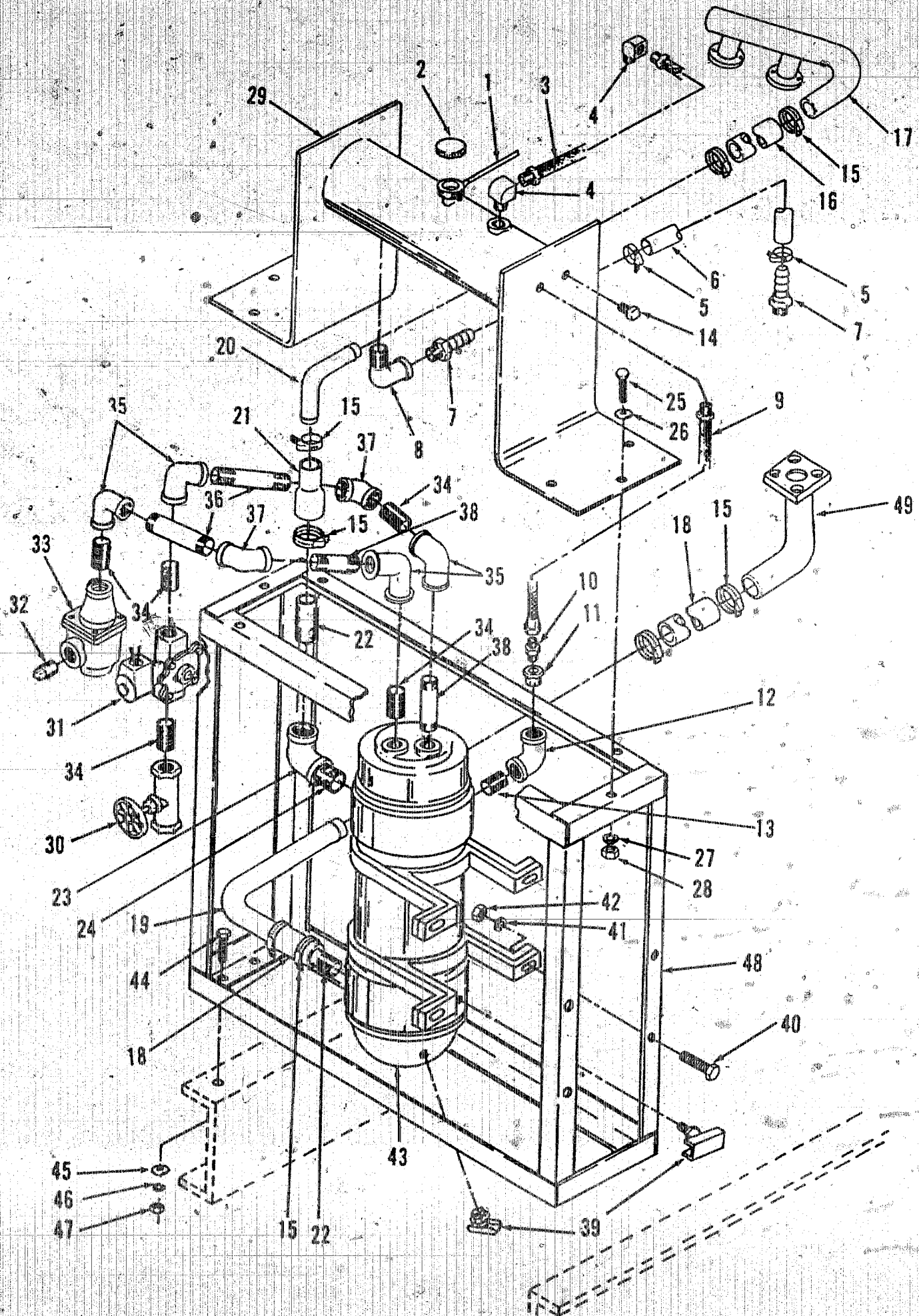
# Cooling System - Standpipe



# Cooling System - Standpipe

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0059	4	Clamp, Hose	24	800-0006	2	Screw, cap - Hex Head (1/4-20 x 7/8")
2	503-0334	2	Hose	25	850-0040	2	Washer, Lock - Spring (1/4")
3	505-0204	2	Nipple, Pipe - Half	26	862-0001	2	Nut, Hex (1/4-20)
4	505-0207	2	Bushing, Reducer	27	110-1168	1	Nipple, Support
5	504-0062	1	Valve, Vacuum Relief	28	130-1169	1	Tank, Standpipe
6	503-0622	2	Clamp, Hose	29	505-0679	1	Nipple, Pipe
7	503-0815	1	Hose	30	505-0669	1	Tee, Pipe
8	505-0603	1	Nipple, Pipe	31	505-0382	1	Nipple, Pipe - Close
9	505-0453	1	Elbow, Pipe - 90 Degree	32	504-0006	1	Cock, Drain
10	505-0842	1	Nipple, Pipe	33	800-0091	1	Screw, Cap - Hex Head (1/2-13 x 1-1/4")
11	505-0453	1	Elbow, Pipe - 90 Degree	34	850-0060	1	Washer, Lock - Spring (1/2")
12	505-0832	1	Nipple, Pipe	35	862-0005	1	Nut, Hex (1/2-13)
13	503-0011	2	Clamp, Hose	36	130-0740	1	Base
14	503-0359	1	Hose	37	800-0092	4	Screw, Cap - Hex Head (1/2-13 x 1-1/2")
15	505-0437	2	Nipple, Pipe - Half	38	850-0060	4	Washer, Lock - Spring (1/2")
16	309-0242	1	Valve, Control	39	862-0005	4	Nut, Hex (1/2-13)
	307-0839	1	Temperature Regulating Solenoid	40	130-1168	1	Support, Mounting - Standpipe
17	307-0839	1	Valve, Control	41	130-1688	1	Brace
	504-0090	1	Solenoid	42	130-1689	1	Brace
19	505-0140	1	Manual		800-0028	2	Screw, Cap - Hex Head (5/16-18 x 1")
20	505-0129	1	Plug, Pipe		526-0041	2	Washer, Flat (5/16")
21	505-0042	2	Bushing, Reducer		862-1015	2	Nut, Hex (5/16-18)
22	505-0258	2	Elbow, Pipe - 90 Degree				
23	505-0270	1	Nipple, Pipe - Close				
			Bushing, Reducer				

# Cooling System - Heat Exchanger

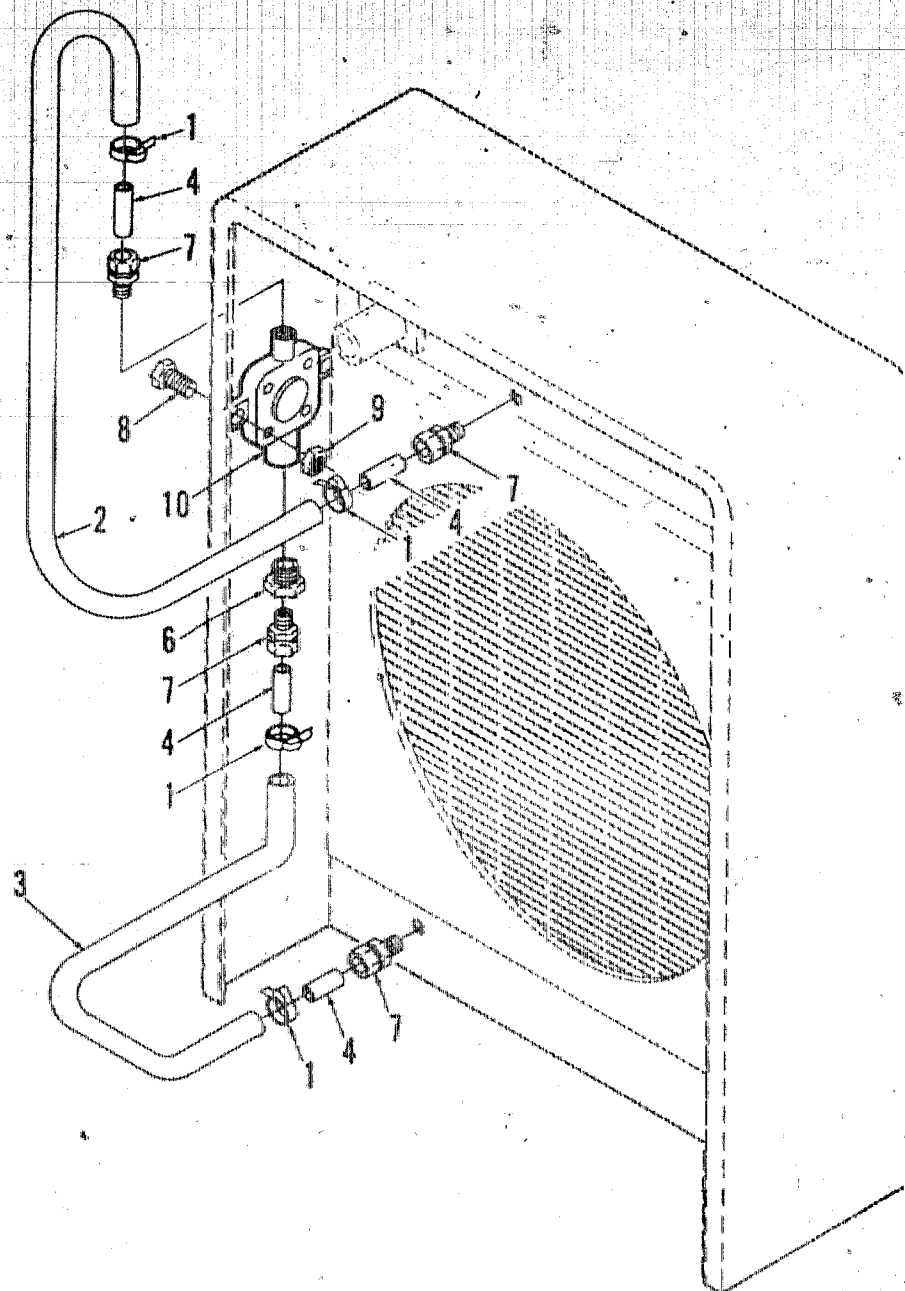




# Cooling System - Heat Exchanger

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	32	505-0334	1	Plug, Pipe
7	505-0759	2	Adapter, Pipe to Hose	33	309-0485	1	Valve, Water Saver
8	505-0003	1	Elbow, Pipe - Street, 90 Degree	34	505-0172	5	Nipple, Pipe - Close
9	501-0087	1	Line, Fuel	35	505-0175	4	Elbow, Pipe - 90 Degree
10	502-0184	1	Adapter, Pipe - Hex	36	505-0401	2	Nipple, Pipe
11	502-0049	1	Bushing, Reducer	37	505-0872	2	Elbow, Pipe - 45 Degree
12	505-0039	1	Elbow, Pipe - 90 Degree	38	505-0173	2	Nipple, Pipe
13	505-0101	1	Nipple, Pipe - Close	39	504-0028	2	Cock, Drain
14	505-0057	3	Plug, Pipe - Square Head	40	800-0091	4	Screw, Cap - Hex Head (1/2-13 x 1-1/4")
13	505-0759	2	Adapter, Pipe to Hose	41	850-0060	4	Washer, Lock - Spring (1/2")
14	505-0003	1	Elbow, Pipe - Street, 90 Degree	42	862-0016	4	Nut, Hex (1/2-13)
15	503-0612	16	Clamp, Hose	43	130-1431	1	Exchanger, Heat
16	503-0788	1	Hose	44	800-0051	4	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
17	130-2126	1	Outlet, Water	45	526-0013	4	Washer, Flat (3/8")
18	503-0782	2	Hose	46	850-0050	4	Washer, Lock - Spring (3/8")
19	130-2194	1	Tube	47	862-0003	4	Nut, Hex (3/8-16)
20	130-2193	1	Tube	48	130-1833	1	Frame, Support
21	503-1200	1	Hose	49	130-1030	1	Inlet, Water
22	505-1299	2	Nipple, Pipe - Half		800-0072	4	Screw, Cap - Hex Head (7/16-14 x 1-1/4")
23	505-0453	1	Elbow, Pipe - 90 Degree		850-0055	4	Washer, Lock - Spring (7/16")
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")				

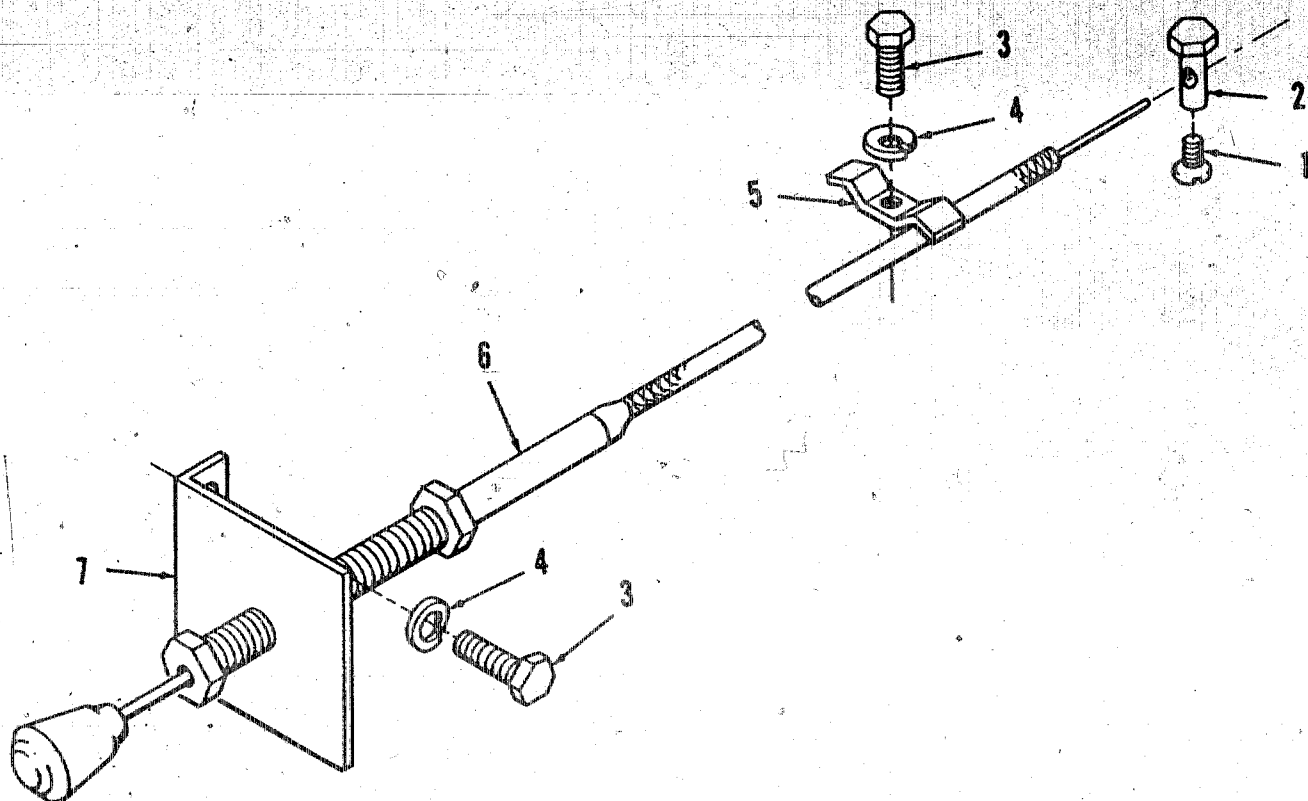
# Coolant Level Switch



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				

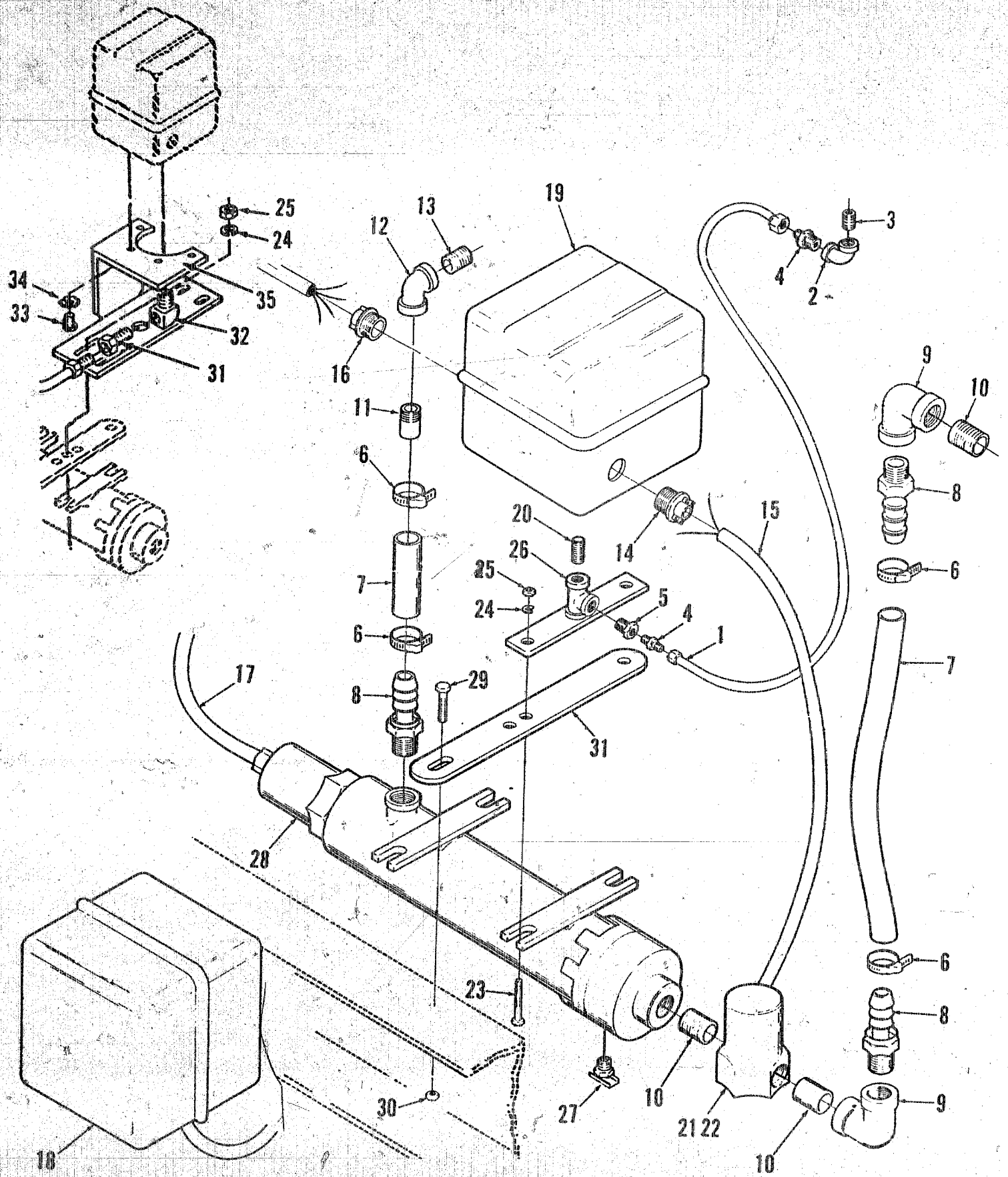
# Vernier Throttle



M1179

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

# Heater Horizontal Tank



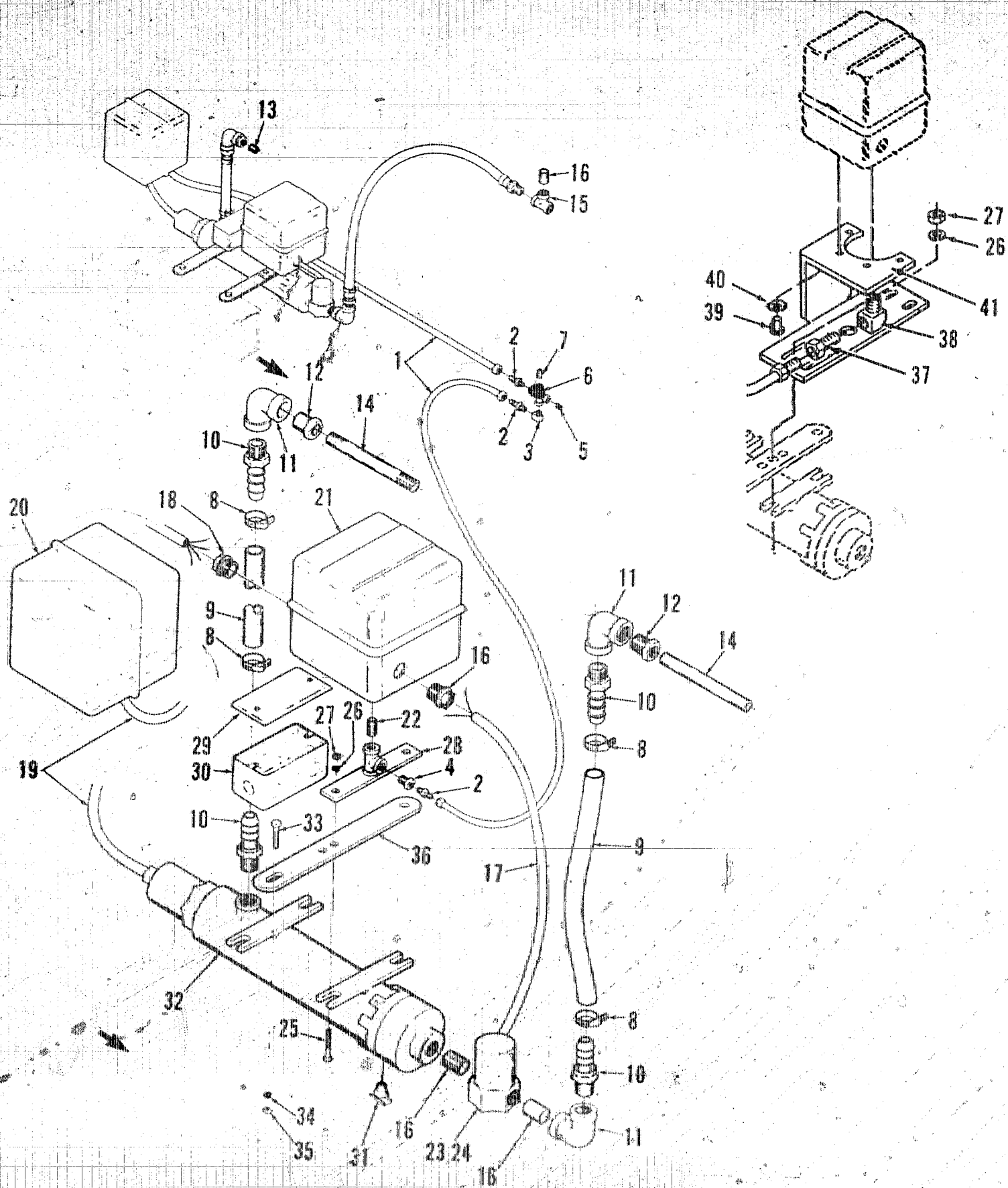
XCS 1162



# 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				Washer, Lock - Spring (1/4")
3	505-0098	1	Nipple, Pipe - Close	24	850-0040	4	Nut, Hex (1/4-20)
4	502-0193	2	Connector	25	862-0001	4	Support with Tee (1970 Thru 1982)
5	505-0007	1	Bushing, Reducer - Hex	26	333-0142	1	Cock, Drain
6	503-0429	4	Clamp, Hose	27	504-0003	1	Heater, Electrical
7			Hose	28			4000 Watt, 208 VAC - 1 Phase
	503-1163	1	24"		333-0143	1	4000 Watt, 208 VAC - 3 Phase
	503-1164	1	48"		333-0164	1	4000 Watt, 240 VAC - 1 Phase
8	505-0759	3	Adapter, Hose to Pipe		333-0138	1	4000 Watt, 240 VAC - 3 Phase
9	505-0041	2	Elbow, Pipe - 90 Degree		333-0190	1	4000 Watt, 277 VAC - 1 Phase
10	505-0004	2	Nipple, Pipe - Close		333-0150	1	4000 Watt, 380 VAC - 1 Phase
11	505-0324	1	Nipple, Pipe - Half		333-0183	1	4000 Watt, 380 VAC - 3 Phase
12	505-0132	1	Elbow, Pipe - 90 Degree		333-0174	1	4000 Watt, 480 VAC - 1 Phase
13	505-0102	1	Nipple, Pipe - Close		333-0161	1	4000 Watt, 480 VAC - 3 Phase
14	505-0289	1	Bushing, Reducer - Hex		333-0144	1	Screw, Self-locking - Hex Head (5/16-18 x 3/4")
16	331-0027	4	Clamp, Cable	29	821-0016	4	Nut, Self-locking, Hex (5/16-18)
16	505-0333	1	Elbow, Pipe - Street, 45 Degree				Bracket, Mounting
18			Contact	30	130-1191	2	Bushing, Reducer - Hex (Begin 1983)
	307-1460	1	230 VAC, 3 Pole	31	505-0007	1	Elbow, Pipe - Street, 90 Degr (Begin 1983)
	307-1164	1	460 VAC, 3 Pole	32	502-0054	1	Screw, Machine - Round Head (#8-32 x 1/2") (Begin 1983)
19	309-0307	1	Switch, Pressure - Oil	33	812-0079	4	Washer, Lock - ET (#8) (Begin 1983)
20	505-0099	2	Nipple, Pipe - Close (1970 Thru 1982)	34	854-0007	4	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				
	331-0027	4	Clamp, Cable	35	333-0224	1	
	323-0957	2	Nut, Wire				
	332-0149	8	Lug, Terminal				

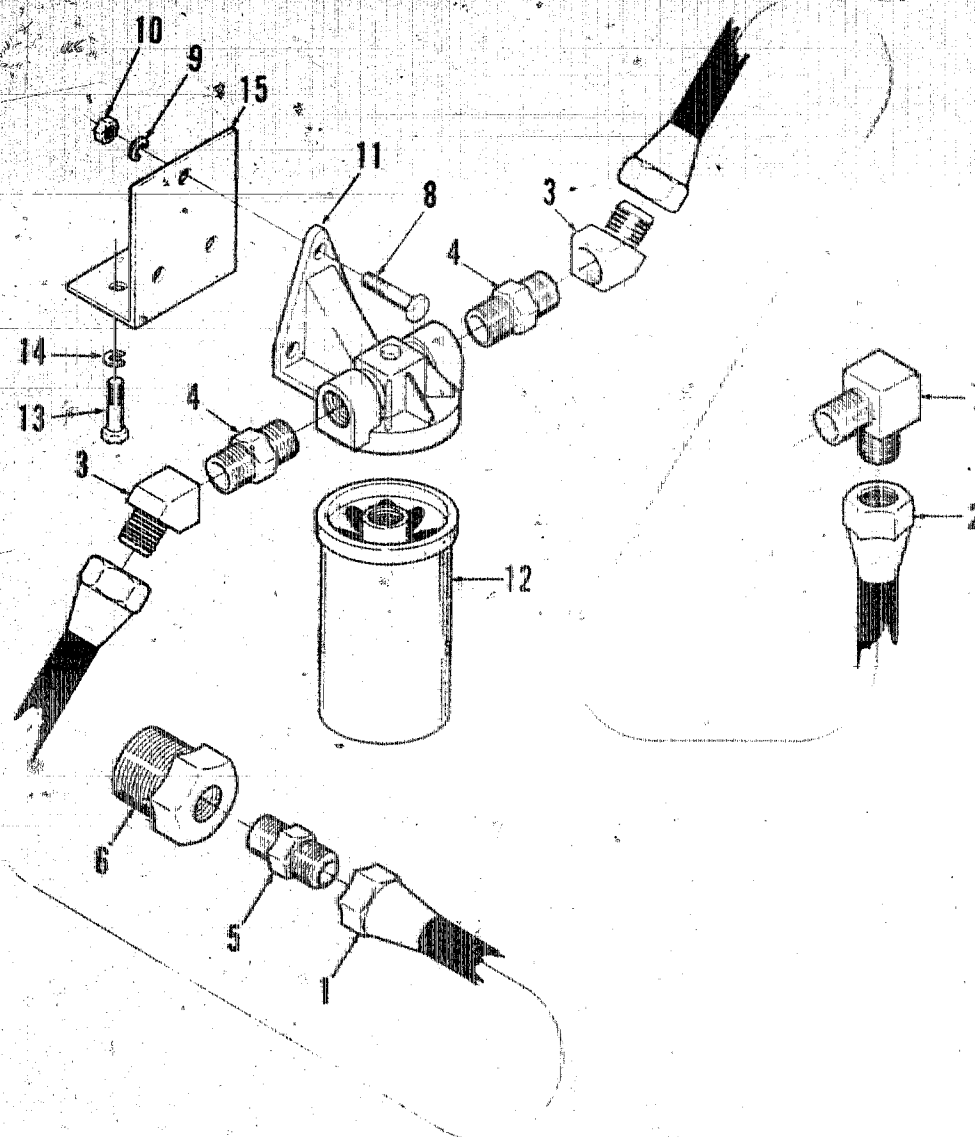
# Dual Heater Horizontal Tank



# 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		333-0143	2	4000 Watt, 208 VAC - 1 Phase
9			Hose		333-0164	2	4000 Watt, 208 VAC - 3 Phase
	503-1163	2	24"		333-0138	2	4000 Watt, 240 VAC - 1 Phase
	503-1164	2	48"		333-0190	2	4000 Watt, 240 VAC - 3 Phase
10	505-0759	9	Adapter, Hose to Pipe		333-0150	2	4000 Watt, 277 VAC - 1 Phase
11	505-0041	5	Elbow, Pipe - 90 Degree		333-0183	2	4000 Watt, 380 VAC - 1 Phase
12	505-0129	3	Bushing, Reducer - Hex		333-0174	2	4000 Watt, 380 VAC - 3 Phase
13	505-0102	1	Nipple, Pipe - Close		333-0161	2	4000 Watt, 480 VAC - 1 Phase
14	505-0165	2	Nipple, Pipe		333-0144	2	4000 Watt, 480 VAC - 3 Phase
15	505-0304	1	Tee, Pipe	33	800-0030	8	Screw, Cap - Hex Head (5/16-18 x 1-1/4")
16	331-0027	8	Clamp, Cable	34	850-0045	8	Washer, Lock - Spring (5/16")
18	331-0027	4	Clamp, Cable	35	862-0015	8	Nut, Hex (5/16-18)
20			Contactor	36	130-1191	4	Bracket, Mounting
	307-1460	2	230 VAC, 3 Pole	37	505-0007	2	Bushing, Reducer - Hex (Begin 1983)
	307-1164	2	460 VAC, 3 Pole	38	502-0054	2	Elbow, Pipe - Street, 90 Degree (Begin 1983)
21	309-0271	2	Switch, Pressure - Oil	39	812-0079	8	Screw, Machine - Round Head (#8-32 x 1/2") (Begin 1983)
22	505-0099	2	Nipple, Pipe - Close (1970 Thru 1982)	40	854-0007	8	Washer, Lock - ET (#8) (Begin 1983)
23			Switch, Thermostatic	41	333-0224	2	Bracket, Support (Begin 1983)
	309-0304	2	80° - 100° Fahrenheit				
	309-0490	2	100° - 120° Fahrenheit				
	309-0253	2	120° - 140° Fahrenheit				
24			Terminals				
	331-0027	8	Clamp, Cable				
	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

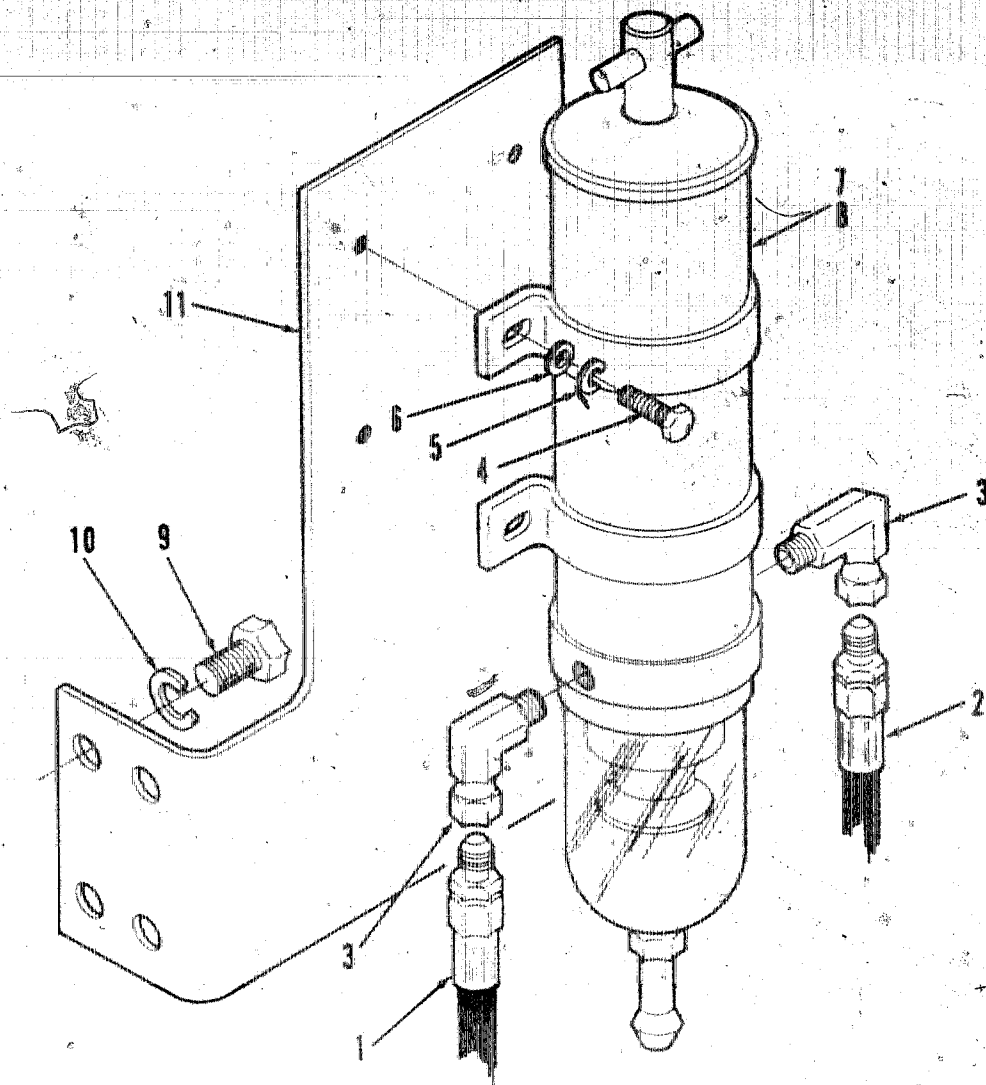


XLS 1079

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")				



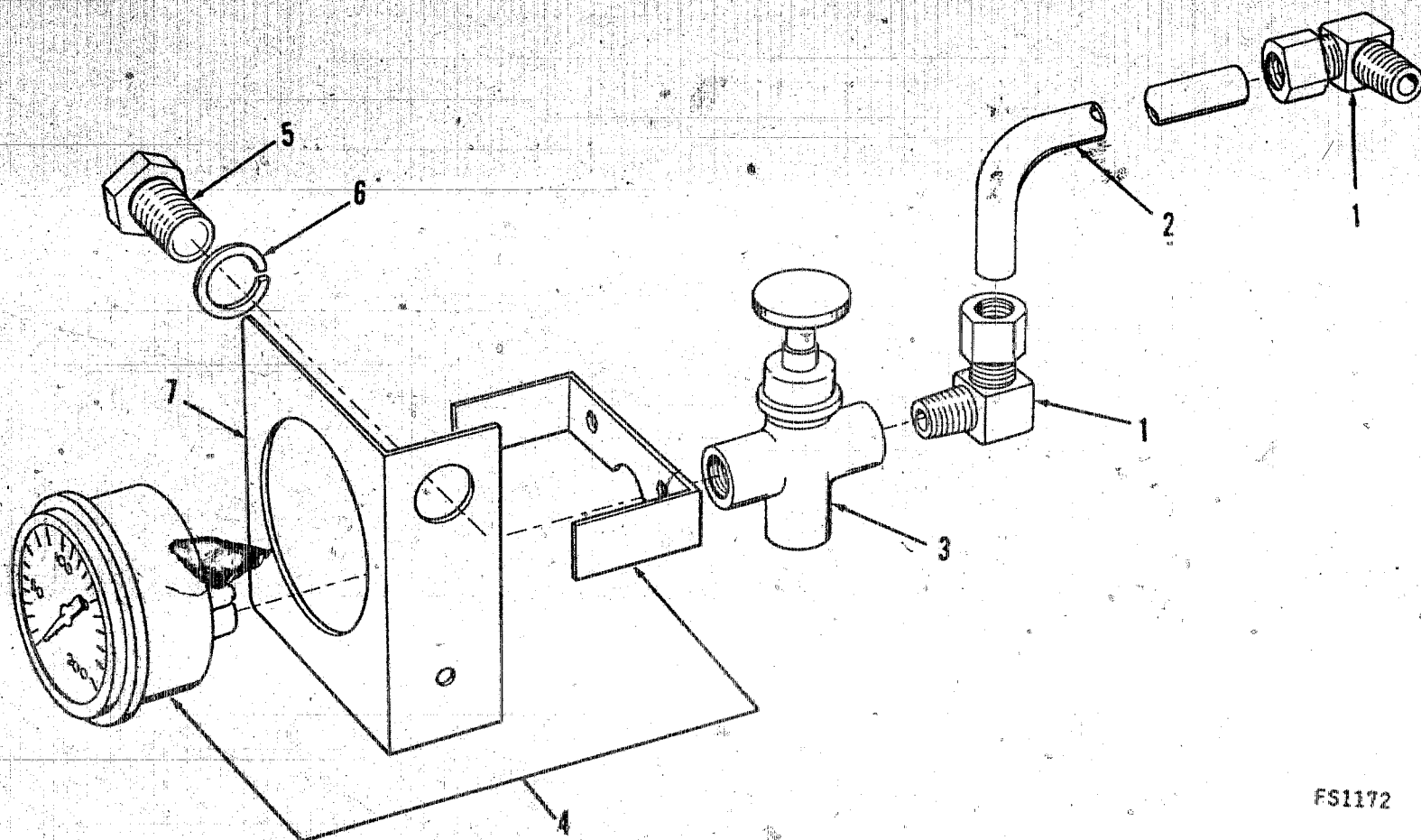
# Fuel/Water Separator



FS-1399

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	800-0130	4	Screw, Cap - Hex Head (5/8-11 x 1")
4	800-0028	4	Screw, Cap - Hex Head (5/16-18 x 1")	10	850-0070	4	Washer, Lock - Spring (5/16")
5	850-0045	4	Washer, Lock - Spring (5/16")	11	149-1678	1	Bracket, Mounting
6	526-0022	4	Washer, Flat (5/16")				

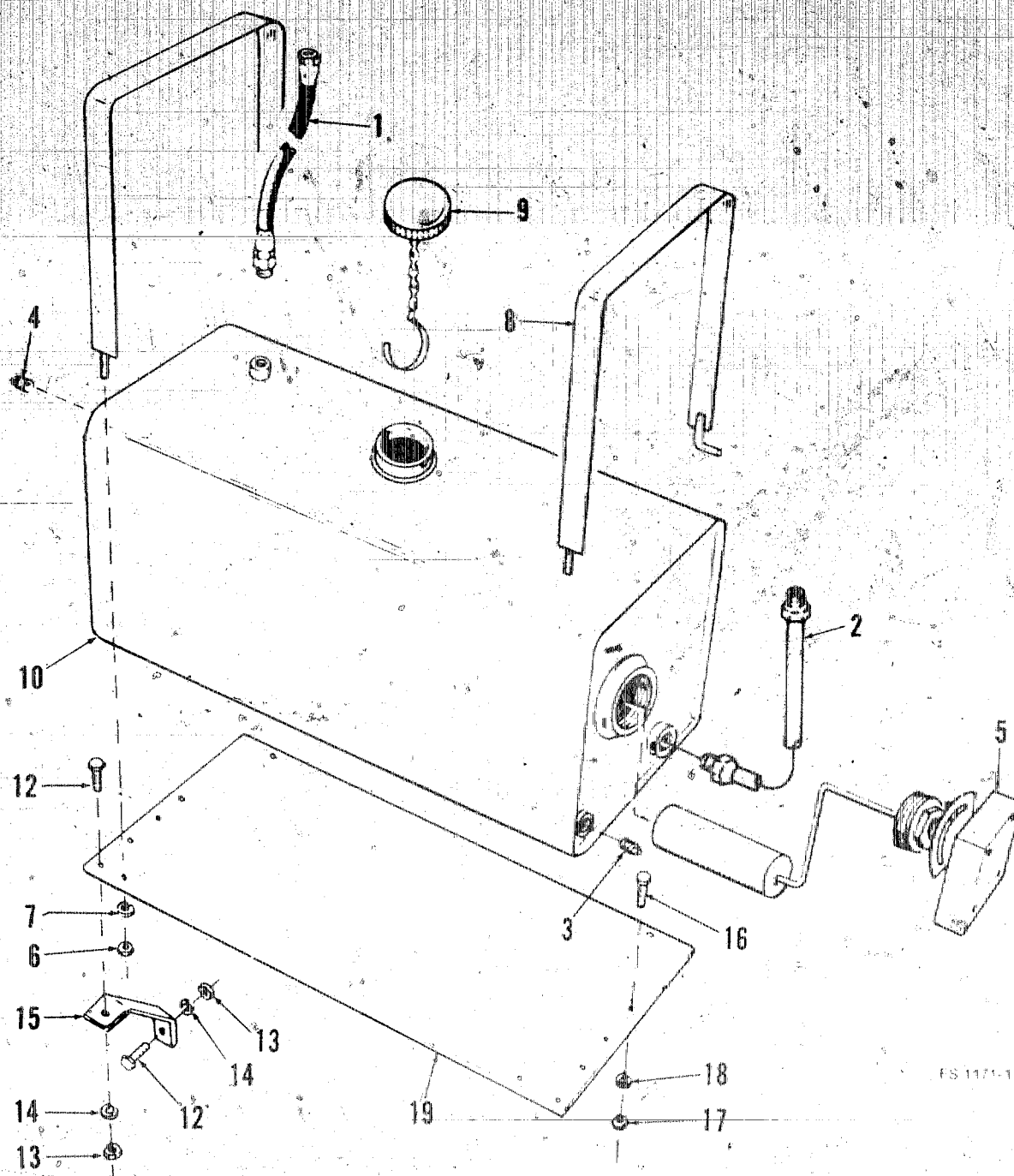
# Fuel Pressure Gauge



FS1172

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	502-0034	2	Elbow, Tube - 90 Degree (Includes Nut and Ring)	4	193-0128	1	Gauge, Pressure (Includes Bracket and Hardware)
2	370-4003	1	Tube, Copper	5	800-0130	1	Screw, Cap - Hex Head (5/8-11 x 1")
3	504-0064	1	Valve, Gate	6	850-0070	1	Washer, Lock - Spring (5/8")
				7	193-0029	1	Bracket, Mounting

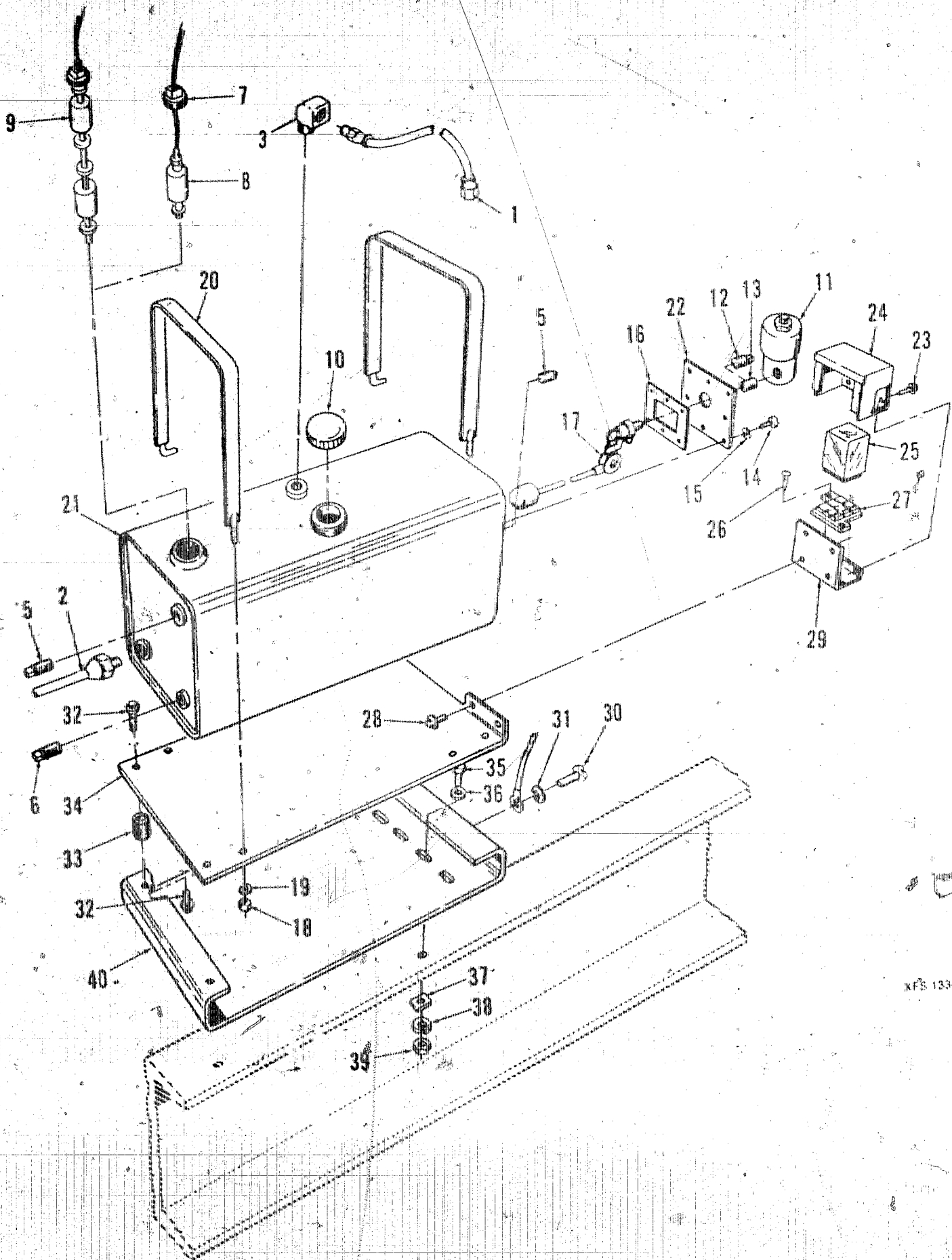
# Fuel Tank



ES 1171-1

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	501-0216	1	Line, Fuel	11	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1")
2	501-0194	1	Line, Fuel	12	800-0005	2	Screw, Cap - Hex Head (1/4-20 x 3/4")
3	505-0110	1	Plug, Pipe - Square Head	13	862-0001	4	Nut, Hex (1/4-20)
4	505-0056	1	Plug, Pipe - Square Head	14	850-0040	4	Washer, Lock - Spring (1/4")
5	415-0170	1	Switch, Level	15	415-0329	2	Brace
6	862-0001	2	Nut, Hex (1/4-20)	16	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1")
7	850-0040	2	Washer, Lock - Spring (1/4")	17	862-0001	2	Nut, Hex (1/4-20)
8	415-0331	2	Strap, Hold Down	18	850-0040	2	Washer, Lock - Spring (1/4")
9	159-0020	1	Cap, Tank	19	415-0330	1	Plate, Mounting
10	415-0322	1	Tank, Fuel - 8-1/2 Gallon				

# Fuel Tank Overhead/Underground Supply



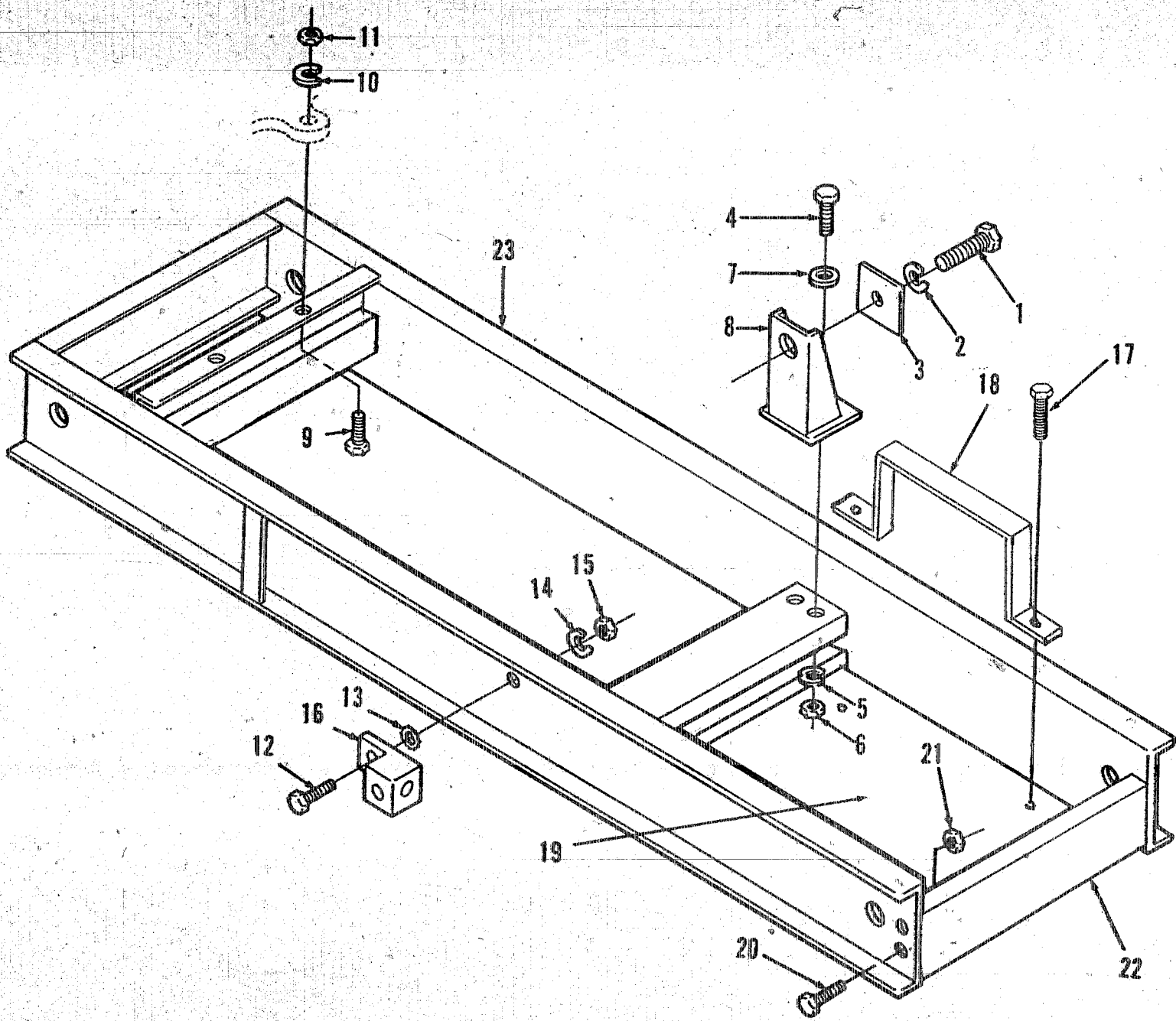
KFS 1334-1



# 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
	502-0183	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				

## Chassis

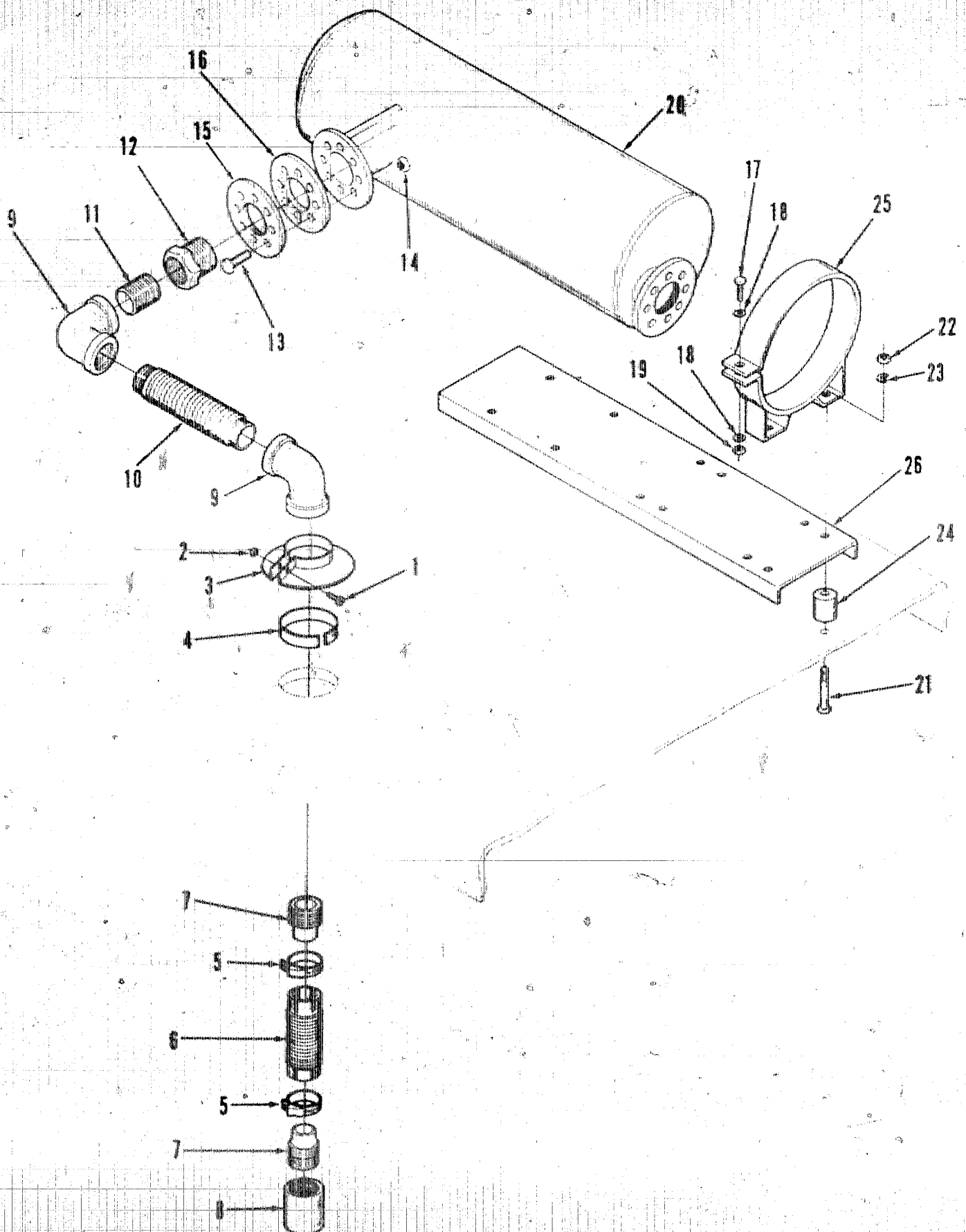


M1242-1

# Chassis

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")	12	416-0635	2	Strap, Holddown
2	850-0079	2	Washer, Lock - Spring (3/4")	13	821-0016	10	Screw, Self-locking - Hex (5/16-18 x 3/4")
3	232-2385	2	Plate, Mounting - Generator	14	870-0257	10	Nut, Self-locking - Hex (5/16-18)
4	800-0156	4	Screw, Cap - Hex Head (3/4-10 x 2-1/2")	15	403-1200	1	Panel, Rear - Chassis
5	850-0079	4	Washer, Lock - Spring (3/4")	16	416-0674	1	Tray, Battery
6	862-0020	4	Nut, Hex (3/4-10)	17	800-0028	1	Screw, Cap - Hex Head (5/16-18 x 1")
7	232-2389	2	Bracket, Mounting - Generator	18	856-0008	1	Washer, Lock - EIT (5/16")
8	800-0138	2	Screw, Cap - Hex Head (5/8-11 x 3")	19	850-0045	1	Washer, Lock - Spring (5/16")
9	850-0070	2	Washer, Lock - Spring (5/8")	20	862-0015	1	Nut, Hex (5/16-18)
10	862-0007	2	Nut, Hex (5/8-11)	21	332-1473	1	Lug, Terminal
11	800-0035	1	Screw, Cap - Hex Head (5/16-18 x 2-1/2")	22	403-1218	1	Base, Skid

Exhaust Muffler  
Commerical  
Spec A thru C



EXS-1067

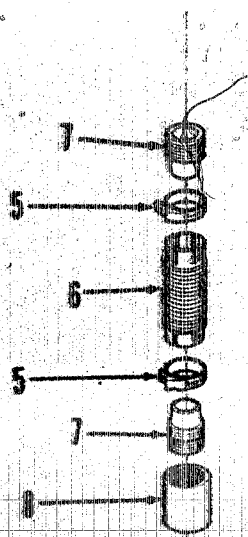
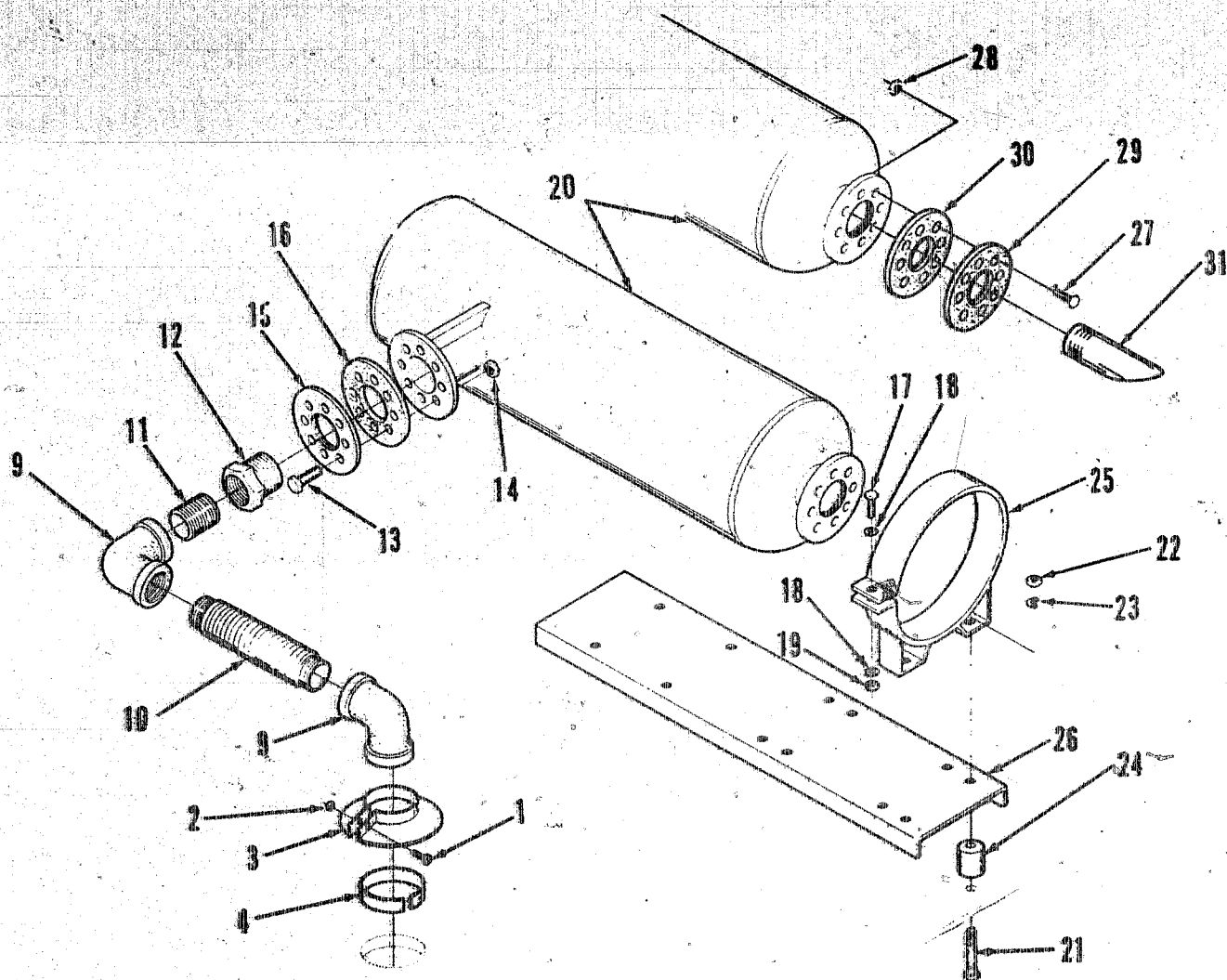


Exhaust Muffler  
Commerical  
Spec A thru C

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")	14	862-0008	8	Nut, Hex (3/4-10)
2	870-0188	2	Nut, Self-locking - Hex (#10-32)	15	155-1219	1	Flange, Companion - Pipe
3			Shield, Rain	16	155-0677	1	Gasket
	155-1425	1	Standard	17	800-0037	3	Screw, Cap - Hex Head (5/16-18 x 3")
	155-1639	1	Stainless Steel	18	526-0113	6	Washer, Flat (5/16")
4	895-0163	1	Strip, Asbestos	19	870-0257	3	Nut, Self-locking - Hex (5/16-18)
5	503-0605	2	Clamp	20		1	* Muffler, Exhaust
6	155-1143	1	Tube, Exhaust - Stainless Steel	21	800-0037	6	Screw, Cap - Hex Head (5/16-18 x 3")
7	155-1275	1	Connector, Tube	22	870-0048	6	Nut, Self-locking - Hex (5/16-18)
8	505-0784	1	Coupling, Pipe	23	850-0045	6	Washer, Lock - Spring (5/16")
9	505-0665	2	Elbow, Pipe - 90 Degree	24	155-1430	6	Spacer
10	155-1431	1	Tube, Exhaust	25	140-0751	3	Band, Mounting
11	505-0664	1	Nipple, Pipe - Close	26	155-1400	1	Shield, Heat
12	505-0695	1	Bushing, Reducer - Hex				
13	800-0160	8	Screw, Cap - Hex Head (3/4-10 x 3-1/4")				

\* - Obsolete - No Longer Available

# Exhaust Muffler Residential and Critical

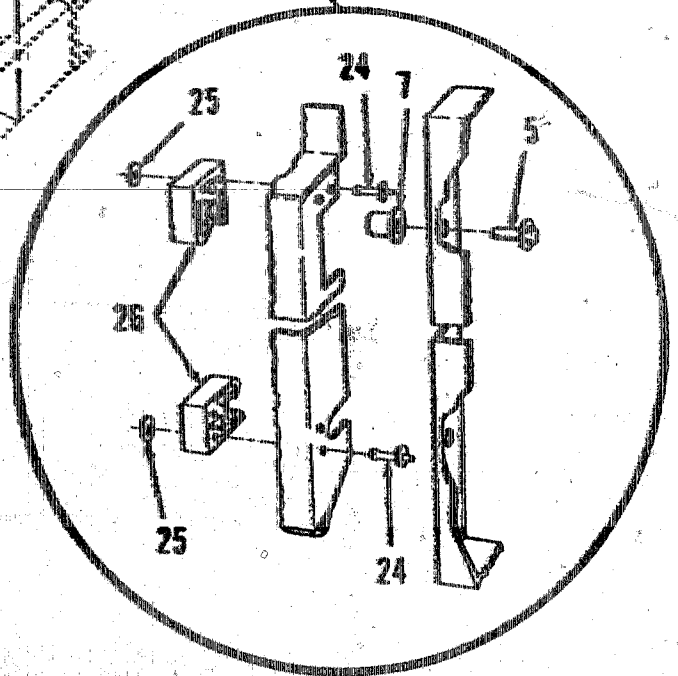
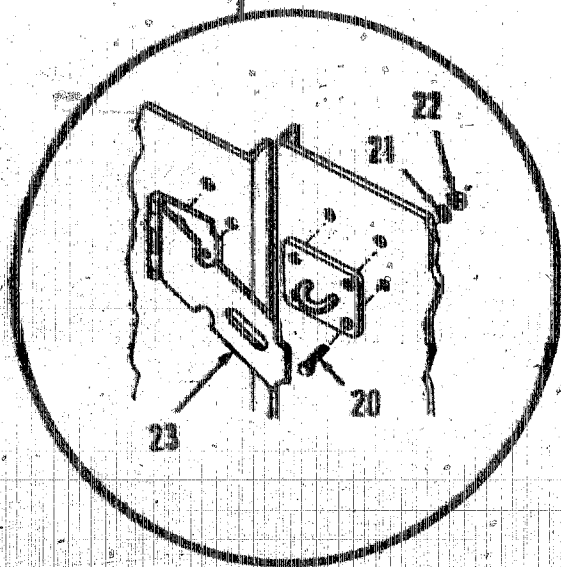
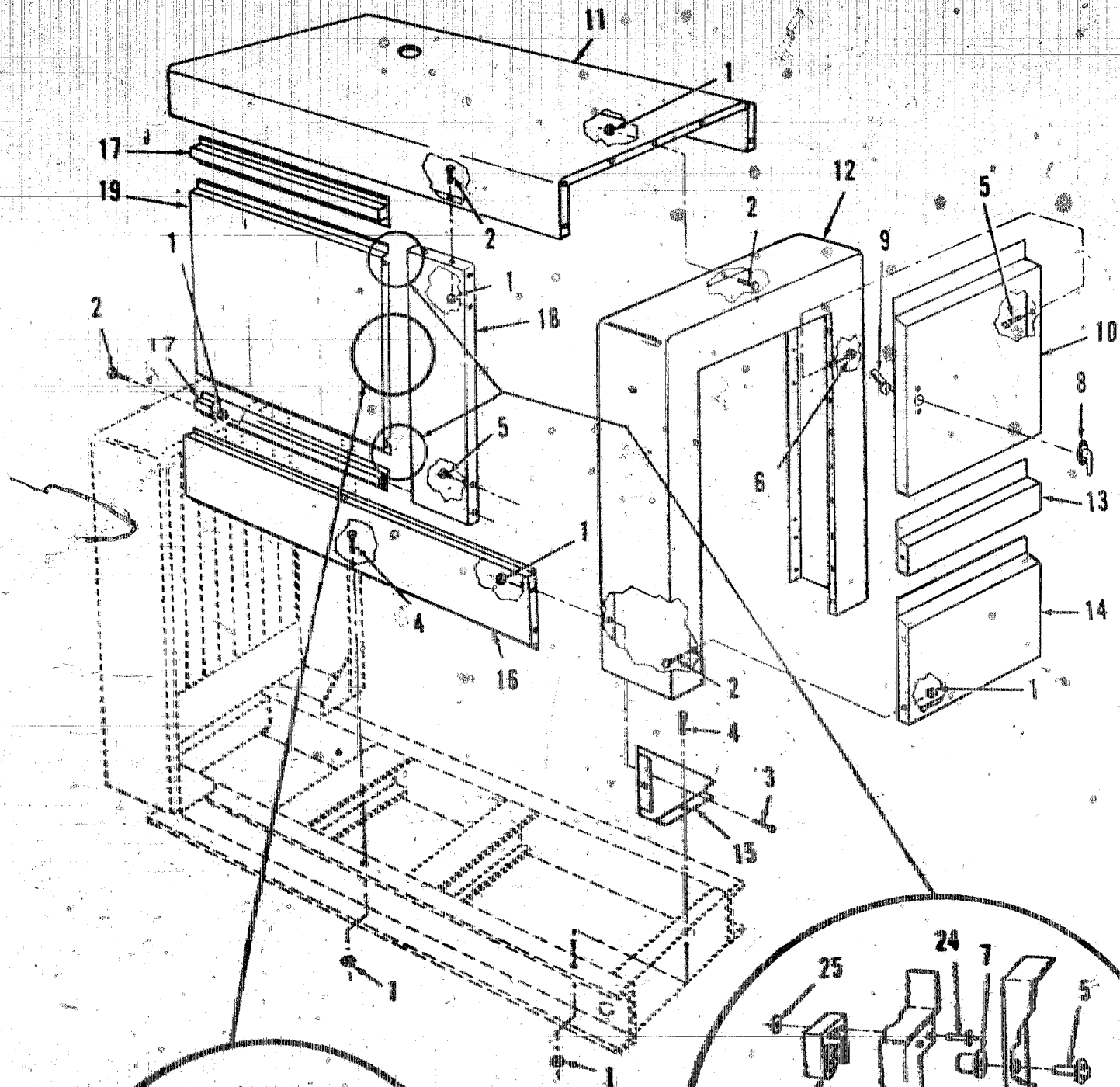


KEKS-1068

# Exhaust Muffler Residential and Critical

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
	155-1431	1	23-1/2"	27	800-0160	8	Screw, Cap - Hex Head (3/4-10 x 3-1/4")
	155-1436	1	47-1/2"	28	862-0008	8	Nut, Hex (3/4-10)
11			Nipple, Pipe	29	155-0652	1	Flange, Companion - Pipe
	505-0664	1	4-1/2"	30	155-0676	1	Gasket
	505-0696	1	9"	31	505-0785	1	Nipple, Pipe - Modified
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

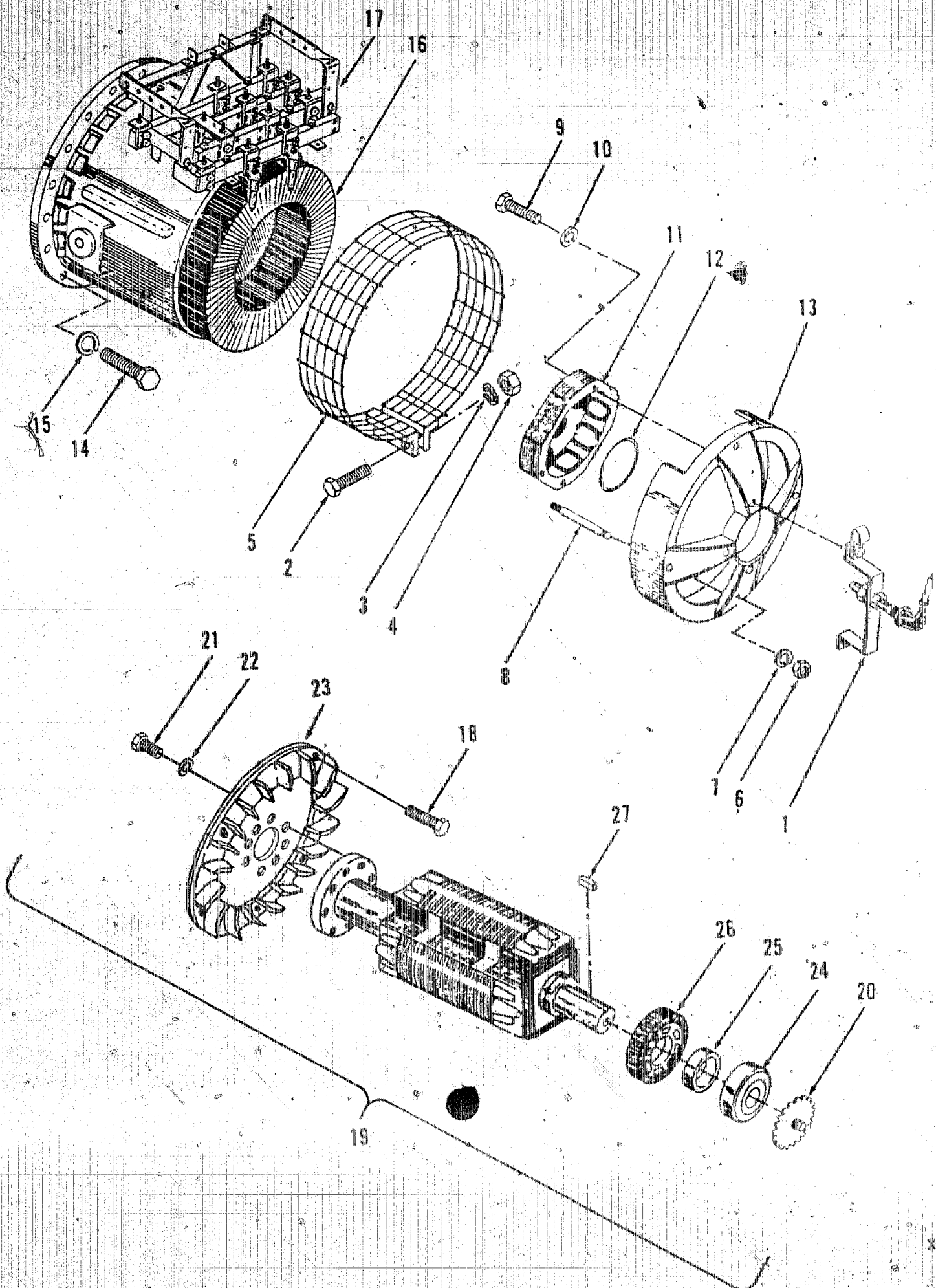




# Set Housing

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	405-1858	2	Panel, Louver - Rear
2	821-0014	50	Screw, Self-locking - Hex (5/16-18 x 1/2")	14	405-1856	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	405-1880	1	Door, Rear	21	850-0025	28	Washer, Lock - Spring (#8)
11	405-2229	1	Panel, Top	22	860-0008	28	Nut, Hex (#8-32)
12	405-2227	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

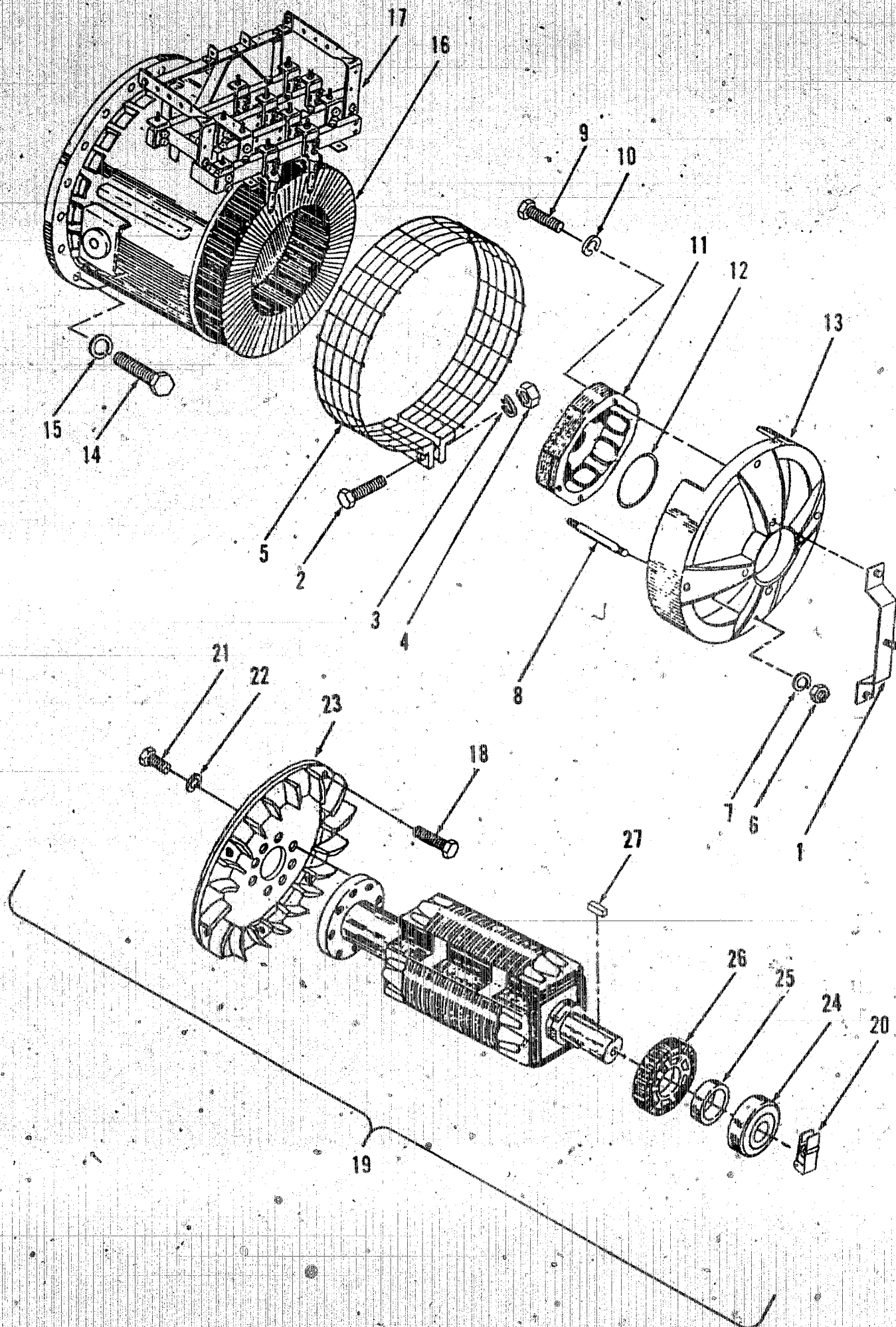
Generator  
Begin Spec D



# Generator Begin Spec D

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1		1	Switch Assembly, Overspeed (See Separate Page for Components)	17		1	Bus Bar Assembly (See Separate Page for Components)
2	114-0023	2	Screw, Cap - Hex Head (1/4-20 x 1-1/4")	18	805-0035	6	Bolt, Hex Head - Grade 8 (5/8-11 x 1-1/2")
3	850-0040	2	Washer, Lock - Spring (1/4")	19	201-3336	1	Rotor Assembly (Includes Disk and Fan Assembly, Bearing, Exciter Rotor and Overspeed Switch)
4	862-0001	2	Nut, Hex (1/4-20)	20		1	Switch Assembly, Overspeed (See Separate Page for Components)
5	234-0455	1	Screen, Air	21	805-0035	8	Bolt, Hex Head - Grade 8 (5/8-11 x 1-1/2")
6	862-0016	4	Nut, Hex (1/2-13)	22	526-0259	8	Washer, Flat - Hardened Steel (5/8")
7	850-0060	4	Washer, Lock - Spring (1/2")	23	232-2899	1	Disk and Fan Assembly (Matched Pair)
8	520-0780	4	Stud (1/2-13 x 5-1/2")	24	510-0106	1	Bearing, Ball
9	800-0009	4	Screw, Cap - Hex Head (1/4-20 x 1-1/2")	25	232-2317	1	Spacer, Sleeve
10	850-0040	4	Washer, Lock - Spring (1/4")	26	201-1902	1	Rotor Assembly - Exciter (See Separate Page for Components)
11	220-1920	1	Stator, Exciter	27	515-0145	1	Key, Machine
12	509-0151	1	Seal, Oil - "O" Ring				
13	211-0214	1	Bell, End				
14	800-0092	16	Screw, Cap - Hex Head (1/2-13 x 1-1/2")				
16	850-0060	16	Washer, Lock - Spring (1/2")				
16			Stator (Includes Bus Bar Assembly)				
	220-2140	1	Code 517				
	220-2346	1	Code 5				
	220-2352	1	Code 6				
	220-2322	1	Code 9				
	220-1917	1	Code 17				

Generator  
Spec A Thru C



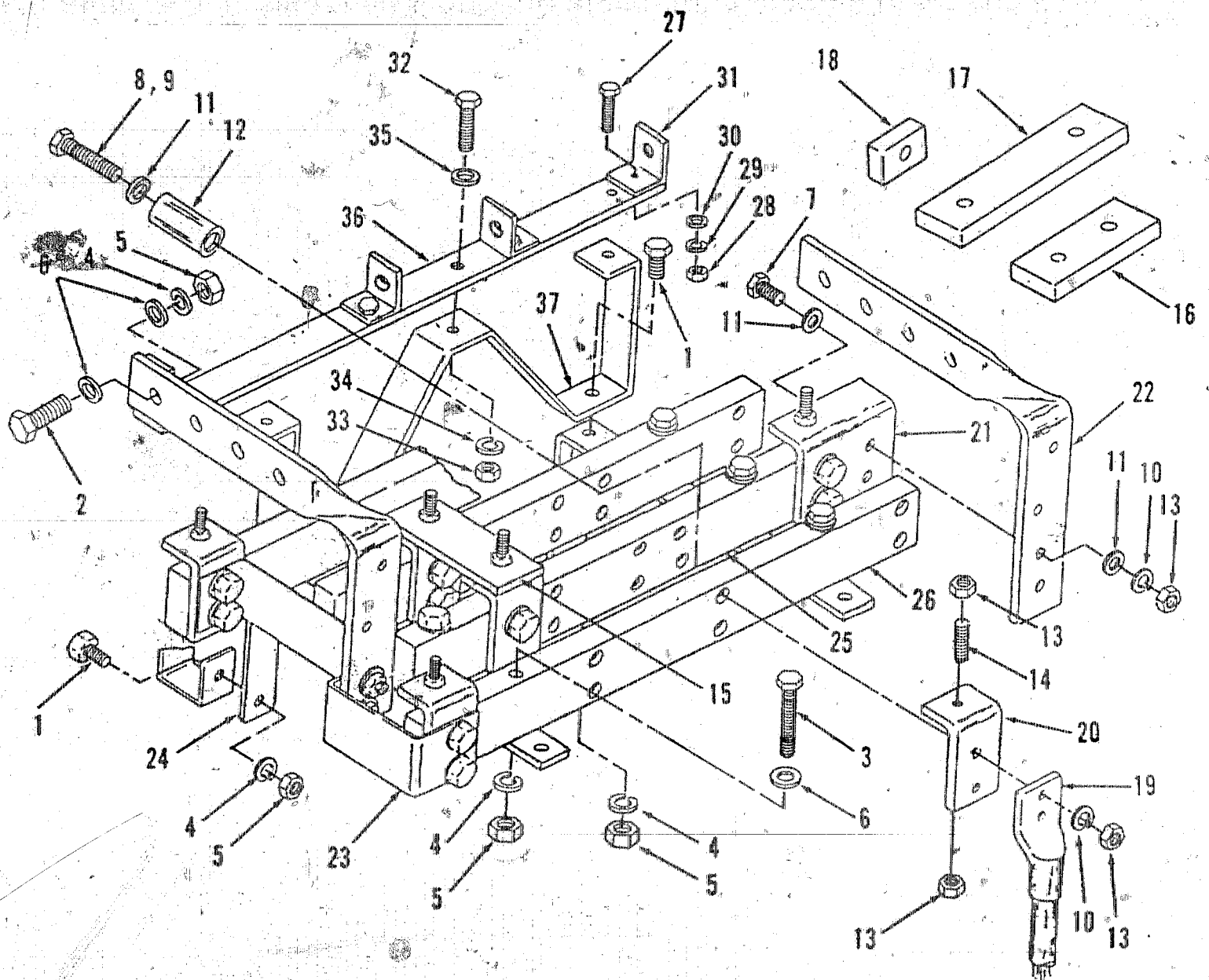
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# Generator Spec A Thru C

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1		1	Sensor Assembly, Overspeed (See Separate Page for Components)	17		1	Bus Bar Assembly (See Separate Page for Components)
2	114-0023	2	Screw, Cap - Hex Head (1/4-20 x 1-1/4")	18	805-0035	6	Bolt, Hex Head - Grade 8 (5/8-11 x 1-1/2")
3	850-0040	2	Washer, Lock - Spring (1/4")	19	201-1950	1	Rotor Assembly (Includes Disk and Fan Assembly, Bearing, Exciter Rotor and Overspeed Sensor)
4	862-0001	2	Nut, Hex (1/4-20)				
5	234-0455	1	Screen, Air				
6	862-0016	4	Nut, Hex (1/2-13)	20		1	Switch Assembly, Overspeed (See Separate Page for Components)
7	850-0060	4	Washer, Lock - Spring (1/2")				
8	520-0780	4	Stud (1/2-13 x 6-1/2")	21	805-0035	8	Bolt, Hex Head - Grade 8 (5/8-11 x 1-1/2")
9	800-0009	4	Screw, Cap - Hex Head (1/4-20 x 1-1/2")	22	526-0259	8	Washer, Flat - Hardened Steel (5/8")
10	850-0040	4	Washer, Lock - Spring (1/4")	23	232-2899	1	Disk and Fan Assembly (Matched Pair)
11	220-1920	1	Stator, Exciter	24	510-0106	1	Bearing, Ball
12	509-0151	1	Seal, Oil - "O" Ring	25	232-2317	1	Spacer, Sleeve
13	211-0214	1	Bell, End	26	201-1902	1	Rotor, Assembly - Exciter (See Separate Page for Components)
14	800-0092	16	Screw, Cap - Hex Head (1/2-13 x 1-1/2")				
15	850-0060	16	Washer, Lock - Spring (1/2")	27	515-0145	1	Key, Machine
16			Stator (Includes Bus Bar Assembly)				
	220-2140	1	Code 517				
	220-2346	1	Code 5				
	220-2352	1	Code 6				
	220-2322	1	Code 9				
	220-1917	1	Code 17				

# Bus Bar Assembly

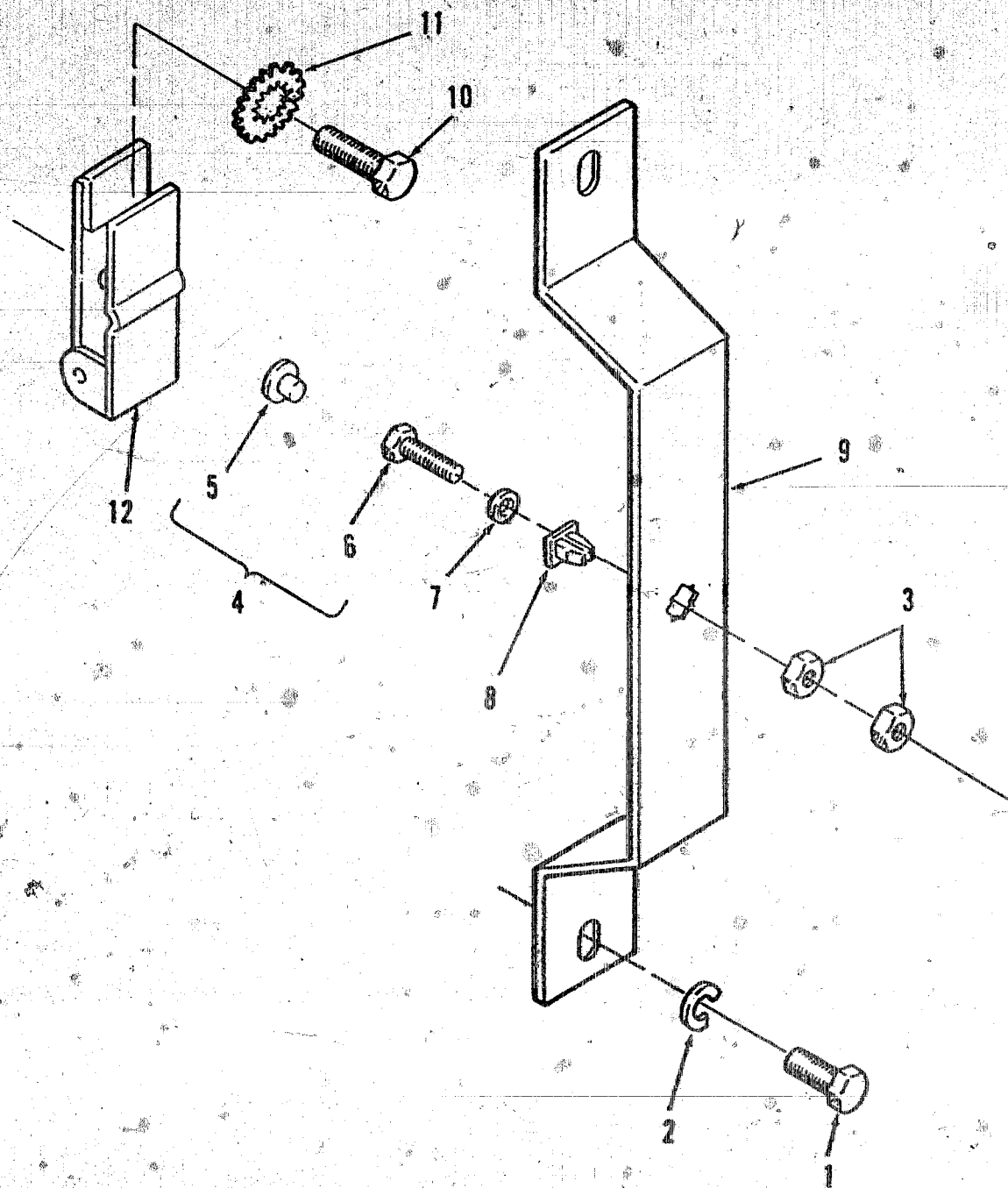


XES1154

# Bus Bar Assembly

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-0050	4	Screw, Cap - Hex Head (3/8-16 x 1")	18	232-2583	1	Spacer, Bus Bar
2	800-0051	4	Screw, Cap - Hex Head (3/8-16 x 1-1/4")	19	332-1152	12	Terminal, Lug
3	800-0056	8	Screw, Cap - Hex Head (3/8-16 x 2-1/2")	20	232-2241	11	Bar, Bus
4	850-0050	16	Washer, Lock - Spring (3/8")	21	232-2343	3	Bar, Bus
5	862-0003	16	Nut, Hex (3/8-16)	22	232-2240	4	Bar, Bus
6	526-0029	16	Washer, Flat (3/8")	23	232-2238	1	Bar, Bus
7	800-0028	4	Screw, Cap - Hex Head (5/16-18 x 1")	24	232-2249	2	Bracket, Mounting - Bus Bar
8	114-0022	24	Screw, Cap - Hex Head (5/16-18 x 1-3/4")	25	232-2242	2	Board, Insulator - Center
9	800-0033	8	Screw, Cap - Hex Head (5/16-18 x 2")	26	232-2243	2	Board, Insulator - Front and Rear
10	850-0045	36	Washer, Lock - Spring (5/16")	27	800-0007	4	Screw, Cap - Hex Head (1/4-20 x 1")
11	526-0115	48	Washer, Flat (5/16")	28	862-0001	4	Nut, Hex (1/4-20)
12	232-2344	32	Spacer, Sleeve	29	850-0040	4	Washer, Lock - Spring (1/4")
13	862-0015	50	Nut, Hex (5/16-18)	30	526-0018	4	Washer, Flat (1/4")
14	520-0142	14	Stud (5/16-18 x 1-1/4" LG)	31	232-2387	4	Bracket, Angle
15	232-2246	2	Bar, Reconnection - Long	32	800-0051	3	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
16	232-2248	2	Bar, Reconnection - Short	33	862-0003	3	Nut, Hex (3/8-16)
17	232-2584	1	Jumper, Bus Bar	34	850-0050	3	Washer, Lock - Spring (3/8")
				35	526-0029	3	Washer, Flat (3/8")
				36	232-2245	1	Board, Insulator
				37	232-2237	1	Bracket, Support

# Overspeed Switch Assembly Begin Spec D

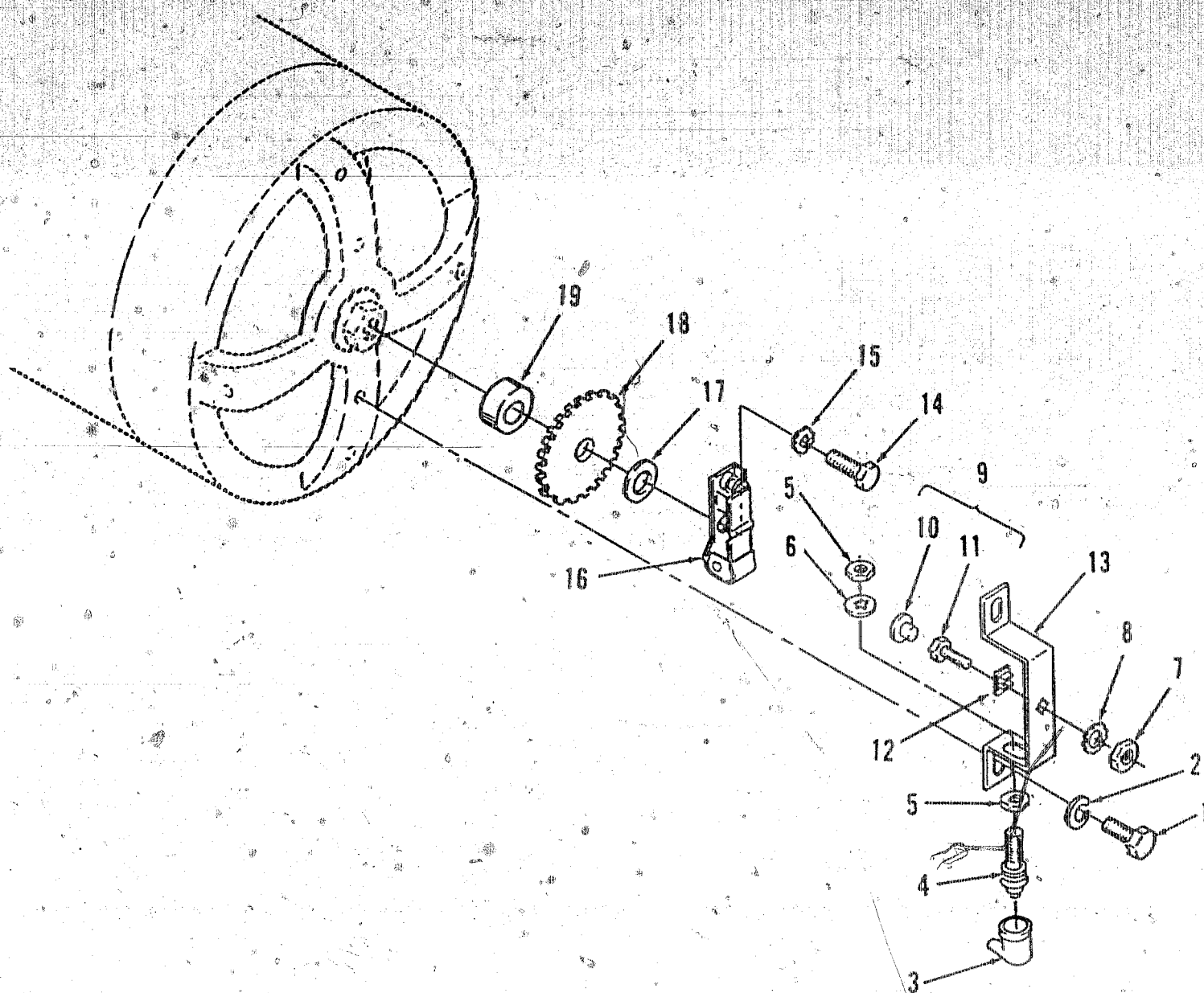


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")
2	850-0040	2	Washer, Lock - Spring (1/4")
3	862-0001	2	Nut, Hex (1/4-20)
4	150-0723	1	Point Assembly, Overspeed (Includes Contact and Modified Screw)
5	306-0036	1	Contact, Electrical

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
6	150-0724	1	Screw, Cap - Modified
7	853-0013	1	Washer, Lock - ET (1/4")
8	870-0250	1	Nut, Insulating (1/4")
9	150-2104	1	Bracket, Mounting
10	800-0048	1	Screw, Cap - Hex Head (3/8-16 x 3/4")
11	856-0010	1	Washer, Lock - EIT (3/8")
12	150-0717	1	Switch, Overspeed



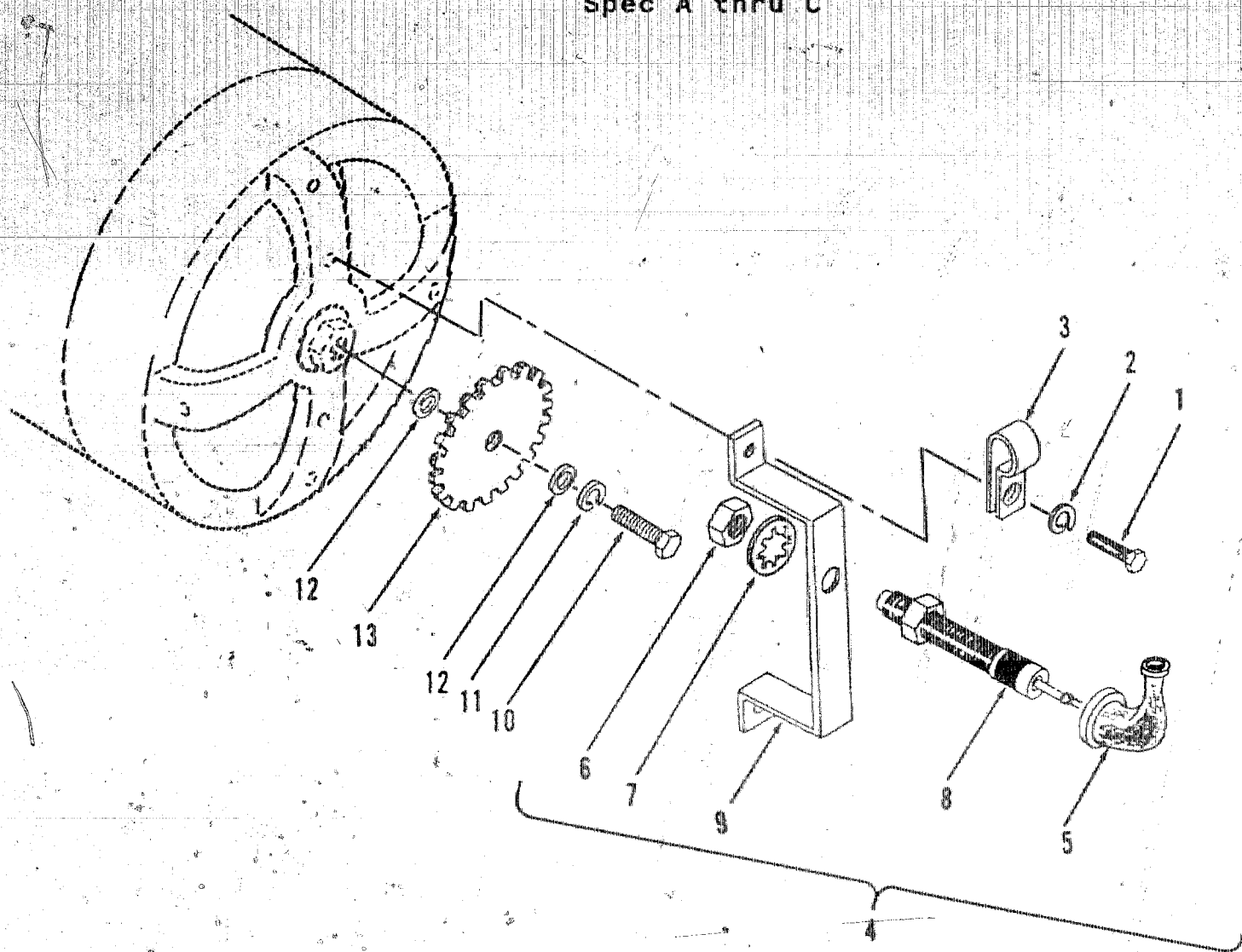
# Magnetic Pickup Begin Spec D



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")
2	850-0040	2	Washer, Lock - Spring (1/4")
3	150-1410	1	Cap, Insulating
4	150-1406	1	Pickup, Magnetic (Sensor)
5	868-0011	2	Nut, Hex (3/4-16)
6	854-0031	1	Washer, Lock - IT (3/4")
7	862-0001	2	Nut, Hex (1/4-20)
8	853-0013	1	Washer, Lock - ET (1/4")
9	150-0723	1	Point Assembly, Overspeed (Includes Contact and Modified Screw)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
10	306-0036	1	Contact, Electrical
11	150-0724	1	Screw, Cap - Modified
12	870-0250	1	Nut, Insulating (1/4")
13	301-9697	1	Bracket, Mounting
14	800-0053	1	Screw, Cap - Hex Head (3/8-16 x 1-3/4")
15	856-0010	1	Washer, Lock - EIT (3/8")
16	150-0717	1	Switch, Overspeed
17	526-0077	1	Washer, Flat (13/32" ID x 1-1/4" OD x 1/4" Thick)
18	150-1557	1	Wheel, Sensor - Overspeed
19	370-4011	1	Spacer, Sleeve

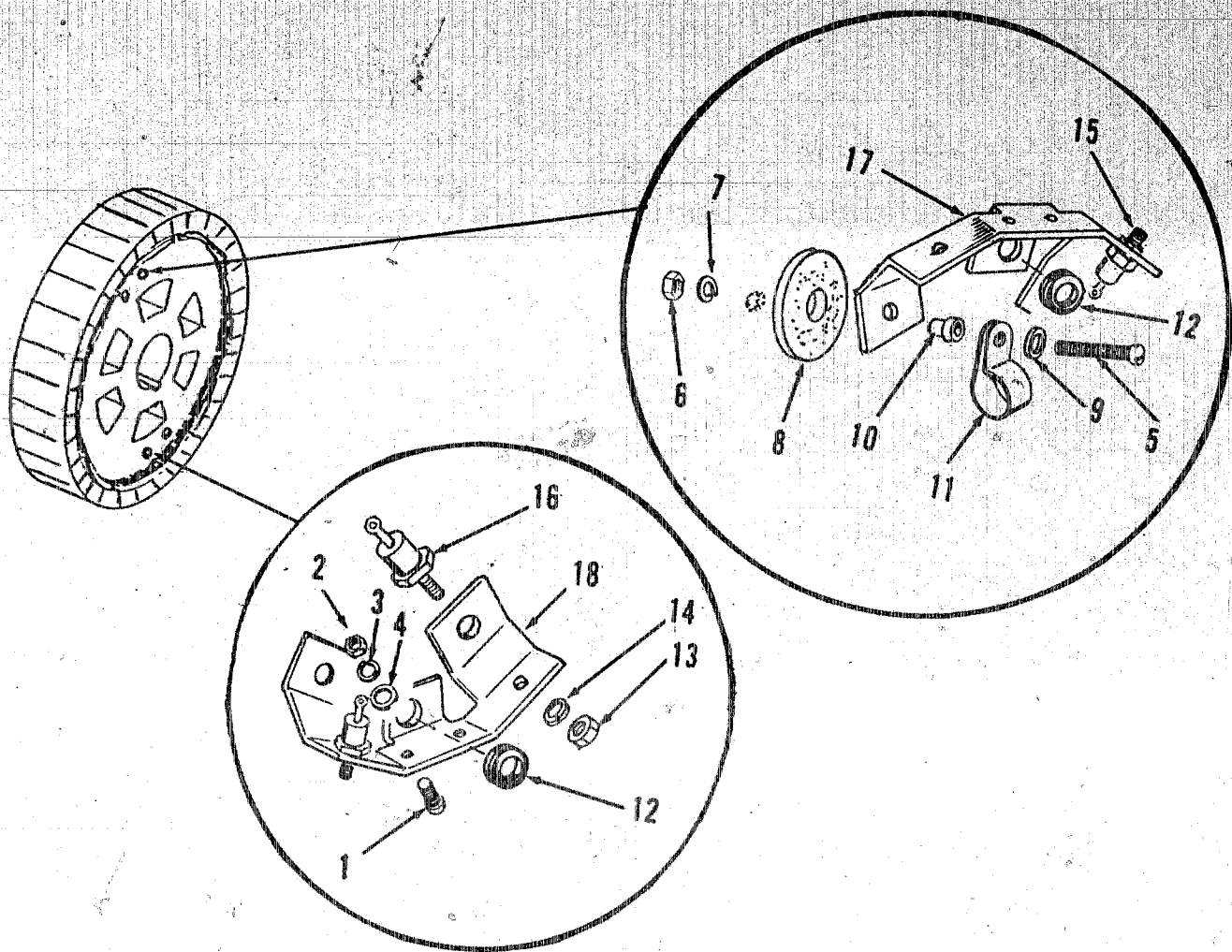
# Overspeed Sensor Assembly Spec A thru C



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-0005	2	Screw, Cap - Hex Head (1/4-20 x 1-1/2")	7	854-0031	1	Washer, Lock - IT (3/4")
2	850-0040	2	Washer, Lock - Spring (1/4")	8	150-1406	1	Pickup, Magnetic (Sensor)
3	332-1554	1	Clamp, Loop	9	150-1407	1	Bracket, Mounting
4	150-1411	1	Sensor Assembly, Overspeed (Includes Cap, Sensor and Mounting Bracket)	10	800-0092	1	*Screw, Cap - Hex Head (1/2-13 x 1-1/2")
5	150-1410	1	Cap, Insulating	11	850-0060	1	*Washer, Lock - Spring (1/2")
6	868-0011	2	Nut, Hex (3/4-16)	12	526-0252	2	*Washer, Flat (1/2")
				13	150-1405	1	*Wheel, Sensor - Overspeed

\* - Parts included with Generator Rotor Assembly.

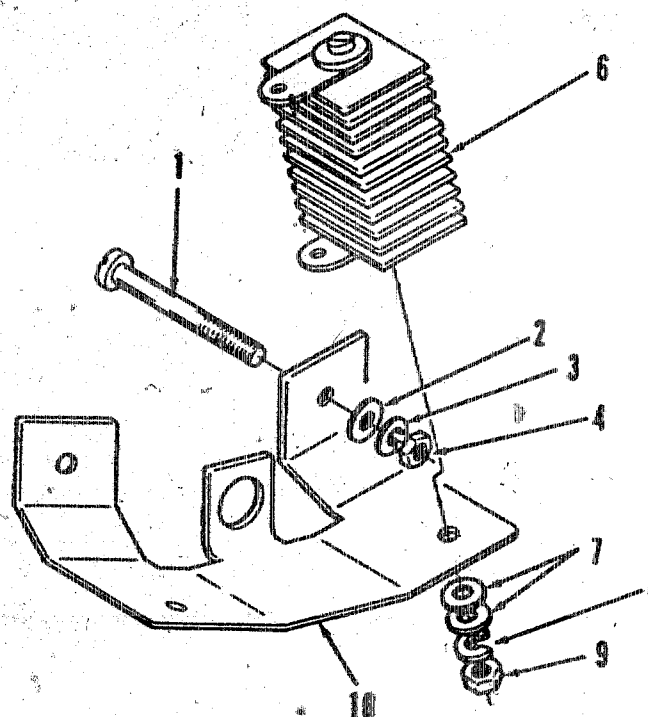
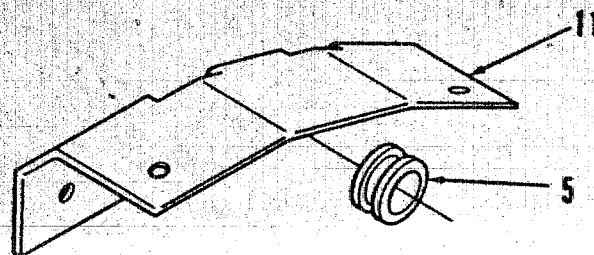
# Exciter Rotor Components



G1092-1

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Rotor, Exciter (Includes Heat Sinks and Diodes)	7	850-0030	4	Washer, Lock - Spring (#10)
	201-1902	1	Standard	8	508-0156	4	Washer, Insulating
	201-2453	1	Environmental Protected	9	526-0009	4	Washer, Flat (#10)
1	813-0100	2	Screw, Machine - Round Head (#10-32 x 1/2")	10	508-0187	4	Spacer, Stepped
2	870-0053	2	Nut, Hex (#10-32)	11	332-0050	2	Clamp, Loop
3	850-0030	2	Washer, Lock - Spring (#10)	12	508-0093	2	Grommet
4	526-0008	2	Washer, Flat (#10)	13	868-0001	6	Nut, Hex (1/4-28)
5	813-0110	4	Screw, Machine - Round Head (#10-32 x 2")	14	850-0040	6	Washer, Lock - Spring (1/4")
6	870-0053	4	Nut, Hex (#10-32)	15	358-0011	3	Rectifier, Diode - Positive (CR1, CR2, CR3)
				16	358-0012	3	Rectifier, Diode - Negative (CR4, CR5, CR6)
				17	363-0049	1	Sink, Heat
				18	363-0050	1	Sink, Heat

# Voltage Suppressor Components

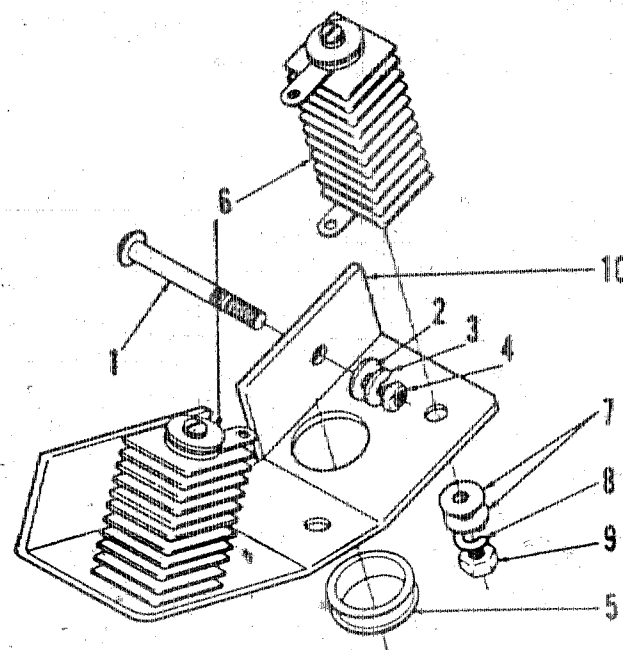
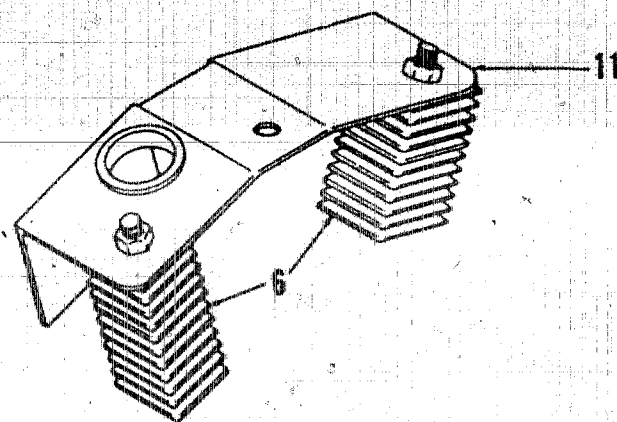


XES1229

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	813-0112	4	Screw, Machine - Round Head (#10-32 x 2-1/2")	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	363-0054	1	Sink, Heat
5	508-0093	2	Grommet	11	363-0055	1	Sink, Heat



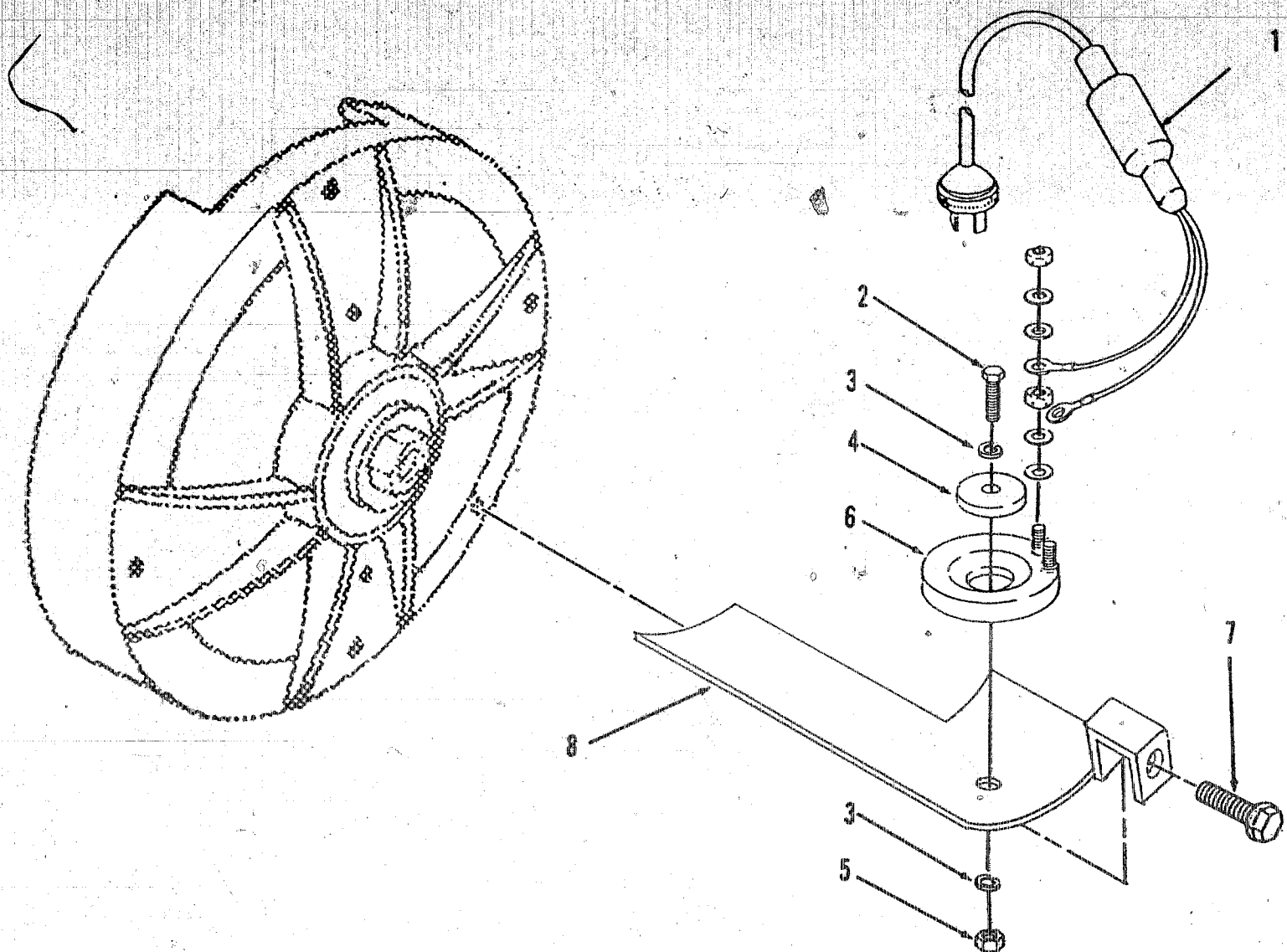
# Dual Voltage Suppressor Components



XES1230

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	232-2639	1	Suppressor, Voltage - Dual	6	305-0526	2	Set, Voltage Suppressor
1	813-0112	8	Screw, Machine - Round Head (#10-32 x 2-1/2")	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
5	508-0093	2	Grommet	11	363-0033	1	Sink, Heat

# Generator Heater

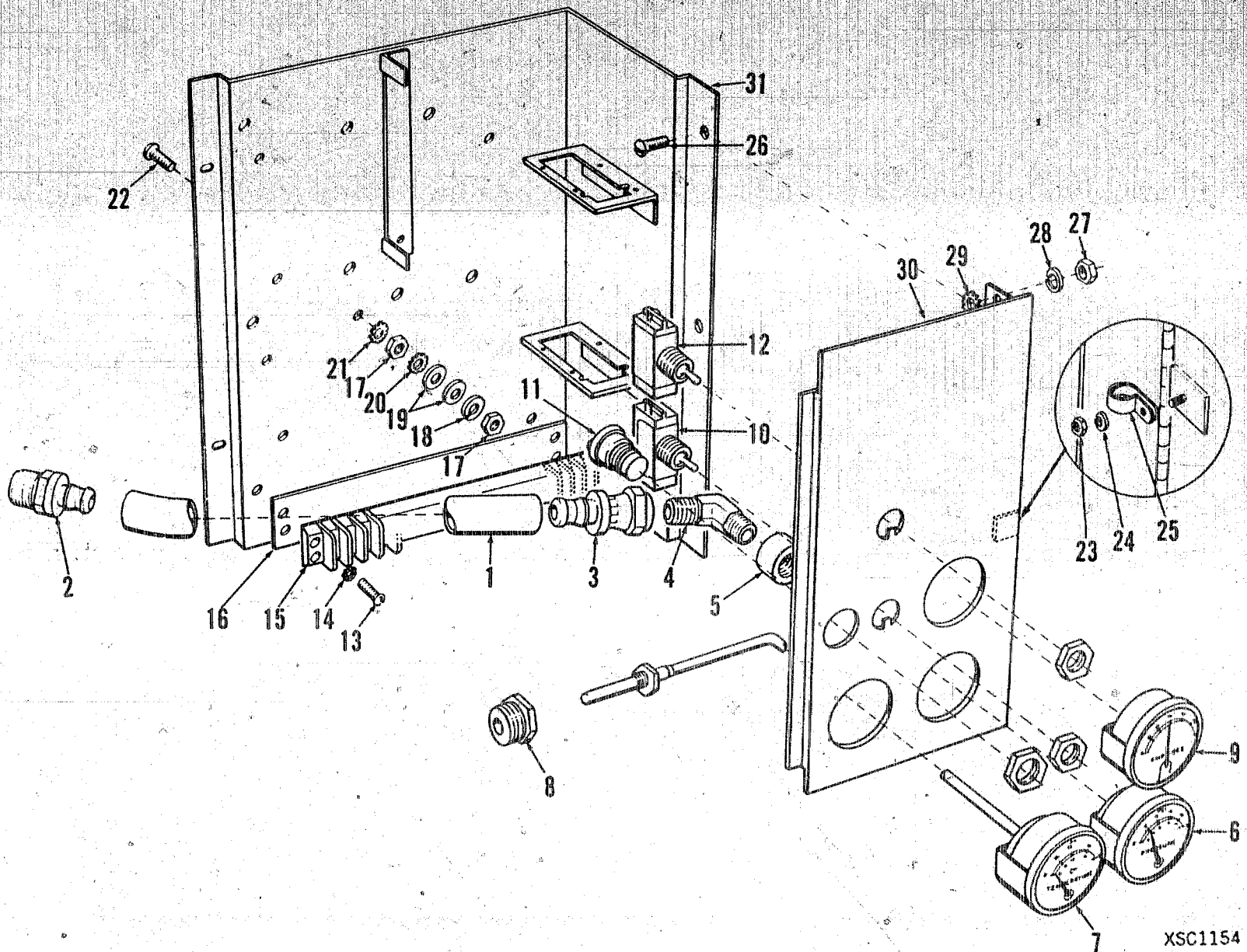


G1086-1

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Cable, Electrical (Includes Thermostat)
	335-0146	1	120 VAC
	335-0147	1	240 VAC
2	800-0004	1	Screw, Cap - Hex Head (1/4-20 x 5/8")
3	850-0038	1	Washer, Lock - Spring (1/4")
4	526-0158	1	Washer, Flat (17/64" ID x 1" OD x 1/8" Thick)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
5	862-0001	1	Nut, Hex (1/4-20)
6			Heater, Electrical
	333-0059	1	125 Watt, 120 VAC
	333-0192	1	200 Watt, 240 VAC
7	821-0014	1	Screw, Self-locking - Hex (5/16-18 x 1/2")
8			Bracket, Mounting
	232-2446	1	Used with 120 VAC Heater
	232-2832	1	Used with 240 VAC Heater

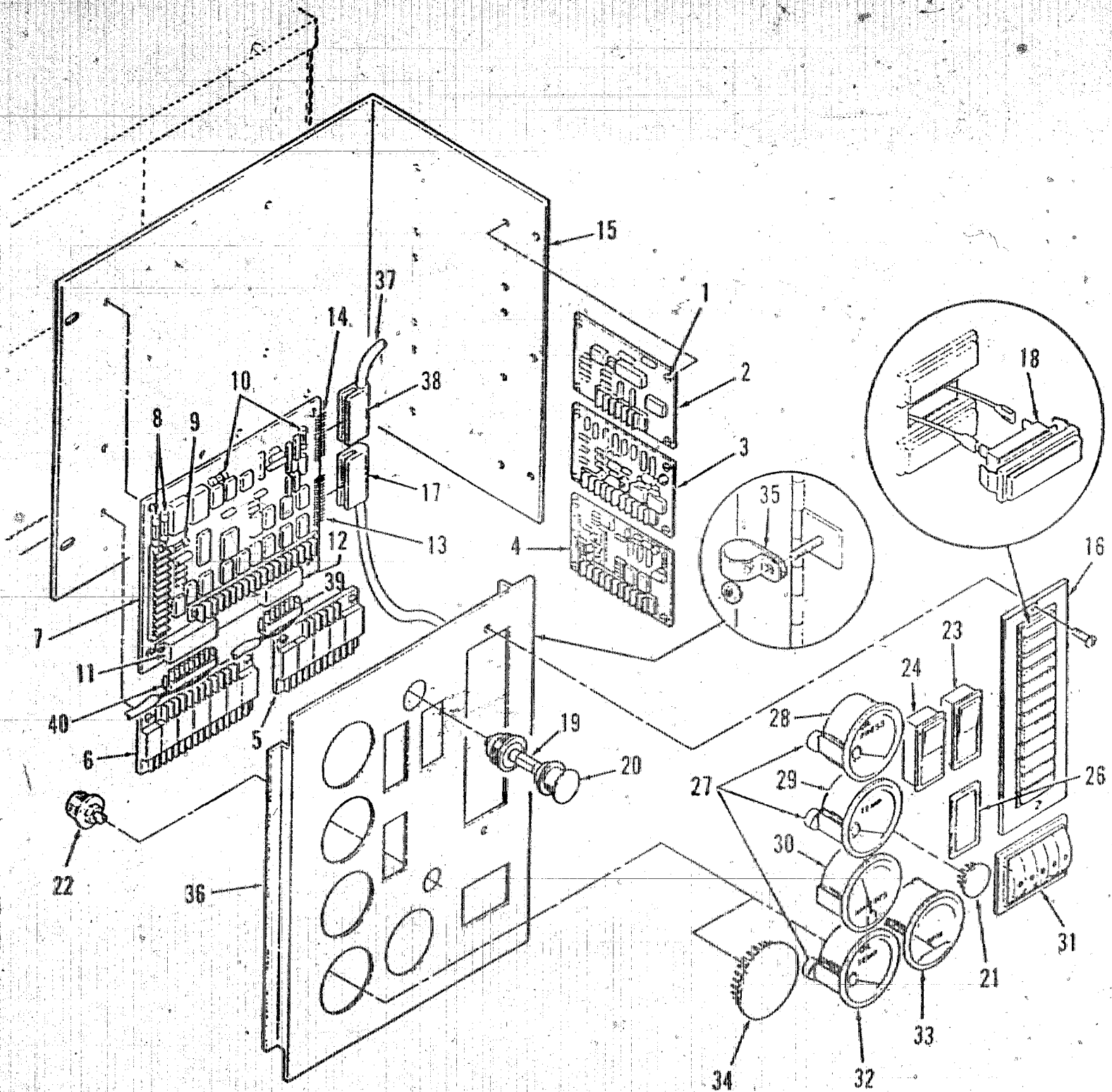
# Engine Control Mechanical Gauges



XSC1154

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-1077	1	Hose	14	853-0003	2	Washer, Lock - ET (#6)
2	502-0444	1	Adapter, Pipe to Hose - Male	15	332-0795	1	Block, Terminal - 20 Place
3	502-0445	1	Adapter, Pipe to Hose - Female	16	332-1241	1	Strip, Marker
4	502-0583	1	Elbow, Pipe - 45 Degree	17	871-0010	2	Nut, Hex - Brass (#10-32)
5	502-0051	1	Coupling, Pipe	18	850-0030	2	Washer, Lock - Spring (#10)
6	193-0232	1	Gauge, Pressure - Oil	19	526-0062	2	Washer, Flat - Brass (#10)
	193-0233	1	0 - 75 Pounds	20	853-0008	1	Washer, Lock - ET (#10)
7			Gauge, Temperature - Water	21	856-0003	1	Washer, Lock - EIT (#10)
			(Includes Reducer)	22	815-0203	1	Screw, Machine - Round Head (#10-32 x 7/8")
	193-0234	1	72" Capillary Tube	23	870-0053	1	Nut, Hex (#10-32)
	193-0235	1	84" Capillary Tube	24	850-0030	1	Washer, Lock - Spring (#10)
	193-0236	1	96" Capillary Tube	25	332-0051	2	Clamp, Loop
	193-0305	1	144" Capillary Tube	26	815-0026	5	Screw, Machine - Truss Head (#10-32 x 3/8")
8	NFS	1	Reducer, Hex (Part of Gauge)	27	870-0053	1	Nut, Hex (#10-32)
9	302-0061	1	Ammeter	28	850-0030	1	Washer, Lock - Spring (#10)
10	308-0088	1	Switch, Toggle	29	856-0003	1	Washer, Lock - EIT (#10)
11	308-0297	1	Switch, Push	30	301-4009	1	Panel, Control
12	308-0155	1	Switch, Toggle	31	301-3253	1	Bracket, Mounting
13	812-0066	2	Screw, Machine - Round Head (#6-32 x 3/4")				

# Engine Control Begin Spec D



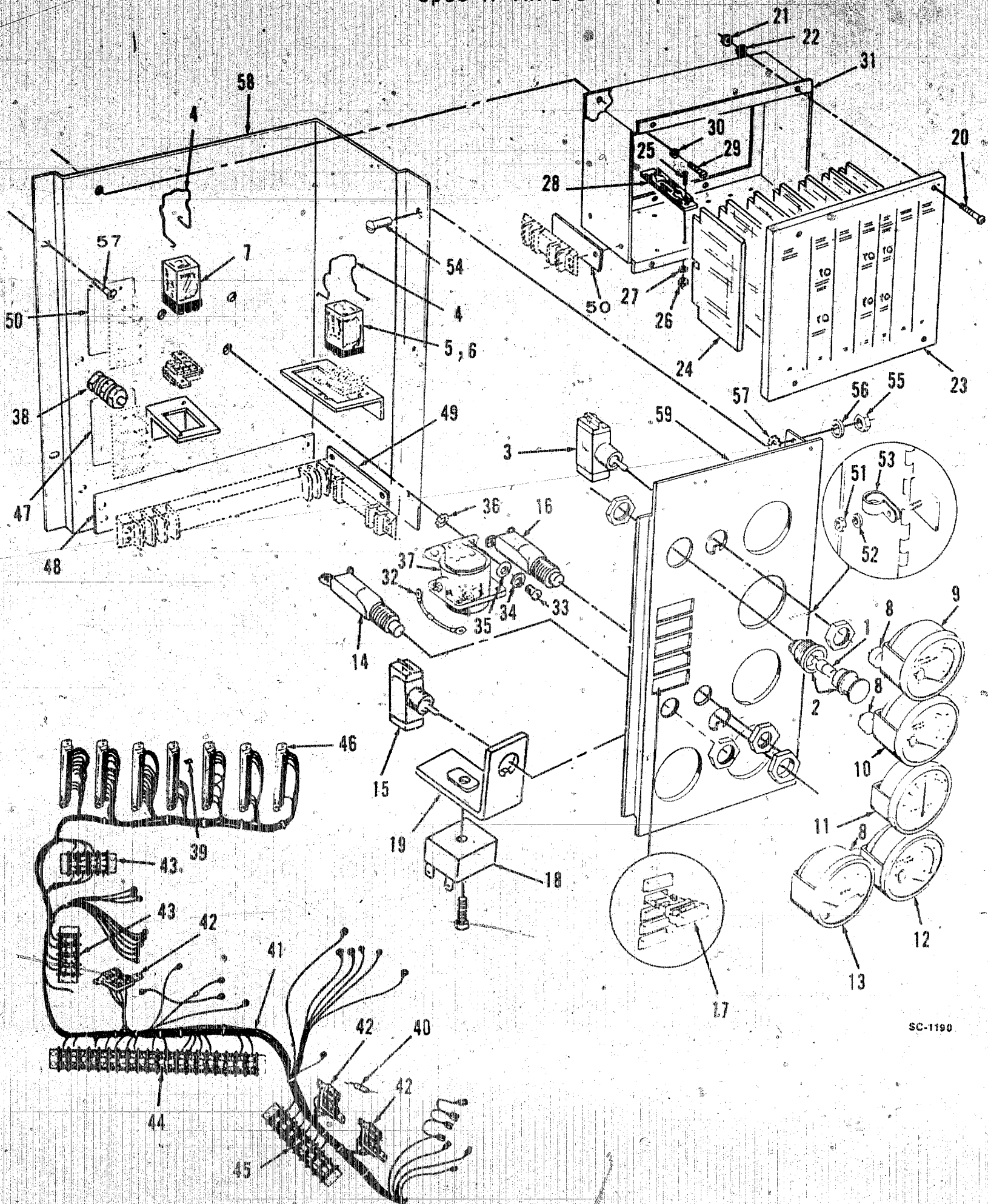


# **Engine Control Begin Spec D**

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)
2	300-2900	1	Board, Time Delay, Start/Stop - 24 VDC (A15)	18	323-1302	13	Contact, Pin
3			Board, Magnetic Sensor, Start Disconnect/Over Speed, Sensor (A16)	19	322-0369-02	1	Lamp, Incandescent - 1/3 Watt, 28 VDC
	300-2903	1	Standard	20	322-0017	1	Lamp, Incandescent - 28 VDC (DS11)
	300-2904	1	Precision	21	322-0361	1	Holder, Lamp
4	300-2906	1	Board, Over-Under Voltage Sensor - 24 VDC (A17)	22	517-0131	1	Plug, Button
5	300-2856	1	Board, Relay - 24 VDC (A13)	23	151-0402	1	Potentiometer (R11)
6	300-2863	1	Board, Relay - 24 VDC (A14)	24	308-0785	1	Switch, Push (S11)
7			Board, Engine Monitor (A11) (Includes Fuses and Connectors)	26	308-0784	1	Switch, Push (S12)
	300-2808	1	24 VDC, 2 Light	27	301-6257	1	Cover
	300-2812	1	24 VDC, 12 Light	28	193-0250	3	Resistor, Gauge (R12,R13,R14)
8	321-0270	2	Fuse, Cartridge - 20 Amp (F1, F2)	29	193-0352	1	Gauge, Pressure - Oil (M11)
9	321-0231	1	Fuse, Cartridge - 15 Amp (F3)	30	193-0351	1	Gauge, Temperature - Water (M12)
10	321-0094	2	Fuse, Cartridge - 5 Amp (F4, F5)	31	302-1790	1	Ammeter (M13)
11	323-1305	1	Connector, 8 Pin (P1)	32	302-0885	1	Meter, Totalizing - Time (M14)
12	323-1303	1	Connector, 6 Pin (P2)	33	193-0330	1	Gauge, Temperature - Oil (M15)
13	323-1309	1	Connector, 13 Pin (P3)	34	302-1715	1	Tachometer (M16)
14	323-1307	1	Connector, 12 Pin (P4)	35	517-0221	1	Plug, Button
15	301-8851	1	Bracket, Mounting	36	322-0052	1	Clamp, Loop
	821-0004	4	Screw, Self-locking - Hex (#10-32 x 5/16")		870-0131	1	Nut, Self-locking - Hex (#10-32)
16			Module, Indicator - Fault (A12) (Includes Connector)	37	301-9055-01	1	Door, Control
	322-0358-02	1	24 VDC, 2 Light		301-9055-02	1	5 Meter Holes
	322-0360-02	1	24 VDC, 12 Light	38	338-1817	1	3 Meter Holes
	815-0385	2	Screw, Machine - Round Head (#6-32 x 1/2")	39	323-1308	1	Harness, Wiring - DC (Includes Connector)
	870-0183	2	Nut, Self-locking - Hex (#6-32)		323-1302	12	Housing, 12 Pin (J4)
					323-1304	1	Contact, Pin
					323-1200	6	*Housing, 6 Pin
					323-1306	1	*Contact, Pin
					323-1200	8	*Housing, 8 Pin
							*Contact, Pin

\* - Parts Included in Engine Wiring Harness

# Engine Control Spec A Thru C



SC-1190

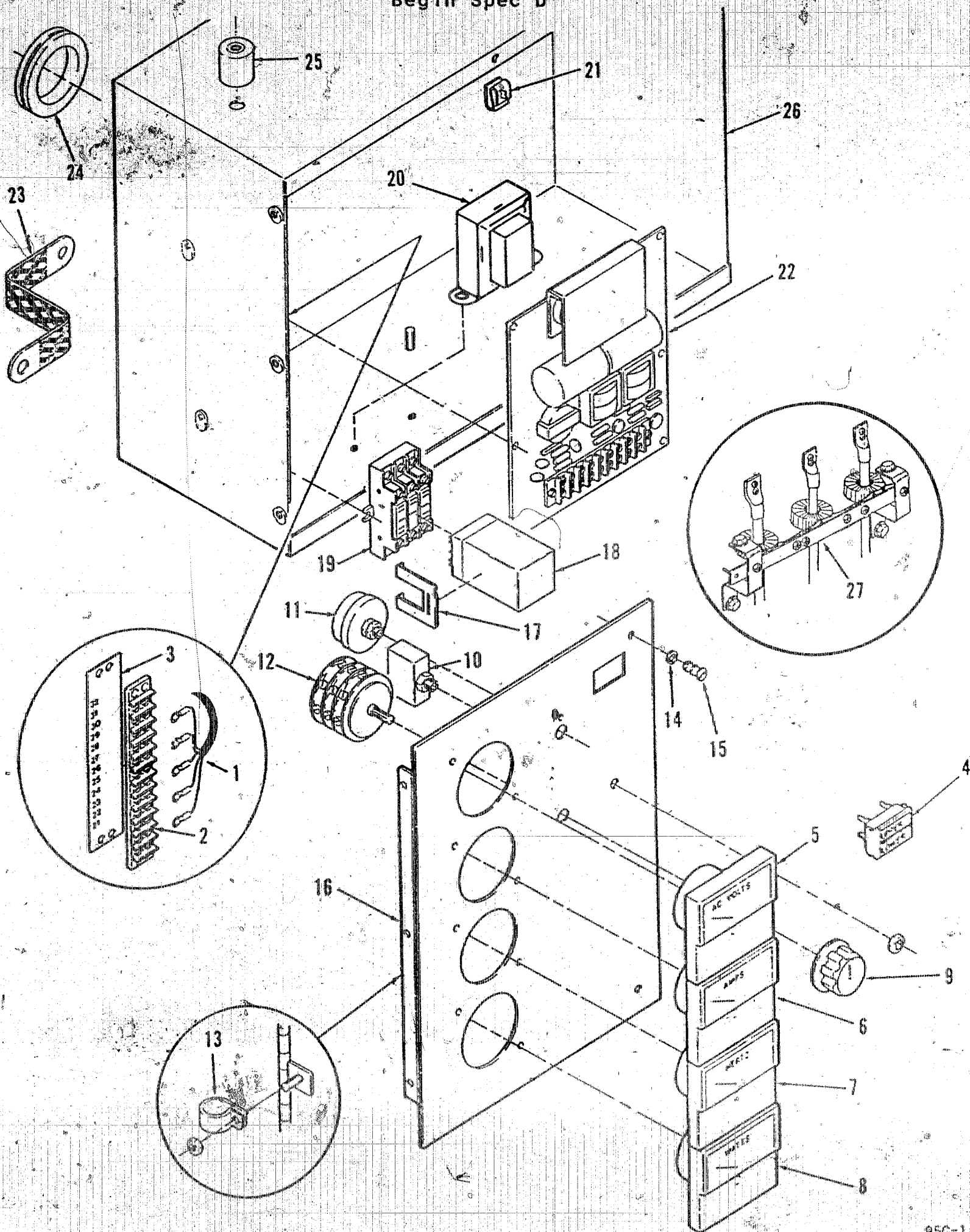
# **Engine Control Spec A Thru C**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	322-0017	1	Lamp, 24 VDC (DS11)	29	813-0100	4	Screw, Machine - Round Head (#10-32 x 1/2")
2	322-0149	1	Light, Panel	30	850-0030	4	Washer, Lock - Spring (#10)
3	308-0002	1	Switch, Toggle (S11)	31	301-3588	1	Rack
4	307-1157	3	Spring, Holddown - Relay	32	357-0018	1	Diode with Terminals
5	307-1056	1	Relay, Ignition (K12)	33	813-0098	2	Screw, Machine - Round Head (#10-32 x 3/8")
6	307-1056	1	Relay, Start Disconnect (K11)	34	850-0030	2	Washer, Lock - Spring (#10)
7	307-1061	1	Relay, Start Protection (K14)	35	526-0009	2	Washer, Flat (#10)
8	193-0250	3	Resistor, Gauge (R11, R12, R13)	36	856-0003	2	Washer, Lock - EIT (#10)
9	193-0243	1	Gauge, Pressure - Oil, 12 VDC (M11)	37	307-0061	1	Relay, Starting - 24 VDC (K13)
10	193-0245	1	Gauge, Temperature - Water - 12 VDC (M12)	38			Terminal, Ground
11	302-1362	1	Ammeter (M13)		871-0010	2	(Includes Parts Marked *)
12	193-0248	1	Gauge, Temperature - Oil - 12 VDC (M14)		850-0030	1	*Nut, Hex (#10-32)
13	302-0749	1	Tachometer (M15)		526-0062	2	*Washer, Lock - Spring (#10)
14	308-0337	1	Switch, Push - Lamp Test (S13)		853-0008	1	*Washer, Flat (#10)
15			Switch, Toggle - Selector (S12)		856-0003	1	*Washer, Lock - ET (#10)
	308-0220	1	Standard		815-0203	1	*Washer, Lock - EIT (#10)
	308-0347	1	Penn State				*Screw, Machine - Round Head (#10-32 x 7/8")
	308-0539	1	Alarm Control	39	332-1276	7	Plug, Keying
16	308-0091	1	Switch, Push - Alarm Reset (S14)	40	357-0004	2	Diode (CR11, CR12)
17			Light, Indicator - 28 VDC	41			@Harness, Wiring
	322-0119	1	Overcrank (DS12)		338-0715	1	Set with Single Fault Light
	322-0120	1	Low Oil Pressure (DS14)		338-0705	1	Set with Five Fault Lights
	322-0121	1	High Engine Temperature (DS15)	42	323-0765	3	Socket, Relay (Less Terminals)
	322-0122	1	Low Engine Temperature (DS16)		332-1280	11	Terminal
	322-0123	1	Overspeed (DS13)	43	332-0537	2	Block, Terminal (TB12, 14)
	322-0129	1	Fault (DS12)	44	332-1005	1	Block, Terminal (TB11)
	322-0315	1	Switch Off (DS17)	45	332-0699	1	Block, Terminal (TB13)
	322-0137	1	Blank, No Legend	46	332-1271	7	Connector
18	333-0194-02	1	Flasher, 24 VDC	47	332-1561	1	Strip, Marker
	813-0105	1	Screw, Machine - Round Head (#10-32 x 1")	48	332-1239	1	Strip, Marker
				49	332-1559	1	Strip, Marker
19	301-6053	1	Bracket, Mounting - Flasher	50	332-1560	1	Strip, Marker
20	812-0063	4	Screw, Machine - Round Head (#6-32 x 1/2")	51	870-0053	1	Nut, Hex (#10-32)
21	860-0006	4	Nut, Hex (#6-32)	52	850-0030	1	Washer, Lock - Spring (#10)
22	853-0003	4	Washer, Lock - ET (#6)	53	332-0051	1	Clamp, Loop
23	301-3635	1	Cover	54	815-0026	5	Screw, Machine - Truss Head (#10-32 x 3/8")
24			Control	55	870-0053	1	Nut, Hex (#10-32)
	300-0953	1	Board, Engine Monitor (A12)	56	850-0030	1	Washer, Lock - Spring (#10)
	300-0954	1	Board, Engine Shutdown (A11)	57	856-0003	1	Washer, Lock - ET (#10)
	300-0955	1	Board, Remote Indicator (A13)	58	301-3621	1	Bracket, Mounting
	300-0956	1	Board, Cyle Cranker (A14)	59			Panel, Control
	300-0957	1	Board, Overspeed Sensor (A16)		301-3661	1	Single Fault Light Control
	300-0958	1	Board, Start Disconnect (A17)		301-3978	1	3 Meters, 1 Panel Light
	300-0973	1	Board, Start/Stop (A15)		301-3979	1	4 Meters, 1 Panel Light
	300-0977	1	Board, Standard Cranker (A14)				5 Meters, 1 Panel Light
	300-0987	1	Board, Bypass (A15)		301-3629	1	Five Fault Light Control
25	812-0063	28	Screw, Machine - Round Head (#6-32 x 1/2")		301-3976	1	3 Meters, 1 Panel Light
26	860-0006	28	Nut, Hex (#6-32)		301-3977	1	4 Meters, 1 Panel Light
27	853-0003	28	Washer, Lock - ET (#6)				5 Meters, 1 Panel Light
28	323-0814	14	Guide		301-7079	1	Six Fault Light Control
							3 Meters, 1 Panel Light

@ - Standard Harness Listed; Sets with 4 or 5 Meters and other special features may require additional electrical leads.  
 \* - Parts Included in Ground Terminal.



# Generator Control Begin Spec D

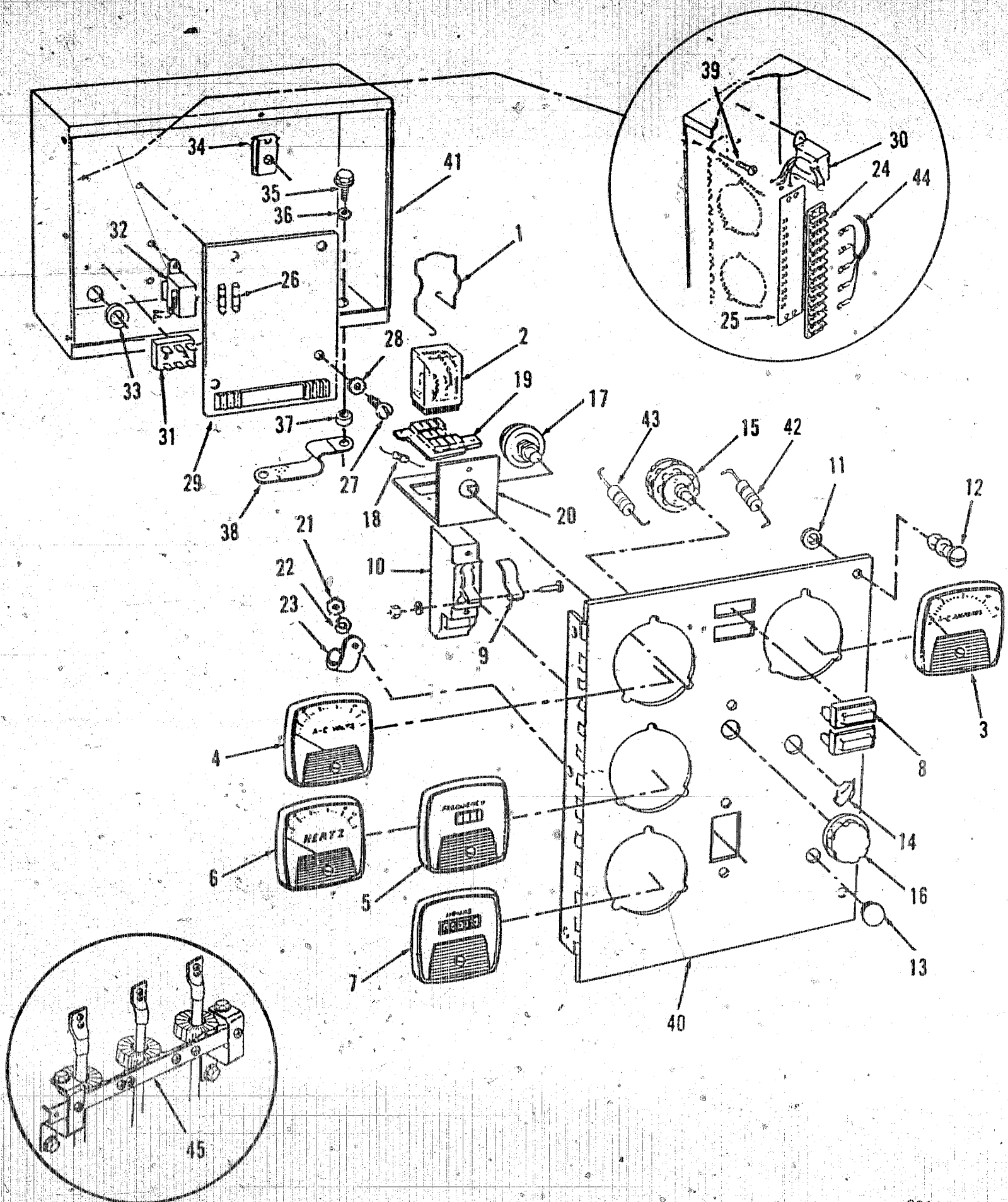




# Generator Control Begin Spec D

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Harness, Wiring - (Includes Terminal Block)	16			Door, Control
	338-1818	1	Control with Meters		301-9054-01	1	4 Meter Holes
	338-1853	1	Control without Meters		301-9054-02	1	3 Meter Holes
	812-0065	2	Screw, Machine - Round Head (#6-32 x 5/8")		301-9054-03	1	No Meter Holes
2	332-0607	1	Block, Terminal (TB1)		821-0004	3	Screw, Self-locking - Hex (#10-32 x 5/16")
3	332-2723	1	Strip, Marker	17	307-1987	2	Clip, Relay
4	322-0363	1	Light, Indicator - Dual (DS21, DS22)	18	307-1056	1	Relay, 24 VDC (K21)
5			Voltmeter (M21)	19	323-0804	1	Socket, Relay
	302-1148	1	0-300/600 VAC, Code 17, 517		815-0544	2	Screw, Machine - Round Head with IT Lock Washer (#6-32 x 1/2")
	302-1753	1	0-750 VAC, Code 9	20	315-0642	1	Transformer, Step-down - Code 9 Only (T21)
6			Ammeter (M22)		812-0077	2	Screw, Machine - Round Head (#8-32 x 3/8")
	302-1730	1	0-500 Amp, Code 9		856-0002	2	Washer, Lock - EIT (#8)
	302-1729	1	0-750/1500 Amp, Code 17, 517	21	406-0332	2	Receptacle, Fastener
7	302-1720	1	Meter, Frequency (M23)	22	300-2880	1	Regulator, Voltage (VR21)
8		1	Wattmeter (M24) (See Separate page for Components)		815-0544	6	Screw, Machine - Round Head with IT Lock Washer (#6-32 x 1/2")
9	303-0032	1	Knob	23	337-0049	1	Strap, Electrical
10			Breaker, Circuit (CB21)		800-0024	1	Screw, Cap - Hex Head (5/16-18 x 1/2")
	320-1121	1	Standard		856-0008	1	Washer, Lock - EIT (5/16")
	320-1438	1	With Aux Contact	24	508-0051	1	Grommet
11	303-0261	1	Rheostat (R21)	25	402-0527	2	Mount, Vibration
12	308-0284	1	Switch, Rotary (S21)		800-0045	4	Screw, Cap - Hex Head (5/16-18 x 3/8")
13	332-0052	1	Clamp, Loop		850-0045	4	Washer, Lock - Spring (5/16")
	870-0131	1	Nut, Self-locking - Hex with ET Lock Washer (#10-32)	26	301-8065	1	Box, Control
14	406-0334	2	Clip, Fastener	27		1	Current Transformer (See Separate Page for Components)
15	406-0333	2	Stud, Fastener				

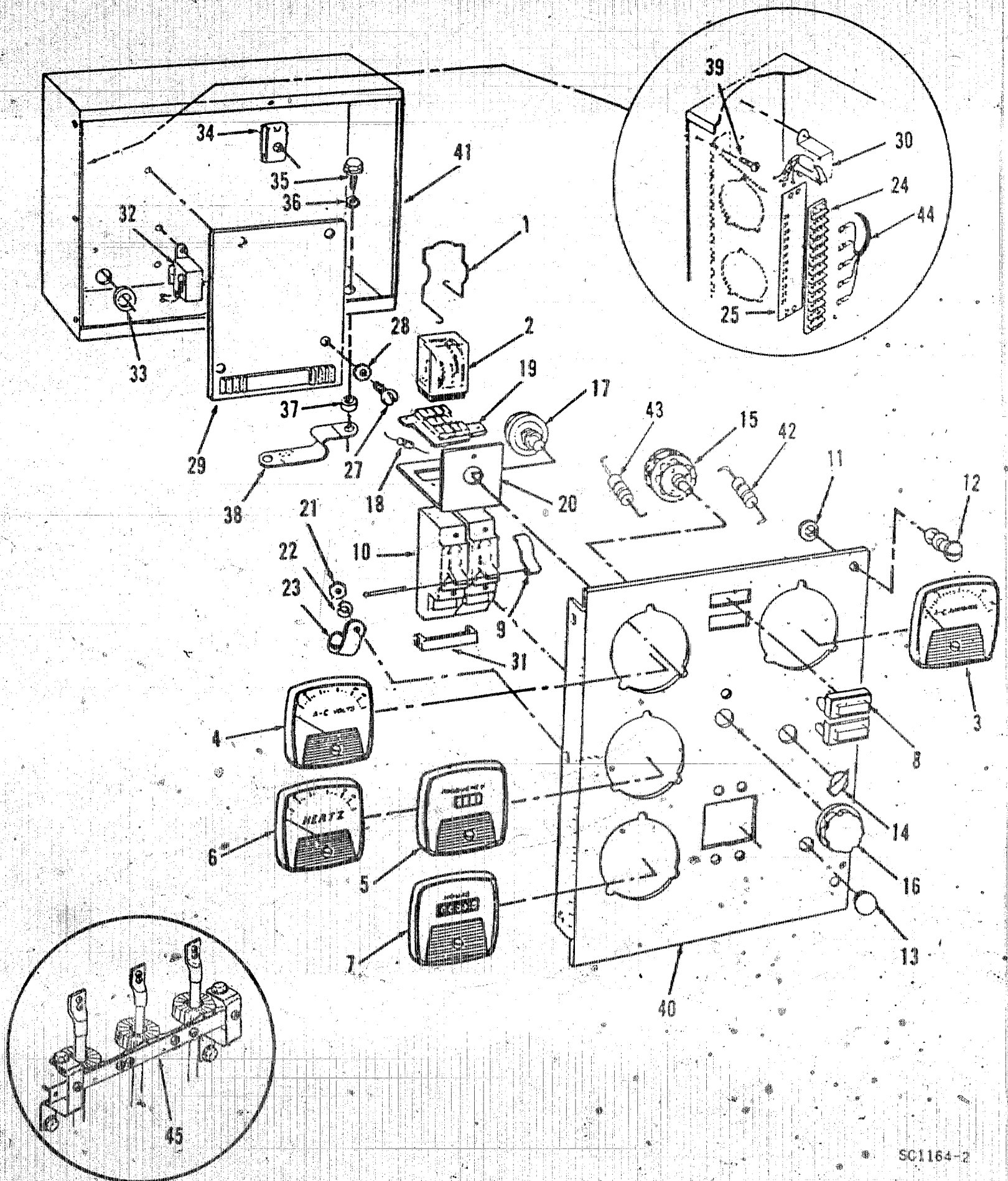
# Generator Control Spec A thru C



# Generator Control Spec A thru C

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	307-1157	1	Spring, Relay	24			Block, Terminal (TB21)
2	307-1061	1	Relay (K21)	332-0607	1		12 Place
3			Ammeter (M21)	332-0795	1		16 Place
	302-0414	1	0-500 Amp, Code 9	812-0066	2		Screw, Machine - Round Head (#6-32 x 3/4")
	302-0415	1	0-750 Amp, Code 6, 7	853-0003	2		Washer, Lock - ET (#6)
	302-0640	1	0-1200 Amp, Code 5	850-0020	2		Washer, Lock - Spring (#6)
	302-0879	1	0-600/1200 Amp, Code 517				Strip, Marker
	302-0880	1	0-750/1500 Amp, Code 17	25			16 Place
4			Voltmeter (M22)	332-1242	1		12 Place
	302-0421	1	0-300 VAC, Code 5	332-1248	1		
	302-0612	1	0-500 VAC, Code 7	26	321-0204	2	Fuse, Cartridge - 1/4 Amp
	302-0422	1	0-600 VAC, Code 6	27	812-0065	4	Screw, Machine - Round Head (#6-32 x 5/8")
	302-0779	1	0-750 VAC, Code 9	28	853-0003	4	Washer, Lock - ET (#6)
	302-0718	1	0-300/600 VAC, Code 17, 517	29			Regulator, Voltage (VR21)
5			Meter, Frequency - Reed (M23)	332-1268	1		120 VAC Input Signal Req'd
	302-0221	1	230 VAC, 60 Hz - Code 5, 6, 7, 9, 17	332-1956	1		240 VAC Input Signal Req'd
	302-0256	1	230 VAC, 50 Hz - Code 517	30			Transformer, Voltage (T21)
6			Meter, Frequency - Pointer (M23)	315-0342	1		120 VAC
	302-0810	1	208 VAC, 60 Hz - Code 7, 17	315-0431	1		240 VAC
	302-0811	1	240 VAC, 60 Hz - Code 5, 6, 9	812-0061	2		Screw, Machine - Round Head (#6-32 x 3/8")
	302-0894	1	240 VAC, 50 Hz - Code 517	853-0003	2		Washer, Lock - ET (#6)
7			Meter, Totalizing - Time (M24)	31	305-0675	1	Rectifier, Bridge (CR21)
	302-0466	1	60 Hz	812-0070	2		Screw, Machine - Round Head (#6-32 x 1-1/4")
	302-0469	1	50 Hz	850-0020	2		Washer, Lock - Spring (#6)
8			Light, Indicator - Red - 125 VAC	32	315-0384	1	Reactor (L21)
	322-0130	1	Upper Scale (DS21)	812-0061	2		Screw, Machine - Round Head (#6-32 x 3/8")
	322-0131	1	Lower Scale (DS22)	853-0003	2		Washer, Lock - ET (#6)
9	320-0307	1	Lock, Handle	33	508-0001	1	Grommet
	815-0203	1	Screw, Machine - Round Head (#10-32 x 7/8")	34	406-0332	2	Receptacle, Fastener
	854-0010	1	Washer, Lock - ET (#10)	35	800-0045	4	Screw, Cap - Hex Head (5/16-18 x 3/8")
	871-0010	1	Nut, Hex (#10-32)	36	850-0045	4	Washer, Lock - Spring (5/16")
10	320-0455	1	Breaker, Circuit (CB21)	37	402-0078	4	Dampener, Vibration
	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")	38	337-0049	1	Strap, Electrical - Ground
	850-0020	2	Washer, Lock - Spring (#6)	39	815-0026	3	Screw, Machine - Truss Head (#10-32 x 3/8")
11	406-0334	2	Clip, Fastener	40			Panel, Control
12	406-0333	2	Stud, Fastener	301-3342	1		4 Meters, Code 5, 6, 7, 9
13	517-0131	1	Plug, Plastic	301-3170	1		4 Meters, Code 17, 517
14	303-0076	1	Knob, Pointer	301-3449	1		5 Meters, Code 5, 6, 7, 9
15	308-0284	1	Switch, Selector (S21)	301-3312	1		5 Meters, Code 17, 517
16	303-0032	1	Knob	41	301-3158	1	Box, Control
17	303-0170	1	Rheostat (R21)	42	350-0098	1	Resistor (3 k Ohms)
18	350-0556	1	Resistor (R22)	43	350-0101	1	Resistor (3.9k Ohms)
19	323-0765	1	Socket, Relay (Less Terminals)	44			Harness, Wiring
	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")	338-0730	1		Code 17, 517
	853-0003	2	Washer, Lock - ET (#6)	338-0759	1		Code 5, 6, 9
	860-0005	2	Nut, Hex (#6-32)	338-0916	1		Code 7
	332-1280	1	Terminal				Current Transformer (See Separate Page for Components)
20	301-3244	1	Bracket, Mounting				
21	870-0053	1	Nut, Hex (#10-32)				
22	850-0030	1	Washer, Lock - Spring (#10)				
23	332-0051	1	Clamp, Loop				

# Generator Control Switching Regulator Spec A thru C

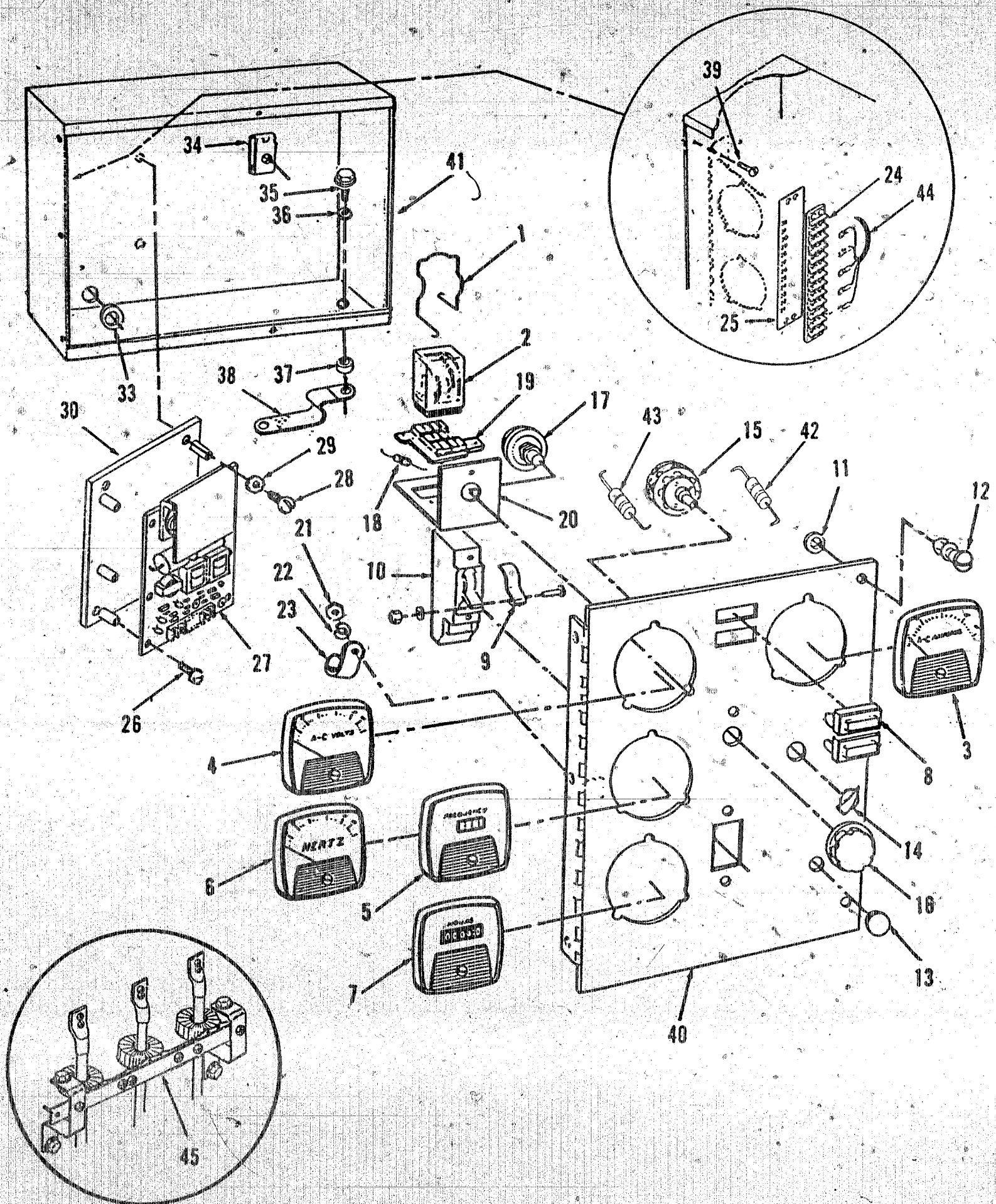




# Generator Control Switching Regulator Spec A thru C

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	307-1157	1	Spring, Relay	22	850-0030	1	Washer, Lock - Spring (#10)
2	307-1061	1	Relay (K21)	23	332-0051	1	Clamp, Loop
3			Ammeter (M21)	24			Block, Terminal (TB21)
	302-0414	1	0-500 Amp, Code 9		332-0607	1	12 Place
	302-0415	1	0-750 Amp, Code 6, 7		332-0795	1	16 Place
	302-0640	1	0-1200 Amp, Code 5		812-0066	2	Screw, Machine - Round Head (#6-32 x 3/4")
	302-0879	1	0-600/1200 Amp, Code 517		853-0003	2	Washer, Lock - ET (#6)
	302-0880	1	0-750/1500 Amp, Code 17		850-0020	2	Washer, Lock - Spring (#6)
4			Voltmeter (M22)				Strip, Marker
	302-0421	1	0-300 VAC, Code 5	25			16 Place
	302-0612	1	0-500 VAC, Code 7		332-1242	1	12 Place
	302-0422	1	0-600 VAC, Code 6		332-1248	1	12 Place
	302-0779	1	0-750 VAC, Code 9	27	812-0065	4	Screw, Machine - Round Head (#6-32 x 5/8")
	302-0718	1	0-300/600 VAC, Code 17, 517				Washer, Lock - ET (#6)
5			Meter, Frequency - Reed (M23)	28	853-0003	4	Regulator, Voltage (VR21)
	302-0221	1	230 VAC, 60 Hz - Code 5, 6, 7, 9, 17	29			Semi-Frequency Sensitive
	302-0256	1	230 VAC, 50 Hz - Code 517		332-1956	1	Voltage Sensitive
6			Meter, Frequency - Pointer (M23)		332-2044	1	Voltage Sensitive
	302-0810	1	208 VAC, 60 Hz - Code 7, 17	30	332-2045	1	Frequency Sensitive
	302-0811	1	240 VAC, 60 Hz - Code 5, 6, 9		315-0431	1	Transformer, Voltage (T21)
	302-0894	1	240 VAC, 50 Hz - Code 517		812-0061	2	Screw, Machine - Round Head
7			Meter, Totalizing - Time (M24)	31	320-0202	1	Bar, Locking - with Thru Pin
	302-0466	1	60 Hz	32	315-0384	1	Reactor (L21)
	302-0469	1	50 Hz		812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")
8			Light, Indicator - Red - 125 VAC		853-0003	2	Washer, Lock - ET (#6)
	322-0130	1	Upper Scale (DS21)	33	508-0001	1	Grommet
	322-0131	1	Lower Scale (DS22)	34	406-0332	2	Receptacle, Fastener
9	320-0307	1	Lock, Handle	35	800-0045	4	Screw, Cap - Hex Head (5/16-18 x 3/8")
10	320-0455	2	Breaker, Circuit (CB21)				Washer, Lock - Spring (5/16")
	812-0061	4	Screw, Machine - Round Head (#6-32 x 3/8")	36	850-0045	4	Dampener, Vibration
	850-0020	4	Washer, Lock - Spring (#6)	37	402-0078	4	Strap, Electrical - Ground
11	406-0334	2	Clip, Fastener	38	337-0049	1	Screw, Machine - Truss Head (#10-32 x 3/8")
12	406-0333	2	Stud, Fastener	39	815-0026	3	Panel, Control
13	517-0131	1	Plug, Plastic	40			4 Meters, Code 17, 517
14	303-0076	1	Knob, Pointer		301-6298	1	4 Meters, Code 5, 6, 7, 9
15	308-0284	1	Switch, Selector (S21)		301-6412	1	5 Meters, Code 17, 517
16	303-0032	1	Knob		301-8775	1	Box, Control
17	303-0170	1	Rheostat (R21)	41	301-3158	1	Resistor (3.k Ohms)
18	350-0556	1	Resistor (R22)	42	350-0098	1	Resistor (3.9k Ohms)
19	323-0765	1	Socket, Relay (Less Terminals)	43	350-0101	1	Harness, Wiring
	812-0061	2	Screw, Machine - Round Head (#6-32 x 3/8")	44			Code 17, 517
	853-0003	2	Washer, Lock - ET (#6)		338-0730	1	Code 5, 6, 9
	860-0005	2	Nut, Hex (#6-32)		338-0759	1	Code 7
	332-1280	11	Terminal	45	338-0916	1	Current Transformer (See Separate Page for Components)
20	301-3244	1	Bracket, Mounting				
21	870-0053	1	Nut, Hex (#10-32)				

Generator Control  
Torque Matched Regulator  
Spec A thru C

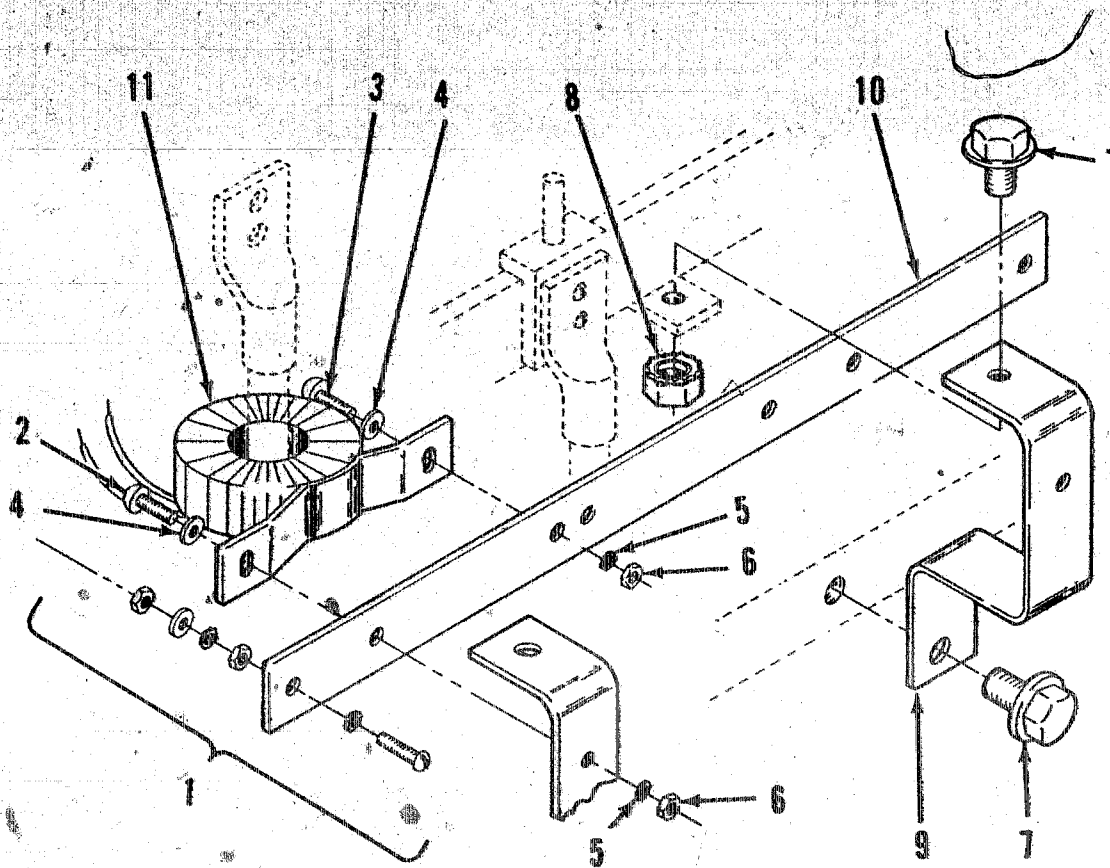


**Generator Control  
Torque Matched Regulator  
Spec A thru C**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	307-1157	1	Spring, Relay	20	301-3244	1	Bracket, Mounting
2	307-1061	1	Relay (K21)	21	870-0053	1	Nut, Hex (#10-32)
3			Ammeter (M21)	22	850-0030	1	Washer, Lock - Spring (#10)
	302-0414	1	0-500 Amp, Code 9	23	332-0051	1	Clamp, Loop
	302-0415	1	0-750 Amp, Code 6, 7	24			Block, Terminal (TB21)
	302-0640	1	0-1200 Amp, Code 5		332-0607	1	12 Place
	302-0879	1	0-600/1200 Amp, Code 517		332-0795	1	16 Place
	302-0880	1	0-750/1500 Amp, Code 17		812-0066	2	Screw, Machine - Round Head
4			Voltmeter (M22)				(#6-32 x 3/4")
	302-0421	1	0-300 VAC, Code 5		853-0003	2	Washer, Lock - ET (#6)
	302-0612	1	0-500 VAC, Code 7		850-0020	2	Washer, Lock - Spring (#6)
	302-0422	1	0-600 VAC, Code 6	25			Strip, Marker
	302-0779	1	0-750 VAC, Code 9		332-1242	1	16 Place
	302-0718	1	0-300/600 VAC, Code 17, 517		332-1248	1	12 Place
5			Meter, Frequency - Reed (M23)	26	815-0544	6	Screw, Machine - Round Head
	302-0221	1	230 VAC, 60 Hz - Code 5, 6, 7, 9, 17				with IT Lock Washer
	302-0256	1	230 VAC, 50 Hz - Code 517	27	300-2880	1	Regulator, Voltage (VR21)
6			Meter, Frequency - Pointer (M23)	28	812-0065	4	Screw, Machine - Round Head
	302-0810	1	208 VAC, 60 Hz - Code 7, 17				(#6-32 x 5/8")
	302-0811	1	240 VAC, 60 Hz - Code 5, 6, 9	29	853-0003	4	Washer, Lock - ET (#6)
	302-0894	1	240 VAC, 50 Hz - Code 517	30	301-9315	1	Bracket, Mounting
7			Meter, Totalizing - Time (M24)	33	508-0001	1	Grommet
	302-0466	1	60 Hz	34	406-0332	2	Receptacle, Fastener
	302-0469	1	50 Hz	35	800-0045	4	Screw, Cap - Hex Head
8			Light, Indicator - Red - 125 VAC				(5/16-18 x 3/8")
	322-0130	1	Upper Scale (DS21)	36	850-0045	4	Washer, Lock - Spring (5/16")
	322-0131	1	Lower Scale (DS22)	37	402-0078	4	Dampener, Vibration
9	320-0307	1	Lock, Handle	38	337-0049	1	Strap, Electrical - Ground
	815-0203	1	Screw, Machine - Round Head	39	815-0026	3	Screw, Machine - Truss Head
			(#10-32 x 7/8")				(#10-32 x 3/8")
	854-0010	1	Washer, Lock - ET (#10)	40			Panel, Control
	871-0010	1	Nut, Hex (#10-32)		301-3342	1	4 Meters, Code 5, 6, 7, 9
10	320-0455	1	Breaker, Circuit (CB21)		301-3170	1	4 Meters, Code 17, 517
	812-0061	2	Screw, Machine - Round Head		301-3449	1	5 Meters, Code 5, 6, 7, 9
			(#6-32 x 3/8")		301-3312	1	5 Meters, Code 17, 517
	850-0020	2	Washer, Lock - Spring (#6)	41	301-3158	1	Box, Control
11	406-0334	2	Clip, Fastener	42	350-0098	1	Resistor (3.k Ohms)
12	406-0333	2	Stud, Fastener	43	350-0101	1	Resistor (3.9k Ohms)
13	517-0131	1	Plug, Plastic	44			Harness, Wiring
14	303-0076	1	Knob, Pointer		338-0730	1	Code 17, 517
15	308-0284	1	Switch, Selector (S21)		338-0759	1	Code 5, 6, 9
16	303-0032	1	Knob		338-0916	1	Code 7
17	303-0170	1	Rheostat (R21)	45			Current Transformer
18	350-0556	1	Resistor (R22)				(See Separate Page for Components)
19	323-0765	1	Socket, Relay (Less Terminals)				
	812-0061	2	Screw, Machine - Round Head				
			(#6-32 x 3/8")				
	853-0003	2	Washer, Lock - ET (#6)				
	860-0005	2	Nut, Hex (#6-32)				
	332-1280	11	Terminal				



# Current Transformer

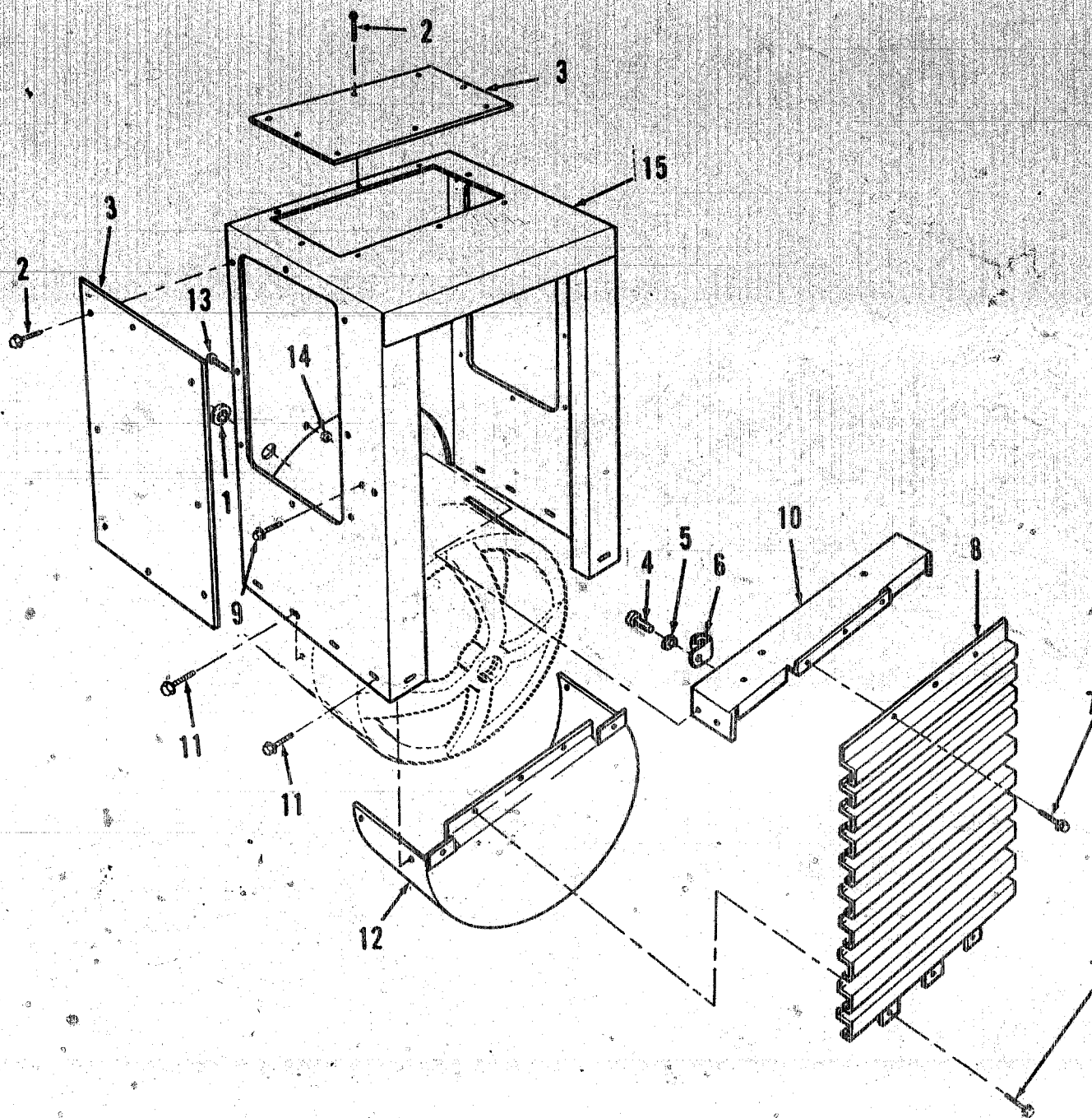


XES-1155

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	815-0203	1	Terminal, Ground	6	870-0053	6	Nut, Hex (#10-32)
	871-0010	3	Screw, Machine - Round Head (#10-32 x 7/8")	7	821-0029	4	Screw, Self-locking - Hex (3/8-16 x 3/4")
	856-0003	1	Nut, Hex (#10-32)	8	870-0281	4	Nut, Self-locking - Hex (3/8-16)
	854-0010	2	Washer, Lock - EIT (#10)	9	232-2342	2	Bracket, Mounting
	526-0049	2	Washer, Lock - IT (#10)	10	315-0389	1	Plate, Mounting
2	813-0103	2	Washer, Flat - Brass (#10)	11			Transformer, Current with Mounting Feet
			Screw, Machine - Round Head (#10-32 x 3/4")				500/5, 2VA - Code 6, 9X
3	813-0100	4	Screw, Machine - Round Head (#10-32 x 1/2")		302-0547	3	600/5, 2VA - Code 517,
					302-0876	3	750/5, 2VA - Code 7, 17
4	526-0008	6	Washer, Flat (#10)		302-0471	3	1200/5, 2VA - Code 5
5	856-0003	6	Washer, Lock - EIT (#10)		302-0643	3	



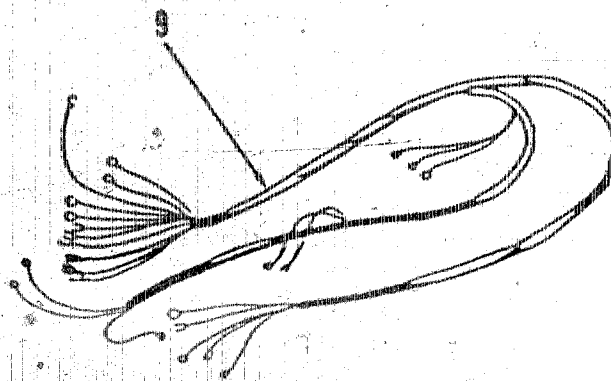
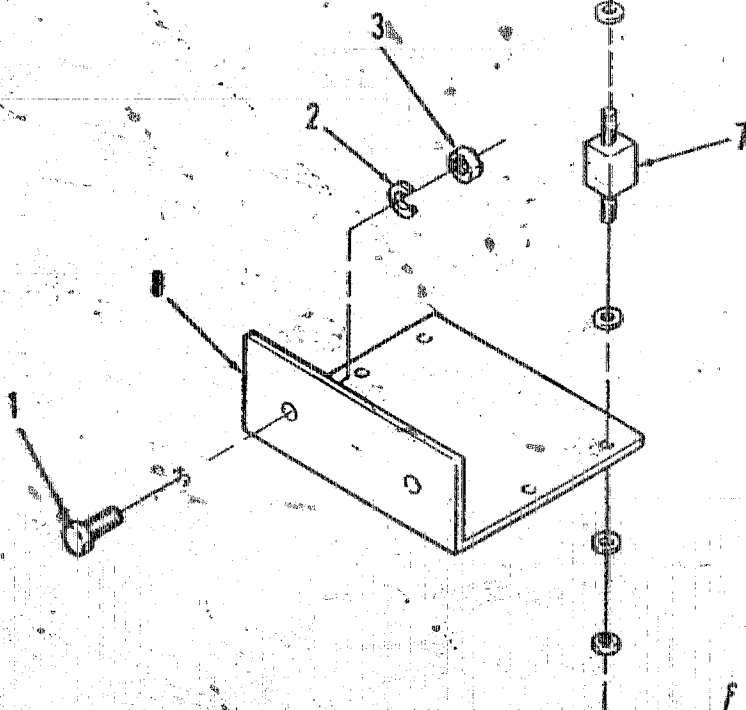
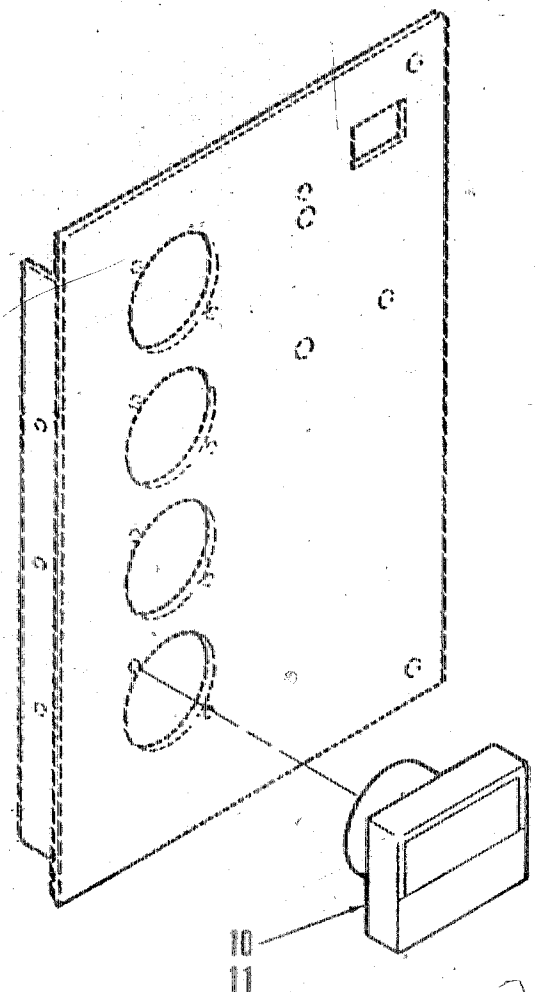
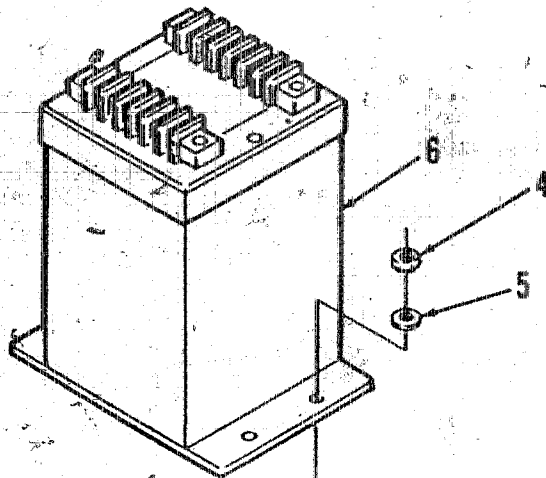
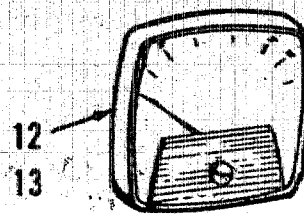
# Control Housing



M-1213

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	508-0203	1	Bushing, Grommet - Used Thru 1984	8	234-0490	1	Grille
	508-0051	1	Begin 1985	9	821-0010	4	Screw, Self-locking - Hex
2	821-0010	24	Screw, Self-locking - Hex (1/4-20 x 1/2")	10	301-3604	1	Shelf
3	301-3731	3	Panel, Access	11	821-0014	10	Screw, Self-locking - Hex (5/16-18 x 1/2")
4	813-0102	1	Screw, Machine - Round Head (#10-32 x 5/8")	12	234-0489	1	Cover, End Bell
5	850-0030	1	Washer, Lock - Spring (#10)	13	821-0016	2	Screw, Self-locking - Hex (5/16-18 x 3/4")
6	332-0052	3	Clamp, Loop	14	870-0257	2	Nut, Self-locking - Hex (5/16-18)
7	821-0010	6	Screw, Self-locking - Hex (1/4-20 x 1/2")	15	301-3605	1	Housing, Control

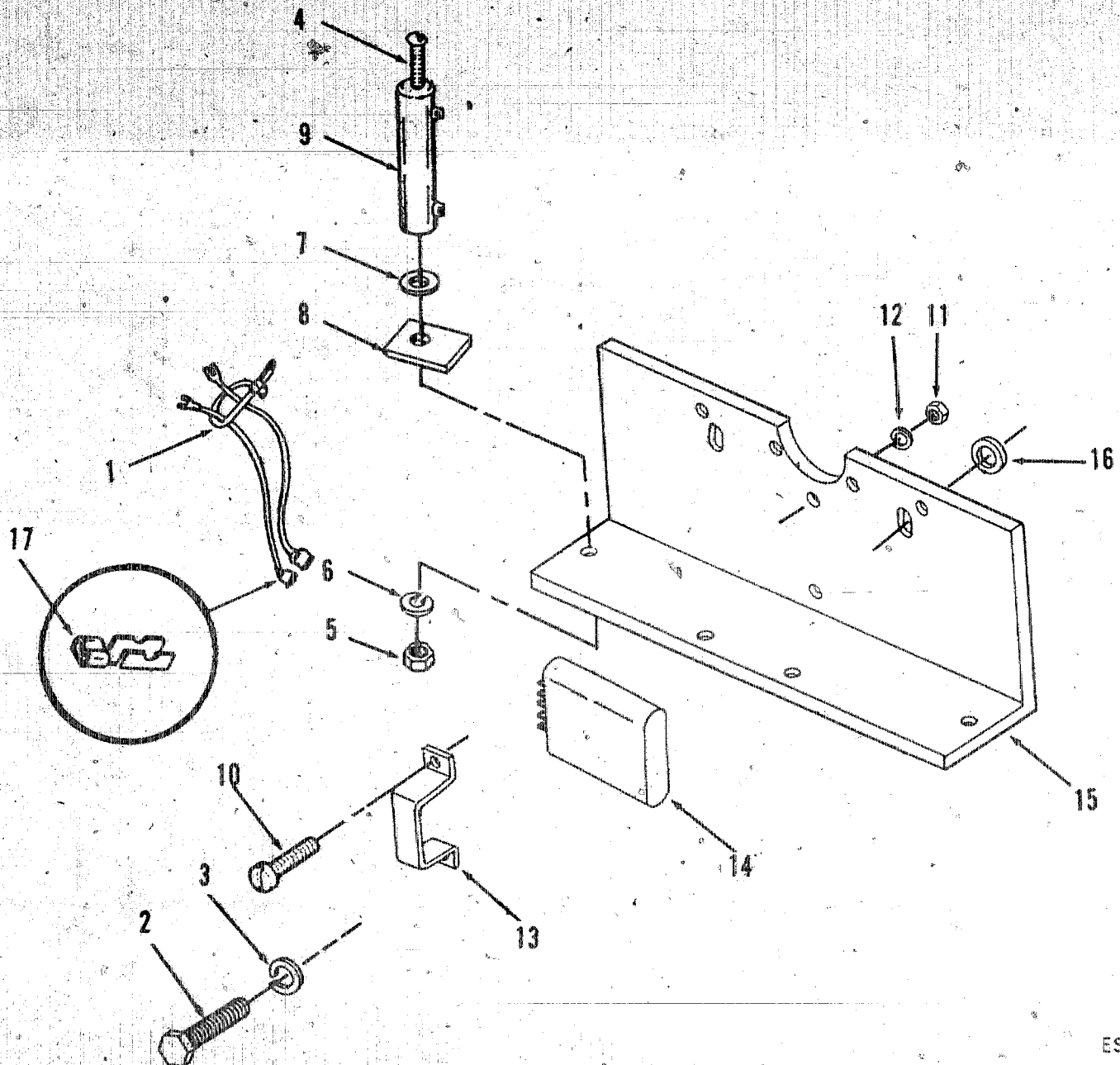
# Wattmeter



# 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	302-1721-11	1	Dial (Scale 0-350 kW)
5	856-0002	16	Washer, Lock - EIT (#8)	12	302-1102	1	Wattmeter (Less Dial) - Spec A thru C
	302-1082	1	3 Phase, 60 Hz	13	301-1117	1	Dial (Scale 0-350 kW)
	302-1083	1	3 Phase, 50 Hz				
7	402-0078	4	Mount, Vibration				

# Voltage Regulator Filter

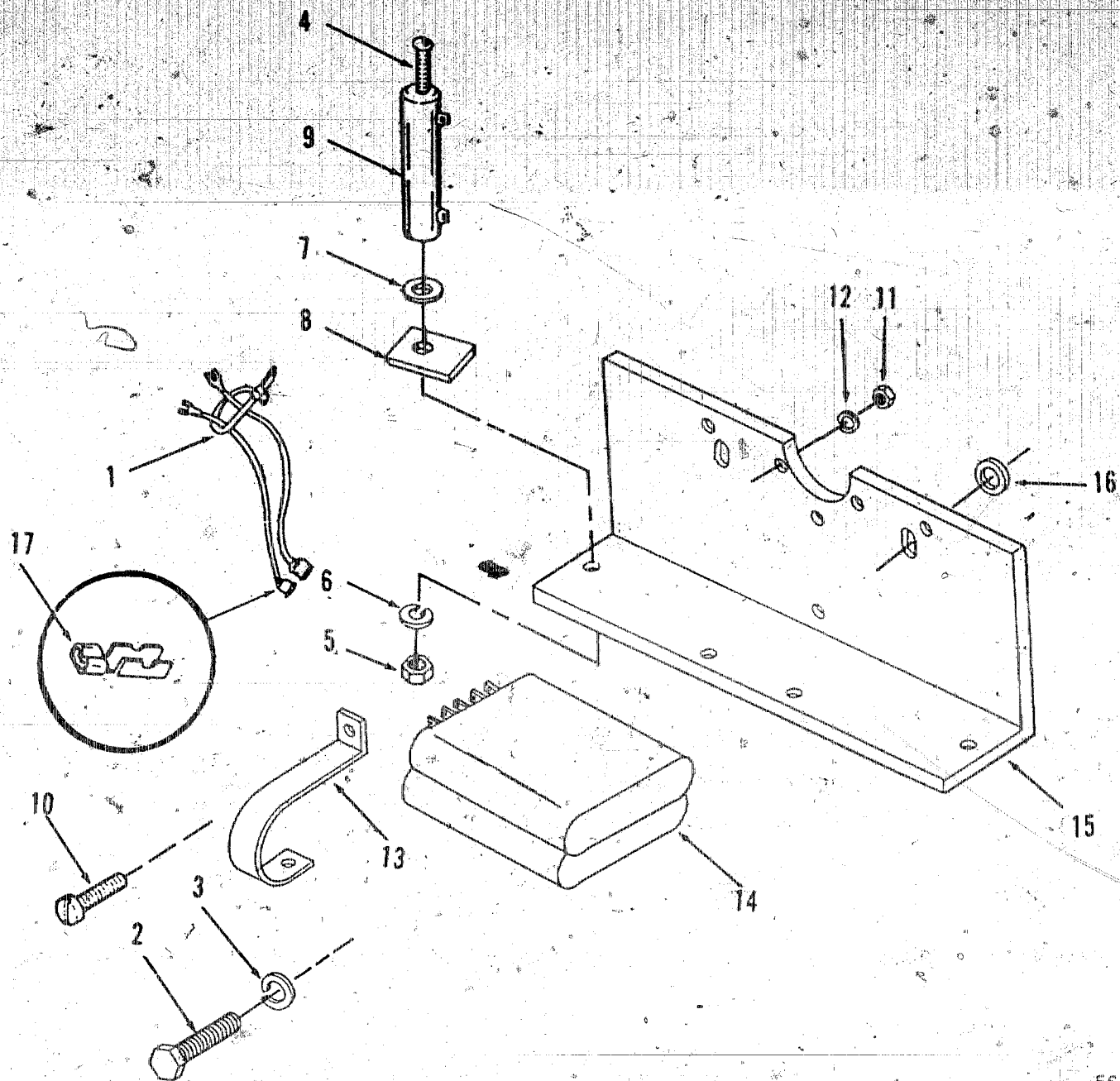


ES1115-1

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	332-0941	5	Tie, Cable	10	813-0098	2	Screw, Machine - Round Head (#10-32 x 3/8")
2	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")	11	870-0053	2	Nut, Hex (#10-32)
3	850-0040	2	Washer, Lock - Spring (1/4")	12	850-0030	2	Washer, Lock - Spring (#10)
4	812-0165	2	Screw, Machine - Round Head (1/4-20 x 4-1/2")	13	312-0189	1	Bracket, Mounting
5	862-0001	2	Nut, Hex (1/4-20)	14	312-0188	1	Capacitor
6	850-0040	2	Washer, Lock - Spring (1/4")	15	232-2218	1	Bracket
7	304-0427	2	Washer, Centering	16	526-0018	15	Washer, Flat (1/4")
8	304-0292	2	Insulator	17	332-0529	4	Terminals Bare
9	354-0025	1	Resistor		332-1279	8	Terminals Insulated



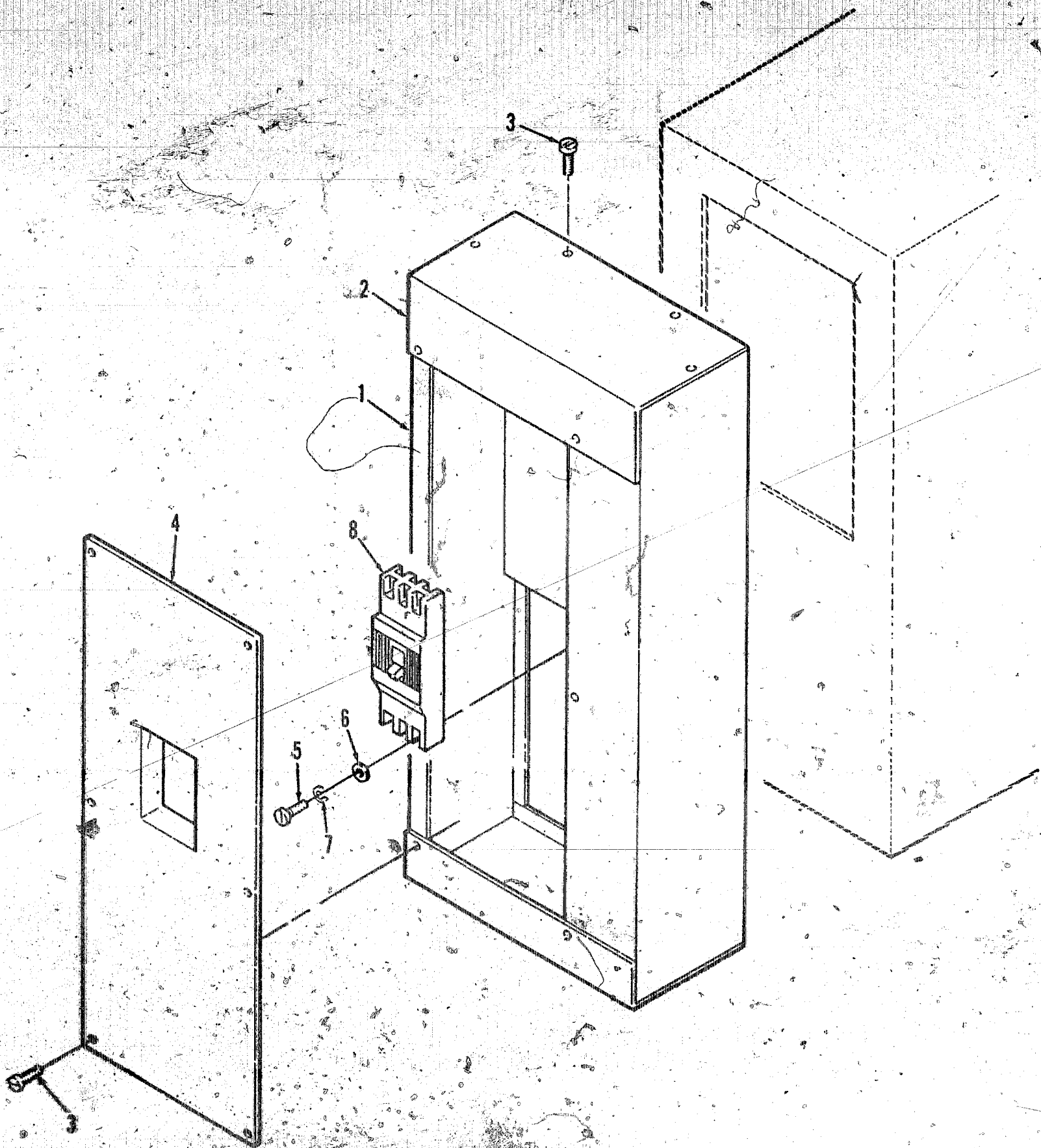
# Voltage Regulator Filter Heavy Duty



ES1115-2

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	332-0941	5	Tie, Cable	10	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")	11	870-0053	4	Nut, Hex (#10-32)
3	850-0040	2	Washer, Lock - Spring (1/4")	12	850-0030	4	Washer, Lock - Spring (#10)
4	812-0165	2	Screw, Machine - Round Head (1/4-20 x 4-1/2")	13	370-0007	2	Strap, Mounting
5	862-0001	2	Nut, Hex (1/4-20)	14	312-0188	2	Capacitor
6	850-0040	2	Washer, Lock - Spring (1/4")	15	232-2218	1	Bracket
7	304-0427	2	Washer, Centering	16	526-0018	15	Washer, Flat (1/4")
8	304-0292	2	Insulator	17	332-0529	8	Terminals Bare
9	354-0025	1	Resistor		332-1279	16	Insulated

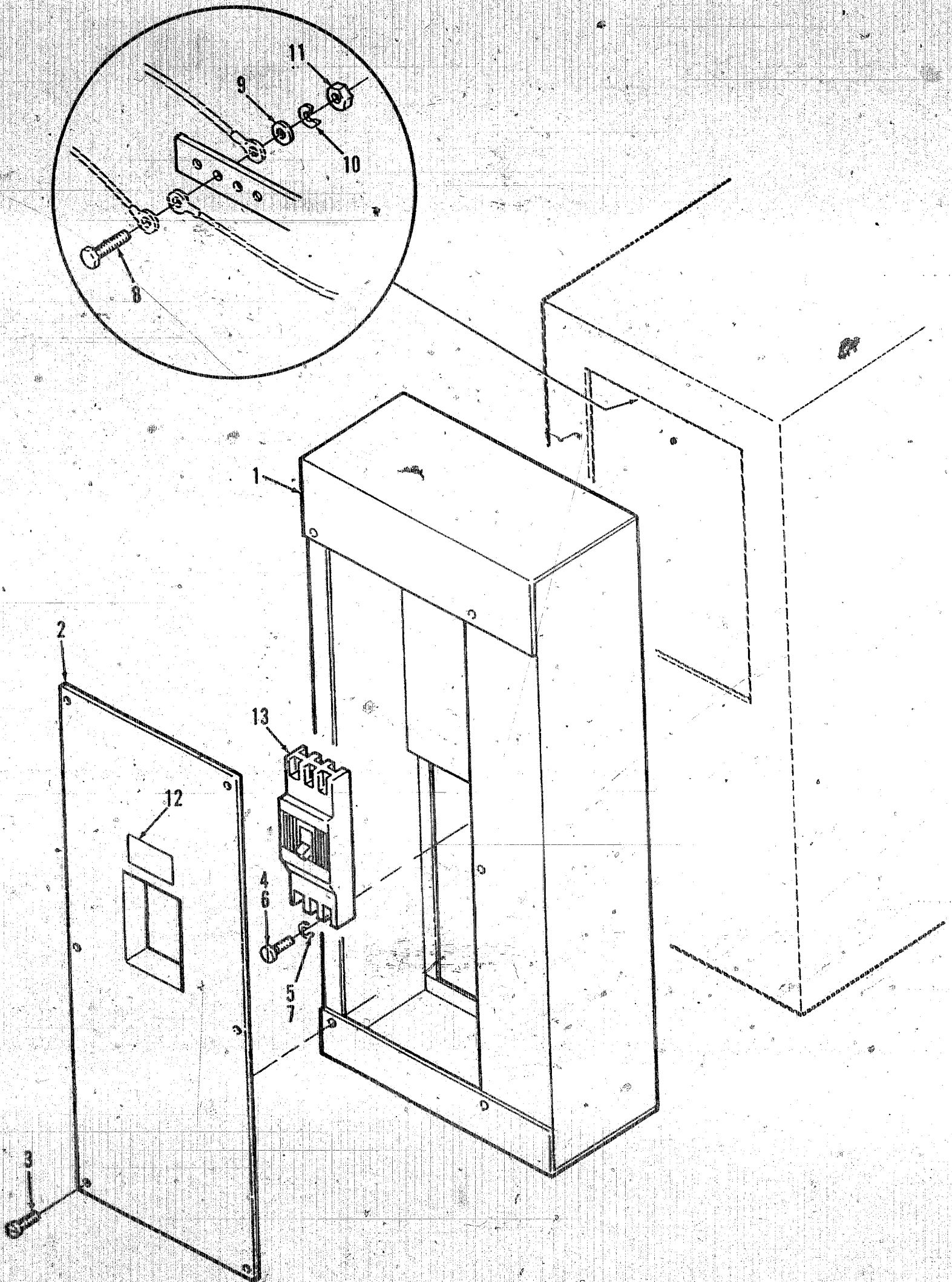
Circuit Breaker  
Begin Spec D



# 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				With 480 VAC Shunt Trip
	812-0157	4	400 - 600 Amp Breaker	320-1484-09	1	400 Amp	
	800-0031	4	700 - 1200 Amp Breaker	320-1484-10	1	450 Amp	
6			Washer, Flat	320-1484-11	1	500 Amp	
	526-0108	4	400 - 600 Amp Breaker	320-1484-12	1	600 Amp	
	526-0115	4	700 - 1200 Amp Breaker	320-1485-07	1	700 Amp	
7			Washer, Lock	320-1485-08	1	800 Amp	
	850-0040	4	400 - 600 Amp Breaker	320-1485-09	1	1000 Amp	
	850-0045	4	700 - 1200 Amp Breaker	320-1485-10	1	1200 Amp	
8			Breaker, Circuit - 3 Pole - Standard				With 12 VDC Shunt Trip & Auxiliary Contacts
	320-1460-09	1	400 Amp	320-1488-09	1	400 Amp	
	320-1460-10	1	450 Amp	320-1488-10	1	450 Amp	
	320-1460-11	1	500 Amp	320-1488-11	1	500 Amp	
	320-1460-12	1	600 Amp	320-1488-12	1	600 Amp	
	320-1461-07	1	700 Amp	320-1489-07	1	700 Amp	
	320-1461-08	1	800 Amp	320-1489-08	1	800 Amp	
	320-1461-09	1	1000 Amp	320-1489-09	1	1000 Amp	
	320-1461-10	1	1200 Amp	320-1489-10	1	1200 Amp	
			With Auxiliary Contacts				With 24 VDC Shunt Trip & Auxiliary Contacts
	320-1464-09	1	400 Amp	320-1491-09	1	400 Amp	
	320-1464-10	1	450 Amp	320-1491-10	1	450 Amp	
	320-1464-11	1	500 Amp	320-1491-11	1	500 Amp	
	320-1464-12	1	600 Amp	320-1491-12	1	600 Amp	
	320-1465-07	1	700 Amp	320-1492-07	1	700 Amp	
	320-1465-08	1	800 Amp	320-1492-08	1	800 Amp	
	320-1465-09	1	1000 Amp	320-1492-09	1	1000 Amp	
	320-1465-10	1	1200 Amp	320-1492-10	1	1200 Amp	
			With 12 VDC Shunt Trip				With 120 VAC Shunt Trip & Auxiliary Contacts
	320-1468-09	1	400 Amp	320-1495-09	1	400 Amp	
	320-1468-10	1	450 Amp	320-1495-10	1	450 Amp	
	320-1468-11	1	500 Amp	320-1495-11	1	500 Amp	
	320-1468-12	1	600 Amp	320-1495-12	1	600 Amp	
	320-1469-07	1	700 Amp	320-1496-07	1	700 Amp	
	320-1469-08	1	800 Amp	320-1496-08	1	800 Amp	
	320-1469-09	1	1000 Amp	320-1496-09	1	1000 Amp	
	320-1469-10	1	1200 Amp	320-1496-10	1	1200 Amp	
			With 24 VDC Shunt Trip				With 240 VAC Shunt Trip & Auxiliary Contacts
	320-1472-09	1	400 Amp	320-1500-09	1	400 Amp	
	320-1472-10	1	450 Amp	320-1500-10	1	450 Amp	
	320-1472-11	1	500 Amp	320-1500-11	1	500 Amp	
	320-1472-12	1	600 Amp	320-1500-12	1	600 Amp	
	320-1473-07	1	700 Amp	320-1501-07	1	700 Amp	
	320-1473-08	1	800 Amp	320-1501-08	1	800 Amp	
	320-1473-09	1	1000 Amp	320-1501-09	1	1000 Amp	
	320-1473-10	1	1200 Amp	320-1501-10	1	1200 Amp	
			With 120 VAC Shunt Trip				With 480 VAC Shunt Trip & Auxiliary Contacts
	320-1476-09	1	400 Amp	320-1504-09	1	400 Amp	
	320-1476-10	1	450 Amp	320-1504-10	1	450 Amp	
	320-1476-11	1	500 Amp	320-1504-11	1	500 Amp	
	320-1476-12	1	600 Amp	320-1504-12	1	600 Amp	
	320-1477-07	1	700 Amp	320-1505-07	1	700 Amp	
	320-1477-08	1	800 Amp	320-1505-08	1	800 Amp	
	320-1477-09	1	1000 Amp	320-1505-09	1	1000 Amp	
	320-1477-10	1	1200 Amp	320-1505-10	1	1200 Amp	
			With 240 VAC Shunt Trip				
	320-1480-09	1	400 Amp				
	320-1480-10	1	450 Amp				

Circuit Breaker  
Spec A thru C

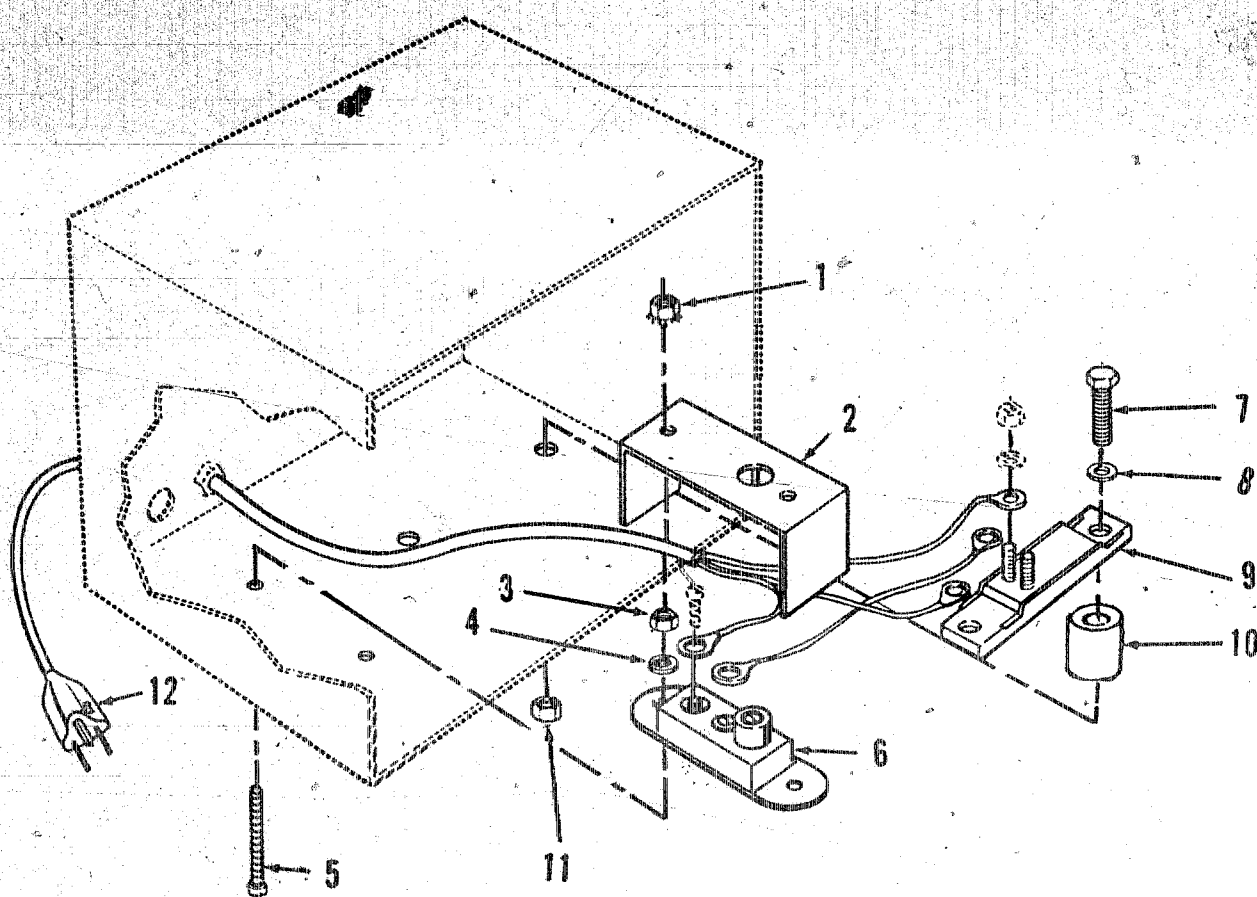




# Circuit Breaker Spec A thru C

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	301-3728	1	Box, Breaker				With Auxiliary Contacts
2	301-9139	1	Cover, Breaker	320-1232	1	450 Amp	
3	815-0026	6	Screw, Machine - Truss Head (#10-32 x 3/8")	320-1305	1	600 Amp	
4	812-0156	4	Screw, Machine - Round Head (1/4-20 x 1/2")	320-1562	1	800 Amp	
5	850-0040	4	Washer, Lock (1/4")	320-1445	1	900 Amp	
6	812-0182	4	Screw, Machine - Round Head (5/16-18 x 1-1/2")				With 12 VDC Shunt Trip
7	850-0045	4	Washer, Lock (5/16)	320-0245	1	500 Amp	
8	800-0071	8	Screw, Cap - Hex Head (7/16-14 x 1")	320-0267	1	600 Amp	
9	526-0141	8	Washer, Flat (7/16")				With 24 VDC Shunt Trip
10	850-0055	8	Washer, Lock (7/16")	320-0403	1	500 Amp	
11	862-0004	8	Nut, Hex (7/16-14)	320-0432	1	600 Amp	
12	98-2304	1	Silkscreen, Circuit Breaker (Warning)	320-0436	1	700 Amp	
13			Breaker, Circuit - 3 Pole - Standard	320-0466	1	800 Amp	
	320-0625	1	450 Amp	320-0517	1	900 Amp	
	320-0598	1	500 Amp	320-0576	1	1000 Amp	
	320-0599	1	600 Amp				With 120 VAC Shunt Trip
	320-0518	1	700 Amp	320-0236	1	500 Amp	
	320-0519	1	800 Amp	320-0386	1	600 Amp	
	320-0520	1	900 Amp	320-0213	1	700 Amp	
	320-0521	1	1000 Amp				With 480 VAC Shunt Trip
	320-0522	1	1200 Amp	320-0398	1	500 Amp	
				320-0338	1	600 Amp	
				320-0396	1	700 Amp	

# 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

## SUPPLEMENTARY PARTS LIST

This Supplementary Parts List Applies to the Standard LDFN Models listed below. Use these parts in place of/or in addition to those listed in the Main Parts Catalog 960-0221.

ELECTRIC GENERATING SET DATA TABLE

MODEL AND SPEC NO.	ELECTRICAL DATA			
	WATTS	VOLTS	HERTZ	PHASE
286.0 LDFN-520R/*	286,000	220/380	50	3
286.0 LDFN-522R/*	286,000	240/416-254/440	50	3
334.0 LDFN-4XR/*	334,000	277/480	60	3

\* - The Specification Letter Advances (A to B, B to C, etc.) with Manufacturing Changes.

## REPLACEMENT ENGINE

100-1586

1

Engine, Replacement (Cummins KTA 1150G)

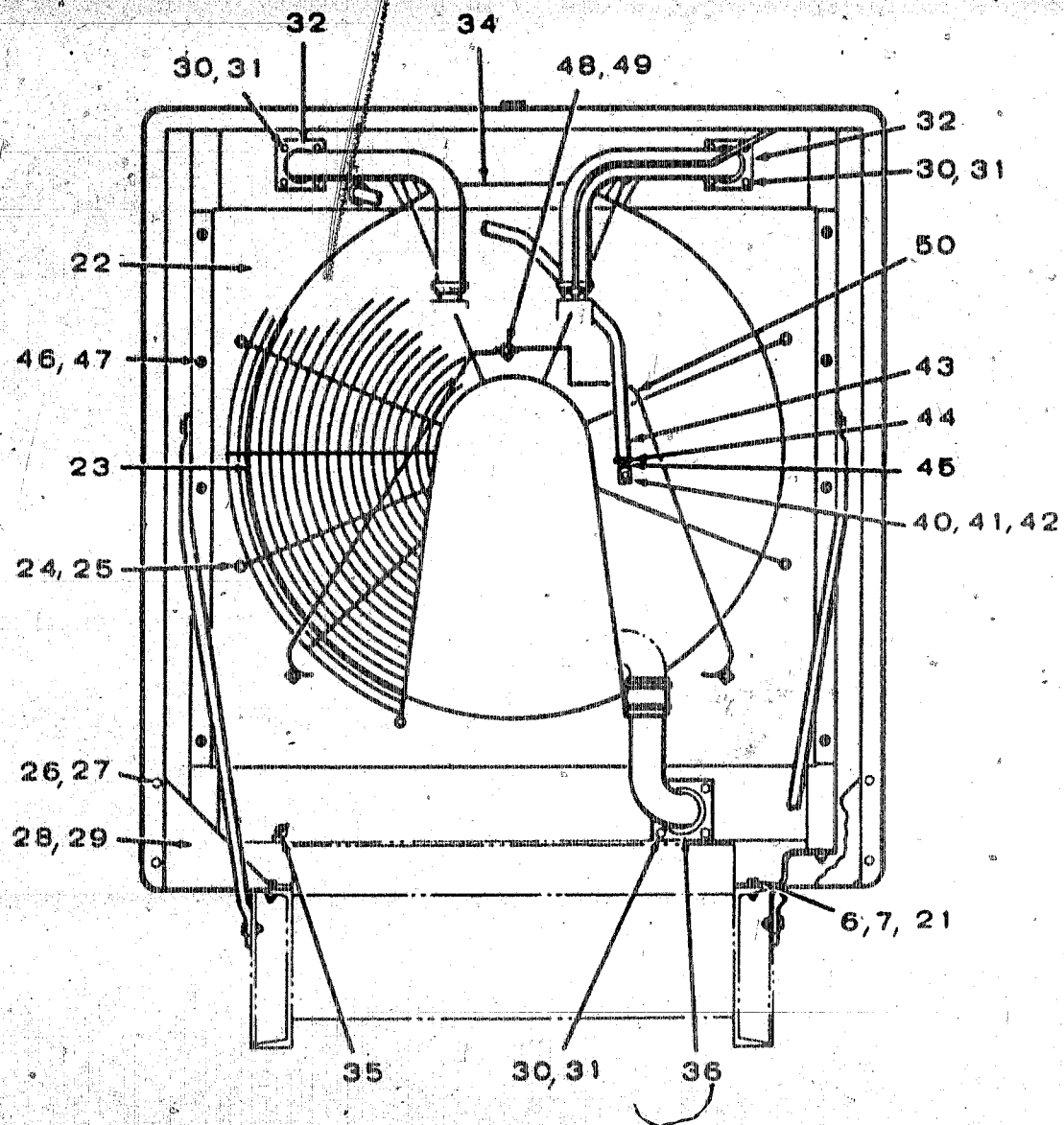


# COOLING SYSTEM

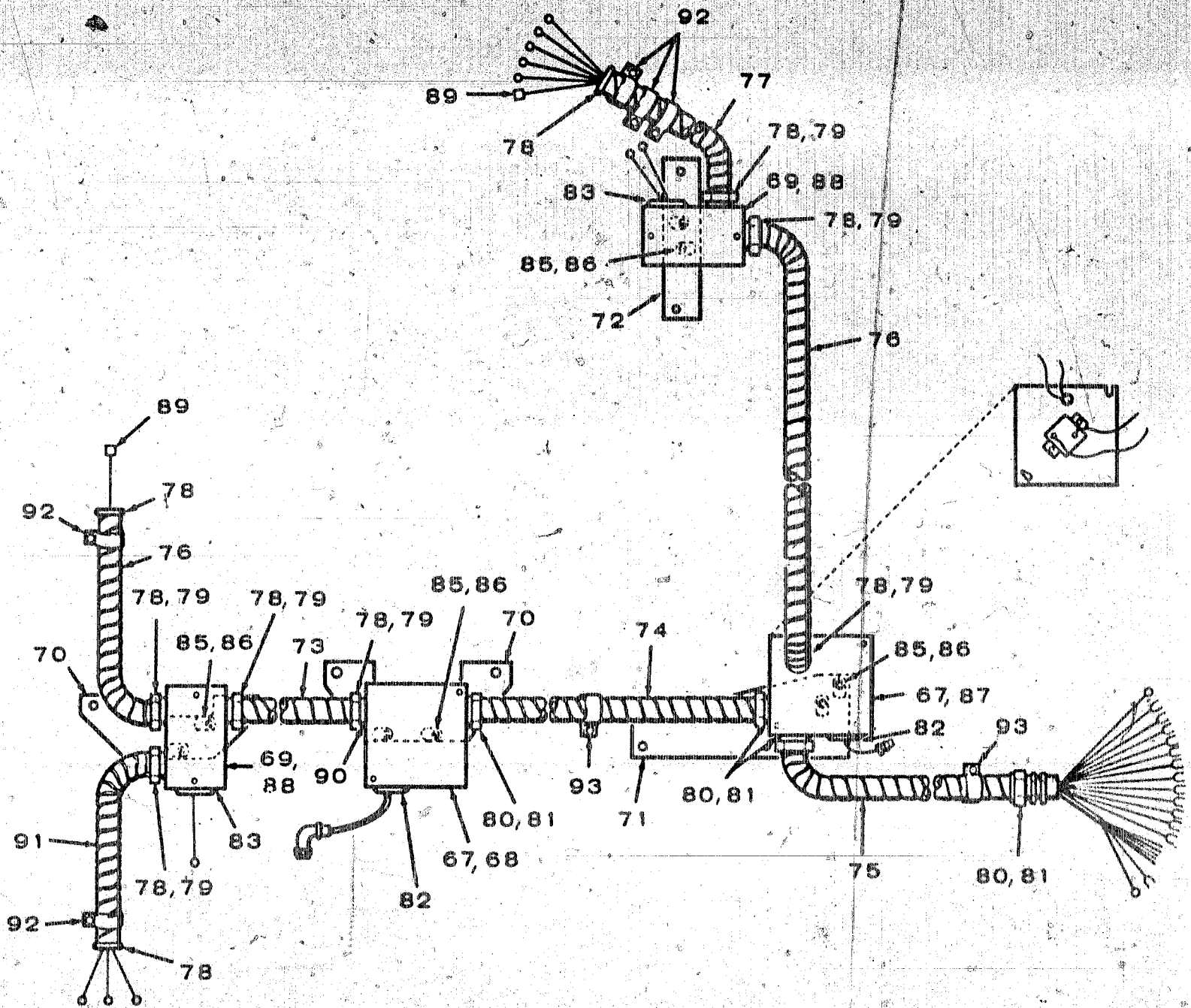
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	130-1358	2	Adapter, Inlet Tube
2	130-1194	2	Gasket, Inlet Tube
3	821-0016	6	Screw, Cap Locking Head (5/16-18 X 3/4" Long)
4	870-0257	10	Nut, Hex Self Locking - (5/16-18)
5	130-1353	1	Tube, Radiator Inlet - (R.H.)
6	130-1354	1	Tube, Radiator Inlet - (L.H.)
7	501-0087	1	Line, Flex
8	502-0184	1	Connector, Male
9	503-0625	4	Hose
10	503-0354	8	Clamp, Hose
11	821-0010	2	Screw, Cap-Locking Head - (1/2-20 X 1/2" LG)
12	870-0210	2	Nut, Hex - Self Locking - (1/2-20)
13	191-1149	1	Guard, Belt - (R.H.)
14	191-1150	1	Guard, Belt - (L.H.)
15	503-0924	1	Hose
16	503-0429	2	Clamp
17	505-0759	1	Adapter, Pipe
18	505-0304	1	Tee, Pipe
19	505-0087	1	Nipple, Pipe
20	505-0140	1	Plug, Square
21	130-1030	1	Inlet, Water
22	800-0131	6	Screw, Cap-Hex Head - (5/8-11 X 1 1/4" LG)
23	850-0070	12	Washer, Lock-Spring (5/8")
24	862-0007	12	Nut, Hex (5/8-11)
25	503-0782	1	Hose
26	503-0612	2	Clamp, Hose
27	405-2506	2	Bracket, Panel Mtg.
29	800-0030	4	Screw, Cap-Hex Head - (5/16-11 X 1 1/4" LG)
30	800-0072	12	Screw, Cap-Hex Head - (7/16-14 X 1 1/4" LG)
31	850-0055	12	Washer, Lock-Spring - (7/16")
32	504-0003	1	Lock, Drain
33	526-0112	10	Washer, Flat (11/16" ID X 1-3/8" OD X 7/64" Thick)
34	800-0133	6	Screw, Cap-Hex Head - (5/8-11 X 1-3/4" Long)
35	130-1359	2	Bracket, Radiator Support
36	130-1193	1	Gasket, Radiator Outlet
37	130-1356	1	Tube, Outlet
38	130-1007	2	Foam, Insulation
39	130-1006	2	Foam, Insulation
40	821-0029	10	Screw, Cap - Locking Head - (3/8-16 X 3/4" Long)
41	870-0281	10	Nut, Hex-Self Locking - (3/8-16)
42	130-1346	1	Shroud, Partial Fan - (R.H.)
43	130-1345	1	Shroud, Partial Fan - (L.H.)
44	821-0018	12	Screw, Cap - Locking Head - (1/2-20 X 5/8" Long)
45	526-0018	12	Washer, Flat (17/64" ID X 5/8" OD X 1/16" Thick)
46	130-1347	1	Guard, Fan



# COOLING SYSTEM - FRONT VIEW



# MISCELLANEOUS ENGINE PARTS



# MISCELLANEOUS ENGINE PARTS

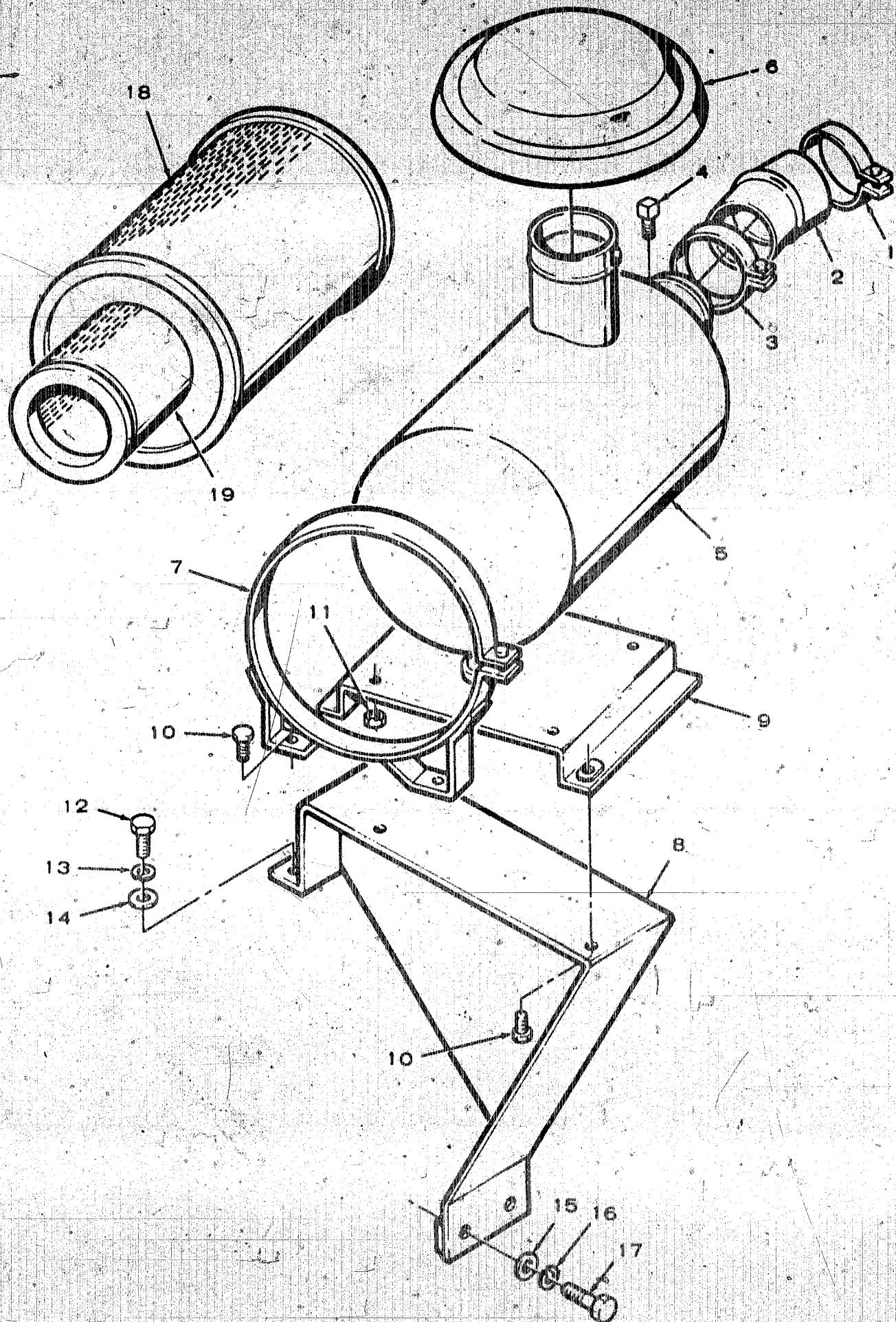
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
48	330-0093	2	* Box, Outlet
49	330-0006	1	* Cover, Outlet Box
50	330-0094	2	* Box, Outlet
51	330-0104	2	* Bracket, Junction Box
52	330-0108	1	* Bracket, Junction Box
53	330-0103	1	* Bracket, Junction Box
54	331-0177	1	* Conduit, Flex
55	331-0175	1	* Conduit, Flex
56	331--174	1	* Conduit, Flex
57	331-0178	2	* Conduit, Flex
58	331-0171	1	* Conduit, Flex
59	508-0201	10	* Bushing
60	331-0149	7	* Connector
61	508-0202	4	* Bushing
62	331-0150	4	* Connector
63	508-0009	2	* Grommet
64	508-0001	2	* Grommet
65	813-0098	8	* Screw, Machine-Round Head (#10-32 X 3/8" Long)
66	853-0008	8	* Washer, Lock External (#10)
67	338-1141	1	* Harness, Governor Wiring
68	330-0099	1	* Cover, Outlet Box
69	330-0004	2	* Cover
70	332-0819	2	* Housing, Fastener
71	331-0153	2	* Washer, Reducing
72	331-0145	1	* Conduit, Flex
73	331-0180	5	* Strap, Half
74	331-0181	2	* Strap, Half
75	338-1166	1	Harness Assembly, Engine Wiring (Includes Parts Marked *)
	151-0423	1	# Actuator, Governor (B.G. # 11003-0-0-24)
	151-0399	1	# Control (Includes Mtg. Screw) - (B.C. # DYN1-1000-2-0-24)
	151-0441	1	# Lever, Actuator (B.C. # DYN2-208)
	151-0442	1	# Rod, Threaded (B.C. # GYRF-43-1)
	151-0443	2	# Bearing, Rod End (B.C. # DYNZ-47-2)
	151-0411	1	# Pickup, Magnetic (B.C. # DYN1-10200)
		1	# Bracket, Actuator Mtg. (B.C. # DYNZ-68)

# - Check for Barber-Colman numbers when ordering parts.

\* - Parts Included in 338-1166 Wiring Harness.



# AIR CLEANER PARTS





# AIR CLEANER PARTS

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	503-0863	1	Clamp, Hose
2	503-0913	1	Reducer, Tube
3	503-0881	1	Clamp, Hose
4	140-1548	1	Indicator, Service
5	140-1579	1	Cleaner, Air (Includes Elements)
6	140-1580	1	Hood, Air Cleaner
7	140-0799	2	Band, Air Cleaner Mtg.
8	140-1610	1	Support, Air Cleaner
9	140-1614	1	Plate, Air Cleaner Mtg.
10	821-0029	6	Screw, Cap - Locking Head (3/8-16 X 3/4" Long)
11	870-0281	4	Nut, Hex - Self Locking - (3/8-16)
12	800-0132	1	Screw, Cap-Hex Head - (5/8-11 X 1 1/2" LG)
13	850-0070	1	Washer, Lock-Spring (5/8")
14	526-0004	1	Washer, Flat (1 1/16" ID X 1-3/4" OD X 9/64" Thick)
15	526-0032	1	Washer, Flat (24/64" ID X 7/8" OD X 1/16" Thick)
16	850-0055	1	Washer, Lock-Spring (7/16")
17	800-0071	1	Screw, Cap-Hex Head - (7/16-14 X 1" Long)
18	140-1654	1	Element, Primary
19	140-1655	1	Element, Safety

# GENERATOR

<u>REF. NO.</u>	<u>PART NO.</u>	<u>QTY. USED</u>	<u>PART DESCRIPTION</u>
1	Rotor Assembly, Wound		
	201-1785	1	520R & 522R Sets (50 Hertz)
	201-1784	1	4XR Sets (60 Hertz)
14	Stator Assembly, Wound (Includes Bus Bars)		
	220-2763	1	520R Sets (50 Hertz)
	220-2765	1	522R Sets (50 Hertz)
	220-2756	1	4XR Sets (60 Hertz)

# CONTROL (AC PORTION)

<u>REF. NO.</u>	<u>PART NO.</u>	<u>QTY. USED</u>	<u>PART DESCRIPTION</u>
1	301-4668	1	Box, Control
2	301-3342	1	Panel, Control
6	302-1072	1	Voltmeter - (0-600 Volt)
7	Ammeter, AC		
	302-0414	1	520R & 522R Sets
	302-0415	1	4XR Sets
8	Meter, Frequency		
	302-0895	1	50 Hertz
	302-0811	1	60 Hertz
22	332-2030	1	Regulator Board, Voltage (See Separate Group For Components)
29	338-0759	1	Harness, Wiring - Control
35	321-0223	4	Fuse - 15 Ampere
36	321-0177	1	Block, Fuse - 3 Pole
37	321-0176	1	Block, Fuse - 2 Pole
38	333-1104	1	Harness, Wiring
39	151-0402	1	Potentiometer, Governor Adj.

# CONTROL HOUSING

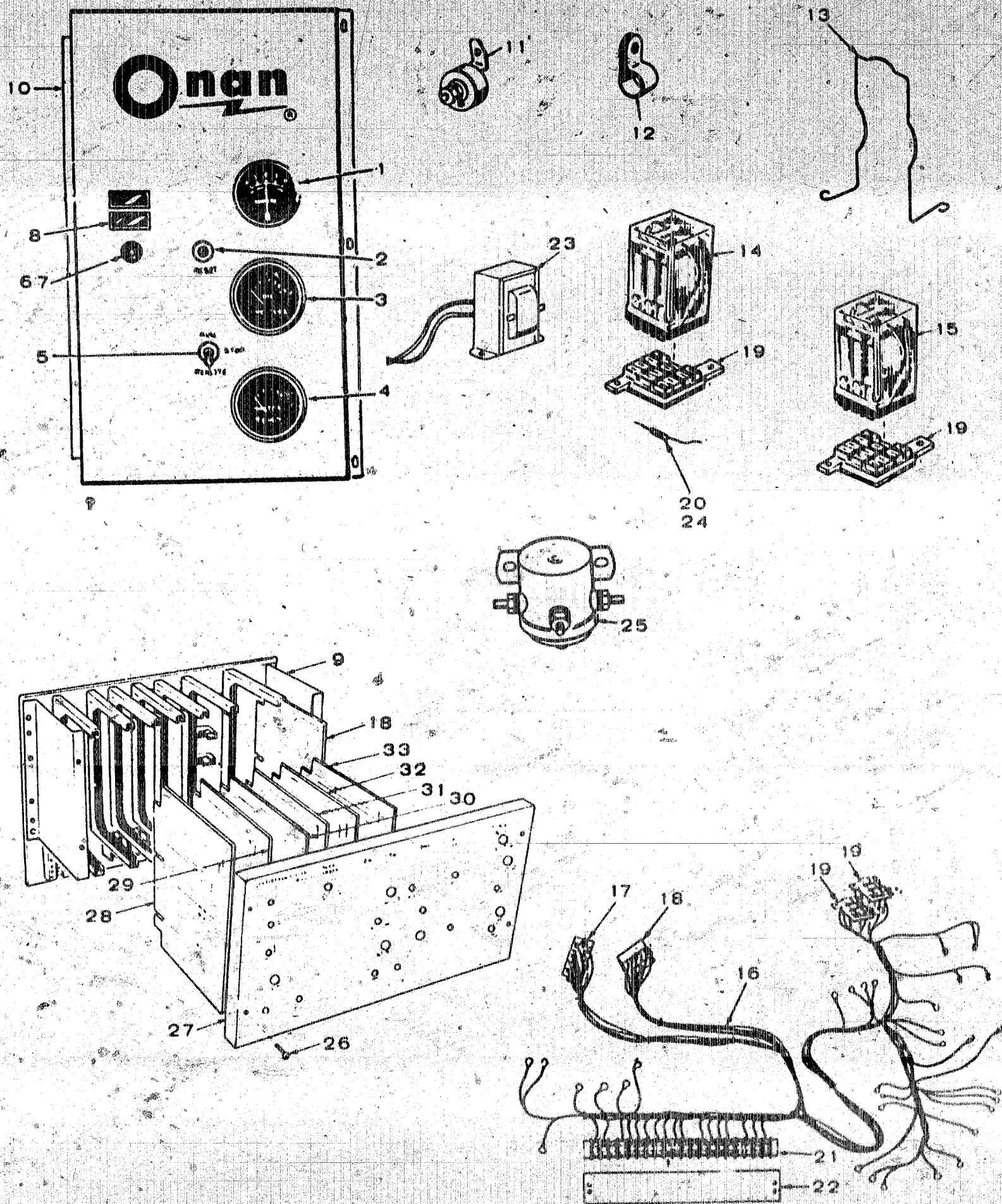
<u>REF. NO.</u>	<u>PART NO.</u>	<u>QTY. USED</u>	<u>PART DESCRIPTION</u>
1	331-0088	1	Bushing, Nylon
2	821-0010	13	Screw, Cap-Locking Head (1/4-20 X 1/2" Long)
3	301-2904	1	Plate, Control Box Top
4	821-0014	18	Screw, Cap-Locking Head (5/16-18 X 1/2" LG)
5	301-4125	1	Bracket, Control Box Housing
6	301-4110	1	Panel, Control Insert
7	301-4118	1	Housing, Control Box
8	508-0203	2	Bushing
9	301-2905	2	Plate, Side
10	232-1973	1	Grille, End Bell

## CHASSIS

<u>REF. NO.</u>	<u>PART NO.</u>	<u>QTY. USED</u>	<u>PART DESCRIPTION</u>
1	403-1456	1	Base, Skid
10	416-0690	1	Tray, Battery
13	403-1457	1	Panel, Base
15	416-0692	2	Strap, Battery Hold Down
19	403-1434	2	Support, Engine
20	232-1489	6	Shim, Generator Mtg.
21	232-1490	6	Shim, Generator Mtg.



# CONTROL (ENGINE SECTION)





# CONTROL (ENGINE SECTION)

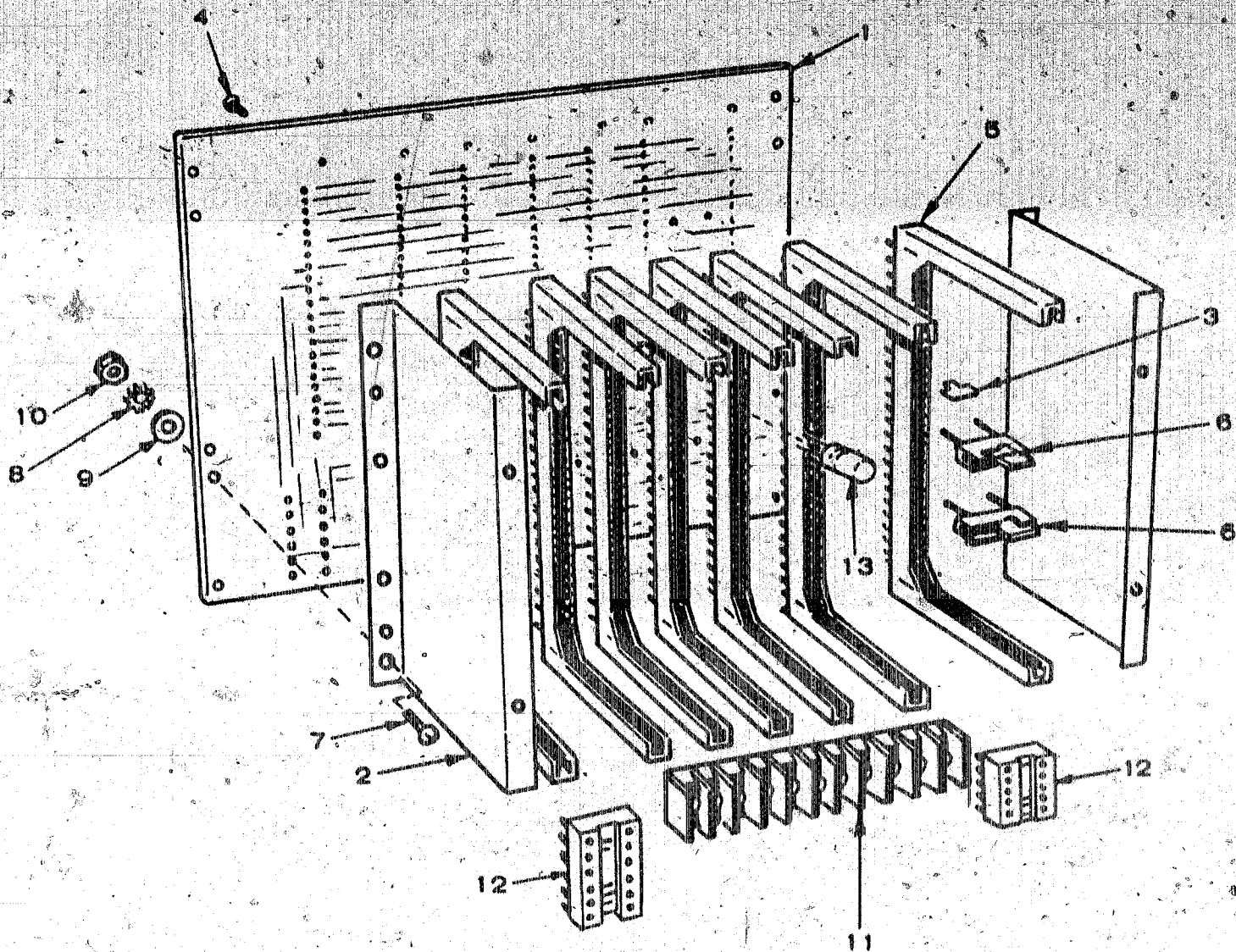
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	302-0081	1	Ammeter (30-0-30)
2	308-0410	1	Switch, Push
3	193-0243	1	Gauge, Oil Pressure (0-80)
4	193-0245	1	Gauge, Water Temperature
5	SWITCH, TOGGLE		
	308-0220	1	Standard Sets
	308-0347	1	Penn State Sets
6	321-0147	1	Fuse - 5 Amp
7	321-0217	1	Fuseholder
8	LIGHT, INDICATOR		
	322-0119	1	Overcrank
	322-0120	1	Low Oil Pressure
	322-0121	1	High Engine Temperature
	322-0122	1	Low Engine Temperature
	322-0123	1	Over speed
	322-0135	1	Over Voltage
9	300-1572	1	Chassis, Control
10	301-4692	1	Panel, Control
11	193-0250	2	Resistor, Gauge
12	332-0052	1	Clamp, Loop
13	307-1157	2	Spring, Hold-down - Relay
14	307-1061	1	Relay, Armature - Starter Protection
15	307-1056	1	Relay, Armature - Start Disconnect

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
16	338-1018	1	Harness, Wiring (Includes Parts Marked †)
17	332-0984	2	†Connector, Plug, Electrical (12 Pin)
18	300-1579	1	*Module, Time Delay Start-Stop
19	323-0785	2	†Socket, Relay
20	357-0004	1	†Diode
21	332-1005	1	†Board, Terminal (20 Place)
22	332-1559	1	Strip, Marker
23	315-0361	1	Transformer, Step-down
24	357-0004	2	Diode
25	307-0061	1	Relay - Start Solenoid
26	815-0387	4	Screw, Machine - Pan Head, Cross-Recessed Drive (#6-32 x 1/4")
27	301-4015	1	Cover, Access - Control Modules
28	300-1573	1	*Module, Cycle Cranker
29	300-1574	1	*Module, Start-Disconnect
30	300-1575	1	*Module, Overspeed Control
31	300-1576	1	*Module, Monitor No. 1
32	300-1577	1	*Module, Monitor No. 2
33	300-1578	1	*Module, Engine Shutdown

\* - See Separate Group for Components.

† - Included in Wiring Harness.

# CONTROL CHASSIS



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