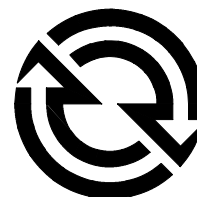


Service Parts

SPECTRUM®

DETROIT DIESEL



Generator Sets

Models:

50-100GS

See Group 701: Literature, inside this manual for
part numbers of engine and accessory parts catalogs

See MP-6009 Parts Catalog Industrial Controllers
for controller parts



Table of Contents

Subject	Page	Subject	Page
Introduction	1	Group 116: Exhaust	26
Numbering System Significance	1	Group 119: Recommended Spare Parts	29
Illustrations	1	Group 201: Generator and Mounting	30
How to Find Part Numbers	1	Group 701: Literature	38
Hardware References	1	Kit List	39
Specification Number Index	2	Manual Controller Kits	40
Group 101: Air Intake	4	Manual Controller Assemblies	41
Group 103: Fuel System	6	Cooling System Kits	43
Group 104: Cooling System	10	Fuel System Kits	46
Group 105: Engine	12	Appendix A. Abbreviations	A-1
Group 107: Nameplate and Decals	20	Appendix B. Common Hardware Application Guidelines	A-3
Group 108: Oil Pressure Switches	22	Appendix C. General Torque Specifications	A-4
Group 109: Skid and Plant Mounting	23	Appendix D. Common Hardware Identification	A-5
Group 110: Water Temperature Switches	24	Appendix E. Common Hardware List	A-6
Group 113: Alternator	25		

Introduction

This manual lists service replacement parts for 50–100 kW generator sets.

At the time of print this manual applied to the generator set specification (spec) numbers listed in the Specification Number Index. On occasion this manual may apply to specs not listed in the Specification Number Index.

Information in this publication represents data available at the time of print. The manufacturer of Spectrum® products reserves the right to change this publication and the products represented without notice and without any obligation or liability whatsoever.

This manual includes the following main sections:

Table of Contents. Lists the sections of the manual.

Introduction (and other information sections). Contains introductory material about part numbers, illustrations, and hardware.

Index. Lists the generator set specs and groups.

Group Parts Lists. List the part numbers of parts in the groups.

Kit Sections. List modules and accessories and their parts.

Appendices. Include Abbreviations, Common Hardware Application Guidelines, General Torque Specifications, Common Hardware Identification, and Common Hardware List.

xin:004:002

Numbering System Significance

This manual uses the following numbering systems:

Specification Number. A six-digit number with a PA-prefix. The Specification Number Index does not show the prefix. Spec numbers break down into groups.

Group Number. A unique number representing a parts group needed to assemble a generator set function. For example, Group 101 is the Air Intake group.

Variation or Module Number. A group might have several variations. Each variation performs the same function with different parts lists. For example, a 50 Hz generator alternator and 60 Hz generator alternator both perform the same function, however, with different parts. Each difference requires a group variation or module number.

Part Number. The part number identifies an individual assembly, subassembly, component, or accessory kit.

xin:004:003

Illustrations

Illustrations (or exploded-view drawings) best representing the widest range of variations accompany most groups in this manual. Illustrations do not depict all details and may not show all parts. Do not use illustrations for assembly or disassembly instructions.

xin:004:004

How to Find Part Numbers

Use the following steps to locate a service replacement part.

1. Locate the generator set nameplate to **identify the generator set spec number**.
2. Locate a second generator set nameplate listing accessories to **identify installed modules**. On some models the accessory nameplate is mounted inside the generator junction box.
3. **Turn to the Specification Number Index.** The first column lists the generator set spec numbers. The headings identify the groups of parts that make up the generator set.
4. **Identify the group** most likely to include the service part number.
5. **Find the group variation number** at the intersection of the spec number row and the group column. Note the variation number.
6. **Page forward to locate the group** identified in step 4 or find the appropriate page in the Table of Contents.
7. **Find the part on the illustration** and note the item number of the part or **find the part description in the parts list**.
8. Select the **part number that corresponds to your group variation**. The first column lists the illustration item number. Find the variation identified in the Specification Number Index or the module number found on the generator set nameplate in the appropriate column on the right side of the parts list table. Find the quantity used at the intersection of the item number row and the variation column. A blank space at the intersection means the variation/module does not use that part number.

xin:004:005

Hardware References

Many common hardware items do not appear in parts manuals or will appear as common hardware entries. A common hardware entry lists the size of the hardware. For example, an item that appears as “Hardware, 3/8-16” in the text means that the piece is 3/8-16 size. Obtain common hardware locally or, if contacting the factory, use the Common Hardware List in the appendix to identify the common hardware part number and specifications. See Common Hardware Application Guidelines in the appendix for mating hardware instructions.

Some hardware items require a specific size or some other characteristic. In that case, use the part number listed in the text.

When replacing hardware, do not substitute inferior grade hardware. Replacement hardware grade should be equal to or better than the grade of the manufacturer’s original hardware. Use the Common Hardware List in the appendix to identify the common hardware hardness.

xin:004:006

Specification Number Index

Group Title	Air Intake	Fuel System	Cooling System	Engine	Nameplates and Decals	Oil Pressure Switch	Skid and Plant Mounting	Temperature Switch	Alternator and Fan Belts	Exhaust System	Recommended Spare Parts	Generator and Mounting	Controller and Mounting	Literature
Group No.	101	103	104	105	107	108	109	110	113	116	119	201	301	701
Spec No.	Variation Number													

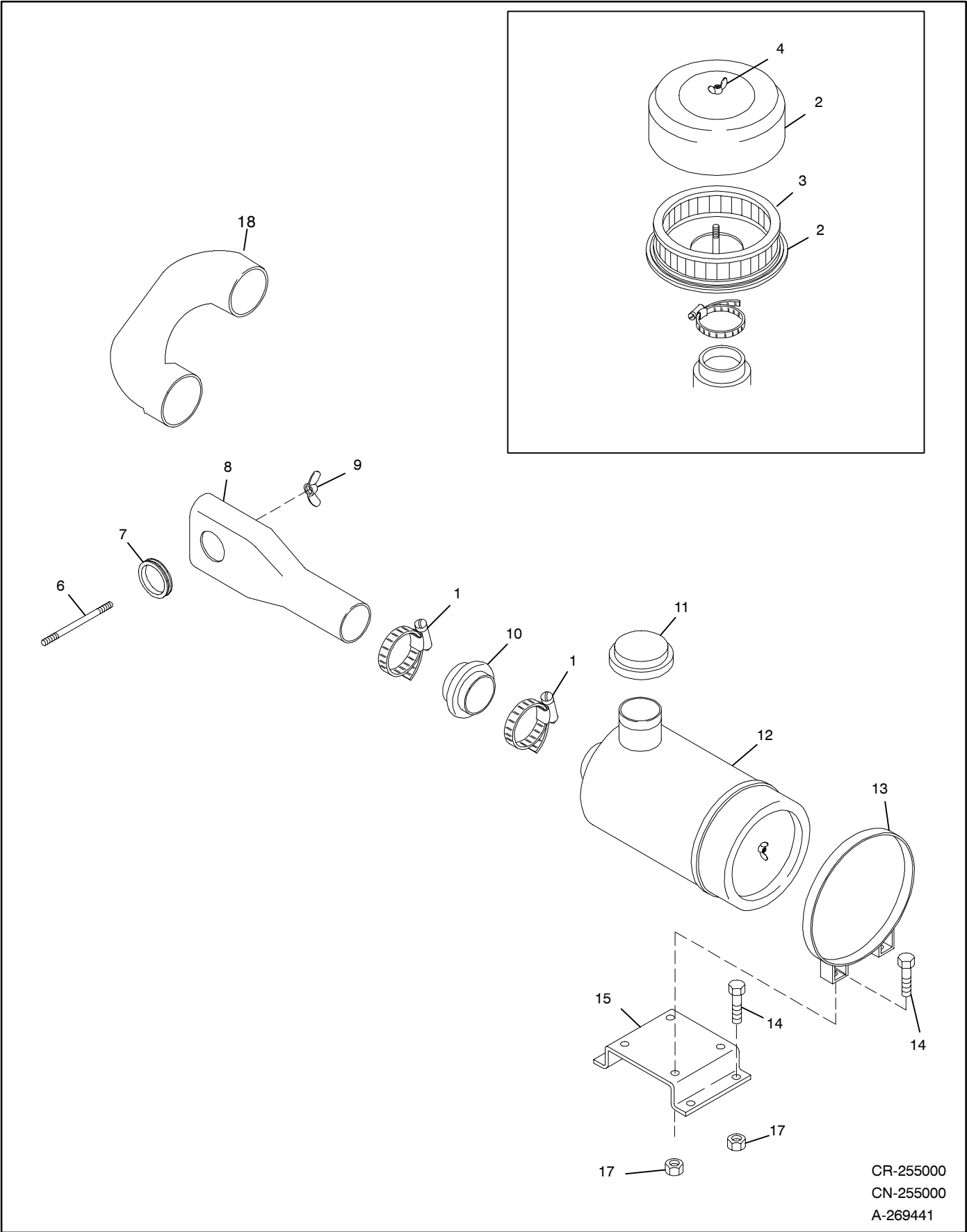
50GS														
193033	5	7	19	32	11	8	5	7	99	8	1	18	†	15
193034	5	7	19	32	11	8	5	7	99	8	1	20	†	15
193035	5	7	19	32	11	8	5	7	99	8	1	19	†	15
193036	5	*	*	32	11	8	5	7	99	8	3	18	†	15
193037	5	*	*	32	11	8	5	7	99	8	3	20	†	15
193038	5	*	*	32	12	8	5	7	99	8	3	19	†	15
60GS														
193039	5	7	19	32	13	8	5	7	99	8	1	20	†	15
193040	5	7	19	32	13	8	6	7	99	8	2	22	†	15
193041	5	7	19	32	14	8	5	7	99	8	1	21	†	15
193042	5	*	*	32	13	8	5	7	99	8	3	20	†	15
193043	5	*	*	32	13	8	6	7	99	8	4	22	†	15
193044	5	*	*	32	14	8	5	7	99	8	3	21	†	15
70GS														
193045	5	7	19	33	15	8	6	7	99	8	2	22	†	15
193046	5	7	19	33	15	8	6	7	99	8	2	24	†	15
193047	5	7	19	33	16	8	6	7	99	8	2	23	†	15
193048	5	*	*	33	15	8	6	7	99	8	4	22	†	15
193049	5	*	*	33	15	8	6	7	99	8	4	24	†	15
193050	5	*	*	33	16	8	6	7	99	8	4	23	†	15
80GS														
193051	7	8	20	34	17	9	6	7	99	9	5	22	†	30
193052	7	8	20	34	17	9	6	7	99	9	5	24	†	30
193053	7	8	20	34	17	9	6	7	99	9	5	23	†	30
193054	7	*	*	34	17	9	6	7	99	9	6	22	†	30
193055	7	*	*	34	17	9	6	7	99	9	6	24	†	30
193056	7	*	*	34	17	9	6	7	99	9	6	23	†	30
100GS														
193057	7	8	21	34	19	9	6	8	99	10	5	24	†	32
193058	7	8	21	34	19	9	7	8	99	10	5	26	†	32
193059	7	8	21	34	20	9	6	8	99	10	5	25	†	32
193060	7	*	*	34	19	9	7	8	99	10	6	24	†	32
193061	7	*	*	34	19	9	7	8	99	10	6	26	†	32
193062	7	*	*	34	20	9	6	8	99	10	6	25	†	32

* Configured group. Refer to the generator set nameplate for the module number. Turn to the respective group on the following pages for parts breakdowns.

† Configured group. Refer to the generator set nameplate for the module number. See controller parts catalog MP-6009 for controller parts lists.

Notes

Group 101: Air Intake



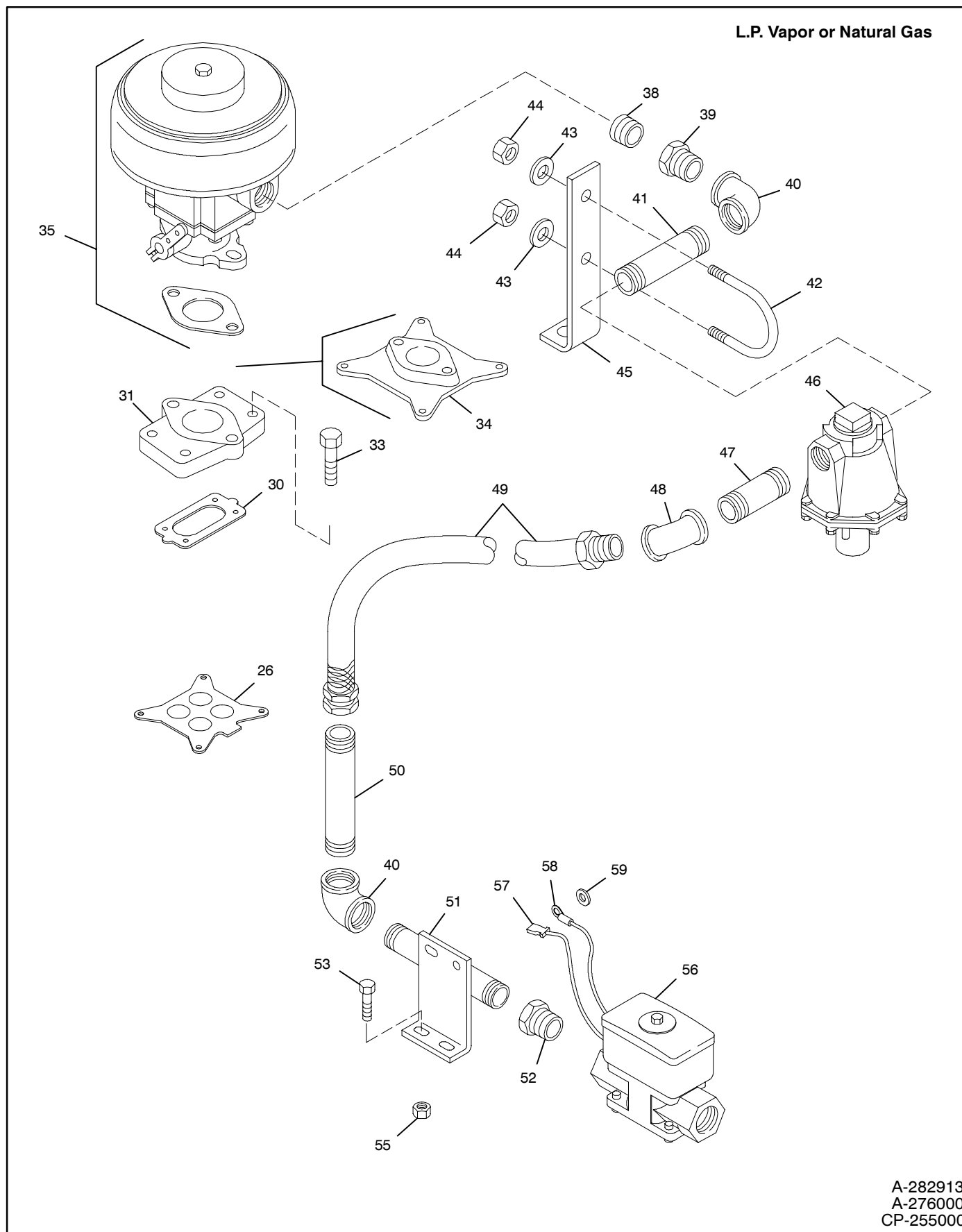
Group 101: Air Intake

Item	Part Number	Description	Quantity					
			Variation Number					
			1	2	3	4	5	7
1	X-426-14	Clamp, hose	1			1		
1	X-426-14	Clamp, hose		2	2			
1	X-426-1	Clamp, hose 2 17/32-3 6/8						1
1	X-426-7	Clamp, hose 4.875 x 6.625						1
2	A-269441	Air cleaner (includes items 3 and 4)	1					
2	255665	Air cleaner (includes item 3)				1		
2	A-326096	Air cleaner					1	
3	258423	Element, air cleaner	1					
3	258448	Element, air cleaner				1		
3	326098	Element, air cleaner					1	
4	254457	Nut, wing	1			1	1	
5	X-519-13	Plug, cap	1			1		
6	X-352-13	Stud		1	1			
7	X-284-24	Grommet		1	1			
8	255515	Duct, air		1	1			
8	Use item 18	Duct, air						1
9	X-276-7	Nut, wing		1	1			
10	255516	Hose, hump		1	1			
10	Use item 18	Hose, hump						1
11	253668	Cap, rain		1	1			
11	324139	Cap, rain						1
12	255513	Air cleaner (includes element)		1	1			
12	A-324131	Air cleaner (includes element)						1
12	255739	Element, air cleaner		1	1			
12	324134	Element, air cleaner						1
13	253674	Mount, air cleaner		2	2			
13	253674	Mount, air cleaner						2
14	#	Screw, hex cap 3/8-16			4			
14	#	Screw, hex cap 3/8-16		8				
14	#	Hardware, 5/16-18						7
15	255561	Bracket, support		2				
15	326131	Bracket, air cleaner						1
15	326132	Shield, heat (not shown)						1
15	#	Hardware, 1/4-20 (not shown)						2
16	X-25-82	Washer, plain			4			
17	#	Nut, 3/8-16		8	8			
17	#	Hardware, 5/16-18						7
18	326296	Hose, hump						1

Common hardware. Procure locally.

Common hardware. Procure locally.

Group 103: Fuel System



A-282913
A-276000
CP-255000

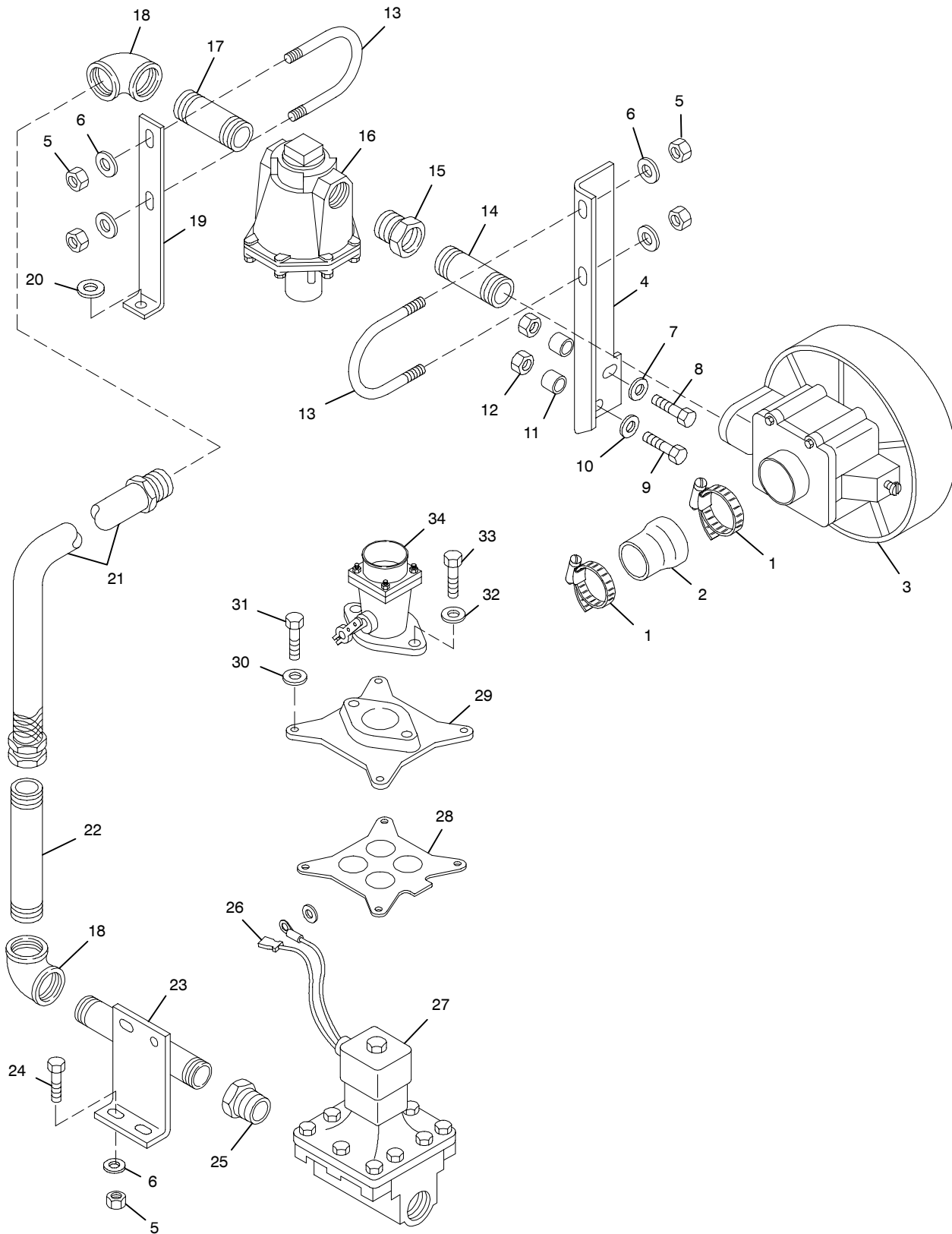
Group 103: Fuel System

Item	Part Number	Description	Quantity			
			Variation Number			
			2	4	7	
26	276082	Gasket	1	1	1	
27	276081	Adaptor	1			
28	#	Washer, plain 5/16 in.	4	4		
29	X-125-24	Screw, hex cap	4	4		
30	291430	Gasket, carburetor	1			
30	326165	Gasket, carburetor			1	
31	291769	Adapter, carburetor	1			
31	327102	Adapter, carburetor			1	
32	#	Washer, plain 5/16 in.		4		
33	X-125-5	Screw, hex cap		4		
33	X-352-96	Stud, 7/16-14 x 1.5"			2	
34	255519	Adapter, manifold	1		1	
35	A-282913	Carburetor, L.P. vapor or natural gas		1		
35	A-291429	Carburetor, L.P. vapor or natural gas	1			
35	A-326117	Carburetor, L.P. vapor or natural gas			1	
36	X-25-82	Washer, plain	2			
37	X-6238-11	Screw, hex cap	2			
38	X-206-9	Nipple, pipe		1	1	
38	X-209-5	Nipple, pipe	1			
39	X-202-1	Bushing, reducer		1	1	
39	X-209-5	Bushing, reducer	1			
40	X-215-2	Elbow, pipe	1			
40	X-215-15	Elbow, pipe		1	1	
41	X-206-6	Nipple, pipe	1			
41	X-218-13	Nipple, pipe		1		
41	X-218-9	Nipple, pipe			1	
42	X-397-1	U-bolt	1	1		
43	#	Washer, 5/16 in.	2	2	2	
44	#	Nut, 5/16-18	2	2	2	
45	255666	Bracket, support		1		
45	291439	Bracket, support	1			
45	326796	Bracket, support			1	
46	291259	Regulator, pressure	1			
46	291260	Regulator, pressure		1	1	
47	X-206-9	Nipple, pipe	1			
47	X-218-24	Nipple, pipe		1	1	
48	X-225-8	Elbow, 45 degree	1			
48	X-225-9	Elbow, 45 degree		1		
48	X-215-15	Elbow, pipe			1	
49	X-504-18	Fuel line, flexible	1			
49	X-504-20	Fuel line, flexible		1	1	
50	X-206-16	Nipple, pipe	1			
50	X-206-15	Nipple, pipe	1			
50	X-218-9	Nipple, pipe		1		
50	X-218-27	Nipple, pipe			1	
51	276331	Bracket, support	1	1		
51	326256	Bracket, support			1	
52	X-202-1	Bushing, reducer	1			
52	X-202-32	Bushing, reducer		1	1	
53	#	Screw, hex cap 5/16-18	2	2	2	
54	#	Washer, lock 5/16 in.	2	2		
55	#	Nut, 5/16-18	2	2	2	
56	244914	Valve, gas	1			
56	A-254469	Valve, gas		1	1	
57	X-367-1	Terminal	1	1		
58	X-283-5	Terminal	1	1		
59	X-22-12	Washer, shakeproof	1	1	1	

Common hardware. Procure locally.

Group 103: Fuel System, continued

L.P. Vapor or Natural Gas
Turbocharged



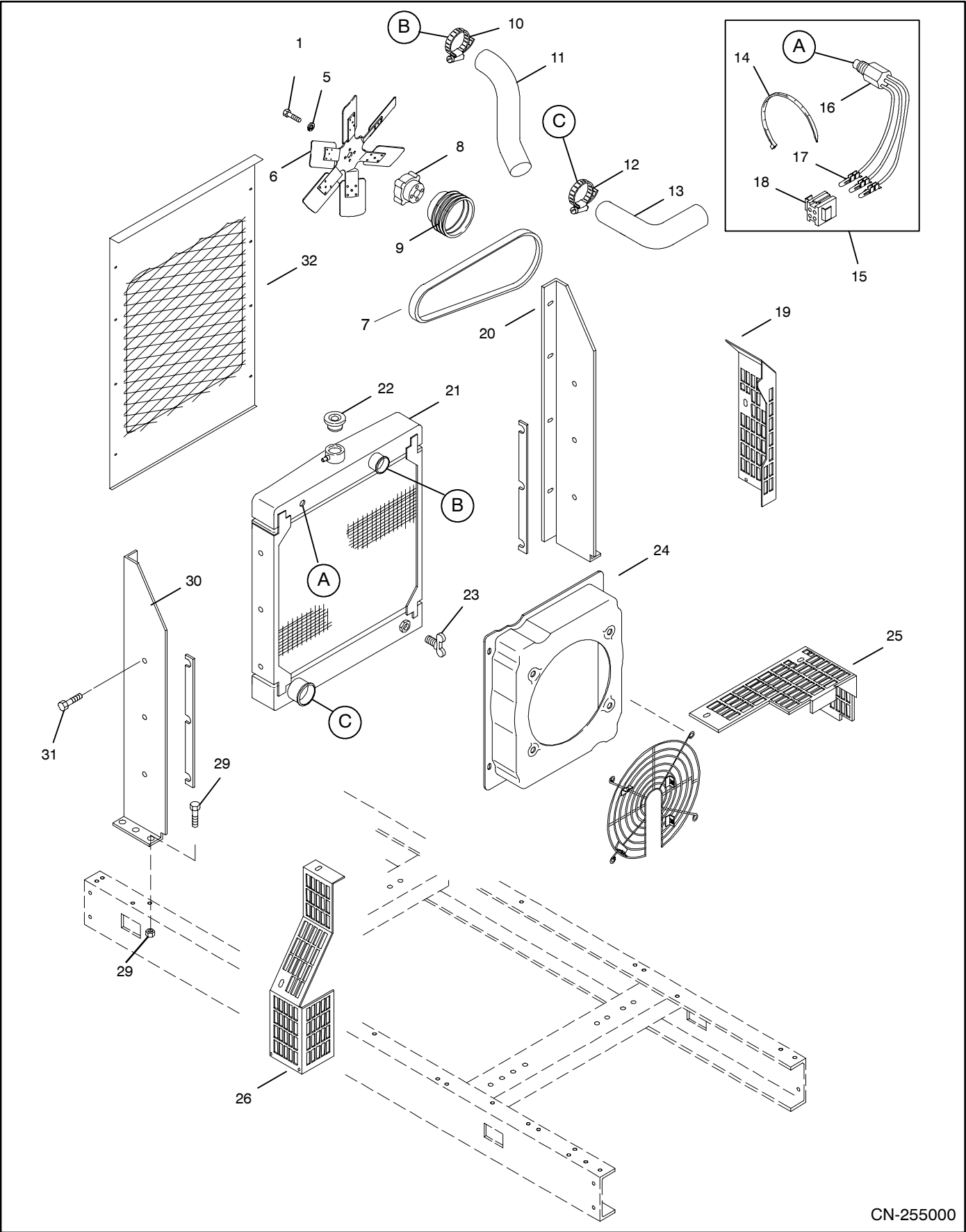
CR-255000

Group 103: Fuel System, continued

Item	Part Number	Description	Quantity		
			Variation	Number	
			5	8	
1	X-426-2	Clamp, hose	2	2	
2	255520	Hose, reducer	1	1	
3	A-326218	Body, mixer	1	1	
4	255521	Bracket	1	1	
5	#	Nut, 5/16-18	6	6	
6	#	Washer, lock 5/16 in.	6	6	
7	#	Washer, 7/16 in.	1	1	
8	X-6024-8	Screw, hex cap	1	1	
9	X-129-19	Screw, hex cap	1	1	
10	#	Washer, 1/2 in.	1	1	
11	X-400-147	Spacer	2	2	
12	X-25-59	Washer, plain	2	2	
13	X-397-1	U-bolt	2	2	
14	A-107	Pipe	1	1	
15	X-202-1	Bushing, reducer	1	1	
16	291260	Regulator, pressure	1	1	
17	X-218-28	Pipe	1	1	
18	X-215-15	Elbow, pipe	2	2	
19	255755	Support, fuel pipe	1	1	
20	X-25-44	Washer, plain	2	2	
21	X-504-20	Fuel line, flexible	1	1	
22	X-218-28	Nipple, pipe	1	1	
23	276332	Bracket, support	1		
23	326256	Bracket, support		1	
24	#	Screw, hex cap 6/16-18	2	2	
25	X-202-32	Bushing, reducer	1	1	
26	X-285-6	Terminal	1	1	
27	A-254469	Valve, gas	1	1	
28	276082	Gasket	1	1	
29	255519	Adapter, manifold	1	1	
30	#	Washer, plain 5/16 in.	4	4	
31	X-125-24	Screw, hex cap	4	4	
32	#	Washer, plain 7/16 in.	2	2	
33	X-6024-2	Screw, hex cap	2	2	
34	B-255517	Body, throttle	1	1	
	258558	Tag, instruction (Not Shown)	1		

Common hardware. Procure locally.

Group 104: Cooling System



CN-255000

Group 104: Cooling System

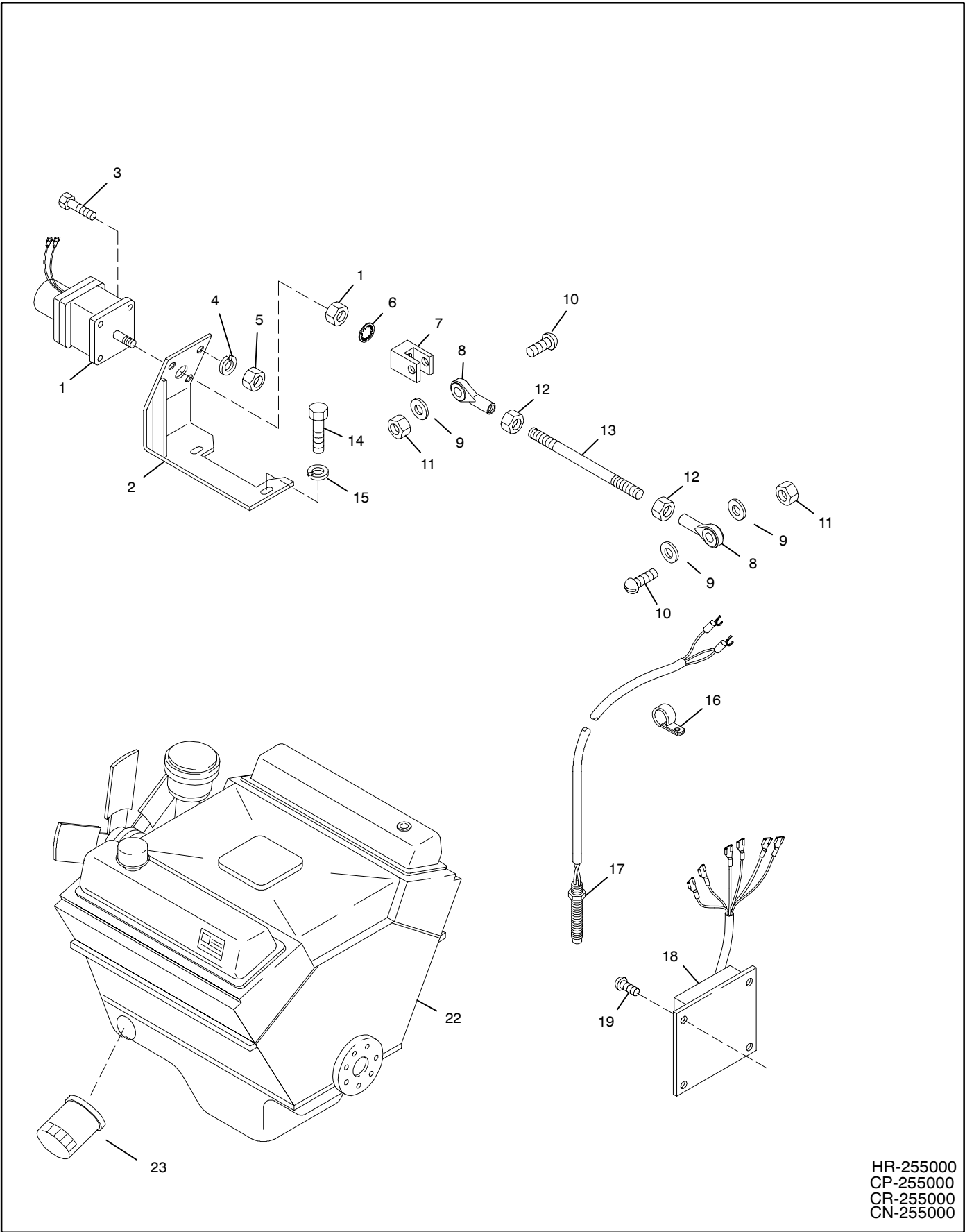
Item	Part Number	Description	Quantity			
			Variation Number			
			1	19	20	21
1	X-794-1	Screw, drill	34			
2	255298	Cover, radiator	1			
3	253268	Plug	1			
4	X-125-5	Screw, hex cap	4	4	4	4
5	X-801-4	Washer, hardened	4	4	4	4
6	255651	Fan	1			
6	276468	Fan		1		
6	276473	Fan			1	1
7	258955	Belt, V 42 in.	1	1	1	1
8	276114	Spacer, fan	1	1	1	1
9	276076	Pulley, water pump	1	1	1	1
10	249888	Clamp, hose	2			
10	X-426-4	Clamp, hose 1.32 x 2.10		2	2	2
11	X-6014-2	Hose, upper radiator	1			
11	276488	Hose, upper radiator		1	1	1
12	249887	Clamp, hose	2			
12	X-426-16	Clamp, hose		2	2	2
13	X-6014-3	Hose, lower radiator	1			
13	276489	Hose, lower radiator		1	1	1
14	X-468-1	Tie, cable	4	4	4	4
15	See chart below	Sensor, low fluid	1	1	1	1
16	See chart below	Sensor, low fluid	1	1	1	1
17	See chart below	Pin	3	3	3	3
18	See chart below	Connector, jack	1	1	1	1
19	258904	Guard, fan (right side)	1			
19	326118	Guard, belt, right		1	1	1
20	255296	Support, radiator (right)	1			
20	276497	Support, radiator (right)		1	1	1
21	A-255605	Radiator assembly (includes item 22)	1			
21	A-276469	Radiator assembly (includes item 22)		1		
21	A-276470	Radiator assembly (includes item 22)			1	
21	A-276471	Radiator assembly (includes item 22)				1
22	224365	Cap, radiator (14 psi)	1			
22	224358	Cap, radiator (7 psi)		1	1	1
23	X-256-3	Valve, drain	1	1	1	1
23	X-202-47	Bushing, reducer 1/4 (not shown)	1	1	1	1
24	255287	Shroud, fan	1			
24	276400	Shroud, fan		1	1	1
24	326044	Guard, wire		1	1	1
25	258906	Guard, fan (top)	1			
25	326246	Guard, belt, bottom		1	1	1
26	258905	Guard, fan (left side)	1			
26	326119	Guard, belt, left		1	1	1
27	#	Nut, hex 5/16-18	6			
28	#	Washer, lock 5/16 in.	12			
29	#	Screw, hex cap 5/16-18	6			
29	#	Hardware, 3/8-16		8	8	8
30	255288	Support, radiator (left)	1			
30	276496	Support, radiator (left)		1	1	1
31	X-125-3	Screw, hex cap	6			
31	X-125-3	Screw, hex cap		8	8	8
32	255286	Shroud, radiator	1			
32	276498	Guard, radiator		1	1	1

Common hardware. Procure locally.

Serial Number-Contingent Cooling System Parts

Part Description	Part Number	
	Before Serial Number 363369	Serial Numbers 363369 and after
Sensor, low fluid (assembly)	273404	365289
Sensor, low fluid (item 16)	273520	365288
Pin (item 17)	239516	NA
Connector, jack (item 18)	239411	NA

Group 105: Engine



HR-255000
CP-255000
CR-255000
CN-255000

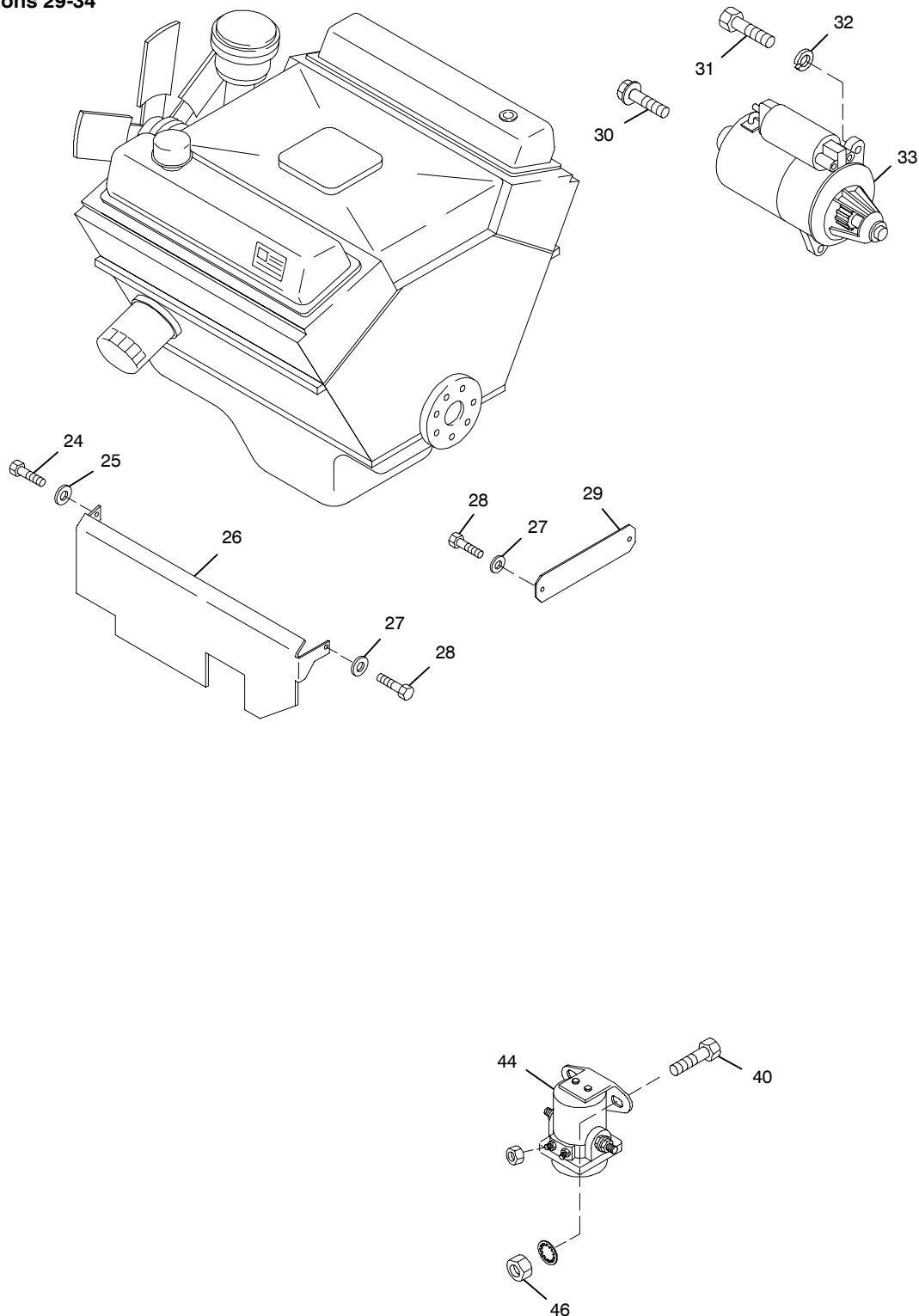
Group 105: Engine

Item	Part Number	Description	Quantity					
			Variation Number					
			29	30	31	32	33	34
1	273748	Actuator, linear	1	1	1	1	1	1
2	276282	Bracket, actuator	1					
2	276330	Bracket, actuator		1	1			1
2	326139	Bracket, actuator				1	1	
3	#	Screw, hex cap 1/4-20	4	4	4	4	4	4
4	#	Washer, lock 1/4 in.	4	4	4	4	4	4
5	#	Nut, hex 1/4-20	4	4	4	4	4	4
6	X-22-11	Washer, lock		5	5			
6	X-22-11	Washer, lock		1		1	1	1
7	273751	Yoke	1	1	1	1	1	1
8	272456	Link, ball	2	2	2	2	2	2
9	X-25-115	Washer, lock #10	3	3	3	3	3	3
10	X-73-14	Screw, round head machine	2		2			
10	X-50-70	Screw, round head machine	2	2	2	2	2	2
11	X-101-9	Nut, lock 10-24	2	2	2	2	2	2
11	X-6053-1	Nut, hex	1		1			
12	X-70-11	Nut, hex		2		2	2	2
13	X-352-79	Stud	1			1	1	
13	X-352-73	Stud		1	1			1
14	#	Screw, hex cap 5/16-18 x 1 1/2	2	2	2	2	2	
15	#	Washer, lock 5/16 in.	2	2	2	2	2	
16	X-672-10	Clamp	1	1	1			
16	X-672-3	Clamp, insulated	1	1	1			
16	X-672-7	Clamp, insulated	1	1	2	1	1	1
17	255749	Pick-up, magnetic	1	1	1	1	1	1
18	A-246045	Governor assembly 326814				1	1	1
18	326814	Governor assembly A-246045	1	1	1			
19	X-6216-1	Screw, Phillips head crimp	4	4	4	4	4	4
20	#	Washer, lock #8	4	4	4			
21	#	Nut, hex #8-32	4	4	4			
22	A-276202	Engine assembly	1	1	1			
22	A-326274	Engine assembly*				1	1	1
23	279449	Oil filter (supplied by Ford)	1	1	1	1	1	1

Common hardware. Procure locally.

Group 105: Engine, continued

Variations 29-34



CR-255000
CN-255000

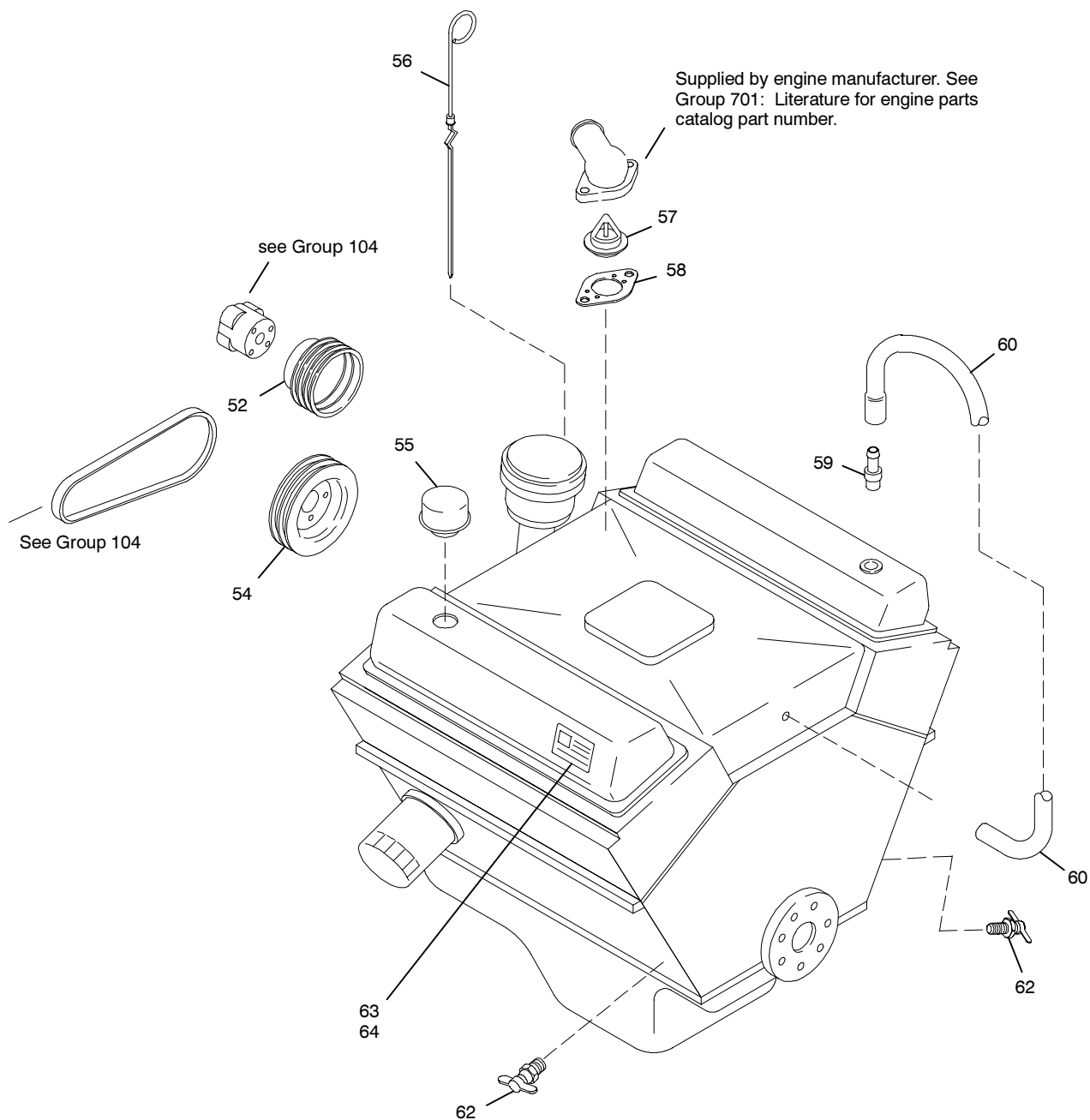
Group 105: Engine, continued

Item	Part Number	Description	Quantity					
			Variation Number					
			29	30	31	32	33	34
24	X-6024-5	Screw, hex cap	1	1	1	1	1	1
25	#	Washer, lock 7/16 in.	1	1	1	1	1	1
26	276346	Shield, heat	1	1	1	1	1	1
27	#	Washer, lock 3/8 in.	3	3	3	3	3	3
28	X-6238-10	Screw, hex cap	3	3	3	3	3	3
29	326076	Plate, cover	1	1	1	1	1	1
30	276096	Screw, washer head	1	1	1			
30	X-6238-4	Screw, 3/8-16 x 1.25				1	1	1
31	#	Screw, hex cap 3/8-16	2	2	2	2	2	2
32	#	Washer, lock 3/8 in.	2	2	2	2	2	2
33	276097	Starter assembly	1	1	1			
33	326136	Starter assembly				1	1	1
33	326872	Terminal (not shown)				1	1	1
34	291384	Housing, flywheel	1	1	1			
35	#	Screw, hex cap 5/16-18	1	1	1			
36	X-22-16	Washer, lock	2	2	2			
37	#	Nut, hex 5/16-18	2	2	2			
38	255414	Bracket, fuel pump	1	1	1			
39	#	Washer, lock 1/4 in.	2	2	2			
40	X-465-6	Screw, hex cap	2	2	2			
40	#	Hardware, 1/4-20				2	2	2
41	X-22-12	Washer, shakeproof	6	6	6	2	2	2
42	259632	Bumper	2	2	2			
43	223033	Strap, ground	1	1	1			
44	291891	Solenoid, starter	1	1	1	1	1	1
45	X-6214-2	Cap, plastic	1	1	1			
46	#	Nut, hex 1/4-20	2	2	2	2	2	2
47	#	Washer, lock 1/4 in.	2	2	2			
48	276340	Harness, wiring (includes item 49)	1	1	1			
49	233959	Diode	1	1	1			

Common hardware. Procure locally.

Group 105: Engine, continued

Variations 29-34



A-276000
CR-255000
CN-255000

Group 105: Engine, continued

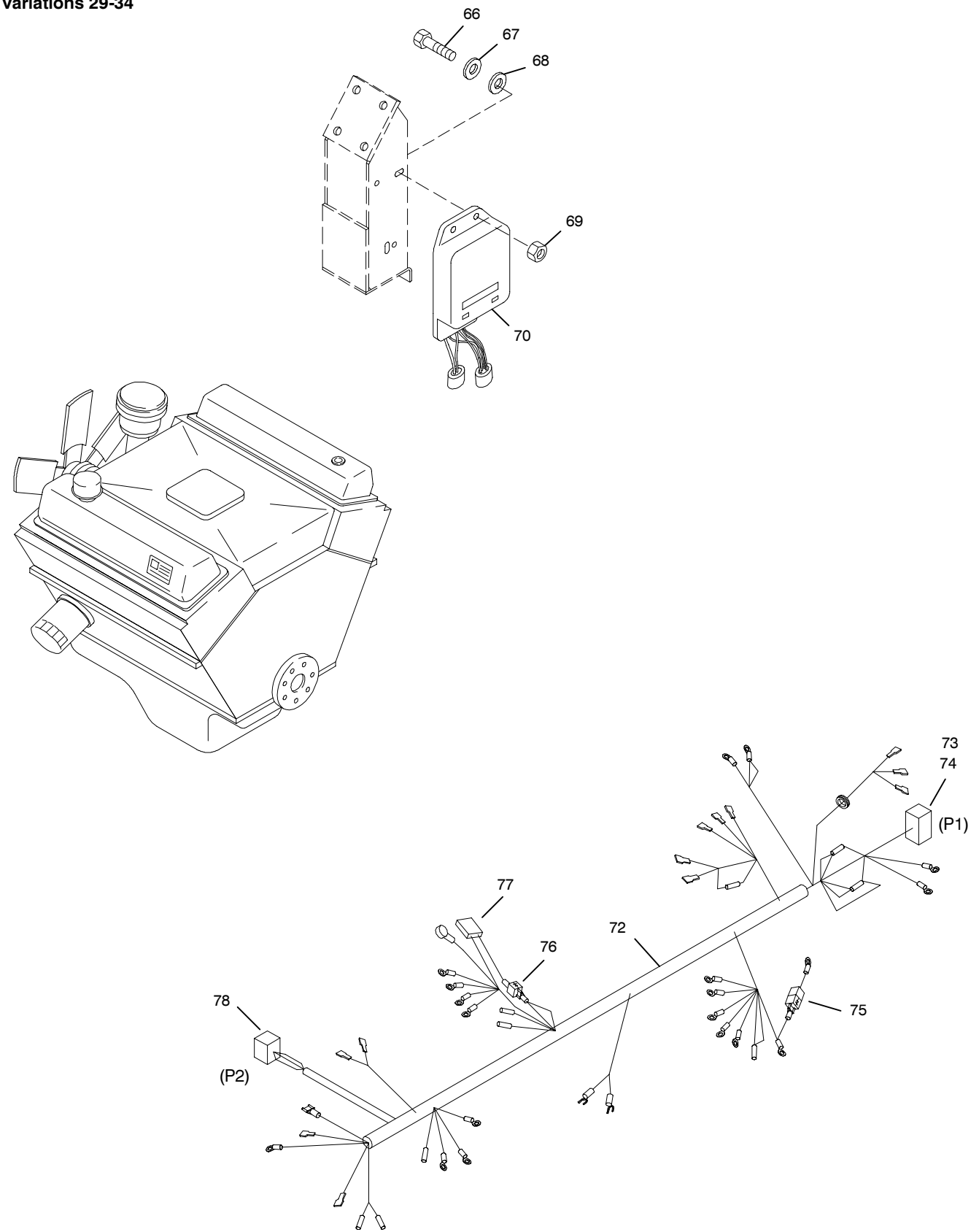
Item	Part Number	Description	Quantity					
			Variation Number					
			29	30	31	32	33	34
50	#	Screw, hex cap 5/16-24	4	4	4			
51	X-801-4	Washer, hardened	4	4	4			
52	276076	Pulley, water pump	1	1	1	1	1	1
53	#	Screw, hex cap 3/8-16	4	4	4			
54	276075	Pulley, crankshaft	1	1	1	1	1	1
55	276085	Cap, oil fill	1	1	1			
55	326259	Cap, oil fill						1
56	276078	Dipstick	1	1	1			
56	226641	Dipstick				1	1	1
56	226640	Tube, dipstick (not shown)				1	1	1
57	276162	Thermostat*	1	1				1
58	255752	Gasket, thermostat*		1				1
59	276115	Valve, crankcase vent	1	1	1	1	1	1
60	276164	Hose, crankcase vent	1	1	1	1	1	1
60	326257	Tube, breather (not shown)						1
60	326258	Bracket, support (not shown)						1
60	X-672-31	Clamp, insulated (not shown)						1
61	X-582-2	Connector, hose adapter	1		1			
62	X-256-3	Valve, drain	2	2	2	2	2	2
63	276095	Nameplate, engine	1	1	1	1	1	1
64	246066	Adhesive, neoprene	1	1	1	1	1	1

Common hardware. Procure locally.

* This part replaces the part shown in the Ford engine parts catalog.

Group 105: Engine, continued

Variations 29-34



CR-255000
CN-255000

Group 105: Engine, continued

Item	Part Number	Description	Quantity					
			Variation Number					
			29	30	31	32	33	34
65	X-22-15	Washer, lock	1	1	1			
66	#	Screw, hex cap 1/4-20	3	3	3	3	3	3
67	#	Washer, lock 1/4 in.	3	3	3	3	3	3
68	#	Washer, plain 1/4 in.	3	3	3	3	3	3
69	#	Nut, hex 1/4-20	3	3	3	3	3	3
70	276077	Module, ignition	1	1	1	1	1	1
71	276094	Harness, wiring	1	1	1			
72	276329	Harness, wiring (engine) (includes item 73-78)	1	1	1			
72	326100	Harness, wiring (includes items 73-78) before serial number 363369				1	1	1
72	326615	Harness, wiring serial numbers 363369 and after				1	1	1
72	236978	Pin, male	A/R	A/R	A/R	A/R	A/R	A/R
72	292879	Pin, female, gold-plated				A/R	A/R	A/R
73	295145	Connector, 24-position	1	1	1	1	1	1
74	292800	Connector, cable	1	1	1	1	1	1
75	253798	Diode	1	1	1	1	1	1
76	233959	Diode, 6 amp, 100 V	A/R	A/R	A/R	A/R	A/R	A/R
77	254986	Connector, 2-position	1	1	1	1	1	1
78	239408	Connector, 4-position	1	1	1	1	1	1
78	239408	Connector, 4-position	1	1	1	1	1	1

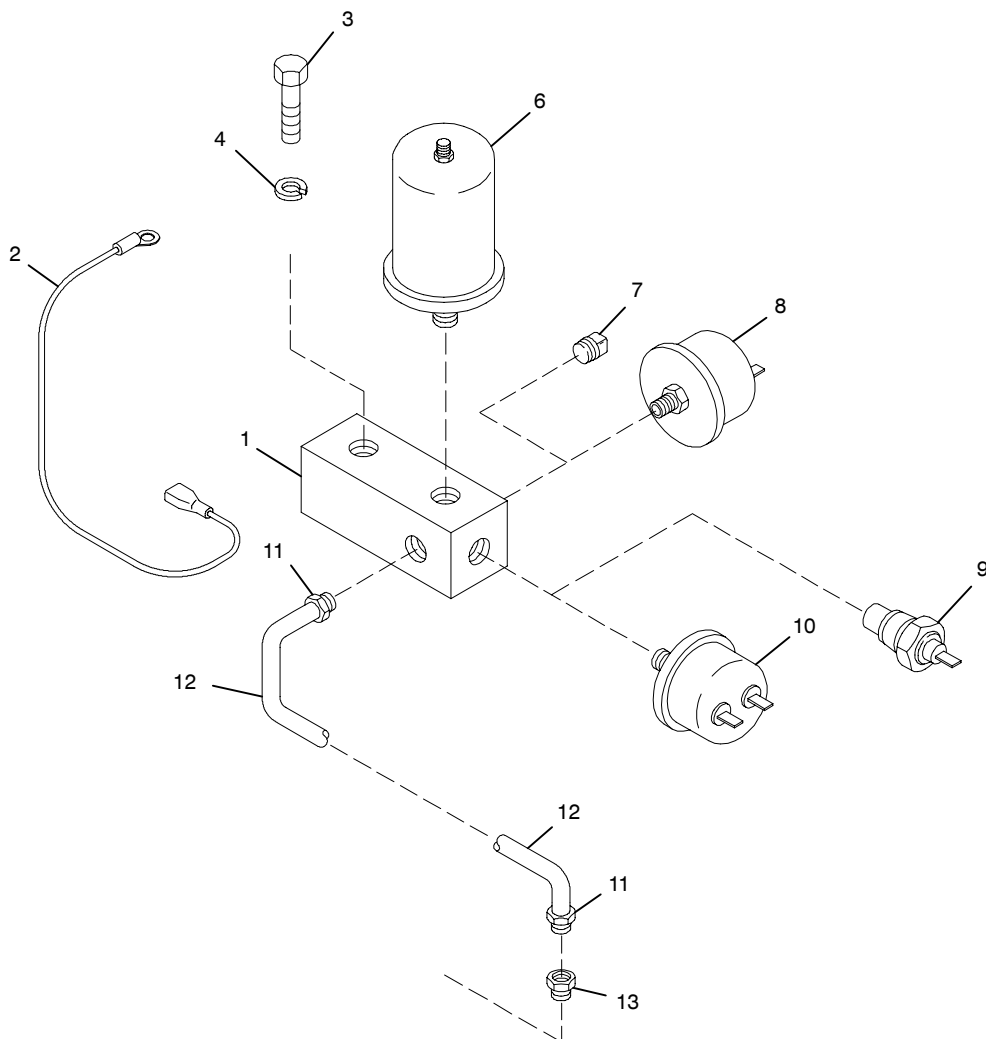
Common hardware. Procure locally.

Group 107: Nameplates and Decals

Item	Part Number	Description	Quantity									
			Variation Number									
			11	12	13	14	15	16	17	18	19	20
1	X-6301-1	Decal, Spectrum	2	2	2	2	2	2	2	2	2	2
2	X-6301-3	Decal, Spectrum	1	1	1	1	1	1	1	1	1	1
3	X-6299-4	Decal, model	2	2								
3	X-6299-5	Decal, model			2	2						
3	X-6299-26	Decal, model					2	2				
3	X-6299-6	Decal, model							2	2		
3	X-6299-7	Decal, model									2	2
4	238402	Decal, 12 volt positive terminal	1	1	1	1	1	1	1	1	1	1
5	246055	Tag, warning	1	1	1	1	1	1	1	1	1	1
6	257438	Decal, danger: haz. volt./moving rotor	3	3	3	3	3	3	3	3	3	3
7	259365	Decal, backfeed	1		1		1		1		1	
8	280561	Decal, water drain	2	2	2	2	2	2	2	2	2	2
9	257437	Decal, warning, unbalanced weight w/sling	1	1	1	1	1					
10	257441	Decal, warning, unbalanced weight	1	1	1	1	1	1	1			
11	249809	Warning, hot engine	1	1	1	1	1	1	1	1	1	1
12	258815	Decal, warning haz. volt./backfeed	1	1	1	1	1	1	1	1	1	1
13	249808	Decal, warning rotating parts	1	1	1	1	1	1	1	1	1	1
14	239776	Decal, lifting support						1				1
15	255882	Decal, standby service						1				1
16	279958	Decal, 600V connection		1		1		1		1		1
17	X-6302-1	Decal, torque symbol	1	1	1	1	1	1	1	1	1	1
18	249810	Decal, warning hot coolant	1	1	1		1		1	1	1	1

Notes

Group 108: Oil Pressure Switches

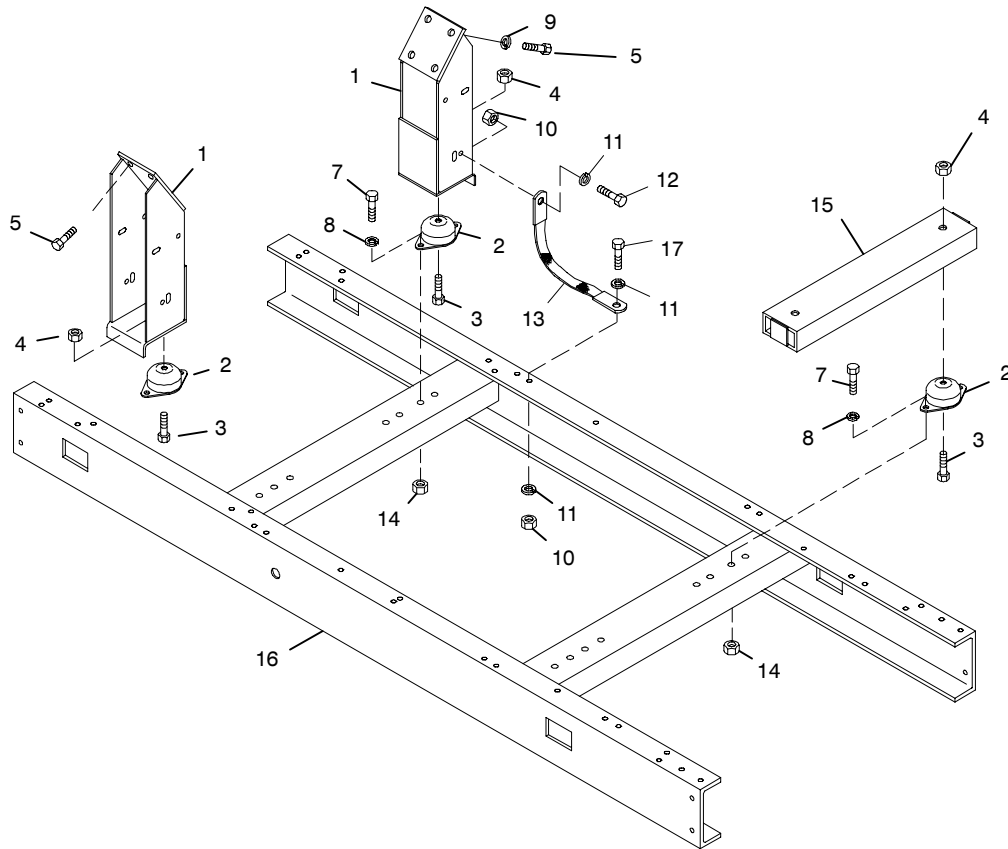


CR-255000
CN-255000

Item	Part Number	Description	Quantity								
			Variation Number								
			1	2	3	4	5	6	7	8	9
1	267548	Block, oil gauge sender	1	1	1	1	1	1	1	1	1
2	LN-1808-1613	Lead			1	1		1	1		1
3	230578	Screw, hex cap	3	3	3	3	3	3	3	3	3
4	X-22-16	Washer, lock			1	1		1	1		1
5	#	Washer, flat 5/16 in.	1	1	1	1		1	1		
6	264390	Sender, oil pressure	1		1	1		1	1	1	1
7	X-75-1	Plug, pipe	2	2	2	2	2	2	2	2	2
8	255912	Switch, oil pressure			1	1		1	1		1
9	328309	Switch, oil pressure	1	1						1	
10	255913	Switch, pressure						1			1
11	D-244	Connector, compression	2	2	2	2	2	2	2	2	2
12	X-294-1	Oil line, vent	1	1	1	1	1	1	1	1	1
13	A-106	Bushing, reducer	1	1	1	1	1	1	1	1	1

Common hardware. Procure locally.

Group 109: Skid and Plant Mounting

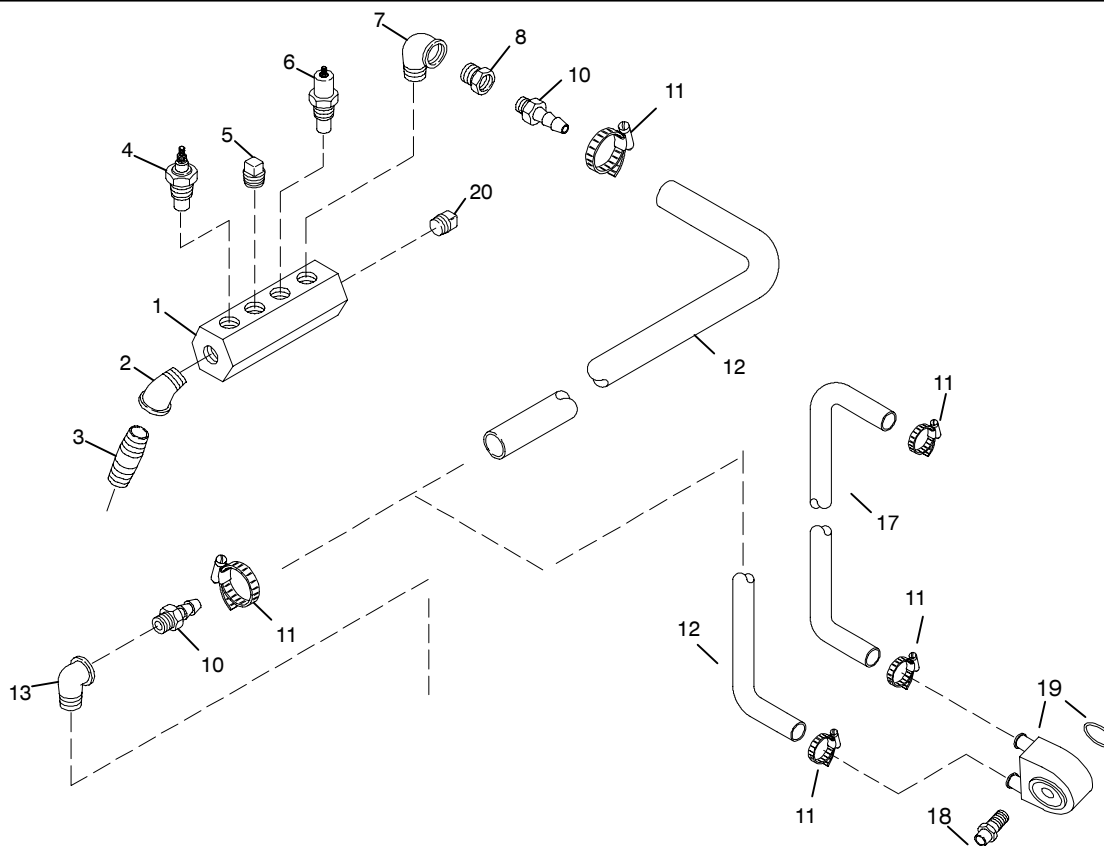


CR-255000
CN-255000

Item	Part Number	Description	Quantity				
			Variation Number				
3	4	5	6	7			
1	255289	Support, engine	2	2			
1	276467	Support, engine			2	2	2
2	244210	Mount, vibration	4	4			
2	326156	Mount, vibration				4	
2	324155	Mount, vibration (engine end)			2		2
2	324156	Mount, vibration (generator end)			2		2
2	X-25-141	Washer, plain (not shown)			4	4	4
3	#	Screw, hex cap 1/2-13	4	4			
4	X-101-23	Nut, hex stop	4	4			
5	X-6024-2	Screw, hex cap	6	6			
6	X-22-15	Washer, lock	1				
7	#	Screw, hex cap 1/2-13	8	8			
8	#	Washer, lock 1/2 in.	8	8			
9	#	Washer, lock 7/16	5	5			
10	#	Nut, hex 5/16-18	2	2	2	2	2
11	X-22-16	Washer, lock	4	4			
11	X-22-16	Washer, lock			3	3	3
12	#	Screw, hex cap 5/16-18	1	1	1	1	1
13	290418	Strap, ground	1	1			
14	#	Nut, hex 1/2-13	8	8			
14	#	Nut, hex 3/8-16			8	8	8
15	253371	Spacer, generator		1			
16	258496	Skid	1	1			
16	276474	Skid			1		
16	276477	Skid				1	1
16	326238	Heat shield (not shown)			1	1	1
17	#	Screw, hex cap 5/16-18	1	1			
17	X-67-131	Screw, self-tapping			1	1	1

Common hardware. Procure locally.

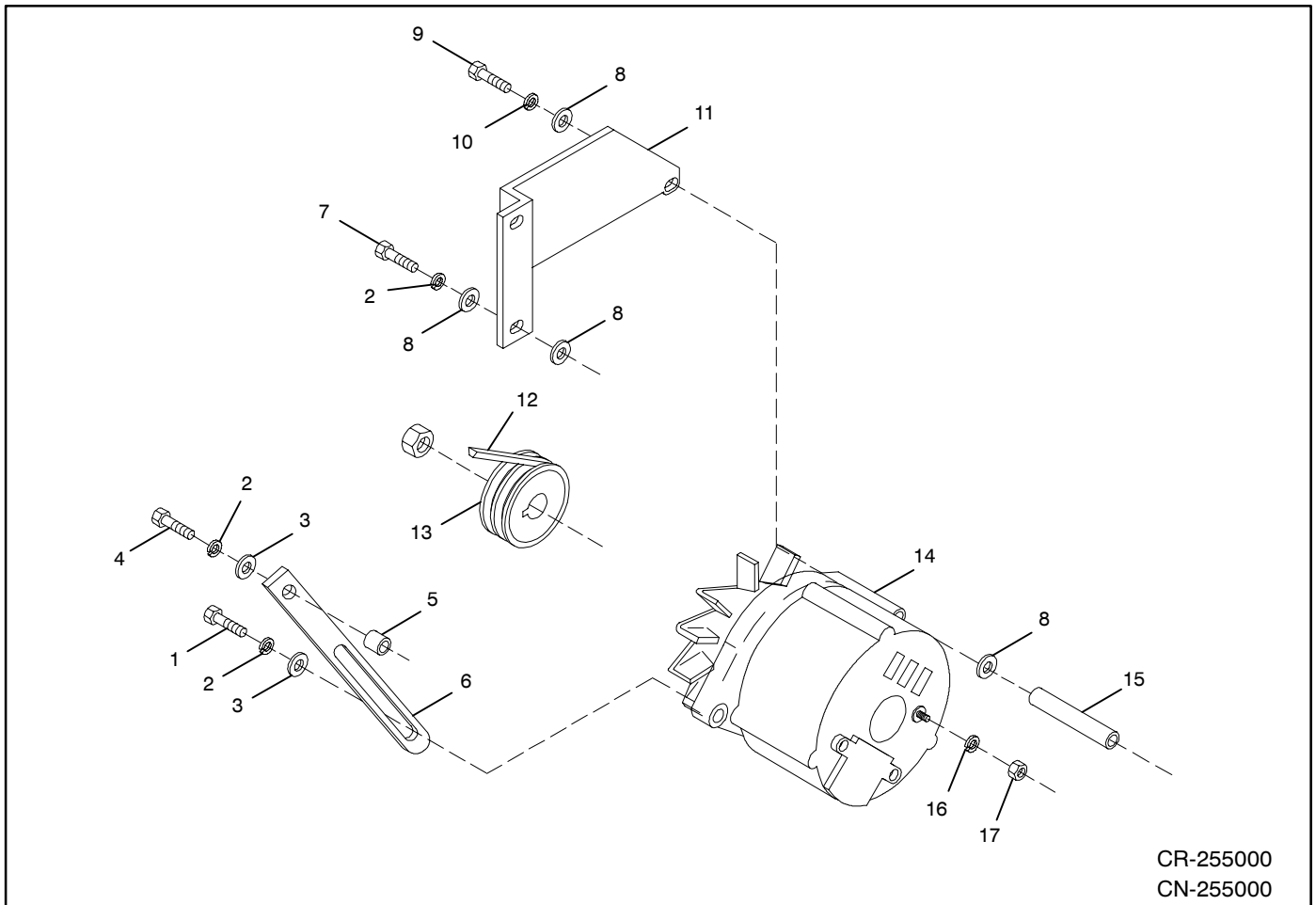
Group 110: Water Temperature Switches



CR-255000
CN-255000

Item	Part Number	Description	Quantity							
			Variation Number							
			1	2	3	4	5	6	7	8
1	273659	Manifold, water temperature sender	1		1	1		1	1	1
1	291010	Manifold, water temperature sender		1			1			
2	X-274-13	Elbow, street	1	1	1	1	1	1	1	1
3	X-209-6	Nipple, pipe	1	1	1	1	1	1	1	1
4	268298	Sender, water temperature	1		1	1		1	1	1
5	X-75-28	Plug, pipe	2	2	2	2	2	2	1	1
6	241308	Switch, high temperature	1	1	1	1	1	1	1	1
7	X-211-1	Elbow, street	1	1	1	1	1	1		
8	X-202-28	Bushing, reducer	1	1	1					
8	X-202-46	Bushing, reducer							1	
9	241481	Switch, high temperature shut-off			1			1		
10	X-582-9	Connector, hose	2	2	2				2	
10	X-582-1	Connector, hose				1	1	1		1
10	X-582-2	Connector, hose				1	1	1		1
11	X-426-10	Clamp, hose	2	2	2				2	
11	X-426-12	Clamp, hose								4
12	X-651-16	Hose	1		1				1	
12	X-312-34	Hose, oil cooler								1
13	S-404	Elbow, street 3/8	1			1			1	1
14	255264	Switch, low water temperature			1			1		
14	X-256-1	Valve, drain 3/8							1	1
15	X-203-15	Tee, 3/8 x 3/8		1	1		1	1	1	1
16	X-204-9	Nipple, pipe 3/8 x 1		1	1		1	1	1	1
17	X-312-50	Hose, oil cooler								1
18	258795	Adaptor, oil cooler								1
19	258794	Cooler, oil (includes gasket)								1
20	X-75-3	Plug, pipe 1/2"							1	1

Group 113: Alternator



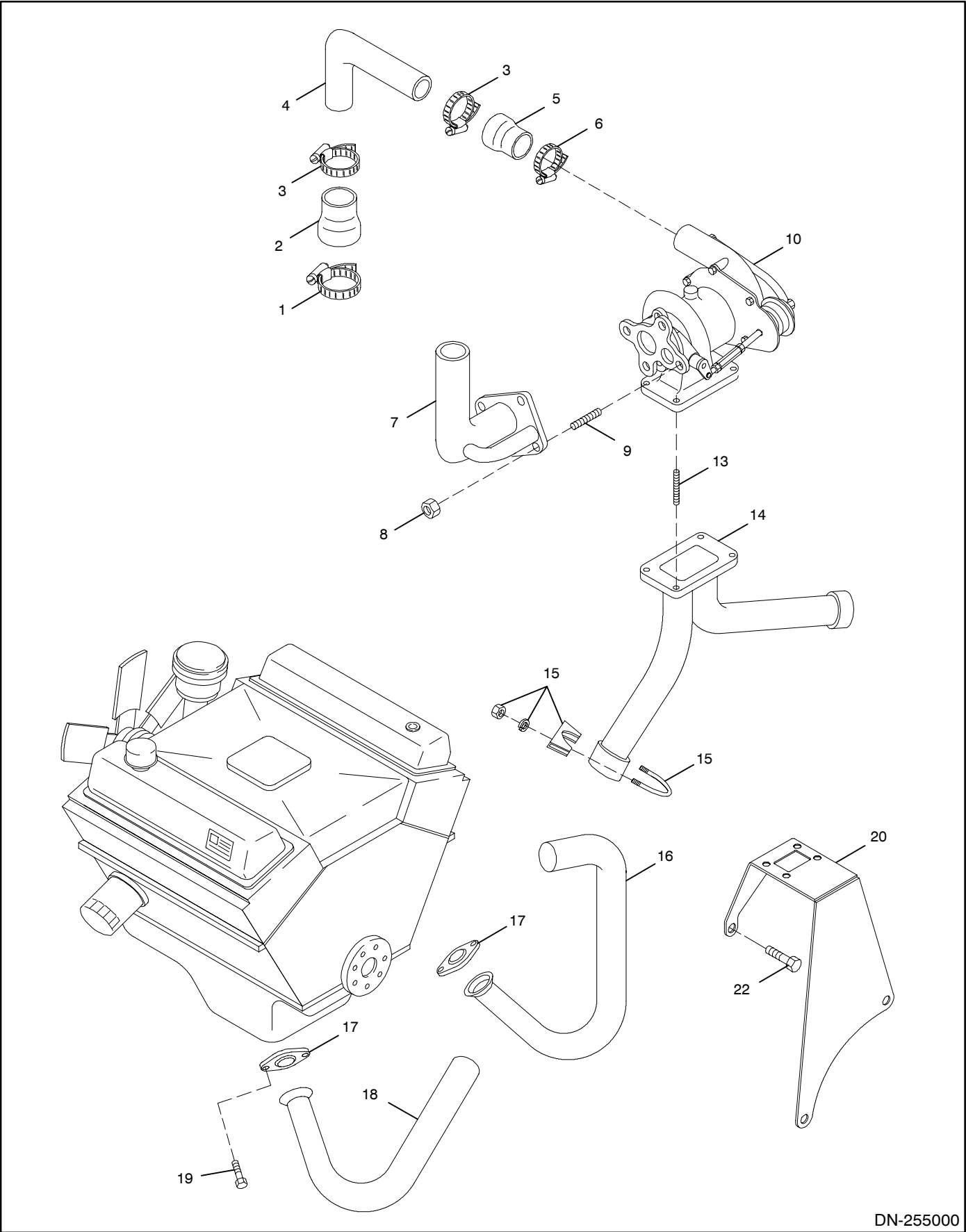
CR-255000
CN-255000

Item	Part Number	Description	Quantity		
			Variation	Number	
2	4	99*			
1	X-6050-4	Screw, hex cap	1	1	1
2	X-21-1	Washer, lock	4		
2	#	Washer, lock 5/16 in.		1	
3	X-25-5	Washer, plain	2		
3	X-25-85	Washer, plain			2
4	230578	Screw	1		1
5	280528	Spacer	1	1	1
6	291724	Arm, adjusting	1	1	1
7	X-125-22	Screw, hex cap	2		2
8	X-25-93	Washer, plain	6	6	6
9	X-6238-18	Screw, hex cap	1		1
10	X-22-1	Washer, lock	1		
10	#	Washer, lock 3/8 in.		1	
11	291401	Bracket, alternator mounting	1	1	1
12	258955	Belt, alternator and fan (matched pair)	1	1	1
13	256420	Pulley, alternator	1	1	1
14	255013	Alternator	1		
14	276226	Alternator		1	1
15	X-400-118	Spacer	1	1	1
16	X-22-11	Washer, lock	1	1	1
17	X-6053-1	Nut, hex	1	1	1

Common hardware. Procure locally.

* Component of engine assembly A-326274

Group 116: Exhaust

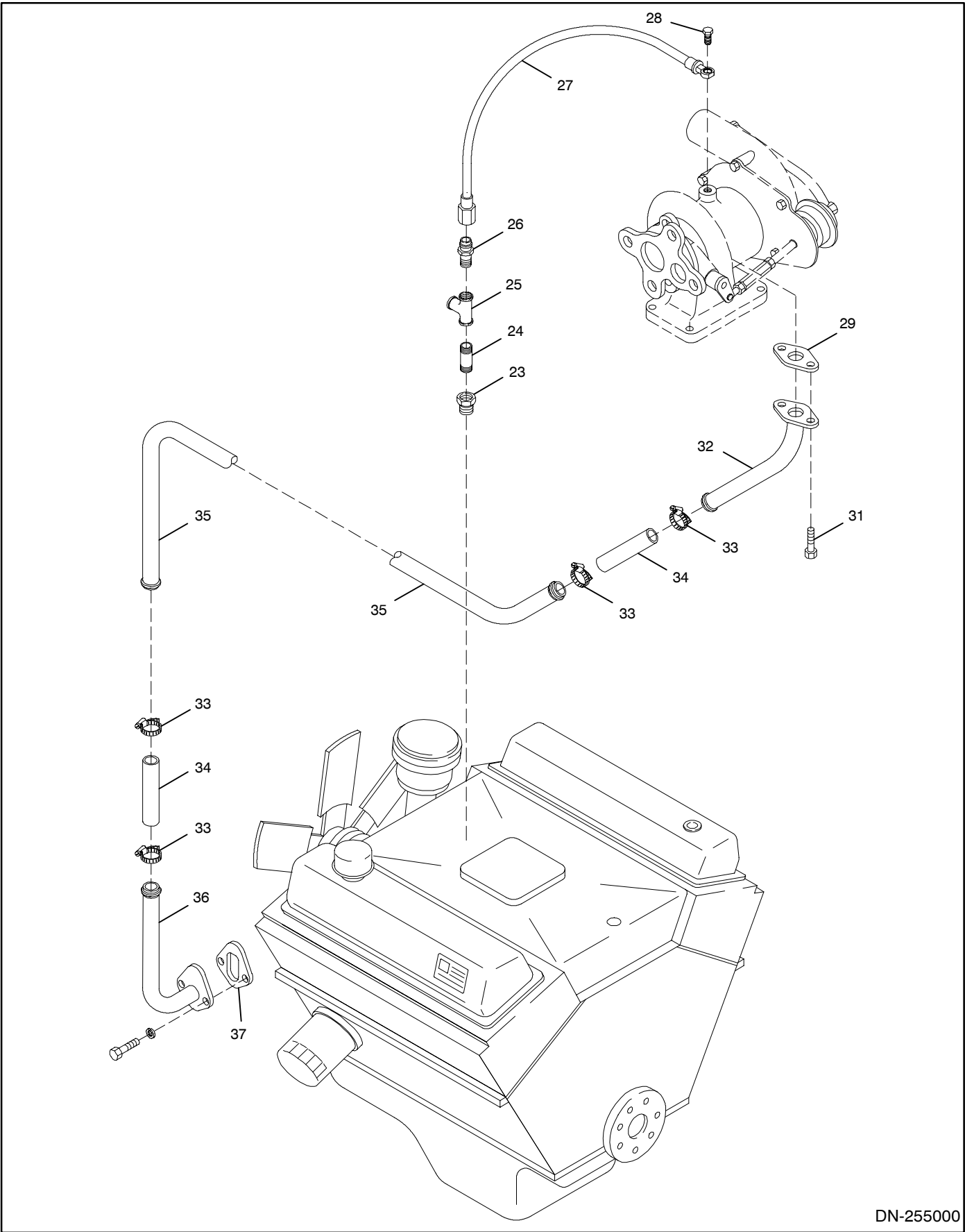


DN-255000

Group 116: Exhaust

Item	Part Number	Description	Quantity							
			Variation Number							
			1	4	5	6	7	8	9	10
1	X-426-2	Clamp, hose		1	1	1	1		1	1
2	258465	Hose, step		1	1	1	1		1	1
3	250081	Clamp, hose		2	2	2	2		2	2
4	258454	Pipe, compression discharge		1	1	1	1		1	1
5	255625	Hose, step		1	1	1	1		1	1
6	X-426-6	Clamp, hose		1	1	1	1		1	1
7	255623	Pipe, compression discharge		1	1	1	1		1	1
8	X-6053-2	Hose, step		4	4					
8	258957	Clamp, hose				4	4		4	4
9	X-6054-8	Stud		4	4					
9	258956	Stud				4	4		4	4
10	255553	Turbocharger		1		1			1	
10	255554	Turbocharger			1		1			1
11	X-82-2	Nut, hex 5/16		4	4					
12	X-21-1	Washer, lock 5/16		4	4					
13	X-352-65	Stud		4	4	4	4		4	4
14	258450	Pipe, turbo inlet		1	1					
14	258922	Pipe, turbo inlet				1	1		1	1
14	255555	Pipe, exhaust	1					1		
15	X-722-5	U-clamp		2	2	2	2		2	2
15	288827	Clamp, muffler	1, 2					2		
16	258452	Pipe, exhaust (right)		1	1					
16	258923	Pipe, exhaust (right)				1	1		1	1
16	255556	Pipe, exhaust (right)	1					1		
17	291781	Flange, exhaust	1, 2	1	1			1		
17	258836	Flange, exhaust				2	2		2	2
18	258451	Pipe, exhaust (left)		1	1					
18	258924	Pipe, exhaust (left)				1	1		1	1
18	255557	Pipe, exhaust (left)	1					1		
19	X-8-10	Screw, hex cap		4	4					
19	X-6024-3	Screw, hex cap	4					4		
19	X-6024-8	Screw, hex cap							4	4
20	258456	Support, turbocharger		1	1	1	1			
20	326130	Support, turbocharger							1	1
21	X-22-1	Washer, lock	1	1						
22	X-7-8	Screw, hex cap	1	1						
22	X-6238-10	Screw, hex cap							1	1

Group 116: Exhaust, continued



DN-255000

Group 116: Exhaust, continued

Item	Part Number	Description	Quantity					
			Variation Number					
			4	5	6	7	9	10
23	A-106	Bushing, reducing	1	1	1	1		1
24	X-217-6	Nipple, pipe	1	1	1	1	1	1
25	X-203-10	Tee, pipe	1	1	1	1	1	1
26	X-296-5	Connector, half-union	1	1	1	1	1	1
27	255626	Line, oil feed	1	1	1	1	1	1
28	255628	Bolt, banjo	1	1	1	1	1	1
28	S-368	Washer, plain			2	2	2	2
29	255664	Gasket	1	1	1	1	1	1
30	X-20-1	Washer, lock	2	2				
31	X-6049-3	Screw, hex cap	2	2	2	2	2	2
32	255630	Fitting, oil drain	1	1	1	1	1	1
33	X-426-3	Clamp, hose	4	4	4	4	4	4
34	258461	Hose	2	2	2	2	2	2
35	258460	Line, oil drain	1	1	1	1	1	1
36	255674	Fitting, oil drain	1	1	1	1	1	1
37	258895	Gasket	2	2	2	2	2	2

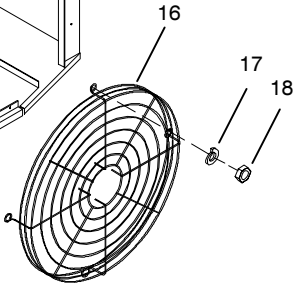
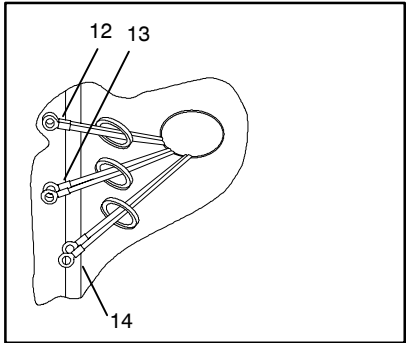
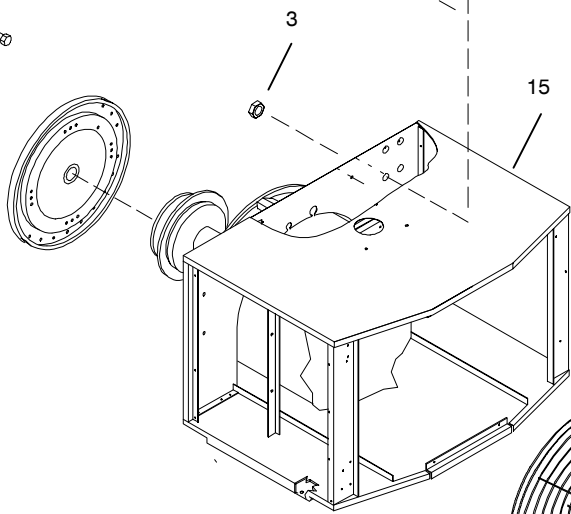
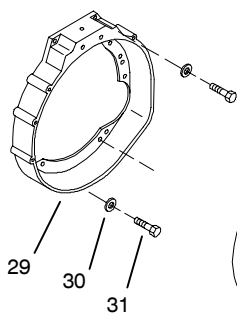
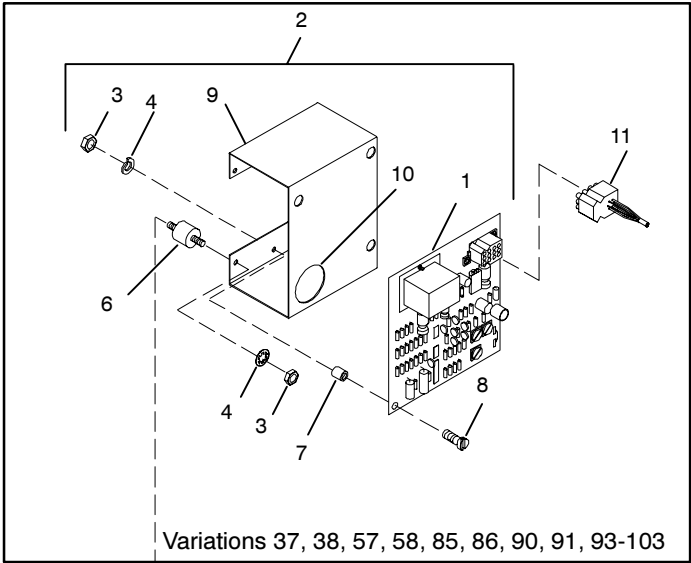
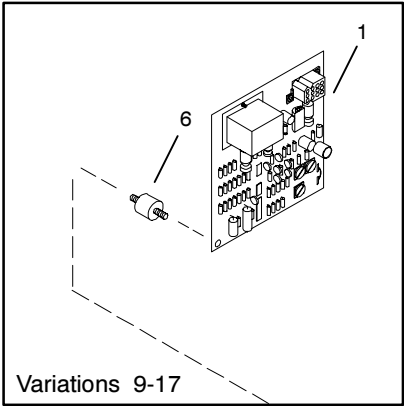
Group 119: Recommended Spare Parts

Item	Part Number	Description	Quantity					
			Variation Number					
			1	2	3	4	5	6
1	A-257099	LED board	1	1	1	1	1	1
2	B-258545	Split activator	1		1			
2	B-258549	Split activator		1		1		1
3	See Chart Below	Indicator board	1	1			1	
4	B-292902	Photo board	1	1	1	1	1	1
5	C-255670	Voltage regulator	1	1	1	1	1	1
6	See Chart Below	Main circuit board	1	1				1
7	241927	Speed sensor	1	1				
8	243273	Fuse, 3 amp	5	5				
9	255126	Bulb	5	5			5	
10	276162	Thermostat	1	1	1	1	1	1
11	255752	Gasket, thermostat	1	1	1	1	1	1
12	258955	Fan belts (matched pair)	1	1	1	1	1	1
13	276488	Upper radiator hose	1	1			1	
14	279449	Oil filter	8	8	8	8	8	8
15	276489	Lower radiator hose	1	1			1	
16	283645	Fuse, 15 amp	5	5			5	
16	291207	Fuse, 15 amp	5	5			5	
17	326098	Air filter element	4	4	4	4		
17	324134	Air filter element					4	4

Serial Number-Contingent Spare Parts

Part Description	Part Number	
	Before Serial Number 363369	Serial Numbers 363369 and after
Main Circuit Board	G-292806	A-336415
Indicator Board	B-292357	A-336432

Group 201: Generator and Mounting



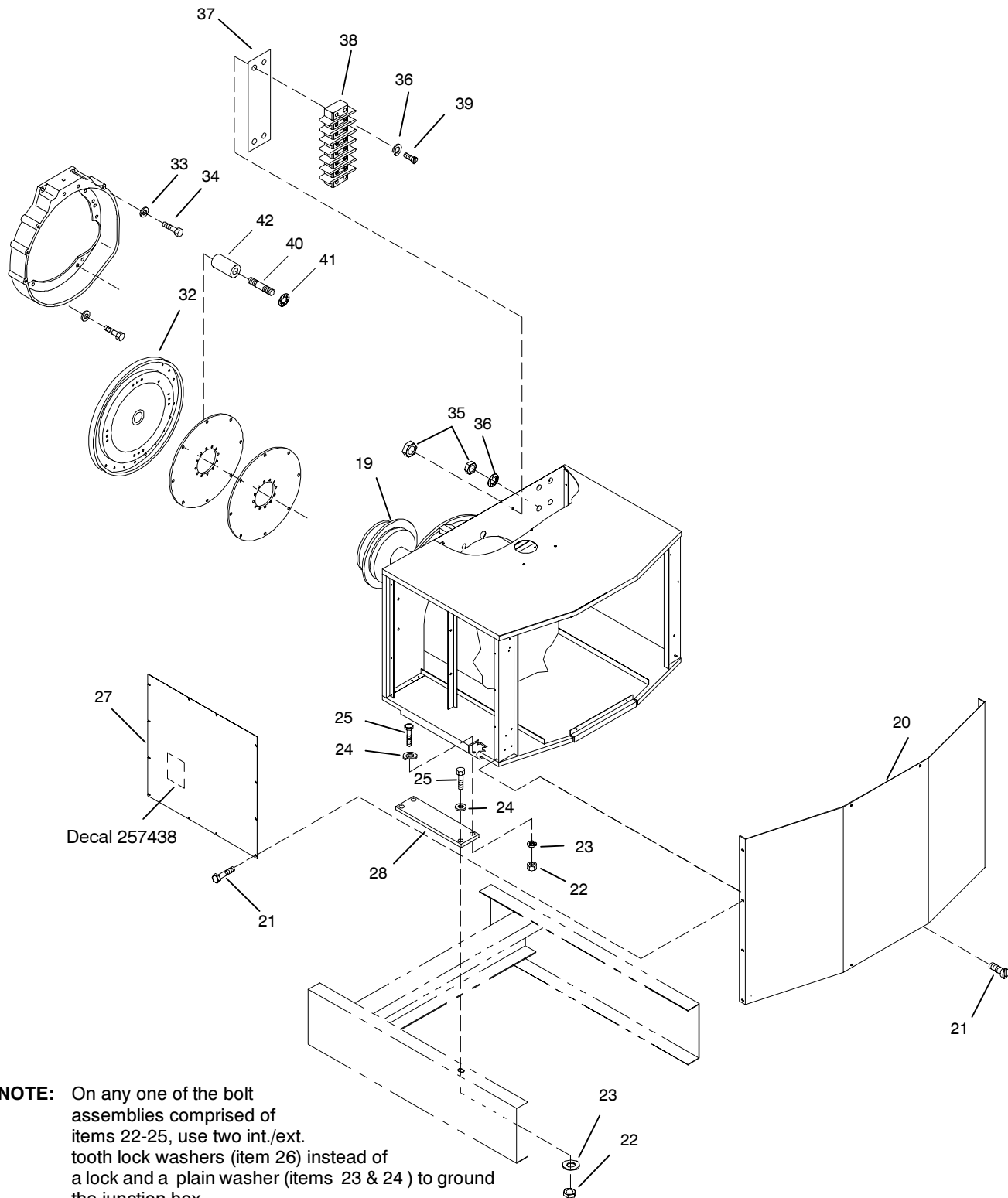
EA, EE, EF-255000

Group 201: Generator and Mounting, continued

Item	Part Number	Description	Quantity														
			Variation Number														
			18	19	20	21	22	23	24	25	26	37	38	57	58	80	81
1	C-255670	Board, voltage regulator	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	B-292789	Regulator assembly, voltage (includes items 3-10)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	X-72-4	Nut, hex	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
4	X-22-20	Washer, shakeproof	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
5	X-22-7	Washer, lock #8	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
6	259919	Cushion, vibro mount											3			3	3
6	282829	Cushion, vibro mount										3		3	3		
6	360459	Standoff, circuit board	4	4	4	4	4	4	4	4	4						
7	239513	Bushing, insulating										5	5	5	5		
8	X-51-11	Screw, round head machine										5	5	5	5		
9	282832	Bracket, regulator										1	1	1	1		
10	X-634-16	Bushing										1	1	1	1		
11	255029	Harness, wiring												1	1		
11	255481	Harness, wiring	1	1	1	1	1	1	1	1	1	1	1			1	1
12	X-750-14	Tag, lead - L1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	X-750-15	Tag, lead - L2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	X-750-16	Tag, lead - L3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	255020	Box, junction														1	1
15	255044	Box, junction															
15	255550	Box, junction										1	1	1	1		
15	222823	Box, junction	1	1	1	1											
15	222824	Box, junction					1	1	1	1	1						
16	274596	Guard, generator															
16	274597	Guard, generator															
17	X-22-10	Washer, lock															
18	#	Nut, hex 3/8-16															
19	A-257663	Alternator assembly*										1		1			
19	B-257738	Alternator assembly*														1	
19	A-276461	Alternator assembly*	1														
19	A-276462	Alternator assembly*		1													
19	A-276463	Alternator assembly*			1												
19	A-276464	Alternator assembly*				1											
19	A-276483	Alternator assembly*					1										
19	A-276484	Alternator assembly*						1									
19	A-276485	Alternator assembly*							1								
19	A-276486	Alternator assembly*								1							
19	A-276487	Alternator assembly*									1						

Common hardware. Procure locally.

Group 201: Generator and Mounting, continued



EA, EE, EF-255000

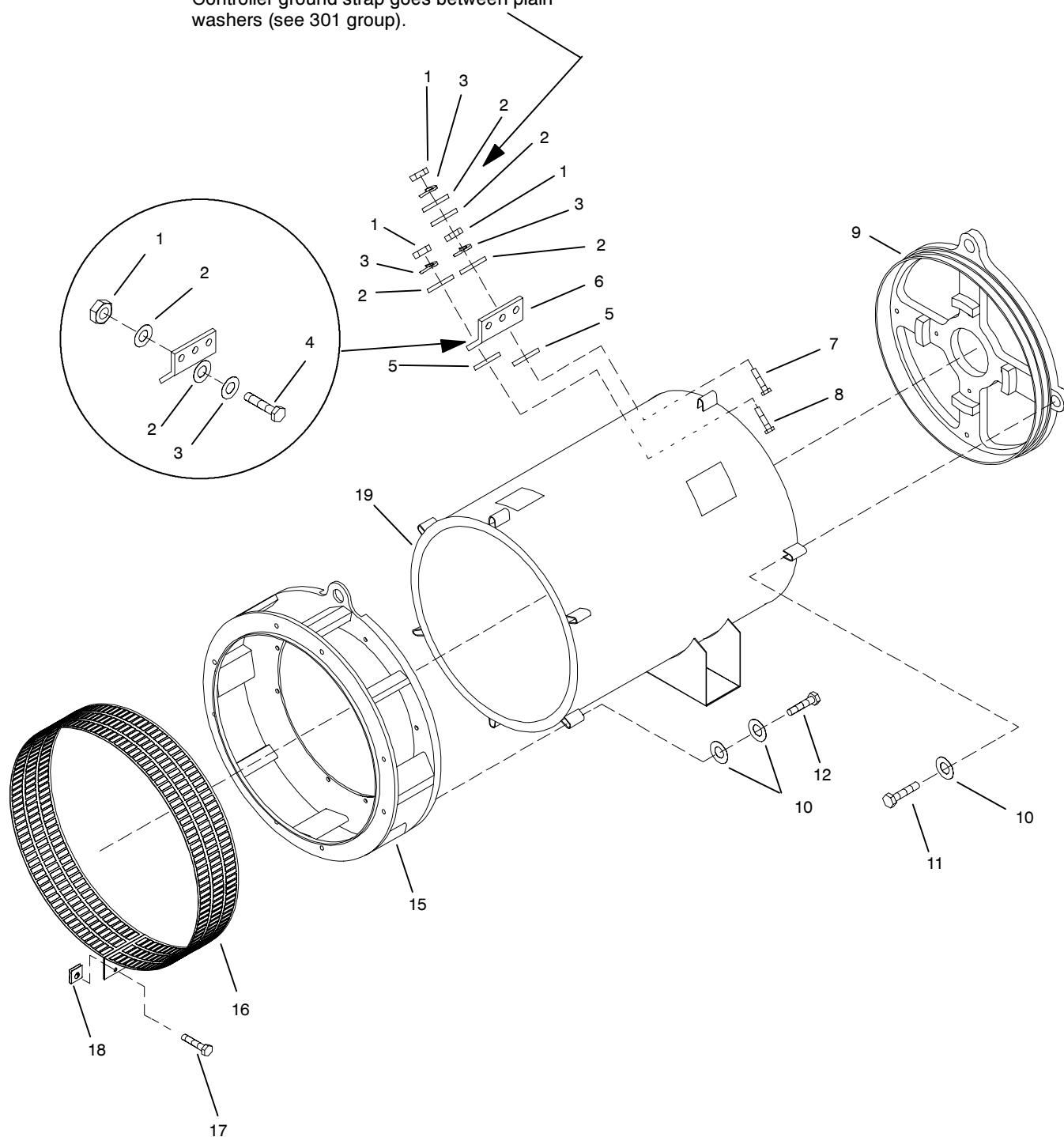
Group 201: Generator and Mounting, continued

Item	Part Number	Description	Quantity														
			Variation Number														
			18	19	20	21	22	23	24	25	26	37	38	57	58	80	81
20	255046	Cover, junction box										1	1	1	1		
20	255022	Cover, junction box															
20	273483	Cover, junction box															
20	222834	Cover, junction box	1	1	1	1											
20	222836	Cover, junction box					1	1	1	1	1						
21	X-794-1	Screw, drill hex										16	16	16	16		
21	X-6216-1	Screw, drill hex	12	12	12	12											
22	X-82-2	Nut, hex										8	8	8	8	8	8
22	#	Hardware, 3/8-16	8	8	8	8											
23	#	Washer, lock 5/16 in. split														6	6
23	290945	Washer, hardened														8	
23	#	Hardware, 3/8-16	8	8	8	8											
23	X-25-5	Washer, steel										3		3	3		
23	X-25-85	Washer, plain											3				
24	X-21-1	Washer, lock										6	6	6	6		
24	#	Hardware, 3/8-16	8	8	8	8											
25	X-6-7	Screw, hex cap										8		8	8		
25	X-125-5	Screw, hex cap											8				
25	#	Hardware, 3/8-16	8	8	8	8											
26	X-22-16	Washer, lock										4	4	4	4		
26	X-22-14	Washer, lock	4	4	4	4	4	4	4	4	4						
27	255045	Cover, junction box										2		2	2		
27	273484	Cover, junction box											2				
27	273429	Cover, junction box														2	2
27	222833	Cover, junction box	2	2	2	2											
27	222835	Cover, junction box					2	2	2	2	2						
28	255284	Bracket, junction box										2	2	2	2		
28	352625	Support, junction box (not shown)	2	2	2	2											
28	326115	Support, junction box (not shown)					2	2	2	2	2						
32	276080	Flywheel										1	1	1	1		
35	X-72-4	Nut, hex										5	5	5	5		
36	X-18-2	Washer, lock										5	5	5	5		
37	255080	Marker, strip	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
38	295314	Block, terminal	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
39	X-51-11	Screw, round head machine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
40	X-352-93	Stud	8	8	8	8	8	8	8	8	8						
41	X-801-3	Washer, hardened	8	8	8	8	8	8	8	8	8						
42	X-400-198	Spacer	8	8	8	8	8	8	8	8	8						

Common hardware. Procure locally.

Group 201: Generator and Mounting, continued

Controller ground strap goes between plain washers (see 301 group).

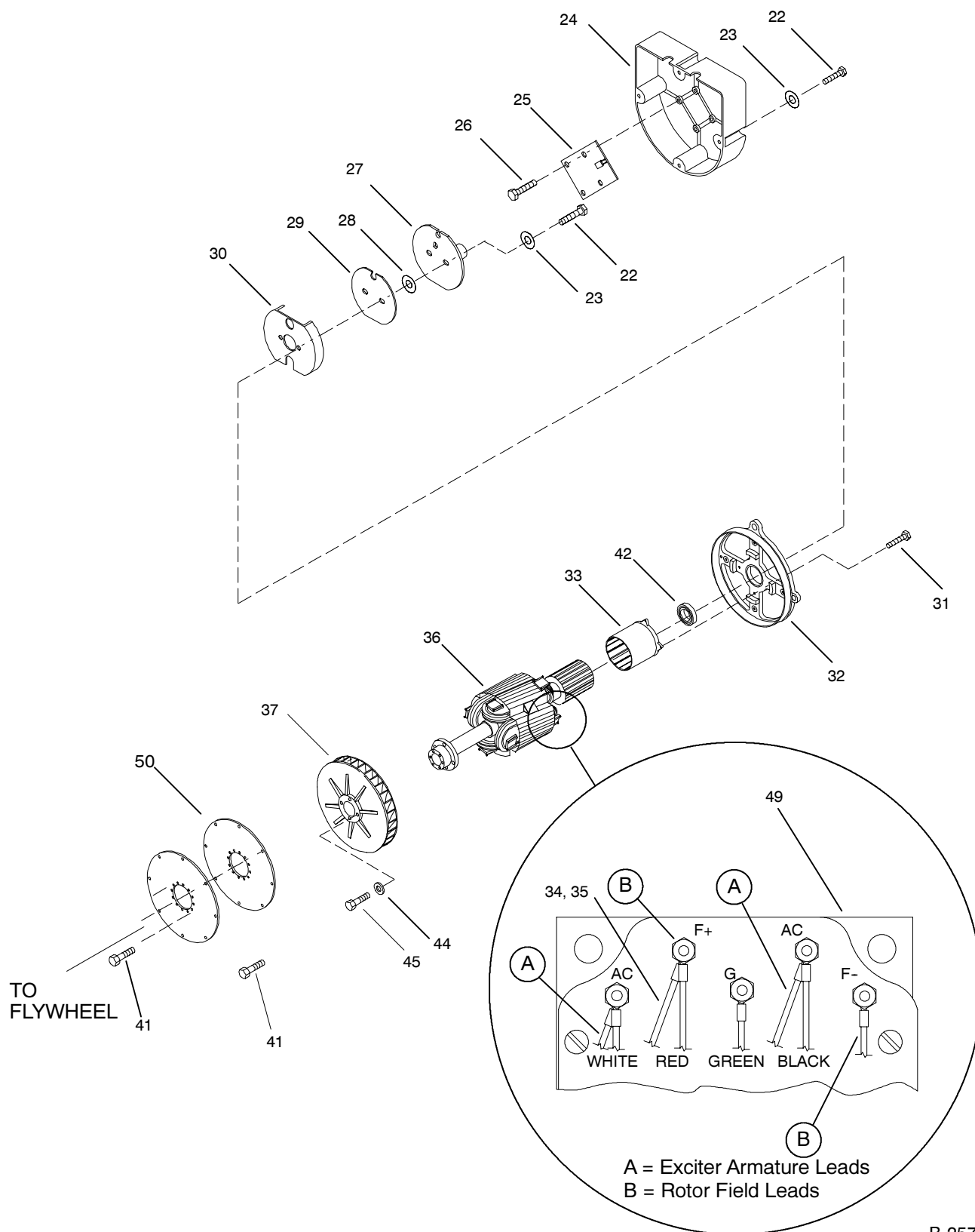


B-257669
B-257795
B-257796

Group 201: Generator and Mounting, continued

It.	Part Number	Description	Quantity														
			Variation Number														
			18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
1	X-81-10	Nut, hex															
1	X-82-2	Nut, hex															
1	X-6234-1	Nut, hex	6	6	6	6						4	4	4	4		
1	X-6234-2	Nut, hex					6	6	6	6	6						
2	X-25-136	Washer, plain														3	3
2	X-25-136	Washer, plain	5	5	5	5											
2	X-25-142	Washer, plain	5	5	5	5											
2	X-25-137	Washer, plain						5	5	5	5						
2	X-25-138	Washer, plain						5	5	5	5						
3	X-6086-16	Washer, spring	6	6	6	6											
3	X-6086-17	Washer, spring					6	6	6	6	6						
4	X-465-23	Screw, hex cap	3	3	3	3											
4	X-124-42	Screw, hardened					3	3	3	3	3						
5	X-22-5	Washer, shakeproof										4	4	4	4		
5	X-22-44	Washer, shakeproof	2	2	2	2										2	2
5	X-22-45	Washer, shakeproof					2	2	2	2	2						
6	257986	Lead terminal	1	1	1	1										1	1
6	257985	Lead terminal					1	1	1	1	1						
7	X-352-52	Stud										1	1	1	1		
7	X-791-9	Screw, hex head					1	1	1	1	1	1					
8	X-465-22	Screw, hex cap	1	1	1	1											
8	X-125-41	Screw, hex cap					1	1	1	1	1						
9	X-25-93	Washer, plain			20											20	20
9	X-25-93	Washer, plain	14	14		14	14	14	14	14	14						
9	X-25-93	Washer, plain										10	10	10	10		
10	X-6236-6	Screw, hex cap	6	6	6	6						6	6	6	6	6	6
10	X-6238-9	Screw, hex cap					5	5	5	5	5						
10	X-6236-6	Screw, hex cap					1	1	1	1	1						
11	X-6238-8	Screw, hex cap										4	4	4	4	4	
11	X-6238-9	Screw, hex cap					4		4								
11	X-6236-6	Screw, hex cap	4		4											4	4
11	273736	Screw, hex cap		4		4											
11	273737	Screw, hex cap					4				4						
11	X-7-15	Screw, hex cap															
12	X-6238-5	Screw, hex cap										6	6	6	6		
12	X-6238-6	Screw, hex cap														6	6
13	X-22-1	Washer										6	6	6	6		
14	326057	Adapter, generator	1	1	1	1											
14	276465	Adapter, generator					1	1	1	1	1						
14	326076	Cover, lower adapter (not shown)	1	1	1	1	1	1	1	1	1						
15	257190	Guard, generator fan														1	1
15	257179	Guard, generator fan										1	1	1	1		
15	326058	Guard, generator fan	1	1	1	1											
16	X-67-125	Screw, self-tapping	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
17	257442	Clip, speed	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
18	257768	Stator assembly	1													1	
18	257769	Stator assembly			1												1
18	257773	Stator assembly		1													
18	257774	Stator assembly				1											
18	257690	Stator assembly						1									
18	257691	Stator assembly								1							
18	257687	Stator assembly					1					1		1			
18	257688	Stator assembly							1				1		1		
18	257689	Stator assembly									1						
19	257437	Decal, warning										1	1	1	1		
-	257438	Decal, warning										1	1	1	1		
20	257441	Decal, warning										1	1	1	1		

Group 201: Generator and Mounting, continued



B-257669
B-257795
B-257796

Group 201: Generator and Mounting, continued

Item	Part Number	Description	Quantity														
			Variation Number														
			18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
22	X-117-5	Screw, hex cap	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
23	X-22-9	Washer, lock	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
24	257258	Cover, circuit board	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	A-257099	Circuit board, LED	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
26	X-6071-1	Screw, washer Head	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
27	A-257100	Circuit board photo										1	1	1	1		
27	B-292902	Circuit board, split activator	1	1	1	1	1	1	1	1	1					1	1
28	243321	Washer, insulating	2	2	2	2	2	2	2	2	2					2	2
29	257850	Insulator	1	1	1	1	1	1	1	1	1					1	1
30	257077	Actuator, magnetic	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
31	X-125-24	Screw, hex cap										4	4	4	4		
31	X-125-34	Screw, hex cap	4	4	4	4	4	4	4	4	4					4	4
31	#	Screw, hex cap															
31	X-6-34	Screw, hex cap															
32	257167	Bracket, end										1	1	1	1		
32	257984	Bracket, end	1	1	1	1										1	1
32	257983	Bracket, end					1	1	1	1	1						
33	257081	Exciter assembly	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
34	X-101-24	Nut	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
34	X-101-22	Nut														5	5
35	X-431-24	Terminal										5	5	5	5		
35	X-283-7	Terminal	4	4	4	4	4	4	4	4	4					4	4
36	A-257680	Rotor assembly										1	1	1	1		
36	A-257681	Rotor assembly															
36	A-326942	Rotor assembly*	1	1													
36	A-326943	Rotor assembly*			1	1											
36	A-276480	Rotor assembly					1	1									
36	A-276481	Rotor assembly							1	1							
36	A-276482	Rotor assembly									1						
37	257020	Fan, generator	1	1	1	1										1	1
37	257173	Fan, generator					1	1	1	1	1						
38	257490	Adapter, drive hub														1	1
38	257491	Adapter, drive hub										1	1	1	1		
39	X-55-17	Screw, hex head socket										6	6	6	6	6	6
40	290945	Washer, hardened										14	14	14	14	14	14
40	X-801-3	Washer, hardened					12	12	12	12	12						
41	276083	Bolt, locking														6	6
41	270956	Screw, hex head	8	8	8	8											
41	270956	Screw, hex head					12	12	12	12	12						
42	257168	Ring, tolerance										1	1	1	1		
42	X-758-2	Ball bearing	1	1	1	1	1	1	1	1	1	1	1	1	1		
42	X-758-6	Ball bearing	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
44	X-25-93	Washer, plain	4	4	4	4	4	4	4	4	4	4	4	4	4		
45	X-6238-11	Screw, hex cap	4	4	4	4	4	4	4	4	4	4	4	4	4		
46	X-79-2	Nut, hex										4	4	4	4		
47	X-25-15	Washer, plain										4	4	4	4		
48	X-6024-2	Screw, hex cap										4	4	4	4		
49	258219	FR activator kit										1	1	1	1		
49	B-258545	SCR assembly	1	1	1	1										1	1
49	B-258549	SCR assembly					1	1	1	1	1						
50	276457	Disc, armature drive	3	3	3	3											
50	276475	Disc, armature drive					2	2	2	2	2						

* Order Rotor Service Kit 326945 (variations 18 and 19) or Kit 326946 variations 20 and 21) if replacing rotor assembly on units built before September 7, 1999.

Group 701: Literature

Item	Part Number	Description	Quantity				
			Variation Number				
			15	26	28	30	33
1	MP-5700	Installation manual	1	1	1	1	1
2	TP-5209	Operation manual, Ford LSG-875 engine	1	1	1	1	1
2	MP-5750	Operation manual, generator	1	1	1	1	1
2	MP-5829	Operation manual, Digital controller	1	1	1	1	1
3	MP-5353	Service manual, generator	1	1	1	1	1
4	TP-5171	Service manual, Ford LSG-875 engine	1	1	1	1	1
5	MP-5719	Wiring diagrams	1	1	1	1	1
6	TP-5194	Parts catalog, Ford LSG-875 engine	1	1	1	1	1
7	MP-5614	Parts catalog, generator	1	1	1	1	1
8	MP-5708	Parts catalog, accessories	1	1	1	1	1

Kit List

This section lists the part numbers of modules/kits not listed in the Group Parts Lists. Refer to the generator set nameplate or the list below to identify the module/kit

number installed on your generator set. See the sections following this page for the parts list of the module/kit.

	50 kW	60 kW	70 kW	80 kW	100 kW
Controllers					
See Parts Catalog MP-6009 for parts lists for 7-light, 16-light, and Digital controllers.					
Manual	325165	325165	325179	325179	325185
Manual, 600 V	325160	325170	325180	325180	325180
Cooling Systems					
City Water	326183	326183	326183	326196	326196
Radiator, 40 Ambient	333028	333028	333029	333030	333030
Radiator, 50 Ambient	333029	333029	333030	333031	333031
Remote Radiator Setup	326197	326197	326197	326197	326197
Duct Flange, Radiator	326214	326214	326214	326214	326214
Heater, Block					
110-120 V, 1800 W	326174	326174	326174	326174	326174
190-280/220-240 V, 1500/2000 W	326175	326175	326175	326175	326175
Fuel Systems					
Bypass, Manual Valve and Gas Solenoid	255635	255635	255635	255635	255635
Changeover, Automatic (Nat. Gas to LP Gas)	326185	326185	326185	326273	326273
Fuel Line, Flexible (Gas)	PA-276286-SD	PA-276286-SD	PA-255599-SD	PA-255599-SD	PA-255599-SD
Fuel Line, Flexible (Gasoline)	276285	276285	276285	N/A	N/A
Gas Solenoid Valve, Secondary	PA-326128-SD	PA-326128-SD	PA-326129-SD	PA-326129-SD	PA-326129-SD
LP Gas Liquid Withdrawal	326073	326073	326073	326198	326199
Natural Gas or LP Fuel System	326209	326209	326209	326211	326211
Strainer, Gas	PA-290276-SD	PA-290276-SD	PA-290276-SD	PA-290277-SD	PA-290277-SD

Optional Kits

See Parts Catalog MP-5708 for parts lists.

Paint and Miscellaneous Parts

Paint, Spectrum

All models use 221331 Spray Can, 221332 Gallon

N/A Not Applicable

x:in:004:008:a

Manual Controller Kits

MANUAL CONTROLLER KIT PARTS							
Qty.	Description	Common	Kit Number/Unique Parts				
			325149	325159	325160	325165	325170
1	Controller assembly*		A-324108	A-324109	A-324110	A-324111	A-324112
4	Washer, lock 5/16	X-22-16					
1	Terminal	X-283-8					
1	Conduit, convoluted		N/A	N/A	X-6003-17	N/A	X-6003-17
1	Screw, drill hex	X-794-1					
1	Harness, wiring	255040					
3	Transformer, current		259360	259414	259792	255860	259359
1	Switch, coolant level	336656					
1	Bracket, CT mounting	276417					

MANUAL CONTROLLER KIT PARTS, CONTINUED							
Qty.	Description	Common	Kit Number/Unique Parts				
			325179	325180	325185	325190	325200
1	Controller assembly*		A-324111	A-324114	A-324113	A-324120	A-324117
4	Washer, lock 5/16	X-22-16					
1	Terminal	X-283-8					
1	Conduit, convoluted		N/A	X-6003-17	N/A	N/A	N/A
1	Screw, drill Hex	X-794-1					
1	Harness, wiring	255040					
3	Transformer, current		255860	259360	253503	273257	253610
1	Switch, coolant level	336656					
1	Bracket, CT mounting		276417	276417	276417	299966	299966

* See Controller Assembly section for parts list.

N/A Not Applicable

Manual Controller Assemblies

Qty.	Description	Common Parts	Manual Controller Assembly Number/Unique Parts						
			A-324108	A-324109	A-325110	A-324111	A-324112	A-324113	A-324114
1	Potentiometer assembly	A-255041							
1	Overspeed circuit board	A-249812							
1	Main circuit board	F-239563							
1	Washer, shakeproof #10	X-22-13							
4	Washer, lock #6	X-22-6							
1	Grommet	X-284-31							
1	Plug, button	X-301-34							
2	Terminal	X-431-25							
2	Terminal	X-431-29							
2	Screw, RHM 6-32 x 3/8	X-49-2							
18	Screw, RHM 6-32 x 1/4	X-49-25							
2	Screw, pan head	X-49-39							
4	Screw, RHM 10-24 x 3/4	X-50-3							
1	Screw, RHM 10-24 x 1	X-50-7							
2	Screw, RHM 8-32 x 3/8	X-51-12							
2	Screw, RHM	X-51-53							
1	Strap, ground	X-6046-2							
1	Jumper	X-6048-2							
10	Screw, hex crimplite	X-6216-1							
2	Screw, thread-forming	X-67-127							
1	Sleeve	X-696-5							
1	Tab, identification	201620-86							
1	Fuse, 10 amp	223316							
1	Holder, fuse	238426							
1	Meter, hour	238736							
1	Terminal	238898							
1	Block, terminal	246115							
1	Switch, rocker	249406							
1	Voltmeter	253329							
2	Lamp, meter scale	253332							
2	Lamp	255126							
1	Lamp	269373							
1	Plate, hinge	273376							
1	Harness, controller	274710							
1	Voltmeter, AC		282814	282814	282815	282814	282815	282814	282815
1	Gauge, oil pressure	282897							
1	Gauge, water temperature	282898							
1	Ammeter		295337	282338	295337	282950	295338	282954	282950
2	Socket, lamp	284990							
8	Spacer, circuit board	287948							
3	Fuse, 1.5 amp	291207							
1	Decal	292347							
1	Resistor		N/A	N/A	292352	N/A	292352	N/A	292352
1	Decal	292361							
1	Switch, selector		292373	292373	292374	292373	292374	292373	292374
1	Holder, fuse	292821							
1	Marker, strip	292823							
1	Bumper	292834							
1	Meter, frequency	295069							
1	Transformer, controller	295281							
1	Cover, controller	325003							
1	Decal, selector switch		N/A	N/A	325072	N/A	325072	N/A	325072
1	Box, controller	324140							

N/A Not Applicable

Manual Controller Assemblies, Continued

Qty.	Description	Common Parts	Manual Controller Assembly Number/Unique Parts						
			A-324115	A-324117	A-324118	A-324119	A-324120		
1	Potentiometer assembly	A-255041							
1	Overspeed circuit board	A-249812							
1	Main circuit board	F-239563							
1	Washer, shakeproof #10	X-22-13							
4	Washer, lock #6	X-22-6							
1	Grommet	X-284-31							
1	Plug, button	X-301-34							
2	Terminal	X-431-25							
2	Terminal	X-431-29							
2	Screw, RHM 6-32 x 3/8	X-49-2							
18	Screw, RHM 6-32 x 1/4	X-49-25							
2	Screw, pan head	X-49-39							
4	Screw, RHM 10-24 x 3/4	X-50-3							
1	Screw, RHM 10-24 x 1	X-50-7							
2	Screw, RHM 8-32 x 3/8	X-51-12							
2	Screw, RHM	X-51-53							
1	Strap, ground	X-6046-2							
1	Jumper	X-6048-2							
10	Screw, hex crimp	X-6216-1							
2	Screw, thread-forming	X-67-127							
1	Sleeve	X-696-5							
1	Tab, identification	201620-86							
1	Fuse, 10 amp	223316							
1	Holder, fuse	238426							
1	Meter, hour	238736							
1	Terminal	238898							
1	Block, terminal	246115							
1	Switch, rocker	249406							
1	Voltmeter	253329							
2	Lamp, meter scale	253332							
2	Lamp	255126							
1	Lamp	269373							
1	Plate, hinge	273376							
1	Harness, controller	274710							
1	Voltmeter, AC		282815	282814	292814	282815	282814		
1	Gauge, oil pressure	282897							
1	Gauge, water temperature	282898							
1	Ammeter		282954	298339	295340	282955	282955		
2	Socket, lamp	284990							
8	Spacer, circuit board	287948							
3	Fuse, 1.5 amp	291207							
1	Decal	292347							
1	Resistor		292352	N/A	N/A	292352	N/A		
1	Decal	292361							
1	Switch, selector		292374	292373	292373	292374	292373		
1	Holder, fuse	292821							
1	Marker, strip	292823							
1	Bumper	292834							
1	Meter, frequency	295069							
1	Transformer, controller	295281							
1	Cover, controller	325003							
1	Decal, selector switch		325072	N/A	325072	325072	N/A		
1	Box, controller	324140							

N/A Not Applicable

Cooling System Kits

Qty.	Description	Kit/Part No.
Cooling, City Water		326183
1	Elbow, street 1 1/2	A-27
1	Elbow, street	EH-2226
1	Bushing, reducer 3/4	X-202-1
2	Tee, pipe 1/2	X-203-13
1	Nipple, pipe 3/8	X-204-8
1	Nipple, pipe 1 1/2 x 4	X-205-7
1	Nipple, pipe	X-206-9
1	Nipple, pipe 1/2 x 3	X-209-11
1	Pipe	X-209-18
1	Nipple 1/2 x 1 3/16	X-209-2
1	Nipple 1/2 x 2 1/2	X-209-3
2	Nipple, pipe 1/2	X-209-5
4	Elbow, street 1/2	X-211-1
2	Elbow, street 2 1/2	X-211-9
2	Elbow, pipe 1/2	X-215-1
1	Coupling, pipe 3/8 x 1	X-216-23
1	Elbow, 45 degrees	X-225-3
2	Elbow, pipe	X-225-6
2	Valve, drain 3/8	X-256-1
1	Valve, drain	X-256-5
1	Elbow, street 45 degrees	X-274-13
1	Hose, radiator	X-281-4
1	Clamp, hose 1/2	X-309-14
1	Valve, solenoid	X-350-8
1	Line, flexible fuel 5/16	X-386-36
1	Clip, tube 9/16	X-414-1
8	Clamp, hose	X-426-12
2	Pipe	X-458-1
1	Pipe 2 1/2 x 12 7/8	X-500-2
1	Pipe 2 1/2 x 3 1/2	X-501-8
1	Adapter	X-570-18
8	Connector, hose	X-582-7
1	Hose 2" X 18"	X-6014-3
1	Hose, radiator	X-6014-7
1	Hose 2" X 8"	X-6014-8
1	Clamp, insulating	X-672-4
2	Hose	X-691-10
1	Hose, .75" x 20"	X-691-12
1	Hose, .75" x 22.5"	X-691-13
4	Plug, pipe 1/2"	X-75-28
1	Plug, pipe 2 1/2"	X-75-33
25	Screw, drill hex	X-794-1
1	Elbow	151385
4	Elbow, 90 degrees	151771

Qty.	Description	Kit/Part No.
2	Nipple, pipe 1 1/2 x 21	151803
1	Nipple, pipe 1 1/2 x 6	155029-1
1	Nipple, pipe 1 1/2 x 1	155040
1	Bushing, reducer 1/2	168848
6	Clamp, hose	249887
2	Clamp, hose	249888
1	Cap, pressure	258037
1	Manifold, water temperature	273659
1	Elbow, water outlet	280005
1	Decal, water drain	280561
3	Adapter, hose	285685
2	Clamp, exhaust pipe	286283
1	Line, flexible exhaust	286781
1	Shield, heat	287469
1	Clamp, exhaust pipe 4"	289372
1	Regulator, water	290176
2	Support, heat exchange	290378
1	Shield, heat	290753
1	Tank, expansion	291457
1	Guard, belt	291459
2	Manifold, exhaust	291460
1	Gasket set	291461
1	Exchanger, heat	326160
2	Plate, heat exchange	326166
1	Bracket, tank	326252
1	Guard, belt (left)	326253
1	Guard, belt (right)	326254
1	Guard, alternator	326255
1	Y-branch, 45 degree exhaust	326298

Cooling System Kits, continued

Qty.	Description	Kit/Part No.	Qty.	Description	Kit/Part No.
Cooling, City Water			Cooling, Radiator		
		326196			333028
1	Elbow, street 1 1/2	A-27	1	Radiator assembly	A-276469
1	Valve, water regulator	A-289128	1	Cap, radiator	224358
1	Elbow, street	EH-2226	1	Valve, drain 1/4	X-256-3
1	Bushing, reducer 3/4	X-202-1	1	Clamp, hose	X-426-16
2	Bushing, reducer	X-202-11	2	Clamp, hose 1 9/16	X-426-6
1	Nipple, pipe 3/8	X-204-8	8	Washer, hardened	X-801-4
1	Nipple, pipe 1 1/2 x 4	X-205-7	1	Switch assembly, level	273404
1	Nipple, pipe	X-206-9	1	Shroud, fan	276400
1	Coupling, pipe 3/8 x 1	X-216-23	1	Fan, cooling	276468
1	Nipple, pipe 1 x 1 1/2	X-218-24	1	Hose, radiator (upper)	276488
1	Elbow, 45 degrees	X-225-3	1	Hose, radiator (lower)	276489
2	Valve, drain 3/8	X-256-1	1	Support, radiator (l)	276496
1	Hose, radiator	X-281-4	1	Support, radiator (r)	276497
1	Clamp, hose 1/2	X-309-14	1	Guard, radiator	276498
1	Valve, solenoid	X-350-8	1	Guard, fan	326044
1	Line, flexible fuel 5/16	X-386-36	1	Guard, belt (right)	326118
1	Clip, tube 9/16	X-414-1	1	Guard, belt (left)	326119
1	Adapter	X-570-18	1	Guard, belt (bottom)	326246
1	Hose 2" x 18"	X-6014-3			
1	Hose, radiator	X-6014-7	Cooling, Radiator		
1	Hose 2" x 8"	X-6014-8			333029
1	Plug, pipe 1"	X-75-22	1	Radiator assembly	A-276470
3	Plug, pipe 1/2"	X-75-28	1	Cap, radiator	224358
25	Screw, drill hex	X-794-1	1	Valve, drain 1/4	X-256-3
3	Elbow	151385	2	Clamp, hose	X-426-16
4	Elbow, 90 degrees	151771	2	Clamp, hose 1 9/16	X-426-6
2	Nipple, pipe 1 1/2 x 21	151803	8	Washer, hardened	X-801-4
1	Nipple, pipe 1 1/2 x 6	155029-1	1	Switch assembly, level	273404
1	Nipple, pipe 1 1/2 x 1	155040	1	Shroud, fan	276400
2	Bushing, reducer	160212	1	Fan, blower	276473
6	Clamp, hose	249887	1	Hose, radiator (upper)	276488
2	Clamp, hose	249888	1	Hose, radiator (lower)	276489
1	Cap, pressure	258037	1	Support, radiator (l)	276496
1	Elbow, water outlet	280005	1	Support, radiator (r)	276497
1	Decal, water drain	280561	1	Guard, radiator	276498
3	Adapter, hose	285685	1	Guard, fan	326044
2	Plate, heat exchanger mounting	290377	1	Guard, belt (right)	326118
2	Support, heat exchanger	290378	1	Guard, belt (left)	326119
1	Tank, expansion	291457	1	Guard, belt (bottom)	326246
1	Guard, belt	291459			
1	Exchanger, heat	324309	Cooling, Radiator		
1	Bracket, tank	326252			333030
1	Guard, belt (left)	326253	1	Radiator assembly	A-276471
1	Guard, belt (right)	326254	1	Cap, radiator	224358
1	Guard, alternator	326255	1	Valve, drain 1/4	X-256-3
			2	Clamp, hose	X-426-16
			2	Clamp, hose 1 9/16	X-426-6
			8	Washer, hardened	X-801-4
			1	Switch assembly, level	273404
			1	Shroud, fan	276400
			1	Fan, blower	276473
			1	Hose, radiator (upper)	276488
			1	Hose, radiator (lower)	276489
			1	Support, radiator (l)	276496
			1	Support, radiator (r)	276497
			1	Guard, radiator	276498
			1	Guard, fan	326044
			1	Guard, belt (right)	326118
			1	Guard, belt (left)	326119
			1	Guard, belt (bottom)	326246

Cooling System Kits, continued

Qty.	Description	Kit/Part No.
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Cooling, Radiator

333031

1	Radiator assembly	A-276472
1	Cap, radiator	224358
1	Valve, drain 1/4	X-256-3
2	Clamp, hose	X-426-16
2	Clamp, hose 1 9/16	X-426-6
8	Washer, hardened	X-801-4
1	Switch assembly, level	273404
1	Shroud, fan	276400
1	Fan, blower	276473
1	Hose, radiator (upper)	276488
1	Hose, radiator (lower)	276489
1	Support, radiator (l)	276496
1	Support, radiator (r)	276497
1	Guard, radiator	276498
1	Guard, fan	326044
1	Guard, belt (right)	326118
1	Guard, belt (left)	326119
1	Guard, belt (bottom)	326246
1	Pulley, water pump	326292
2	V-belt	326293

Cooling, Remote Radiator Set-up

326197

1	Hose, radiator	X-281-4
1	Hose, radiator	X-6014-7
1	Hose 2" x 8"	X-6014-8
3	Plug, pipe 1/2"	X-75-28
25	Screw, drill hex	X-794-1
6	Clamp, hose	249887
2	Clamp, hose	249888
1	Elbow, water outlet	280005
1	Guard, belt	291459
1	Bracket, tank	326252
1	Guard, belt (left)	326253
1	Guard, belt (right)	326254
1	Guard, alternator	326255

Radiator Duct Flange

326214

8	Rivet, pop	X-781-11
4	Screw, drill hex	X-794-1
2	Frame, air duct	326212
2	Frame, air duct	326213

Qty.	Description	Kit/Part No.
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Block Heater

326174

1	Hose 5/8 x 36	X-312-13
4	Clamp, hose	X-426-10
2	Connector, hose	X-582-3
2	Screw, self-tapping	X-67-131
2	Clamp, insulating	X-672-3
1	Hose, molded	276206
2	Plug, freeze	276212
1	Tag, hang	279047
1	Bracket, block heater	326219
1	Heater, block	326234

Block Heater

326175

1	Hose 5/8 x 36	X-312-13
4	Clamp, hose	X-426-10
2	Connector, hose	X-582-3
2	Screw, self-tapping	X-67-131
2	Clamp, insulating	X-672-3
1	Hose, molded	276206
2	Plug, freeze	276212
1	Tag, hang	279047
1	Bracket, block heater	326219
1	Heater, block	326235

Fuel System Kits

Qty.	Description	Kit/Part No.
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Bypass, Manual Valve and Gas Solenoid 255635		
1	Bushing, reducer	X-202-32
2	Tee, pipe	X-203-2
1	Nipple, pipe 1 x 4	X-218-13
3	Nipple, pipe 1 x 1 1/2	X-218-24
1	Nipple, pipe 1 x 6 1/2	X-218-9
1	Line, flexible fuel	X-504-17
1	Elbow	151385
1	Valve	255633
1	Bracket, support	276332

Changeover, Automatic (Nat. Gas to LP) 326185		
1	Valve, gas	A-254469
1	Carburetor assembly	A-326117
1	Bushing, reducer 1/8	AC-1459
2	Bushing, reducer 3/4	X-202-1
2	Bushing, reducer	X-202-32
2	Tee, pipe 1 x 1 x 1	X-203-2
2	Nipple, pipe	X-206-9
1	Elbow, pipe 1	X-215-15
2	Elbow, pipe 3/4	X-215-2
1	Nipple, pipe 1/8 x 3/4	X-217-6
1	Nipple, pipe 1 x 1 1/2	X-218-24
1	Nipple, pipe 1 x 6 1/2	X-218-9
1	Line, flexible fuel	X-504-20
1	Label, "Nat. gas"	X-543-3
1	Elbow, street 1/8	X-555-2
1	Valve, gas	244621
1	Relay	245748
1	Bracket, fuel valve	254456
1	Label, "LP gas"	285623
1	Switch, vacuum	287387
1	Regulator, pressure	291259
1	Regulator, pressure	291260
1	Valve, line load	326077
1	Gasket, carburetor	326165
1	Harness, wiring	326266
1	Bracket, support	326796
1	Adapter, flange	327102

Qty.	Description	Kit/Part No.
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Changeover, Automatic (Nat. Gas to LP) 326273		
2	Valve, gas	A-254469
1	Body, mixer	A-326218
1	Bushing, reducer 1/8	AC-1459
1	Body assembly, throttle	B-255517
1	Bushing, reducer 3/4	X-202-1
4	Bushing, reducer	X-202-32
2	Tee, pipe 1 x 1 x 1	X-203-2
1	Nipple, pipe 3/4 x 3 1/2	X-206-6
3	Elbow, pipe 1	X-215-15
1	Nipple, pipe 1/8 x 3/4	X-217-6
4	Nipple, pipe 1 x 1 1/2	X-218-24
3	Pipe	X-218-27
1	Pipe	X-218-28
1	Nut, wing 1/4-20	X-276-7
1	Elbow, 45 degree	X-274-10
1	Grommet	X-284-24
1	Stud, 1/4-20 x 3-1/8	X-352-13
2	Bolt, U 5/16-18	X-397-1
2	Spacer	X-400-147
2	Clamp, hose 1 7/8	X-426-2
2	Line, flexible fuel	X-504-20
1	Elbow, street 1/8	X-555-2
1	Elbow	151385
1	Terminal, adapter	233704
1	Relay	245748
1	Adapter, manifold	255519
1	Hose, reducer	255520
1	Bracket	255521
1	Support, fuel pipe	255755
1	Gasket	276082
1	Switch, vacuum	287387
2	Regulator, pressure	291260
1	Valve, line load	326077
2	Bracket, support	326256
1	Bracket, support	326309

Fuel System Kits

Qty.	Description	Kit/Part No.
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Flexible Fuel Line (Gas)		PA-255599-SD
1	Bushing, reducer	X-202-32
1	Elbow, pipe 1	X-215-15
1	Nipple, pipe 1 x 6 1/2	X-218-9
1	Line, flexible fuel	276353
1	Installation Instructions	TT-864

Flexible Fuel Line (Gas)		PA-276286-SD
1	Elbow, pipe 1	X-215-15
1	Nipple, pipe 1 x 6-1/2	X-218-9
1	Line, flexible fuel	276353
1	Installation Instructions	TT-864

Gas Solenoid Valve, Secondary		PA-326128-SD
1	Valve, gas	244914

Gas Solenoid Valve, Secondary		PA-326129-SD
1	Valve, gas	A-286741

LP Gas Liquid Withdrawal		326073
1	Carburetor assembly	A-326117
1	Bushing, reducer	X-202-1
1	Bushing, reducer	X-202-28
1	Bushing, reducer	X-202-30
4	Nipple, pipe 3/8 x 1	X-204-9
1	Nipple, pipe 3/4 x 6	X-206-15
1	Nipple, pipe	X-206-9
1	Elbow, pipe 3/4	X-215-2
4	Elbow	X-215-9
1	Nipple, pipe 1/4 x 7/8	X-220-5
4	Clamp, hose	X-426-10
4	Connector, hose	X-582-9
2	Hose .375" x 46"	X-651-11
1	Solenoid, fuel	256976
1	Gasket, carburetor	280494
1	Vaporizer, LP fuel	326075
1	Bracket, support	326796
1	Gasket, carburetor	326165
1	Adapter, flange	327102

Qty.	Description	Kit/Part No.
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LP Gas Liquid Withdrawal		326198
1	Body, mixer	A-326218
1	Body assembly, throttle	B-255517
1	Elbow, street 1/4	Eh-2248
1	Bushing, reducer 3/4	X-202-1
1	Nipple, pipe	X-206-4
1	Nipple, pipe 1/4	X-220-6
2	Washer, plain	X-25-59
1	Nut, wing 1/4-20	X-276-7
1	Grommet	X-284-24
1	Terminal	X-285-1
1	Stud, 1/4-20 x 3 1/8	X-352-13
2	Connector, hose 5/8	X-391-2
1	Bolt, U 5/16-18	X-397-1
2	Spacer	X-400-147
4	Clamp, hose 1.25	X-426-12
2	Clamp, hose 1 7/8	X-426-2
1	Hose	X-577-44
1	Hose, oil-proof	X-577-47
1	Connector, hose	X-582-1
1	Connector, hose	X-582-2
1	Adapter, manifold	255519
1	Hose, reducer	255520
1	Bracket	255521
1	Gasket	276082
1	Vaporizer, LP fuel	326075
1	Solenoid, fuel	326120

Natural Gas or LP Fuel System		326209
1	Valve, gas	A-254469
1	Carburetor assembly	A-326117
1	Bushing, reducer 3/4	X-202-1
1	Bushing, reducer 1 x 1 1/4	X-202-32
1	Nipple, pipe	X-206-9
1	Elbow, pipe 1	X-215-15
1	Nipple, pipe 1 x 1 1/2	X-218-24
1	Pipe	X-218-27
1	Nipple, pipe 1 x 6 1/2	X-218-9
1	Washer, shakeproof	X-22-12
1	Terminal	X-283-5
1	Terminal	X-367-1
1	Line, flexible fuel	X-504-20
1	Adapter, manifold	255519
1	Gasket	276082
1	Regulator, pressure	291260
1	Bracket, support	326796
1	Gasket, carburetor	326165
1	Bracket, support	326256
1	Adapter, flange	327102

Fuel System Kits, continued

Qty.	Description	Kit/Part No.
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Natural Gas or LP Fuel System

326211

1	Pipe, 3/4 x 4	A-107
1	Valve, gas	A-254469
1	Body, mixer	A-326218
1	Body assembly, throttle	B-255517
1	Bushing, reducer 3/4	X-202-1
1	Bushing, reducer 1 x 1 1/4	X-202-32
2	Elbow, pipe 1	X-215-15
1	Nipple, pipe	X-218-26
1	Pipe	X-218-27
1	Pipe	X-218-28
2	Washer, plain	X-25-44
2	Washer, plain	X-25-59
1	Terminal	X-285-6
2	Bolt, U 5/16-18 x 1 1/2	X-397-1
2	Spacer	X-400-147
2	Clamp, hose 1 7/8-3 5/32	X-426-2
1	Line, flexible fuel	X-504-20
1	Adapter, manifold	255519
1	Hose, reducer	255520
1	Bracket	255521
1	Support, fuel pipe	255755
1	Tag, Instruction	258558
1	Gasket	276082
1	Regulator, pressure	291260
1	Bracket, support	326256

Qty.	Description	Kit/Part No.
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Strainer, Gas

PA-290276-SD

1	Strainer, gas	292490
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Strainer, Gas

PA-290277-SD

1	Strainer, gas	292489
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Appendix A. Abbreviations

The following list contains abbreviations that may appear in this publication.

A, amp	ampere	cm	centimeter	freq.	frequency
ABDC	after bottom dead center	cmm	cubic meters per minute	FS	full scale
AC	alternating current	CMOS	complementary metal oxide substrate (semiconductor)	ft.	foot, feet
A/D	analog to digital			ft. lbs.	foot pounds (torque)
ADC	analog to digital converter	cogen.	cogeneration	ft./min.	feet per minute
adj.	adjust, adjustment	COM	communications (port)	g	gram
ADV	advertising dimensional drawing	conn.	connection	ga.	gauge (meters, wire size)
AHWT	anticipatory high water temperature	cont.	continued	gal.	gallon
		CPVC	chlorinated polyvinyl chloride	gen.	generator
AISI	American Iron and Steel Institute	crit.	critical	genset	generator set
ALOP	anticipatory low oil pressure	CRT	cathode ray tube	GFI	ground fault interrupter
alt.	alternator	CSA	Canadian Standards Association	gnd.	ground
Al	aluminum	CT	current transformer	gov.	governor
ANSI	American National Standards Institute (formerly American Standards Association, ASA)	Cu	copper	gph	gallons per hour
		cu. in.	cubic inch	gpm	gallons per minute
AO	anticipatory only	cw.	clockwise	gr.	grade, gross
API	American Petroleum Institute	CWC	city water-cooled	gr. wt.	gross weight
approx.	approximate, approximately	cyl.	cylinder	H x W x D	height by width by depth
AR	as required, as requested	D/A	digital to analog	HC	hex cap
AS	as supplied, as stated, as suggested	DAC	digital to analog converter	HCHT	high cylinder head temperature
		dB	decibel	HD	heavy duty
ASE	American Society of Engineers	dBA	decibel (A weighted)	HET	high exhaust temperature
ASME	American Society of Mechanical Engineers	DC	direct current	hex	hexagon
		DCR	direct current resistance	Hg	mercury (element)
assy.	assembly	deg., °	degree	HH	hex head
ASTM	American Society for Testing Materials	dept.	department	HHC	hex head cap
		dia.	diameter	HP	horsepower
ATDC	after top dead center	DI/EO	dual inlet/end outlet	hr.	hour
ATS	automatic transfer switch	DIN	Deutsches Institut fur Normung e. V. (also Deutsche Industrie Normenausschuss)	HS	heat shrink
auto.	automatic			hsg.	housing
aux.	auxiliary	DIP	dual inline package	HVAC	heating, ventilation, and air conditioning
A/V	audio/visual	DPDT	double-pole, double-throw	HWT	high water temperature
avg.	average	DPST	double-pole, single-throw	Hz	hertz (cycles per second)
AVR	automatic voltage regulator	DS	disconnect switch	IC	integrated circuit
AWG	American Wire Gauge	DVR	digital voltage regulator	ID	inside diameter, identification
AWM	appliance wiring material	E, emer.	emergency (power source)	IEC	International Electrotechnical Commission
bat.	battery	EDI	electronic data interchange	IEEE	Institute of Electrical and Electronics Engineers
BBDC	before bottom dead center	EFR	emergency frequency relay		
BC	battery charger, battery charging	e.g.	for example (<i>exempli gratia</i>)	IMS	improved motor starting
BCA	battery charging alternator	EG	electronic governor	in.	inch
BCI	Battery Council International	EGSA	Electrical Generating Systems Association	in. H ₂ O	inches of water
BDC	before dead center			in. Hg	inches of mercury
BHP	brake horsepower	EIA	Electronic Industries Association	in. lbs.	inch pounds
blk.	black (paint color), block (engine)	EI/EO	end inlet/end outlet	Inc.	incorporated
blk. htr.	block heater	EMI	electromagnetic interference	ind.	industrial
BMEP	brake mean effective pressure	emiss.	emission	int.	internal
bps	bits per second	eng.	engine	int./ext.	internal/external
br.	brass	EPA	Environmental Protection Agency	I/O	input/output
BTDC	before top dead center	EPS	emergency power system	IP	iron pipe
Btu	British thermal unit	ER	emergency relay	ISO	International Organization for Standardization
Btu/min.	British thermal units per minute	ES	engineering special, engineered special	J	joule
C	Celsius, centigrade			JIS	Japanese Industry Standard
cal.	calorie	ESD	electrostatic discharge	k	kilo (1000)
CARB	California Air Resources Board	est.	estimated	K	kelvin
CB	circuit breaker	E-Stop	emergency stop	kA	kiloampere
cc	cubic centimeter	etc.	et cetera (and so forth)	KB	kilobyte (2 ¹⁰ bytes)
CCA	cold cranking amps	exh.	exhaust	kg	kilogram
ccw.	counterclockwise	ext.	external	kg/cm ²	kilograms per square centimeter
CEC	Canadian Electrical Code	F	Fahrenheit, female	kgm	kilogram-meter
cfh	cubic feet per hour	fglass.	fiberglass	kg/m ³	kilograms per cubic meter
cfm	cubic feet per minute	FHM	flat head machine (screw)	kHz	kilohertz
CG	center of gravity	fl. oz.	fluid ounce		
CID	cubic inch displacement	flex.	flexible		
CL	centerline				

kJ	kilojoule	N, norm.	normal (power source)	rnd.	round
km	kilometer	NA	not available, not applicable	ROM	read only memory
kOhm, kΩ	kilo-ohm	nat. gas	natural gas	rot.	rotate, rotating
kPa	kilopascal	NBS	National Bureau of Standards	rpm	revolutions per minute
kph	kilometers per hour	NC	normally closed	RS	right side
kV	kilovolt	NEC	National Electrical Code	RTV	room temperature vulcanization
kVA	kilovolt ampere	NEMA	National Electrical Manufacturers Association	SAE	Society of Automotive Engineers
kVAR	kilovolt ampere reactive	NFPA	National Fire Protection Association	scfm	standard cubic feet per minute
kW	kilowatt	Nm	newton meter	SCR	silicon controlled rectifier
kWh	kilowatt-hour	NO	normally open	s, sec.	second
kWm	kilowatt mechanical	no., nos.	number, numbers	SI	<i>Système international d'unités</i> , International System of Units
L	liter	NPS	National Pipe, Straight	SI/EO	side in/end out
LAN	local area network	NPSC	National Pipe, Straight-coupling	sil.	silencer
L x W x H	length by width by height	NPT	National Standard taper pipe thread per general use	SN	serial number
lb.	pound	NPTF	National Pipe, Taper-Fine	SPDT	single-pole, double-throw
lbm/ft ³	pounds mass per cubic feet	NR	not required, normal relay	SPST	single-pole, single-throw
LCB	line circuit breaker	ns	nanosecond	spec, specs	specification(s)
LCD	liquid crystal display	O/C	overcrank	sq.	square
ld. shd.	load shed	OD	outside diameter	sq. cm	square centimeter
LED	light emitting diode	OEM	original equipment manufacturer	sq. in.	square inch
Lph	liters per hour	O/F	overfrequency	SS	stainless steel
Lpm	liters per minute	opt.	option, optional	std.	standard
LOP	low oil pressure	O/S	oversize, overspeed	stl.	steel
LP	liquefied petroleum	OSHA	Occupational Safety and Health Administration	tach.	tachometer
LPG	liquefied petroleum gas	O/V	overvoltage	TD	time delay
LS	left side	oz.	ounce	TDC	top dead center
L _{wa}	sound power level, A weighted	p., pp.	page, pages	TDEC	time delay engine cooldown
LWL	low water level	PA	packed accessory	TDEN	time delay emergency to normal
LWT	low water temperature	PC	personal computer	TDES	time delay engine start
m	meter, milli (1/1000)	PCB	printed circuit board	TDNE	time delay normal to emergency
M	mega (10 ⁶ when used with SI units), male	pF	picofarad	TDOE	time delay off to emergency
m ³	cubic meter	PF	power factor	TDON	time delay off to normal
m ³ /min.	cubic meters per minute	ph.	phase	temp.	temperature
mA	milliampere	PHC	Phillips head crimp (screw)	term.	terminal
man.	manual	PHH	Phillips hex head (screw)	TIF	telephone influence factor
max.	maximum	PHM	pan head machine (screw)	TIR	total indicator reading
MB	megabyte (2 ²⁰ bytes)	PLC	programmable logic control	tol.	tolerance
MCM	one thousand circular mils	PMG	permanent magnet generator	turbo.	turbocharger
meggar	megohmmeter	pot	potentiometer, potential	typ.	typical (same in multiple locations)
MHz	megahertz	ppm	parts per million	U/F	underfrequency
mi.	mile	PROM	programmable read only memory	UHF	ultrahigh frequency
mil	one one-thousandth of an inch	psi	pounds per square inch	UL	Underwriter's Laboratories, Inc.
min.	minimum, minute	pt.	pint	UNC	unified coarse thread (was NC)
misc.	miscellaneous	PTC	positive temperature coefficient	UNF	unified fine thread (was NF)
MJ	megajoule	PTO	power takeoff	univ.	universal
mJ	millijoule	PVC	polyvinyl chloride	U/S	undersize, underspeed
mm	millimeter	qt.	quart	UV	ultraviolet
mOhm, mΩ	milliohm	qty.	quantity	U/V	undervoltage
MOhm, MΩ	megohm	R	replacement (emergency) power source	V	volt
MOV	metal oxide varistor	rad.	radiator, radius	VAC	volts alternating current
MPa	megapascal	RAM	random access memory	VAR	voltampere reactive
mpg	miles per gallon	RDO	relay driver output	VDC	volts direct current
mph	miles per hour	ref.	reference	VFD	vacuum fluorescent display
MS	military standard	rem.	remote	VGA	video graphics adapter
m/sec.	meters per second	RFI	radio frequency interference	VHF	very high frequency
MTBF	mean time between failure	RH	round head	W	watt
MTBO	mean time between overhauls	RHM	round head machine (screw)	WCR	withstand and closing rating
mtg.	mounting	rly.	relay	w/	with
MW	megawatt	rms	root mean square	w/o	without
mW	milliwatt			wt.	weight
μF	microfarad			xfrm	transformer

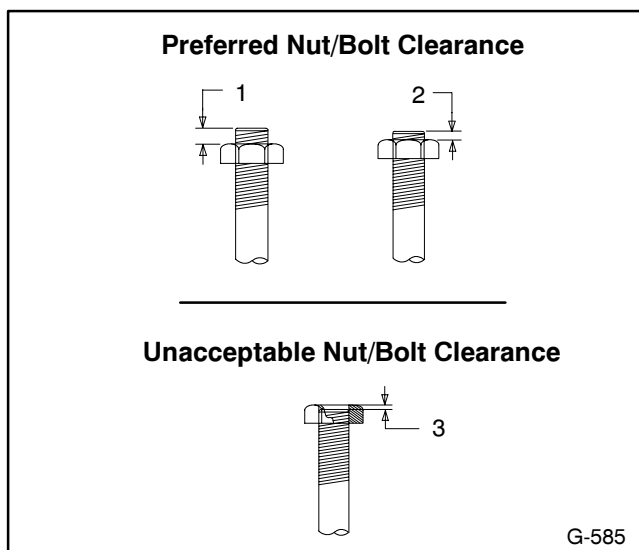
Appendix B. Common Hardware Application Guidelines

Use the information below and on the following pages to identify proper fastening techniques when no specific reference for reassembly is made.

Bolt/Screw Length: When bolt/screw length is not given, use Figure 1 as a guide. As a general rule, a minimum length of one thread beyond the nut and a maximum length of 1/2 the bolt/screw diameter beyond the nut is the preferred method.

Washers and Nuts: Use split lock washers as a bolt locking device where specified. Use SAE flat washers with whiz nuts, spirallock nuts, or standard nuts and preloading (torque) of the bolt in all other applications.

See General Torque Specifications and other torque specifications in the service literature.



1. 1/2 of Bolt Diameter
2. Min. 1 Full Thread Beyond Top of Nut
3. Below Top of Nut

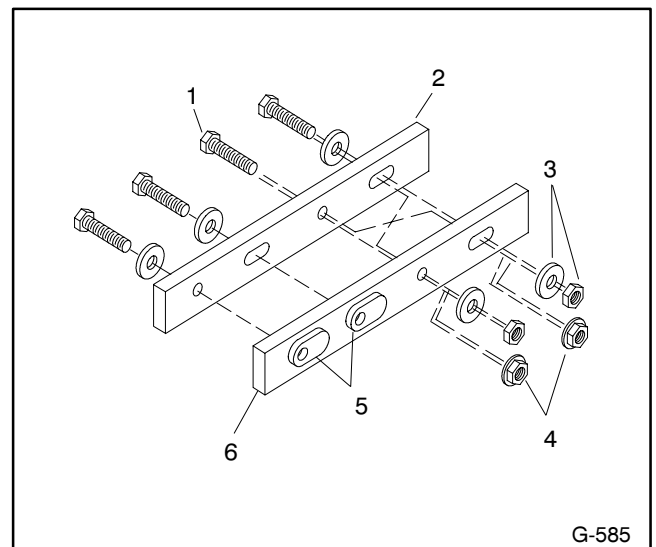
Figure 1. Acceptable Bolt Lengths

Steps for common hardware application:

1. Determine entry hole type: round or slotted.
2. Determine exit hole type: fixed female thread (weld nut), round, or slotted.

For round and slotted exit holes, determine if hardware is greater than 1/2 inch in diameter, or 1/2 inch in diameter or less. Hardware that is *greater than 1/2 inch* in diameter takes a standard nut and SAE washer. Hardware *1/2 inch or less* in diameter can take a properly torqued whiz nut or spirallock nut. See the diagram below.

3. Follow these SAE washer rules after determining exit hole type:
 - a. Always use a washer between hardware and a slot.
 - b. Always use a washer under a nut (see 2 above for exception).
 - c. Use a washer under a bolt when the female thread is fixed (weld nut).
4. Refer to the diagram below, which depicts the preceding hardware configuration possibilities.



1. Cap screw
2. Entry hole types
3. Standard nut and SAE washer
4. Whiz nut or spirallock: up to 1/2" dia. hardware
5. Weld nuts: above 1/2" dia. hardware
6. Exit hole types

Figure 2. Acceptable Hardware Combinations

Appendix C. General Torque Specifications

Use the following torque specifications when service literature instructions give no specific torque values. The charts list values for new plated, zinc phosphate, or oiled

threads. Increase values by 15% for nonplated threads. All torque values are +0%/-10%.

American Standard Fasteners Torque Specifications

Size	Torque Measurement	Assembled into Cast Iron or Steel			Assembled into Aluminum Grade 2 or 5
		Grade 2	Grade 5	Grade 8	
8-32	in. lbs. (Nm)	16 (1.8)	20 (2.3)	—	16 (1.8)
10-24	in. lbs. (Nm)	26 (2.9)	32 (3.6)	—	26 (2.9)
10-32	in. lbs. (Nm)	26 (2.9)	32 (3.6)	—	26 (2.9)
1/4-20	in. lbs. (Nm)	60 (6.8)	96 (10.8)	132 (14.9)	60 (6.8)
1/4-28	in. lbs. (Nm)	72 (8.1)	108 (12.2)	144 (16.3)	72 (8.1)
5/16-18	in. lbs. (Nm)	120 (13.6)	192 (21.7)	264 (29.8)	120 (13.6)
5/16-24	in. lbs. (Nm)	132 (14.9)	204 (23.1)	288 (32.5)	132 (14.9)
3/8-16	ft. lbs. (Nm)	18 (24)	28 (38)	39 (53)	18 (24)
3/8-24	ft. lbs. (Nm)	20 (27)	31 (42)	44 (60)	20 (27)
7/16-14	ft. lbs. (Nm)	29 (39)	44 (60)	63 (85)	—
7/16-20	ft. lbs. (Nm)	32 (43)	50 (68)	70 (95)	—
1/2-13	ft. lbs. (Nm)	44 (60)	68 (92)	96 (130)	—
1/2-20	ft. lbs. (Nm)	49 (66)	76 (103)	108 (146)	—
9/16-12	ft. lbs. (Nm)	60 (81)	98 (133)	138 (187)	—
9/16-18	ft. lbs. (Nm)	67 (91)	109 (148)	154 (209)	—
5/8-11	ft. lbs. (Nm)	83 (113)	135 (183)	191 (259)	—
5/8-18	ft. lbs. (Nm)	94 (128)	153 (208)	216 (293)	—
3/4-10	ft. lbs. (Nm)	147 (199)	240 (325)	338 (458)	—
3/4-16	ft. lbs. (Nm)	164 (222)	268 (363)	378 (513)	—
1-8	ft. lbs. (Nm)	191 (259)	532 (721)	818 (1109)	—
1-12	ft. lbs. (Nm)	209 (283)	582 (789)	895 (1214)	—

Metric Fasteners Torque Specifications, Measured in ft. lbs. (Nm)

Size (mm)	Assembled into Cast Iron or Steel			Assembled into Aluminum Grade 5.8 or 8.8
	Grade 5.8	Grade 8.8	Grade 10.9	
M6 x 1.00	4 (5.6)	7 (9.9)	10 (14)	4 (5.6)
M8 x 1.25	10 (13.6)	18 (25)	26 (35)	10 (13.6)
M8 x 1.00	16 (21)	18 (25)	26 (35)	16 (21)
M10 x 1.50	20 (27)	35 (49)	50 (68)	20 (27)
M10 x 1.25	29 (39)	35 (49)	50 (68)	29 (39)
M12 x 1.75	35 (47)	61 (83)	86 (117)	—
M12 x 1.50	48 (65)	65 (88)	92 (125)	—
M14 x 2.00	55 (74)	97 (132)	136 (185)	—
M14 x 1.50	74 (100)	103 (140)	142 (192)	—
M16 x 2.00	85 (115)	148 (200)	210 (285)	—
M16 x 1.50	104 (141)	155 (210)	218 (295)	—
M18 x 2.50	114 (155)	203 (275)	288 (390)	—
M18 x 1.50	145 (196)	225 (305)	315 (425)	—

Appendix D. Common Hardware Identification

Screw/Bolts/Studs	
Head Styles	
Hex Head or Machine Head	
Hex Head or Machine Head with Washer	
Flat Head (FHM)	
Round Head (RHM)	
Pan Head	
Hex Socket Head Cap or Allen™ Head Cap	
Hex Socket Head or Allen™ Head Shoulder Bolt	
Sheet Metal Screw	
Stud	
Drive Styles	
Hex	
Hex and Slotted	
Phillips®	
Slotted	
Hex Socket	

Nuts	
Nut Styles	
Hex Head	
Lock or Elastic	
Square	
Cap or Acorn	
Wing	
Washers	
Washer Styles	
Plain	
Split Lock or Spring	
Spring or Wave	
External Tooth Lock	
Internal Tooth Lock	
Internal-External Tooth Lock	

Hardness Grades	
American Standard	
Grade 2	
Grade 5	
Grade 8	
Grade 8/9 (Hex Socket Head)	
Metric	
Number stamped on hardware; 5.8 shown	

Allen™ head screw is a trademark of Holo-Krome Co.
Phillips® screw is a registered trademark of Phillips Screw Company.

Sample Dimensions

American Standard (Screws, Bolts, Studs, and Nuts)

1/4-20 x 1
 — Length In Inches (Screws and Bolts)
 — Threads Per Inch
 — Major Thread Diameter In Fractional Inches Or Screw Number Size

Metric (Screws, Bolts, Studs, and Nuts)

M8-1.25 x 20
 — Length In Millimeters (Screws and Bolts)
 — Distance Between Threads In Millimeters
 — Major Thread Diameter In Millimeters

Plain Washers

9/32 x 5/8 x 1/16
 — Thickness
 — External Dimension
 — Internal Dimension

Lock Washers

5/8
 — Internal Dimension

Appendix E. Common Hardware List

The Common Hardware List lists part numbers and dimensions for common hardware items.

American Standard

Part No. Dimensions Hex Head Bolts (Grade 5)

X-465-17	1/4-20 x .38
X-465-6	1/4-20 x .50
X-465-2	1/4-20 x .62
X-465-16	1/4-20 x .75
X-465-18	1/4-20 x .88
X-465-7	1/4-20 x 1.00
X-465-8	1/4-20 x 1.25
X-465-9	1/4-20 x 1.50
X-465-10	1/4-20 x 1.75
X-465-11	1/4-20 x 2.00
X-465-12	1/4-20 x 2.25
X-465-14	1/4-20 x 2.75
X-465-21	1/4-20 x 5.00
X-465-25	1/4-28 x .38
X-465-20	1/4-28 x 1.00
X-125-33	5/16-18 x .50
X-125-23	5/16-18 x .62
X-125-3	5/16-18 x .75
X-125-31	5/16-18 x .88
X-125-5	5/16-18 x 1.00
X-125-24	5/16-18 x 1.25
X-125-34	5/16-18 x 1.50
X-125-25	5/16-18 x 1.75
X-125-26	5/16-18 x 2.00
230578	5/16-18 x 2.25
X-125-29	5/16-18 x 2.50
X-125-27	5/16-18 x 2.75
X-125-28	5/16-18 x 3.00
X-125-22	5/16-18 x 4.50
X-125-32	5/16-18 x 5.00
X-125-35	5/16-18 x 5.50
X-125-36	5/16-18 x 6.00
X-125-40	5/16-18 x 6.50
X-125-43	5/16-24 x 1.75
X-125-44	5/16-24 x 2.50
X-125-30	5/16-24 x .75
X-125-39	5/16-24 x 2.00
X-125-38	5/16-24 x 2.75
X-6238-2	3/8-16 x .62
X-6238-10	3/8-16 x .75
X-6238-3	3/8-16 x .88
X-6238-11	3/8-16 x 1.00
X-6238-4	3/8-16 x 1.25
X-6238-5	3/8-16 x 1.50
X-6238-1	3/8-16 x 1.75
X-6238-6	3/8-16 x 2.00
X-6238-17	3/8-16 x 2.25
X-6238-7	3/8-16 x 2.50
X-6238-8	3/8-16 x 2.75
X-6238-9	3/8-16 x 3.00
X-6238-19	3/8-16 x 3.25
X-6238-12	3/8-16 x 3.50
X-6238-20	3/8-16 x 3.75
X-6238-13	3/8-16 x 4.50
X-6238-18	3/8-16 x 5.50
X-6238-25	3/8-16 x 6.50

Part No. Dimensions Hex Head Bolts, cont.

X-6238-14	3/8-24 x .75
X-6238-16	3/8-24 x 1.25
X-6238-21	3/8-24 x 4.00
X-6238-22	3/8-24 x 4.50
X-6024-5	7/16-14 x .75
X-6024-2	7/16-14 x 1.00
X-6024-8	7/16-14 x 1.25
X-6024-3	7/16-14 x 1.50
X-6024-4	7/16-14 x 2.00
X-6024-11	7/16-14 x 2.75
X-6024-12	7/16-14 x 6.50
X-129-15	1/2-13 x .75
X-129-17	1/2-13 x 1.00
X-129-18	1/2-13 x 1.25
X-129-19	1/2-13 x 1.50
X-129-20	1/2-13 x 1.75
X-129-21	1/2-13 x 2.00
X-129-22	1/2-13 x 2.25
X-129-23	1/2-13 x 2.50
X-129-24	1/2-13 x 2.75
X-129-25	1/2-13 x 3.00
X-129-27	1/2-13 x 3.50
X-129-29	1/2-13 x 4.00
X-129-30	1/2-13 x 4.50
X-463-9	1/2-13 x 5.50
X-129-44	1/2-13 x 6.00
X-129-51	1/2-20 x .75
X-129-45	1/2-20 x 1.25
X-129-52	1/2-20 x 1.50
X-6021-3	5/8-11 x 1.00
X-6021-4	5/8-11 x 1.25
X-6021-2	5/8-11 x 1.50
X-6021-1	5/8-11 x 1.75
273049	5/8-11 x 2.00
X-6021-5	5/8-11 x 2.25
X-6021-6	5/8-11 x 2.50
X-6021-7	5/8-11 x 2.75
X-6021-12	5/8-11 x 3.75
X-6021-11	5/8-11 x 4.50
X-6021-10	5/8-11 x 6.00
X-6021-9	5/8-18 x 2.50
X-6239-1	3/4-10 x 1.00
X-6239-8	3/4-10 x 1.25
X-6239-2	3/4-10 x 1.50
X-6239-3	3/4-10 x 2.00
X-6239-4	3/4-10 x 2.50
X-6239-5	3/4-10 x 3.00
X-6239-6	3/4-10 x 3.50
X-792-1	1-8 x 2.25
X-792-5	1-8 x 3.00
X-792-8	1-8 x 5.00

Part No. Dimensions Type

Hex Nuts

X-6009-1	1-8	Standard
X-6210-3	6-32	Whiz
X-6210-4	8-32	Whiz
X-6210-5	10-24	Whiz
X-6210-1	10-32	Whiz
X-6210-2	1/4-20	Spiralock
X-6210-6	1/4-28	Spiralock
X-6210-7	5/16-18	Spiralock
X-6210-8	5/16-24	Spiralock
X-6210-9	3/8-16	Spiralock
X-6210-10	3/8-24	Spiralock
X-6210-11	7/16-14	Spiralock
X-6210-12	1/2-13	Spiralock
X-6210-15	7/16-20	Spiralock
X-6210-14		Spiralock
X-85-3	5/8-11	Standard
X-88-12	3/4-10	Standard
X-89-2	1/2-20	Standard

Washers

Part No.	ID	OD	Thick.	Bolt/ Screw
X-25-46	.125	.250	.022	#4
X-25-9	.156	.375	.049	#6
X-25-48	.188	.438	.049	#8
X-25-36	.219	.500	.049	#10
X-25-40	.281	.625	.065	1/4
X-25-85	.344	.687	.065	5/16
X-25-37	.406	.812	.065	3/8
X-25-34	.469	.922	.065	7/16
X-25-26	.531	1.062	.095	1/2
X-25-15	.656	1.312	.095	5/8
X-25-29	.812	1.469	.134	3/4
X-25-127	1.062	2.000	.134	1

Metric

Hex head bolts are hardness grade 8.8 unless noted.

Part No.	Dimensions	Part No.	Dimensions	Part No.	Dimensions	Type															
Hex Head Bolts (partial thread)		Hex Head Bolts (full thread)		Hex Nuts																	
M931-06040-60	M6-1.00 x 40	M933-04006-60	M4-0.70 x 6	M934-03-50	M3-0.50	Standard															
M931-06055-60	M6-1.00 x 55	M933-05050-60	M5-0.80 x 50	M934-04-50	M4-0.70	Standard															
M931-06060-60	M6-1.00 x 60		M934-05-50	M5-0.80	Standard																
M931-06070-60	M6-1.00 x 70		M982-05-80	M5-0.80	Elastic Stop																
M931-06075-60	M6-1.00 x 75		M6923-06-80	M6-1.00	Spiralock																
M931-06090-60	M6-1.00 x 90		M934-06-64	M6-1.00	Std. (green)																
M931-08035-60	M8-1.25 x 35	M933-06020-60	M6-1.00 x 20	M982-06-80	M6-1.00	Elastic Stop															
M931-08040-60	M8-1.25 x 40	M933-06025-60	M6-1.00 x 25	M6923-08-80	M8-1.25	Spiralock															
M931-08040-82	M8-1.25 x 40*	M933-06040-60	M6-1.00 x 40		M934-08-60	M8-1.25	Standard														
M931-08045-60	M8-1.25 x 45	M933-06050-60	M6-1.00 x 50		M982-08-80	M8-1.25	Elastic Stop														
M931-08050-60	M8-1.25 x 50	M933-08016-60	M8-1.25 x 16		M6923-10-80	M10-1.50	Spiralock														
M931-08055-82	M8-1.25 x 55*		M933-08020-60		M8-1.25 x 20	M982-10-80	M10-1.50	Elastic Stop													
M931-08060-60	M8-1.25 x 60		M933-08025-60	M8-1.25 x 25	M6923-12-80	M12-1.75	Spiralock														
M931-08070-60	M8-1.25 x 70		M933-08030-60	M8-1.25 x 30		M982-12-80	M12-1.75	Elastic Stop													
M931-08070-82	M8-1.25 x 70*		M933-10012-60	M10-1.50 x 12		M982-14-80	M14-2.00	Elastic Stop													
M931-08075-60	M8-1.25 x 75	M961-10020-60		M10-1.25 x 20			M6923-16-80	M16-2.00	Spiralock												
M931-08080-60	M8-1.25 x 80	M933-10020-60		M10-1.50 x 20				M982-16-80	M16-2.00	Elastic Stop											
M931-08090-60	M8-1.25 x 90	M933-10025-60		M10-1.50 x 25	M982-18-80			M18-2.50	Elastic Stop												
M931-08095-60	M8-1.25 x 95	M933-10030-60		M10-1.50 x 30				M934-20-80	M20-2.50	Standard											
M931-08100-60	M8-1.25 x 100	M933-10030-82	M10-1.50 x 30*	M982-20-80		M20-2.50			Elastic Stop												
M931-10040-60	M10-1.50 x 40	M961-10035-60	M10-1.25 x 35	M934-22-80		M22-2.50	Standard														
	M10-1.50 x 45	M933-10035-60	M10-1.50 x 35			M982-22-80	M22-2.50		Elastic Stop												
	M10-1.50 x 50	M933-12016-60	M12-1.75 x 16		M934-24-80	M24-3.00	Standard														
	M10-1.50 x 55		M933-12020-60			M12-1.75 x 20	M982-24-80	M24-3.00	Elastic Stop												
	M10-1.50 x 60		M933-12025-60			M12-1.75 x 25		Washers	Part No.	ID	OD	Bolt/ Thick. Screw									
M10-1.50 x 65	M933-12025-82		M12-1.75 x 25*	M125A-03-80		3.2							7.0	0.5	M3						
M10-1.50 x 70	M933-12030-60		M12-1.75 x 30	M125A-04-80		4.3							9.0	0.8	M4						
M10-1.50 x 80	M933-12040-60	M12-1.75 x 40	M125A-05-80	5.3	10.0	1.0							M5								
M10-1.50 x 90	M933-12040-82	M12-1.75 x 40*	M125A-06-80	6.4	12.0	1.6	M6														
M931-10100-60	M10-1.50 x 100	M961-14025-60	M14-1.50 x 25	M125A-08-80	8.4	16.0	1.6	M8													
M931-12045-60	M12-1.75 x 45		M933-14025-60	M14-2.00 x 25	M125A-10-80	10.5	20.0	2.0	M10												
M931-12050-60	M12-1.75 x 50		M961-16025-60	M16-1.50 x 25	M125A-12-80	13.0	24.0	2.5	M12												
M931-12055-60	M12-1.75 x 55			M933-16025-60	M16-2.00 x 25	M125A-14-80	15.0	28.0	2.5	M14											
M931-12060-60	M12-1.75 x 60			M933-16030-82	M16-2.00 x 30*	M125A-16-80	17.0	30.0	3.0	M16											
M931-12065-60	M12-1.75 x 65	M933-16035-60		M16-2.00 x 35	M125A-18-80	19.0	34.0	3.0	M18												
M931-12080-60	M12-1.75 x 80	M933-16040-60		M16-2.00 x 40	M125A-20-80	21.0	37.0	3.0	M20												
M931-12090-60	M12-1.75 x 90	M933-16050-60	M16-2.00 x 50	M125A-24-80	25.0	44.0	4.0	M24													
M931-12100-60	M12-1.75 x 100	M933-16050-82	M16-2.00 x 50*		Pan Head Machine Screws	Part No.	ID	OD	Bolt/ Thick. Screw												
M931-12110-60	M12-1.75 x 110	M933-16060-60	M16-2.00 x 60							M7985A-03010-20	M3-0.50 x 10	Flat Head Machine Screws									
M931-16090-60	M16-2.00 x 90	M933-18050-60	M18-2.50 x 50							M7985A-03012-20	M3-0.50 x 12		Part No.	ID	OD	Bolt/ Thick. Screw					
	M931-20065-60		M20-2.50 x 65							M933-18060-60	M18-2.50 x 60						M7985A-04020-20	M4-0.70 x 20	Part No.	ID	OD
			M20-2.50 x 120	Hex Head Machine Screws						Part No.	ID						OD	Bolt/ Thick. Screw			
			M20-2.50 x 160		Part No.	ID	OD	Bolt/ Thick. Screw													
			M931-22090-60						M22-2.50 x 90			Part No.									
M22-2.50 x 120		Part No.							ID				OD	Bolt/ Thick. Screw							
M22-2.50 x 160	Part No.														ID	OD			Bolt/ Thick. Screw		
M931-24090-60				M24-3.00 x 90						Part No.	ID						OD	Bolt/ Thick. Screw			
				M24-3.00 x 120	Part No.	ID	OD	Bolt/ Thick. Screw													
			M24-3.00 x 160	Part No.								ID								OD	Bolt/ Thick. Screw
		M931-24120-60	M24-3.00 x 120						Part No.				ID	OD							
	M24-3.00 x 160		Part No.												ID	OD			Bolt/ Thick. Screw		
M931-24160-60	M24-3.00 x 160									Part No.	ID						OD	Bolt/ Thick. Screw			
	M931-24160-60				M24-3.00 x 160	Part No.	ID	OD													
				M931-24160-60	M24-3.00 x 160							Part No.								ID	OD
		M931-24160-60			M24-3.00 x 160				Part No.				ID	OD							
			M931-24160-60		M24-3.00 x 160										Part No.	ID			OD		
M931-24160-60					M24-3.00 x 160					Part No.	ID						OD	Bolt/ Thick. Screw			
	M931-24160-60				M24-3.00 x 160	Part No.	ID	OD													
				M931-24160-60	M24-3.00 x 160							Part No.								ID	OD
		M931-24160-60			M24-3.00 x 160				Part No.				ID	OD							
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M931-24160-60					M24-3.00 x 160					Part No.	ID						OD	Bolt/ Thick. Screw			
	M931-24160-60				M24-3.00 x 160	Part No.	ID	OD													
				M931-24160-60	M24-3.00 x 160							Part No.								ID	OD
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M931-24160-60					M24-3.00 x 160					Part No.	ID						OD	Bolt/ Thick. Screw			
	M931-24160-60				M24-3.00 x 160	Part No.	ID	OD													
				M931-24160-60	M24-3.00 x 160							Part No.								ID	OD
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			M931-24160-60		M24-3.00 x 160										Part No.	ID			OD		
M931-24160-60					M24-3.00 x 160					Part No.	ID						OD	Bolt/ Thick. Screw			
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M931-24160-60					M24-3.00 x 160					Part No.	ID						OD	Bolt/ Thick. Screw			
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M931-24160-60					M24-3.00 x 160					Part No.	ID						OD	Bolt/ Thick. Screw			
	M931-24160-60				M24-3.00 x 160	Part No.	ID	OD													
				M931-24160-60	M24-3.00 x 160							Part No.								ID	OD
		M931-24160-60			M24-3.00 x 160				Part No.				ID	OD							
			M931-24160-60		M24-3.00 x 160										Part No.	ID			OD		

* This metric hex bolt's hardness is grade 10.9.

SPECTRUM[®]

DETROIT DIESEL



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