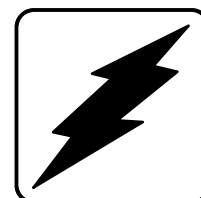


Service Parts

Industrial Generator Sets



Models:

20-180ROZP

See group 701, Literature for
Engine and Accessory Parts Catalogs

KOHLER[®]
POWER SYSTEMS

ISO 9001
KOHLER
GENERATORS
INTERNATIONALLY REGISTERED
U.S.A. Plant ISO Registered

Specification Series 192

TP-5681 6/99c

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Introduction

This manual contains a complete listing of generator service replacement parts for Kohler 20-180ROZP generator sets. The manual includes the following main sections:

- *Table of Contents:* Lists the sections of this catalog.
- *Index:* Indexes specifications and their groups.
- *Introduction (and other information sections):* Contains introductory material, followed by sections on specification numbers, part numbers, and hardware.
- *Group Parts Lists:* Lists specific parts for the groups. Illustrations are given for most parts.
- *Appendices:* Includes Glossary of Abbreviations, Common Hardware Application Guidelines, Common Hardware Identification, General Torque Specifications, and Common Hardware List.

Number Significance

This catalog uses a variety of numbering systems. A description of these follows:

- *Specification Number:* The generator specification number (spec number) is six digits with a PA-, PB- or PE-prefix (Specification Number Index does not use prefixes). The first three digits designate generator size and engine model (specification series). The remaining digits are in sequence and identify a particular spec in a series. Spec numbers break down into groups.
- *Variation Number:* A group might have several variations. The variations provide the same function, with minor differences. For example, dry air cleaner or oil bath air cleaner both perform the same function. However, they use different parts. Each of these differences necessitates the assignment of a group variation number.
- *Group Number:* A group consists of related parts needed to provide one or more related functions. For example, the 101 group is the generator Air Intake group.
- *Part Number:* The part number identifies an individual assembly, subassembly, component, or accessory kit.

Exploded View Drawings

● *Exploded view drawings:* One or more drawings which best represent a range of variations accompanies each Group Parts List in this catalog. The drawings are a guide to part identification—they are not intended for assembly, disassembly, or maintenance. **Generator Service and other manuals are the proper guides for assembly and maintenance.**

Some parts are drawn out of proportion to display distinguishing characteristics. Some common parts are not drawn in detail. For example, the image of a hex cap screw represents a range of screws. Use the text description and part number to completely identify a part.

How to Find Part Numbers

FOLLOW THESE STEPS to identify a part:

STEP 1: Turn to the Specification Number Index in the front of the catalog. There is a table of spec numbers (grouped by model and listed vertically on the left) and the variations that comprise the groups of each spec number (listed horizontally). Locate a spec number and read

across the page to see the variation numbers for the groups (identified by column headings).

STEP 2: Using the page number in the Table of Contents, turn to the group parts list in which the desired part belongs. Use the drawings and itemized text to locate the part and its part number.

Hardware Grades

When replacing hardware do not substitute with inferior grade hardware. All hex. head screws are hardness grade 5, except where noted. Socket head screws are similar to grade 8. All replacement hardware

should be at least equal to original manufacturer quality. Refer to Common Hardware Application Guidelines and Common Hardware Identification in the back of the manual.

Hardware References

Many common hardware items will appear in parts catalogs as **common hardware entries** or **hardware references**. A common hardware entry refers to the size of common hardware to apply in accordance with hardware guidelines. For example, item 2 (nut) in Figure 1 below would appear as "3/8-16 hardware" in the text. It indicates that the nut is 3/8-16 size. See Common Hardware Application Guidelines.

A hardware reference has the abbreviation "ref." in the part's description. Hardware references specify common hardware items; however, size or some other characteristic requires specification in that application. For example, item 1 in Figure 1 below might appear in the text as

Screw, 3/8-16 x 1, ref. X-6021-1

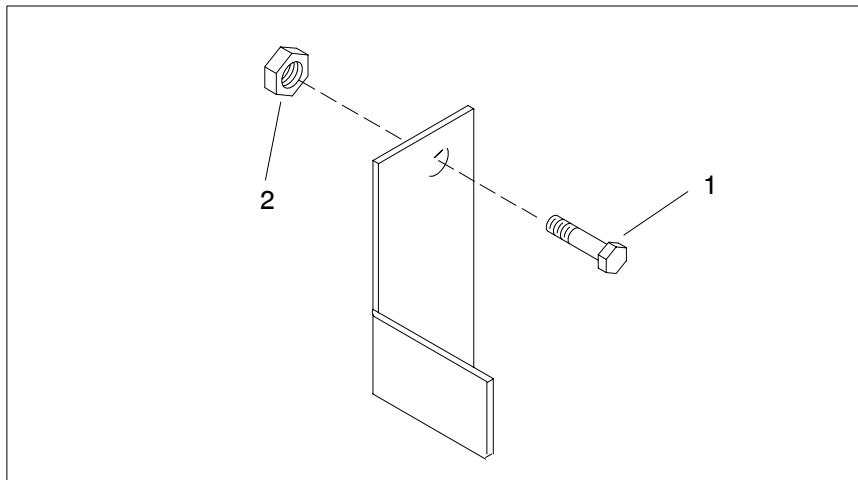


Figure 1. Hardware References

Specification Number Index

GROUP TITLE & NUMBER		<i>Air Intake</i>	<i>Fuel System</i>	<i>Cooling System</i>	<i>Engine</i>	<i>Nameplates and Decals</i>	<i>Oil Pressure Switches</i>	<i>Skid and Plant Mounting</i>	<i>Water Temperature Switches</i>	<i>Recommended Spare Parts</i>	<i>Generator and Mounting</i>	<i>Controller and Mounting</i>	<i>Literature</i>
GROUP NO.	101	103	104	105	107	108	109	110	119	201	301	701	
SPEC NO.	VARIATION NUMBER												

20ROZP													
192007	1	—	5	1	2	1	1	1	1	21	2	8	
192008	1	—	5	1	2	1	1	1	1	22	4	8	
192009	1	—	5	1	2	1	1	1	1	23	2	8	
192010	1	—	@	1	2	1	1	1	4	21	@	8	
192011	1	—	@	1	2	1	1	1	4	22	@	8	
192012	1	—	@	1	2	1	1	1	4	23	@	8	
30ROZP													
192107	2	—	4	2	4	2	2	1	2	23	2	10	
192108	2	—	4	2	4	2	2	1	2	24	4	10	
192109	2	—	4	2	4	2	2	1	2	25	2	10	
192110	2	—	@	2	4	2	2	1	5	23	@	10	
192111	2	—	@	2	4	2	2	1	5	24	@	10	
192112	2	—	@	2	4	2	2	1	5	25	@	10	
40ROZP													
192207	2	—	4	2	6	2	2	1	2	25	6	20	
192208	2	—	4	2	6	2	2	1	2	26	8	20	
192209	2	—	4	2	6	2	3	1	2	27	6	20	
192210	2	—	@	2	6	2	2	1	5	25	@	20	
192211	2	—	@	2	6	2	2	1	5	26	@	20	
192212	2	—	@	2	6	2	3	1	5	27	@	20	
50ROZP													
192307	3	—	9	3	8	2	3	2	2	27	14	11	
192308	3	—	9	3	8	2	3	2	2	28	8	11	
192309	3	—	9	3	8	2	3	2	2	29	14	11	
192310	3	—	@	3	8	2	3	2	5	27	@	11	
192311	3	—	@	3	8	2	3	2	5	28	@	11	
192312	3	—	@	3	8	2	3	2	5	29	@	11	

@ See Cooling System Kits or Controller Kits in kits section for parts list.
 — Group not used on generator set spec.

Specification Number Index

GROUP TITLE & NUMBER	<i>Air Intake</i>	<i>Fuel System</i>	<i>Cooling System</i>	<i>Engine</i>	<i>Nameplates and Decals</i>	<i>Oil Pressure Switches</i>	<i>Skid and Plant Mounting</i>	<i>Water Temperature Switches</i>	<i>Recommended Spare Parts</i>	<i>Generator and Mounting</i>	<i>Controller and Mounting</i>	<i>Literature</i>
GROUP NO.	101	103	104	105	107	108	109	110	119	201	301	701
SPEC NO.	VARIATION NUMBER											

60ROZP												
192405	3	—	9	3	10	2	3	2	2	29	14	22
192406	3	—	9	3	10	2	3	2	2	30	12	22
192407	3	—	@	3	10	2	3	2	5	29	@	22
192408	3	—	@	3	10	2	3	2	5	30	@	22
192409	3	—	9	3	10	2	11	2	2	46	14	22
192410	3	—	@	3	10	2	11	2	5	46	@	22
80REOZP												
192513	4	—	10	10	25	3	5	3	3	16	14	14
192514	4	—	10	10	25	3	5	3	3	17	16	14
192515	4	—	10	10	25	3	5	3	3	18	18	14
192516	4	—	@	10	25	3	5	3	6	16	@	14
192517	4	—	@	10	25	3	5	3	6	17	@	14
192518	4	—	@	10	25	3	5	3	6	18	@	14
80ROZP												
192507	4	—	10	5	25	3	5	3	3	16	14	12
192508	4	—	10	5	25	3	5	3	3	17	16	12
192509	4	—	10	5	25	3	5	3	3	18	18	12
192510	4	—	@	5	25	3	5	3	6	16	@	12
192511	4	—	@	5	25	3	5	3	6	17	@	12
192512	4	—	@	5	25	3	5	3	6	18	@	12
100REOZP												
192613	4	—	10	10	27	3	5	3	3	18	18	26
192614	4	—	10	10	27	3	5	3	3	19	16	26
192615	4	—	10	10	27	3	4	3	3	20	20	26
192616	4	—	@	10	27	3	5	3	6	18	@	26
192617	4	—	@	10	27	3	5	3	6	19	@	26
192618	4	—	@	10	27	3	4	3	6	20	@	26

@ See Cooling System Kits or Controller Kits in kits section for parts list.
 — Group not used on generator set spec.

Specification Number Index

GROUP TITLE & NUMBER	<i>Air Intake</i>	<i>Fuel System</i>	<i>Cooling System</i>	<i>Engine</i>	<i>Nameplates and Decals</i>	<i>Oil Pressure Switches</i>	<i>Skid and Plant Mounting</i>	<i>Water Temperature Switches</i>	<i>Recommended Spare Parts</i>	<i>Generator and Mounting</i>	<i>Controller and Mounting</i>	<i>Literature</i>
GROUP NO.	101	103	104	105	107	108	109	110	119	201	301	701
SPEC NO.	VARIATION NUMBER											

100ROZP													
192607	4	—	10	5	27	3	5	3	3	18	18	24	
192608	4	—	10	5	27	3	5	3	3	19	16	24	
192609	4	—	10	5	27	3	4	3	3	20	20	24	
192610	4	—	@	5	27	3	5	3	6	18	@	24	
192611	4	—	@	5	27	3	5	3	6	19	@	24	
192612	4	—	@	5	27	3	4	3	6	20	@	24	
125ROZP													
192705	5	—	7	6	31	4	6	4	7	33	20	5	
192706	5	—	7	6	31	4	6	4	7	34	16	5	
192707	5	—	@	6	31	4	6	4	8	33	@	5	
192708	5	—	@	6	31	4	6	4	8	34	@	5	
150ROZP													
192807	6	—	20	7	36	4	7	4	9	37	43	28	
192808	6	—	20	7	36	4	7	4	9	38	44	28	
192809	6	—	18	9	38	4	10	4	11	42	43	28	
192810	6	—	@	7	36	4	7	4	10	37	@	28	
192811	6	—	@	7	36	4	7	4	10	38	@	28	
192812	6	—	@	9	38	4	10	4	12	42	@	28	
192815	6	—	18	9	38	4	10	4	11	50	43	28	
192816	6	—	@	9	38	4	10	4	12	50	@	28	

@ See Cooling System Kits or Controller Kits in kits section for parts list.
 — Group not used on generator set spec.

Specification Number Index

GROUP TITLE & NUMBER	<i>Air Intake</i>	<i>Fuel System</i>	<i>Cooling System</i>	<i>Engine</i>	<i>Nameplates and Decals</i>	<i>Oil Pressure Switches</i>	<i>Skid and Plant Mounting</i>	<i>Water Temperature Switches</i>	<i>Recommended Spare Parts</i>	<i>Generator and Mounting</i>	<i>Controller and Mounting</i>	<i>Literature</i>
GROUP NO.	101	103	104	105	107	108	109	110	119	201	301	701
SPEC NO.	VARIATION NUMBER											

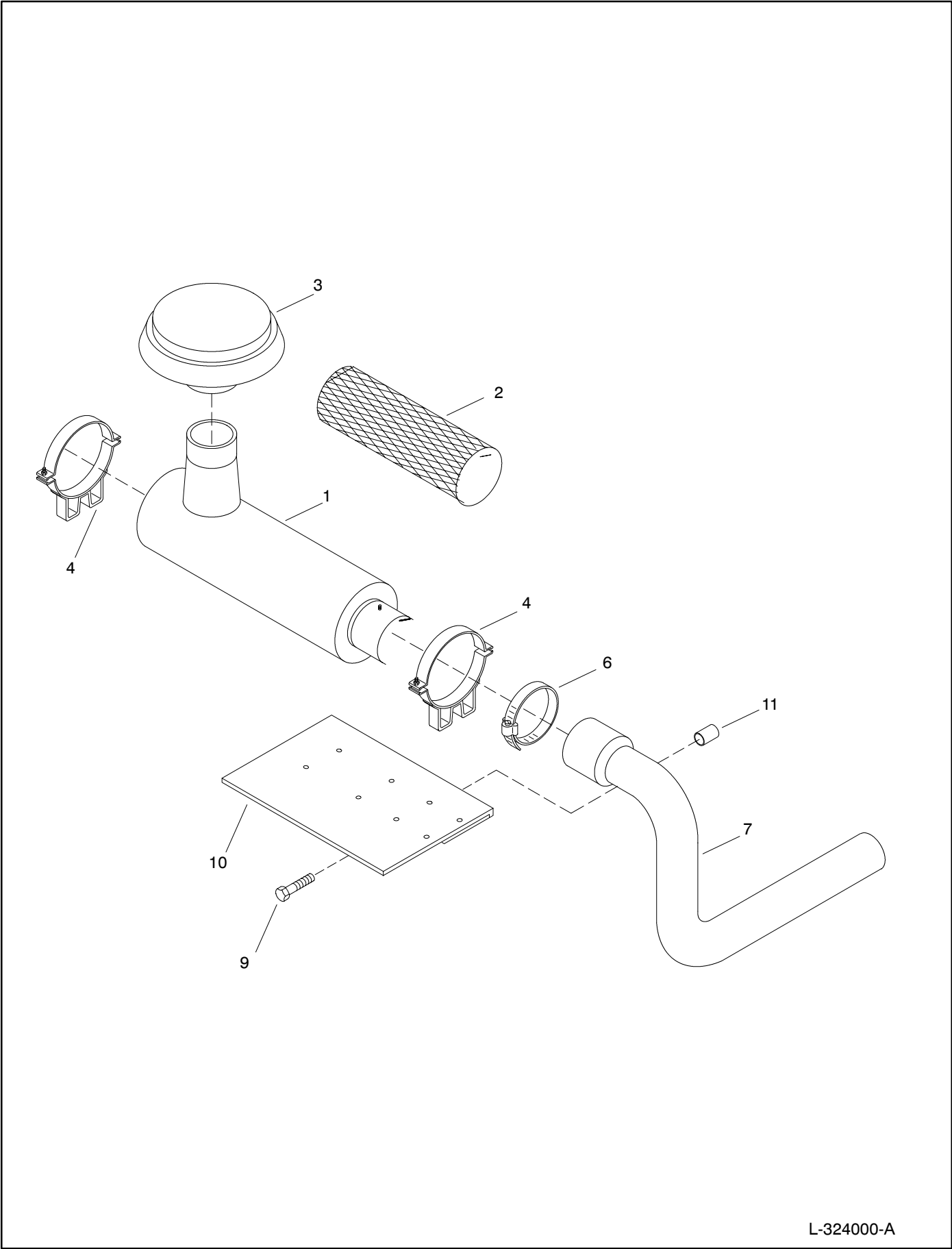
180ROZP													
192907	6	—	19	8	39	4	9	4	—	42	45	5	
192908	6	—	19	8	39	4	9	4	—	43	46	5	
192909	6	—	19	8	39	4	10	4	—	44	45	5	
192910	6	—	@	8	39	4	9	4	—	42	@	5	
192911	6	—	@	8	39	4	9	4	—	43	@	5	
192912	6	—	@	8	39	4	10	4	—	44	@	5	
192920	6	—	19	8	39	4	9	4	—	50	45	30	
192921	6	—	19	8	39	4	10	4	—	51	46	30	
192922	6	—	19	8	39	4	10	4	—	52	45	30	
192923	6	—	@	8	39	4	9	4	—	50	@	30	
192924	6	—	@	8	39	4	9	4	—	51	@	30	
192925	6	—	@	8	39	4	10	4	—	52	@	30	

@ See Cooling System Kits or Controller Kits in kits section for parts list.
 — Group not used on generator set spec.

Specification Number Index

Notes

Group 101: Air Intake



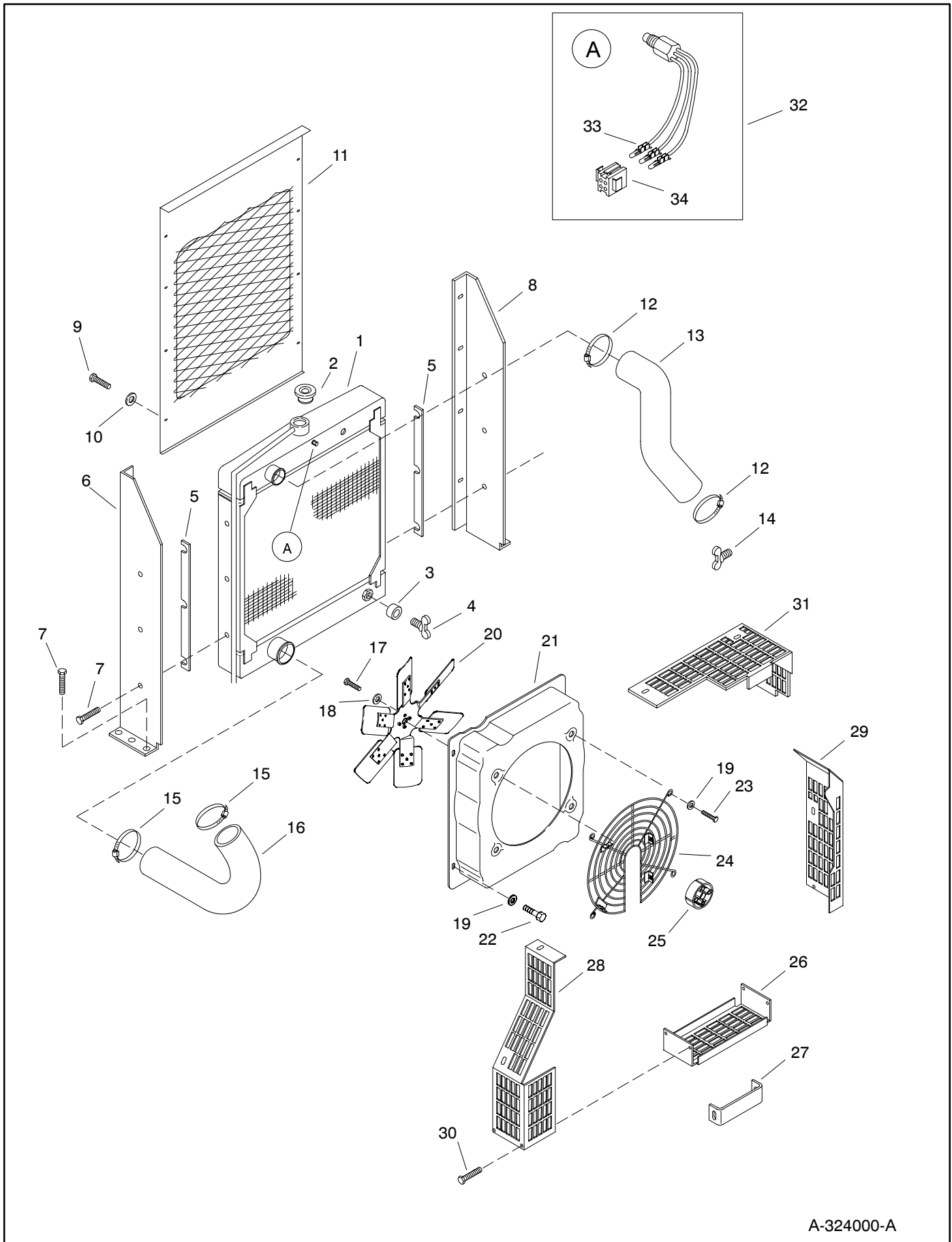
L-324000-A

Group 101: Air Intake

Item	Qty.	Description Variation	Part No.
1	1	Air Cleaner Assembly	
		1	A-324305
		4	A-324131
		2, 3	A-273699
		5	A-324204
		6	A-324434
Note:			
Air cleaners in this group do not apply if an optional heavy-duty air cleaner is installed. Check the generator set nameplate that lists installed accessories for the heavy-duty air cleaner kit number. See accessory parts catalog TP-5707 for optional heavy-duty air cleaner part numbers.			
2	1	Element, air cleaner	
		1	258423
		2, 3	253107
		4	324134
		5	324418
		6	324436
3	1	Cap, rain	
		4	324139
		5	254006
		6	254010
4	2	Mount, air cleaner	
		4	324133
		5	324362
		6	324363
5	1	Clamp, hose	
		2	X-426-2
		2, 3	X-426-1
		4	X-426-13

Item	Qty.	Description Variation	Part No.
6	1	Clamp, hose	
		1	324452
		3	250081
		4	254087
	1	Clamp, hose	
		5, 6	324555
		5	343049
		6	272960
7	1	Hose, air intake	
		2	324053
		3	324071
		4	324136
		5	324329
		6	324461
8	1	Clamp, exhaust pipe	
		2, 3	286283
9		Screw, hex cap	
	2	4	X-6050-15
	1	4	X-6051-10
	2	4	X-6051-2
10	1	Bracket, air cleaner	
		2, 3	324072
	1	Bracket, air cleaner	
		4	324138
	1	Bracket, air cleaner	
		5	324206
	1	Bracket, air cleaner	
		6	324463
11	3	Spacer	
		4	X-400-37

Group 104: Cooling System



A-324000-A

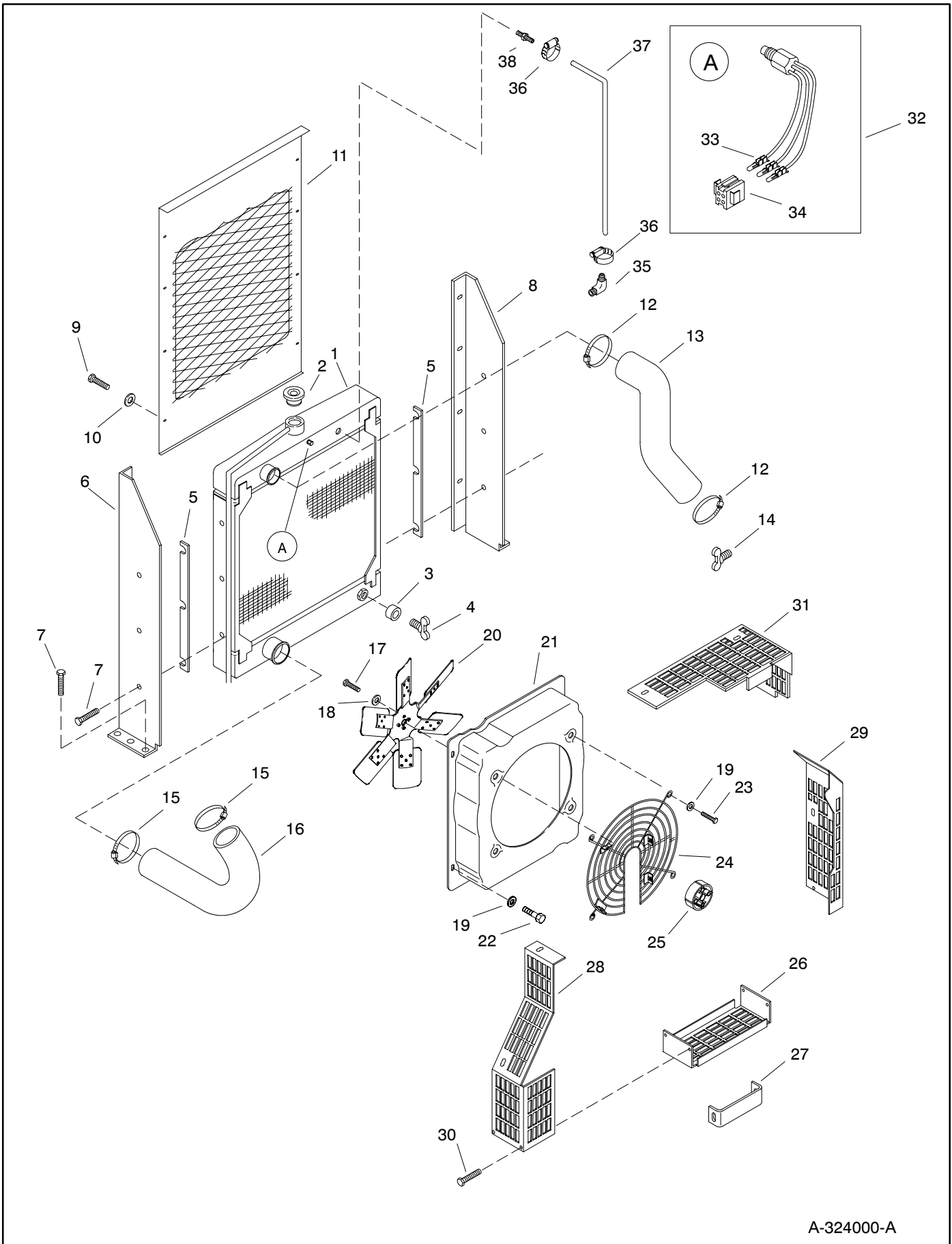
Group 104: Cooling System, Continued

Item	Qty.	Description Variation	Part No.
1	1	Radiator Assembly	
		4, 9	A-276522
		5	A-324008
		7	A-324321
		10	A-276526
		18, 20	A-324323
		19	A-324442
2	1	Cap	
		4, 5, 7, 9, 10	224358
		Cap	
		18, 19, 20	224364
3	1	Bushing, reducer	
		5	X-202-47
	1	Elbow, street 1/4	
		18, 19, 20	EH-2248
4	1	Valve, drain, 1/4"	
		4, 9	X-256-3
	2	Valve, drain, 1/4"	
		5, 6, 18, 19, 20	X-256-3
5	4	Spacer, radiator support	
		4, 9	273911
	2	Spacer, radiator	
		3, 10	324229
6	1	Support, radiator (right side)	
		4, 9	324037
		5	324013
		7	324337
		10	324080
		18, 19, 20	324448
7	6	3/8-16 hardware	
		4, 9, 10	#
	8	3/8-16 hardware	
		5	#
	8	1/2-13 hardware	
		18, 19, 20	#
8	1	Support, radiator (left side)	
		4, 9	324036
		5	324014
		7	324079
		10	324338
		18, 19, 20	324447
9	8	1/4-20 hardware	
		4, 9	#
	8	Screw, 1/4-20 x .50, ref.	
		5, 10	X-465-2
	6	5/16-18 hardware	
		7	#
	10	5/16-18 hardware	
		18, 19, 20	#
10	8	Washer, 1/4"	
		5, 10	#
11	1	Guard, radiator	
		4, 9	324052
		5	324056
		10	324147
		7	324341
		20	324707
		18, 19	324445

Item	Qty.	Description Variation	Part No.
12	2	Clamp, hose, 1.375 x 2.100	
		4, 9	X-426-4
	2	Clamp, hose, 1.375 x 2.00	
		5	X-426-4
	2	Clamp, hose	
		7, 18, 19, 20	X-426-2
13	1	Hose, upper radiator	
		4, 9	324040
		5	324350
		10	324082
		7	324328
		18, 19, 20	324455
14	1	Valve, drain	
		5, 6, 10, 18, 19, 20	X-256-5
15	4	Clamp, hose	
		10	250081
	2	Clamp, hose, 1 9/16 x 2 1/2"	
		4, 9	X-426-6
	2	Clamp, hose, 1.375 x 2.00	
		5	X-426-4
	2	Clamp, hose	
		7	X-426-2
	2	Clamp, hose	
		18, 19, 20	324330
16	1	Hose, lower radiator	
		4, 9	324041
		5	324012
		10	324083
		7	324671
		18, 19, 20	324456
17		Screw, hex head cap	
	4	10	X-6050-13
	6	7	X-6238-20
	6	18, 19, 20	X-6238-32
18		Washer, hardened	
	4	4, 5, 9	X-801-4
	4	10	X-801-3
	6	7, 18, 19, 20	X-801-3
19	4	Washer, plain	
		4, 5, 9	X-25-73
	4	Washer, 5/16"	
		4, 5, 9, 10, 18, 19, 20	#
	4	Washer, plain	
		7	X-25-75

Common hardware. Procure locally.

Group 104: Cooling System, Continued



A-324000-A

Group 104: Cooling System, Continued

Item	Qty.	Description Variation	Part No.
20	1	Radiator Fan	
		4, 9	324045
		5	324009
		10	324078
		7	324319
		18, 19, 20	324682
21	1	Shroud, fan	
		4, 9	324039
		5	226334
		10	324076
		7	324400
		18, 19, 20	222953
22	4	Screw, 1/4 x 20 x .50, ref.	
		4, 5, 9, 10	X-465-2
	4	Screw, 7, 18, 19, 20	X-123-3
23	4	Screw, 5/16-18 x .88	
		4, 5, 6, 9, 10, 18, 19, 20	X-125-31
24	1	Guard, wire fan	
		4, 9	324087
		5	324210
		10	324085
		7	324375
		18, 19, 20	336888
25	1	Spacer, fan	
		7	324317
26	1	Guard, belt (bottom)	
		4, 9	324169
		5	324299
		7	324687
		18, 19, 20	324692
27	1	Bracket, belt guard	
		4, 9	324227
28	1	Guard, belt (right side)	
		5	324294
	1	Guard, belt (RH)	
		10	324373
	1	Guard, belt (upper right)	
		7	324688
	1	Guard, belt (upper right)	
		18, 19, 20	324693
	1	Guard, belt (lower right)	
		7	324384
	1	Spacer (not shown)	
		7, 18, 19, 20	X-400-199
	1	Guard, belt (lower right)	
		18, 19, 20	324690
	1	Guard, belt (front)	
		7, 18, 19, 20	324686

Item	Qty.	Description Variation	Part No.
29	1	Guard, belt (LH)	
		5	324295
	1	Guard, belt (LH)	
		10	324374
	1	Guard, belt (left)	
		7	324685
	1	Guard, belt (left)	
		18, 19, 20	324691
	1	Spacer (not shown)	
		7, 18, 19, 20	X-400-200
30	5	Screw, drill hex	
		4, 9	X-794-1
	5	Screw, philp hex crimp	
		5	X-6216-1
	14	Screw, philp hex crimp	
		7	X-6216-1
	2	Screw, 10-24 x 3/4"	
		10	X-50-3
31	1	Guard, belt (top)	
		4	324168
		9	324411
		10	324372
		7	324683
		18, 19, 20	324689
	1	Guard, belt (side) (not shown)	
		4, 9	324228
	2	5/16-18 hardware	
		4, 9, 10	#
	2	Washer, 5/16"	
		5	#
32	1	Switch Assembly, level	
		All	See table below
	1	Conduit, convoluted (not shown)	
		All	X-6003-8
33	1	Connector	
		All	239411
34	3	Pins	
		All	239516
35	1	Connector, hose	
		7, 18, 19, 20	X-391-12
36	2	Clamp, hose	
		7, 18, 19, 20	X-426-9
37	1	Hose, rubber 0.375 x 34"	
		7	X-651-15
	1	Hose, rubber .375 x 38"	
		18, 19, 20	X-651-2
38	1	Connector, hose	
		7, 18, 19, 20	X-380-3

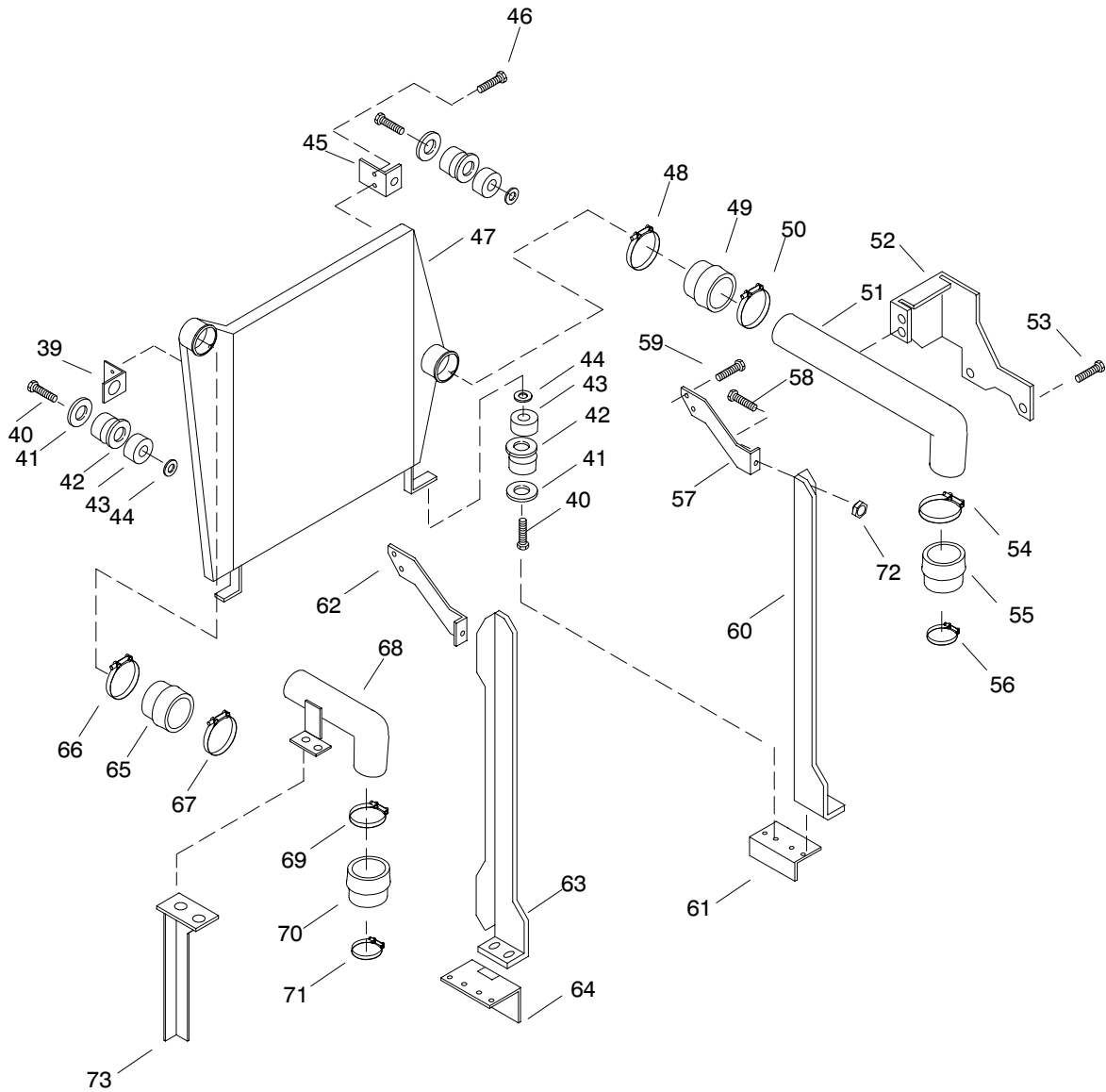
Serial Number-Contingent Cooling System Parts

Part Description	Part Number	
	Before Serial Number 363369	Serial Numbers 363369 and After
Coolant Level Sensor	273404	254832
Bushing Reducer, 3/8 x 1/2 NPT	Not Used	X-202-28

Common hardware. Procure locally.

Group 104: Cooling System, Continued

150/180 kW



AD-324000-K

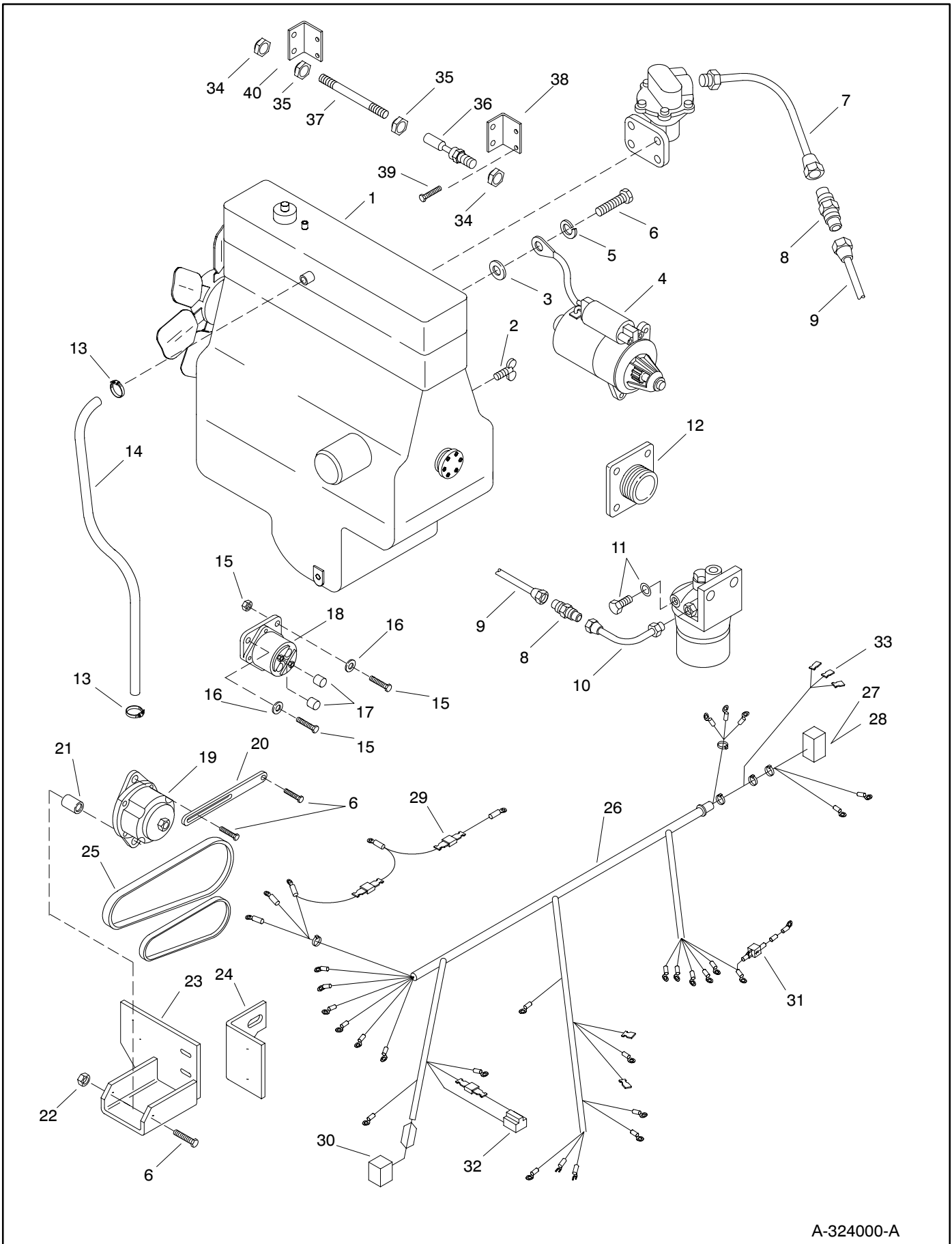
Group 104: Cooling System, Continued

Item	Qty.	Description Variation	Part No.
39	1	Bracket, charger cooler 18, 19, 20	324451
40	1	5/16- hardware 18, 19, 20	#
41	6	Washer, plain 18, 19, 20	X-25-143
42	1	Washer, plain 18, 19, 20	X-25-144
43	1	Mount, vibro 18, 19, 20	324433
44	1	Washer, plain 18, 19, 20	X-25-75
45	1	Bracket, charge cooler 18, 19, 20	324451
46	1	Screw, ref. 18, 19, 20	X-125-31
47	1	Cooler, charge air 18, 19, 20	324334
48	1	Clamp, hose 18, 19, 20	291590
49	1	Hose, hump 18, 19, 20	324473
50	1	Clamp, hose 18, 19, 20	291590
51	1	Tube, cooler/turbo 18, 19, 20	324458
52	1	Bracket, mounting 18, 19, 20	324460
53	1	Screw, 18, 19, 20	X-6052-1
		Screw, 18, 19, 20	X-6052-12
54	1	Clamp, hose 18, 19, 20	291590
55	1	Hose, hump 18, 19, 20	324474
56	1	Clamp, hose 18, 19, 20	279604

Item	Qty.	Description Variation	Part No.
57	1	Bracket, charge cooler (RH) 18, 19, 20	324675
58	1	5/16 hardware 18, 19, 20	#
59	1	5/16 hardware 18, 19, 20	#
60	1	Bracket, support 18, 19, 20	324680
61	1	Support, bracket 18, 19, 20	324678
62	1	Bracket, charge cooler 18, 19, 20	324674
63	1	Bracket, support (LH) 18, 19, 20	324681
64	1	Support, bracket 18, 19, 20	324678
65	1	Hose, hump 18, 19, 20	324473
66	1	Clamp, hose 18, 19, 20	291590
67	1	Clamp, hose 18, 19, 20	291590
68	1	Tube, turbo charger 18, 19, 20	324457
69	1	Clamp 18, 19, 20	291590
70	1	Hose, step 18, 19, 20	324476
71	1	Clamp, hose 18, 19, 20	324342
72	1	Nut, elastic stop 5/16 18, 19, 20	X-101-16
73	1	Bracket, intake mounting 18, 19, 20	324459

Common hardware. Procure locally.

Group 105: Engine



A-324000-A

Group 105: Engine

Item	Qty.	Description Variation	Part No.
1	1	Engine, DDC	
		1 (D3.152)	A-324005
		2 (4.236)	A-324003
		3 (T4.236)	A-324004
		5 (1006.6)	A-324002
		6 (DT530)	A-324006
		7, 8, 9 (DTA-466) ...	A-324007
		10 (1006.6TG)	A-327374
2	1	Valve, drain, 1/4"	
		2, 3	X-256-3
3	1	Washer, flat, 1/2"	
		1, 2, 3, 5, 10	#
4	1	Motor, starter	
		1, 2, 3, 5, 10	324355
5	1	Washer, lock, 1/2"	
		All	X-22-26
6	1	Screw, hex head cap	
		1	X-6050-4
		1, 5, 7, 8, 9, 10	X-6052-1
		6	X-6052-7
7	1	Line, fuel	
		1	324378
8	2	Union, straight	
		1, 2, 3	X-695-3
9	1	Line, flexible fuel	
		1	324377
		Fuel Line	
		2, 3	324607
10	1	Fuel Line	
		1	324102
		Fuel Line	
		2, 3	324102
11	1	Plug, o-ring	
		1, 2, 3	324376
12	1	Adapter, exhaust	
		1	324068
		2, 3	324092
		5, 10	324409
13	2	Clamp, hose	
		2, 3	X-426-10
14	1	Hose	
		2, 3	X-577-32
15	2	1/4-20 hardware	
		1, 2, 3, 5, 10	#
16	2	Washer, shakeproof, 1/4"	
		All	X-22-12
		Washer, shakeproof, 3/8"	
		1, 2, 3, 5, 10	X-22-14
17	1	Cap, plastic	
		1, 2, 3, 6, 7, 8, 9	X-6214-2
18	1	Solenoid, starter	
		All	291891
19	1	Alternator Assembly	
		1, 2, 3, 5, 10	324354
20	1	Arm, alternator adj.	
		1	324146
		Arm, alternator adj.	
		2, 3	324410

Item	Qty.	Description Variation	Part No.
21	1	Spacer	
		5	X-400-75
22	1	Nut, hex	
		3	X-632-1
23	1	Bracket, alternator mt.	
		1	324348
24	1	Bracket, alt. mtg. supp.	
		1	324349
25	1	Fan Belt Set	
		1	327119
		2, 3, 5, 6, 7, 8, 9, 10 .	327126
26	1	Harness engine wiring	
		All	See below
		Clamp, insulating (not shown)	
		1, 2, 3, 5, 6	X-672-3
27	1	Connector, 24 pin	
		All	295145
28	1	Connector, cable	
		All	292800
29	3	Diode, 6A 100V	
		All	233959
30	1	Connector, 4 pin	
		All	239408
31	1	Lead Assembly	
		1, 2, 3, 5, 10	253799
32	1	Connector, 2 pin	
		All	295986
33	AR	Pins, female, gold plated	
		1, 2, 3, 5	292838
34	2	Nut, lock	
		6, 7, 8, 9	X-101-7
35	2	1/4-28 Nut	
		6, 7, 8, 9	#
36	1	Ball Joint	
		6, 7, 8, 9	273731
37	1	Stud	
		6, 7, 8, 9	X-352-81
38	1	Bracket, mounting	
		6, 7, 8, 9	324465
39	2	Screw, hex. head	
		6, 7, 8, 9	X-6049-8
40	1	Bracket, mounting	
		6, 7, 8, 9	327089

Serial Number-Contingent Parts

Variation Number	Wiring Harness Part Number	
	Before Serial Number 363369	Serial Numbers 363369 and After
1	324230	324737
2, 3	324231	324738
5, 10	324304	324739
6, 7	324343	324740
8, 9	324344	324731

Common hardware. Procure locally.

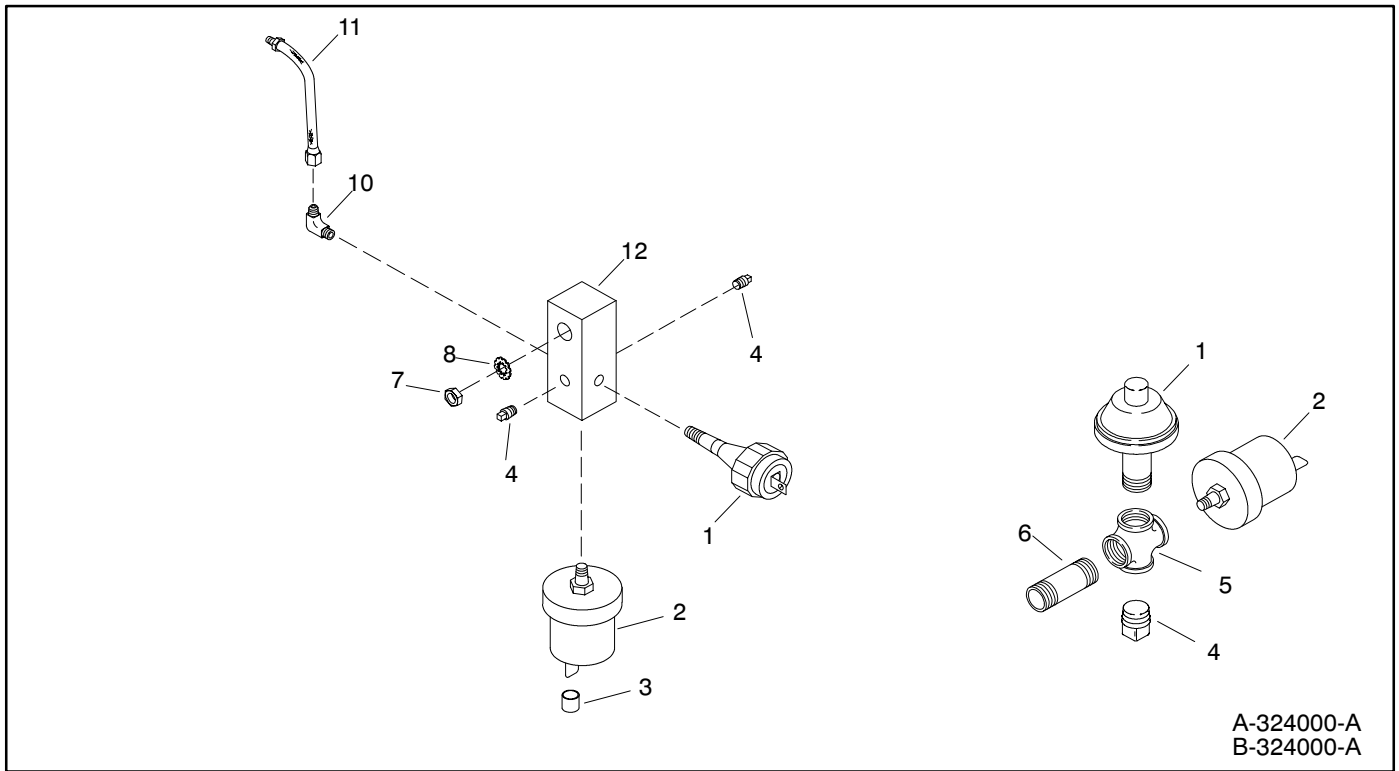
A/R As required

Group 107: Nameplates and Decals

Item	Qty.	Description Variation	Part No.
1	3	Decal, Stripes 2, 4, 6, 8, 10, 25, 27	X-6232-5
	2	Decal, Stripes 31	X-6232-5
	1	Decal, Stripes 31	X-6232-2
	2	Decal, Stripes 38, 39	X-6232-6
	1	Decal, Stripes 38, 39	X-6232-7
2	2	Decal, Kohler Power Systems All	X-6246-1
3	2	Decal, model 2	X-6298-1
	2	Decal, model 4	X-6298-2
	2	Decal, model 6	X-6298-3
	2	Decal, model 8	X-6298-4
	2	Decal, model 10	X-6298-5
	2	Decal, model 25	X-6298-6
	2	Decal, model 27	X-6298-7
	2	Decal, model 31	X-6298-8
	2	Decal, model 36, 38	X-6298-9
	2	Decal, model 39	X-6238-10
4	1	Decal, 1-800 number All	224233

Item	Qty.	Description Variation	Part No.
5	1	Decal, positive terminal All	238402
6	1	Decal, warning (hot engine) All	249809
7	2	Foam, packing All	254454
8	1	Tag, hang All	254455
9	1	Decal, warning (unbalanced weight) All	257437
10	3	Decal, warning (Haz. Volt/Mov. Rotor) All	257438
11	1	Decal, warning (unbalanced weight) All	257441
12	1	Decal, warning (backfeed) All	258815
13	1	Decal (backfeed) All	259365
14	2	Decal, Fast Response 2, 4, 6, 8, 10, 25, 27, 31, 36	273739
15	2	Decal, Fast Response 38, 39	273740
16	1	Decal, warning (rotating parts) All	249808
17	1	Decal, warning All	249810
18	1	Logo, Kohler All	X-6275-3

Group 108: Oil Pressure Switches



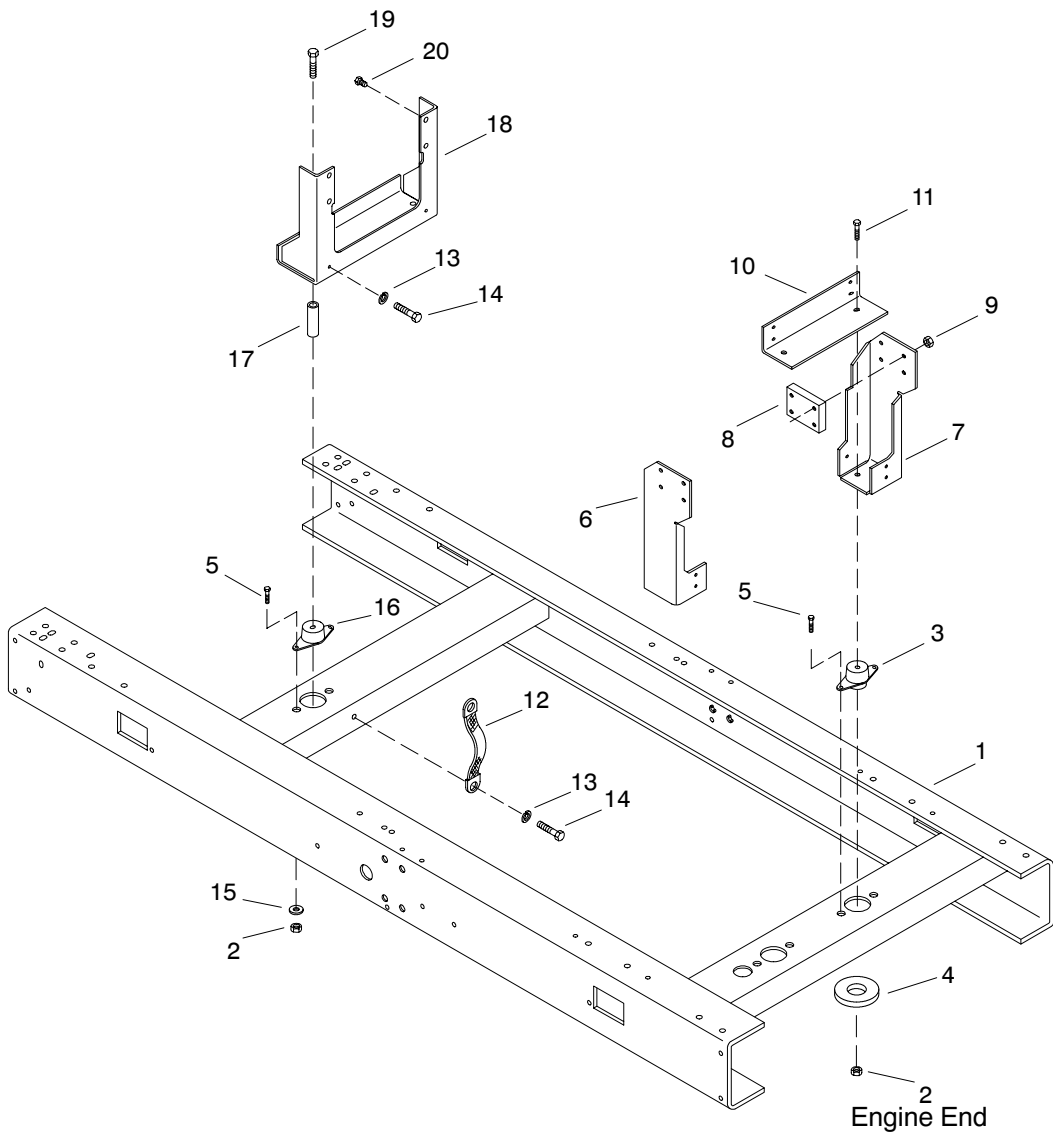
A-324000-A
B-324000-A

Item	Qty.	Description Variation	Part No.
1	1	Switch, oil pressure 1, 2, 4	328309
	1	Switch, oil pressure 13	328308
2	1	Sender, oil pressure 1, 2, 3, 4	264390 343473
3	1	Cap, plastic 1	X-6214-2
4	2	Plug, pipe 1/8" 1, 3	X-75-1
	1	Plug, pipe 1/8" 2	X-75-1
5	1	Cross, pipe 1/8" 2, 3	164037
	1	Coupling, pipe 1/8 x 1 3/16 4	X-216-24
6	1	Nipple, pipe 1/8 x 1 1/2" 2, 3, 4	289055
7	1	5/16-18 hardware 1	#
	1	Nut, 1/4-20 3	#

Item	Qty.	Description Variation	Part No.
8	1	Washer, shakeproof 3	X-22-12
	1	5/16-18 hardware 1	#
	1	Bolt, 1/4-20 3	#
9	1	5/16-18 hardware 1	#
	1	Bolt, 1/4-20 3	#
10	1	Elbow, 7/16-20 x 1/8" 1, 3	X-447-10
11	1	Line, flex fuel 1, 3	265461
12	1	Block, oil gauge 1, 3	267548

Common hardware. Procure locally.

Group 109: Skid and Plant Mounting



A-324000-A

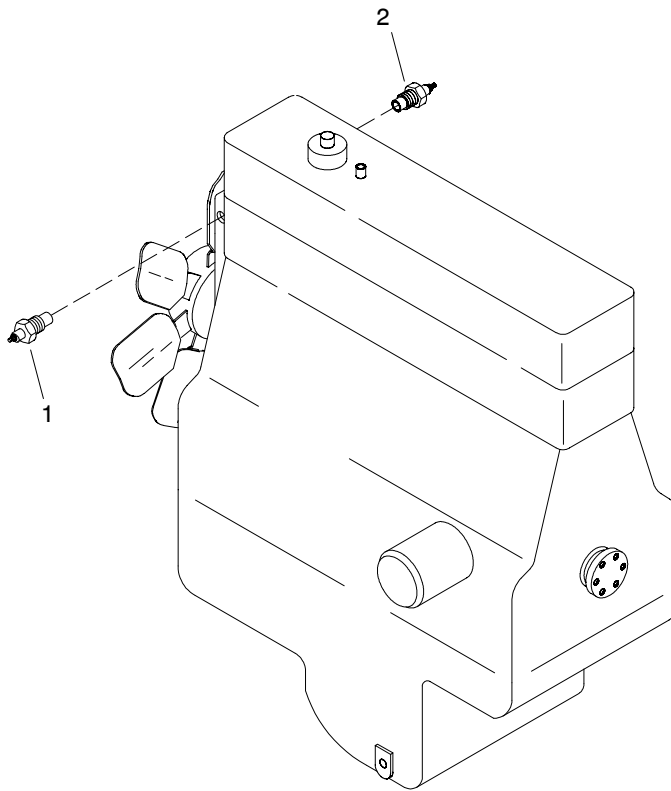
Group 109: Skid and Plant Mounting

Item	Qty.	Description Variation	Part No.
1	1	Skid	
		1	324010
		2, 3	324034
		4, 5	324077
		6	324335
		7	324701
		9, 10	324446
		11	327135
2	4	Nut, hex stop	
		1, 2, 3, 4, 5, 11	X-101-23
	2	Nut, hex stop	
		6, 7, 9, 10	X-101-23
	2	Nut, hex stop	
		6, 7, 9, 10	X-101-15
3	2	Mount, vibro	
		1, 11	324073
		2	324074
		3	324075
		4, 5, 6, 7	324389
		4	324390
		5, 11	324391
		6, 7	324392
		9, 10	336813
		9, 10	324393
4	8	Washer, plain	
		1, 2, 3, 11	X-25-140
	8	3/8-16 hardware	
		4, 5	#
5	4	3/8-16 hardware	
		1, 2, 3, 4, 5, 6, 7	#
6	1	Bracket, eng. mtg. R.H.	
		1	324345
7	1	Bracket, eng. mtg. L.H.	
		1	324346
8	2	Spacer, eng. mtg.	
		1	324351
9	8	Nut, whiz lock	
		1, 2, 3	X-6210-14
10	1	Bracket, engine mounting (bottom)	
		1	324347
	1	Bracket, engine mounting (bottom)	
		6, 7, 9, 10	324339
	2	Screw, hex. cap (not shown)	
		6, 7, 9, 10	X-6334-1
	2	Screw, hex. cap (not shown)	
		6, 7, 9, 10	X-6334-2

Item	Qty.	Description Variation	Part No.
11	4	Bolt, 1/2-13	
		1, 2, 3	#
	2	Screw, H.C.	
		4, 5, 6, 7, 9, 10	X-6021-12
12	1	Strap, ground	
		All	290418
13	4	Washer, lock, 5/16"	
		All	X-22-16
	1	Washer, lock	
		2, 3, 11	X-22-15
	8	Washer, lock, 1/2"	
		4, 5	X-22-26
14	2	5/16 hardware	
		All	#
15	2	Washer, plain	
		1, 2, 3, 11	X-25-140
	2	Washer, plain	
		4, 5	X-25-112
	2	Washer, plain	
		6, 7, 9, 10	X-25-103
16	2	Mount, engine vibro	
		1, 2, 3	276310
	2	Mount, engine vibro	
		6, 7	324392
17	2	Spacer	
		4, 5	X-400-154
	2	Spacer	
		6, 7, 9, 10	X-400-197
18	2	Support, engine	
		2, 3, 11	324035
	1	Support, engine	
		4, 5	324352
19	2	Screw, 5/8-11, ref.	
		4, 5	X-6021-12
	2	Screw, 1/2-13 x 4.50	
		6, 7	X-129-30
20	4	Screw, hex head cap	
		4, 5	X-6069-7

Common hardware. Procure locally.

Group 110: Water Temperature Switches



B-324000-A

Item	Qty.	Description Variation	Part No.
1	1	Switch, high temperature shutdown 4	241481
	1	Switch, high temperature 1, 3	241308
	1	Switch, high temperature 2	326105
2	1	Sender, water temperature 1, 2, 3, 4	268298
	1	Bushing, reducer 3/4 x 1/2 (not shown) 4	153659
		Bushing, reducer 2	X-202-46

Group 119: 2000-Hour Recommended Spare Parts

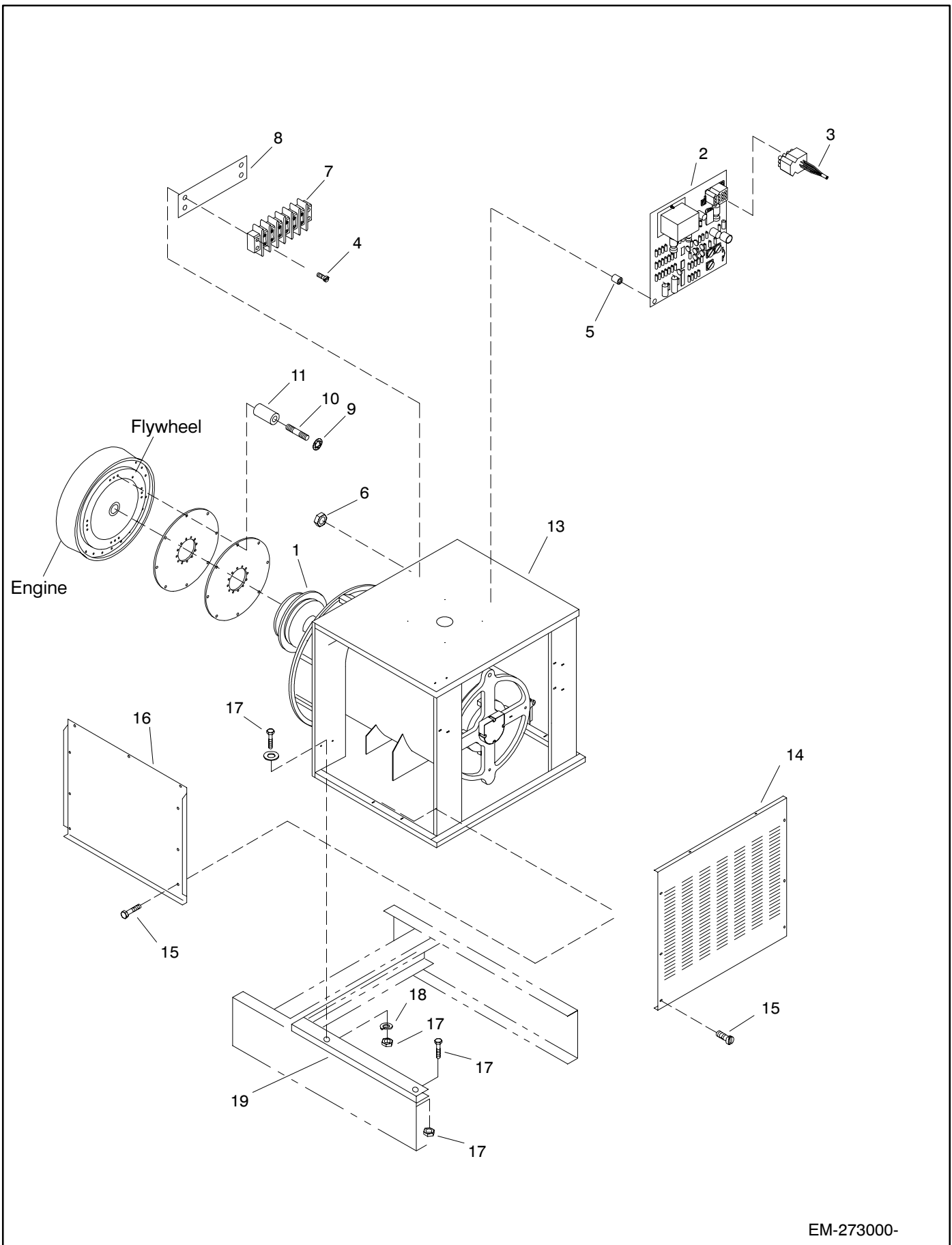
Item	Qty.	Description Variation	Part No.
1	5	Fuse, 1.5 amp 1, 2, 3, 7, 9, 11	291207
2	5	Fuse, 3 amp 1, 2, 3, 7, 9, 11	243273
3	5	Fuse, 15 amp 1, 2, 3, 7, 9, 11	283645
4	1	Main Circuit Board 1, 2, 3, 7, 9, 11	See table below
5	1	Photo Board all	B-292902
6	1	Split Activator 1, 2, 4, 5 3, 6, 7, 8, 9, 10 11, 12	B-258545 B-258549 A-233999
7	1	LED Board all	A-257099
8	1	Voltage Regulator all	C-255670
9	1	Indicator Board 1, 2, 3, 7, 9, 11	See table below
10	1	Speed Sensor 1, 2, 3, 7, 9, 11	241927
11	5	Bulb 1, 2, 3, 7, 9, 11	255126

Item	Qty.	Description Variation	Part No.
12		Upper Radiator Hose 1 2 3 7 9, 11	324350 324040 324082 324328 324455
13		Lower Radiator Hose 1 2 3 7 9, 11	324012 324041 324083 324671 324456
14	1	Thermostat and gasket kit 1-6	327127
	1	Thermostat and gasket kit 7-12	327148
15	1	Fan Belt Set 1, 4	327119
	1	Fan Belt Set 2, 3, 5, 6	327126
16	4	Air Filter 1, 4 2, 5 3, 6 7, 8 9, 10, 11, 12	258423 253107 324134 324418 324436
17	4	Fuel Filter 1, 2, 4, 5 3, 6	328223 327128
	3	Primary Fuel Filter 7-12	327151
	3	Secondary Fuel Filter 7-12	327152
18	5	Oil Filter 1 2-6 7-12	327308 327125 327149
19	4	Injector 1, 4 2, 5 3, 6	327121 327124 327129

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



EM-273000-

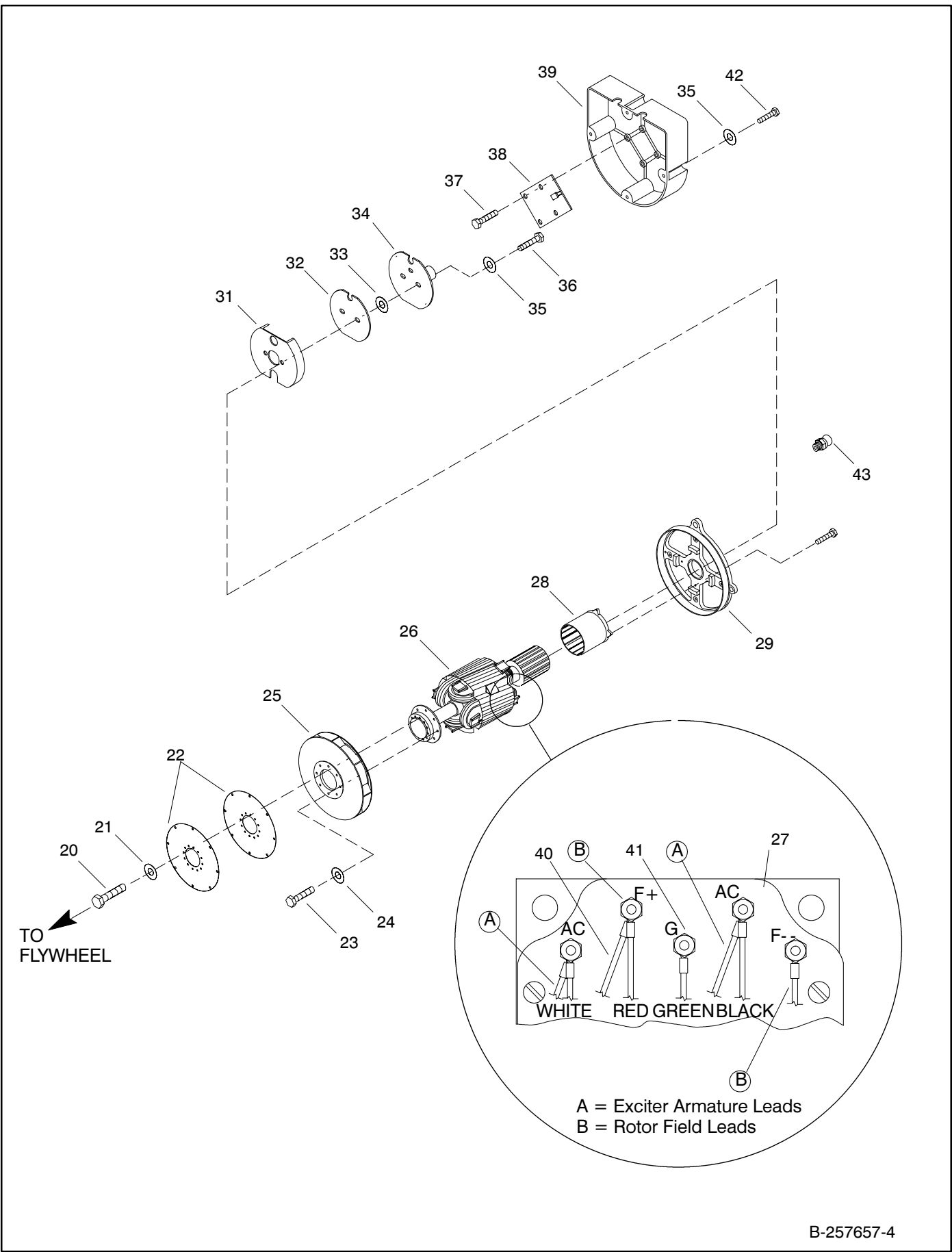
Group 201: Generator and Mounting, Continued

Item	Qty.	Description Variation	Part No.
1	1	Alternator Assembly (includes items 21-63)	
		16	A-276686
		17	A-276688
		18	A-276687
		19	A-276689
		20	A-276684
		21	B-257718
		22	B-257725
		23	B-257719
		24	B-257726
		25	B-257720
		26	B-257727
		27	B-257721
		28	B-257728
		29	B-257739
		30	B-257729
		33, 37	A-276678
		34	A-324202
		42	A-222882
		43	A-324503
		44	A-324504
		46	A-276669
		50	A-347216
		51	A-347217
		52	A-347218
2	1	Regulator, voltage	
		All except 50-52	C-255670
		50-52	A-354653
3	1	Harness, wiring	
		All except 37, 42-44,	
		50-52	255481
		37, 42-44, 50-52	354118
4	2	Screw, 8-32 x 3/4 in.	
		All	X-51-11
5	4	Standoff, circuit board	
		All	360459
6	4	Nut, #8-32	
		All	#
7	1	Block, terminal	
		All	295314
8	1	Marker, strip	
		All	255080

Item	Qty.	Description Variation	Part No.
9	8	Washer, hardened	
		All	X-801-3
10	8	Stud	
		16-30	X-352-92
	8	Stud	
		33, 34, 37, 42-44,	
		46, 50-52	X-352-63
11	8	Spacer	
		All	X-400-132
12		Screw, hex head	
	6	16, 17, 18, 19, 20	X-6051-4
	6	21-30	270956
	6	33, 34, 37, 38, 46	270158
	12	42-44	270158
13	1	Box, junction	
		16-20,	
		33, 34, 37, 38	222825
		21-30	222823
		42-44, 50-52	222844
		46	222824
14	1	Cover, rear	
		16-20,	
		33, 34, 37, 38	222838
		21-30	222834
		42-44, 50-52	336004
		46	222836
15	12	Screw, hex	
		All	X-6216-1
16	2	Cover, side	
		16-20,	
		33, 34, 37, 38, 46 ...	222835
		21-30	222833
		42-44, 50-52	336001
17	8	3/8-16 hardware	
		All	#
18	2	Washer, shakeproof, 3/8 in.	
		All	X-22-14
19	2	Bracket, junction box	
		16-20	326281
	2	Bracket, junction box	
		42-44, 50-52	336085

Common hardware. Procure locally.

Group 201: Generator and Mounting, Continued



Group 201: Generator and Mounting, Continued

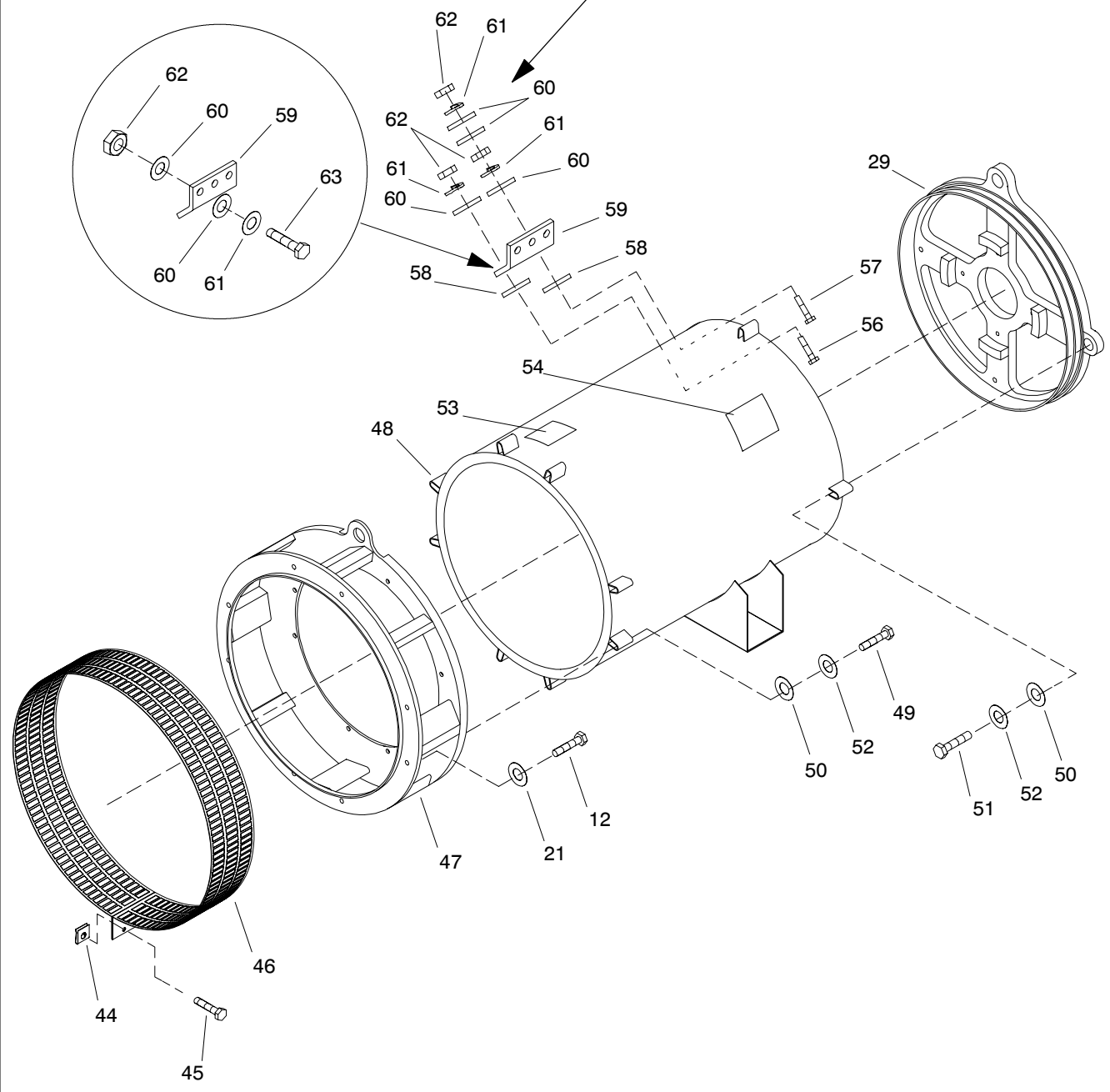
Item	Qty.	Description Variation	Part No.
20	12	Screw, hexagon head 16-20, 46	270956
	8	Screw, hexagon head 21-30	270956
	6	Screw, special 33, 34, 37, 38	270158
	12	Screw, special 42-44, 50-52	270158
21	12	Washer, hardened All	X-801-3
22		Disc, armature drive	
	3	16-20, 33, 34, 37, 38 . .	257103
	2	21-30	257015
	4	42, 43	222881
	1	44, 50-52	222881
		46	257102
23	4	Screw, 3/8-16 x 1 in. All except 42-44, 50-52	X-6238-11
	8	Screw, 3/8-16 x 1 in. 42-44, 50-52	X-6238-11
24	4	Washer, plain All except 42-44, 50-52	X-25-93
	18	Washer, plain 42-44, 50-52	X-25-93
25	1	Fan, generator 16-20, 26, 33, 34, 37, 38, 46 . . .	257173
		21-30	257020
		42-44, 50-52	257855
26	1	Rotor Assembly	
		16, 17	A-276664
		18, 19	A-276665
		20, 33, 34, 37, 38	A-276666
		21, 22	A-258980
		23, 24	A-258979
		26	A-258978
		27, 28	A-258977
		29, 30	A-258975
		42, 43	A-222883
		44	A-324502
		46	A-276659
		50, 51	A-347190
		52	A-347191
27	1	SCR Assembly	
		21-30	B-258545
		16-20, 33,34, 37, 38,46	B-258549
		42-44	A-233999
		50-52	A-354299

Item	Qty.	Description Variation	Part No.
28	1	Exciter Assembly, Field 16-20, 25-30, 46	257081
		21-24	257080
		33, 34, 37, 38	276657
		50-52	347707
29	1	Bracket, end 16-20, 33, 34, 37, 38, 46	257983
		21-30	257984
		42-44	257982
		50-52	347236
30	4	Screw, 5/16-18 x 1.50 All except 50-52	X-125-34
		50-52	X-6238-17
31	1	Actuator, magnetic All	257077
32	1	Insulator All	257850
33	2	Washer, insulating All	243321
34	1	Photo Transistor Assembly All	B-292902
35	6	Washer, lock, shakeproof All	X-22-9
36	6	Screw, H.C., 10 x 24 x 5/8 in. All	X-117-5
37	4	Screw, hex, washer head All	X-6071-1
38	1	LED circuit board All	A-257099
39	1	Cover, circuit board All	257258
40	4	Terminal All except 42-44, 50-52	X-283-7
		42, 44, 50-52	X-431-25
		43	X-285-1
41	5	Nut 15, 31, 35	X-101-22
	5	Nut, hex All	X-101-24
42	4	Screw, self-tapping All	X-67-133
43	1	Fitting, grease 50-52	347119

Common hardware. Procure locally.

Group 201: Generator and Mounting, Continued

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



B-257657-Y

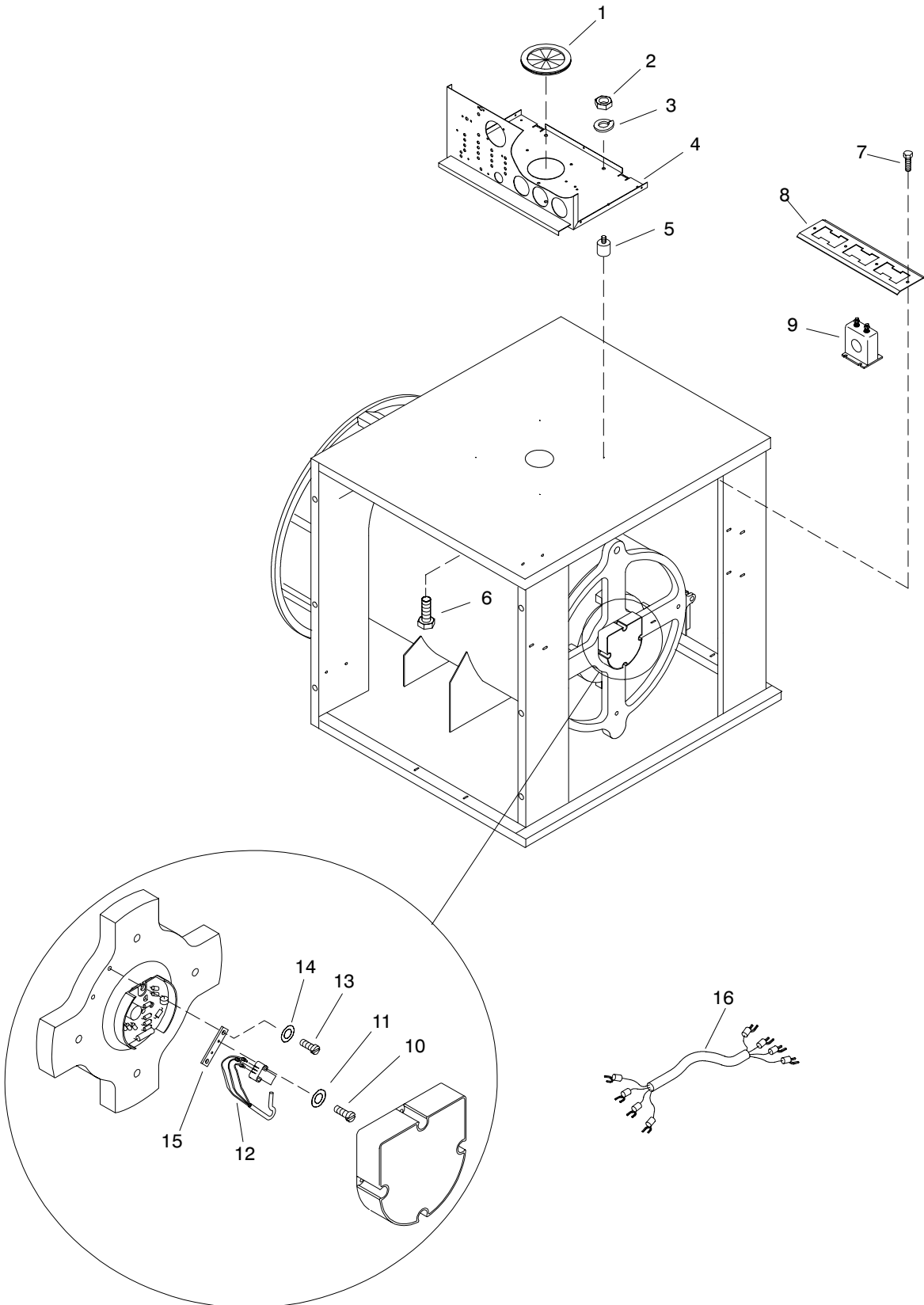
Group 201: Generator and Mounting, Continued

Item	Qty.	Description Variation	Part No.
44	2	Clip, speed All	257442
45	2	Screw, self-tapping All	X-67-125
46	1	Guard, generator fan 16-20, 33, 34, 37, 38, 46 ... 21-30 42-44 50-52	257179 257046 257582 347268
47	1	Adapter, generator 16-20, 46 21-30 33, 34, 37, 38 42-44 50-52	257175 257018 257248 222880 347241
48	1	Stator Assembly 16, 46 17 18 19 20, 33, 37 21 22 23 24 25 26 27 28 29 30 34, 38 42 43 44 50 51 52	257687 257690 257688 257691 257689 257765 257770 257766 257771 257767 257772 257768 257773 257769 257774 257692 257573 257777 257574 347196 347202 347197
49	5	Screw, 3/8-16 x 3 in. All except 42-44, 50-52	X-6238-9
	1	Screw, special All except 42-44, 50-52	X-6238-6
	8	Screw, hex. cap 42-44 50-52	X-129-49 X-129-25
50	12	Washer, special 42-44, 50-52	257951
51	4	Screw, special 16, 18, 20, 33, 37	X-6238-9
	4	Screw, special 17, 19, 34, 38	273737
	4	Screw, hex. cap 42, 44	X-129-49
	4	Screw, special 43 50-52	273738 X-129-25

Item	Qty.	Description Variation	Part No.
52	12	Washer, hardened 42-44, 50-52	290945
53	1	Decal, warning 22, 44	257437
54	1	Decal, warning 22, 24, 26, 28, 30, 44	257441
55	1	Decal, warning (not shown) 22, 44	257438
56	1	Screw, hardened 21-30 16-20, 33, 34, 37, 38, 46 ... 42-44 50-52	X-465-22 X-125-41 X-6238-31 X-6238-11
57	1	Screw, hex head machine 16-20, 33, 34, 37, 38, 46 ... 21-30 42-44 50-52	X-791-9 X-791-8 X-791-10 X-791-6
58	2	Washer, lock 16-20 33, 34, 37, 38, 46 ... 21-30 42-44, 50-52	X-22-45 X-22-44 X-22-46
59	1	Connector, load 16-20, 33, 34, 37, 38, 46 ... 21-30 42-44, 50-52	257985 257986 257978
60		Washer, plain	
	5	16-20, 33, 34, 37, 38, 42-46	X-25-138
	5	16-20, 33, 34, 37, 38, 46 ...	X-25-139
	10	21, 23, 25, 27, 29	X-25-136
	5	22, 24, 26, 28, 30	X-25-136
	5	21, 23, 25, 27, 29	X-25-142
61		Washer, spring	
	5	16-20 33, 34, 37, 38, 46 ...	X-6086-17
	5	21-30	X-6086-16
	6	42-44	X-6086-15
62	6	Nut, hex 16-20, 33, 34, 37, 38, 46 ... 21-30 42-44 50-52	X-6234-2 X-6234-1 X-6234-7 #
63		Screw, hardened	
	1	33, 34, 37, 38	X-465-23
	3	16-20, 46	X-125-42
	3	42-44	X-6238-28
	3	50-52	X-6238-5

Common hardware. Procure locally.

Group 301: Controller and Mounting



EM-273000-

Group 301: Controller and Mounting, Continued

Item	Qty.	Description Variation	Part No.
1	1	Grommet All	X-284-31
2	4	Nut, 5/16-18 All	#
3	4	Washer, lock, 5/16" All	X-22-16
4	1	Controller Assembly Includes items 5, 6, 18-65 All	See table
5	4	Bumper All	292834
6	4	Screws, 5/16-18 x .62 All	X-125-23
7	4	Screw, drill hex All	X-794-1
8	1	Bracket, CT mounting 2-18, 44	276417
		20, 43	299966
		45, 46	325382
9	3	Transformer, current 2, 16	259360
		4	259793
		6, 44	259414
		8	259792
		10, 14	255860
		12	259359
		18	253503
		20	273257
		43	253610
		45	272691
		46	279272
10	2	Screw, r.h.m. #4-40 All	X-49-35
11	2	Washer, shakeproof All	X-22-24
12	1	Sensor, ferromagnetic All Clamp, insulator (not shown)	241623 X-672-15

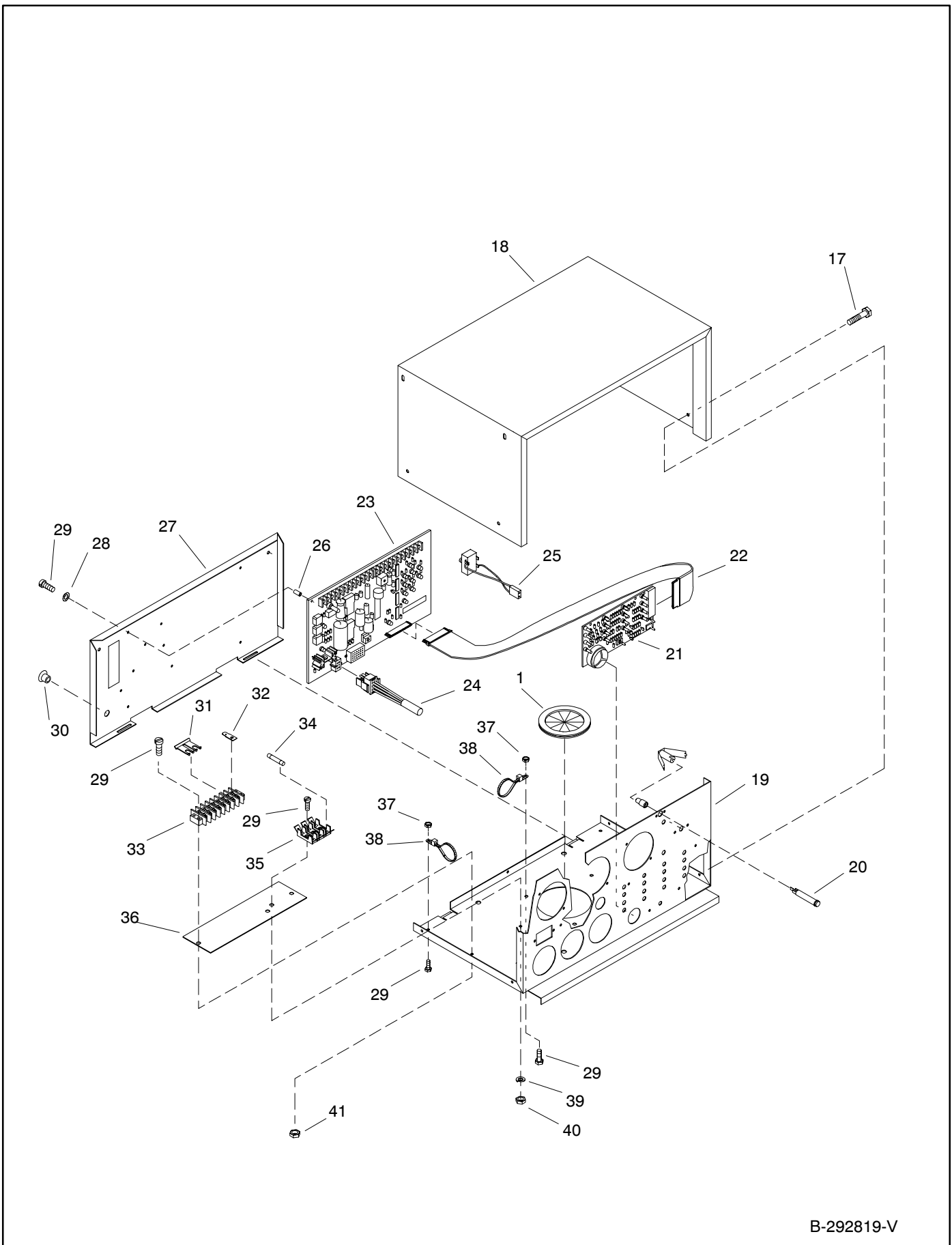
Item	Qty.	Description Variation	Part No.
13	2	Screw, H.C. 10-24 x 5/8" All	X-117-5
14	2	Washer, lock shakeproof All	X-22-9
15	1	Bracket, sensor mounting All	257070
16	1	Harness, wiring All except 43-46	255040
		43-46	354119

Serial Number Contingent Controller Assemblies

Variation	Controller Assembly Part Number	
	Before Serial Number 363369	Serial Numbers 363369 and after
2	B-292827	A-328919
4	B-292826	A-328918
6	B-292829	A-328920
8	B-292830	A-328921
10, 14	B-292831	A-328922
12	B-292930	A-328923
16	B-292931	A-328925
18	B-292832	A-328924
20	A-273591	A-328946
43	B-272606	A-328942
44	B-292932	A-328926
45	A-292362	A-328943
46	A-292363	A-328944

Common hardware. Procure locally.

Group 301: Controller and Mounting, Continued



B-292819-V

Group 301: Controller and Mounting, Continued

Item	Qty.	Description Variation	Part No.
17	10	Screw, phil hex crim All	X-6216-1
18	1	Cover, controller All	292818
19	1	Box, controller All	292375
20	2	Lamp All	255126
21	1	Circuit Board, indicator All	See table
22	1	Controller Ribbon Cable All	See table
23	1	Circuit Board, main All	See table
	1	Fuse, 3 amp	243273
	1	Fuse, 15 amp	283645
24	1	Connector, plug 6 pos. All	241617
25	1	Potentiometer Assembly All	A-255041
26	9	Spacer, PC board All	287948
27	1	Plate, hinge All	292908
28	9	Washer, #6 All	#
29	2	Screw, r.h.m. 6-32 x 3/8" All	X-49-2
	18	Screw, r.h.m. 6-32 x 1/4" All	X-49-25
	2	Screw, pan head All	X-49-39
	4	Screw, r.h.m. 10-24 All	X-50-3
	1	Screw, pan head machine All	X-50-70
	2	Screw, r.h.m. All	X-51-53
30	1	Plug, button All	X-301-34
31	1	Jumper All	X-6048-2
32	1	Terminal All	238898
33	1	Block, terminal All	246115
34	3	Fuse, 1.5 amp All	291207
35	1	Holder, fuse All	292821

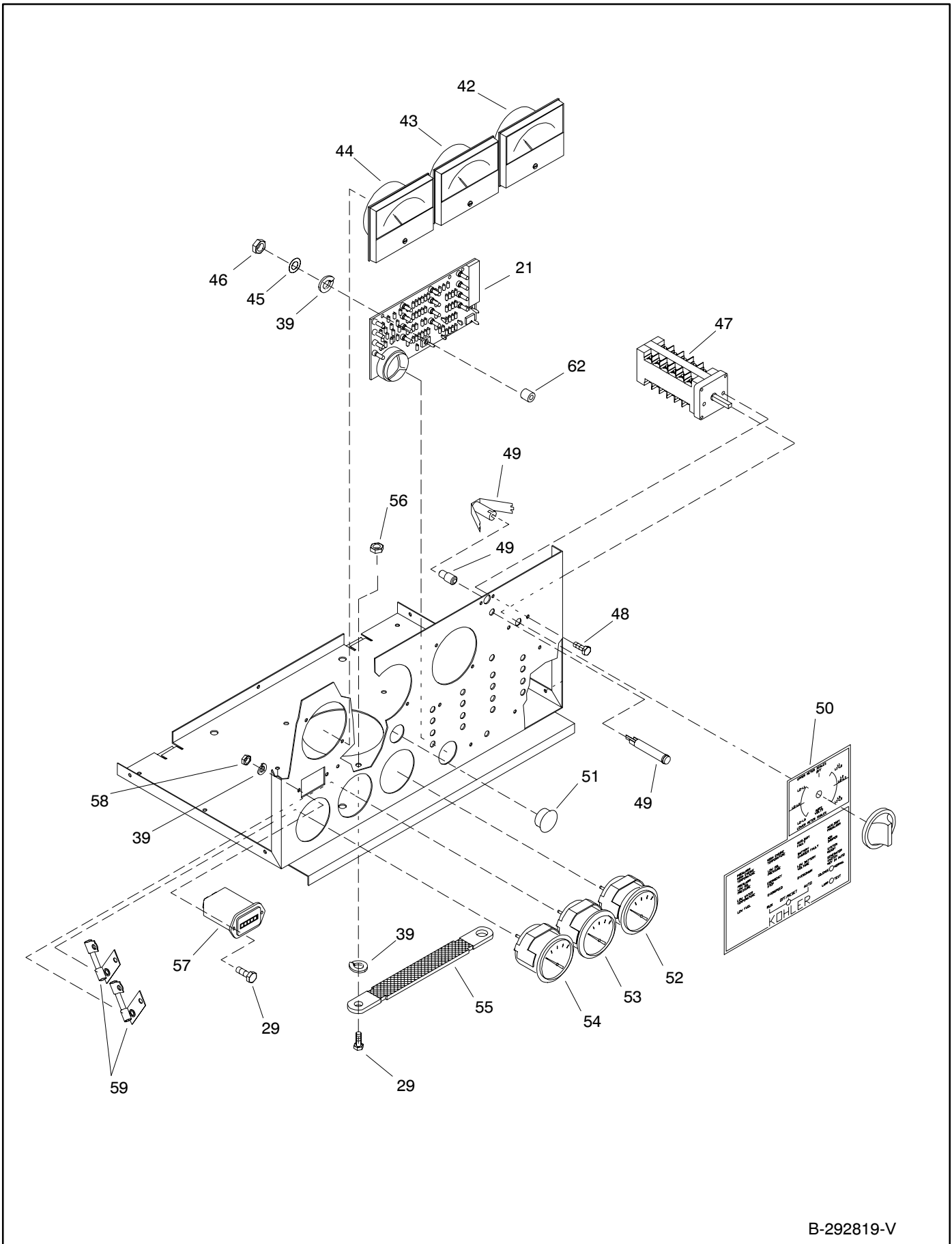
Item	Qty.	Description Variation	Part No.
36	1	Marker, strip All	292823
37	2	#10-24 hardware All	#
38	4	Tie All	X-468-3
39	2	Washer, lock All	X-22-50
	4	Washer, lock #6 All	X-22-6
	3	Washer, lock #8 All	X-22-7
40	2	Nut, #6-32 All	#
41	2	Nut, #8-32 All	#
42	1	Ammeter, AC 2, 8	282801
		4	282800
		6, 12	282802
		10, 14, 16	282804
		18, 44	282805
		20, 46	282806
		43	282807
		45	282808
43	1	Voltmeter, AC 2, 6, 10, 14, 18, 20, 43, 45	282816
	1	Voltmeter, AC 4, 8, 12, 16, 44, 46	282817
44	1	Meter, frequency All	282818
45	1	Washer, Shakeproof All	X-22-20
46	4	Nut, #6 All	#

Serial Number-Contingent Controller 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
Controller Ribbon Cable	292836	336428

Common hardware. Procure locally.

Group 301: Controller and Mounting, Continued



B-292819-V

Group 301: Controller and Mounting, Continued

Item	Qty.	Description Variation	Part No.
47	1	Switch, selector 2, 6, 10, 14, 18, 20, 43	292373
	1	Switch, selector 4, 8, 12, 16, 44, 45, 46	292374
48	2	Screw, thread forming All	X-67-127
49	2	Socket, lamp All	284990
	2	Lamp All	291740
50	1	Nameplate 2, 6, 10, 14, 18, 20, 43	292382
	1	Nameplate 4, 8, 12, 16, 44, 45, 46	292383
51	1	Plug, button All	X-301-29
52	1	Voltmeter, DC All	253329
53	1	Gauge, water temperature All	282898
54	1	Gauge, oil pressure All	282897

Item	Qty.	Description Variation	Part No.
55	1	Strap, ground All	X-6046-2
56	2	Nut, hex All	X-6234-6
57	1	Meter, hour All	238736
58	2	Nut, hex All	X-71-2
59	1	Resistor 4, 8, 12, 16, 44, 46	292352
60	1	Decal (not shown) All	292347
	1	Decal All	292361
61	1	Sleeve (not shown) All	X-696-5
62	4	Spacer All	X-712-9
63	1	Tab, ident. (not shown) All	201620-86
64	2	Plug, cap 1/8" (not shown) All	X-519-1

Common hardware. Procure locally.

Group 701: Literature

Item	Qty.	Description Variation	Part No.
1	1	Installation Manual All	TP-5700
2	1	Operation Manual, generator All	TP-5750
		Operation Manual, D3.152 engine 8	TP-5682
		Operation Manual, 4.236 engine 10, 11, 20, 22	TP-5683
		Operation Manual, 1006.6 engine 12, 24	TP-5684
		Operation Manual, Series 40 5, 28, 30	TP-5710
3	1	Parts Catalog, generator All	TP-5681
		Parts Catalog, D3.152 engine 8	TP-5698
		Parts Catalog, 4.236 engine 10, 20	TP-5699
		Parts Catalog, T4.236 engine 11, 22	TP-5701
		Parts Catalog, Series 40 engine 12, 24	TP-5702
		Parts Catalog, 1006.6 engine 5, 28, 30	TP-5711
		Parts Catalog, generator accessories All	TP-5707

Item	Qty.	Description Variation	Part No.
4	1	Service Manual, generator All	TP-5353
		Service Manual, D3.152 engine 8	TP-5691
		Service Manual, 4.236 engine 10, 11, 20, 23	TP-5693
		Service Manual, 1006.6 engine 12, 24	TP-5694
		Service Manual, Series 40 engine 5, 28, 30	TP-5712
5	1	Wiring Diagrams, 20-180 ROZP, REOZP All	TP-5717

Paint and Miscellaneous Parts

1	Kohler Cream Beige Gallon Can	221337
1	Kohler Cream Beige 12 oz. Spray Can	221338

	20ROZP	30ROZP	40ROZP	50ROZP	60ROZP	80ROZP/ REOZP	100ROZP/ REOZP	125ROZP	150ROZP	180ROZP
CONTROLLER KITS										
6- and 7-light										
Standard Meterbox	327008	327008	327013	327039	327039	327039	327044	327064	327069	327054
Oversized Meterbox	327010	327010	327015	327041	327041	327041	327046	327066	327071	327056
Oversized Meterbox, 600 V	327025	327025	327030	327030	327036	327061	327061	327061	327051	327076
Standard Meterbox, 600 V	327023	327023	327028	327028	327034	327059	327059	327059	327049	327074
16-light										
Standard Meterbox	327007	327007	327012	327038	327038	327028	327043	327063	327068	327053
Oversized Meterbox	327009	327009	327014	327040	327040	327040	327045	327058	327048	327055
Oversized Meterbox, 600 V	327024	327024	327029	327029	327035	327060	327060	327060	327050	327075
Standard Meterbox, 600 V	327022	327022	327027	327027	327033	327058	327058	327058	327048	327073
Manual	327011	327011	327016	327021	327021	327042	327047	327067	327072	327057
Manual, 600 V	327026	327026	327031	327031	327037	327062	327062	327062	327052	327077
COOLING SYSTEM KITS										
Block Heater, 110-120 Volt	324058	324054	324054	324054	324054	324277	324277	324568	324570	324570
Block Heater, 190-208/220-240 Volt	324059	324055	324055	324055	324055	324278	324278	324569	324571	324571
Radiator, duct flange	324203	324205	324205	324205	324205	324302	324302	326214	222997	222997
Radiator, 50 ambient	327105	327108	327108	327110	327110	327106	327106	324399	347287	347287
Radiator, 50 ambient with optional generator	N/A	N/A	N/A	N/A	N/A	N/A	N/A	327112	347289	N/A
Radiator, 40 ambient	N/A	N/A	N/A	327109	327109	327113	327113	327111	347291	347288
Radiator, 40 ambient with optional generator	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	349286	N/A
City Water Cooling	324097	324096	324096	324096	324096	324426	324426	324717	N/A	N/A
Remote Radiator Set Up	324430	324422	324422	324422	324422	324427	324427	324716	N/A	N/A

OPTIONAL KITS

See Parts Catalog TP-5707 for parts listings of optional kits.

6- and 7-Light Controller Kits

6- and 7-LIGHT MICROPROCESSOR CONTROLLER KIT PARTS							
Qty.	Description	Common	Kit Number/Unique Parts				
			327008	327010	327013	327015	327018
1	Controller Assembly*		A-292388	A-273784	A-292390	A-273786	A-292392
1	Controller Assembly*		A-328990**	A-347026**	A-328991**	A-347027**	A-328993**
2	Screw, H.C. 10-24 x 5/8	X-117-5					
4	Washer, Lock 5/16	X-22-16					
2	Washer, Shakeproof	X-22-24					
2	Washer, Lock Shakeproof	X-22-9					
2	Screw, r.h.m.	X-49-35					
1	Conduit, Convoluted		N/A	N/A	N/A	N/A	N/A
1	Clamp, Insulator	X-672-15					
4	Screw, Drill Hex.	X-794-1					
1	Sensor, Ferromagnetic	241623					
1	Harness, Wiring	255040					
1	Bracket, Sensor Mounting	257070					
3	Transformer, Current		259360	259360	259414	259414	255860
1	Bracket, CT Mounting	276417					

6-LIGHT MICROPROCESSOR CONTROLLER KIT PARTS, CONTINUED							
Qty.	Description	Common	Kit Number/Unique Parts				
			327020	327023	327025	327028	327030
1	Controller Assembly*		A-273788	A-292389	A-273783	A-292391	A-273787
1	Controller Assembly*		A-347029**	A-328989**	A-347025**	A-328992**	A-347028**
2	Screw, H.C. 10-24 x 5/8	X-117-5					
4	Washer, Lock 5/16	X-22-16					
2	Washer, Shakeproof	X-22-24					
2	Washer, Lock Shakeproof	X-22-9					
2	Screw, r.h.m.	X-49-35					
1	Conduit, Convoluted		N/A	X-6003-17	X-6003-17	X-6003-17	X-6003-17
1	Clamp, Insulator	X-672-15					
4	Screw, Drill Hex.	X-794-1					
1	Sensor, Ferromagnetic	241623					
1	Harness, Wiring	255040					
1	Bracket, Sensor Mounting	257070					
3	Transformer, Current		255860	259793	259793	259792	259792
1	Bracket, CT Mounting	276417					

6-LIGHT MICROPROCESSOR CONTROLLER KIT PARTS, CONTINUED							
Qty.	Description	Common	Kit Number/Unique Parts				
			327034	327039	327036	327041	327044
1	Controller Assembly*		A-292393	A-292392	A-273789	A-273788	A-273394
1	Controller Assembly*		A-328994**	A-328993**	A-347030**	A-347029**	A-328995**
2	Screw, H.C. 10-24 x 5/8	X-117-5					
4	Washer, Lock 5/16	X-22-16					
2	Washer, Shakeproof	X-22-24					
2	Washer, Lock Shakeproof	X-22-9					
2	Screw, r.h.m.	X-49-35					
1	Conduit, Convoluted		X-6003-17	N/A	N/A	X-6003-17	N/A
1	Clamp, Insulator	X-672-15					
4	Screw, Drill Hex.	X-794-1					
1	Sensor, Ferromagnetic	241623					
1	Harness, Wiring	255040					
1	Bracket, Sensor Mounting	257070					
3	Transformer, Current		259359	255860	259359	255860	253503
1	Bracket, CT Mounting	276417					

* See Controller Assembly section for parts list.

** This 7-light controller assembly used in kit effective with generator set serial number greater than or equal to 363369.

N/A Not Applicable

6- and 7-Light Controller Kits, Continued

6-LIGHT MICROPROCESSOR CONTROLLER KIT PARTS, CONTINUED							
Qty.	Description	Common	Kit Number/Unique Parts				
			327046	327049	327054	327056	327051
1	Controller Assembly*		A-273790	A-292397	A-292464	A-273808	A-273796
1	Controller Assembly*		A-347031**	A-328998**	A-347016**	A-347050**	A-347035**
2	Screw, H.C. 10-24 x 5/8	X-117-5					
4	Washer, Lock 5/16	X-22-16					
2	Washer, Shakeproof	X-22-24					
2	Washer, Lock Shakeproof	X-22-9					
2	Screw, r.h.m.	X-49-35					
1	Conduit, Convoluted		N/A	X-6003-17	N/A	X-6003-17	X-6003-17
1	Clamp, Insulator	X-672-15					
4	Screw, Drill Hex.	X-794-1					
1	Sensor, Ferromagnetic	241623					
1	Harness, Wiring	255040					
1	Bracket, Sensor Mounting	257070					
3	Transformer, Current		253503	259414	272691	272691	259414
1	Bracket, CT Mounting		276417	276417	325382	325382	276417

6-LIGHT MICROPROCESSOR CONTROLLER KIT PARTS, CONTINUED							
Qty.	Description	Common	Kit Number/Unique Parts				
			327059	327061	327064	327066	327069
1	Controller Assembly*		A-292395	A-273791	A-273538	A-273597	A-292463
1	Controller Assembly*		A-328996**	A-347032**	A-347019**	A-347053**	A-347015**
2	Screw, H.C. 10-24 x 5/8	X-117-5					
4	Washer, Lock 5/16	X-22-16					
2	Washer, Shakeproof	X-22-24					
2	Washer, Lock Shakeproof	X-22-9					
2	Screw, r.h.m.	X-49-35					
1	Conduit, Convoluted		X-6003-17	X-6003-17	N/A	X-6003-17	N/A
1	Clamp, Insulator	X-672-15					
4	Screw, Drill Hex.	X-794-1					
1	Sensor, Ferromagnetic	241623					
1	Harness, Wiring	255040					
1	Bracket, Sensor Mounting	257070					
3	Transformer, Current		259360	259360	273257	273257	253610
1	Bracket, CT Mounting		276417	276417	299966	299966	299966

6-LIGHT MICROPROCESSOR CONTROLLER KIT PARTS, CONTINUED							
Qty.	Description	Common	Kit Number/Unique Parts				
			327071	327074	327076		
1	Controller Assembly*		A-273807	A-292465	A-273809		
1	Controller Assembly*		A-347049**	A-347017**	A-347051**		
2	Screw, H.C. 10-24 x 5/8	X-117-5					
4	Washer, Lock 5/16	X-22-16					
2	Washer, Shakeproof	X-22-24					
2	Washer, Lock Shakeproof	X-22-9					
2	Screw, r.h.m.	X-49-35					
1	Conduit, Convoluted		N/A	X-6003-17	X-6003-17		
1	Clamp, Insulator	X-672-15					
4	Screw, Drill Hex.	X-794-1					
1	Sensor, Ferromagnetic	241623					
1	Harness, Wiring	255040					
1	Bracket, Sensor Mounting	257070					
3	Transformer, Current		255860	279272	279272		
1	Bracket, CT Mounting		276417	325382	325382		

* See Controller Assembly section for parts list.

** This 7-light controller assembly used in kit effective with generator set serial number greater than or equal to 363369.

N/A Not Applicable

6-Light Controller Assemblies

Qty.	Description	Common Parts	6-Light Controller Assembly Number/Unique Parts				
			A-273538	A-273597	A-273783	A-273784	A-273786
1	Potentiometer Assembly	A-255041					
1	6-light Circuit Board	B-292381					
1	Main Circuit Board	G-292806					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
2	Cap Plug	X-519-1					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
5	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
12	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
1	Voltmeter	253329					
2	Lamp	255126					
2	Lamp, meter scale	291740					
4	Bumper	255443					
1	Plate, Hinge		292908	273785	273785	273785	273785
1	Voltmeter, AC		282816	282816	282817	282816	282816
1	Gauge, Oil Pressure	282897					
1	Gauge, Water Temperature	282898					
1	Ammeter, AC		282806	282806	282800	282801	282802
3	Socket, Lamp	284990					
9	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor		N/A	N/A	292352	N/A	N/A
1	Decal	292361					
1	Switch, Selector		292373	292373	292374	292373	292373
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
4	Bumper	292834					
1	Harness, Cable	292836					
1	Meter, Frequency	282818					
1	Cover, Controller		292818	273838	273838	273838	273838
1	Nameplate		292384	292384	292385	292384	292384
1	Box, Silkscreened Controller		292375	273813	273813	273813	273813

N/A Not Applicable

6-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	6-Light Controller Assembly Number/Unique Parts				
			A-273787	A-273788	A-273789	A-273790	A-273791
1	Potentiometer Assembly	A-255041					
1	6-light Circuit Board	B-292381					
1	Main Circuit Board	G-292806					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
8	Washer, Plain	X-25-73					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
5	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
12	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
1	Voltmeter	253329					
2	Lamp	291740					
3	Lamp	255126					
4	Bumper	255443					
1	Plate, Hinge	273785					
1	Voltmeter, AC	282897	282817	282816	282817	282816	282817
1	Gauge, Oil Pressure	282898					
1	Gauge, Water Temperature	282898					
1	Ammeter, AC	284990	282801	282804	282802	282805	282804
3	Socket, Lamp	284990					
9	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor	292361	292352	N/A	292352	N/A	292352
1	Decal	292361					
1	Switch, Selector	292821	292374	292373	292374	292373	292374
1	Holder, Fuse	292823					
1	Marker, Strip	292834					
4	Bumper	292836					
1	Harness, Cable	292836					
1	Meter, Frequency	282818					
1	Cover, Controller	273838					
1	Nameplate	273813	292385	292384	292385	292384	292385
1	Box, Silkscreened Controller	273813					

N/A Not Applicable

6-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	6-Light Controller Assembly Number/Unique Parts				
			A-273796	A-273807	A-273808	A-273809	
1	Potentiometer Assembly	A-255041					
1	6-light Circuit Board	B-292381					
1	Main Circuit Board	G-292806					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
8	Washer, Plain	X-25-73					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
5	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
12	Screw, Phil Hex CrimpTite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
1	Voltmeter	253329					
2	Lamp	291740					
3	Lamp	255126					
4	Bumper	255443					
1	Plate, Hinge	273785					
1	Voltmeter, AC	282897	282817	282816	282816	282817	
1	Gauge, Oil Pressure	282898					
1	Gauge, Water Temperature	282898					
1	Ammeter AC	284990	282806	282807	282808	282806	
3	Socket, Lamp	284990					
9	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor	292361	292352	N/A	N/A	292352	
1	Decal	292361					
1	Switch, Selector	292821	292374	292373	292374	292374	
1	Holder, Fuse	292823					
1	Marker, Strip	292823					
4	Bumper	292834					
1	Harness, Cable	292836					
1	Meter, Frequency	282818					
1	Cover, Controller	273838					
1	Nameplate	273838	292385	292384	292385	292385	
1	Box, Silkscreened Controller	273813					

N/A Not Applicable

6-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	6-Light Controller Assembly Number/Unique Parts				
			A-292388	A-292389	A-292390	A-292391	A-292392
1	Potentiometer Assembly	A-255041					
1	6-light Circuit Board	B-292381					
1	Main Circuit Board	G-292806					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
4	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
10	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
6	Lens, Red	253241					
1	Voltmeter	253329					
2	Lamp, Meter Scale	291740					
2	Lamp	255126					
1	Plate, Hinge	292908					
1	Voltmeter, AC		282816	282817	282816	282817	282816
1	Gauge, Oil Pressure	282897					
1	Gauge, Water Temperature	282898					
1	Ammeter		282801	282800	282802	282801	282804
2	Socket, Lamp	284990					
9	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor		N/A	292352	N/A	292352	N/A
1	Decal	292361					
1	Switch, Selector		292373	292374	292373	292374	292373
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
4	Bumper	292834					
1	Harness, Cable	292836					
1	Meter, Frequency	282818					
1	Cover, Controller	292818					
1	Nameplate		292384	292385	292384	292385	292385
1	Box, Silkscreened Controller	292375					

N/A Not Applicable

6-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	6-Light Controller Assembly Number/Unique Parts				
			A-292393	A-292394	A-292395	A-292397	A-292463
1	Potentiometer Assembly	A-255041					
1	6-light Circuit Board	B-292381					
1	Main Circuit Board	G-292806					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
2	Cap Plug	X-519-1					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
5	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
10	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
1	Voltmeter	253329					
2	Lamp, Meter Scale	291740					
2	Lamp	255126					
1	Plate, Hinge	292908					
1	Voltmeter, AC	282897	282817	282817	282817	282817	282816
1	Gauge, Oil Pressure	282898					
1	Gauge, Water Temperature		282802	282805	282804	282805	282807
1	Ammeter						
2	Socket, Lamp	284990					
9	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor		292352	N/A	292352	292352	N/A
1	Decal	292361					
1	Switch, Selector		292374	292373	292374	292374	292373
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
1	Bumper	292834					
1	Harness, Cable	292836					
1	Meter, Frequency	282818					
1	Cover, Controller	292818					
1	Nameplate		292385	292384	292385	292385	292384
1	Box, Silkscreened Controller	292375					

N/A Not Applicable

6-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	6-Light Controller Assembly Number/Unique Parts				
			A-292464	A-292465			
1	Potentiometer Assembly	A-255041					
1	6-light Circuit Board	B-292381					
1	Main Circuit Board	G-292806					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
2	Cap Plug	X-519-1					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
5	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
10	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
1	Voltmeter	253329					
2	Lamp, Meter Scale	291740					
2	Lamp	255126					
4	Bumper	255443					
1	Plate, Hinge	292908					
1	Voltmeter, AC	282897	282816	282817			
1	Gauge, Oil Pressure	282898					
1	Gauge, Water Temperature	282898					
1	Ammeter	284990	282808	282806			
2	Socket, Lamp	284990					
9	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor	292361	N/A	292352			
1	Decal	292361					
1	Switch, Selector	292821	292374	292374			
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
4	Bumper	292834					
1	Harness, Cable	292836					
1	Meter, Frequency	282818					
1	Cover, Controller	292818					
1	Nameplate	292375	292384	292385			
1	Box, Silkscreened Controller	292375					

N/A Not Applicable

7-Light Controller Assemblies

Qty.	Description	Common Parts	7-Light Controller Assembly Number/Unique Parts				
			A-347019	A-328053	A-347025	A-347026	A-347027
1	Potentiometer Assembly	A-255041					
1	Indicator Circuit Board	A-336430					
1	Main Circuit Board	A-336415					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
8	Washer, Plain	X-25-73					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
4	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
12	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
1	Voltmeter	253329					
3	Lamp	255126					
2	Lamp, meter scale	291740					
4	Bumper	255443					
1	Plate, Hinge		292908	273785	273785	273785	273785
1	Voltmeter, AC		282816	282816	282817	282816	282816
1	Gauge, Oil Pressure	282897					
1	Gauge, Water Temperature	282898					
1	Ammeter, AC		282806	282806	282800	282801	282802
3	Socket, Lamp	284990					
9	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor		N/A	292352	292352	N/A	N/A
1	Decal	292361					
1	Switch, Selector		292373	292374	292374	292373	292373
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
1	Bumper	292834					
1	Harness, Cable	336428					
1	Meter, Frequency	282818					
1	Cover, Controller	273838					
1	Nameplate		328909	328910	328910	328909	328909
1	Box, Silkscreened Controller		292375	273813	273813	273813	273813

N/A Not Applicable

7-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	7-Light Controller Assembly Number/Unique Parts				
			A-347028	A-347029	A-347030	A-347031	A-347032
1	Potentiometer Assembly	A-255041					
1	Indicator Circuit Board	A-336430					
1	Main Circuit Board	A-336415					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
8	Washer, Plain	X-25-73					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
4	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
12	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
1	Voltmeter	253329					
2	Lamp	291740					
3	Lamp	255126					
4	Bumper	255443					
1	Plate, Hinge	273785					
1	Voltmeter, AC	282897	282817	282816	282817	282816	282817
1	Gauge, Oil Pressure	282898					
1	Gauge, Water Temperature	282898					
1	Ammeter, AC	284990	282801	282804	282802	282805	282804
3	Socket, Lamp	284990					
9	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor	292352	292352	N/A	292352	N/A	292352
1	Decal	292361					
1	Switch, Selector	292821	292374	292373	292374	292373	292374
1	Holder, Fuse	292823					
1	Marker, Strip	292834					
1	Bumper	336428					
1	Harness, Cable	336428					
1	Meter, Frequency	282818					
1	Cover, Controller	273838					
1	Nameplate	273813	328910	328909	328910	328909	328910
1	Box, Silkscreened Controller	273813					

N/A Not Applicable

7-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	7-Light Controller Assembly Number/Unique Parts				
			A-347035	A-347049	A-347050	A-347051	
1	Potentiometer Assembly	A-255041					
1	Indicator Circuit Board	A-336430					
1	Main Circuit Board	A-336415					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
8	Washer, Plain	X-25-73					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
4	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
12	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
1	Voltmeter	253329					
2	Lamp	291740					
3	Lamp	255126					
4	Bumper	255443					
1	Plate, Hinge	273785					
1	Voltmeter, AC		282817	282816	282816	282817	
1	Gauge, Oil Pressure	282897					
1	Gauge, Water Temperature	282898					
1	Ammeter AC		282806	282807	282808	282806	
3	Socket, Lamp	284990					
9	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor		292352	N/A	N/A	292352	
1	Decal	292361					
1	Switch, Selector		292374	292373	292374	292374	
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
1	Bumper	292834					
1	Harness, Cable	336428					
1	Meter, Frequency	282818					
1	Cover, Controller	273838					
1	Nameplate		328910	328909	328910	328910	
1	Box, Silkscreened Controller	273813					

N/A Not Applicable

7-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	7-Light Controller Assembly Number/Unique Parts				
			A-328990	A-328989	A-328991	A-328992	A-328993
1	Potentiometer Assembly	A-255041					
1	Indicator Circuit Board	A-336430					
1	Main Circuit Board	A-336415					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
4	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
10	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
6	Lens, Red	253241					
1	Voltmeter	253329					
2	Lamp, Meter Scale	253332					
2	Lamp	255126					
1	Plate, Hinge	292908					
1	Voltmeter, AC		282816	282817	282816	282817	282816
1	Gauge, Oil Pressure	282897					
1	Gauge, Water Temperature	282898					
1	Ammeter		282801	282800	282802	282801	282804
2	Socket, Lamp	284990					
9	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor		N/A	292352	N/A	292352	N/A
1	Decal	292361					
1	Switch, Selector		292373	292374	292373	292374	292373
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
1	Bumper	292834					
1	Harness, Cable	336428					
1	Meter, Frequency	295069					
1	Cover, Controller	292818					
1	Nameplate		328909	328910	328909	328910	328909
1	Box, Silkscreened Controller	292375					

N/A Not Applicable

7-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	7-Light Controller Assembly Number/Unique Parts				
			A-328994	A-328995	A-328996	A-328998	A-347015
1	Potentiometer Assembly	A-255041					
1	Indicator Circuit Board	A-336430					
1	Main Circuit Board	A-336415					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
8	Washer, Plain	X-25-73					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
4	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
10	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
1	Voltmeter	253329					
2	Lamp, Meter Scale	291740					
2	Lamp	255126					
4	Bumper	255443					
1	Plate, Hinge	292908					
1	Voltmeter, AC	282897	282817	282817	282817	282817	282816
1	Gauge, Oil Pressure	282897					
1	Gauge, Water Temperature	282898					
1	Ammeter	282934	282802	282805	282804	282805	282807
2	Socket, Lamp	284990					
9	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor	292352	292352	N/A	292352	292352	N/A
1	Decal	292361					
1	Switch, Selector	292821	292374	292373	292374	292374	292373
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
1	Bumper	292834					
1	Harness, Cable	336428					
1	Meter, Frequency	282818					
1	Cover, Controller	292818					
1	Nameplate	292818	328910	328909	328910	328910	328909
1	Box, Silkscreened Controller	292375					

N/A Not Applicable

7-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	7-Light Controller Assembly Number/Unique Parts				
			A-347016	A-347017			
1	Potentiometer Assembly	A-255041					
1	Indicator Circuit Board	A-336430					
1	Main Circuit Board	A-336415					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
8	Washer, Plain	X-25-73					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
4	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
10	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
1	Voltmeter	253329					
2	Lamp, Meter Scale	291740					
2	Lamp	255126					
4	Bumper	255443					
1	Plate, Hinge	292908					
1	Voltmeter, AC	282897	282816	282817			
1	Gauge, Oil Pressure	282898					
1	Gauge, Water Temperature	282898					
1	Ammeter	282934	282808	282806			
2	Socket, Lamp	284990					
3	Spacer, Circuit Board	287948					
1	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor	292361	N/A	292352			
1	Decal	292361					
1	Switch, Selector	292821	292374	292374			
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
1	Bumper	292834					
1	Harness, Cable	336428					
1	Meter, Frequency	282818					
1	Cover, Controller	292818					
1	Nameplate	292818	328910	328910			
1	Box, Silkscreened Controller	292375					

N/A Not Applicable

16-Light Controller Kits

16-LIGHT MICROPROCESSOR CONTROLLER KIT PARTS							
Qty.	Description	Common	Kit Number/Unique Parts				
			327007	327009	327012	327014	327017
1	Controller Assembly*		B-292827	A-273812	B-292829	A-273814	B-292831
1	Controller Assembly*		A-328919**	A-328953**	A-328920**	A-328954**	A-328922**
2	Screw, H.C. 10-24 x 5/8	X-117-5					
4	Washer, Lock 5/16	X-22-16					
2	Washer, Shakeproof	X-22-24					
2	Washer, Lock Shakeproof	X-22-9					
2	Screw, r.h.m.	X-49-35					
1	Conduit, Convoluted		N/A	X-6003-17	N/A	X-6003-17	N/A
1	Clamp, Insulator	X-672-15					
4	Screw, Drill Hex.	X-794-1					
1	Sensor, Ferromagnetic	241623					
1	Harness, Wiring	255040					
1	Bracket, Sensor Mounting	257070					
3	Transformer, Current		259360	259360	259414	259414	255860
1	Bracket, CT Mounting	276417					

16-LIGHT MICROPROCESSOR CONTROLLER KIT PARTS, CONTINUED							
Qty.	Description	Common	Kit Number/Unique Parts				
			327019	327022	327024	327027	327028
1	Controller Assembly*		A-273816	B-292826	A-273811	B-292830	A-292391
1	Controller Assembly*		A-328956**	A-328918**	A-328952**	A-328921**	A-328992**
2	Screw, H.C. 10-24 x 5/8	X-117-5					
4	Washer, Lock 5/16	X-22-16					
2	Washer, Shakeproof	X-22-24					
2	Washer, Lock Shakeproof	X-22-9					
2	Screw, r.h.m.	X-49-35					
1	Conduit, Convoluted		N/A	N/A	N/A	N/A	X-6003-17
1	Clamp, Insulator	X-672-15					
4	Screw, Drill Hex.	X-794-1					
1	Sensor, Ferromagnetic	241623					
1	Harness, Wiring	255040					
1	Bracket, Sensor Mounting	257070					
3	Transformer, Current		255860	259793	259793	259792	259792
1	Bracket, CT Mounting	276417					

16-LIGHT MICROPROCESSOR CONTROLLER KIT PARTS, CONTINUED							
Qty.	Description	Common	Kit Number/Unique Parts				
			327029	327033	327035	327040	327038
1	Controller Assembly*		A-273815	B-292830	A-273817	A-273816	B-292831
1	Controller Assembly*		A-328999**	A-328923**	A-328957**	A-328956**	A-328922**
2	Screw, H.C. 10-24 x 5/8	X-117-5					
4	Washer, Lock 5/16	X-22-16					
2	Washer, Shakeproof	X-22-24					
2	Washer, Lock Shakeproof	X-22-9					
2	Screw, r.h.m.	X-49-35					
1	Conduit, Convoluted		X-6003-17	N/A	N/A	N/A	N/A
1	Clamp, Insulator	X-672-15					
4	Screw, Drill Hex.	X-794-1					
1	Sensor, Ferromagnetic	241623					
1	Harness, Wiring	255040					
1	Bracket, Sensor Mounting	257070					
3	Transformer, Current		259792	259359	259359	255860	255860
1	Bracket, CT Mounting	276417					

* See Controller Assembly section for parts list.

** This controller assembly used in kit effective with generator set serial number greater than or equal to 363369.

N/A Not Applicable

16-Light Controller Kits, Continued

16-LIGHT MICROPROCESSOR CONTROLLER KIT PARTS, CONTINUED							
Qty.	Description	Common	Kit Number/Unique Parts				
			327043	327045	327048	327050	327053
1	Controller Assembly*		B-292832	A-273818	B-292832	A-273835	A-292362
1	Controller Assembly*		A-328924**	A-328959**	A-328926**	A-328961**	A-328943**
2	Screw, H.C. 10-24 x 5/8	X-117-5					
4	Washer, Lock 5/16	X-22-16					
2	Washer, Shakeproof	X-22-24					
2	Washer, Lock Shakeproof	X-22-9					
2	Screw, r.h.m.	X-49-35					
1	Conduit, Convoluted		N/A	N/A	X-6003-17	X-6003-17	N/A
1	Clamp, Insulator	X-672-15					
4	Screw, Drill Hex.	X-794-1					
1	Sensor, Ferromagnetic	241623					
1	Harness, Wiring	255040					
1	Bracket, Sensor Mounting	257070					
3	Transformer, Current		253503	253503	259414	259414	272691
1	Bracket, CT Mounting		276417	276417	276417	276417	325382

16-LIGHT MICROPROCESSOR CONTROLLER KIT PARTS, CONTINUED							
Qty.	Description	Common	Kit Number/Unique Parts				
			327055	327058	327060	327063	327065
1	Controller Assembly*		A-273836	B-292931	A-273819	A-273591	A-273598
1	Controller Assembly*		A-328978**	A-328925**	A-328960**	A-328946**	A-328981**
2	Screw, H.C. 10-24 x 5/8	X-117-5					
4	Washer, Lock 5/16	X-22-16					
2	Washer, Shakeproof	X-22-24					
2	Washer, Lock Shakeproof	X-22-9					
2	Screw, r.h.m.	X-49-35					
1	Conduit, Convoluted		N/A	X-6003-17	X-6003-17	N/A	N/A
1	Clamp, Insulator	X-672-15					
4	Screw, Drill Hex.	X-794-1					
1	Sensor, Ferromagnetic	241623					
1	Harness, Wiring	255040					
1	Bracket, Sensor Mounting	257070					
3	Transformer, Current		272691	259360	259360	273257	273257
1	Bracket, CT Mounting		325382	276417	276417	299966	299966

16-LIGHT MICROPROCESSOR CONTROLLER KIT PARTS, CONTINUED							
Qty.	Description	Common	Kit Number/Unique Parts				
			327068	327070	327073	327075	
1	Controller Assembly*		B-272606	A-273835	A-292363	A-273837	
1	Controller Assembly*		A-328942**	A-328977**	A-328944**	A-328979**	
2	Screw, H.C. 10-24 x 5/8	X-117-5					
4	Washer, Lock 5/16	X-22-16					
2	Washer, Shakeproof	X-22-24					
2	Washer, Lock Shakeproof	X-22-9					
2	Screw, r.h.m.	X-49-35					
1	Conduit, Convoluted		N/A	N/A	X-6003-17	X-6003-17	
1	Clamp, Insulator	X-672-15					
4	Screw, Drill Hex.	X-794-1					
1	Sensor, Ferromagnetic	241623					
1	Harness, Wiring	255040					
1	Bracket, Sensor Mounting	257070					
3	Transformer, Current		253610	253610	279272	279272	
1	Bracket, CT Mounting		299966	299966	325382	325382	

* See Controller Assembly section for parts list.

** This controller assembly used in kit effective with generator set serial number greater than or equal to 363369.

N/A Not Applicable

16-Light Controller Assemblies

Qty.	Description	Common Parts	16-Light Controller Assembly Number/Unique Parts				
			B-272606	A-273591	A-273598	A-273811	A-273812
1	Potentiometer Assembly	A-255041					
1	16-light Circuit Board	B-292357					
1	Main Circuit Board	G-292806					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
5	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
10	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
4	Bumper	255443					
1	Voltmeter	253329					
2	Lamp	291740					
3	Lamp	255126					
1	Plate, Hinge	273785	292908	292908	273785	273785	273785
1	Voltmeter, AC		282816	282816	282816	282817	282816
1	Gauge, Oil Pressure	282897					
1	Gauge, Water Temperature	282898					
1	Ammeter		282807	282806	282806	282800	282801
3	Socket, Lamp	284990					
8	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor		N/A	N/A	N/A	292352	N/A
1	Decal	292361					
1	Switch, Selector		292373	292373	292373	292374	292373
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
1	Bumper	292834					
1	Harness, Cable	292836					
1	Meter, Frequency	282818					
1	Cover, Controller	273838					
1	Nameplate		292382	292382	292382	292383	292383
1	Box, Controller		292375	292375	273813	273813	273813

N/A Not Applicable

16-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	16-Light Controller Assembly Number/Unique Parts				
			A-273814	A-273815	A-273816	A-273817	A-273818
1	Potentiometer Assembly	A-255041					
1	16-light Circuit Board	B-292357					
1	Main Circuit Board	G-292806					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
5	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
10	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
4	Bumper	255443					
1	Voltmeter	253329					
2	Lamp	291740					
3	Lamp	255126					
1	Plate, Hinge	273985					
1	Voltmeter, AC		282816	282817	282816	282817	282816
1	Gauge, Oil Pressure	282897					
1	Gauge, Water Temperature	282898					
1	Ammeter		282802	282801	282804	282802	282805
3	Socket, Lamp	284990					
8	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor		N/A	292352	N/A	292352	N/A
1	Decal	292361					
1	Switch, Selector		292373	292374	292373	292374	292373
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
1	Bumper	292834					
1	Harness, Cable	292836					
1	Meter, Frequency	295069					
1	Cover, Controller	273838					
1	Nameplate	292382	292382	292383	292382	292383	292382
1	Box, Controller	273813					

N/A Not Applicable

16-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	16-Light Controller Assembly Number/Unique Parts				
			A-273819	A-273821	A-273835	A-273836	A-273837
1	Potentiometer Assembly	A-255041					
1	16-light Circuit Board	B-292357					
1	Main Circuit Board	G-292806					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
5	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
10	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
4	Bumper	255443					
1	Voltmeter	253329					
2	Lamp	291740					
3	Lamp	255126					
1	Plate, Hinge	273985	282817	282817	282816	282816	282817
1	Voltmeter, AC						
1	Gauge, Oil Pressure	282897					
1	Gauge, Water Temperature	282898					
1	Ammeter		282804	282805	282807	282808	282806
3	Socket, Lamp	284990					
8	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor		292352	292352	N/A	N/A	292352
1	Decal	292361					
1	Switch, Selector		292374	292374	292373	292374	292374
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
1	Bumper	292834					
1	Harness, Cable	292836					
1	Meter, Frequency	295069					
1	Cover, Controller	273838					
1	Nameplate		292383	292383	292382	292383	292383
1	Box, Controller	273813					

N/A Not Applicable

16-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	16-Light Controller Assembly Number/Unique Parts				
			A-292362	A-292363	B-292826	B-292827	B-292829
1	Potentiometer Assembly	A-255041					
1	16-light Circuit Board	B-292357					
1	Main Circuit Board	G-292806					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
4	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
12	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
1	Voltmeter	253329					
2	Lamp	291740					
2	Lamp	255126					
1	Plate, Hinge	292908					
1	Voltmeter, AC		282816	282817	282817	282816	282816
1	Gauge, Oil Pressure	282897					
1	Gauge, Water Temperature	282898					
1	Ammeter		282808	282806	282800	282801	282802
2	Socket, Lamp	284990					
8	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor		N/A	292352	292352	N/A	N/A
1	Decal	292361					
1	Switch, Selector		292374	292374	292374	292373	292373
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
1	Bumper	292834					
1	Harness, Cable	292836					
1	Meter, Frequency	282818					
1	Cover, Controller	292818					
1	Nameplate		292383	292383	292383	292382	292382
1	Box, Controller	292375					

N/A Not Applicable

16-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	16-Light Controller Assembly Number/Unique Parts				
			B-292830	B-292831	B-292832	B-292930	B-292931
1	Potentiometer Assembly	A-255041					
1	16-light Circuit Board	B-292357					
1	Main Circuit Board	G-292806					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
5	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
10	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
1	Voltmeter	253329					
2	Lamp, Meter Scale	253332					
2	Lamp	255126					
1	Plate, Hinge	292908					
1	Voltmeter, AC		282817	282816	282816	282817	282817
1	Gauge, Oil Pressure	282897					
1	Gauge, Water Temperature	282898					
1	Ammeter		282801	282804	282805	282802	282804
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	292352
1	Decal	292361					
1	Switch, Selector		292374	292373	292373	292374	292374
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
1	Bumper	292834					
1	Harness, Cable	292836					
1	Meter, Frequency	295069					
1	Cover, Controller	292818					
1	Nameplate		292383	292382	292382	292383	292383
1	Box, Controller	292375					

N/A Not Applicable

16-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	16-Light Controller Assembly Number/Unique Parts			
			B-292932			
1	Potentiometer Assembly	A-255041				
1	16-light Circuit Board	B-292357				
1	Main Circuit Board	G-292806				
1	Washer, Shakeproof E.T.	X-22-20				
2	Washer, Lock	X-22-50				
4	Washer, Lock #6	X-22-6				
3	Washer, Lock #8	X-22-7				
1	Grommet	X-284-31				
1	Plug, Button	X-301-29				
1	Plug, Button	X-301-34				
2	Screw, r.h.m. 6-32 x 3/8	X-49-2				
18	Screw, r.h.m. 6-32 x 1/4	X-49-25				
2	Screw, Pan Head	X-49-39				
5	Screw, r.h.m. 10-24 x 3/4	X-50-3				
1	Screw, Pan Head Machine	X-50-70				
2	Screw, r.h.m.	X-51-53				
1	Strap, Ground	X-6046-2				
1	Jumper	X-6048-2				
10	Screw, Phil Hex Crimptite	X-6216-1				
2	Nut, Hex.	X-6234-6				
2	Screw, Thread Forming	X-67-127				
1	Sleeve	X-696-5				
4	Spacer	X-712-9				
1	Tab, Ident.	201620-86				
1	Meter, Hour	238736				
1	Terminal	238898				
1	Connector, Plug 6 Position	241617				
1	Block, Terminal	246115				
1	Voltmeter	253329				
2	Lamp, Meter Scale	253332				
2	Lamp	255126				
1	Plate, Hinge	292908				
1	Voltmeter, AC		282817			
1	Gauge, Oil Pressure	282897				
1	Gauge, Water Temperature	282898				
1	Ammeter		282805			
2	Socket, Lamp	284990				
8	Spacer, Circuit Board	287948				
3	Fuse, 1.5 Amp	291207				
1	Decal	292347				
1	Resistor		292352			
1	Decal	292361				
1	Switch, Selector		292374			
1	Holder, Fuse	292821				
1	Marker, Strip	292823				
1	Bumper	292834				
1	Harness, Cable	292836				
1	Meter, Frequency	295069				
1	Cover, Controller	292818				
1	Nameplate		292383			
1	Box, Controller	292375				

N/A Not Applicable

16-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	16-Light Controller Assembly Number/Unique Parts				
			A-328942	A-328946	A-328981	A-328952	A-328953
1	Potentiometer Assembly	A-255041					
1	16-light Circuit Board	A-336432					
1	Main Circuit Board	A-336415					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
5	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
10	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
4	Bumper	255443					
1	Voltmeter	253329					
2	Lamp	291740					
3	Lamp	255126					
1	Plate, Hinge	273785	292908	292908	273785	273785	273785
1	Voltmeter, AC		282816	282816	282816	282817	282816
1	Gauge, Oil Pressure	282897					
1	Gauge, Water Temperature	282898					
1	Ammeter		282807	282806	282806	282800	282801
3	Socket, Lamp	284990					
9	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor		N/A	N/A	N/A	292352	N/A
1	Decal	292361					
1	Switch, Selector		292373	292373	292373	292374	292373
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
1	Bumper	292834					
1	Harness, Cable	336428					
1	Meter, Frequency	282818					
1	Cover, Controller	273838					
1	Nameplate		292382	292382	292382	292383	292382
1	Box, Controller		292375	292375	273813	273813	273813

N/A Not Applicable

16-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	16-Light Controller Assembly Number/Unique Parts				
			A-328954	A-328955	A-328956	A-328957	A-328959
1	Potentiometer Assembly	A-255041					
1	16-light Circuit Board	A-336432					
1	Main Circuit Board	A-336415					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
5	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
10	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
4	Bumper	255443					
1	Voltmeter	253329					
2	Lamp	291740					
3	Lamp	255126					
1	Plate, Hinge	273985					
1	Voltmeter, AC		282816	282817	282816	282817	282816
1	Gauge, Oil Pressure	282897					
1	Gauge, Water Temperature	282898					
1	Ammeter		282802	282801	282804	282802	282805
3	Socket, Lamp	284990					
9	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor		N/A	292352	N/A	292352	N/A
1	Decal	292361					
1	Switch, Selector		292373	292374	292373	292374	292373
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
1	Bumper	292834					
1	Harness, Cable	336428					
1	Meter, Frequency	295069					
1	Cover, Controller	273838					
1	Nameplate		292382	292383	292382	292383	292382
1	Box, Controller	273813					

N/A Not Applicable

16-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	16-Light Controller Assembly Number/Unique Parts				
			A-328960	A-328961	A-328977	A-328978	A-328979
1	Potentiometer Assembly	A-255041					
1	16-light Circuit Board	A-336432					
1	Main Circuit Board	A-336415					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
5	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
10	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
4	Bumper	255443					
1	Voltmeter	253329					
2	Lamp	291740					
3	Lamp	255126					
1	Plate, Hinge	273985					
1	Voltmeter, AC		282817	282817	282816	282816	282817
1	Gauge, Oil Pressure	282897					
1	Gauge, Water Temperature	282898					
1	Ammeter		282804	282805	282807	282808	282806
3	Socket, Lamp	284990					
9	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor		292352	292352	N/A	N/A	292352
1	Decal	292361					
1	Switch, Selector		292374	292374	292373	292374	292374
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
1	Bumper	292834					
1	Harness, Cable	336428					
1	Meter, Frequency	295069					
1	Cover, Controller	273838					
1	Nameplate		292383	292383	292382	292383	292383
1	Box, Controller	273813					

N/A Not Applicable

16-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	16-Light Controller Assembly Number/Unique Parts				
			A-328943	A-328944	A-328918	A-328919	A-328920
1	Potentiometer Assembly	A-255041					
1	16-light Circuit Board	A-336432					
1	Main Circuit Board	A-336415					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
4	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
12	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
1	Voltmeter	253329					
2	Lamp	291740					
2	Lamp	255126					
1	Plate, Hinge	292908					
1	Voltmeter, AC		282816	282817	282817	282816	282816
1	Gauge, Oil Pressure	282897					
1	Gauge, Water Temperature	282898					
1	Ammeter		282808	282806	282800	282801	282802
2	Socket, Lamp	284990					
9	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor		N/A	292352	292352	N/A	N/A
1	Decal	292361					
1	Switch, Selector		292374	292374	292374	292373	292373
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
1	Bumper	292834					
1	Harness, Cable	336428					
1	Meter, Frequency	282818					
1	Cover, Controller	292818					
1	Nameplate		292383	292383	292383	292382	292382
1	Box, Controller	292375					

N/A Not Applicable

16-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	16-Light Controller Assembly Number/Unique Parts				
			A-328921	A-328922	A-328924	A-328923	A-328925
1	Potentiometer Assembly	A-255041					
1	16-light Circuit Board	A-336432					
1	Main Circuit Board	A-336415					
1	Washer, Shakeproof E.T.	X-22-20					
2	Washer, Lock	X-22-50					
4	Washer, Lock #6	X-22-6					
3	Washer, Lock #8	X-22-7					
1	Grommet	X-284-31					
1	Plug, Button	X-301-29					
1	Plug, Button	X-301-34					
2	Screw, r.h.m. 6-32 x 3/8	X-49-2					
18	Screw, r.h.m. 6-32 x 1/4	X-49-25					
2	Screw, Pan Head	X-49-39					
5	Screw, r.h.m. 10-24 x 3/4	X-50-3					
1	Screw, Pan Head Machine	X-50-70					
2	Screw, r.h.m.	X-51-53					
1	Strap, Ground	X-6046-2					
1	Jumper	X-6048-2					
10	Screw, Phil Hex Crimptite	X-6216-1					
2	Nut, Hex.	X-6234-6					
2	Screw, Thread Forming	X-67-127					
1	Sleeve	X-696-5					
4	Spacer	X-712-9					
1	Tab, Ident.	201620-86					
1	Meter, Hour	238736					
1	Terminal	238898					
1	Connector, Plug 6 Position	241617					
1	Block, Terminal	246115					
1	Voltmeter	253329					
2	Lamp, Meter Scale	253332					
2	Lamp	255126					
1	Plate, Hinge	292908					
1	Voltmeter, AC		282817	282816	282816	282817	282817
1	Gauge, Oil Pressure	282897					
1	Gauge, Water Temperature	282898					
1	Ammeter		282801	282804	282805	282802	282804
2	Socket, Lamp	284990					
9	Spacer, Circuit Board	287948					
3	Fuse, 1.5 Amp	291207					
1	Decal	292347					
1	Resistor		292352	N/A	N/A	292352	292352
1	Decal	292361					
1	Switch, Selector		292374	292373	292373	292374	292374
1	Holder, Fuse	292821					
1	Marker, Strip	292823					
1	Bumper	292834					
1	Harness, Cable	336428					
1	Meter, Frequency	295069					
1	Cover, Controller	292818					
1	Nameplate		292383	292382	292382	292383	292383
1	Box, Controller	292375					

N/A Not Applicable

16-Light Controller Assemblies, Continued

Qty.	Description	Common Parts	16-Light Controller Assembly Number/Unique Parts			
			A-328926			
1	Potentiometer Assembly	A-255041				
1	16-light Circuit Board	A-336432				
1	Main Circuit Board	A-336415				
1	Washer, Shakeproof E.T.	X-22-20				
2	Washer, Lock	X-22-50				
4	Washer, Lock #6	X-22-6				
3	Washer, Lock #8	X-22-7				
1	Grommet	X-284-31				
1	Plug, Button	X-301-29				
1	Plug, Button	X-301-34				
2	Screw, r.h.m. 6-32 x 3/8	X-49-2				
18	Screw, r.h.m. 6-32 x 1/4	X-49-25				
2	Screw, Pan Head	X-49-39				
5	Screw, r.h.m. 10-24 x 3/4	X-50-3				
1	Screw, Pan Head Machine	X-50-70				
2	Screw, r.h.m.	X-51-53				
1	Strap, Ground	X-6046-2				
1	Jumper	X-6048-2				
10	Screw, Phil Hex Crimptite	X-6216-1				
2	Nut, Hex.	X-6234-6				
2	Screw, Thread Forming	X-67-127				
1	Sleeve	X-696-5				
4	Spacer	X-712-9				
1	Tab, Ident.	201620-86				
1	Meter, Hour	238736				
1	Terminal	238898				
1	Connector, Plug 6 Position	241617				
1	Block, Terminal	246115				
1	Voltmeter	253329				
2	Lamp, Meter Scale	253332				
2	Lamp	255126				
1	Plate, Hinge	292908				
1	Voltmeter, AC		282817			
1	Gauge, Oil Pressure	282897				
1	Gauge, Water Temperature	282898				
1	Ammeter		282805			
2	Socket, Lamp	284990				
8	Spacer, Circuit Board	287948				
3	Fuse, 1.5 Amp	291207				
1	Decal	292347				
1	Resistor		292352			
1	Decal	292361				
1	Switch, Selector		292374			
1	Holder, Fuse	292821				
1	Marker, Strip	292823				
1	Bumper	292834				
1	Harness, Cable	336428				
1	Meter, Frequency	295069				
1	Cover, Controller	292818				
1	Nameplate		292383			
1	Box, Controller	292375				

N/A Not Applicable

Manual Controller Kits

MANUAL CONTROLLER KIT PARTS							
Qty.	Description	Common	Kit Number/Unique Parts				
			327011	327016	327021	327026	327031
1	Controller Assembly*		A-273380	A-273381	A-273383	A-273379	A-273382
4	Washer, Lock 5/16	X-22-16					
1	Terminal	X-283-8					
1	Conduit, Convuluted		N/A	N/A	N/A	X-6003-17	N/A
1	Screw, Drill Hex.	X-794-1					
1	Harness, Wiring	255040					
3	Transformer, Current		259360	259414	255860	259793	259792
1	Bracket, CT Mounting	276417					
1	Bushing, Reducer 3/8	X-202-28					
1	Sensor, Low Coolant	273520					

MANUAL CONTROLLER KIT PARTS, CONTINUED							
Qty.	Description	Common	Kit Number/Unique Parts				
			327037	327042	327047	327052	327057
1	Controller Assembly*		A-273384	A-273383	A-273385	A-273387	A-27390
4	Washer, Lock 5/16	X-22-16					
1	Terminal	X-283-8					
1	Conduit, Convuluted		N/A	N/A	N/A	X-6003-17	N/A
1	Screw, Drill Hex.	X-794-1					
1	Harness, Wiring	255040					
3	Transformer, Current		259359	255860	253503	259414	272691
1	Bracket, CT Mounting		276417	276417	276417	276417	325382
1	Bushing, Reducer 3/8	X-202-28					
1	Sensor, Low Coolant	273520					

MANUAL CONTROLLER KIT PARTS, CONTINUED							
Qty.	Description	Common	Kit Number/Unique Parts				
			327062	327067	327072	327077	
1	Controller Assembly*		A-273386	A-273393	A-273389	A-273391	
4	Washer, Lock 5/16	X-22-16					
1	Terminal	X-283-8					
1	Conduit, Convuluted		X-6003-17	N/A	N/A	X-6003-17	
1	Screw, Drill Hex.	X-794-1					
1	Harness, Wiring	255040					
3	Transformer, Current		259360	273257	253610	279272	
1	Bracket, CT Mounting		276417	299966	299966	325382	
1	Bushing, Reducer 3/8	X-202-28					
1	Sensor, Low Coolant	273520					

* 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-273379	A-273380	A-273381	A-273382	A-273383	A-273384
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, r.h.m. 6-32 x 3/8	X-49-2						
18	Screw, r.h.m. 6-32 x 1/4	X-49-25						
2	Screw, Pan Head	X-49-39						
4	Screw, r.h.m. 10-24 x 3/4	X-50-3						
1	Screw, r.h.m. 10-24 x 1	X-50-7						
2	Screw, r.h.m. 8-32 x 3/8	X-51-12						
2	Screw, r.h.m.	X-51-53						
1	Strap, Ground	X-6046-2						
1	Jumper	X-6048-2						
10	Screw, Phil Hex Crimptite	X-6216-1						
2	Screw, Thread Forming	X-67-127						
1	Sleeve	X-696-5						
1	Tab, Ident.	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						
1	Lamp	269373						
2	Lamp	255126						
1	Lamp	269373						
1	Plate, Hinge	273376						
1	Harness, Controller	274710						
1	Voltmeter, AC		282817	282816	282816	282817	282816	282817
1	Gauge, Oil Pressure	282897						
1	Gauge, Water Temperature	282898						
1	Ammeter, AC		282800	282801	282802	282801	282804	282802
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	292352
1	Decal	292361						
1	Switch, Selector		292374	292373	292373	292374	292373	292374
1	Holder, Fuse	292821						
1	Marker, Strip	292823						
1	Bumper	292834						
1	Meter, Frequency	282818						
1	Transformer, Controller	295281						
1	Cover, Controller	292818						
1	Nameplate		273374	273373	273373	273374	273373	273374
1	Box, Controller	273375						

N/A Not Applicable

Manual Controller Assemblies, Continued

Qty.	Description	Common Parts	Manual Controller Assembly Number/Unique Parts						
			A-273385	A-273386	A-273387	A-273389	A-273390	A-273391	A-273392
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, r.h.m. 6-32 x 3/8	X-49-2							
18	Screw, r.h.m. 6-32 x 1/4	X-49-25							
2	Screw, Pan Head	X-49-39							
4	Screw, r.h.m. 10-24 x 3/4	X-50-3							
1	Screw, r.h.m. 10-24 x 1	X-50-7							
2	Screw, r.h.m. 8-32 x 3/8	X-51-12							
2	Screw, r.h.m.	X-51-53							
1	Strap, Ground	X-6046-2							
1	Jumper	X-6048-2							
10	Screw, Phil Hex Crimptite	X-6216-1							
2	Screw, Thread Forming	X-67-127							
1	Sleeve	X-696-5							
1	Tab, Ident.	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							
1	Lamp	269373							
2	Lamp	255126							
2	Lamp	291740							
1	Plate, Hinge	273376							
1	Harness, Controller	274710							
1	Voltmeter, AC		282816	282816	282817	282816	282816	282817	282816
1	Gauge, Oil Pressure	282897							
1	Gauge, Water Temperature	282898							
1	Ammeter, AC		282805	282805	282805	282807	282808	282806	282806
2	Socket, Lamp	284990							
8	Spacer, Circuit Board	287948							
3	Fuse, 1.5 Amp	291207							
1	Decal	292347							
1	Resistor		N/A	292352	292352	N/A	N/A	292352	N/A
1	Decal	292361							
1	Switch, Selector		292373	292374	292374	292373	292373	292374	292373
1	Holder, Fuse	292821							
1	Marker, Strip	292823							
1	Bumper	292834							
1	Meter, Frequency	282818							
1	Transformer, Controller	295281							
1	Cover, Controller	292818							
1	Nameplate		273373	273374	273374	273373	273373	273374	273373
1	Box, Controller	273375							

N/A Not Applicable

Cooling System Kits

Qty.	Description	Part No.
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Block Heater, 110-120 V		324054
1	Nipple, 1/2 x 2 1/2	X-209-3
1	Elbow, pipe, 1/2	X-215-1
1	Elbow, pipe, 1/4	X-215-5
1	Nipple, pipe, 1/4 x 7/8	X-220-5
1	Hose	X-312-18
1	Hose, 5/8" ID	X-312-5
4	Clamp, hose	X-426-10
1	Connector, hose	X-582-1
1	Connector, hose	X-582-22
1	Tag, hang	279047
1	Bracket, block hrt m	326219
1	Heater, block	326247

Block Heater, 190-208/220-240 V		324055
1	Nipple, 1/2 x 2 1/2	X-209-3
1	Elbow, pipe, 1/2	X-215-1
1	Elbow, pipe, 1/4	X-215-5
1	Nipple, pipe, 1/4 x 7/8	X-220-5
1	Hose	X-312-18
1	Hose, 5/8" ID	X-312-5
4	Clamp, hose	X-426-10
1	Connector, hose	X-582-1
1	Connector, hose	X-582-22
1	Tag, hang	279047
1	Bracket, block hrt m	326219
1	Heater, block	326248

Block Heater, 110-120 V		324058
1	Tee, pipe, 1/2	X-203-13
1	Tee, black iron, 3/8	X-203-15
1	Nipple, pipe, 3/8 x 1	X-204-9
1	Nipple, pipe, 1/2 x 3	X-209-11
1	Hose, 5/8" ID	X-312-5
1	Hose	X-312-51
1	Connector, hose elbow	X-391-19
4	Clamp, hose	X-426-10
1	Connector, hose	X-582-2
1	Tag, hang	279047
1	Plug, freeze	324094
1	Bracket, block	326219
1	Heater, block	326220

Block Heater, 190-208/220-240 V		324059
1	Tee, pipe, 1/2	X-203-13
1	Tee, black iron, 3/8	X-203-15
1	Nipple, pipe, 3/8 x 1	X-204-9
1	Nipple, pipe, 1/2 x 3	X-209-11
1	Hose, 5/8" ID	X-312-5
1	Hose	X-312-51
1	Connector, hose elbow	X-391-19
4	Clamp, hose	X-426-10
1	Connector, hose	X-582-2
1	Tag, hang	279047
1	Plug, freeze	324094
1	Bracket, block	326219
1	Heater, block	326221

Qty.	Description	Part No.
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Block Heater, 110-120 V		324277
1	Tee, pipe, 1/4	A-110
1	Nipple, pipe, 1/4 x 1 1/2	X-220-6
1	Hose, 5/8 x 36	X-312-13
1	Hose	X-312-46
4	Clamp, hose	X-426-10
1	Connector, hose	X-582-22
1	Connector, hose	X-582-3
1	Plug, freeze	276212
1	Tag, hang	279047
1	Bracket, block	326219
1	Heater, block	326247

Block Heater, 190-208/220-240 V		324278
1	Tee, pipe, 1/4	A-110
1	Nipple, pipe, 1/4 x 1 1/2	X-220-6
1	Hose, 5/8 x 36	X-312-13
1	Hose	X-312-46
4	Clamp, hose	X-426-10
1	Connector, hose	X-582-22
1	Connector, hose	X-582-3
1	Plug, freeze	276212
1	Tag, hang	279047
1	Bracket, block	326219
1	Heater, block	326248

Block Heater, 110-120 V		324568
1	Tee, pipe, 1/2	X-203-13
1	Nipple, pipe, 1/2 x 1 1/2	X-209-5
1	Hose	X-312-35
1	Hose	X-312-51
4	Clamp, hose	X-426-10
1	Connector, hose	X-582-1
1	Connector, hose	X-582-2
1	Plug, freeze	324094
1	Bracket, block	326219
1	Heater, block	326234

Block Heater, 190-208/220-240 V		324569
1	Tee, pipe, 1/2	X-203-13
1	Nipple, pipe, 1/2 x 1 1/2	X-209-5
1	Hose	X-312-35
1	Hose	X-312-51
4	Clamp, hose	X-426-10
1	Connector, hose	X-582-1
1	Connector, hose	X-582-2
1	Plug, freeze	324094
1	Bracket, block	326219
1	Heater, block	326233

Block Heater, 110-120 V		324570
1	Tee, pipe, 1/2	X-203-13
1	Nipple, pipe, 1/2 x 1 1/2	X-209-5
1	Hose	X-312-24
1	Hose	X-312-51
4	Clamp, hose	X-426-10
1	Connector, hose	X-582-1
1	Connector, hose	X-582-2
1	Plug, freeze	324094
1	Bracket, block	326219
1	Heater, block	326234

Cooling System Kits, Continued

Qty.	Description	Part No.
Block Heater, 190-208/220-240 V		
1	Tee, pipe, 1/2	X-203-13
1	Nipple, pipe, 1/2 x 1 1/2	X-209-5
1	Hose	X-312-24
1	Hose	X-312-51
4	Clamp, hose	X-426-10
1	Connector, hose	X-582-1
1	Connector, hose	X-582-2
1	Plug, freeze	324094
1	Bracket, block	326219
1	Heater, block	326235
Cooling, Radiator Duct Flange		
8	Rivet, pop	X-781-11
6	Screw, drill hex	X-794-1
2	Frame, air duct	324518
2	Frame, air duct	324519
Cooling, Radiator Duct Flange		
8	Rivet, pop	X-781-11
6	Screw, drill hex	X-794-1
2	Frame, air duct	324199
2	Frame, air duct	324201
Cooling, Radiator Duct Flange		
8	Rivet, pop	X-781-11
6	Screw, drill hex	X-794-1
2	Frame, air duct	324200
2	Frame, air duct	324201
Cooling, Radiator Duct Flange		
8	Rivet, pop	X-781-11
4	Screw, drill hex	X-794-1
2	Frame, air duct	324300
2	Frame, air duct	324301
Cooling, Radiator Duct Flange		
8	Rivet, pop	X-781-11
4	Screw, drill hex	X-794-1
2	Frame, air duct	326212
2	Frame, air duct	326213
Cooling, City Water		
1	Valve Drain 3/8	X-256-1
1	Valve, solenoid	X350-7
1	Line, flexible 5/16	X-386-36
2	Hose, radiator	X-6014-59
4	Clamp, hose	249888
1	Cap, pressure	258037
1	Tank, expansion	274645
1	Regulator, water	290176
1	Bracket, expansion tank	324051
1	Guard, belt (right)	324084
1	Guard, belt (left)	324095
1	Guard, belt (front)	324081
1	Hose, molded	324127
1	Guard, belt right	324636
1	Bracket, heat exchanger	326160
1	Exchanger, heat	326160
2	Plate, heat exchanger	326166

Qty.	Description	Part No.
Cooling, City Water		
1	Valve Drain 1/8	X-256-2
1	Valve Drain	X-256-5
1	Valve, solenoid	X350-7
1	Line, flexible 5/16	X-386-36
2	Hose, radiator	X-6014-59
4	Clamp, hose	249888
1	Cap, pressure	258037
1	Tank, expansion	274645
1	Hose, lower radiator	324041
1	Exchanger, heat	324307
1	Guard, belt (right)	324660
1	Guard, belt (left)	324661
1	Guard, belt (top)	324662
1	Guard, belt (front)	324663
1	Bracket, mounting (right)	324664
1	Bracket, mounting (left)	324665
1	Bracket, mounting (bottom)	324666
1	Bracket, mounting (bottom)	324667
1	Support, tank	324668
1	Bracket, heat exchanger	324669
1	Regulator, water	324670
1	Support, top	324290
2	Bracket, support	324291
Cooling, Remote Radiator		
1	Hose, lower radiator	324041
1	Hose, upper radiator	324040
1	Bracket, expansion tank	324084
1	Guard, belt (right)	324084
1	Guard, belt (left)	324095
1	Guard, belt (front)	324635
1	Guard, belt (right)	324636
Cooling, City Water		
2	Valve Drain 3/8	X-256-2
1	Valve, solenoid	X350-8
1	Line, flexible 5/16	X-386-36
2	Hose, radiator	X-6014-10
2	Clamp, hose	249887
2	Clamp, hose	250081
1	Cap, pressure	258037
3	Adapter, hose	285685
1	Regulator, water	290377
2	Support, heat exchanger	290378
1	Hose, lower radiator	324083
1	Hose, upper radiator	324625
1	Bracket, expansion tank	324626
1	Guard, belt (right)	324629
1	Guard, belt (left)	324628
1	Guard, belt (front)	324627
1	Guard, alternator	324630
1	Exchanger, heat	326160

Cooling System Kits, Continued

Qty.	Description	Part No.
Cooling, Remote Radiator		
4	Clamp, hose	250081
1	Hose, lower radiator	324083
1	Hose, upper radiator	324625
1	Bracket, expansion tank	324626
1	Guard, belt (right)	324629
1	Guard, belt (left)	324628
1	Guard, belt (front)	324627
1	Guard, alternator	324630
Cooling, Remote Radiator		
324430		
1	Valve Drain	X-256-5
1	Hose, radiator	X-304-15
1	Clamp, hose	X-426-4
1	Hose, lower radiator	324012
1	Guard, belt (right)	324660
1	Guard, belt (left)	324661
1	Guard, belt (top)	324662
1	Guard, belt (front)	324663
1	Bracket, mounting (right)	324664
1	Bracket, mounting (left)	324665
1	Bracket, mounting (bottom)	324666
1	Bracket, mounting (bottom)	324667
Cooling, Remote Radiator		
324716		
1	Valve Drain 1/4	X-256-3
1	Valve Drain	X-256-5
1	Spacer	X-400-119
1	Spacer	X-400-200
2	Clamp, hose	X-426-2
1	Hose, radiator	X-6014-55
1	Screw, hex head machine	X-6050-18
1	Screw, hex head machine	X-6050-19
20	Screw, Phillips hex crimplite	X-6216-1
2	Clamp, hose	275527
1	Hose, upper radiator	324328
1	Guard, belt (top)	324694
1	Guard, belt (RS)	324695
1	Guard, belt (LS)	324696
1	Guard, belt (front)	324697
1	Guard, belt (bottom)	324698
1	Guard (RS)	324699

Qty.	Description	Part No.
Cooling, City Water		
324717		
2	Valve Drain 3/8	X-256-1
1	Valve Drain 1/4	X-256-3
1	Valve Drain	X-256-5
1	Clamp, hose 1/2	X-309-14
1	Valve, solenoid	X-350-7
1	Line, flexible 5/16	X-386-36
1	Spacer	X-400-199
1	Spacer	X-400-200
2	Clamp, hose	X-426-2
1	Adapter, hose	X-570-20
1	Hose, radiator	X-6014-55
1	Hose, radiator	X-6014-79
2	Clamp	X-672-10
2	Clamp, hose	249887
1	Cap, pressure	258037
1	Tank, expansion	274645
2	Clamp, hose	275527
1	Adapter, hose	286831
1	Regulator, water	290176
1	Exchanger, heat	324309
1	Hose, upper radiator	324328
1	Guard, belt (right)	324695
1	Guard, belt (left)	324696
1	Guard, belt (top)	324694
1	Guard, belt (front)	324697
1	Guard, bottom	324698
1	Guard, right	324699
1	Bracket, heat exchanger	324700
2	Support, surge tank	324714
1	Bracket, mounting	324715
2	Bracket, support	326291

Cooling Kit **327111**

Parts information same as Group 104, Variation 7.

Cooling System Kits, Continued

Qty.	Description	Part No.
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Cooling Kit

327112

1	Radiator assembly	A-324322
4	Washer, plain	X-25-73
2	Valve, drain, 1/4	X-256-3
1	Valve, drain	X-256-5
1	Connector, hose	X-380-3
1	Connector, hose	X-391-12
1	Spacer	X-400-199
1	Spacer	X-400-200
4	Clamp, hose, 1 7/8-3 5/8	X-426-2
2	Clamp, hose	X-426-9
6	Washer, hardened	X-801-3
1	Hose, rubber 0.375 x 34	X-651-15
1	Switch assembly, level	
	before serial number 363369	273404
	serial number 363369 and after	254832
	Bushing, reducer 3/8 x 12	X-202-28
1	Shroud, fan	276400
1	Spacer, fan	324317
1	Fan	324319
1	Hose, upper radiator	324328
1	Support, radiator (LH)	324338
1	Support, radiator (RH)	324337
1	Guard, fan	324375
1	Guard, radiator	324341
1	Hose, lower radiator	324671
1	Guard, belt (top)	324683
1	Guard, belt (right)	324684
1	Guard, belt (left)	324685
1	Guard, belt (front)	324686
1	Guard, belt (bottom)	324687
1	Guard, belt (right)	324688

Qty.	Description	Part No.
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Cooling Kit

324443

1	Radiator assembly	A-324442
2	Nut, elastic stop 5/16	X-101-16
1	Elbow, street 1/4	X-211-6
4	Washer, plain	X-25-143
4	Washer, plain	X-25-144
8	Washer, plain	X-25-73
2	Valve, drain, 1/4	X-256-3
1	Valve, drain	X-256-5
1	Connector, hose	X-380-3
1	Connector, hose	X-391-12
1	Spacer	X-400-199
1	Spacer	X-400-200
2	Clamp, hose, 1 7/8-3 5/8	X-426-2
2	Clamp, hose	X-426-9
6	Washer, hardened	X-801-3
1	Hose, rubber 0.375 x 38	X-651-2
1	Switch assembly, level	
	before serial number 363369	273404
	serial number 363369 and after	254832
	Bushing, reducer 3/8 x 12	X-202-28
1	Clamp, hose	279604
1	Clamp, hose	291590
1	Shroud, fan	222953
1	Spacer, fan	324318
4	Mount, vibro	324433
1	Cooler, charge air	324334
2	Clamp, hose	324330
1	Clamp, hose	324342
1	Guard, fan	324438
1	Support, radiator (LH)	324447
1	Support, radiator (RH)	324448
1	Hose, upper radiator	324455
1	Hose, lower radiator	324456
1	Tube, cooler intake	324457
1	Tube, turbo	324458
1	Bracket, intake tube	324459
1	Bracket, mounting	324460
1	Hose, step	324473
1	Hose, step	324474
1	Hose, step	324476
1	Brace, cooler	324674
1	Brace, cooler	324675
1	Support, cooler	324678
1	Bracket, support	324680
1	Bracket, support	324681
2	Bracket, charge cooler	324451
1	Fan	324706
1	Guard, belt (top)	324689
1	Guard, belt (right)	324690
1	Guard, belt (left)	324691
1	Guard, belt (front)	324686
1	Guard, belt (bottom)	324692
1	Guard, belt (right)	324693

Cooling System Kits, Continued

Qty.	Description	Part No.
Cooling Kit 324444		
1	Radiator assembly	A-324442
2	Nut, elastic stop 5/16	X-101-16
1	Elbow, street 1/4	X-211-6
4	Washer, plain	X-25-143
4	Washer, plain	X-25-144
8	Washer, plain	X-25-73
2	Valve, drain, 1/4	X-256-3
1	Valve, drain	X-256-5
1	Connector, hose	X-380-3
1	Connector, hose	X-391-12
1	Spacer	X-400-199
1	Spacer	X-400-200
2	Clamp, hose, 1 7/8-3 5/8	X-426-2
2	Clamp, hose	X-426-9
6	Washer, hardened	X-801-3
1	Hose, rubber 0.375 x 38	X-651-2
1	Switch assembly, level	
	before serial number 363369	273404
	serial number 363369 and after	254832
	Bushing, reducer 3/8 x 12	X-202-28
1	Clamp, hose	279604
1	Clamp, hose	291590
1	Shroud, fan	222953
1	Spacer, fan	324318
4	Mount, vibro	324433
1	Cooler, charge air	324334
1	Clamp, hose	324342
1	Guard, fan	324438
1	Support, radiator (LH)	324447
1	Support, radiator (RH)	324448
1	Hose, upper radiator	324455
1	Hose, lower radiator	324456
1	Tube, cooler intake	324457
1	Tube, turbo	324458
1	Bracket, intake tube	324459
1	Bracket, mounting	324460
1	Hose, step	324473
1	Hose, step	324474
1	Hose, step	324476
1	Brace, cooler	324674
1	Brace, cooler	324675
1	Support, cooler	324678
1	Bracket, support	324680
1	Bracket, support	324681
2	Bracket, charge cooler	324451
1	Fan	324706
1	Guard, belt (top)	324689
1	Guard, belt (right)	324690
1	Guard, belt (left)	324691
1	Guard, belt (front)	324686
1	Guard, belt (bottom)	324692
1	Guard, belt (right)	324693

Cooling Kit 324509
Parts information same as Group 104, Variation 20.

Qty.	Description	Part No.
Cooling Kit 324510		
1	Radiator assembly	A-324442
2	Nut, elastic stop 5/16	X-101-16
1	Elbow, street 1/4	X-211-6
4	Washer, plain	X-25-143
4	Washer, plain	X-25-144
8	Washer, plain	X-25-73
2	Valve, drain, 1/4	X-256-3
1	Valve, drain	X-256-5
1	Connector, hose	X-380-3
1	Connector, hose	X-391-12
1	Spacer	X-400-199
1	Spacer	X-400-200
2	Clamp, hose, 1 7/8-3 5/8	X-426-2
2	Clamp, hose	X-426-9
6	Washer, hardened	X-801-3
1	Hose, rubber 0.375 x 38	X-651-2
1	Switch assembly, level	
	before serial number 363369	273404
	serial number 363369 and after	254832
	Bushing, reducer 3/8 x 12	X-202-28
1	Shroud, fan	222953
1	Clamp, hose	279604
1	Spacer, fan	324318
4	Mount, vibro	324433
1	Cooler, charge air	324334
1	Clamp, hose	324342
1	Guard, fan	324438
1	Support, radiator (LH)	324447
1	Support, radiator (RH)	324448
1	Hose, upper radiator	324455
1	Hose, lower radiator	324456
1	Tube, cooler intake	324457
1	Tube, turbo	324458
1	Bracket, intake tube	324459
1	Bracket, mounting	324460
1	Hose, step	324474
1	Hose, step	324476
1	Brace, cooler	324674
1	Brace, cooler	324675
1	Support, cooler	324678
1	Bracket, support	324680
1	Bracket, support	324681
2	Bracket, charge cooler	324451
1	Fan	324682
1	Guard, belt (top)	324689
1	Guard, belt (right)	324690
1	Guard, belt (left)	324691
1	Guard, belt (front)	324686
1	Guard, belt (bottom)	324692
1	Guard, belt (right)	324693
1	Guard, radiator	324707

Cooling Kit 324721
Parts information same as Group 104, Variation 18.

Cooling System Kits, Continued

Qty.	Description	Part No.
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Cooling Kit

327105

1	Radiator assembly	A-324008
1	Bushing, reducer, 1/4 x 1/2	X-202-12
10	Washer, plain	X-25-73
2	Valve, drain, 1/4	X-256-3
1	Valve, drain	X-256-5
3	Clamp, hose, 1.375 x 2.100	X-426-4
1	Clamp, hose, 1 15/16 x 1 3/16	X-426-8
11	Screw, phil hex crimplite	X-6216-1
4	Washer, hardened	X-801-4
1	Shroud, fan	226334
1	Switch assembly, level before serial number 363369	273404
	serial number 363369 and after	254832
	Bushing, reducer 3/8 x 12	X-202-28
1	Fan	324009
1	Hose, lower radiator	324012
1	Support, radiator R.H.	324013
1	Support, radiator L.H.	324014
1	Guard, radiator	324056
1	Guard, wire fan	324210
1	Guard, belt (RH)	324294
1	Guard, belt (LH)	324295
1	Guard, belt (bottom)	324299
1	Hose, upper radiator	324350

Cooling Kit

327106

1	Radiator assembly	A-276527
4	Washer, plain	X-25-73
1	Valve, drain, 1/4	X-256-3
1	Valve, drain	X-256-5
4	Washer, hardened	X-801-3
4	Clamp, hose	250081
1	Switch assembly, level before serial number 363369	273404
	serial number 363369 and after	254832
	Bushing, reducer 3/8 x 12	X-202-28
1	Shroud, fan	324076
1	Fan	324078
1	Support, radiator	324079
1	Support, radiator	324080
1	Hose, radiator upper	324082
1	Hose, radiator lower	324083
1	Guard, fan	324085
1	Guard, radiator	324147
1	Spacer, radiator	324229
1	Guard, belt (top)	324372
1	Guard, belt (right)	324373
1	Guard, belt (left)	324374
1	Spacer, fan	324379
1	Guard, belt (bottom)	324492

Qty.	Description	Part No.
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Cooling Kit

327108

1	Radiator assembly	A-276522
4	Washer, plain	X-25-73
1	Valve, drain, 1/4	X-256-3
2	Clamp, hose, 1.375 x 2.100	X-426-4
2	Clamp, hose, 1 9/16 x 2 1/2	X-426-6
5	Screw, drill hex	X-794-1
4	Washer, hardened	X-801-4
1	Switch assembly, level before serial number 363369	273404
	serial number 363369 and after	254832
	Bushing, reducer 3/8 x 12	X-202-28
4	Spacer, radiator support	273911
1	Support, radiator (LH)	324036
1	Support, radiator (RH)	324037
1	Shroud, fan	324039
1	Hose, upper radiator	324040
1	Hose, lower radiator	324041
1	Fan, pusher	324045
1	Guard, radiator	324052
1	Guard, fan	324087
1	Guard, belt (top)	324168
1	Guard, belt (bottom)	324169
1	Bracket, belt guard	324227
1	Guard, belt (side)	324228

Cooling Kit

327109

Parts information same as Group 104, Variation 9.

Cooling System Kits, Continued

Qty.	Description	Part No.
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Cooling Kit		327110
1	Radiator assembly	A-273412
4	Washer, plain	X-25-73
1	Valve, drain, 1/4	X-256-3
2	Clamp, hose, 1.375 x 2.100	X-426-4
2	Clamp, hose, 1 9/16 x 2 1/2	X-426-6
5	Screw, drill hex	X-794-1
4	Washer, hardened	X-801-4
1	Switch assembly, level before serial number 363369	273404
	serial number 363369 and after	254832
	Bushing, reducer 3/8 x 12	X-202-28
4	Spacer, radiator support	273911
1	Support, radiator (LH)	324036
1	Support, radiator (RH)	324037
1	Shroud, fan	324039
1	Hose, upper radiator	324040
1	Hose, lower radiator	324041
1	Fan, pusher	324046
1	Guard, radiator	324052
1	Guard, fan	324087
1	Guard, belt (bottom)	324169
1	Bracket, belt guard	324227
1	Guard, belt (side)	324228
1	Guard, belt (top)	324411

Cooling Kit		327113
1	Radiator Assembly	A-276526
4	Washer, plain	X-25-73
2	Valve, drain, 1/4	X-256-3
1	Valve, drain,	X-256-5
4	Washer, hardened	X-801-3
4	Clamp, hose	250081
1	Switch assembly, level before serial number 363369	273404
	serial number 363369 and after	254832
	Bushing, reducer 3/8 x 12	X-202-28
1	Shroud, fan	324076
1	Fan	324078
1	Support, radiator	324079
1	Support, radiator	324080
1	Hose, radiator upper	324082
1	Hose, radiator lower	324083
1	Guard, fan	324085
1	Guard, radiator	324147
2	Spacer, radiator	324229
1	Guard, belt (top)	324372
1	Guard, belt (right)	324373
1	Guard, belt (left)	324374
1	Guard, belt (bottom)	324492

Cooling Kit
Parts information same as Group 104, Variation 18.

347286

Qty.	Description	Part No.
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Cooling Kit		347287
1	Radiator assembly	A-324442
1	Fitting, elbow 1/4 in. street	EH-2248
2	Nut, elastic stop 5/16	X-101-16
1	Bushing, reducer 3/8 x 12	X-202-28
2	Washer, plain	X-25-143
2	Washer, plain	X-25-144
6	Washer, plain	X-25-75
2	Valve, drain, 1/4	X-256-3
1	Valve, drain	X-256-5
1	Connector, hose	X-380-3
1	Connector, hose	X-391-12
1	Spacer	X-400-199
1	Spacer	X-400-200
2	Clamp, hose, 1 7/8-3 5/8	X-426-2
2	Clamp, hose	X-426-9
6	Washer, hardened	X-801-3
1	Hose, rubber 0.375 x 38	X-651-2
1	Sensor, low fluid	254832
1	Clamp, hose	279604
1	Spacer, fan	324318
1	Cooler, charge air	324334
4	Mount, vibro	324433
1	Clamp, hose	324342
1	Support, radiator (LH)	324447
1	Support, radiator (RH)	324448
1	Hose, upper radiator	324455
1	Hose, lower radiator	324456
1	Tube, cooler intake	324457
1	Tube, turbo	324458
1	Bracket, intake tube	324459
1	Bracket, mounting	324460
1	Hose, step	324474
1	Hose, step	324476
1	Brace, cooler	324674
1	Brace, cooler	324675
1	Support, cooler	324678
1	Bracket, support	324680
1	Bracket, support	324681
1	Fan	324682
1	Guard, belt (top)	324689
1	Guard, belt (right)	324690
1	Guard, belt (left)	324691
1	Guard, belt (front)	324686
1	Guard, belt (bottom)	324692
1	Guard, belt (right)	324693
1	Guard, radiator	324707
1	Guard, wire fan	336888

Cooling Kit **347288**

Parts information same as Group 104, Variation 19.

Cooling System Kits, Continued

Qty.	Description	Part No.
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Cooling Kit		347289
1	Radiator assembly	A-324442
1	Fitting, elbow 1/4 in. street	EH-2248
2	Nut, elastic stop 5/16	X-101-16
1	Bushing, reducer 3/8 x 12	X-202-28
2	Washer, plain	X-25-143
2	Washer, plain	X-25-144
2	Washer, plain	X-25-75
2	Valve, drain, 1/4	X-256-3
1	Valve, drain	X-256-5
1	Connector, hose	X-380-3
1	Connector, hose	X-391-12
1	Spacer	X-400-199
1	Spacer	X-400-200
2	Clamp, hose, 1 7/8-3 5/8	X-426-2
2	Clamp, hose	X-426-9
6	Washer, hardened	X-801-3
1	Hose, rubber 0.375 x 38	X-651-2
1	Sensor, low fluid	254832
1	Clamp, hose	279604
1	Spacer, fan	324318
1	Cooler, charge air	324334
4	Mount, vibro	324433
1	Clamp, hose	324342
2	Clamp, hose	324330
6	Clamp, hose	291590
1	Support, radiator (LH)	324447
1	Support, radiator (RH)	324448
1	Hose, upper radiator	324455
1	Hose, lower radiator	324456
1	Hose, hump, straight, 4 in.	324443
1	Tube, cooler intake	324457
1	Tube, turbo	324458
1	Bracket, intake tube	324459
1	Bracket, mounting	324460
1	Hose, step	324474
1	Hose, step	324476
1	Brace, cooler	324674
1	Brace, cooler	324675
1	Support, cooler	324678
1	Bracket, support	324680
1	Bracket, support	324681
1	Fan	324706
1	Guard, belt (top)	324689
1	Guard, belt (right)	324690
1	Guard, belt (left)	324691
1	Guard, belt (front)	324686
1	Guard, belt (bottom)	324692
1	Guard, belt (right)	324693
1	Guard, radiator	324445
1	Guard, wire fan	336888

Cooling Kit		347291
Parts information same as Group 104, Variation 20.		

Appendix A. Abbreviations

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

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

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

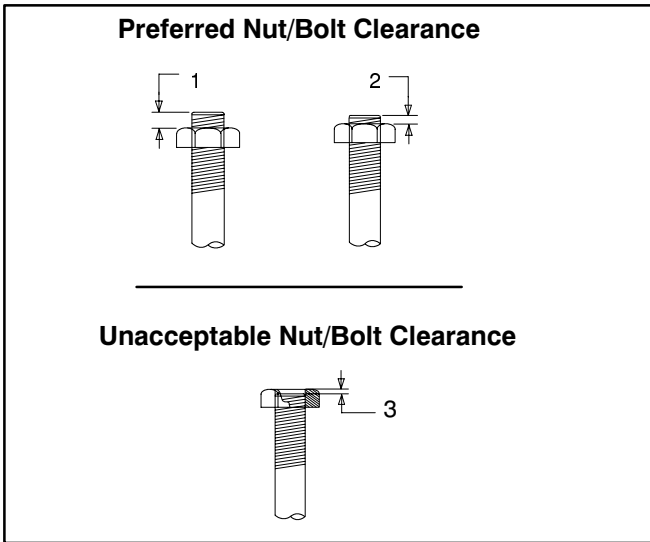
Appendix B. Common Hardware Application Guidelines

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

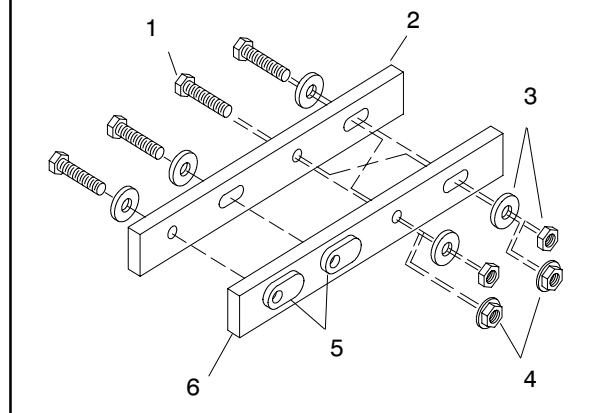
Figure 2. Acceptable Bolt Lengths

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 3. Acceptable Hardware Combinations

Appendix C. General Torque Specifications

American Standard Fasteners

Use the following specifications for American Standard fasteners when no torque values are given elsewhere in this or the service manual for a specified bolt.

The values given are based on new plated threads. Increase values by 20% if nonplated threads are used.

Size	Torque Measurement	Assembled into Cast Iron or Steel			Assembled into
		Grade 2	Grade 5	Grade 8	Aluminum Grade 2 or 5
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	in. 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















Use the following specifications for metric fasteners when no torque values are given elsewhere in this manual for a specified bolt. These values are based on new plated threads.

Increase values by 20% if nonplated threads are used. Screws threaded into aluminum must have two diameters of threads engaged and may require 30% or more reduction in the torque.

Size (mm)	Torque ft-lb (Nm)			
	5.8	6.8	10.9	Fasteners Assembled Into Aluminum
6 x 1.00	5 (7)	6 (9)	9 (12)	5 (7)
8 x 1.25	14 (19)	14 (20)	20 (37)	14 (19)
8 x 1.00	16 (21)	17 (24)	23 (31)	16 (21)
10 x 1.50	25 (35)	27 (37)	38 (51)	25 (35)
10 x 1.25	29 (39)	34 (46)	45 (61)	29 (39)
12 x 1.75	42 (57)	45 (61)	65 (89)	
12 x 1.50	48 (65)	55 (75)	78 (106)	
14 x 2.00	64 (86)	69 (94)	101 (137)	
14 x 1.50	74 (100)	81 (110)	116 (157)	
16 x 2.00	98 (133)	104 (141)	150 (204)	
16 x 1.50	104 (141)	116 (157)	168 (228)	
18 x 2.50	133 (181)	145 (196)	208 (283)	
18 x 1.50	145 (196)	156 (212)	226 (306)	

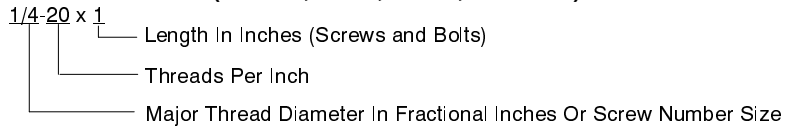
Appendix D. Common Hardware Identification

Screws/Bolts/Studs	
Head Styles	
Hex. Head or Machine Head	 
Hex. Head or Machine Head with Washer	
Flat Head (f.h.m.)	
Round Head (r.h.m.)	
Pan Head	
Socket Head Cap or Allen Head Cap	
Socket Head or Allen Head Shoulder Bolt	
Sheet Metal Screw	
Stud	
Drive Styles	
Hex.	
Hex. and Slotted	
Phillips	
Slotted	
Hex. Socket	
Hardness Grade	
American Standard	
Grade 2	
Grade 5	
Grade 8	
Grade 8/9	
Metric	
Number stamped on hardware; 5.8 shown	

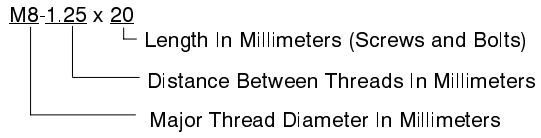
Nuts	
Nut Styles	
Hex. Head	
Lock Nut or Nylock Nut	
Square Nut	
Cap Nut or Acorn Nut	
Wing Nut	
Nut Hardness Grades	
American Standard	
Grade 2	
Grade 5	
Metric	
Number stamped on hardware	
Washers	
Washer Styles	
Plain	
Split Lock or Spring	
Spring or Wave	
External Tooth Lock	
Internal Tooth Lock	
Internal-External Tooth Lock	

Sample Dimensions

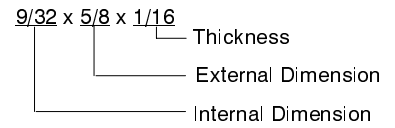
American Standard (Screws, Bolts, Studs, and Nuts)



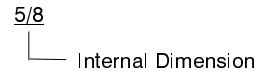
Metric (Screws, Bolts, Studs, and Nuts)



Plain Washers



Lock Washers



Appendix E. Common Hardware List

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

HEX BOLTS (GRADE 5)

Part No.	Dimensions
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

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

NUTS

Part No.	Dimensions	Type
X-6009-1	1-8	Std. Nut
X-6210-3	6-32	Whiz Nut
X-6210-4	8-32	Whiz Nut
X-6210-5	10-24	Whiz Nut
X-6210-1	10-32	Whiz Nut
X-6210-2	1/4-20	Spiralock Nut
X-6210-6	1/4-28	Spiralock Nut
X-6210-7	5/16-18	Spiralock Nut
X-6210-8	5/16-24	Spiralock Nut
X-6210-9	3/8-16	Spiralock Nut
X-6210-10	3/8-24	Spiralock Nut
X-6210-11	7/16-14	Spiralock Nut
X-6210-12	1/2-13	Spiralock Nut
X-6210-15	7/16-20	Spiralock Nut
X-6210-14		Spiralock Nut
X-85-3	5/8-11	Std. Nut
X-88-12	3/4-10	Std. Nut
X-89-2	1/2-20	Std. Nut

WASHERS

Part No.	ID	OD	Thickness	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

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