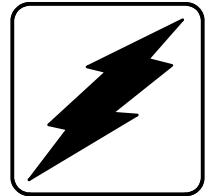


Service Parts

Industrial Generator Sets



Models:

20-170ROZK

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

See TP-6009 Parts Catalog Industrial Controller for controller parts

ISO 9001
KOHLER
GENERATORS
INTERNATIONALLY REGISTERED

KOHLER[®]
POWER SYSTEMS

TP-6029 10/00a

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Introduction

This manual lists service replacement parts for 20–170 kW generator sets.

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

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

This manual includes the following main sections:

Table of Contents. Lists the sections of the manual.

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

Index. Lists the generator set specs and groups.

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

Kit Sections. List modules and accessories and their parts.

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

xin:004:002

Numbering System Significance

This manual uses the following numbering systems:

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

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

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

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

xin:004:003

Illustrations

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

xin:004:004

How to Find Part Numbers

Use the following steps to locate a service replacement part.

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

xin:004:005

Hardware References

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

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

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

xin:004:006

Specification Number Index

GROUP TITLE AND NUMBER	<i>Air Intake</i>	<i>Cooling System</i>	<i>Engine</i>	<i>Nameplates and Decals</i>	<i>Skid and Plant Mounting</i>	<i>Generator and Mounting</i>	<i>Controller and Mounting</i>	<i>Literature</i>
GROUP NO.	101	104	105	107	109	201	301	701
SPEC NO.	VARIATION NUMBER							

20ROZK								
198001	*	*	1	2	*	*	†	1
198001	*	*	2	2	*	*	†	1
30ROZK								
198003	*	*	3	2	*	*	†	2
198004	*	*	4	2	*	*	†	2
40ROZK								
198005	*	*	5	2	*	*	†	3
198006	*	*	6	2	*	*	†	3
50ROZK								
198007	*	‡	7	1	*	*	†	4
198019	*	‡	17	1	*	*	†	4
60ROZK								
198008	*	‡	8	1	*	*	†	5
198020	*	‡	18	1	*	*	†	5
70ROZK								
198009	*	‡	9	1	*	*	†	6
198021	*	‡	19	1	*	*	†	6
80ROZK								
198010	*	‡	10	1	*	*	†	13
198030	*	‡	20	1	*	*	†	13

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

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

‡ Cooling system included with the engine assembly. See literature group for the part number of the engine parts catalog.

Specification Number Index

GROUP TITLE AND NUMBER	<i>Air Intake</i>	<i>Cooling System</i>	<i>Engine</i>	<i>Nameplates and Decals</i>	<i>Skid and Plant Mounting</i>	<i>Generator and Mounting</i>	<i>Controller and Mounting</i>	<i>Literature</i>
GROUP NO.	101	104	105	107	109	201	301	701
SPEC NO.	VARIATION NUMBER							

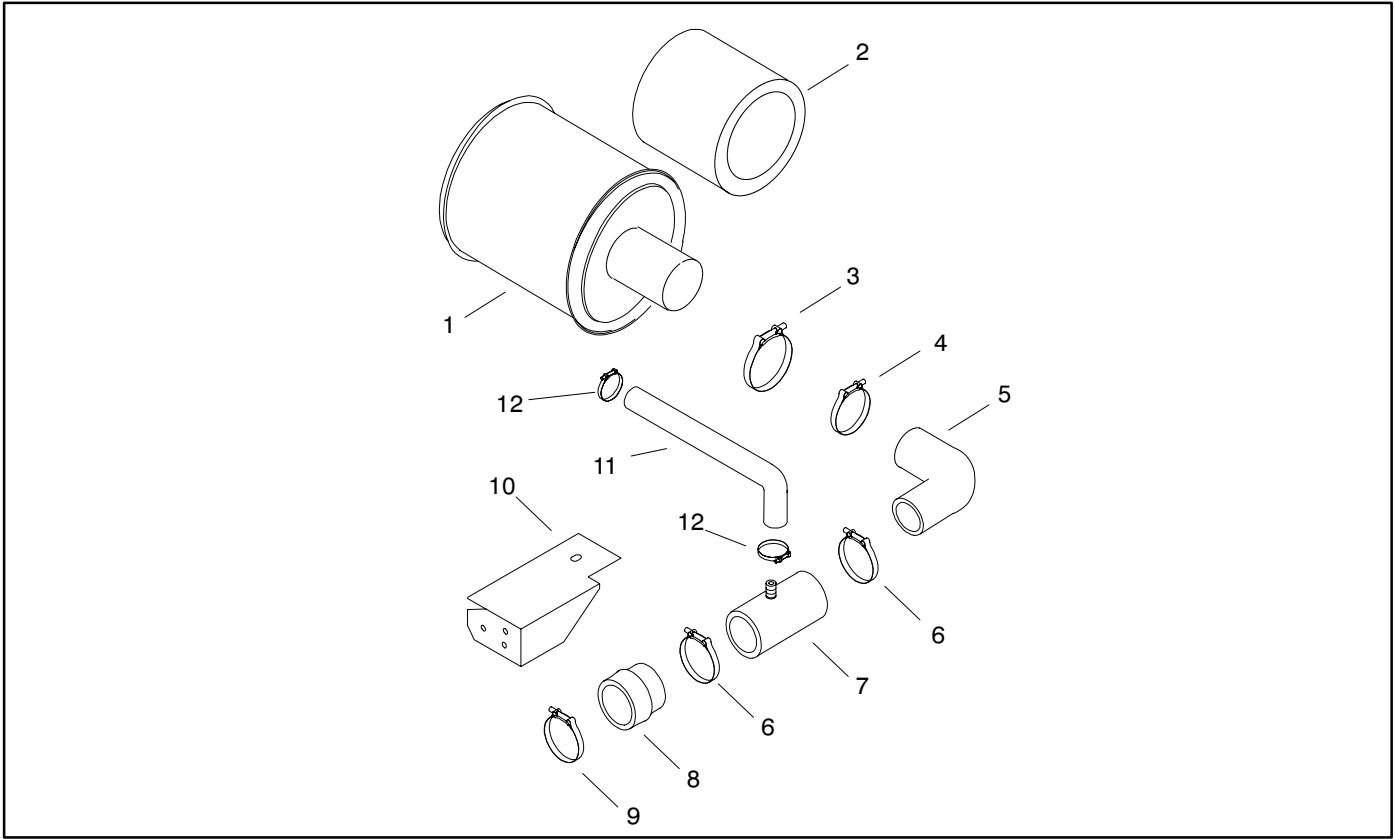
90ROZK								
198011	*	⊘	10	1	*	*	†	7
198022	*	⊘	20	1	*	*	†	7
100ROZK								
198012	*	⊘	11	1	*	*	†	8
198023	*	⊘	21	1	*	*	†	8
115ROZK								
198013	*	⊘	12	1	*	*	†	9
198024	*	⊘	22	1	*	*	†	9
135ROZK								
198014	*	⊘	13	1	*	*	†	10
198025	*	⊘	23	1	*	*	†	10
150ROZK								
198015	*	⊘	14	1	*	*	†	11
198016	*	⊘	24	1	*	*	†	11
198026	*	⊘	13	1	*	*	†	11
198027	*	⊘	23	1	*	*	†	11
170ROZK								
198017	*	*	15	3	*	*	†	12
198018	*	*	16	3	*	*	†	12
198028	*	*	25	3	*	*	†	12
198029	*	*	26	3	*	*	†	12

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

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

⊘ Cooling system included with the engine assembly. See literature group for the part number of the engine parts catalog.

Group 101: Air Intake



Module Number to Key Cross-Reference

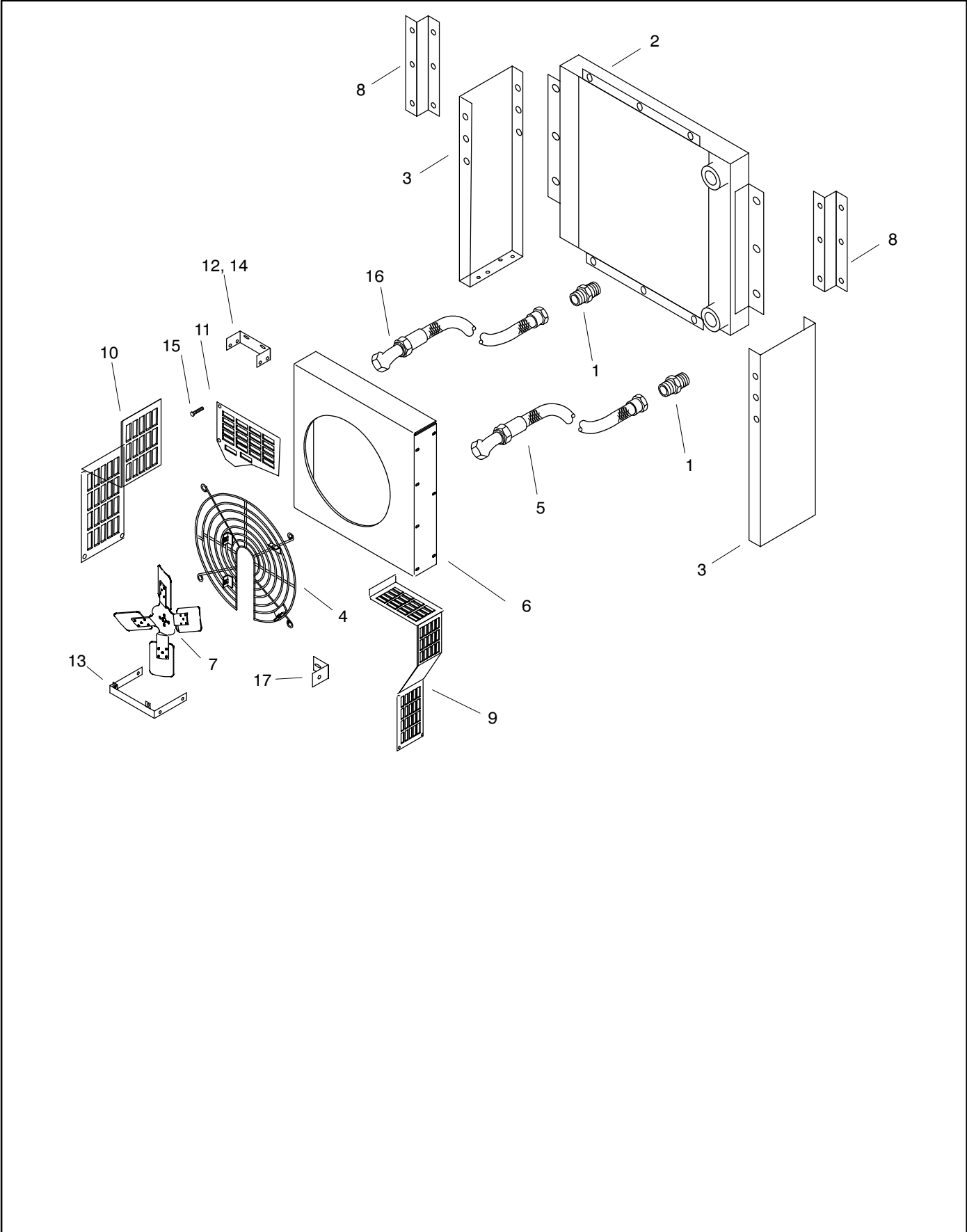
Use the module number of your air intake from the genset nameplate to determine the key.

Module Number to Key Cross-Reference					
Module Number	Key	Module Number	Key	Module Number	Key
364112	A	364056	F	364117	K
364055	B	364091	G	GM10330-MA1	L
364077	C	364092	H	GM12026-MA1	M
364078	D	364093	I		
364079	E	364094	J		

Group 101: Air Intake

Item	Part Number	Description	Quantity												
			Module Key												
			A	B	C	D	E	F	G	H	I	J	K	L	M
1	A-273699	Air cleaner	1	1	1										
1	A-273700	Air cleaner				1	1								
1	A-274721	Air cleaner						1	1				1		
1	254069	Air cleaner								1					
1	A-324360	Air cleaner									1				
1	A-343258	Air cleaner										1			1
1	279380	Mount, air cleaner						2	2				2		
1	324363	Mount, air cleaner								1					
1	290956	Mount, air cleaner									2				
1	254012	Mount, air cleaner										2			2
1	343218	Clamp												2	
1	343219	Air cleaner, industrial												1	
2	253107	Element, air cleaner	1	1	1										
2	253108	Element, air cleaner				1	1								
2	274726	Element, air cleaner						1	1				1		
2	274729	Element, air cleaner									1				
2	343259	Element, air cleaner										1			1
3	X-426-5	Clamp, hose, 3.56/4.5 in.				1	1								
3	X-722-10	Clamp, muffler, 3.37 in.	1	1											
3	X-426-1	Clamp, hose, 2.81/3.75 in.			1				1						
3	291537	Clamp, hose, 3.75/4.06 in.						1	1				1		
3	291562	Clamp, hose, 5.25/5.56 in.								1	1				
3	291504	Clamp, hose, 5.81/6.12 in.										1			1
4	274545	Clamp, hose, 4.31/4.62 in.				1	1								
4	254013	Clamp, hose, 6.25/6.56 in.												1	
5	364064	Hose, air intake	1												
5	364031	Hose, air intake		1											
5	GM10020	Hose, air intake				1									
5	364231	Hose, air intake					1								
5	364020	Hose, air intake						1							
5	364276	Hose, air intake							1						
5	GM10170	Hose, air intake HD								1					
5	364238	Hose, air intake HD									1		1		
5	GM10580	Hose, molded air intake (std)												1	
5	GM10581	Hose, air intake HD										1			1
6	274545	Clamp, hose, 4.31/4.62 in.				2	2			1	2	2		2	1
6	X-426-1	Clamp, hose, 2.81/3.75 in.	2	2				1	1	1			1		
7	X-522-92	Tube, steel		1											
7	GM10022	Tube assembly				1				1		1		1	1
7	GM10100	Tube assembly					1				1				
7	X-522-76	Tube, steel						1							
7	X-522-89	Tube, steel							1						
8	GM10021	Hose, reducer				1				1					
8	364236	Hose, reducer					1				1	1		1	1
9	X-426-2	Clamp, hose, 2.31/3.25 in.				1									
9	X-426-1	Clamp, hose, 2.81/3.75 in.					1				1	1		1	1
9	274545	Clamp, hose, 4.31/4.62 in.								1					
10	364237	Bracket, air cleaner												1	1
10	364032	Bracket, air cleaner support	1	1											
10	364429	Bracket, air cleaner mounting			1										
10	364190	Bracket, air cleaner mounting				1	1								
10	364021	Bracket, air cleaner mounting						1							
10	364277	Bracket, mounting HDAC							1						
10	364275	Bracket, mounting HDAC								1					
10	361114	Bracket, heavy-duty air cleaner									1	1			
10	364269	Bracket, support											1		
10	X-400-161	Spacer, .531 ID x 1 OD x .75 in.								2	2	2		2	2
11	364189	Hose, breather				1				1					
11	364232	Hose, breather					1				1				
11	GM10582	Hose, breather										1		1	1
11	GM10583	Bracket, support (not shown)										1		1	1
11	X-672-4	Clamp, insulated, 1.25 in.										1		1	1
12	X-426-20	Clamp, hose, .63/1.5 in.				2	2			2	2			2	2
13	253664	Cap (not shown)						1	1					1	
13	253668	Cap (not shown)								1					
13	254006	Cap (not shown)									1				
13	254010	Cap (not shown)										1			1

Group 104: Cooling System



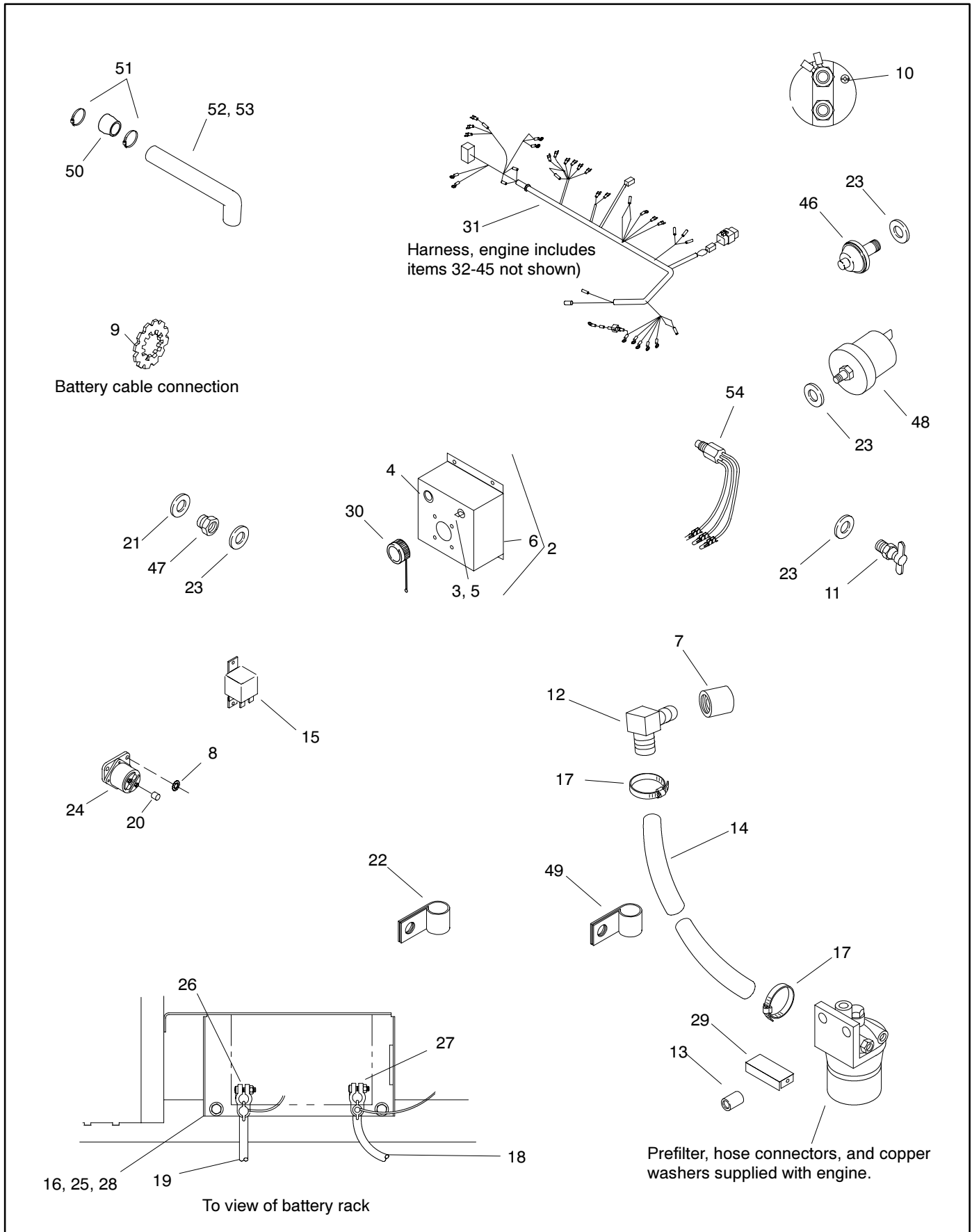
Group 104: Cooling System

Item	Part Number	Description	Quantity	
			Module Number	
			GM10441-MA1	GM10442-MA1
1	X-296-20	Connector, half union	2	2
2	364018	Cooler, oil	1	
2	364019	Cooler, oil		1
3	364023	Support, oil cooler	2	
3	GM10393	Support, oil cooler (RH)		1
3	GM10394	Support, oil cooler (LH)		1
4	364026	Guard, wire fan	1	
4	GM10391	Guard, wire fan		1
5	364028	Hose, oil (lower)	1	1
6	364025	Shroud, fan	1	
6	GM10392	Shroud, fan		1
7	364022	Fan, pusher	1	
7	GM10390	Fan, engine		1
9	GM10389	Guard, belt (RH)	1	1
9	364465	Guard, belt (RH)	1	1
10	364466	Guard, belt (LH)	1	1
11	364467	Guard, belt (front)	1	1
12	364485	Bracket, belt guard	1	
12	X-400-37	Spacer, .437 ID x .75 OD x .812 in.	2	
13	364487	Bracket, belt guard	1	1
14	265693	Spacer, .357 ID x .625 OD x 1.062 in.		2
15	X-6216-1	Screw, Phillips hex crimplite	5	5
16	364027	Hose, oil (upper)	1	
16	364514	Line, flexible fuel		1
17	364486	Bracket, belt guard	1	1

Group 104: Cooling System, continued

Item	Part Number	Description	Quantity
			Module Number GM12338-MA1
1	GM10631	Assembly, radiator	1
2	X-25-143	Washer, plain, .32 ID x 1.50 in. OD	4
3	X-25-144	Washer, plain, .781 ID x 1.50 in. OD	4
4	X-25-75	Washer, plain, .344 ID x .875 in. OD	14
5	X-256-3	Valve, drain, 1/4 in. NPT	1
6	X-527-9	Hose, radiator	1
7	M982-08-80	Nut, hex elastic stop	4
8	X-391-20	Fitting, hose connector 90°	1
9	M933-08030-82	Screw, hex cap	4
10	X-426-16	Clamp, hose, 1.81/2.075 in.	4
11	X-426-20	Clamp, hose, .63/1.50 in.	2
12	X-426-9	Clamp, hose, .25/.70 in.	2
13	M933-08016-60	Screw, hex cap	20
14	X-6359-13	Hose, rubber	1
15	X-6365-1	Insert, threaded, 5/16-18 in.	6
16	343422	Bracket, fan shroud	2
17	M125A-08-80	Washer, plain	4
18	365289	Sensor, low fluid	1
18	X-6003-8	Conduit, convoluted	1
20	291542	Clamp, hose, 3.25/3.56 in.	2
21	GM12204	Clamp, turbo	1
22	364070	O-ring	1
23	343288	Spacer, radiator	2
24	324433	Vibromount	4
25	GM10632	Cooler, charge air	1
26	GM10635	Hose, upper charge cooler (76.0 mm ID)	1
27	GM10636	Tube, lower charge cooler	1
28	GM10633	Hose, upper radiator (50.0 mm ID)	1
29	GM10634	Hose, lower radiator (50.0 mm ID)	1
30	326331	Hose, hump, straight, 3 in. ID	1
31	GM12205	Retainer	1
32	X-672-34	Clamp, insulated, 3.12 in.	1
33	GM12305	Guard, radiator (top)	1
34	GM10630	Guard, radiator (bottom)	1
35	324451	Bracket, charge cooler	2
36	GM12293	Support, radiator (LH)	1
37	GM12292	Support, radiator (RH)	1
38	GM12291	Support, charge cooler (RH)	1
39	GM11446	Guard, belt (back RH)	1
40	GM12047	Guard, belt (bottom)	1
41	GM11443	Guard, belt (upper LH)	1
41	GM11444	Guard, belt (lower LH)	1
41	GM11445	Guard, belt (LH support)	1
41	GM11448	Guard, belt (LH)	1
42	GM11449	Bracket, mounting (top)	1
44	GM11441	Guard, belt (upper RH)	1
44	GM11442	Guard, belt (lower RH)	1
44	GM11447	Guard, belt (RH)	1
45	343193	Insulation, acoustic, 46 x 4.40 in.	1
46	343014	Guard, radiator	1
47	GM10536	Fan, pusher	1
48	343054	Shroud, fan	1
49	GM11418	Guard, wire fan	1
50	343175	Clamp, hose, 3.06/3.38 in.	2

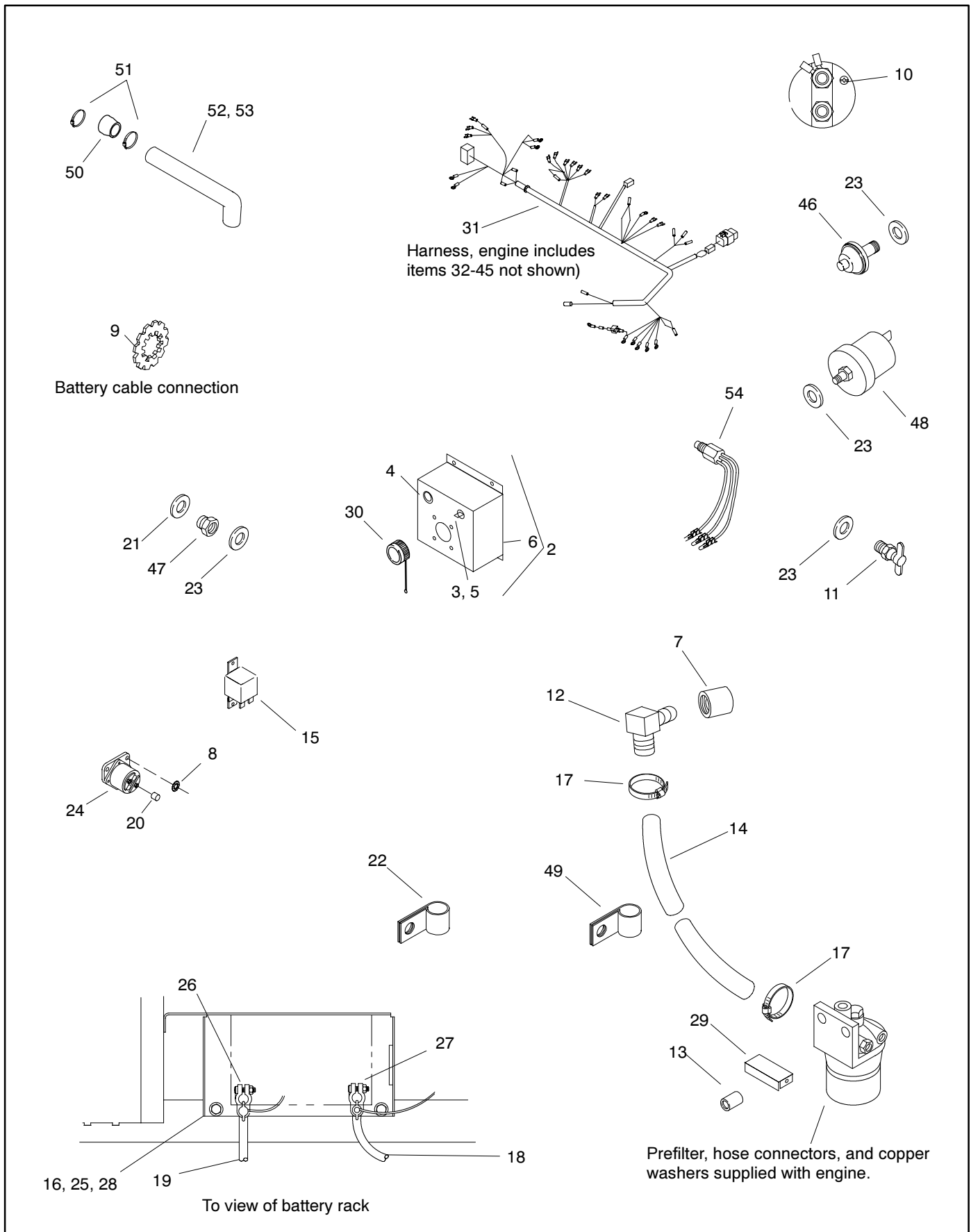
Group 105: Engine



Group 105: Engine

Item	Part Number	Description	Quantity														
			Variation Number														
			1	2	3	4	5	6	7	8	9	10	11	12	13		
1	A-364009	Engine assembly, Deutz 1101	1														
1	A-364033	Engine assembly, Deutz 1101		1													
1	A-364010	Engine assembly, Deutz 1101			1												
1	A-364034	Engine assembly, Deutz 1101				1											
1	A-364011	Engine assembly, Deutz 1101					1										
1	A-364035	Engine assembly, Deutz 1101						1									
1	A-364001	Engine assembly, Deutz 1102							1								
1	A-364002	Engine assembly, Deutz 1102								1							
1	A-364003	Engine assembly, Deutz 1103									1						
1	A-364004	Engine assembly, Deutz 1103										1					
1	A-364005	Engine assembly, Deutz 1103											1				
1	A-364006	Engine assembly, Deutz 1103													1		
1	A-364007	Engine assembly, Deutz 1103															1
2	A-364162	Box assembly, engine light								1	1	1	1	1	1	1	1
3	151511	Ring, lock switch								1	1	1	1	1	1	1	1
4	343687	Lamp assy., 14VDC Red LED								1	1	1	1	1	1	1	1
5	354151	Switch, toggle, 2 pole								1	1	1	1	1	1	1	1
6	364161	Box, engine light								1	1	1	1	1	1	1	1
7	X-216-23	Coupling, pipe, 3/8 x 1 3/16 in.								1	1	1	1	1	1	1	1
8	X-22-12	Washer, lock, .262 ID x .743 in. OD	2	2	2	2	2	2	4	4	4	4	4	4	4	4	4
9	X-22-14	Washer, lock, .391 ID x .975 in. OD	1	1													
9	X-22-26	Washer, lock, .521 ID x 1.24 in. OD			1	1	1	1	2	2	2	2	2	2	2	2	2
10	X-22-9	Washer, lock, .20 ID x .373 in. OD							1	1	1	1	1	1	1	1	1
11	364115	Valve, oil drain	1	1	1	1	1	1									
11	X-256-7	Valve, drain							1	1	1	1	1	1	1	1	1
12	X-391-13	Fitting, hose connector 90°							1	1	1	1	1	1	1	1	1
13	X-400-100	Spacer, .357 ID x .625 OD x .656 in.							2	2							
14	X-422-35	Line, flex fuel							1	1	1	1	1	1	1	1	1
15	248362	Relay							1	1	1	1	1	1	1	1	1
16	364516	Bolt, angle	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
17	X-426-3	Clamp, hose, .56/1.06 in.							2	2	2	2	2	2	2	2	2
18	X-545-97	Lead, battery cable, no. 2, 20 in.	1	1	1	1	1	1									
18	X-545-112	Lead, battery cable, no. 2, 16 in.							1	1	1	1	1	1	1	1	1
18	X-545-118	Lead, battery cable, no. 2, 60 in.														1	1
19	X-545-96	Lead, battery cable, no. 2, 16 in.	1	1	1	1	1	1									
19	X-545-135	Cable, battery							1	1							
19	X-545-137	Cable, battery									1	1	1				
19	X-545-136	Cable, battery														1	1
20	X-6214-2	Cap	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	X-6278-12	Washer, nylon							1	1	1	1	1	1	1	1	1
22	X-672-3	Clamp, insulating							1	1	1	1	1	1	1	1	1

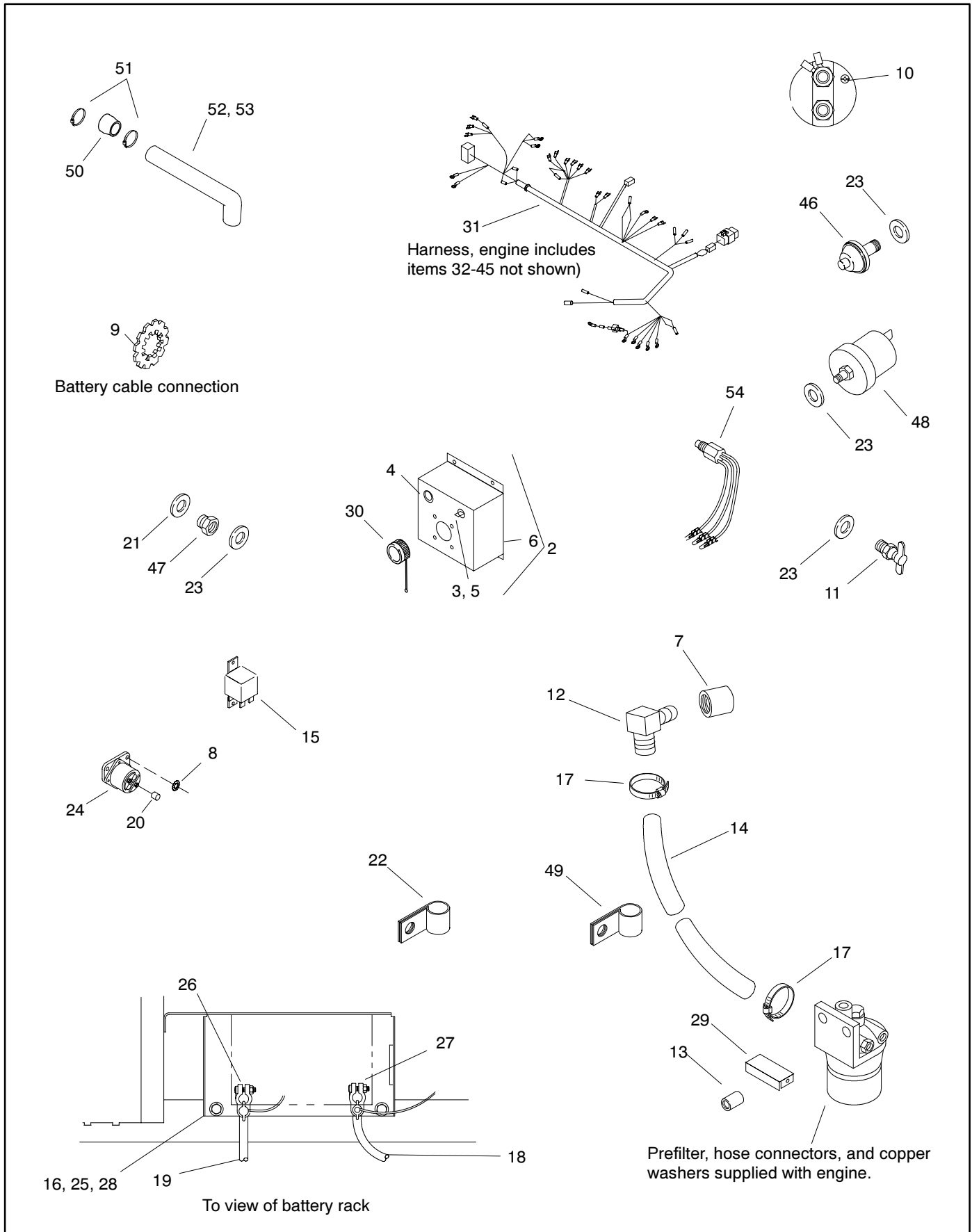
Group 105: Engine, continued



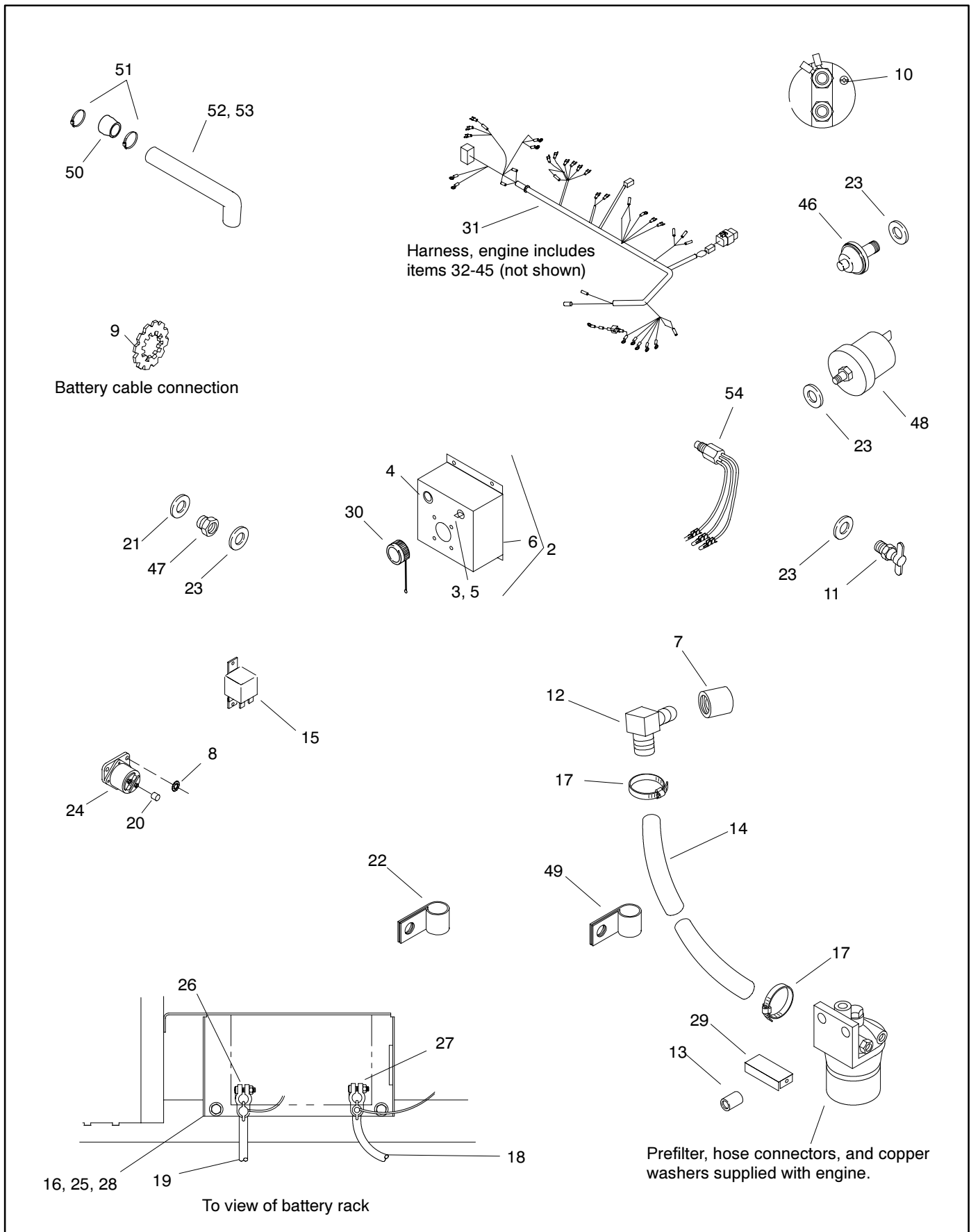
Group 105: Engine, continued

Item	Part Number	Description	Quantity														
			Variation Number														
			14	15	16	17	18	19	20	21	22	23	24	25	26		
1	A-364008	Engine assembly, Deutz 1103		1													
1	A-364042	Engine assembly, Deutz 1103	1														
1	A-364430	Engine assembly, Deutz 1102				1											
1	A-364431	Engine assembly, Deutz 1102					1										
1	A-364432	Engine assembly, Deutz 1103						1									
1	A-364433	Engine assembly, Deutz 1103							1								
1	A-364434	Engine assembly, Deutz 1103								1							
1	A-364435	Engine assembly, Deutz 1103									1						
1	A-364436	Engine assembly, Deutz 1103										1					
1	A-364437	Engine assembly, Deutz 1103											1				
1	A-364438	Engine assembly, Deutz 1103												1			
1	A-364439	Engine assembly, Deutz 1103													1		
1	A-364068	Engine assembly, Deutz 1103			1												
2	A-364162	Box assembly, engine light	1	1	1												
2	A-364473	Box assembly, engine light				1	1	1	1	1	1	1	1	1	1	1	1
3	151511	Ring, lock switch	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	343687	Lamp assy., 14VDC Red LED	1	1	1												
4	343685	Lamp assy., 28VDC Red LED				1	1	1	1	1	1	1	1	1	1	1	1
5	354151	Switch, toggle, 2 pole	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	364161	Box, engine light	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	X-216-23	Coupling, pipe, 3/8 x 1 3/16 in.	1			1	1	1	1	1	1	1	1	1	1	1	1
8	X-22-12	Washer, lock, .262 ID x .743 in. OD	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
9	X-22-26	Washer, lock, .521 ID x 1.24 in. OD	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10	X-22-9	Washer, lock, .20 ID x .373 in. OD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	X-256-7	Valve, drain	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	X-391-13	Fitting, hose connector 90°	1			1	1	1	1	1	1	1	1	1	1	1	1
12	X-215-25	Fitting, elbow, pipe		1	1											1	1
13	X-400-100	Spacer, .357 ID x .625 OD x .656 in.															
14	X-422-35	Line, flex fuel	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	X-582-4	Connector, hose + Vibra Seal		1	1											1	1
15	248362	Relay	1	1	1												
15	248363	Relay				1	1	1	1	1	1	1	1	1	1	1	1
16	364516	Bolt, angle	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
17	X-426-3	Clamp, hose, .56/1.06 in.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
18	X-545-112	Lead, battery cable, no. 2, 16 in.	1			1	1	1	1	1	1	1	1	1	1	1	1
18	X-545-118	Lead, battery cable, no. 2, 60 in.	1	1	1							1	1	1	1	1	1
19	X-545-135	Cable, battery					1										
19	X-545-137	Cable, battery				1		1	1	1							
19	X-545-136	Cable, battery	1	1	1						1	1	1	1	1	1	1
20	X-6214-2	Cap	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	X-6278-12	Washer, nylon	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	X-672-3	Clamp, insulating	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Group 105: Engine, continued



Group 105: Engine, continued



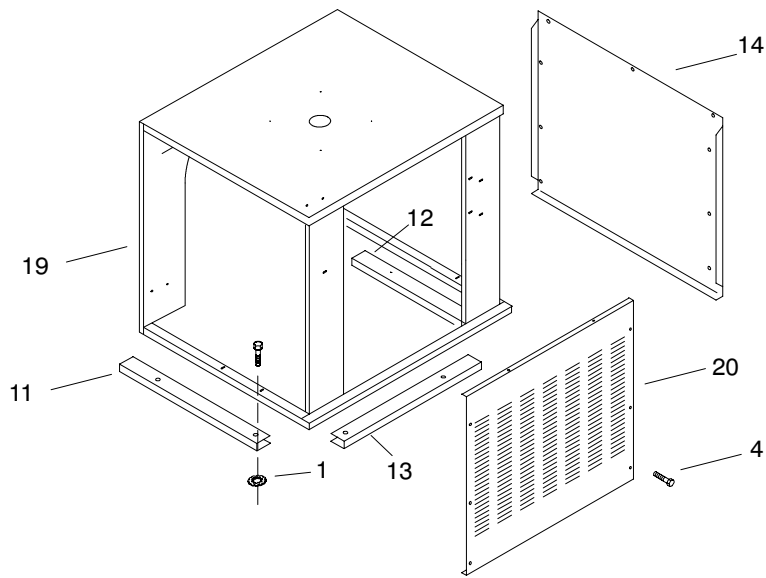
Group 105: Engine, continued

Item	Part Number	Description	Quantity												
			Variation Number												
			14	15	16	17	18	19	20	21	22	23	24	25	26
23	276317	Washer, nylon, .578 ID x 1.067 in.	4	3	3	3	3	3	3	3	4	4	4	3	3
23	X-6427-6	Washer, copper (M14)	1	1	1			1	1	1	1	1	1	1	
23	X-6427-6	Washer, copper				1	1								
24	291891	Solenoid	1	1	1										
24	268371	Relay				1	1	1	1	1	1	1	1	1	
25	324725	Clamp, battery	1	1	1										
25	364518	Clamp, battery				1	1	1	1	1	1	1	1	1	
26	345039	Terminal, battery	1	1	1	1	1	1	1	1	1	1	1	1	
27	345056	Terminal, battery	1	1	1	1	1	1	1	1	1	1	1	1	
27	280133	Lead, battery cable, 8.5 in. (jumper)				1	1	1	1	1	1	1	1	1	
28	364041	Rack, battery	1	1	1										
28	364515	Rack, battery				1	1	1	1	1	1	1	1	1	
29	364198	Bracket, prefilter mounting	1	1	1	1	1	1	1	1	1	1	1	1	
30	364214	Cap, dust	1	1	1	1	1	1	1	1	1	1	1	1	
31	364072	Harness, engine (incl. item 32-45)				1	1	1	1	1					
31	364074	Harness, engine (incl. item 32-45)	1								1	1	1		
31	GM12027	Harness, engine, 170 Kw Deutz		1	1									1	
32	223316	Fuse, 10 A, 250 V	1	1	1	1	1	1	1	1	1	1	1	1	
33	233959	Diode, 6 A	4	4	4	4	4	4	4	4	4	4	4	4	
34	257069	Grommet, U-shaped	1	1	1	1	1	1	1	1	1	1	1	1	
35	292800	Connector, cable	1	1	1	1	1	1	1	1	1	1	1	1	
36	292879	Terminal, socket, female, 20-24	4	4	4	4	4	4	4	4	4	4	4	4	
37	295145	Connector, 24-position												1	
37	295145	Connector, 24-position	1	1	1	1	1	1	1	1	1	1	1	1	
38	322557	Fuse holder, inline	1	1	1	1	1	1	1	1	1	1	1	1	
39	364201	Connector, weather-tight (P4)	1	1	1	1	1	1	1	1	1	1	1	1	
40	364202	Connector, weather-tight (P3)	1	1	1	1	1	1	1	1	1	1	1	1	
41	364203	Boot, connector	2	2	2	2	2	2	2	2	2	2	2	2	
42	364204	Connector, weather-tight (2-pin)	4	4	4	4	4	4	4	4	4	4	4	4	
43	364205	Connector, weather-tight (P7)	1	1	1	1	1	1	1	1	1	1	1	1	
44	364206	Boot, connector	1	1	1	1	1	1	1	1	1	1	1	1	
45	364213	Connector, weather-tight (P2)	1	1	1	1	1	1	1	1	1	1	1	1	
46	364343	Switch, assembly pressure	1	1	1	1	1	1	1	1	1	1	1	1	
47	364364	Adapter, bushing	1	1	1	1	1	1	1	1	1	1	1	1	
48	364388	Sender, oil pressure	1	1	1	1	1	1	1	1	1	1	1	1	
49	X-672-28	Clamp, insulated, .88 in.	1	1	1	1	1	1	1	1	1	1	1	1	
50	X-6380-1	Hose, 4 x 2.75 in. ID	1						1	1		1	1		
51	275527	Clamp, hose, 2.81/3.12 in.	2						2	2		2	2		
52	364012	Tube, turbo outlet	1						1	1		1	1		
53	364069	O-ring, turbo	1						1	1		1	1		
54	364500	Sensor, low fluid warning	1								1				

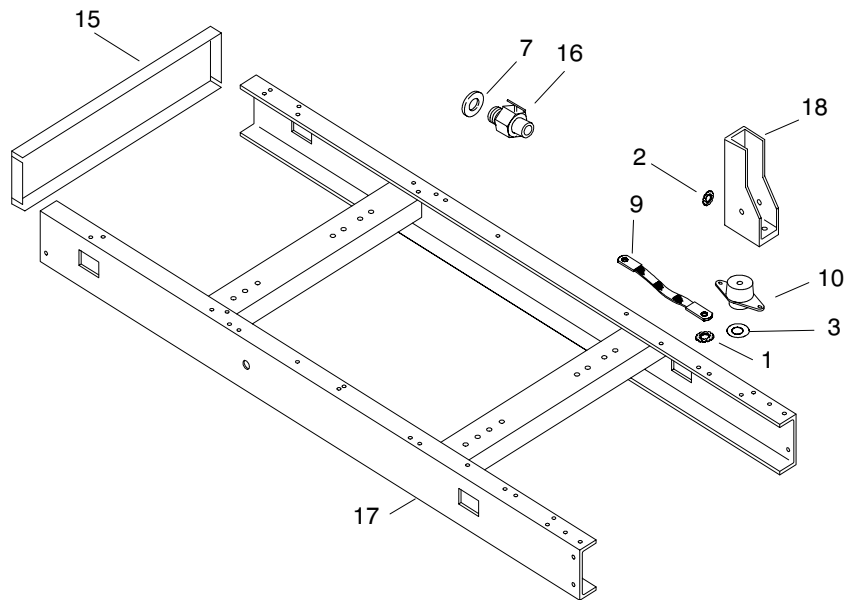
Group 107: Nameplate and Decals

Item	Part Number	Description	Quantity		
			Variation Number		
			1	2	3
1	224233	Decal, 1-800 number	1		
1	224234	Decal, 1-800 number		1	1
2	238402	Decal	1	1	1
3	249808	Decal, Warning	1	1	1
4	249809	Decal, Caution Hot Engine	1	1	1
5	249810	Decal, Warning	1	1	1
6	254454	Insulation, packing foam	2	2	
7	257437	Decal, Warning	1	1	1
8	257438	Decal, Danger	3	3	3
9	257441	Decal, Warning	1	1	1
10	258815	Decal, Warning	1	1	1
11	259365	Decal	1	1	1
12	273780	Decal, Warning	1	1	1
13	327004	Nameplate, model/ratings, Kohler	1	1	
14	364116	Decal, Caution	2		2
15	X-6275-3	Logo, Kohler			1

Group 109: Skid and Plant Mounting



Items not shown: 5, 6, 8



Module Number to Key Cross-Reference

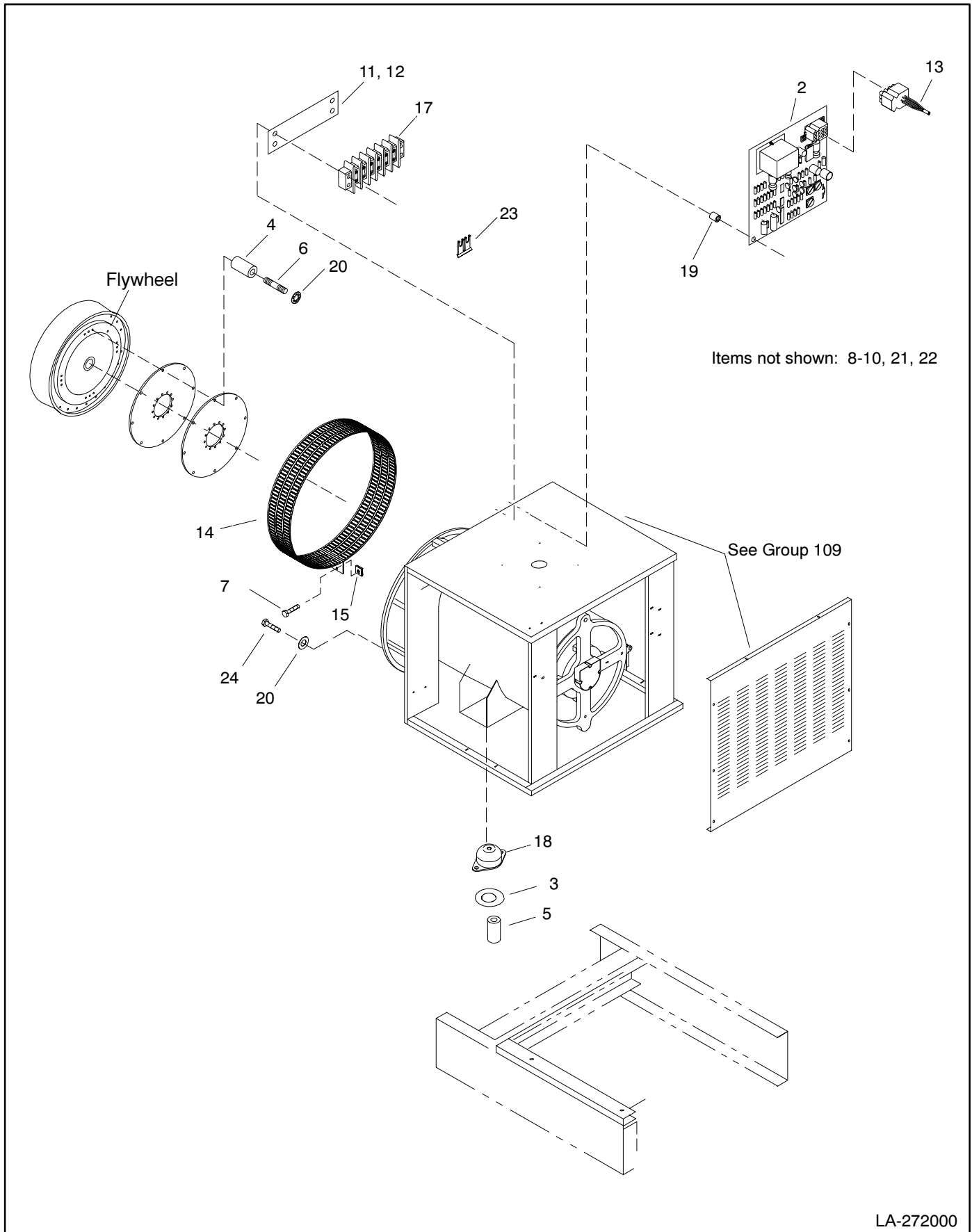
Use the module number of your skid and plant mounting from the genset nameplate to determine the key.

Module Number to Key Cross-Reference			
Module Number	Key	Module Number	Key
364053	A	364119	F
364086	B	364195	G
364087	C	GM12271-MA1	H
364088	D	GM12272-MA1	I
364089	E		

Group 109: Skid and Plant Mounting

Item	Part Number	Description	Quantity								
			Module Key								
			A	B	C	D	E	F	G	H	I
1	X-22-15	Washer, lock, .456 ID x 1.058 in. OD	4	7	7	7	7	4	7	7	7
2	X-22-26	Washer, lock, .521 ID x 1.24 in. OD		2	2	2	2	3	2		
2	X-22-14	Washer, lock, .391 ID x .975 in. OD	1								
2	X-22-30	Washer, lock, .652 ID x 1.058 in. OD	1					1		1	1
3	X-25-140	Washer, plain, .531 ID x 2 in. OD	2	2				2			
3	X-25-112	Washer, plain			2	2	2		2	2	2
4	X-6216-1	Screw, Phillips hex crimplite		12	12	12	12		12	12	12
5	X-6232-2	Decal, stripes		3	3	3	3		3	3	3
5	X-6232-5	Decal, stripe	3					3			
6	X-6246-1	Decal, Kohler Power System	2	2	2	2	2	2	2	2	2
7	X-6278-7	Washer, nylon, .75 ID x 1.063 in. OD		1	1	2	2		1	1	1
7	GM12270	Washer, sealing								1	1
8	273739	Decal, Fast Response	2	2	2	2	2	2	2	2	2
9	290418	Strap, ground		1	1	1	1		1	1	1
9	287363	Strap, ground	1								
9	266581	Strap, ground						1			
10	324074	Vibromount		2							
10	324389	Vibromount			2	2			2	2	2
10	336813	Vibromount					2				
10	276309	Mount, engine	2					2			
10	364111	Mount, engine (front)						1			
11	364038	Support, junction box (RS)		1	1	1	1		1		
11	364047	Support, junction box (RS)	1								
11	364065	Support, junction box (RS)						1			
11	GM10763	Support, junction box (RH)								1	
11	GM10558	Support, junction box (RH)									1
12	364039	Support, junction box (LS)		1	1	1	1		1		
12	364048	Support, junction box (LS)	1								
12	364066	Support, junction box (LS)						1			
12	GM10764	Support, junction box (LH)								1	
12	GM10559	Support, junction box (LH)									1
13	364040	Support, junction box, rear		1	1	1	1		1		
13	364049	Support, junction box, rear	1								
13	364067	Support, junction box, rear						1			
13	GM10765	Support, junction box, rear								1	
13	GM10560	Support, junction box, rear									1
14	364045	Cover, side	2	2				2			
14	222835-BLK	Cover, side			2	2	2		2	2	
14	336001-BLK	Cover, side									2
15	364050	End cap, skid		2	2				2		
15	364121	End cap, skid	2					2			
15	364239	End cap, skid				2	2				
15	GM10649	End cap, skid								2	2
16	364115	Valve, oil drain		1	1	1	1		1	1	1
17	364178	Skid		1							
17	364043	Skid	1								
17	364179	Skid							1		
17	364016	Skid			1						
17	364239	Skid				1					
17	364230	Skid					1				
17	364057	Skid						1			
17	GM12267	Skid								1	
17	GM12268	Skid									1
18	364180	Support, engine mounting		2							
18	364181	Support, engine mounting							2		
18	364017	Support, engine			1	1	1				
18	364082	Support, engine (RS)						1			
18	364083	Support, engine (LS)						1			
18	GM10645	Bracket, engine mounting (RH)								1	
18	GM10646	Bracket, engine mounting (LH)								1	
18	GM10647	Bracket, engine mounting (RH)									1
18	GM10648	Bracket, engine mounting (LH)									1
19	364182	Box, junction		1							
19	364044	Box, junction	1					1			
19	364036	Box, junction			1	1	1		1	1	
19	GM10555	Box, junction									1
20	364183	Cover, rear		1							
20	364036	Cover, rear			1	1	1		1		
20	364046	Panel, J-box end	1					1			
20	364037-BLK	Cover, rear								1	
20	336004-BLK	Cover, rear									1
21	X-274-19	Fitting, 45° street elbow				1	1			1	

Group 201: Generator and Mounting



LA-272000

Group 201: Generator and Mounting

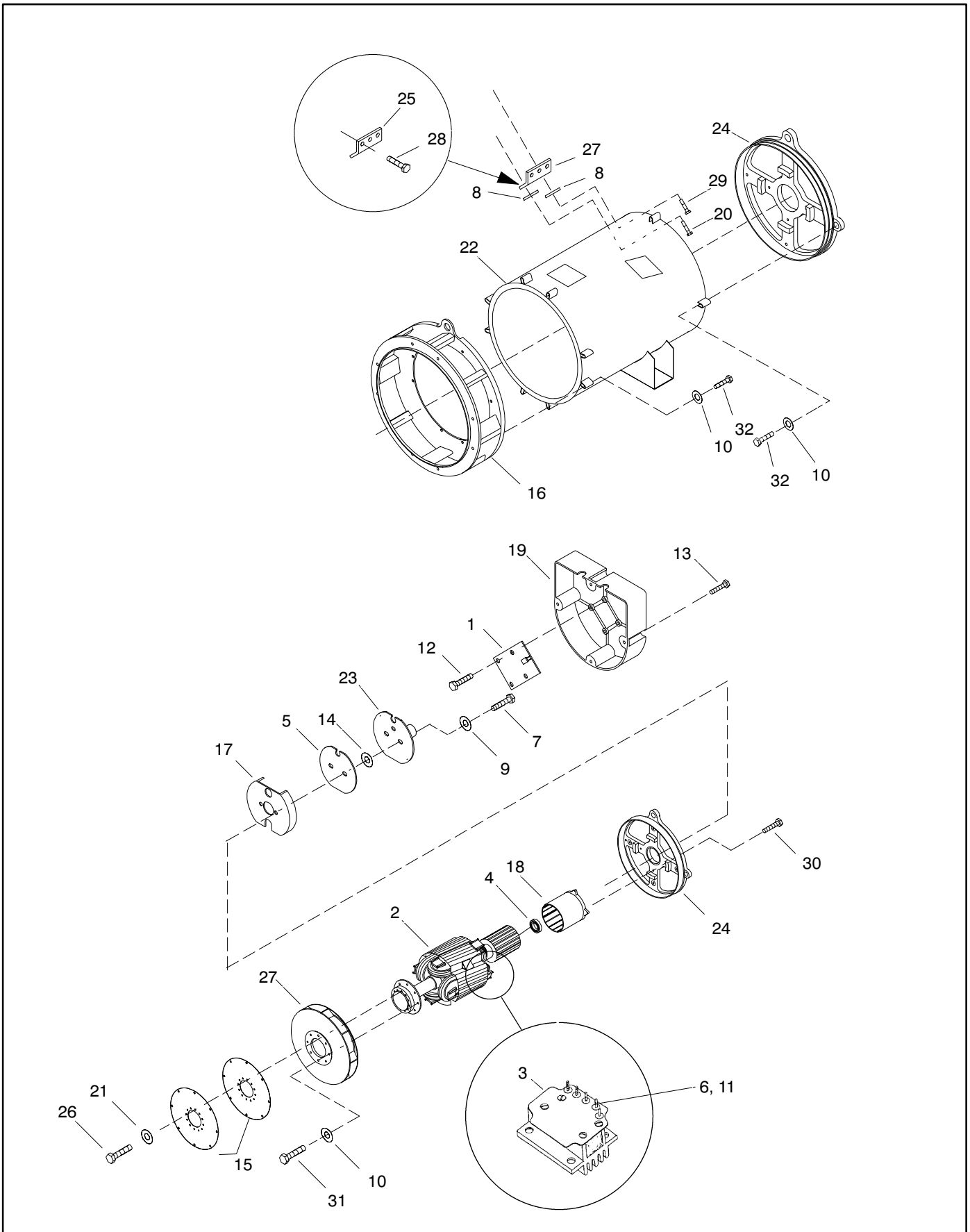
Item	Part No.	Description	Quantity															
			Module Key															
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	B-257730	Alternator assembly	1															
1	GM16271	Alternator assembly												1				
1	A-257848	Alternator assembly		1														
1	B-257722	Alternator assembly			1													
1	B-257735	Alternator assembly				1												
1	GM16272	Alternator assembly															1	
1	B-257723	Alternator assembly						1										
1	A-257845	Alternator assembly							1									
1	GM16273	Alternator assembly															1	
1	B-257724	Alternator assembly							1									
1	B-257736	Alternator assembly								1								
1	GM16274	Alternator assembly																1
1	B-257721	Alternator assembly								1								
1	B-257728	Alternator assembly									1							
1	B-257739	Alternator assembly										1						
1	B-257729	Alternator assembly											1					
2	C-255670	PCB assembly, FRII voltage/Hz reg.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	X-25-140	Washer, plain, .531 ID x 2 in. OD	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	X-25-141	Washer, .531 ID x 2.375 in. OD								2	2	2	2	2	2	2	2	2
4	X-400-132	Spacer, .406 ID x .625 OD x 2.531	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
5	X-400-154	Spacer, .527 ID x .625 OD x 2.3 in.																
6	X-6054-16	Stud, Metric	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
7	X-67-125	Screw, hex washer, thread-forming	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	X-750-14	Marker, wire	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	X-750-15	Marker, wire	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	X-750-16	Marker, wire	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	255080	Marker, strip	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	299090	Marker, strip								1	1	1	1					
13	255481	Wiring harness	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	354118	Wiring harness CT harness FRII								1	1	1	1					
14	257046	Guard, generator fan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	257442	Clip, speed	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
17	295314	Terminal block	1	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1
18	324074	Vibromount	2	2	2	2									2	2		
18	324075	Vibromount					2	2	2	2							2	2
18	324156	Vibromount								2	2	2	2					
19	360459	Standoff, circuit board	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
20	X-801-3	Washer, hardened, .406 ID x .812 in.	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
21	259365	Decal, warning voltage backfeed		1		1												
22	279958	Decal (generator connections)		1		1		1		1		1	1					
23	X-6073-2	Jumper								1	1	1	1					
24	M933-10030-82	Screw, HC								6	6	6	6					
24	M933-10030-60	Screw, HC	6	6	6	6	6	6	6									
24	M931-10080-82	Screw, HC													6	6	6	6

Module Number to Key Cross-Reference

Use the module number of your generator and mounting from the genset nameplate to determine the key.

Module Number to Key Cross-Reference			
Module Number	Key	Module Number	Key
364123	A	364096	J
364124	B	364097	K
364125	C	364098	L
364126	D	GM16277-MA1	M
364129	E	GM16278-MA1	N
364130	F	GM16279-MA1	O
364131	G	GM16280-MA1	P
364132	H		
364095	I		

Group 201: Generator and Mounting, continued



Group 201: Generator and Mounting, continued

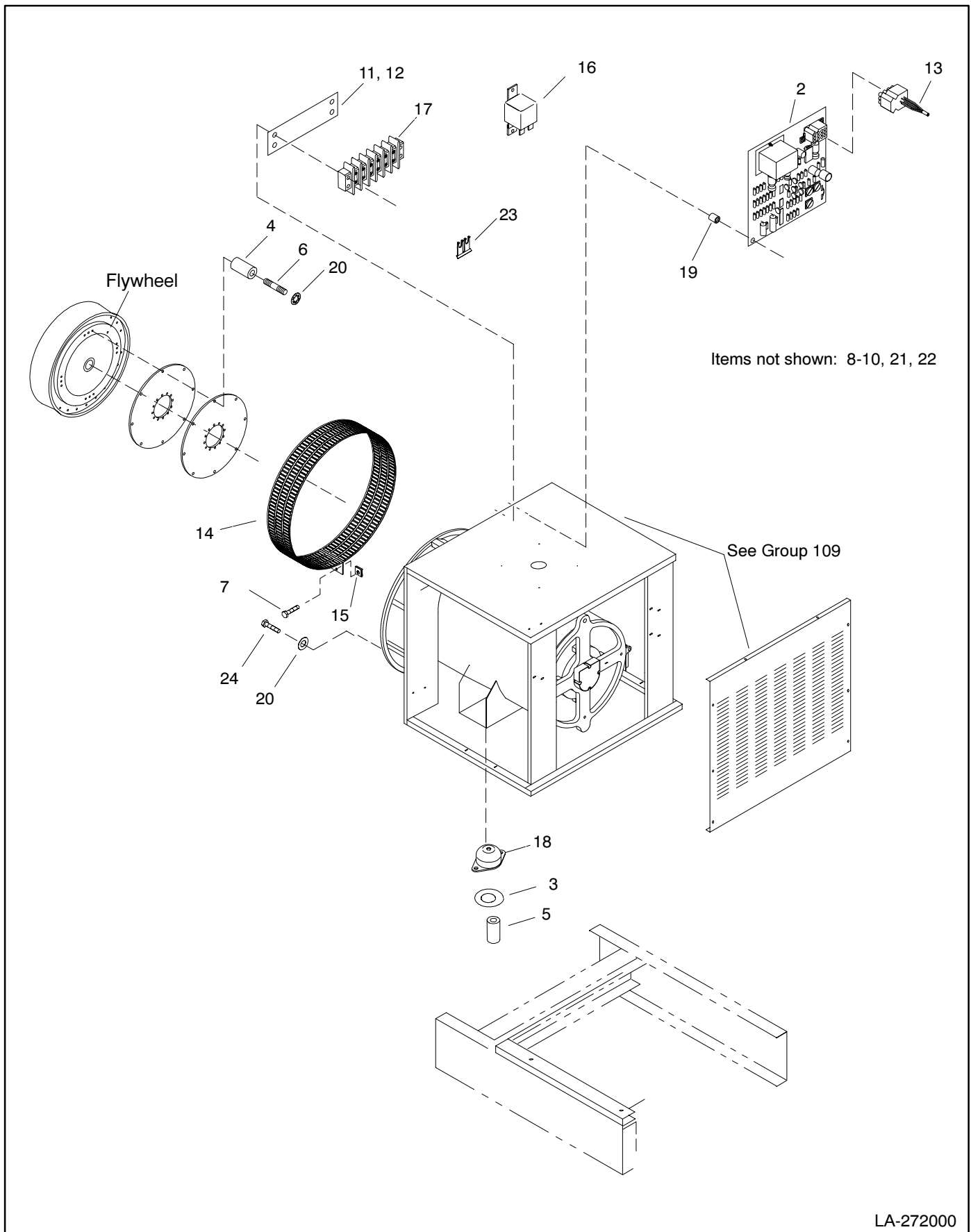
Item	Part No.	Description	Quantity														
			Module Key														
			A	B	C	D	E	F	G	H	I	J	K	L	M	M	O
1	A-257099	PCB assembly, LED, FRII	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	A-258980	Rotor assembly	1	1													
2	A-258981	Rotor assembly												1			
2	A-258979	Rotor assembly			1	1											
2	A-258817	Rotor assembly													1		
2	A-258978	Rotor assembly						1	1								
2	A-258977	Rotor assembly								1	1	1	1				
2	A-326271	Rotor assembly														1	
2	GM16270	Rotor assembly															1
2	A-258975	Rotor assembly										1	1				
3	B-258545	Heatsink	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	X-758-2	Bearing, ball	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	B-292902	PCB assembly, photo receiver	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	X-101-24	Nut, hex elastic stop, 6-32	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
7	X-117-5	Screw, hex head machine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	X-22-44	Washer, lock, .262 ID x .743 in. OD	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9	X-22-9	Washer, lock, .20 ID x .373 in. OD	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10	X-25-93	Washer, plain, .406 ID x .75 in. OD	14	14	14	14	14	14	14	14	14	20	14	20	14	14	14
11	X-283-7	Terminal, ring, male, 22-16 AWG	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
12	X-6071-1	Screw, Phillips pan head	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
13	X-67-133	Screw, hex washer, thread-forming	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
14	243321	Washer, insulating, .195 ID x .5 in.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	257015	Lamination, armature drive	2	2	2	2	2	2	2	2	2	2	2				
15	257014	Lamination, armature drive													2	2	2
16	257019	Adapter, generator (26 029 02)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	257018	Adapter, generator (26 029 01)									1	1	1	1			
17	257077	Actuator, magnetic cup	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	257080	Exciter field assembly	1	1	1	1									1	1	
18	257081	Exciter field assembly					1	1	1	1	1	1	1			1	1
19	257258	Cover, FR LED circuit board	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	X-791-5	Screw, hex head machine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	X-801-3	Washer, hardened, .406 ID x .812 in.	2	8	8	8	2	8	2	8	2	8	2	8	2	8	2
22	257765	Stator assembly	1														
22	257770	Stator assembly		1													
22	257766	Stator assembly			1												
22	257771	Stator assembly				1											
22	360501	Stator assembly															
22	257767	Stator assembly					1										
22	257772	Stator assembly						1									
22	257768	Stator assembly							1								
22	257773	Stator assembly								1	1				1		
22	257768	Stator assembly									1						
22	257769	Stator assembly										1				1	
22	257774	Stator assembly											1				1
23	257850	Insulator	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
24	257984	End bracket	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	257986	Lead connector	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
26	270956	Screw, cylinder head 3/8-16 x1 1/4	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
27	347697	Fan, alternator	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
28	X-465-8	Screw, HC	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
29	X-456-16	Screw, HC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
30	X-125-34	Screw, HC	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
31	X-6238-11	Screw, HC	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
32	X-6238-6	Screw, HC	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

Module Number to Key Cross-Reference

Use the module number of your generator and mounting from the genset nameplate to determine the key.

Module Number to Key Cross-Reference			
Module Number	Key	Module Number	Key
364123	A	364096	J
364124	B	364097	K
364125	C	364098	L
364126	D	GM16277-MA1	M
364129	E	GM16278-MA1	N
364130	F	GM16279-MA1	O
364131	G	GM16280-MA1	P
364132	H		
364095	I		

Group 201: Generator and Mounting, continued



Group 201: Generator and Mounting, continued

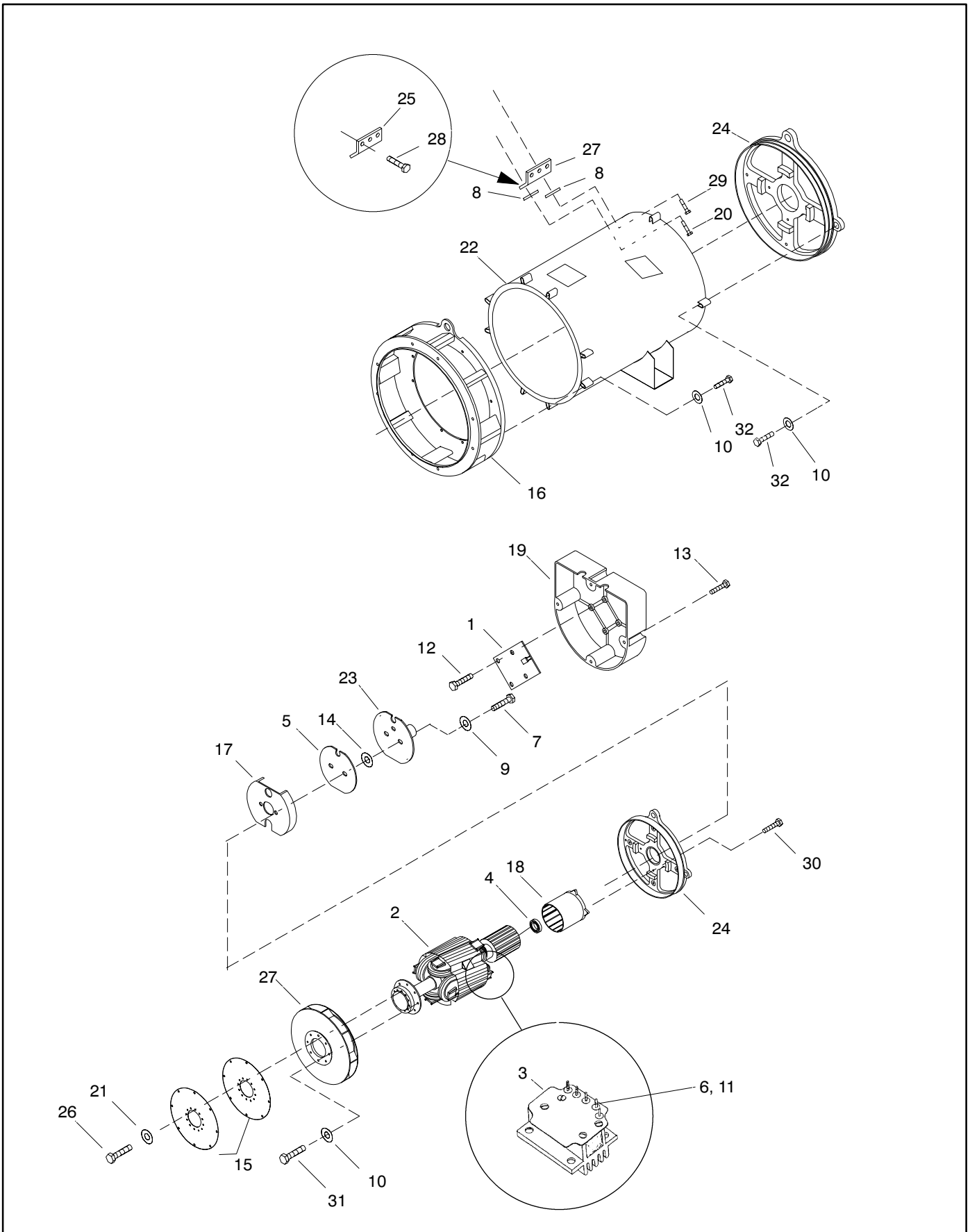
Item	Part No.	Description	Quantity															
			Module Key															
			Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD		
1	A-276686	Alternator assembly	1															
1	A-276688	Alternator assembly		1														
1	A-276687	Alternator assembly			1													
1	A-276689	Alternator assembly				1												
1	A-336833	Alternator assembly					1											
1	A-336834	Alternator assembly						1		1								
1	A-276684	Alternator assembly										1						
1	A-276685	Alternator assembly											1					
1	A-364407	Alternator assembly												1				
1	GM10318	Alternator assembly													1			
1	A-360405	Alternator assembly														1		
1	A-360379	Alternator assembly														1		
2	C-255670	PCB assembly, FRIL voltage/Hz reg.	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
3	X-25-103	Washer, plain, .531 ID x 2.75 in. OD	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
4	X-400-132	Spacer, .406 ID x .625 OD x 2.531 in	8	8	8	8	8	8	8	8	8	8	8	8	8	8		
5	X-400-154	Spacer, .527 ID x .625 OD x 2.3 in	2	2	2	2	2	2							2	2		
5	X-400-197	Spacer, .532 ID x .75 OD x 2.88 in							2	2	2	2	2	2				
6	X-6054-16	Stud, metric	8	8	8	8	8	8	8	8	8	8	8	8	8	8		
7	X-67-125	Screw, hex washer, thread-forming	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
8	X-750-14	Marker, wire	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
9	X-750-15	Marker, wire	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
10	X-750-16	Marker, wire	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
11	255080	Marker, strip	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
12	299090	Marker, strip	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
13	354118	Wiring harness CT harness FRIL	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
14	257179	Guard, generator fan	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
15	257442	Clip, speed	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
17	295314	Terminal block	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
18	324391	Vibromount	2	2	2	2									2			
18	336024	Vibromount					2	2								2		
18	324392	Vibromount							2	2	2	2	2	2				
19	360459	Standoff, circuit board	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
20	X-801-3	Washer, hardened, .406 ID x .812 in. OD	14	14	14	14	14	14	14	14	14	14	14	14	14	14		
22	279958	Decal (generator connections)		1		1		1		1		1		1		1		
22	360387	Decal (generator connections)													1	1		
23	X-6073-2	Jumper	1	1	1	1	1	1	1	1	1	1	1	1				
24	M933-10030-60	Screw, HC	6	6	6	6	6	6	6	6	6	6	6	6	6	6		

Module Number to Key Cross-Reference

Use the module number of your generator and mounting from the genset nameplate to determine the key.

Module Number to Key Cross-Reference			
Module Number	Key	Module Number	Key
364099	Q	364106	X
364100	R	364107	Y
364101	S	364108	Z
364102	T	364109	AA
364103	U	364110	AB
364104	V	364380	AC
364105	W	364381	AD

Group 201: Generator and Mounting, continued



Group 201: Generator and Mounting, continued

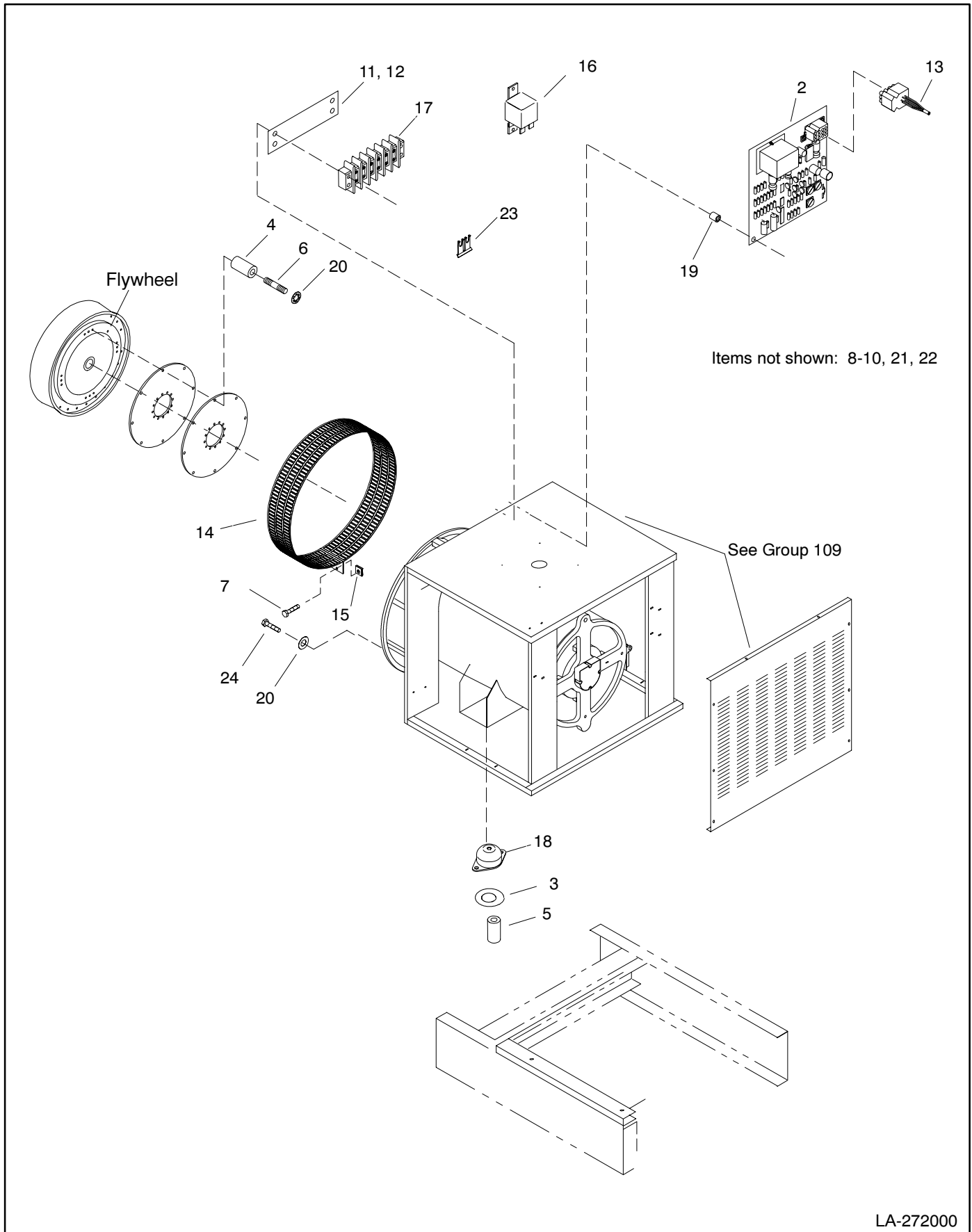
Item	Part No.	Description	Quantity														
			Module Key														
			Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	
1	A-257099	PCB assembly, LED, FRII	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	A-276664	Rotor assembly	1	1													
2	A-276665	Rotor assembly			1	1											
2	A-276665	Rotor assembly															
2	A-343443	Rotor assembly						1	1	1	1					1	
2	A-276666	Rotor assembly										1	1				
2	A-364409	Rotor assembly													1	1	
3	B-258549	Heatsink															
4	X-758-6	Bearing, ball	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	B-292902	PCB assembly, photo receiver	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	X-101-24	Nut, hex elastic stop, 6-32	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
7	X-117-5	Screw, hex head machine	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	X-22-45	Washer, lock, .338 ID x .884 in.OD	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9	X-22-9	Washer, lock, .20 ID x .373 in. OD	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10	X-25-93	Washer, plain, .406 ID x .75 in. OD	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
11	X-283-7	Terminal, ring, male, 22-16 AWG	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
12	X-6071-1	Screw, Phillips pan head, thread-forming	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
13	X-67-133	Screw, hex washer, thread-forming	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
14	243321	Washer, insulating, .195 ID x .5 in. OD	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	257103	Lamination, armature drive	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
16	257175	Adapter, generator SAE # 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	257077	Actuator, magnetic cup							1	1	1	1	1	1	1	1	1
18	276657	Exciter field assembly	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	257258	Cover, FR LED circuit board	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	X-791-7	Screw, hex head machine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	X-801-3	Washer, hardened, .406 ID x .812 in. OD	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
22	257687	Stator assembly	1														
22	257690	Stator assembly		1													
22	257688	Stator assembly			1												
22	257691	Stator assembly				1											
22	343092	Stator assembly					1										
22	343094	Stator assembly						1									
22	257689	Stator assembly							1								
22	257692	Stator assembly								1							
22	364408	Stator assembly											1				
22	GM10319	Stator assembly												1			
22	360410	Stator assembly														1	
22	360380	Stator assembly															1
24	257983	End bracket	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	257985	Lead connector	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
26	270956	Screw, cylinder head 3/8-16 x 1 1/4	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
27	257173	Fan, alternator	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
28	X-125-24	Screw, HC	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
29	X-125-31	Screw, HC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
30	X-125-34	Screw, HC	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
31	X-6238-11	Screw, HC	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
32	X-6238-6	Screw, HC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
32	X-6238-9	Screw, HC	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9

Module Number to Key Cross-Reference

Use the module number of your generator and mounting from the genset nameplate to determine the key.

Module Number to Key Cross-Reference					
Module Number	Key	Module Number	Key	Module Number	Key
364385	AE	364378	AI	GM13772-MA1	AM
GM16281-MA1	AF	GM16282-MA1	AJ	364253	AN
364386	AG	364379	AK	264254	AO
GM10995-MA1	AH	GM13771-MA1	AL		

Group 201: Generator and Mounting, continued



Group 201: Generator and Mounting, continued

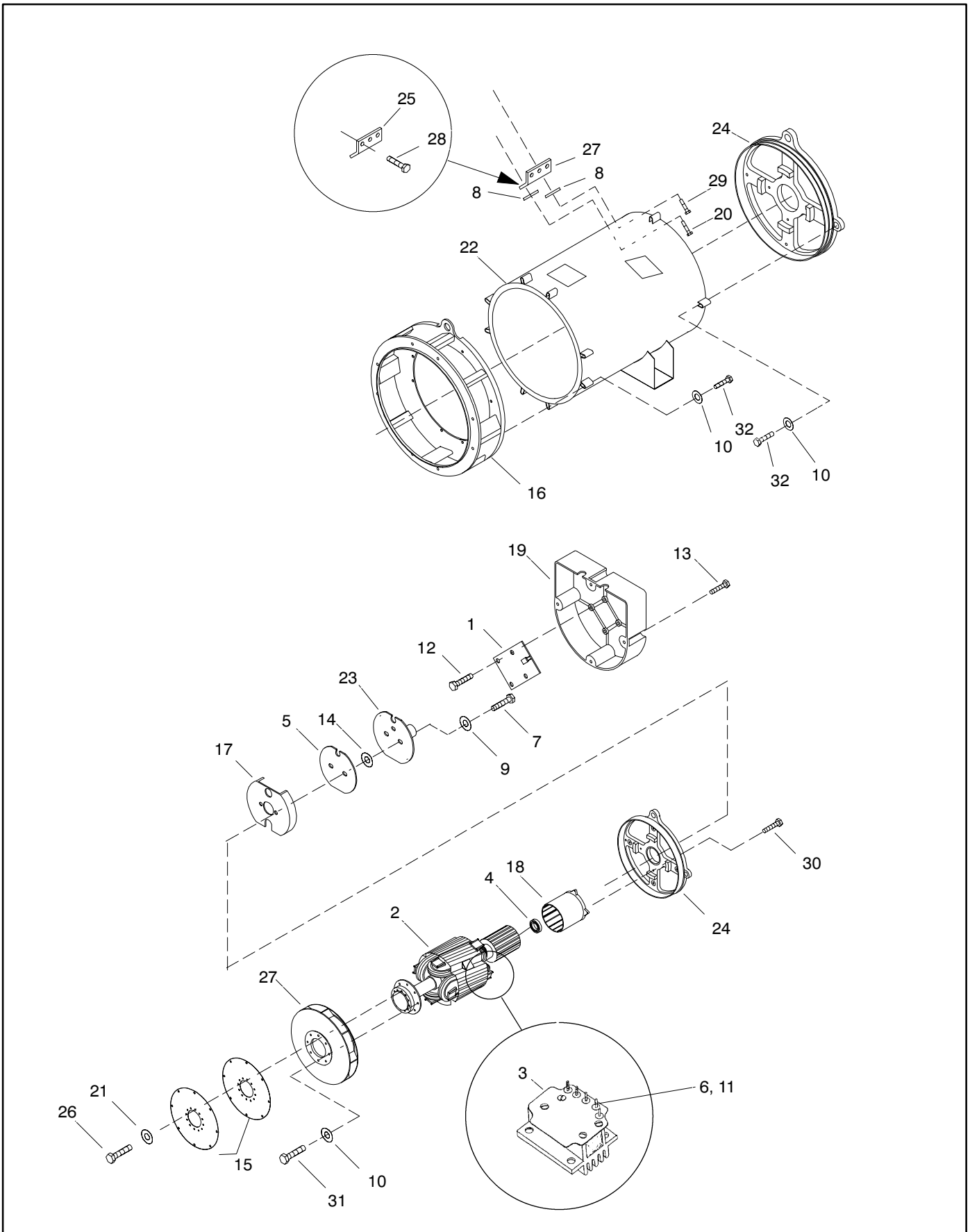
Item	Part No.	Description	Quantity										
			Module Key										
			AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
1	A-360730	Alternator assembly	1										
1	A-360731	Alternator assembly			1								
1	GM16275	Alternator assembly		1									
1	A-360732	Alternator assembly				1							
1	A-360738	Alternator assembly					1						
1	GM16275	Alternator assembly						1					
1	A-360739	Alternator assembly							1				
1	GM13769	Alternator assembly, 4S15								1			
1	GM13770	Alternator assembly, 4S15 600V									1		
1	A-374120	Alternator assembly										1	
1	A-347218	Alternator assembly											1
2	C-255670	PCB assembly, FRIL voltage/Hz reg.	1	1	1	1	1	1	1	1	1		
2	A-354653	PCB assembly, V/Hz regulator, FRIL										1	1
3	X-25-140	Washer, plain, .531 ID x 2 in. OD	2	2	2	2							
3	X-25-141	Washer, plain, .531 ID x 2.375 in. OD					2	2	2				
3	X-25-103	Washer, plain, .531 ID x 2.75 in. OD								2	2	2	2
4	X-400-131	Spacer, .406 ID x .625 OD x 1.968 in								8	8		
4	X-400-132	Spacer, .406 ID x .625 OD x 2.531 in	8	8	8	8	8	8	8			8	8
5	X-400-154	Spacer, .527 ID x .625 OD x 2.3 in										2	2
5	X-400-197	Spacer, .532 ID x .75 OD x 2.88 in									2	2	2
6	X-6054-16	Stud, metric	8	8	8	8	8	8	8			8	8
6	X-6054-19	Stud, metric								8	8		
7	X-67-125	Screw, hex washer, thread-forming	2	2	2	2	2	2	2	2	2	2	2
8	X-750-14	Marker, wire	1	1	1	1	1	1	1	1	1	1	1
9	X-750-15	Marker, wire	1	1	1	1	1	1	1	1	1	1	1
10	X-750-16	Marker, wire	1	1	1	1	1	1	1	1	1	1	1
11	255080	Marker, strip	1	1	1	1	1	1	1	1	1	1	1
12	299090	Marker, strip					1	1	1	1	1	1	1
13	255481	Wiring harness	1	1	1	1	1	1	1				
13	354118	Wiring harness CT harness FRIL								1	1	1	1
14	257046	Guard, generator fan	1	1	1	1	1	1	1				
14	257179	Guard, generator fan								1	1		
14	347268	Guard, generator fan										2	2
15	257442	Clip, speed	2	2	2	2	2	2	2	2	2	4	4
16	272684	Relay	1	1	1	1							
17	295314	Terminal block	1	1	1	1	2	2	2	2	2	2	2
18	324074	Vibromount	2	2	2								
18	324075	Vibromount				2							
18	324156	Vibromount					2	2	2				
18	324393	Vibromount								2	2	2	2
19	360459	Stdoff, circuit board	4	4	4	4	4	4	4	4	4	5	5
20	X-801-3	Washer, hardened, .406 ID x .812 in. OD	14	14	14	14	14	14	14	14	14	20	20
21	259365	Decal, warning voltage backfeed											
22	279958	Decal (generator connections)									1		1
22	360387	Decal (generator connections)	1	1	1	1	1	1	1				
23	X-6073-2	Jumper					1	1	1	1	1		
24	M933-10030-82	Screw, HC					6		6				
24	M933-10030-60	Screw, HC	6		6	6							
24	M933-10035-82	Screw, HC								6	6		
24	M931-10040-82	Screw, HC										12	12
24	M931-10080-82	Screw, HC		6				6					

Module Number to Key Cross-Reference

Use the module number of your generator and mounting from the genset nameplate to determine the key.

Module Number to Key Cross-Reference					
Module Number	Key	Module Number	Key	Module Number	Key
364385	AE	364378	AI	GM13772-MA1	AM
GM16281-MA1	AF	GM16282-MA1	AJ	364253	AN
364386	AG	364379	AK	264254	AO
GM10995-MA1	AH	GM13771-MA1	AL		

Group 201: Generator and Mounting, continued



Group 201: Generator and Mounting, continued

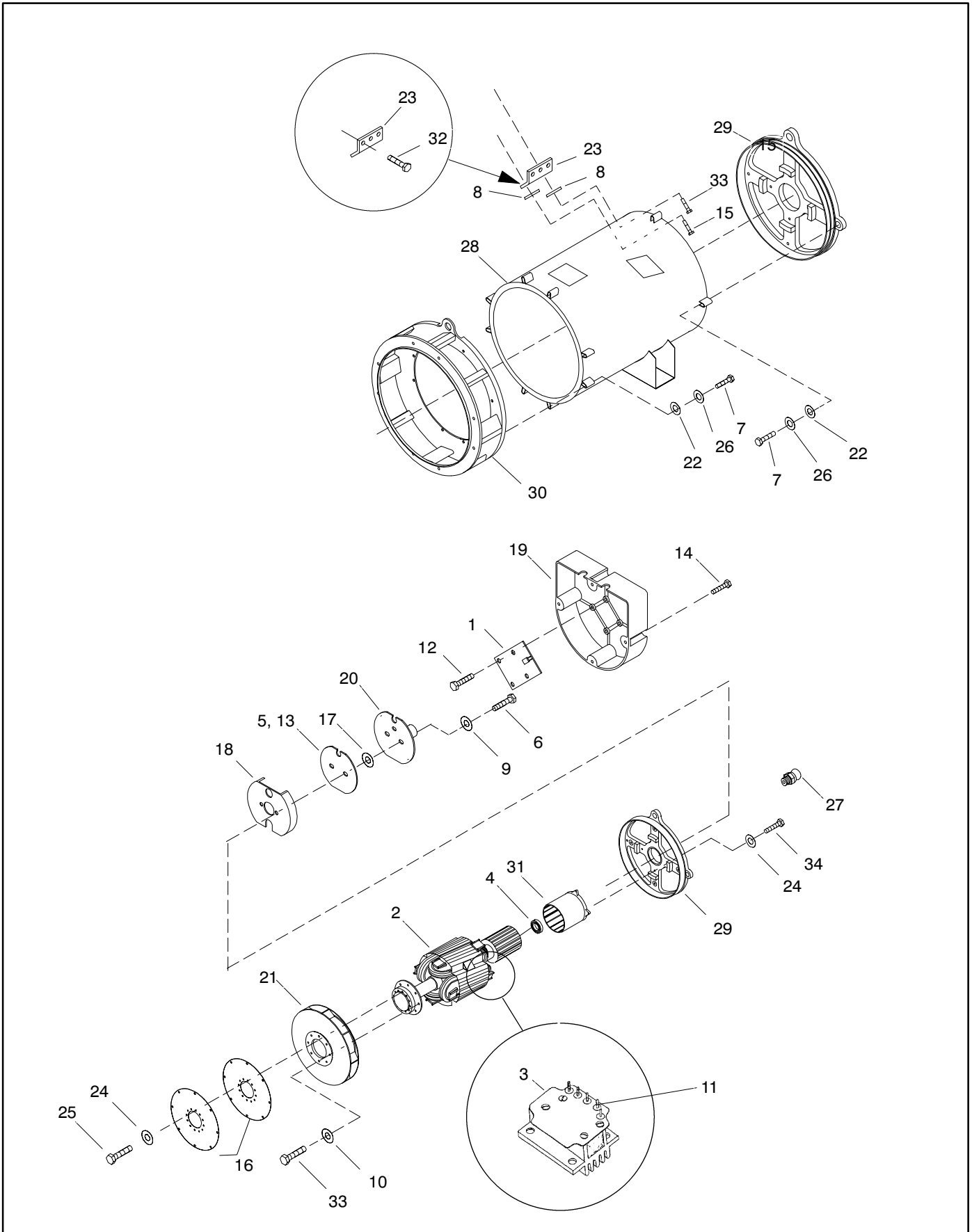
Item	Part No.	Description	Quantity								
			Module Key								
			AE	AF	AG	AH	AI	AJ	AK	AL	AM
1	A-257099	PCB assembly, LED, FRII	1	1	1	1	1	1	1	1	1
2	A-258980	Rotor assembly	1								
2	A-258981	Rotor assembly		1							
2	A-258979	Rotor assembly			1						
2	A-258977	Rotor assembly					1				
2	A-258978	Rotor assembly				1					
2	GM16270	Rotor assembly						1			
2	A-258975	Rotor assembly							1		
2	A-364409	Rotor assembly								1	1
3	B-258545	Heatsink	1	1	1	1	1	1	1		
3	B-258549	Heatsink								1	1
4	X-758-2	Bearing, ball	1	1	1	1	1	1	1		
4	X-758-6	Bearing, ball								1	1
5	B-292902	PCB assembly, photo receiver	1	1	1	1	1	1	1	1	1
6	X-101-24	Nut, hex elastic stop, 6-32	5	5	5	5	5	5	5	5	5
7	X-117-5	Screw, hex head machine	2	2	2	2	2	2	2	2	2
8	X-22-44	Washer, lock, .262 ID x .743 in. OD	2	2	2	2	2	2	2		
8	X-22-45	Washer, lock, .338 ID x .884 in.OD								2	2
9	X-22-9	Washer, lock, .20 ID x .373 in. OD	2	2	2	2	2	2	2	2	2
10	X-25-93	Washer, plain, .406 ID x .75 in. OD	14	14	14	14	14	14	14	14	14
11	X-283-7	Terminal, ring, male, 22-16 AWG	4	4	4	4	4	4	4	4	4
12	X-6071-1	Screw, Phillips pan head, thread-forming	4	4	4	4	4	4	4	4	4
13	X-67-133	Screw, hex washer, thread-forming	3	3	3	3	3	3	3	3	3
14	243321	Washer, insulating, .195 ID x .5 in. OD	2	2	2	2	2	2	2		
15	257015	Lamination, armature drive	2		2	2	2		2		
15	257014	Lamination, armature drive		2				2			
15	257103	Lamination, armature drive								3	3
16	257019	Adapter, generator (26 029 02)	1	1	1	1		1	1		
16	257018	Adapter, generator (26 029 01)					1				
16	257248	Adapter, generator								1	1
17	257077	Actuator, magnetic cup	1	1	1	1	1	1	1	1	1
18	257080	Exciter field assembly	1	1							
18	257081	Exciter field assembly			1	1	1	1	1		
18	276657	Exciter field assembly								1	1
19	257258	Cover, FR LED circuit board	1	1	1	1	1	1	1	1	1
20	X-791-5	Screw, hex head machine	1	1	1	1	1	1	1		
20	X-791-7	Screw, hex head machine								1	1
21	X-801-3	Washer, hardened, .406 ID x .812 in. OD	2	2	2	2	2	2	2	12	12
22	GM10319	Stator assembly									1
22	364408	Stator assembly									
22	360747	Stator assembly	1	1							
22	360748	Stator assembly			1						
22	360750	Stator assembly					1	1			
22	360749	Stator assembly				1					
22	360751	Stator assembly							1		
23	257850	Insulator	1	1	1	1	1	1	1	1	1
24	257984	End bracket	1	1	1	1	1	1	1		
24	257983	End bracket								1	1
25	257986	Lead connector	1	1	1	1	1	1	1		
25	257985	Lead connector								1	1
26	270956	Screw, cylinder head 3/8-16 x 1 1/4	8	8	8	8	8	8	8	12	12
27	347697	Fan, alternator	1	1	1	1	1	1	1		
27	257173	Fan, alternator								1	1
28	X-465-8	Screw, HC	3	3	3	3	3	3	3		
28	X-125-24	Screw, HC								3	3
29	X-456-16	Screw, HC	1	1	1	1	1	1	1		
29	X-125-31	Screw, HC								1	1
30	X-125-34	Screw, HC	4	4	4	4	4	4	4	4	4
31	X-6238-11	Screw, HC	4	4	4	4	4	4	4	4	4
32	X-6238-6	Screw, HC	10	10	10	10	10	10	10		
32	X-6238-9	Screw, HC								9	9

Module Number to Key Cross-Reference

Use the module number of your generator and mounting from the genset nameplate to determine the key.

Module Number to Key Cross-Reference					
Module Number	Key	Module Number	Key	Module Number	Key
364385	AE	364378	AI	GM13772-MA1	AM
GM16281-MA1	AF	GM16282-MA1	AJ	364253	AN
364386	AG	364379	AK	264254	AO
GM10995-MA1	AH	GM13771-MA1	AL		

Group 201: Generator and Mounting, continued



Group 201: Generator and Mounting, continued

Item	Part Number	Description	Quantity	
			AN	AO
1	A-257099	PCB assembly, LED, FRII	1	1
2	A-347191	Rotor assembly	1	1
3	A-354299	Heatsink	1	1
4	X-758-9	Bearing, ball	1	1
5	B-292902	PCB assembly, photo receiver	1	1
6	X-117-5	Screw, hex head machine	2	2
7	X-129-25	Screw, hex head machine	12	12
8	X-22-46	Washer, lock, .391 ID x .975 in. OD	2	2
9	X-22-9	Washer, lock, .20 ID x .373 in. OD	2	2
10	X-25-93	Washer, plain, .406 ID x .75 in. OD	8	8
11	X-431-25	Terminal, fast-on, female, 18-22 AWG	4	4
12	X-6071-1	Screw, Phillips pan head, thread-forming	4	4
13	X-6093-8	Sleeve	2	2
14	X-67-133	Screw, hex washer, thread-forming	3	3
15	X-791-6	Screw, hex head machine	1	1
16	222881	Lamination, armature drive	4	4
17	243321	Washer, insulating, .195 ID x .5 in. OD	2	2
18	257077	Actuator, magnetic cup	1	1
19	257258	Cover, FR LED circuit board	1	1
20	257850	Insulator	1	1
21	257855	Fan, generator	1	1
22	257951	Washer, special, .562 ID x 1.13 in. OD	12	12
23	257978	Bus	1	1
24	X-801-3	Washer, hardened, .406 ID x .812 in. OD	16	16
25	270158	Screw, cylinder head, 3/8-16 x 1 1/2	12	12
26	290945	Washer, hardened, .531 ID x 1.06 in. OD	12	12
27	347119	Fitting, grease	1	1
28	347197	Stator assembly	1	
28	347203	Stator assembly		1
29	347236	End bracket	1	1
30	347241	Adapter, generator	1	1
31	347707	Exciter field assembly	1	1
32	X-6238-5	Screw, hex head	3	3
33	X-6238-11	Screw, hex head	9	9
34	X-6238-17	Screw, hex head	4	4

Module Number to Key Cross-Reference

Use the module number of your generator and mounting from the genset nameplate to determine the key.

Module Number to Key Cross-Reference					
Module Number	Key	Module Number	Key	Module Number	Key
364385	AE	364378	AI	GM13772-MA1	AM
GM16281-MA1	AF	GM16282-MA1	AJ	364253	AN
364386	AG	364379	AK	264254	AO
GM10995-MA1	AH	GM13771-MA1	AL		

Group 701: Literature

Item	Part Number	Description	Quantity													
			Variation Number													
			1	2	3	4	5	6	7	8	9	10	11	12	13	
1	TP-5353	S/M FRII 20-300 kW	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	TP-5700	I/M Industrial	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	TP-5700-CS	I/M Industrial Chinese Simplified	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	TP-5700-CT	I/M Industrial Chinese Traditional	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	TP-5700-F	I/M Industrial French	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	TP-5700-G	I/M Industrial German	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	TP-5700-S	I/M Industrial Spanish	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	TP-6116	P/C 20-200 kW Accessories	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	TP-5750	O/M 20-2000 kW	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	TP-5750-F	O/M 20-2000 kW French	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	TP-5750-G	O/M 20-2000 kW German	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	TP-5750-S	O/M 20-2000 kW Spanish	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	TP-5829	O/M DEC340 Controller	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	TP-6029	P/C 20-170ROZK Deutz	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	TP-6037	O/M Deutz B/FM1011F 20-40	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	TP-6038	O/M Deutz BFM1012/13E/EC				1	1	1	1	1	1	1	1	1	1	1
8	TP-6039	P/C Deutz B/FM1011F 20-40	1	1	1											
8	TP-6040	P/C Deutz BFM1012E/EC				1	1									
8	TP-6041	P/C Deutz BFM1013E/EC						1	1	1	1	1	1	1	1	1
9	TP-6042	W/D 20-170ROZK	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	TP-6043	S/M Deutz BFM1011F 20-40	1	1	1											
10	TP-6044	S/M Deutz BFM1012/13E/EC				1	1	1	1	1	1	1	1	1	1	1

Kit List

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

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

	20ROZK	30ROZK	40ROZK	50ROZK	60ROZK	70ROZK
Air Intake Systems						
See Group 101						
Controllers						
Manual						
Standard	364503-MA1	364503-MA3	364503-MA3	GM10282-MA1	GM10283-MA1	GM10291-MA1
Standard, 1 Phase	364503-MA6	364503-MA7	364503-MA8	GM10237-MA1	N/A	GM10245-MA1
Standard, 600 V	364503-MA2	364503-MA2	364503-MA5	GM10284-MA1	GM10284-MA1	GM10294-MA1
See Parts Catalog TP-6009 for Decision-Maker™ 3+ and Decision-Maker 340™ controller parts lists.						
Cooling Systems						
Heater, Block						
120 V	GM10985-KA1	GM10985-KA1	GM10985-KA1	364403	364403	364405
240 V	N/A	N/A	N/A	364404	364404	364406
Duct Flange, Radiator	364476	364443	364443	364399	364400	364399
Duct Flange, Radiator (housed)	364352	364352	364352	364313	364313	364313
Optional Kits						
See Parts Catalog TP-6116 for parts lists of optional kits.						
Paint and Miscellaneous Parts						
Paint, Kohler Cream Beige	All models use 221338 Spray Can, 221337 Gallon					

	80/90ROZK	100ROZK	115ROZK	135ROZK	150ROZK	170ROZK
Air Intake Systems						
See Group 101						
Controllers						
Manual						
Standard	GM10291-MA1	GM10291-MA1	GM10292-MA1	GM10293-MA1	GM10293-MA1	GM11464-MA1
Standard, 4UA9 alternator	N/A	N/A	N/A	N/A	N/A	GM12201-MA1
Standard, 1 Phase	GM10245-MA1	GM10250-MA1	N/A	N/A	N/A	N/A
Standard, 600 V	GM10294-MA1	GM10294-MA1	GM10295-MA1	GM10303-MA1	GM10303-MA1	GM12191-MA1
Standard, 600 V, 4UA9 alt.	N/A	N/A	N/A	N/A	N/A	GM12202-MA1
See Parts Catalog TP-6009 for Decision-Maker™ 3+ and Decision-Maker 340™ controller parts lists.						
Cooling Systems						
Heater, Block						
120 V	364405	364405	364440	364440	364440	GM11556-KA1
240 V	364406	364406	364441	364441	364441	GM11557-KA1
Duct Flange, Radiator	364440	364400	364401	364402	364402	GM11547-KA1
Duct Flange, Radiator (housed)	364313	364313	364313	364294	364294	N/A
Optional Kits						
See Parts Catalog TP-6116 for parts lists of optional kits.						
Paint and Miscellaneous Parts						
Paint, Kohler Cream Beige	All models use 221338 Spray Can, 221337 Gallon					

Manual Controller Kits

Manual Controller Kit Parts

Qty.	Description	Common	Kit Number/Unique Parts				
			GM10237-MA1	GM10245-MA1	GM10250-MA1	GM10282-MA1	GM10283-MA1
4	Washer, lock 5/16"	X-22-16					
1	Screw, hex head	X-125-23					
1	Conduit, convoluted	X-6003-8					
4	Screw, hex washer head	X-794-1					
1	Harness, wiring		255040	255040	255040	255040	255040
—	Transformer, current		253502 (2)	253503 (2)	273257 (2)	253502 (3)	255860 (3)
1	Bracket, CT mounting		276417	276417	299966	276417	276417
1	Controller assembly*		A-360320	A-273385	A-273392	A-360320	A-273383

Manual Controller Kit Parts

Qty.	Description	Common	Kit Number/Unique Parts				
			GM10284-MA1	GM10291-MA1	GM10292-MA1	GM10293-MA1	GM10294-MA1
4	Washer, lock 5/16"	X-22-16					
1	Screw, hex head	X-125-23					
1	Conduit, convoluted	X-6003-8					
4	Screw, hex washer head	X-794-1					
1	Conduit, convoluted						X-6003-17
1	Harness, wiring		255040	255040	255040	354119	255040
3	Transformer, current		259359	253503	273257	253610	259360
1	Bracket, CT mounting		276417	276417	299966	299966	276417
1	Controller assembly*		A-273384	A-273385	A-273392	A-273389	A-273386
1	Switch assembly, water level					GM10301	

Manual Controller Kit Parts

Qty.	Description	Common	Kit Number/Unique Parts				
			GM10295-MA1	GM10303-MA1	364503-MA1	364503-MA2	364503-MA3
4	Washer, lock 5/16"	X-22-16					
1	Screw, hex head	X-125-23					
4	Screw, hex washer head	X-794-1					
1	Conduit, convoluted		X-6003-8	X-6003-8	X-6003-8		
1	Conduit, convoluted		X-6003-17	X-6003-17			
1	Harness, wiring		255040	354119	255040	255040	255040
—	Transformer, current		259360 (2)	259414 (3)	259359 (3)	259793 (3)	259360 (3)
1	Bracket, CT mounting		276417	276417	276417	276417	276417
1	Controller assembly*		A-273386	A-273387	364453-1	364453-2	364453-3
1	Switch assembly, water level		GM10301	GM10301			

Manual Controller Kit Parts

Qty.	Description	Common	Kit Number/Unique Parts			
			GM11464-MA1	GM12191-MA1	GM12201-MA1	GM12202-MA1
4	Washer, lock 5/16"	X-22-16				
1	Screw, hex head	X-125-23				
4	Screw, hex washer head	X-794-1				
1	Conduit, convoluted	X-6003-8				
1	Conduit, convoluted			X-6003-17		X-6003-17
1	Harness, wiring		354119	354119	354119	354119
3	Transformer, current		GM1472	253502	272691	279272
1	Bracket, CT mounting		299966	276417	325382	325382
1	Controller assembly*		A-273390	A-273391	A-273390	A-273391
1	Switch assembly, water level		336656	336656	336656	336656

* See Controller Assembly section for parts list.

Manual Controller Kits

Manual Controller Kit Parts						
Qty.	Description	Common	Kit Number/Unique Parts			
			364503-MA5	364503-MA6	364503-MA7	364503-MA8
4	Washer, lock 5/16"	X-22-16				
1	Screw, hex head	X-125-23				
4	Screw, hex washer head	X-794-1				
1	Harness, wiring		255040	255040	255040	255040
—	Transformer, current		259792 (3)	259359 (2)	259360 (2)	259414 (2)
1	Bracket, CT mounting		276417	276417	276417	276417
1	Controller assembly*		364453-5	364453-1	364453-3	364453-4

* See Controller Assembly section for parts list.

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, RHM 6-32 x 3/8	X-49-2						
18	Screw, RHM 6-32 x 1/4	X-49-25						
2	Screw, pan head	X-49-39						
4	Screw, RHM 10-24 x 3/4	X-50-3						
1	Screw, RHM 10-24 x 1	X-50-7						
2	Screw, RHM 8-32 x 3/8	X-51-12						
2	Screw, RHM	X-51-53						
1	Strap, ground	X-6046-2						
1	Jumper	X-6048-2						
10	Screw, Phillips hex crimp tite	X-6216-1						
2	Screw, thread forming	X-67-127						
1	Sleeve	X-696-5						
1	Tab, identification	201620-86						
1	Fuse, 10 amp	223316						
1	Holder, fuse	238426						
1	Meter, hour	238736						
1	Terminal	238898						
1	Block, terminal	246115						
1	Switch, rocker	249406						
1	Voltmeter	253329						
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, voltage adjust	292347						
1	Resistor		292352			292352		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						

Manual Controller Assemblies

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, RHM 6-32 x 3/8	X-49-2							
18	Screw, RHM 6-32 x 1/4	X-49-25							
2	Screw, pan head	X-49-39							
4	Screw, RHM 10-24 x 3/4	X-50-3							
1	Screw, RHM 10-24 x 1	X-50-7							
2	Screw, RHM 8-32 x 3/8	X-51-12							
2	Screw, RHM	X-51-53							
1	Strap, ground	X-6046-2							
1	Jumper	X-6048-2							
10	Screw, Phillips hex crimpite	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, guse	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	282897	282816	282816	282817	282816	282816	282817	282816
1	Gauge, oil pressure	282897							
1	Gauge, water temperature	282898							
1	Ammeter, AC	282805	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	292352		292352	292352			292352	
1	Decal, voltage adjust	292361							
1	Switch, selector	292373	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	273373	273374	273374	273373	273373	273374	273373
1	Box, controller	273375							

Manual Controller Assemblies, continued

Qty.	Description	Common Parts	Manual Controller Assembly Number/Unique Parts						
			A-352564	A-360320	364453-1	364453-2	364453-3	364453-4	364453-5
1	Potentiometer assembly	A-255041							
1	Overspeed circuit board	B-249812							
1	Main circuit board	H-239563							
2	Washer, shakeproof #10	X-22-13							
4	Washer, lock #6	X-22-6							
1	Grommet	X-284-31							
1	Plug, button	X-301-23							
1	Plug, button	X-301-34							
2	Terminal	X-431-25							
2	Terminal	X-431-29							
3	Tie, cable nylon	X-468-3							
2	Screw, RHM 6-32 x 3/8	X-49-2							
18	Screw, RHM 6-32 x 1/4	X-49-25							
2	Screw, pan head	X-49-39							
4	Screw, RHM 10-24 x 3/4	X-50-3							
1	Screw, RHM 10-24 x 1	X-50-7							
2	Screw, RHM 8-32 x 3/8	X-51-12							
2	Screw, RHM	X-51-53							
1	Strap, ground	X-6046-2							
1	Jumper	X-6048-2							
10	Screw, Phillip hex crimp-tite	X-6216-1							
1	Sleeve	X-696-5							
2	Screw, drill	X-794-2							
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							
2	Lamp	255126							
1	Lamp	269373							
1	Nameplate		273373	273373	273373	273374	273373	273373	273374
1	Box, controller	273375							
1	Plate, hinge	273376							
1	Harness, controller	274710							
1	Voltmeter, AC		282816	282816	282816	282817	282816	282816	282817
1	Meter, frequency	282818							
1	Gauge, oil pressure	282897							
1	Gauge, temperature		282898	282898	364450	364450	364450	364450	364450
1	Ammeter, AC		352565	282803	282800	282800	282801	282802	282801
2	Socket, lamp	284990							
8	Spacer, circuit board	287948							
3	Fuse, 1.5 amp	291207							
2	Lamp	291740							
1	Decal, voltage adjust	292361							
1	Switch, selector		292373	292373	292373	292374	292373	292373	292374
1	Cover, controller	292818							
1	Holder, fuse	292821							
1	Marker, strip	292823							
1	Bumper	292834							
1	Transformer, controller	295281							
1	Resistor assembly					292352			292352

Cooling System Kits

Qty.	Description	Kit/Part No.
Heater, Block 120 Volt 364403		
1	Hose, molded, .62 in. ID	X-312-34
1	Hose, molded, .62 in. ID	X-312-50
4	Clamp, hose, .5/1 in.	X-426-10
1	Coupling, hose	X-582-1
1	Connector, hose	X-582-31
1	Washer, nylon, .75 ID x 1.063 in. OD	X-6278-7
1	Bracket, block heater	364051
1	Heater, block	326228
1	Plug, freeze	364427
1	Adapter, mounting plate	364428
Heater, Block 240 Volt 364404		
1	Hose, molded, .62 in. ID	X-312-34
1	Hose, molded, .62 in. ID	X-312-50
4	Clamp, hose, .5/1 in.	X-426-10
1	Coupling, hose	X-582-1
1	Connector, hose	X-582-31
1	Washer, nylon, .75 ID x 1.063 in. OD	X-6278-7
1	Bracket, block heater	364051
1	Heater, block	326229
1	Plug, freeze	364427
1	Adapter, mounting plate	364428
Heater, Block 120 Volt 364405		
1	Hose, molded, .62 in. ID	X-312-5
1	Hose, molded, .62 in. ID 4.16 ft.	X-312-35
4	Clamp, hose, .5/1 in.	X-426-10
1	Coupling, hose	X-582-1
1	Washer, nylon, .75 ID x 1.063 in. OD	X-6278-7
1	Bracket, block heater	364051
1	Heater, block	326228
1	Plug, freeze	364427
1	Adapter, mounting plate	364428
1	Conector, hose	X-582-31
Heater, Block 240 Volt 364406		
1	Hose, molded, .62 in. ID	X-312-5
1	Hose, molded, .62 in. ID 4.16 ft.	X-312-35
4	Clamp, hose, .5/1 in.	X-426-10
1	Coupling, hose	X-582-1
1	Washer, nylon, .75 ID x 1.063 in. OD	X-6278-7
1	Bracket, block heater	364051
1	Heater, block	326229
1	Plug, freeze	364427
1	Adapter, mounting plate	364428
1	Conector, hose	X-582-31
Heater, Block 120 Volt 364440		
1	Hose, molded, .62 in. ID	X-312-5
1	Hose, molded, .62 in. ID 4.16 ft.	X-312-35
4	Clamp, hose, .5/1 in.	X-426-10
1	Coupling, hose	X-582-1
1	Heater, block	326234
1	Bracket, block heater	364051
1	Plug, freeze	364427
1	Adapter, mounting plate	364428
1	Washer, nylon, .75 ID x 1.063 in. OD	X-6278-7
1	Conector, hose	X-582-31
Heater, Block 240 Volt 364441		
1	Hose, molded, .62 in. ID	X-312-5
1	Hose, molded, .62 in. ID 4.16 ft.	X-312-35
4	Clamp, hose, .5/1 in.	X-426-10
1	Coupling, hose	X-582-1
1	Washer, nylon, .75 ID x 1.063 in. OD	X-6278-7
1	Heater, block	326235
1	Bracket, block heater	364051
1	Plug, freeze	364427
1	Adapter, mounting plate	364428
1	Conector, hose	X-582-31

Qty.	Description	Kit/Part No.
Heater, Block 120 Volt GM10985-KA1		
1	Fitting, tee, 1/2 in., pipe	X-203-13
1	Nipple, pipe, 1/2 x 1 1/2 in.	X-209-5
1	Connector, half union	X-296-26
1	Fitting, hose connector 90°	X-391-34
1	Fitting, hose connector 90°	X-391-19
2	Clamp, hose, .75/1.5 in.	X-426-15
2	Clamp, hose, .56/1.06 in.	X-426-3
1	Hose, rubber, straight, .62 in. ID	X-577-34
1	Hose, oil proof	X-612-7
1	Coupling, hose	X-582-1
1	Washer, nylon, .75 ID x 1.063 in. OD	X-6278-7
1	Valve, oil drain	272701
1	Fuel line	345068
1	Adapter, bushing	352360
1	Heater, block	GM10986
1	Bracket, oil heater	GM10987
Heater, Block 120 Volt GM11556-KA1		
1	Hose, molded, .62 in. ID 4.79 ft.	X-312-15
1	Hose, molded, .62 in. ID	X-312-50
4	Clamp, hose, .5/1 in.	X-426-10
1	Coupling, hose	X-582-1
1	Connector, hose	X-582-31
1	Washer, nylon, .75 ID x 1.063 in. OD	X-6278-7
1	Bracket, block heater	364051
1	Heater, block	326234
1	Plug, freeze	364427
1	Adapter, mounting plate	364428
Heater, Block 240 Volt GM11557-KA1		
1	Hose, molded, .62 in. ID 4.79 ft.	X-312-15
1	Hose, molded, .62 in. ID	X-312-50
4	Clamp, hose, .5/1 in.	X-426-10
1	Coupling, hose	X-582-1
1	Connector, hose	X-582-31
1	Washer, nylon, .75 ID x 1.063 in. OD	X-6278-7
1	Bracket, block heater	364051
1	Heater, block	326235
1	Plug, freeze	364427
1	Adapter, mounting plate	364428

Cooling System Kits, continued

Qty.	Description	Kit/Part No.
Duct Flange, Radiator		
	364294	
2	Frame, air duct	364295
2	Frame, air duct	364312
8	Rivet, pop, .187 in.	X-781-11
Duct Flange, Radiator		
	364313	
2	Frame, air duct	364311
2	Frame, air duct	364312
8	Rivet, pop, .187 in.	X-781-11
Duct Flange, Radiator		
	364352	
8	Rivet, pop, .187 in.	X-781-11
6	Screw, hex washer head, drill (NRP)	X-794-1
2	Flange, air duct	364447
2	Flange, air duct	364448
Duct Flange, Radiator		
	364399	
8	Rivet, pop, .187 in.	X-781-11
2	Frame, air duct (side)	364477
2	Flange, air duct	364478

Qty.	Description	Kit/Part No.
Duct Flange, Radiator		
	364400	
8	Rivet, pop, .187 in.	X-781-11
2	Flange, air duct	364478
2	Frame, air duct (side)	364479
Duct Flange, Radiator		
	364401	
8	Rivet, pop, .187 in.	X-781-11
2	Frame, air duct (side)	364480
2	Frame, air duct (side)	364481
Duct Flange, Radiator		
	364402	
8	Rivet, pop, .187 in.	X-781-11
2	Frame, air duct (side)	364480
2	Frame, air duct (side)	364482
Duct Flange, Radiator		
	364443	
8	Rivet, pop, .187 in.	X-781-11
2	Flange, air duct	364474
2	Flange, air duct	364449
Duct Flange, Radiator		
	364476	
8	Rivet, pop, .187 in.	X-781-11
2	Flange, air duct	364449
2	Flange, air duct	364475
Duct Flange, Radiator		
	GM11547-KA1	
8	Rivet, pop, .187 in.	X-781-11
2	Frame, air duct	GM11545
2	Frame, air duct	GM11546

Appendix A Abbreviations

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

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

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

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 Appendix C, General Torque Specifications, and other torque specifications in the service literature.

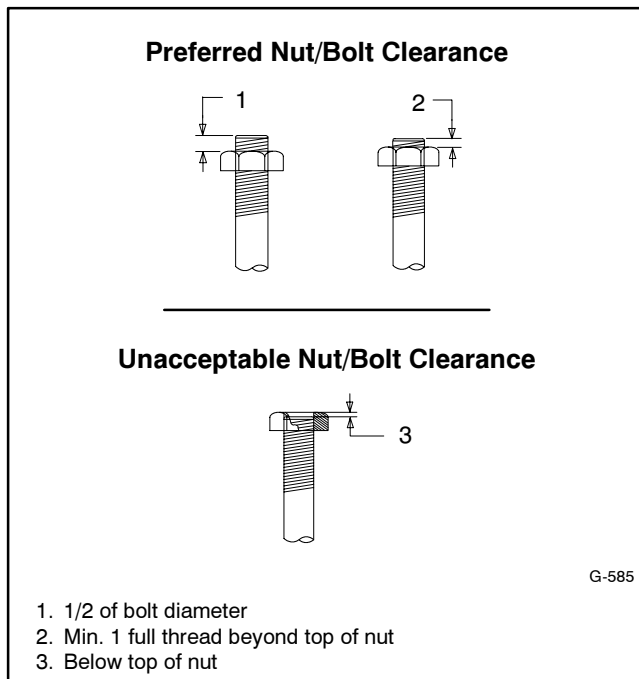


Figure 1 Acceptable Bolt Lengths

1. 1/2 of bolt diameter
2. Min. 1 full thread beyond top of nut
3. Below top of nut

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 Figure 2.

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 Figure 2, which depicts the preceding hardware configuration possibilities.

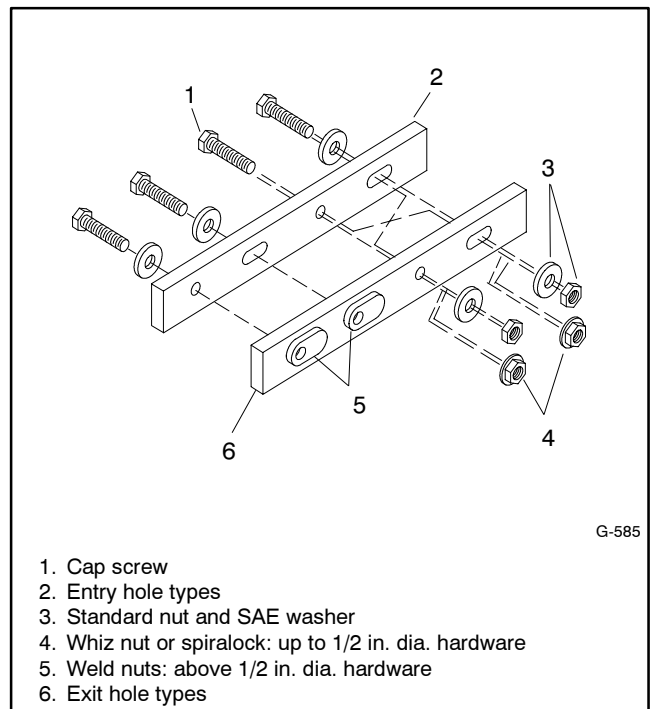


Figure 2 Acceptable Hardware Combinations

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

Appendix C General Torque Specifications















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












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






American Standard Fasteners Torque Specifications					
Size	Torque Measurement	Assembled into Cast Iron or Steel			Assembled into Aluminum Grade 2 or 5
		Grade 2	Grade 5	Grade 8	
8-32	Nm (in. lb.)	1.8 (16)	2.3 (20)	—	1.8 (16)
10-24	Nm (in. lb.)	2.9 (26)	3.6 (32)	—	2.9 (26)
10-32	Nm (in. lb.)	2.9 (26)	3.6 (32)	—	2.9 (26)
1/4-20	Nm (in. lb.)	6.8 (60)	10.8 (96)	14.9 (132)	6.8 (60)
1/4-28	Nm (in. lb.)	8.1 (72)	12.2 (108)	16.3 (144)	8.1 (72)
5/16-18	Nm (in. lb.)	13.6 (120)	21.7 (192)	29.8 (264)	13.6 (120)
5/16-24	Nm (in. lb.)	14.9 (132)	23.1 (204)	32.5 (288)	14.9 (132)
3/8-16	Nm (ft. lb.)	24.0 (18)	38.0 (28)	53.0 (39)	24.0 (18)
3/8-24	Nm (ft. lb.)	27.0 (20)	42.0 (31)	60.0 (44)	27.0 (20)
7/16-14	Nm (ft. lb.)	39.0 (29)	60.0 (44)	85.0 (63)	—
7/16-20	Nm (ft. lb.)	43.0 (32)	68.0 (50)	95.0 (70)	—
1/2-13	Nm (ft. lb.)	60.0 (44)	92.0 (68)	130.0 (96)	—
1/2-20	Nm (ft. lb.)	66.0 (49)	103.0 (76)	146.0 (108)	—
9/16-12	Nm (ft. lb.)	81.0 (60)	133.0 (98)	187.0 (138)	—
9/16-18	Nm (ft. lb.)	91.0 (67)	148.0 (109)	209.0 (154)	—
5/8-11	Nm (ft. lb.)	113.0 (83)	183.0 (135)	259.0 (191)	—
5/8-18	Nm (ft. lb.)	128.0 (94)	208.0 (153)	293.0 (216)	—
3/4-10	Nm (ft. lb.)	199.0 (147)	325.0 (240)	458.0 (338)	—
3/4-16	Nm (ft. lb.)	222.0 (164)	363.0 (268)	513.0 (378)	—
1-8	Nm (ft. lb.)	259.0 (191)	721.0 (532)	1109.0 (818)	—
1-12	Nm (ft. lb.)	283.0 (209)	789.0 (582)	1214.0 (895)	—

Metric Fasteners Torque Specifications, Measured in Nm (ft. lb.)				
Size (mm)	Assembled into Cast Iron or Steel			Assembled into Aluminum Grade 5.8 or 8.8
	Grade 5.8	Grade 8.8	Grade 10.9	
M6 x 1.00	5.6 (4)	9.9 (7)	14.0 (10)	5.6 (4)
M8 x 1.25	13.6 (10)	25.0 (18)	35.0 (26)	13.6 (10)
M8 x 1.00	21.0 (16)	25.0 (18)	35.0 (26)	21.0 (16)
M10 x 1.50	27.0 (20)	49.0 (35)	68.0 (50)	27.0 (20)
M10 x 1.25	39.0 (29)	49.0 (35)	68.0 (50)	39.0 (29)
M12 x 1.75	47.0 (35)	83.0 (61)	117.0 (86)	—
M12 x 1.50	65.0 (48)	88.0 (65)	125.0 (92)	—
M14 x 2.00	74.0 (55)	132.0 (97)	185.0 (136)	—
M14 x 1.50	100.0 (74)	140.0 (103)	192.0 (142)	—
M16 x 2.00	115.0 (85)	200.0 (148)	285.0 (210)	—
M16 x 1.50	141.0 (104)	210.0 (155)	295.0 (218)	—
M18 x 2.50	155.0 (114)	275.0 (203)	390.0 (288)	—
M18 x 1.50	196.0 (145)	305.0 (225)	425.0 (315)	—

Appendix D Common Hardware Identification

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

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

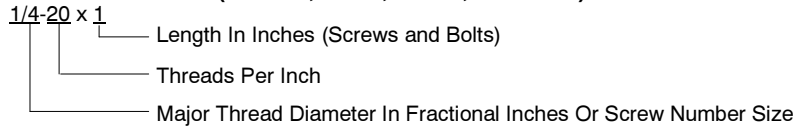
Hardness Grades	
American Standard	
Grade 2	
Grade 5	
Grade 8	
Grade 8/9 (Hex Socket Head)	
Metric	
Number stamped on hardware; 5.8 shown	

Allen™ head screw is a trademark of Holo-Krome Co.

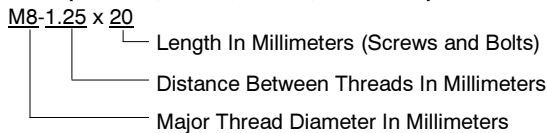
Phillips® screw is a registered trademark of Phillips Screw Company.

Sample Dimensions

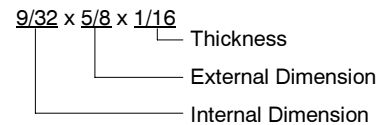
American Standard (Screws, Bolts, Studs, and Nuts)



Metric (Screws, Bolts, Studs, and Nuts)



Plain Washers



Lock Washers



Appendix E Common Hardware List

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

American Standard

Part No.	Dimensions	Part No.	Dimensions	Part No.	Dimensions	Type
Hex Head Bolts (Grade 5)			Hex Head Bolts, cont.			Hex Nuts
X-465-17	1/4-20 x .38	X-6024-5	7/16-14 x .75	X-6009-1	1-8	Standard
X-465-6	1/4-20 x .50	X-6024-2	7/16-14 x 1.00	X-6210-3	6-32	Whiz
X-465-2	1/4-20 x .62	X-6024-8	7/16-14 x 1.25	X-6210-4	8-32	Whiz
X-465-16	1/4-20 x .75	X-6024-3	7/16-14 x 1.50	X-6210-5	10-24	Whiz
X-465-18	1/4-20 x .88	X-6024-4	7/16-14 x 2.00	X-6210-1	10-32	Whiz
X-465-7	1/4-20 x 1.00	X-6024-11	7/16-14 x 2.75	X-6210-2	1/4-20	Spiralock
X-465-8	1/4-20 x 1.25	X-6024-12	7/16-14 x 6.50	X-6210-6	1/4-28	Spiralock
X-465-9	1/4-20 x 1.50	X-129-15	1/2-13 x .75	X-6210-7	5/16-18	Spiralock
X-465-10	1/4-20 x 1.75	X-129-17	1/2-13 x 1.00	X-6210-8	5/16-24	Spiralock
X-465-11	1/4-20 x 2.00	X-129-18	1/2-13 x 1.25	X-6210-9	3/8-16	Spiralock
X-465-12	1/4-20 x 2.25	X-129-19	1/2-13 x 1.50	X-6210-10	3/8-24	Spiralock
X-465-14	1/4-20 x 2.75	X-129-20	1/2-13 x 1.75	X-6210-11	7/16-14	Spiralock
X-465-21	1/4-20 x 5.00	X-129-21	1/2-13 x 2.00	X-6210-12	1/2-13	Spiralock
X-465-25	1/4-28 x .38	X-129-22	1/2-13 x 2.25	X-6210-15	7/16-20	Spiralock
X-465-20	1/4-28 x 1.00	X-129-23	1/2-13 x 2.50	X-6210-14	1/2-20	Spiralock
X-125-33	5/16-18 x .50	X-129-24	1/2-13 x 2.75	X-85-3	5/8-11	Standard
X-125-23	5/16-18 x .62	X-129-25	1/2-13 x 3.00	X-88-12	3/4-10	Standard
X-125-3	5/16-18 x .75	X-129-27	1/2-13 x 3.50	X-89-2	1/2-20	Standard
X-125-31	5/16-18 x .88	X-129-29	1/2-13 x 4.00			
X-125-5	5/16-18 x 1.00	X-129-30	1/2-13 x 4.50			
X-125-24	5/16-18 x 1.25	X-463-9	1/2-13 x 5.50			
X-125-34	5/16-18 x 1.50	X-129-44	1/2-13 x 6.00			
X-125-25	5/16-18 x 1.75	X-129-51	1/2-20 x .75			
X-125-26	5/16-18 x 2.00	X-129-45	1/2-20 x 1.25			
230578	5/16-18 x 2.25	X-129-52	1/2-20 x 1.50			
X-125-29	5/16-18 x 2.50	X-6021-3	5/8-11 x 1.00			
X-125-27	5/16-18 x 2.75	X-6021-4	5/8-11 x 1.25			
X-125-28	5/16-18 x 3.00	X-6021-2	5/8-11 x 1.50			
X-125-22	5/16-18 x 4.50	X-6021-1	5/8-11 x 1.75			
X-125-32	5/16-18 x 5.00	273049	5/8-11 x 2.00			
X-125-35	5/16-18 x 5.50	X-6021-5	5/8-11 x 2.25			
X-125-36	5/16-18 x 6.00	X-6021-6	5/8-11 x 2.50			
X-125-40	5/16-18 x 6.50	X-6021-7	5/8-11 x 2.75			
X-125-43	5/16-24 x 1.75	X-6021-12	5/8-11 x 3.75			
X-125-44	5/16-24 x 2.50	X-6021-11	5/8-11 x 4.50			
X-125-30	5/16-24 x .75	X-6021-10	5/8-11 x 6.00			
X-125-39	5/16-24 x 2.00	X-6021-9	5/8-18 x 2.50			
X-125-38	5/16-24 x 2.75	X-6239-1	3/4-10 x 1.00			
X-6238-2	3/8-16 x .62	X-6239-8	3/4-10 x 1.25			
X-6238-10	3/8-16 x .75	X-6239-2	3/4-10 x 1.50			
X-6238-3	3/8-16 x .88	X-6239-3	3/4-10 x 2.00			
X-6238-11	3/8-16 x 1.00	X-6239-4	3/4-10 x 2.50			
X-6238-4	3/8-16 x 1.25	X-6239-5	3/4-10 x 3.00			
X-6238-5	3/8-16 x 1.50	X-6239-6	3/4-10 x 3.50			
X-6238-1	3/8-16 x 1.75	X-792-1	1-8 x 2.25			
X-6238-6	3/8-16 x 2.00	X-792-5	1-8 x 3.00			
X-6238-17	3/8-16 x 2.25	X-792-8	1-8 x 5.00			
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					

Washers

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

Metric

Hex head bolts are hardness grade 8.8 unless noted.

Part No.	Dimensions	Part No.	Dimensions	Part No.	Dimensions	Type		
Hex Head Bolts (partial thread)								
M931-05055-60	M5-0.80 x 55	Hex Head Bolts (full thread)						
M931-06040-60	M6-1.00 x 40	M933-04006-60	M4-0.70 x 6	M934-03-50	M3-0.50	Standard		
M931-06055-60	M6-1.00 x 55	M933-05035-60	M5-0.80 x 35	M934-035-50	M3.5-0.50	Standard		
M931-06060-60	M6-1.00 x 60	M933-05050-60	M5-0.80 x 50	M934-04-50	M4-0.70	Standard		
M931-06070-60	M6-1.00 x 70	M933-06010-60	M6-1.00 x 10	M934-05-50	M5-0.80	Standard		
M931-06070-SS	M6-1.00 x 70	M933-06014-60	M6-1.00 x 14	M982-05-80	M5-0.80	Elastic Stop		
M931-06075-60	M6-1.00 x 75	M933-06016-60	M6-1.00 x 16	M934-06-60	M6-1.00	Standard		
M931-06090-60	M6-1.00 x 90	M933-06020-60	M6-1.00 x 20	M934-06-64	M6-1.00	Std. (green)		
M931-06150-60	M6-1.00 x 150	M933-06025-60	M6-1.00 x 25	M6923-06-80	M6-1.00	Spirallock		
M931-08035-60	M8-1.25 x 35	M933-06040-60	M6-1.00 x 40	M982-06-80	M6-1.00	Elastic Stop		
M931-08040-60	M8-1.25 x 40	M933-06050-60	M6-1.00 x 50	M934-08-60	M8-1.25	Standard		
M931-08040-82	M8-1.25 x 40*	M933-08012-60	M8-1.25 x 12	M6923-08-80	M8-1.25	Spirallock		
M931-08045-60	M8-1.25 x 45	M933-08016-60	M8-1.25 x 16	M982-08-80	M8-1.25	Elastic Stop		
M931-08050-60	M8-1.25 x 50	M933-08020-60	M8-1.25 x 20	M934-10-60	M10-1.50	Standard		
M931-08055-60	M8-1.25 x 55	M933-08025-60	M8-1.25 x 25	M934-10-60F	M10-1.25	Standard		
M931-08055-82	M8-1.25 x 55*	M933-08030-60	M8-1.25 x 30	M6923-10-80	M10-1.50	Spirallock		
M931-08060-60	M8-1.25 x 60	M933-08030-82	M8-1.25 x 30*	M6923-10-62	M10-1.50	Spirallock†		
M931-08070-60	M8-1.25 x 70	M933-10012-60	M10-1.50 x 12	M982-10-80	M10-1.50	Elastic Stop		
M931-08070-82	M8-1.25 x 70*	M961-10020-60	M10-1.25 x 20	M934-12-60	M12-1.75	Standard		
M931-08075-60	M8-1.25 x 75	M933-10020-60	M10-1.50 x 20	M934-12-60F	M12-1.25	Standard		
M931-08080-60	M8-1.25 x 80	M933-10025-60	M10-1.50 x 25	M6923-12-80	M12-1.75	Spirallock		
M931-08090-60	M8-1.25 x 90	M961-10030-60	M10-1.25 x 30	M982-12-80	M12-1.75	Elastic Stop		
M931-08095-60	M8-1.25 x 95	M933-10030-60	M10-1.50 x 30	M982-14-80	M14-2.00	Elastic Stop		
M931-08100-60	M8-1.25 x 100	M933-10030-82	M10-1.50 x 30*	M6923-16-80	M16-2.00	Spirallock		
M931-08120-60	M8-1.25 x 120	M961-10035-60	M10-1.25 x 35	M982-16-80	M16-2.00	Elastic Stop		
M931-08130-60	M8-1.25 x 130	M933-10035-60	M10-1.50 x 35	M934-18-80	M18-2.5	Standard		
M931-08140-60	M8-1.25 x 140	M933-12016-60	M12-1.75 x 16	M982-18-80	M18-2.50	Elastic Stop		
M931-10040-82	M10-1.25 x 40*	M933-12020-60	M12-1.75 x 20	M934-20-80	M20-2.50	Standard		
M931-10040-60	M10-1.50 x 40	M933-12025-60	M12-1.75 x 25	M982-20-80	M20-2.50	Elastic Stop		
M931-10045-60	M10-1.50 x 45	M933-12025-82	M12-1.75 x 25*	M934-22-60	M22-2.50	Standard		
M931-10050-60	M10-1.50 x 50	M961-12030-60	M12-1.25 x 30	M934-24-80	M24-3.00	Standard		
M931-10055-60	M10-1.50 x 55	M933-12030-60	M12-1.75 x 30	M982-24-80	M24-3.00	Elastic Stop		
M931-10060-60	M10-1.50 x 60	M933-12035-60	M12-1.75 x 35	M934-30-80	M30-3.50	Standard		
M931-10065-60	M10-1.50 x 65	M961-12040-82	M12-1.25 x 40*	Washers				
M931-10070-60	M10-1.50 x 70	M933-12040-60	M12-1.75 x 40	Part No.	ID	OD	Bolt/ Thick. Screw	
M931-10080-60	M10-1.50 x 80	M933-12040-82	M12-1.75 x 40*	M125A-03-80	3.2	7.0	0.5 M3	
M931-10090-60	M10-1.50 x 90	M961-14025-60	M14-1.50 x 25	M125A-04-80	4.3	9.0	0.8 M4	
M931-10090-82	M10-1.50 x 90*	M933-14025-60	M14-2.00 x 25	M125A-05-80	5.3	10.0	1.0 M5	
M931-10100-60	M10-1.50 x 100	M961-16025-60	M16-1.50 x 25	M125A-06-80	6.4	12.0	1.6 M6	
M931-10110-60	M10-1.50 x 110	M933-16025-60	M16-2.00 x 25	M125A-08-80	8.4	16.0	1.6 M8	
M931-10120-60	M10-1.50 x 120	M961-16030-82	M16-1.50 x 30*	M125A-10-80	10.5	20.0	2.0 M10	
M931-10130-60	M10-1.50 x 130	M933-16030-82	M16-2.00 x 30*	M125A-12-80	13.0	24.0	2.5 M12	
M931-10140-60	M10-1.50 x 140	M933-16035-60	M16-2.00 x 35	M125A-14-80	15.0	28.0	2.5 M14	
M931-10180-60	M10-1.50 x 180	M961-16040-60	M16-1.50 x 40	M125A-16-80	17.0	30.0	3.0 M16	
M931-12045-60	M12-1.75 x 45	M933-16040-60	M16-2.00 x 40	M125A-18-80	19.0	34.0	3.0 M18	
M960-12050-60	M12-1.25 x 50	M933-16050-60	M16-2.00 x 50	M125A-20-80	21.0	37.0	3.0 M20	
M960-12050-82	M12-1.25 x 50*	M933-16050-82	M16-2.00 x 50*	M125A-24-80	25.0	44.0	4.0 M24	
M931-12050-60	M12-1.75 x 50	M933-16060-60	M16-2.00 x 60	Pan Head Machine Screws				
M931-12055-60	M12-1.75 x 55	M933-18035-60	M18-2.50 x 35	M7985A-03010-20	M3-0.50 x 10			
M931-12060-60	M12-1.75 x 60	M933-18050-60	M18-2.50 x 50	M7985A-03012-20	M3-0.50 x 12			
M931-12065-60	M12-1.75 x 65	M933-18060-60	M18-2.50 x 60	M7985A-04010-20	M4-0.70 x 10			
M931-12075-60	M12-1.75 x 75	M933-20050-60	M20-2.50 x 50	M7985A-04020-20	M4-0.70 x 20			
M931-12080-60	M12-1.75 x 80	M933-20055-60	M20-2.50 x 55	M7985A-04100-20	M4-0.70 x 100			
M931-12090-60	M12-1.75 x 90	Flat Head Machine Screws						
M931-12100-60	M12-1.75 x 100	M965A-04012-SS	M4-0.70 x 12					
M931-12110-60	M12-1.75 x 110	M965A-05012-SS	M5-0.80 x 12					
M960-16090-60	M16-1.50 x 90	M965A-05016-20	M5-0.80 x 16					
M931-16090-60	M16-2.00 x 90							
M931-16100-60	M16-2.00 x 100							
M931-20065-60	M20-2.50 x 65							
M931-20120-60	M20-2.50 x 120							
M931-20160-60	M20-2.50 x 160							
M931-22090-60	M22-2.50 x 90							
M931-22120-60	M22-2.50 x 120							
M931-22160-60	M22-2.50 x 160							
M931-24090-60	M24-3.00 x 90							
M931-24120-60	M24-3.00 x 120							
M931-24160-60	M24-3.00 x 160							

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

† This metric hex nut's hardness is grade 8.

TP-6029 10/00a

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