

Service Parts

Engine

Engine Model:

General Motors 4.3 L Powertrain

Generator Models:

30-45RZG

30-45GSG

G35U/G40

G45U/G45

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Introduction

This manual lists service replacement parts for 30-45RZG, 30-45GSG, and G35U/G45U generator sets.

Information in this publication represents data available at the time of print. The generator set manufacturer 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.

Specification Number Index. Lists the generator set specs and groups.

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

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Numbering System Significance

This manual uses the following numbering systems:

Specification Number. The product identification number located on the generator set nameplate. 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 4 is the Flywheel 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 a 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.

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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.

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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. **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.
3. **Identify the group** most likely to include the service part number.
4. **Find the group variation number** at the intersection of the spec number row and the group column. Note the variation number.
5. **Page forward to locate the group** identified in step 3 or find the appropriate page in the Table of Contents.
6. **Find the part on the illustration** and note the item number of the part or **find the part description in the parts list**.
7. 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.

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Hardware References

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.

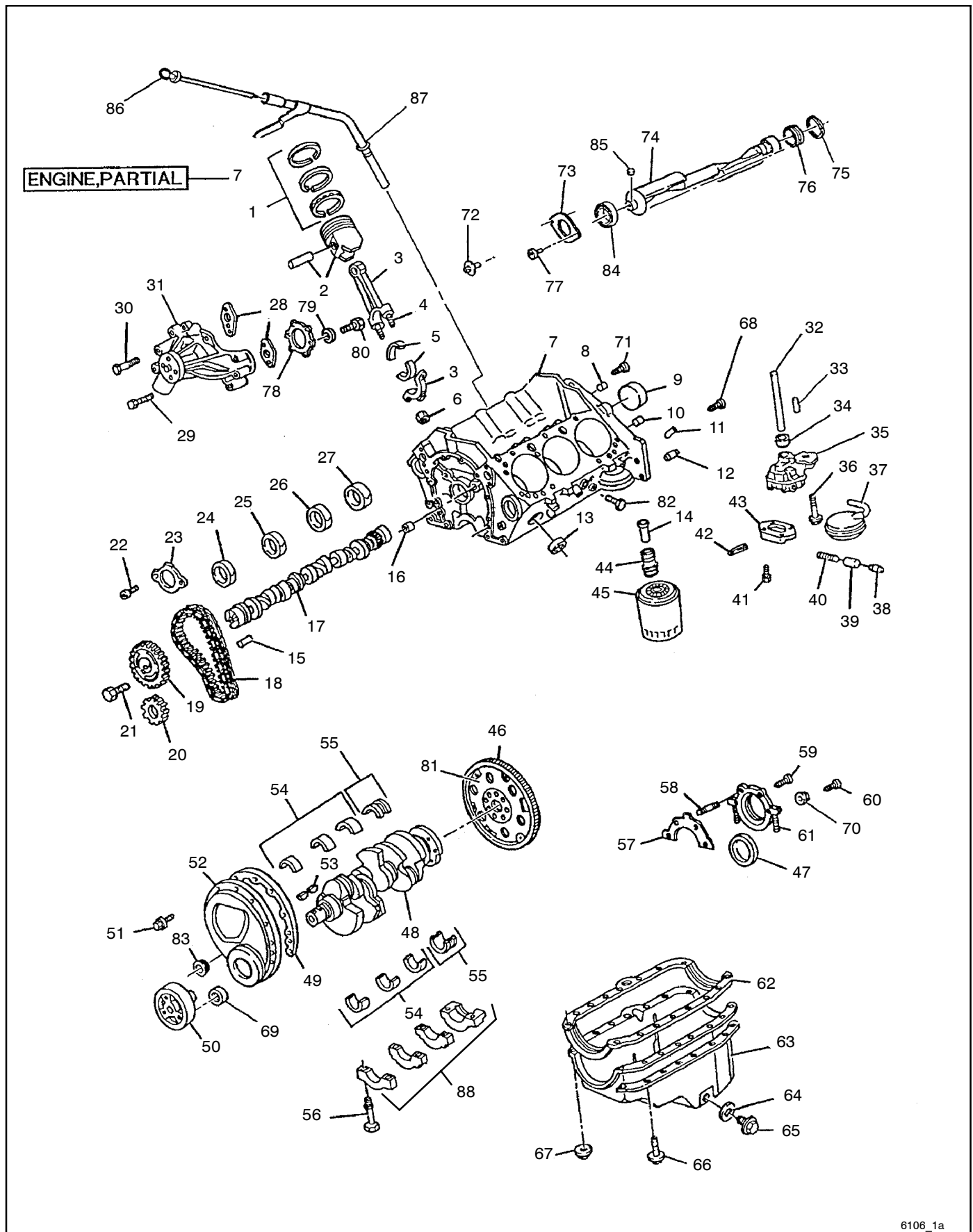
Specification Number Index

Engine Group Title	Engine Block/Lower End	Engine Head/Upper End	Engine Trim Parts	Flywheel	Starter	Alternator, Pulley, and Belt	Intake and Exhaust System	Engine Mounting	Fuel System
Group No.	1	2	3	4	5	6	7	8	9
Spec No.	Variation Number								
30RZG or 30GSG									
GM13685-GA1	1	1	1	1	1	1	1	1	1
GM13685-GA4	1	1	1	1	1	1	1	1	1
GM13685-GA7	1	1	1	1	1	1	1	1	NA
GM13685-GA10	1	1	1	1	1	1	1	1	NA
GM22383-GA1	1	1	2	1	1	1	1	1	2
GM22383-GA7	1	1	2	1	1	1	1	1	3
GM22383-GA10	1	1	2	1	1	1	1	1	NA
GM39370-GA1	1	1	2	1	1	1	1	1	4
GM39370-GA7	1	1	2	1	1	1	1	1	5
GM39370-GA10	1	1	2	1	1	1	1	1	NA 5
GM39370-GA13	1	1	2	1	1	1	1	1	4
GM39370-GA14	1	1	2	1	1	1	1	1	NA
35RZG or 35GSG or G35U/G40									
GM13685-GA2	1	1	1	1	1	1	1	1	1
GM13685-GA5	1	1	1	1	1	1	1	1	1
GM13685-GA8	1	1	1	1	1	1	1	1	NA
GM13685-GA11	1	1	1	1	1	1	1	1	NA
GM22383-GA2	1	1	2	1	1	1	1	1	2
GM22383-GA8	1	1	2	1	1	1	1	1	3
GM22383-GA11	1	1	2	1	1	1	1	1	NA
GM39370-GA2	1	1	2	1	1	1	1	1	4
GM39370-GA8	1	1	2	1	1	1	1	1	5
GM39370-GA11	1	1	2	1	1	1	1	1	NA 5
GM39370-GA15	1	1	2	1	1	1	1	1	4
GM39370-GA16	1	1	2	1	1	1	1	1	NA
45RZG or 45GSG or G45U/G45									
GM13685-GA3	1	1	1	1	1	1	1	1	1
GM13685-GA6	1	1	1	1	1	1	1	1	1
GM13685-GA9	1	1	1	1	1	1	1	1	NA
GM13685-GA12	1	1	1	1	1	1	1	1	NA
GM22383-GA3	1	1	2	1	1	1	1	1	2
GM22383-GA9	1	1	2	1	1	1	1	1	3
GM22383-GA12	1	1	2	1	1	1	1	1	NA
GM39370-GA3	1	1	2	1	1	1	1	1	4
GM39370-GA9	1	1	2	1	1	1	1	1	5
GM39370-GA3	1	1	2	1	1	1	1	1	4 5
GM39370-GA17	1	1	2	1	1	1	1	1	5 4
GM39370-GA18	1	1	2	1	1	1	1	1	NA

NA A parts list for this group variation was not available at time of print. Please contact your parts supplier for parts information.

Notes

Group 1: Engine Block/Lower End



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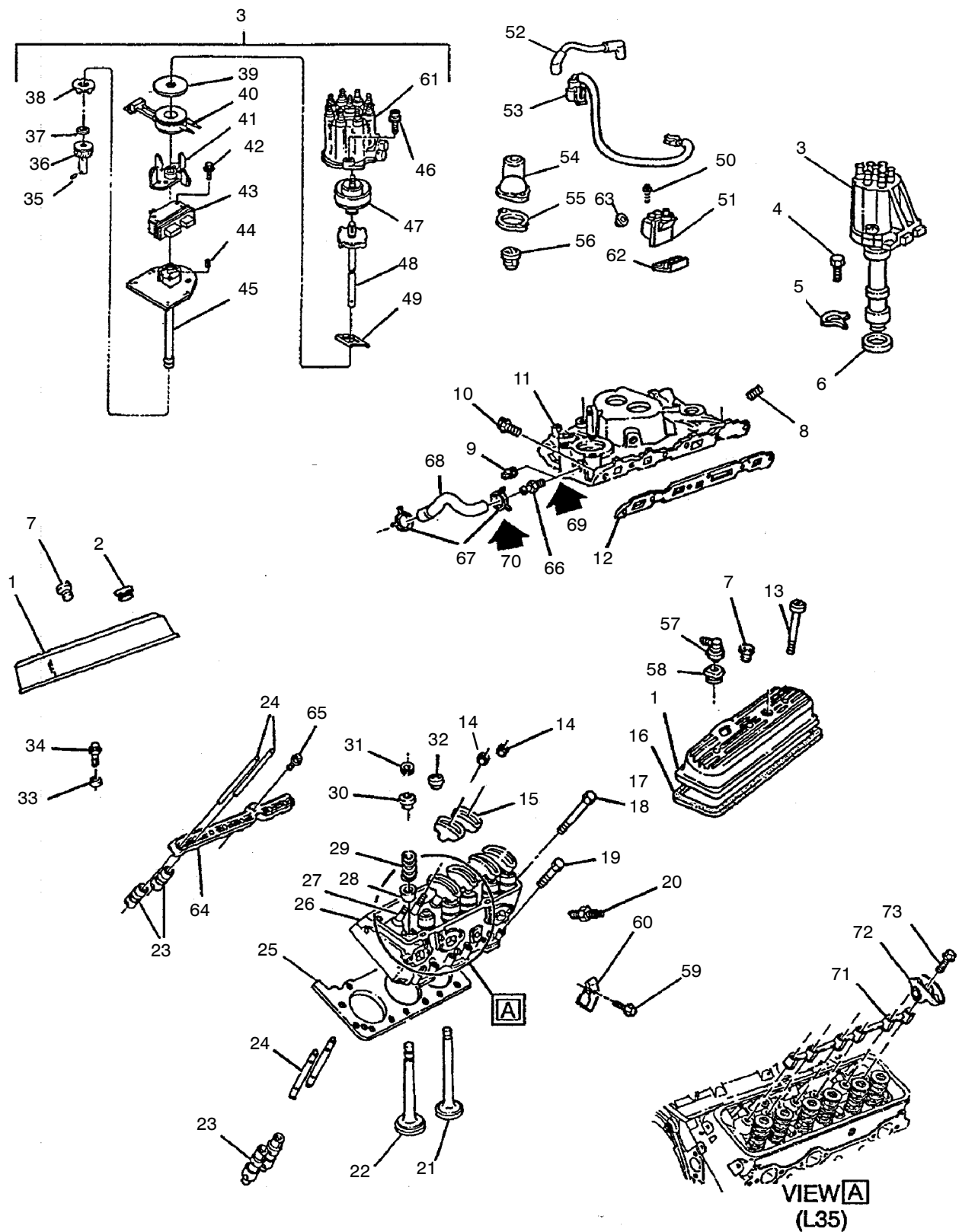
Group 1: Engine Block/Lower End

Item	Part Number	Description	Qty.	Item	Part Number	Description	Qty.
			Var. 1				Var. 1
1	GM16441	Ring kit, piston std.	6	47	GM16489	Seal, crankshaft rear oil (part of item 61)	1
1	GM16444	Ring kit, piston (0.50 mm OS)	6	48	GM16495	Crankshaft, engine	1
2	GM16442	Piston kit, engine std.	6	49	-	Not serviced separately, see item 52	
2	GM16445	Piston kit, engine (0.50 mm OS)	6	50	GM16469	Balancer, crankshaft	1
3	GM16380	Rod, connecting	6	51	GM16387	Bolt, engine front cover	3
4	GM16393	Bolt, connecting rod	12	51	GM16458	Bolt, engine front cover	2
5	GM16439	Bearing kit, connecting rod std.	6	52	GM16477	Cover, engine front	1
5	GM16525	Bearing kit, connecting rod (.014 OS)	6	53	GM16498	Key, crankshaft balancer	1
6	GM16586	Nut, connecting rod	12	54	GM16434	Bearing kit, crankshaft	3
7	GM16460	Engine, service partial	1	54	GM16435	Bearing kit, crankshaft (.020 OS)	3
8	GM16510	Plug, 3/8-18 x .42 LH	1	55	GM16447	Bearing kit, crankshaft (.001 mm OS)	1
8	GM16587	Plug, 3/8-18 x .56 RH	1	56	GM16588	Bolt, crankshaft bearing cap	10
9	GM16397	Plug, camshaft rear bearing hole	1	57	GM16487	Gasket, crankshaft rear oil seal housing	1
10	GM16599	Pin, crankshaft rear oil seal locator	1	58	GM16389	Stud, crankshaft rear oil seal retainer	2
11	GM16547	Pin, cylinder head locator	4	59	GM16505	Bolt, crankshaft rear oil seal housing	2
12	GM16428	Pin, locator 5/8 x 1 3/16	2	60	GM16506	Bolt, crankshaft rear oil seal housing	1
13	GM16548	Plug, engine block core hole	5	61	GM16488	Housing, crankshaft rear oil seal (includes items 47, 58)	1
13	GM16585	Plug, engine block core hole	AR	62	GM16390	Gasket, oil pan	1
14	GM16530	Valve, oil filter bypass	1	63	GM16494	Pan, oil (includes items 64, 65)	1
15	GM16541	Pin, camshaft sprocket	1	64	GM16576	Seal, oil pan drain plug (part of item 63)	1
16	GM16512	Plug, 476 x .31 RH	1	65	GM16526	Plug, oil drain (includes seal)	1
16	GM16358	Plug, engine block oil galley LH	1	66	GM16602	Bolt, oil pan	AR
17	GM16399	Camshaft	1	67	GM16553	Nut, oil pan	2
18	GM16367	Chain, camshaft timing	1	68	GM16512	Plug, 476 x .31	1
18	GM16437	Chain kit, timing	1	69	GM16366	Seal, crankshaft front oil	1
19	-	Sprocket, camshaft See item 18		70	GM16426	Nut, 1/4-20 x .234	1
20	-	Sprocket, camshaft See item 18		71	GM16587	Plug, 3/8-18 x .56	2
21	GM16593	Bolt, camshaft sprocket	3	71	GM16504	Plug, hex 1/4-18 x 0.56	2
22	GM16356	Bolt, camshaft retainer	2	72	GM16359	Bolt, balancer shaft gear	6
23	GM16368	Retainer, camshaft	1	73	GM16357	Retainer, balancer shaft	1
24	GM16431	Bearing, camshaft	1	74	GM16392	Balancer, internal (includes item 85)	1
25	GM16433	Bearing, camshaft	1	75	GM16397	Plug, camshaft rear bearing hole	1
25	GM16432	Bearing, camshaft	1	76	GM16438	Bearing kit, balancer shaft (includes rear brg spacer)	1
26	GM16432	Bearing, camshaft	1	77	GM16513	Bolt, balancer shaft retainer	2
26	GM16433	Bearing, camshaft	1	78	GM16483	Gasket, water pump cover	1
27	GM16431	Bearing, camshaft	1	79	GM16421	Washer int./ext. tooth	AR
27	GM16432	Bearing, camshaft	1	80	GM16601	Bolt, water pump cover	10
28	GM16582	Gasket, water pump (part of item 31)	1	81	-	See Group 4	1
29	GM16462	Bolt, water pump 3/8-16 x 2.12	4	82	GM16504	Plug, hex 1/4-18 x 0.56	2
30	GM16462	Bolt, water pump 3/8-16 x 2.12	1	83	GM16388	Grommet, engine front cover	6
31	GM16440	Pump kit, water (w/gasket)	1	84	GM16355	Bearing, balancer shaft front	1
32	GM16589	Shaft, oil pump drive	1	85	-	Not serviced separately, part of item 74	
33	GM16476	Pin, locator 1/4 x 5/8	AR	86	GM16117	Dipstick, oil 4.3L	1
34	GM16583	Retainer, oil pump drive shaft	1	87	GM16228	Tube, dipstick	1
35	GM16482	Pump, oil, .742 dia. tube (includes items 38-43)	1	88	-	Not serviced separately	
36	GM16347	Bolt, oil pump 7/16-14 x 2 3/8	1				
37	GM16478	Screen, oil pump	1				
38	GM16580	Plug, oil pressure relief valve bore (part of item 35, 43)	1				
39	GM16579	Valve, oil pressure relief (part of item 35, 43)	1				
40	GM16343	Spring, oil pressure relief valve	1				
41	GM16422	Bolt, oil pump cover (part of item 35)	2				
42	GM16549	Pin, oil pressure relief valve spring (part of item 35, 43)	1				
43	GM16376	Cover, oil pump (part of item 35)	1				
44	GM16503	Fitting, oil filter	1				
45	GM16532	Filter, oil PF52	1				
46	-	See Group 4	1				

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Group 2: Engine Head/Upper End



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Group 2: Engine Head/Upper End

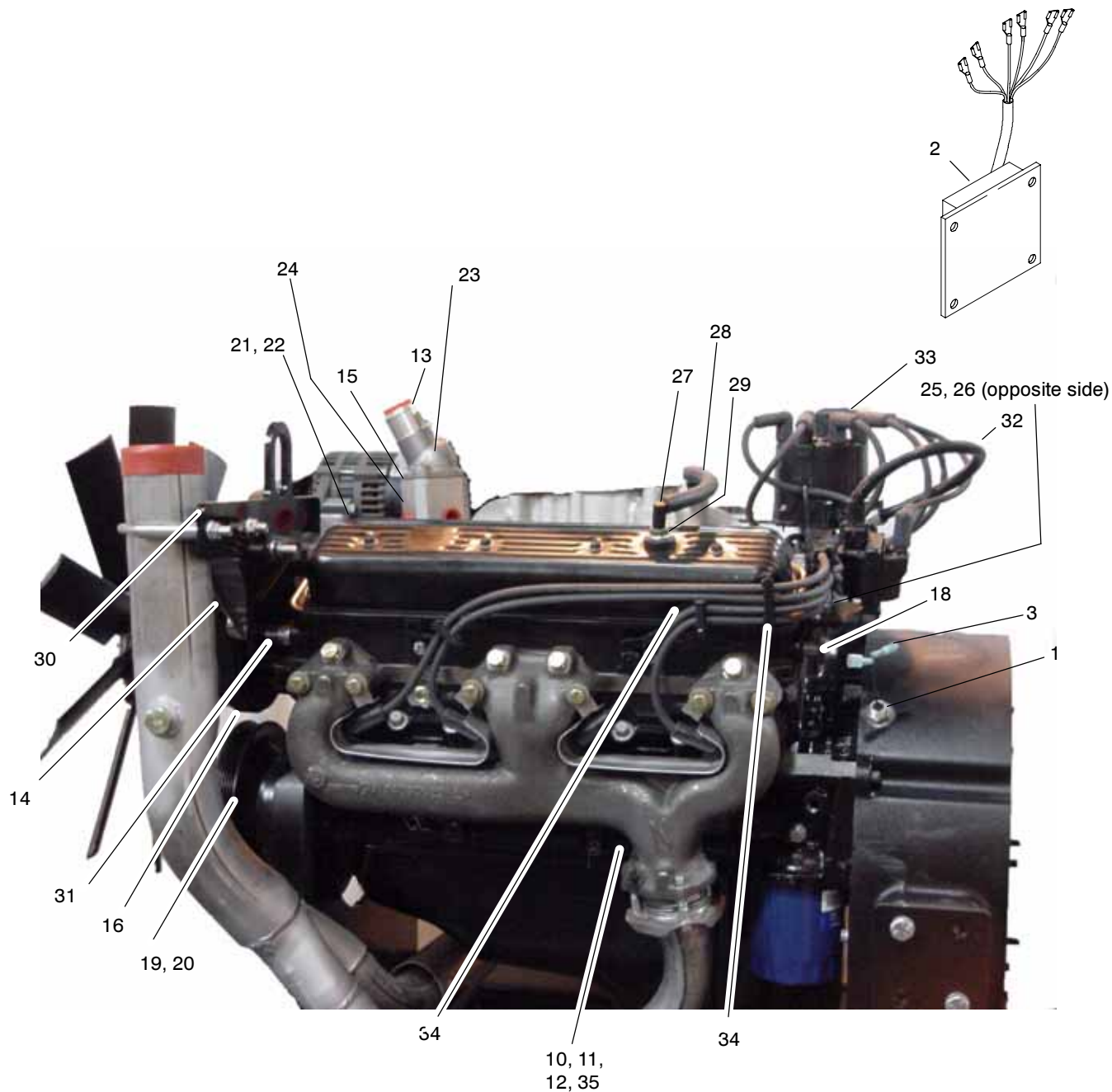
Item	Part Number	Description	Qty.	Item	Part Number	Description	Qty.
			Var. 1				Var. 1
1	GM16470	Cover, valve rocker arm LH	1	40	GM16413	Coil, distributor pickup (part of item 3)	1
1	GM16471	Cover, valve rocker arm RH	1	41	GM16414	Pole piece & plate, distributor (part of item 3)	1
2	GM16364	Cap, oil filler	1	42	GM16406	Bolt, distributor (part of item 3)	2
3	GM16550	Distributor	1	43	GM16418	Module, dist. ignition control (part of item 3)	1
4	GM16511	Bolt	1	44	GM16543	Pin, dist. ignition pickup pole (part of item 3)	1
5	GM16352	Clamp, distributor	1	45	GM16412	Housing, distributor (part of item 3)	1
6	GM16360	Gasket, distributor	1	46	GM16407	Bolt, distributor cap (part of item 3)	2
7	GM16381	Grommet, valve rocker arm cover	6	47	GM16409	Rotor, distributor (part of item 3)	1
8	GM16510	Plug, 3/8-18 x .42	AR	48	GM16411	Shaft, distributor (part of item 3)	1
9	GM16533	Plug, water outlet	2	49	GM16415	Retainer, distributor ignition pickup	1
10	GM16454	Bolt, intake manifold	8	50	GM16597	Bolt, ignition coil	2
11	GM16466	Manifold, intake	1	51	GM16552	Coil, ignition	1
12	GM16448	Gasket kit, intake manifold (includes 2 gaskets)	1	52	GM16424	Harness, ignition coil wiring, 12"	1
13	GM16382	Bolt, valve rocker arm cover	6	53	-	See Group 3	
14	GM16521	Nut, valve rocker arm (Part of items 15, 26)	12	54	-	See Group 3	
15	GM16484	Arm kit, valve rocker (Part of item 14)	AR	55	-	See Group 3	
16	GM16383	Gasket, valve rocker arm cover	2	56	-	See Group 3	
17	GM16373	Bolt, cy. head, long (7/16-14 x 3 51/64)	10	57	-	See Group 3	
18	GM16374	Bolt, cy. hd, medium (7/16-14 x 3 1/16)	4	58	GM16396	Grommet, PCV valve	AR
19	GM16375	Bolt, cy. head, short (7/16 x 1 3/4)	10	59	GM16595	Bolt, spark plug wire retainer bracket	AR
20	GM16531	Spark plug	6	60	GM16391	Support, spark plug wire	1
21	GM16456	Valve, exhaust (std)	6	61	GM16416	Cap, distributor (part of item 3)	1
21	GM16457	Valve, exhaust (.0305 OS)	6	62	GM16410	Bracket, ignition coil (bottom)	1
22	GM16401	Valve, intake standard	6	62	GM16408	Bracket, ignition coil (top)	1
23	GM16524	Lifter, valve	12	63	GM16378	Nut, ignition coil bracket	2
24	GM16400	Rod, valve push	12	64	GM16459	Guide, valve lifter push rod	2
25	GM16465	Gasket, cylinder head	2	65	GM16527	Bolt, valve lifter guide	4
25	GM16436	Gasket kit, cylinder head	AR	66	GM16472	Nipple, heater inlet hose	1
26	GM16486	Head, cylinder	2	67	GM16534	Clamp, water pump inlet hose	1
27	GM16344	Stud, valve rocker arm ball	12	68	GM16479	Hose, water pump inlet (includes clamps)	1
28	GM16385	Seal, intake valve stem oil	6	69	GM16430	Sealant, pipe Loctite	AR
29	GM16386	Spring, valve (w/o damper)	12	70	-	Not applicable	
30	GM16496	Seal, exhaust valve stem oil	6	71	GM16485	Support, valve rocker arm	2
31	GM16529	Key, valve stem	24	72	GM16484	Arm kit, valve rocker (includes item 73)	12
32	GM16402	Cap, valve spring	12	73	-	Not serviced separately, see item 72	
33	GM16540	Washer, valve lifter guide retainer	3				
34	GM16527	Bolt, valve lifter guide	4				
35	GM16544	Pin, distributor gear (part of item 3)	1				
36	GM16405	Gear, distributor (part of item 3)	1				
37	GM16571	Washer, distributor shaft (part of item 3)	1				
38	GM16568	Washer, distributor shaft (part of item 3)	1				
39	GM16419	Shield, dist. ignition pickup (part of item 3)	1				

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Group 3: Engine Trim Parts

Items not shown: 4-8, 36-52



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Group 3: Engine Trim Parts

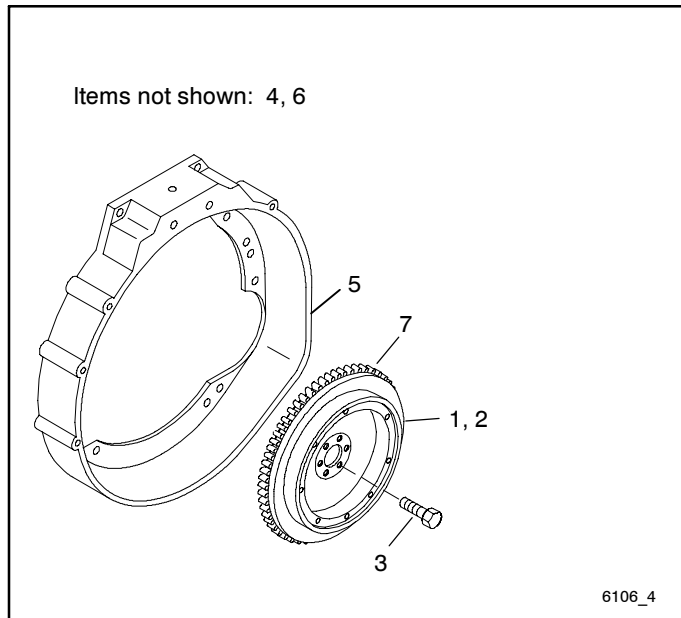
Item	Part Number	Description	Qty.	
			Var.	
			1	2
1	GM16113	Sensor, mag. speed 5/8-18	1	1
2	GM35807	Kit, governor replacement	1	1
3	GM16822	Terminal, male	2	2
4	#	Nut, 1/2-13	4	4
5	#	Washer, lock 1/2"	12	12
6	#	Washer, flat 1/2"	8	8
7	#	Bolt, 1/2-13 x 1 hex head gr. 5	8	8
8	#	Bolt, 1/2-13 x 1 1/2 hex head gr. 5	4	4
9	-	Tube, dipstick (see group 1)	1	1
10	GM16116	Adapter, freeze plug 1/2" NPT	2	2
11	GM16118	Plug, 1/2" NPT brass	2	2
12	GM16119	Pipe, street elbow 1/2" NPT	1	1
13	GM16120	Cover, thermostat	1	1
14	GM16123	Bracket, pulley	1	1
15	GM16536	Gasket, thermostat cover	2	2
16	GM16127	Pulley, fan	1	1
17	-	Dipstick, oil 4.3L (see group 1)	1	1
18	GM16129	Spacer	4	4
19	GM16130	Washer, crankshaft pulley	1	1
20	GM16131	Pulley, crankshaft/fan	1	1
21	GM16140	Cap, bypass 5/8 (See note below)	1	1
22	GM16144	Clamp, hose 1"	1	1
23	GM16537	Thermostat, 160 degree	1	1
24	GM16148	Spacer, thermostat cover	1	1
25	GM16152	Support, spark plug wire	1	1
26	GM16153	Support, spark plug wire	1	1
27	GM16157	Elbow, PCV system 5/8" 45 deg.	1	1
28	GM16158	Hose, PVC	1	1
29	GM16160	Valve, PCV	1	1
30	GM16172	Bracket, exhaust/lifting eye	1	1
31	GM16173	Spacer, .75 OD x .38 ID x .50	3	3
32	GM16179	Harness, distributor to coil		
33	GM16156	Wires, spark plug	1	1
34	GM16155	Retainer, spark plug wire	2	2
35	GM16223	Shield, heat	1	1
36	GM16154	Clamp, steel tube 3/8" (dipstick tube)	1	1
37	GM16226	Plug, 1/8"	1	1
38	#	Nut, flanged 3/8-16	1	1
39	#	Bolt, 3/8-16 x 3/4 hex head	2	2
40	#	Bolt, 3/8-16 x 1 1/2 hex head gr. 5	2	2
41	#	Bolt, 3/8-16 x 3 1/2 hex head gr. 5	2	2
42	#	Bolt, 3/8-16 x 4 1/2 hex head gr. 5	2	2
43	#	Washer, lock 3/8	9	9
44	#	Washer, lock 5/16	1	1
45	#	Washer, flat 3/8 SAE	9	9
46	#	Washer, flat 5/16	1	1
47	#	Bolt, 3/8-24 x 1 socket head gr. 5	3	3
48	#	Bolt, 7/16-20 x 2 1/4 hex head gr. 8	1	1
49	GM32605	Bolt, M8-1.25 x 15 hex head gr. 8.8	1	1
50	#	Washer, lock M10	1	1
51	#	Bolt, M10-1.50 x 15 hex head gr. 8.8	1	1
52	GM16161	Tee, fitting vacuum		1

Common hardware. Procure locally.

Note:

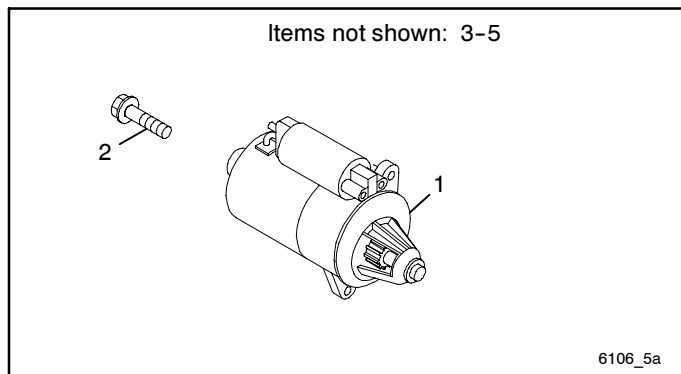
Part number GM16140 is a kit that includes a pipe cap, hose connector, hose clamps, and rubber hose. See Service Bulletin SB-635 for details.

Group 4: Flywheel



Item	Part Number	Description	Qty.
			Var. 1
1	GM16136	Adapter, flywheel	1
2	GM16137	Flywheel	1
3	GM16815	Bolt, flywheel 7/16-20 x 1	6
4	#	Screw, adapter 3/8-16 x 2, cap gr. 8	4
5	GM16135	Housing, flywheel	1
6	#	Bolt, M10-1.50 x 30 socket head gr. 5	6
7	GM16821	Gear, flywheel	1

Group 5: Starter

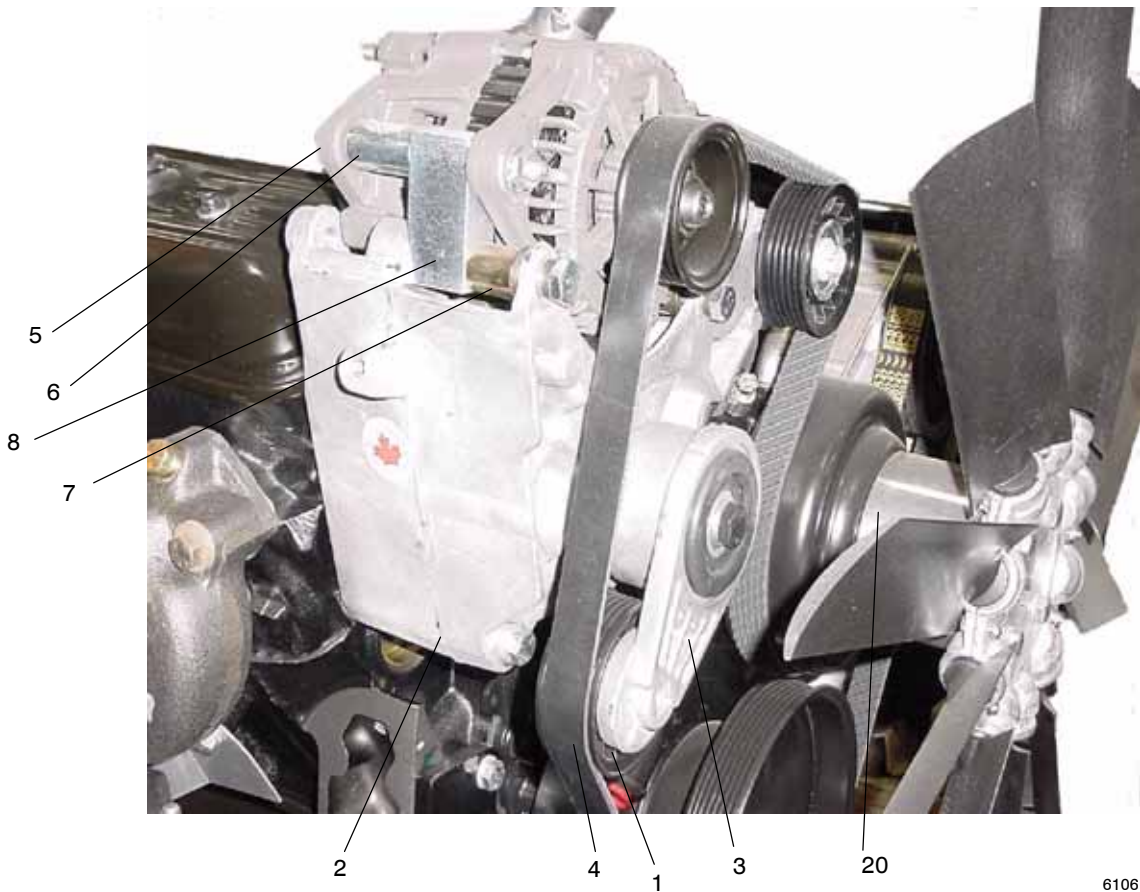


Item	Part Number	Description	Qty.
			Var. 1
1	GM16178	Starter	1
2	GM17378	Bolt, starter	2
3	#	Nut, M5-.80	1
4	#	Washer, lock M5	1
5	#	Nut, flanged M8-1.25	1

Common hardware. Procure locally.

Group 6: Alternator and Fan Pulley

Items not shown: 9-19, 21-23

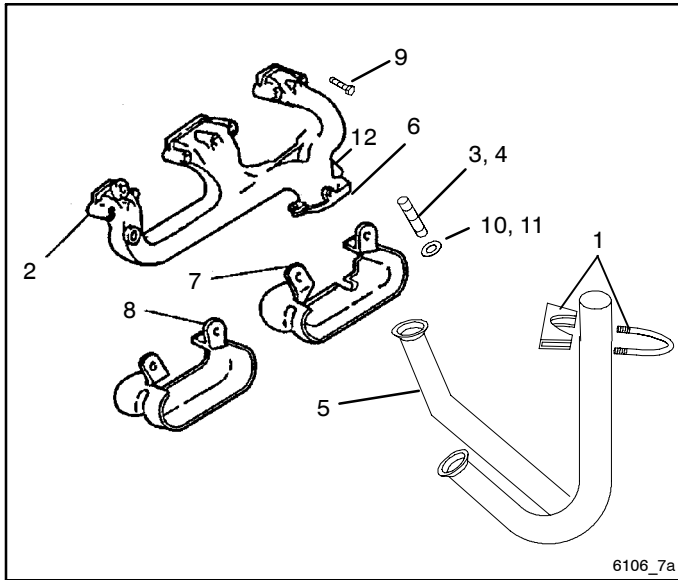


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Item	Part Number	Description	Qty. Var.
1	GM16121	Pulley, idler	1
2	GM16122	Bracket, alternator	1
3	GM16126	Pulley, tensioner	1
4	GM16132	Belt, 74.7"	1
5	GM16180	Alternator, 70 amp	1
6	GM16181	Spacer, mount, 10 mm	2
7	GM16182	Spacer, mount, 8 mm	1
8	GM16183	Block, mount	2
9	#	Nut, M6-1.0	1
10	#	Nut, flanged M8-1.25	1
11	#	Washer, lock 5/16	1
12	#	Bolt, M8-1.25 x 50 hex head gr. 5	1
13	#	Bolt, M10-1.50 x 90 hex head gr. 8.8	2
14	#	Washer, lock M10	1
15	#	Bolt, 3/8-16 x 4 1/2 hex head gr. 5	3
16	#	Washer, lock 3/8	3
17	#	Washer, flat 3/8 SAE	4
18	#	Bolt, M10-1.50 x 85 hex head gr. 8.8	2
19	#	Bolt, M8-1.25 x 110 hex head gr. 8.8	1
20	GM16147	Spacer, fan	1
21	#	Bolt, M8-1.25 x 20 hex head gr. 8.8	4
22	#	Washer, Lock 5/16	4
23	#	Bolt, M8-1.25 x 80 socket head gr. 8.8	4

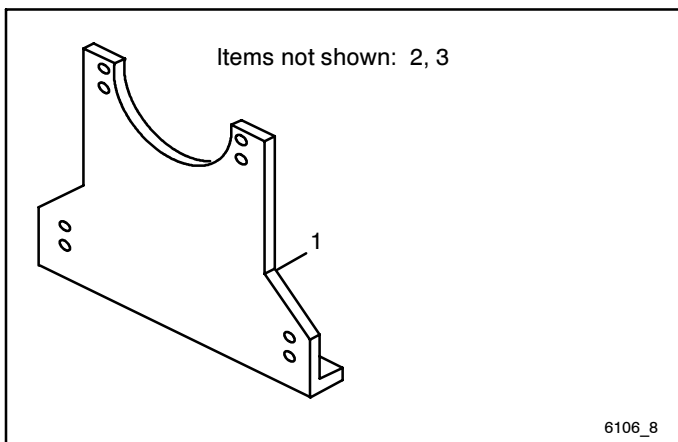
Common hardware. Procure locally.

Group 7: Exhaust System



Item	Part Number	Description	Qty.
			Var. 1
1	GM16145	Clamp, muffler 3"	1
2	GM16198	Manifold, exhaust	2
3	GM16200	Stud, manifold exhaust	6
4	GM16201	Spring, exhaust manifold	6
5	GM16208	Pipe, Y	1
6	GM16215	Seal, exhaust	2
7	GM16217	Shield, heat exhaust (2 wire)	2
8	GM16221	Shield, heat exhaust (1 wire)	2
9	GM16224	Bolt, 3/8-16 x 2 hex head gr. 5	12
10	GM16225	Washer, flat 3/8" (hardened)	12
11	GM16227	Nut, exhaust manifold	6
12	#	Bolt, 3/4-16 x 1 hex head gr. 5	2

Group 8: Engine Mounting



Item	Part Number	Description	Qty.
			Var. 1
1	GM16138	Mount, front 1/4"	1
2	#	Bolt, 3/8-16 x 1 1/4 hex head gr. 5	4
3	#	Washer, lock 3/8	4

Common hardware. Procure locally.

Notes

Group 9: Fuel System, Natural Gas/LP Gas

Items not shown: 21-25

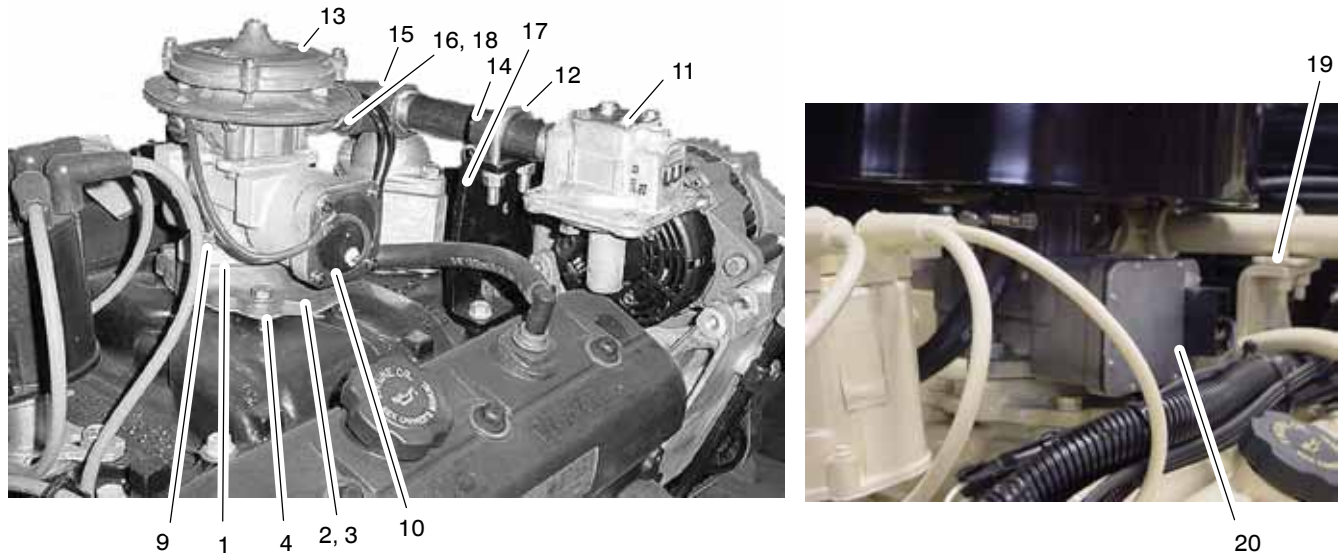


Figure 1

6106_9a

Item	Part Number	Description	Qty.
			Var. 1
1	GM16150	Gasket, carburetor	1
2	GM17379	Fitting 1/8 x 3/8 hose barb	1
3	GM16164	Adapter, manifold	1
4	GM17380	Gasket, manifold	1
5	#	Washer, lock 5/16	4
6	#	Bolt, 5/16-18 x 1 hex	4
7	#	Nut, 3/8-16	2
8	#	Washer, 3/8-16	2
9	GM17381	Stud, 3/8-16 x 1 1/4	2
10	See note	Valve, throttle/actuator	1
11	GM16171	Regulator, fuel 3/4" NPT	1
12	GM16176	Clamp, U-bolt 5/16-18 x 1 3/8	1
13	GM16168	Mixer, nat. gas and LP*	1
14	GM16209	Pipe, nipple 3/4 x 6"	1
15	GM16212	Pipe, 3/4" fitting elbow 90 deg.	1
16	GM16213	Bushing, reducing 3/4" - 1/2"	1
17	GM16210	Bracket, pipe support	1
18	GM16211	Pipe, 1/2 x 1 1/4" nipple	1
19	GM23541	Spacer, U-bolt plate	1
20	GM23540	Valve, throttle/actuator	1
21	#	Washer, lock 5/16	2
22	#	Nut, 5/16-18	2
23	#	Washer, lock M10	2
24	#	Washer, flat 3/8 SAE	2
25	#	Bolt, M10-1.50 x 15 grade 8.8	2

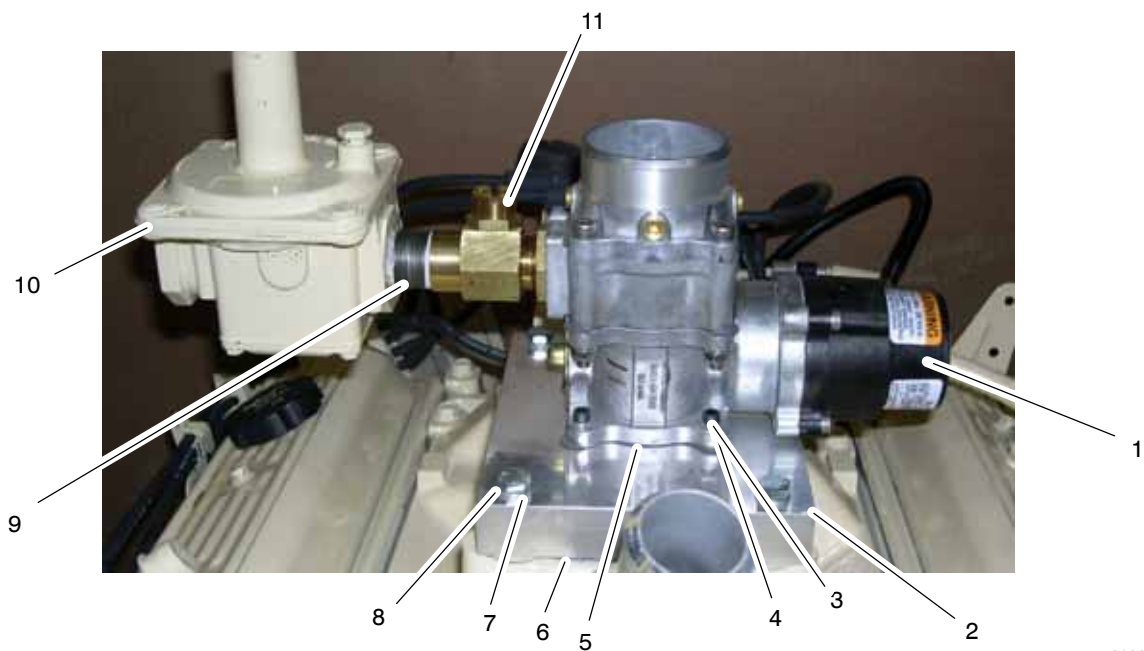
Common hardware. Procure locally.

* Mixer components are shown on following page.

Note

Replace the throttle valve/actuator shown in figure 1 (item 10) with service kit GM23538. Service kit GM23538 includes items 1, 19, and 20.

Group 9: Fuel System, Natural Gas/LP Gas

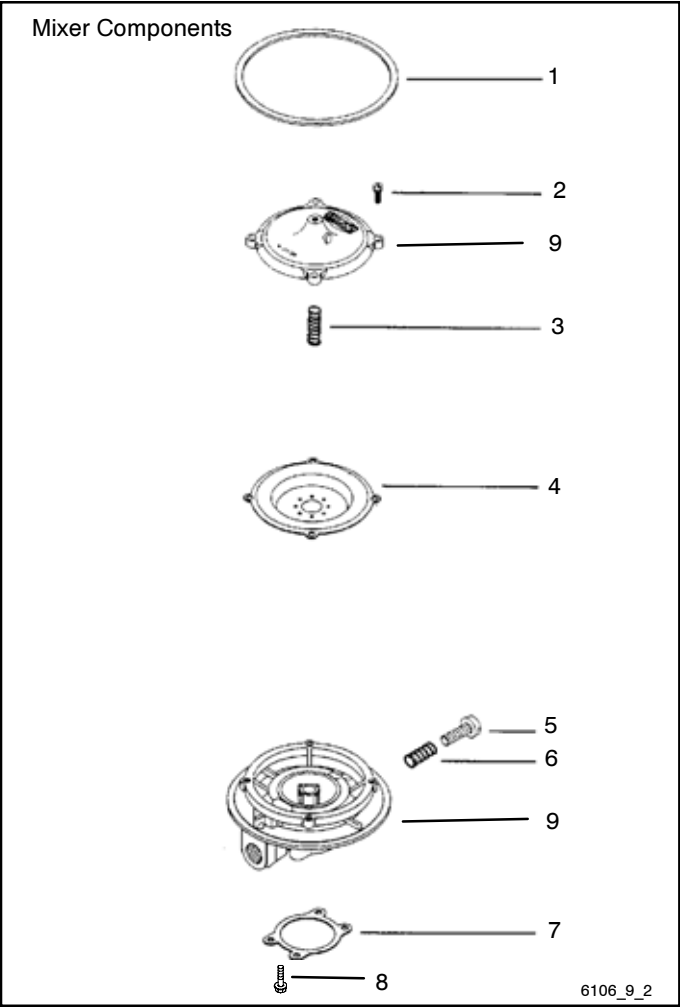


6106_9_3

Item	Part Number	Description	Quantity	
			Variation 2	Variation 4
1	GM40169	Valve, mixer	1	
1	GM40172	Valve, mixer L-series		1
2	GM29853	Adapter, Manifold (LC50)	1	1
3	GM28767	Screw, cap, 10-24 x 3/4 in.	4	4
4	#	Washer, Lock #10	4	4
5	GM28766	Gasket, LC-50 valve	1	1
6	GM17380	Gasket, intake manifold	1	1
7	#	Washer, Lock 5/16 in.	4	4
8	#	Bolt, 5/16-18 x 1 1/2 hex head gr. 5	4	4
9	GM16206	Pipe, closed nipple, 3/4 in.	1	1
10	GM28832	Regulator, fuel	1	1
11	GM29426	Valve assembly, fuel metering	1	1

Common hardware. Procure locally.

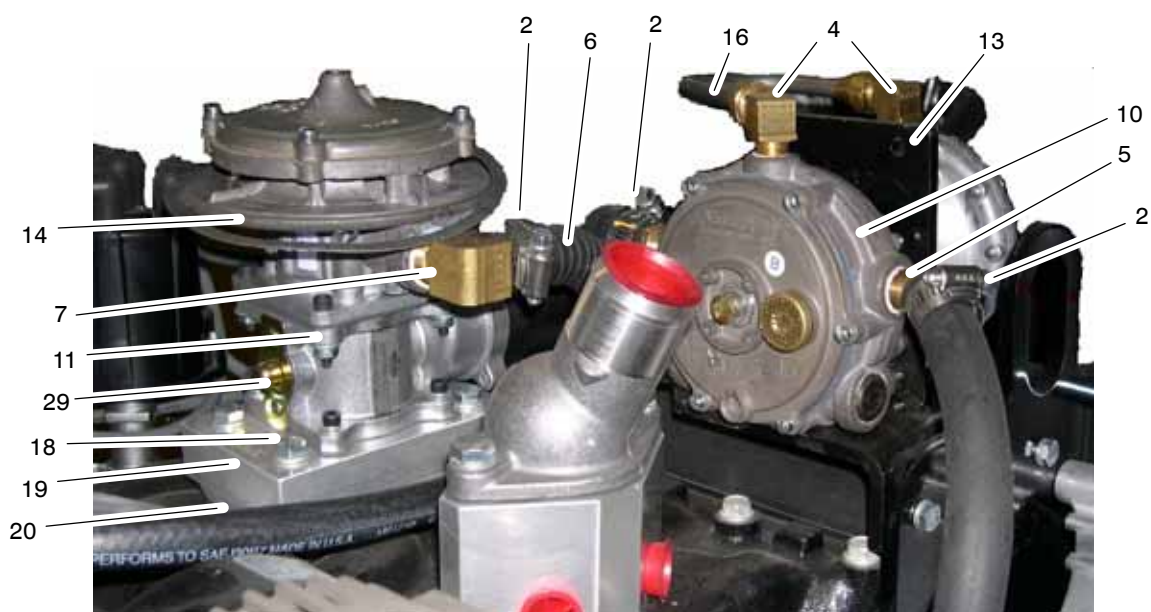
Group 9: Fuel System, Natural Gas/LP Gas, continued



Item	Part Number	Description	Qty.
			Var. 1
1	GM17386	Gasket, mixer to air horn	1
2	GM17388	Screw, 10-24 x 5/8 SEMS	5
3	GM17389	Spring, air valve	1
4	GM17383	Diaphragm, silicone (nat. gas or LP)	1
5	GM17390	Idle screw	1
6	GM17391	Spring, idle screw	1
7	GM17392	Gasket, throttle body to mixer	1
8	GM17396	Screw, 12-24 x 5/8 SEMS	4
9	-	Not sold separately	

Notes

Group 9: Fuel System, LP Liquid Withdrawal



6106_9_4

Group 9: Fuel System, LP Liquid Withdrawal

Item	Part Number	Description	Quantity	
			Variation	
			3	5
1	GM24335	Hose, water 5/8 ID x 6.88 in., 250 PSI in.	1	1
2	GM16144	Clamp, hose 1 in.	6	6
3	GM24337	Fitting, 1/4 x 3/8 in. male flare	1	1
4	GM24338	Fitting, 1/4 x 3/8 in. flare 90 deg. elbow	2	2
5	GM24339	Fitting, 5/8 x 3/8 in., 45 deg.	1	1
6	GM29846	Hose, 5/8 LP vapor w/wire reinforce x 15 in.	1	1
7	GM29847	Fitting, 1/2 x 5/8 in. 90 elbow brass	2	2
8	GM29848	Fitting, 3/8 in. union 90 elbow	1	1
9	GM24340	Fitting, 5/8 x 3/8 in.	2	2
10	GM29849	Converter, LPG (N-JB-2-R)	1	1
11	GM16167	Adapter, power flow	1	1
12	GM17393	Fitting, 3/8 x 3/8 in nipple hex	1	1
13	GM24344	Bracket, regulator	1	1
14	GM29850	Mixer, NG (CA125M-2)	1	1
15	GM24345	Valve, LPG	1	1
16	GM29851	Tube, Fuel 3/8 in. steel	1	1
17	GM29852	Hose, elbow 5/8 in. ID	1	1
18	GM28766	Gasket, LC-50 valve	1	1
19	GM29853	Adapter, manifold (LC50)	1	1
20	GM17380	Gasket, manifold	1	1
21	GM24188	Washer, lock 1/4 in.	2	2
22	#	Washer, lock 5/16 in.	4	4
23	#	Bolt, 1/4-20 x 1 hex head gr. 5	2	2
24	#	Washer, lock #10	4	4
25	GM25977	Nut, 10-24	1	1
26	#	Bolt 5/16-18 x 1 1/2 socket head gr. 5	4	4
27	GM28767	Screw, cap, 10-24 x 3/4 in.	4	4
28	#	Screw, 10-24 x 1 Allen head	4	4
29	GM40175	Valve, mixer	1	
29	GM40173	Valve, mixer L-series		1

Common hardware. Procure locally.

Appendix A 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-6238-14	3/8-24 x .75	X-6009-1	1-8	Standard		
X-465-6	1/4-20 x .50	X-6238-16	3/8-24 x 1.25					
X-465-2	1/4-20 x .62	X-6238-21	3/8-24 x 4.00	X-6210-3	6-32	Whiz		
X-465-16	1/4-20 x .75	X-6238-22	3/8-24 x 4.50	X-6210-4	8-32	Whiz		
X-465-18	1/4-20 x .88			X-6210-5	10-24	Whiz		
X-465-7	1/4-20 x 1.00	X-6024-5	7/16-14 x .75	X-6210-1	10-32	Whiz		
X-465-8	1/4-20 x 1.25	X-6024-2	7/16-14 x 1.00					
X-465-9	1/4-20 x 1.50	X-6024-8	7/16-14 x 1.25	X-6210-2	1/4-20	Spiralock		
X-465-10	1/4-20 x 1.75	X-6024-3	7/16-14 x 1.50	X-6210-6	1/4-28	Spiralock		
X-465-11	1/4-20 x 2.00	X-6024-4	7/16-14 x 2.00	X-6210-7	5/16-18	Spiralock		
X-465-12	1/4-20 x 2.25	X-6024-11	7/16-14 x 2.75	X-6210-8	5/16-24	Spiralock		
X-465-14	1/4-20 x 2.75	X-6024-12	7/16-14 x 6.50	X-6210-9	3/8-16	Spiralock		
X-465-21	1/4-20 x 5.00			X-6210-10	3/8-24	Spiralock		
X-465-25	1/4-28 x .38	X-129-15	1/2-13 x .75	X-6210-11	7/16-14	Spiralock		
X-465-20	1/4-28 x 1.00	X-129-17	1/2-13 x 1.00	X-6210-12	1/2-13	Spiralock		
		X-129-18	1/2-13 x 1.25	X-6210-15	7/16-20	Spiralock		
X-125-33	5/16-18 x .50	X-129-19	1/2-13 x 1.50	X-6210-14	1/2-20	Spiralock		
X-125-23	5/16-18 x .62	X-129-20	1/2-13 x 1.75					
X-125-3	5/16-18 x .75	X-129-21	1/2-13 x 2.00	X-85-3	5/8-11	Standard		
X-125-31	5/16-18 x .88	X-129-22	1/2-13 x 2.25	X-88-12	3/4-10	Standard		
X-125-5	5/16-18 x 1.00	X-129-23	1/2-13 x 2.50	X-89-2	1/2-20	Standard		
X-125-24	5/16-18 x 1.25	X-129-24	1/2-13 x 2.75					
X-125-34	5/16-18 x 1.50	X-129-25	1/2-13 x 3.00					
X-125-25	5/16-18 x 1.75	X-129-27	1/2-13 x 3.50					
X-125-26	5/16-18 x 2.00	X-129-29	1/2-13 x 4.00					
230578	5/16-18 x 2.25	X-129-30	1/2-13 x 4.50					
X-125-29	5/16-18 x 2.50	X-463-9	1/2-13 x 5.50					
X-125-27	5/16-18 x 2.75	X-129-44	1/2-13 x 6.00					
X-125-28	5/16-18 x 3.00							
X-125-22	5/16-18 x 4.50	X-129-51	1/2-20 x .75	X-25-46	.125	.250	.022	#4
X-125-32	5/16-18 x 5.00	X-129-45	1/2-20 x 1.25	X-25-9	.156	.375	.049	#6
X-125-35	5/16-18 x 5.50	X-129-52	1/2-20 x 1.50	X-25-48	.188	.438	.049	#8
X-125-36	5/16-18 x 6.00			X-25-36	.219	.500	.049	#10
X-125-40	5/16-18 x 6.50	X-6021-3	5/8-11 x 1.00	X-25-40	.281	.625	.065	1/4
		X-6021-4	5/8-11 x 1.25	X-25-85	.344	.687	.065	5/16
X-125-43	5/16-24 x 1.75	X-6021-2	5/8-11 x 1.50	X-25-37	.406	.812	.065	3/8
X-125-44	5/16-24 x 2.50	X-6021-1	5/8-11 x 1.75	X-25-34	.469	.922	.065	7/16
X-125-30	5/16-24 x .75	273049	5/8-11 x 2.00	X-25-26	.531	1.062	.095	1/2
X-125-39	5/16-24 x 2.00	X-6021-5	5/8-11 x 2.25	X-25-15	.656	1.312	.095	5/8
X-125-38	5/16-24 x 2.75	X-6021-6	5/8-11 x 2.50	X-25-29	.812	1.469	.134	3/4
		X-6021-7	5/8-11 x 2.75	X-25-127	1.062	2.000	.134	1
X-6238-2	3/8-16 x .62	X-6021-12	5/8-11 x 3.75					
X-6238-10	3/8-16 x .75	X-6021-11	5/8-11 x 4.50					
X-6238-3	3/8-16 x .88	X-6021-10	5/8-11 x 6.00					
X-6238-11	3/8-16 x 1.00							
X-6238-4	3/8-16 x 1.25	X-6021-9	5/8-18 x 2.50					
X-6238-5	3/8-16 x 1.50							
X-6238-1	3/8-16 x 1.75	X-6239-1	3/4-10 x 1.00					
X-6238-6	3/8-16 x 2.00	X-6239-8	3/4-10 x 1.25					
X-6238-17	3/8-16 x 2.25	X-6239-2	3/4-10 x 1.50					
X-6238-7	3/8-16 x 2.50	X-6239-3	3/4-10 x 2.00					
X-6238-8	3/8-16 x 2.75	X-6239-4	3/4-10 x 2.50					
X-6238-9	3/8-16 x 3.00	X-6239-5	3/4-10 x 3.00					
X-6238-19	3/8-16 x 3.25	X-6239-6	3/4-10 x 3.50					
X-6238-12	3/8-16 x 3.50							
X-6238-20	3/8-16 x 3.75	X-792-1	1-8 x 2.25					
X-6238-13	3/8-16 x 4.50	X-792-5	1-8 x 3.00					
X-6238-18	3/8-16 x 5.50	X-792-8	1-8 x 5.00					
X-6238-25	3/8-16 x 6.50							

Metric

Hex head bolts are hardness grade 8.8 unless noted.

Part No. Dimensions Hex Head Bolts (Partial Thread)

M931-05055-60	M5-0.80 x 55
M931-06040-60	M6-1.00 x 40
M931-06055-60	M6-1.00 x 55
M931-06060-60	M6-1.00 x 60
M931-06060-SS	M6-1.00 x 60
M931-06070-60	M6-1.00 x 70
M931-06070-SS	M6-1.00 x 70
M931-06075-60	M6-1.00 x 75
M931-06090-60	M6-1.00 x 90
M931-06145-60	M6-1.00 x 145
M931-06150-60	M6-1.00 x 150
M931-08035-60	M8-1.25 x 35
M931-08040-60	M8-1.25 x 40
M931-08040-82	M8-1.25 x 40*
M931-08045-60	M8-1.25 x 45
M931-08050-60	M8-1.25 x 50
M931-08055-60	M8-1.25 x 55
M931-08055-82	M8-1.25 x 55*
M931-08060-60	M8-1.25 x 60
M931-08070-60	M8-1.25 x 70
M931-08070-82	M8-1.25 x 70*
M931-08075-60	M8-1.25 x 75
M931-08080-60	M8-1.25 x 80
M931-08090-60	M8-1.25 x 90
M931-08095-60	M8-1.25 x 95
M931-08100-60	M8-1.25 x 100
M931-08110-60	M8-1.25 x 110
M931-08120-60	M8-1.25 x 120
M931-08130-60	M8-1.25 x 130
M931-08140-60	M8-1.25 x 140
M931-08150-60	M8-1.25 x 150
M931-10040-82	M10-1.25 x 40*
M931-10040-60	M10-1.50 x 40
M931-10045-60	M10-1.50 x 45
M931-10050-60	M10-1.50 x 50
M931-10050-82	M10-1.25 x 50
M931-10055-60	M10-1.50 x 55
M931-10060-60	M10-1.50 x 60
M931-10065-60	M10-1.50 x 65
M931-10070-60	M10-1.50 x 70
M931-10080-60	M10-1.50 x 80
M931-10080-82	M10-1.25 x 80
M931-10090-60	M10-1.50 x 90
M931-10090-82	M10-1.50 x 90*
M931-10100-60	M10-1.50 x 100
M931-10110-60	M10-1.50 x 110
M931-10120-60	M10-1.50 x 120
M931-10130-60	M10-1.50 x 130
M931-10140-60	M10-1.50 x 140
M931-10180-60	M10-1.50 x 180
M960-10330-60	M10-1.25 x 330
M931-12045-60	M12-1.75 x 45
M960-12050-60	M12-1.25 x 50
M960-12050-82	M12-1.25 x 50*
M931-12050-60	M12-1.75 x 50
M931-12050-82	M12-1.75 x 50
M931-12055-60	M12-1.75 x 55
M931-12060-60	M12-1.75 x 60
M931-12060-82	M12-1.75 x 60
M931-12065-60	M12-1.75 x 65
M931-12075-60	M12-1.75 x 75
M931-12080-60	M12-1.75 x 80
M931-12090-60	M12-1.75 x 90
M931-12100-60	M12-1.75 x 100
M931-12110-60	M12-1.75 x 110

Part No. Dimensions Hex Head Bolts (Partial Thread), continued

M960-16090-60	M16-1.50 x 90
M931-16090-60	M16-2.00 x 90
M931-16100-60	M16-2.00 x 100
M931-16120-60	M16-2.00 x 120
M931-16150-60	M16-2.00 x 150
M931-20065-60	M20-2.50 x 65
M931-20100-60	M20-2.50 x 100
M931-20120-60	M20-2.50 x 120
M931-20140-60	M20-2.50 x 140
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

Hex Head Bolts (Full Thread)

M933-04006-60	M4-0.70 x 6
M933-05030-60	M5-0.80 x 30
M933-05035-60	M5-0.80 x 35
M933-05050-60	M5-0.80 x 50
M933-06010-60	M6-1.00 x 10
M933-06012-60	M6-1.00 x 12
M933-06014-60	M6-1.00 x 14
M933-06016-60	M6-1.00 x 16
M933-06020-60	M6-1.00 x 20
M933-06025-60	M6-1.00 x 25
M933-06040-60	M6-1.00 x 40
M933-06050-60	M6-1.00 x 50
M933-07025-60	M7-1.00 x 25
M933-08010-60	M8-1.25 x 10
M933-08012-60	M8-1.25 x 12
M933-08016-60	M8-1.25 x 16
M933-08020-60	M8-1.25 x 20
M933-08025-60	M8-1.25 x 25
M933-08030-60	M8-1.25 x 30
M933-08030-82	M8-1.25 x 30*
M933-10012-60	M10-1.50 x 12
M961-10020-60	M10-1.25 x 20
M933-10020-60	M10-1.50 x 20
M933-10025-60	M10-1.50 x 25
M961-10025-60	M10-1.25 x 25
M933-10025-82	M10-1.50 x 25
M961-10030-60	M10-1.25 x 30
M933-10030-60	M10-1.50 x 30
M933-10030-82	M10-1.50 x 30*
M961-10035-60	M10-1.25 x 35
M933-10035-60	M10-1.50 x 35
M933-10035-82	M10-1.50 x 35
M961-10040-60	M10-1.25 x 40
M933-12016-60	M12-1.75 x 16
M933-12020-60	M12-1.75 x 20
M961-12020-60F	M12-1.50 x 20
M933-12025-60	M12-1.75 x 25
M933-12025-82	M12-1.75 x 25*
M961-12030-60	M12-1.25 x 30
M961-12030-82F	M12-1.50 x 30
M933-12030-60	M12-1.75 x 30
M933-12035-60	M12-1.75 x 35
M961-12040-82	M12-1.25 x 40*
M933-12040-60	M12-1.75 x 40
M933-12040-82	M12-1.75 x 40*

Part No. Dimensions Hex Head Bolts (Full Thread), continued

M961-14025-60	M14-1.50 x 25
M933-14025-60	M14-2.00 x 25
M961-14050-82	M14-1.50 x 50
M961-16025-60	M16-1.50 x 25
M933-16025-60	M16-2.00 x 25
M961-16030-82	M16-1.50 x 30*
M933-16030-82	M16-2.00 x 30*
M933-16035-60	M16-2.00 x 35
M961-16040-60	M16-1.50 x 40
M933-16040-60	M16-2.00 x 40
M961-16045-82	M16-1.50 x 45
M933-16045-82	M16-2.00 x 45
M933-16050-60	M16-2.00 x 50
M933-16050-82	M16-2.00 x 50*
M933-16060-60	M16-2.00 x 60
M933-16070-60	M16-2.00 x 70
M933-18035-60	M18-2.50 x 35
M933-18050-60	M18-2.50 x 50
M933-18060-60	M18-2.50 x 60
M933-20050-60	M20-2.50 x 50
M933-20055-60	M20-2.50 x 55
M933-24060-60	M24-3.00 x 60
M933-24065-60	M24-3.00 x 65
M933-24070-60	M24-3.00 x 70

Pan Head Machine Screws

M7985A-03010-20	M3-0.50 x 10
M7985A-03012-20	M3-0.50 x 12
M7985A-04010-20	M4-0.70 x 10
M7985A-04016-20	M4-0.70 x 16
M7985A-04020-20	M4-0.70 x 20
M7985A-04050-20	M4-0.70 x 50
M7985A-04100-20	M4-0.70 x 100
M7985A-05010-20	M5-0.80 x 10
M7985A-05012-20	M5-0.80 x 12
M7985A-05016-20	M5-0.80 x 16
M7985A-05020-20	M5-0.80 x 20
M7985A-05025-20	M5-0.80 x 25
M7985A-05030-20	M5-0.80 x 30
M7985A-05080-20	M5-0.80 x 80
M7985A-05100-20	M5-0.80 x 100
M7985A-06100-20	M6-1.00 x 100

Flat Head Machine Screws

M965A-04012-SS	M4-0.70 x 12
M965A-05012-SS	M5-0.80 x 12
M965A-05016-20	M5-0.80 x 16
M965A-06012-20	M6-1.00 x 12

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

Metric, continued

Part No.	Dimensions	Type
Hex Nuts		
M934-03-50	M3-0.50	Standard
M934-04-50	M4-0.70	Standard
M934-05-50	M5-0.80	Standard
M982-05-60	M5-0.80	Elastic Stop
M934-06-60	M6-1.00	Standard
M934-06-64	M6-1.00	Std. (green)
M6923-06-80	M6-1.00	Spiralock
M982-06-80	M6-1.00	Elastic Stop
M934-08-60	M8-1.25	Standard
M6923-08-80	M8-1.25	Spiralock
M982-08-80	M8-1.25	Elastic Stop
M934-10-60	M10-1.50	Standard
M934-10-60F	M10-1.25	Standard
M6923-10-80	M10-1.50	Spiralock
M6923-10-62	M10-1.50	Spiralock†
M982-10-80	M10-1.50	Elastic Stop
M934-12-60	M12-1.75	Standard
M934-12-60F	M12-1.25	Standard
M6923-12-80	M12-1.75	Spiralock
M982-12-80	M12-1.75	Elastic Stop
M982-14-60	M14-2.00	Elastic Stop
M6923-16-80	M16-2.00	Spiralock
M982-16-80	M16-2.00	Elastic Stop
M934-18-80	M18-2.5	Standard
M982-18-60	M18-2.50	Elastic Stop
M934-20-80	M20-2.50	Standard
M982-20-80	M20-2.50	Elastic Stop
M934-22-60	M22-2.50	Standard
M934-24-80	M24-3.00	Standard
M982-24-60	M24-3.00	Elastic Stop
M934-30-80	M30-3.50	Standard

Washers

Part No.	ID	OD	Thick.	Bolt/ Screw
M125A-03-80	3.2	7.0	0.5	M3
M125A-04-80	4.3	9.0	0.8	M4
M125A-05-80	5.3	10.0	1.0	M5
M125A-06-80	6.4	12.0	1.6	M6
M125A-08-80	8.4	16.0	1.6	M8
M125A-10-80	10.5	20.0	2.0	M10
M125A-12-80	13.0	24.0	2.5	M12
M125A-14-80	15.0	28.0	2.5	M14
M125A-16-80	17.0	30.0	3.0	M16
M125A-18-80	19.0	34.0	3.0	M18
M125A-20-80	21.0	37.0	3.0	M20
M125A-24-80	25.0	44.0	4.0	M24

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

