

Service Parts

Residential/Commercial Generator Sets



Models:

14RESA/RESAL
20RESA/RESAL
20RESC/20RESCL

KOHLER
Power Systems

9001
KOHLER
POWER SYSTEMS
NATIONALLY REGISTERED

TP-6806 11/16e

Common Replacement Parts

Figure 1 identifies 2000-hour common replacement parts for your generator set. Refer to the groups on the following pages for a complete list of maintenance and service parts.

Description	Part Number	Quantity	
		14RESA	20RESA/C
Sensor, oil temperature	GM28823	1	1
Filter, oil	12 050 01-S	8	
Filter, oil	52 050 02-S		8
Switch, oil pressure	52 099 08-S	1	
Switch, oil pressure	48 099 07-S		1
Spark plug	25 132 14-S	2	
Spark plug	62 132 04-S		2
Kit, starter solenoid	25 435 06-S	1	1
Element, air filter	24 083 09-S	1	
Element, air filter	62 083 04-S		1
Bushing, linkage retaining	25 158 08-S	4	4
Coupling, stepper motor	358358	4	4

Figure 1 2000-Hour Replacement Parts

Table of Contents

Common Replacement Parts	2
Table of Contents	3
Introduction	4
Numbering System Significance	4
Illustrations	4
How to Find Part Numbers	4
Hardware References	5
Specification Number Index	6
Engine Groups	
Group 1: Crankshaft	9
Group 2: Crankcase	10
Group 3: Oil Pan/Lubrication	13
Group 4: Cylinder Head/Valve/Breather	17
Group 5: Ignition/Electrical	20
Group 6: Blower Housing and Baffles	23
Group 7: Starter	26
Group 8: Carburetor	27
Group 9: Engine Controls	29
Group 10: Air Intake/Filtration	31
Group 11: Engine Exhaust	33
Group 12: Engine Decals	34
Group 13: Gasket Set	35
Generator Groups	
Fuel System	36
Engine	38
Nameplate and Decals	40
Skid	41
Customer Connection (Terminal Block)	42
Harness	44
Circuit Breaker	45
Exhaust	47
Alternator	48
Controller	52
Bulkhead	54
Enclosure	62
Literature	66
Kit Parts List	67
Appendix A. Abbreviations	70
Appendix B. Common Hardware Application Guidelines	72
Appendix C. General Torque Specifications	73
Appendix D. Common Hardware Identification	74
Appendix E. Common Hardware List	75

Introduction

This manual lists service replacement parts for 14RESA and 20RESA/C generator sets.

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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.

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.

Numbering System Significance

This manual uses the following numbering systems:

Specification Number. The product identification number located on the generator set nameplate. Specification 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 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.

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.

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.

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.

Specification Number Index

Group Title	<i>Crankshaft</i>	<i>Crankcase</i>	<i>Oil Pan/Lubrication</i>	<i>Cylinder Head/Valve/Breather</i>	<i>Ignition/Electrical</i>	<i>Blower Housing & Baffles</i>	<i>Starting System</i>	<i>Carburetor</i>	<i>Engine Controls</i>	<i>Air Intake/Filtration</i>	<i>Engine Exhaust</i>	<i>Engine Decals</i>
Group No.	1	2	3	4	5	6	7	8	9	10	11	12
Spec No.	Variation Number											

14RESA/14RESAL												
GM80978-GA2	67	372	763	609	1263	352	5	855	513	371	3	851
GM80978-GA4	67	372	763	609	1263	352	5	855	513	371	3	851
GM80978-GA11	67	372	763	609	1263	352	5	855	513	371	3	851
GM80978-GA13	67	372	763	609	1263	352	5	855	513	371	3	851
GM80978-GA17	67	372	763	609	1263	352	5	855	513	371	3	851
GM80978-GA19	67	372	763	609	1263	352	5	855	513	371	3	851
14RESAL-SA1	67	372	763	609	1263	352	5	855	513	371	3	851
14RESAL-SA2	67	372	763	609	1263	352	5	855	513	371	3	851
14RESAL-SA3	67	372	763	609	1263	352	5	855	513	371	3	851
14RESAL-SA4	67	372	763	609	1263	352	5	855	513	371	3	851
14RESA-SP1	67	372	763	609	1263	352	5	855	513	371	3	851
GM95876-GA1	67	372	763	609	1263	352	5	855	513	371	3	851
GM95876-GA2	67	372	763	609	1263	352	5	855	513	371	3	851
20RESA/20RESAL												
GM80978-GA1	12	5	15	7	30	6	1	16	45	13	9	16
GM80978-GA3	12	5	15	7	30	6	1	16	45	13	9	16
GM80978-GA7	12	6	21	13	37	6	1	20	45	30	9	16
GM80978-GA8	12	6	21	13	37	6	1	20	45	30	9	16
GM80978-GA10	12	6	21	13	37	6	1	20	45	30	9	16
GM80978-GA12	12	6	21	13	37	6	1	20	45	30	9	16
GM80978-GA16	12	6	21	13	37	6	1	20	45	30	9	16
GM80978-GA18	12	6	21	13	37	6	1	20	45	30	9	16
20RESAL-SA1	12	5	15	7	30	6	1	16	45	13	9	16
20RESAL-SA2	12	6	21	13	37	6	1	20	45	30	9	16
20RESAL-SA3	12	5	15	7	30	6	1	16	45	13	9	16
20RESAL-SA4	12	6	21	13	37	6	1	20	45	30	9	16
20RESAL-SA5	12	6	21	13	37	6	1	20	45	30	9	16
20RESA-SP1	12	5	15	7	30	6	1	16	45	13	9	16
20RESC/20RESCL												
GM95526-GA1	12	24	52	23	71	26	1	20	45	30	9	53
GM95526-GA2	12	24	52	23	71	26	1	20	45	30	9	53

Specification Number Index

Group Title	<i>Fuel System</i>	<i>Engine</i>	<i>Nameplate and Decals</i>	<i>Skid</i>	<i>Customer Connection</i>	<i>Harness</i>	<i>Circuit Breaker</i>	<i>Exhaust</i>	<i>Alternator</i>	<i>Controller</i>	<i>Bulkhead</i>	<i>Enclosure</i>	<i>Literature</i>
Spec No.	Variation Number												

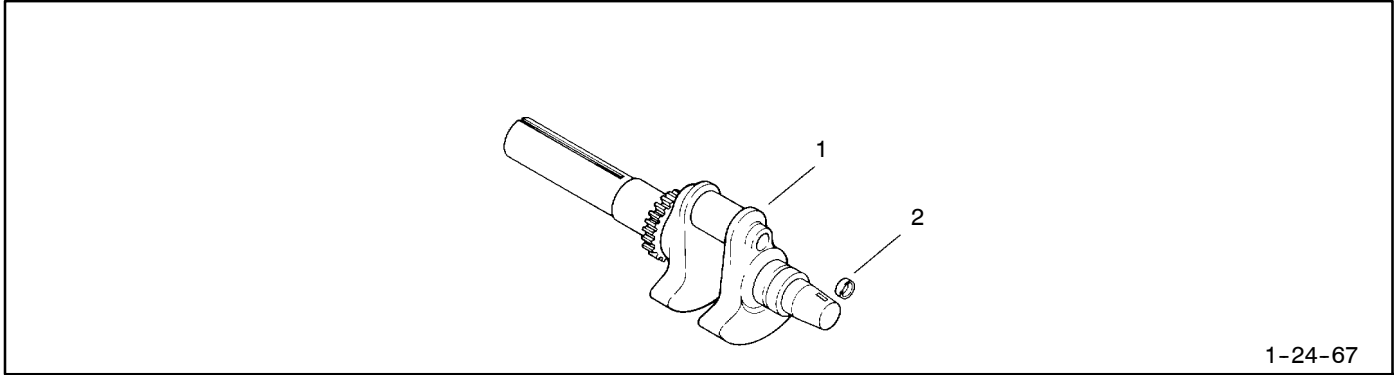
14RESA/14RESAL													
GM80978-GA2	2	2	1	1	1	1	2	2	1	1	3	1	62
GM80978-GA4	2	2	1	1	1	1	2	2	1	2	3	1	68
GM80978-GA11	2	2	1	1	*	1	*	2	*	1	*	*	62
GM80978-GA13	2	2	1	1	*	1	*	2	*	2	*	*	68
GM80978-GA17	2	4	1	1	*	1	*	2	*	3	*	*	62
GM80978-GA19	2	2	1	1	*	1	*	2	*	2	*	*	68
14RESAL-SA1	2	2	1	1	1	1	2	2	1	2	3	1	68
14RESAL-SA2	2	2	1	1	1	1	2	2	1	2	3	1	68
14RESAL-SA3	2	2	1	1	1	1	2	2	1	2	3	1	68
14RESAL-SA4	2	2	1	1	1	1	2	2	1	2	3	1	68
14RESA-SP1	2	2	1	1	1	1	2	2	1	1	3	1	71
GM95876-GA1	2	7	1	1	*	4	*	2	*	3	*	*	86
GM95876-GA2	2	7	1	1	*	4	*	2	*	4	*	*	87
20RESA/20RESAL													
GM80978-GA1	1	1	1	1	1	1	3	1	5	1	2	1	64
GM80978-GA3	1	1	1	1	1	1	3	1	5	2	2	1	69
GM80978-GA7	1	3	1	1	1	1	3	1	5	1	2	1	64
GM80978-GA8	1	3	1	1	1	1	3	1	5	2	2	1	69
GM80978-GA10	1	3	1	1	*	1	*	1	*	1	*	*	64
GM80978-GA12	1	3	1	1	*	1	*	1	*	2	*	*	69
GM80978-GA16	1	5	1	1	*	1	*	1	*	3	*	*	64
GM80978-GA18	1	3	1	1	*	1	*	1	*	2	*	*	69
20RESAL-SA1	1	1	1	1	1	1	3	1	5	2	2	1	69
20RESAL-SA2	1	3	1	1	1	1	3	1	5	2	2	1	69
20RESAL-SA3	1	1	1	1	1	1	3	1	5	2	2	1	69
20RESAL-SA4	1	3	1	1	1	1	3	1	5	2	2	1	69
20RESAL-SA5	1	3	1	1	1	1	3	1	5	2	2	1	69
20RESA-SP1	1	1	1	1	1	1	3	1	5	1	2	1	70
20RESC/20RESCL													
GM95526-GA1	1	6	1	1	*	3	*	1	*	3	*	*	81
GM95526-GA2	1	6	1	1	*	3	*	1	*	4	*	*	82

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

Notes

Group 1: Crankshaft

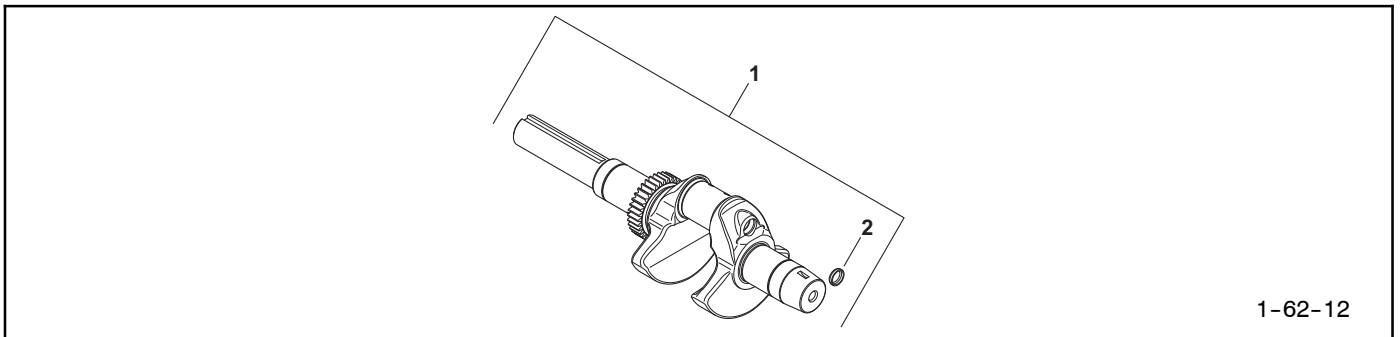
14RESA



1-24-67

			Qty.
			Variation
			67
1	24 014 183	Crankshaft assembly	1
2	52 139 09	Plug, cap	1

20RESA/RESC

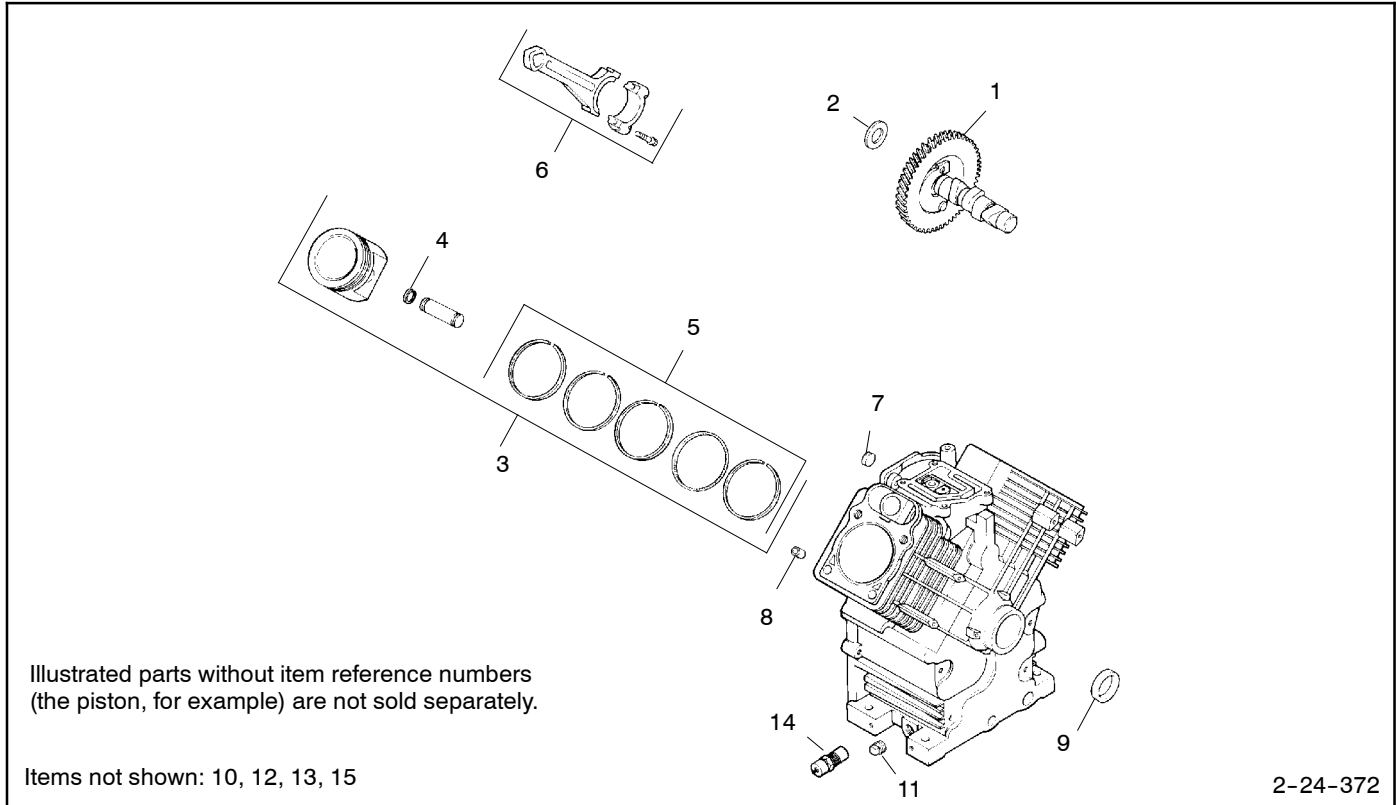


1-62-12

			Quantity
			Variation
			12
Item	Part Number	Description	
1	62 014 80-S	Crankshaft assembly (includes item 2)	1
2	25 139 27-S	Plug, cup	1

Group 2: Crankcase

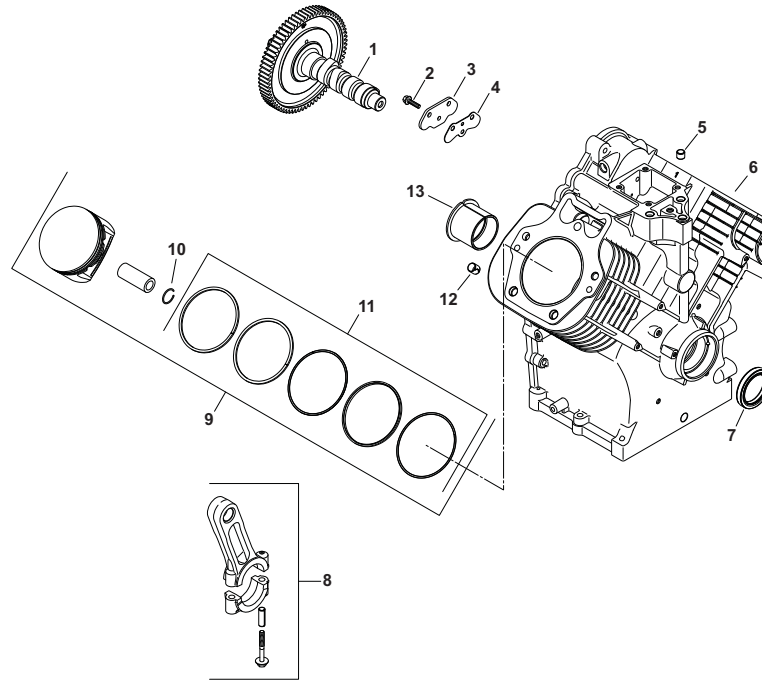
14RESA



			Qty.
			Variation
			372
1	24 012 26-S	Camshaft	1
3	25 874 01-S	Piston w/ring set, standard	2
3	25 874 02-S	Piston w/ring set, 0.08 OS	2
3	25 874 03-S	Piston w/ring set, 0.25 OS	2
3	25 874 04-S	Piston w/ring set, 0.50 OS	2
4	24 018 01-S	Retainer, piston pin	4
5	24 108 14-S	Ring set, standard	2
5	24 108 15-S	Ring set, 0.08	2
5	24 108 16-S	Ring set, 0.25	2
5	24 108 17-S	Ring set, 0.50	2
6	24 067 28-S	Rod, connecting, standard	2
6	24 067 29-S	Rod, connecting, 0.25	2
7	52 139 09-S	Plug, cup	1
8	24 380 13-S	Dowel, locating	6
9	24 032 19-S	Seal, oil front	1
10	25 139 57-S	Plug, cup (not shown)	1
10	25 139 28-S	Plug, cup (not shown)	1
11	X-75-10	Plug, solid square head, 3/8 in., NPTF	2
14	GM28823	Sensor, oil temperature	1
15	25 158 18-S	Bushing, reducing (not shown)	1

Group 2: Crankcase

20RESA



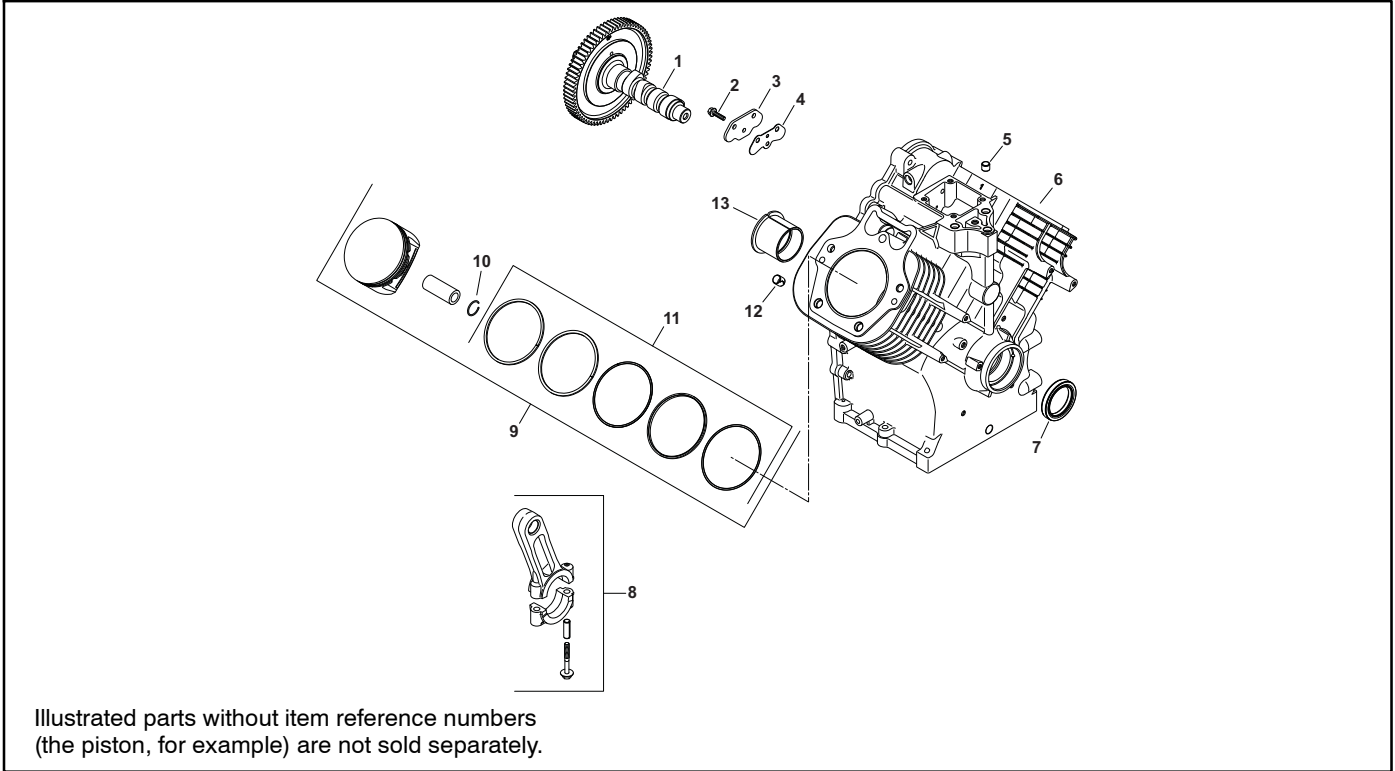
Illustrated parts without item reference numbers (the piston, for example) are not sold separately.

2-62-5

Item	Part Number	Description	Quantity Variation	
			5	6
1	62 010 05-S	Kit, camshaft (includes 25 357 14-S)	1	
1	62 010 10-S	Kit, camshaft		1
2	M-551020-S	Screw, hvy flg M5 x 0.8 x 20	3	3
3	62 096 29-S	Cover, lifter feed	1	1
4	62 041 24-S	Gasket, lifter feed cover	1	1
5	15 380 01-S	Pin	3	1
6	—	Crankcase (use short block)	1	1
7	62 032 16-S	Seal, oil	1	
7	62 032 21-S	Seal, oil		1
8	62 067 06-S	Rod, connecting assembly, standard	2	
8	62 067 08-S	Rod, connecting assembly, 0.25	2	
8	62 067 11-S	Rod, connecting assembly		2
9	62 874 05-S	Kit, piston assembly, standard (includes items 10,11)	2	
9	62 874 06-S	Kit, piston assembly, 0.25	2	
9	62 874 07-S	Kit, piston assembly, 0.50	2	
9	62 874 17-S	Kit, piston, std (includes item 10, 11)		2
9	62 874 18-S	Kit, piston,0.25 OS		2
9	62 874 19-S	Kit, piston, 0.50 OS		2
10	62 018 04-S	Retainer, piston pin	4	4
11	62 108 04-S	Ring set, standard	1	
11	62 108 05-S	Ring set, 0.25	1	
11	62 108 06-S	Ring set, 0.50	1	
11	62 108 07-S	Ring set, standard		1
12	24 380 16-S	Pin, locating	6	6
13	62 030 03-S	Bearing, crankshaft (flywheel)	1	
—	25 357 14-S	Lubricant, camshaft (not shown)	1	

Group 2: Crankcase

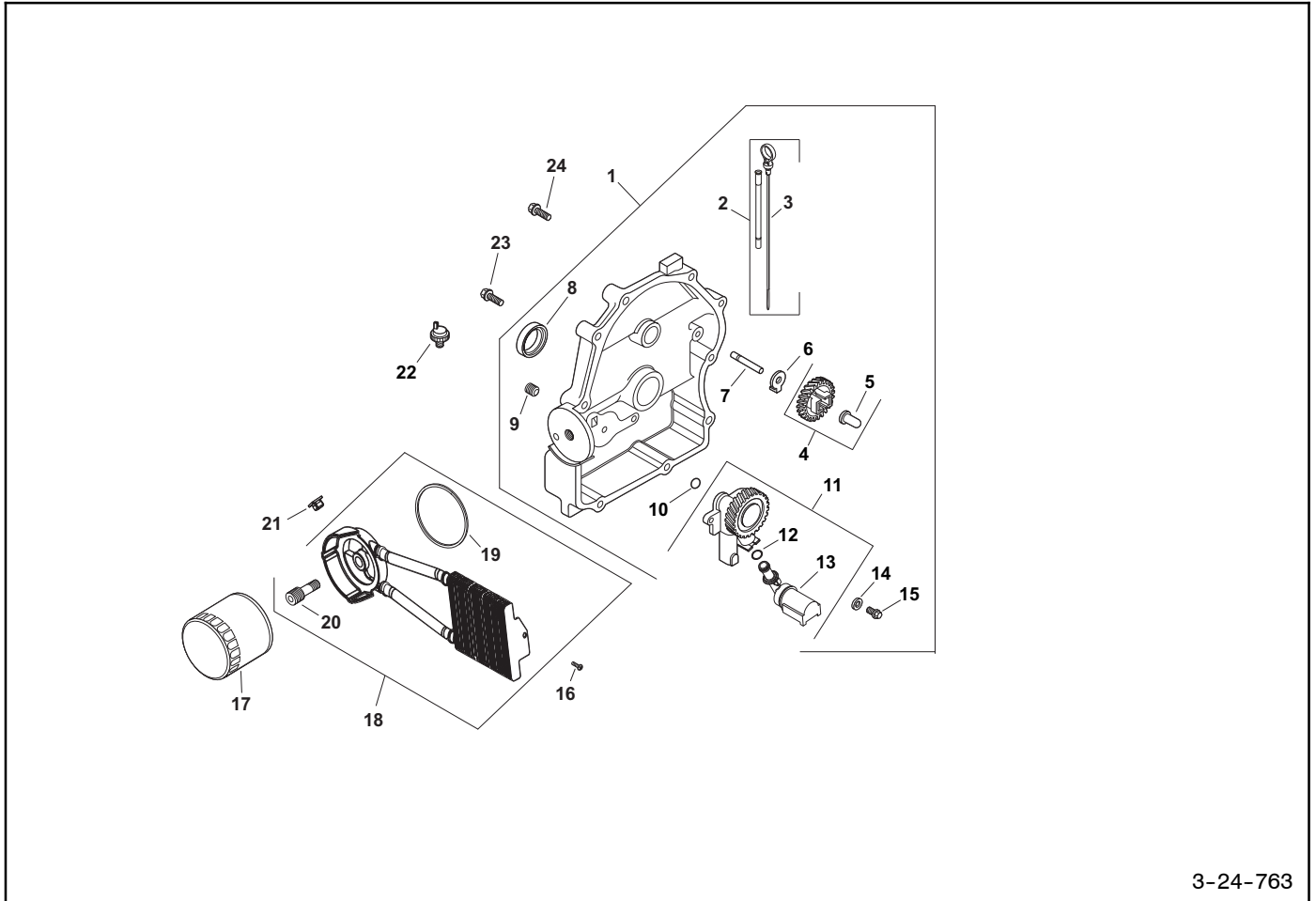
20RESC



Item	Part Number	Description	Quantity
			Variation
1	62 012 10-S	Camshaft	1
2	M-551020-S	Screw, hvy flg M5 x 0.8 x 20	3
3	62 096 29-S	Cover, lifter feed	1
4	62 041 24-S	Gasket, lifter feed cover	1
5	15 380 01-S	Pin	3
6	-	Crankcase (use short block)	1
7	62 032 21-S	Seal, oil	1
8	62 067 13-S	Rod, connecting assembly	2
9	62 874 17-S	Kit, piston, std (includes item 10, 11)	2
9	62 874 18-S	Kit, piston, 0.25 OS	2
9	62 874 19-S	Kit, piston, 0.50 OS	2
10	62 018 04-S	Retainer, piston pin	4
11	62 108 07-S	Ring set, standard	2
12	24 380 16-S	Pin, locating	6
13	-	Bearing, crankshaft (flywheel)	

Group 3: Oil Pan/Lubrication

14RESA

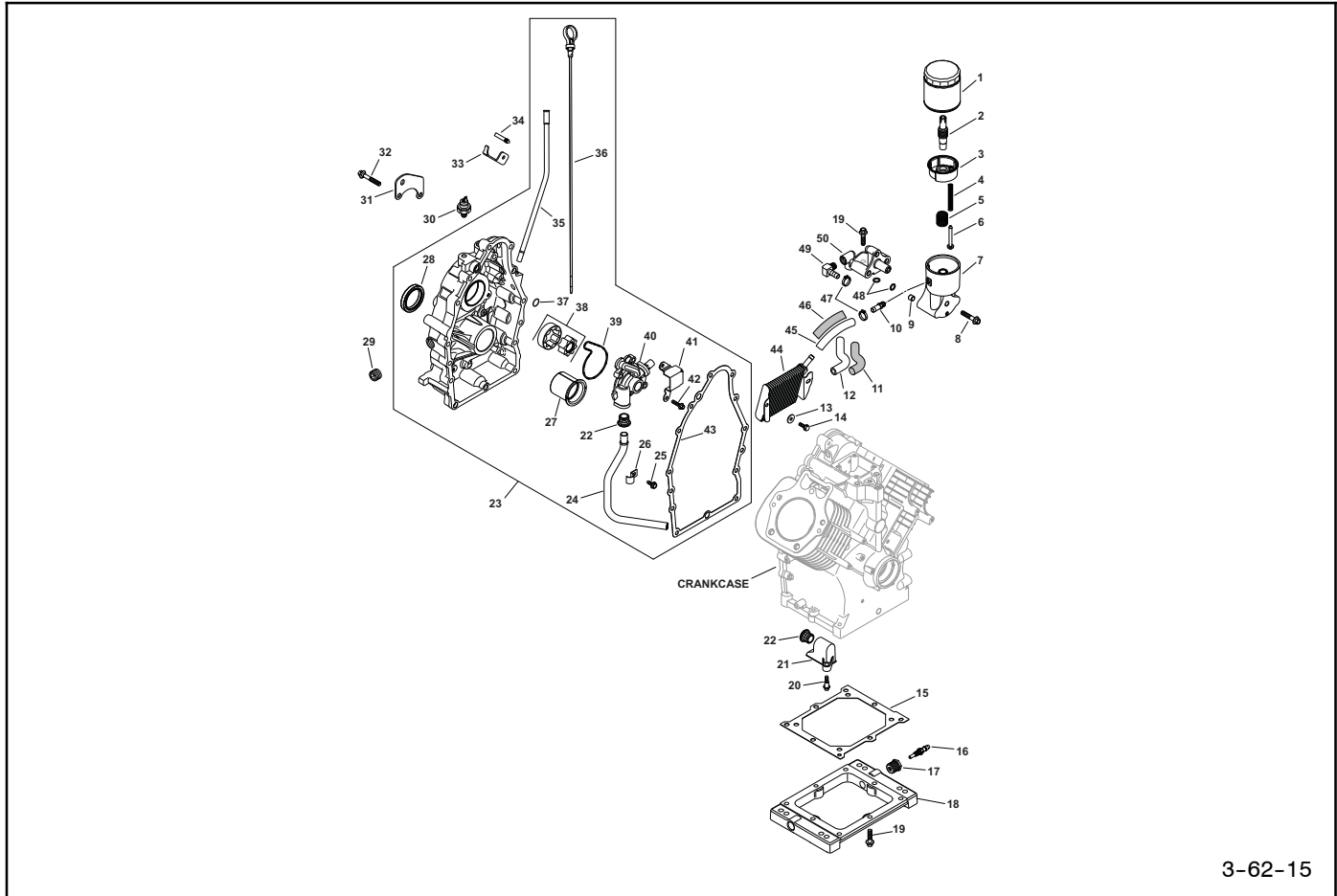


3-24-763

Item	Part Number	Description	Quantity
			Variation 763
1	24 009 92-S	Kit, closure plate assembly	1
2	24 755 121-S	Kit, dipstick/dipstick tubes (includes item 3)	1
3	24 038 10-S	Dipstick	1
4	24 043 12-S	Kit, governor gear w/pin (includes item 5)	1
5	12 380 01-S	Pin, governor regulating	1
6	24 448 02-S	Tab, locking	1
7	12 144 02-S	Shaft, governor gear	1
8	25 032 06-S	Seal, oil	1
9	25 139 60-S	Plug, hex countersunk, 1/8 in.	1
10	24 153 08-S	O-ring	1
11	24 393 51-S	Kit, oil pump assembly (includes items 12, 13)	1
12	24 153 01-S	O-ring	1
13	24 381 04-S	Pickup, oil	1
14	X-25-53	Washer, flat	2
15	M-645030-S	Screw, flange thread forming	2
16	24 086 12-S	Screw, hex cap, M6 x 1.7 x 18	2
17	12 050 01-S	Filter, oil	1
18	54 755 21-S	Kit, alum base oil cool	1
19	24 153 21-S	O-ring, oil cooler	1
20	24 136 05-S	Nipple, oil filter	1
21	25 100 37-S	Nut, plastic	2
22	52 099 08-S	Switch, oil pressure	1
23	24 086 17-S	Screw, hex head	9
24	25 086 317-S	Screw, hex flange	1

Group 3: Oil Pan/Lubrication

20RESA

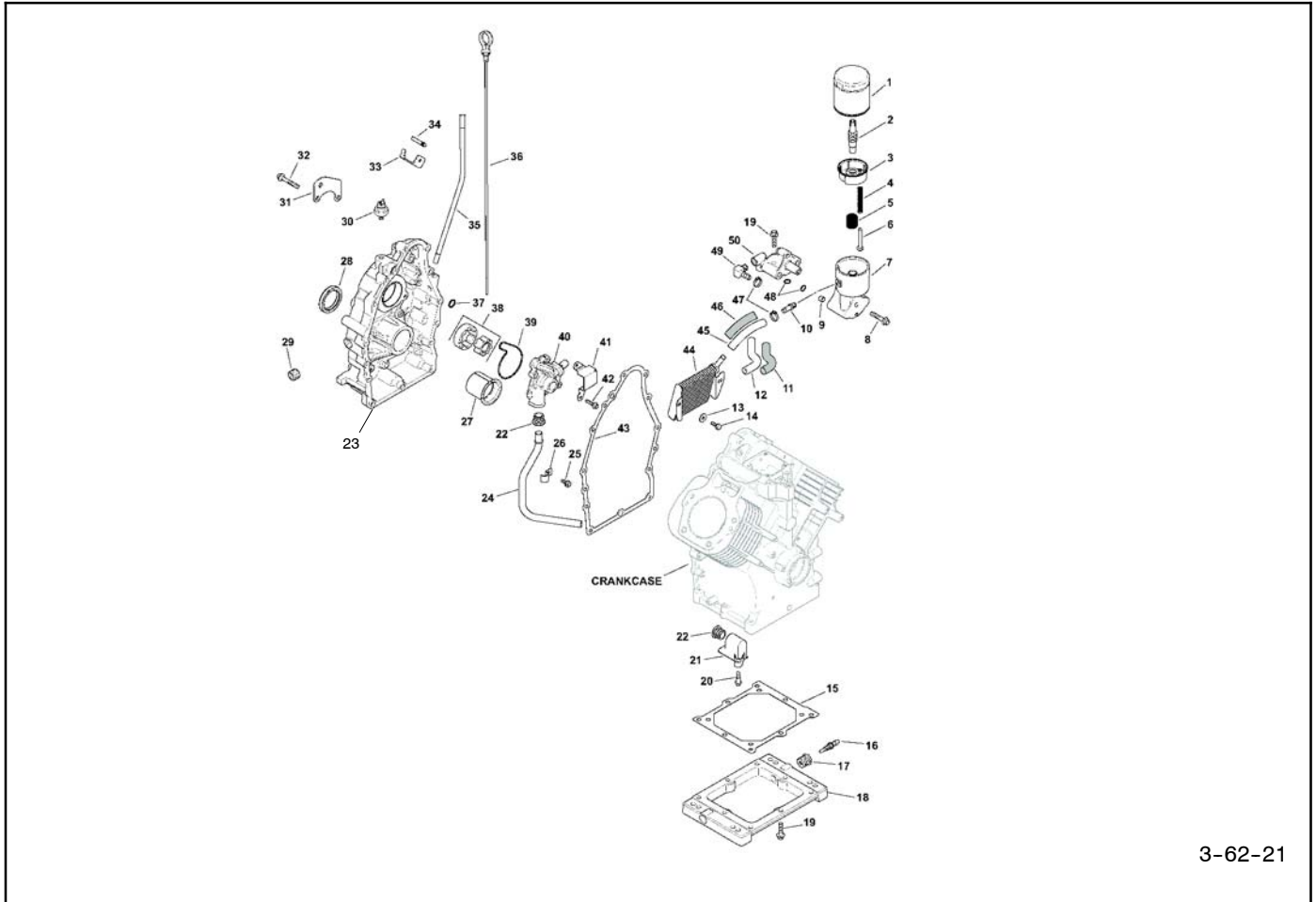


3-62-15

Item	Part Number	Description	Qty.		Item	Part Number	Description	Qty.	
			15	Var.				15	Var.
1	52 050 02-S	Filter, oil	1		26	62 237 02-S	Clamp	1	
2	62 136 05-S	Nipple, oil filter	1		27	62 030 04-S	Bearing, crankshaft (PTO)	1	
3	62 109 02-S	Cup, oil filter	1		28	62 032 16-S	Seal, oil	1	
4	62 089 11-S	Spring, oil filter valve	1		29	25 139 74-S	Plug, pipe, 1/2 NPTF sq ctsk	1	
5	62 089 12-S	Spring, oil filter cup	1		30	48 099 07-S	Switch, oil pressure	1	
6	62 462 02-S	Valve, oil filter	1		31	62 445 04-S	Strap, lifting	1	
7	62 081 34-S	Housing, horizontal oil filter	1		32	62 086 07-S	Screw, flg, M8 x 1.25 x 50	14	
8	M-851040-S	Screw, flg M8 x 1.25 x 40	1		33	62 126 13-S	Bracket, dipstick tube	1	
9	15 380 01-S	Pin	3		34	25 237 14-S	Clamp, spring hose, 1/2 in.	1	
10	12 294 04-S	Fitting, hose to pipe	1		35	62 123 15-S	Kit, dipstick tube (includes 25 597 05-S)	1	
11	25 431 12-S	Sleeve, anti abrasion	1		36	62 038 04-S	Dipstick	1	
12	62 326 06-S	Hose, oil supply	1		37	24 153 08-S	O-ring	1	
13	X-25-52-S	Washer, flat 1/4 in.	2		38	62 393 01-S	Pump assembly, oil/gerotor	1	
14	24 086 12-S	Screw, tap M6 x 1.7 x 18	2		39	62 153 04-S	O-ring, oil pump housing	1	
15	62 041 22-S	Gasket, oil reservoir	1		40	62 081 37	Housing, oil pump	1	
16	GM28823	Sensor, temperature	1		41	62 063 14-S	Baffle, relief valve	1	
17	25 158 19-S	Bushing, reducer 1/2-1/8 in. NPT, steel	1		42	M-639025-S	Screw, flg, M6 x 1.0 x 25	3	
18	62 199 02-S	Kit, oil reservoir	1		43	62 041 21-S	Gasket, oil pan	1	
19	M-851030-S	Screw, flg M8 x 1.25 x 30	9		44	62 594 03-S	Cooler, oil assembly	1	
20	32 086 01-S	Screw, shd thd frm, M6 x 1.0 x 26.5	1		45	62 326 10-S	Hose, oil return	1	
21	62 081 06-S	Housing assembly, oil pickup	1		46	25 431 16-S	Sleeve, anti abrasion	1	
22	62 032 19-S	Seal, oil pick-up tube	2		47	25 237 02-S	Clamp	4	
23	62 009 15-S	Kit, closure plate (includes items 22 [qty.1], 24-28, 35-43)	1		48	24 153 01-S	O-ring, oil pick-up	3	
24	62 123 05-S	Tube, oil pickup	1		49	24 294 12-S	Fitting, 90 deg. barbed	1	
25	M-645016-S	Screw, flg thd frm, M6 x 1.0 x 16	1		50	62 029 04-S	Adapter, horizontal oil filter	1	
					—	25 597 05-S	Sealant, Loctite (not shown)	1	

Group 3: Oil Pan/Lubrication, continued

20RESA

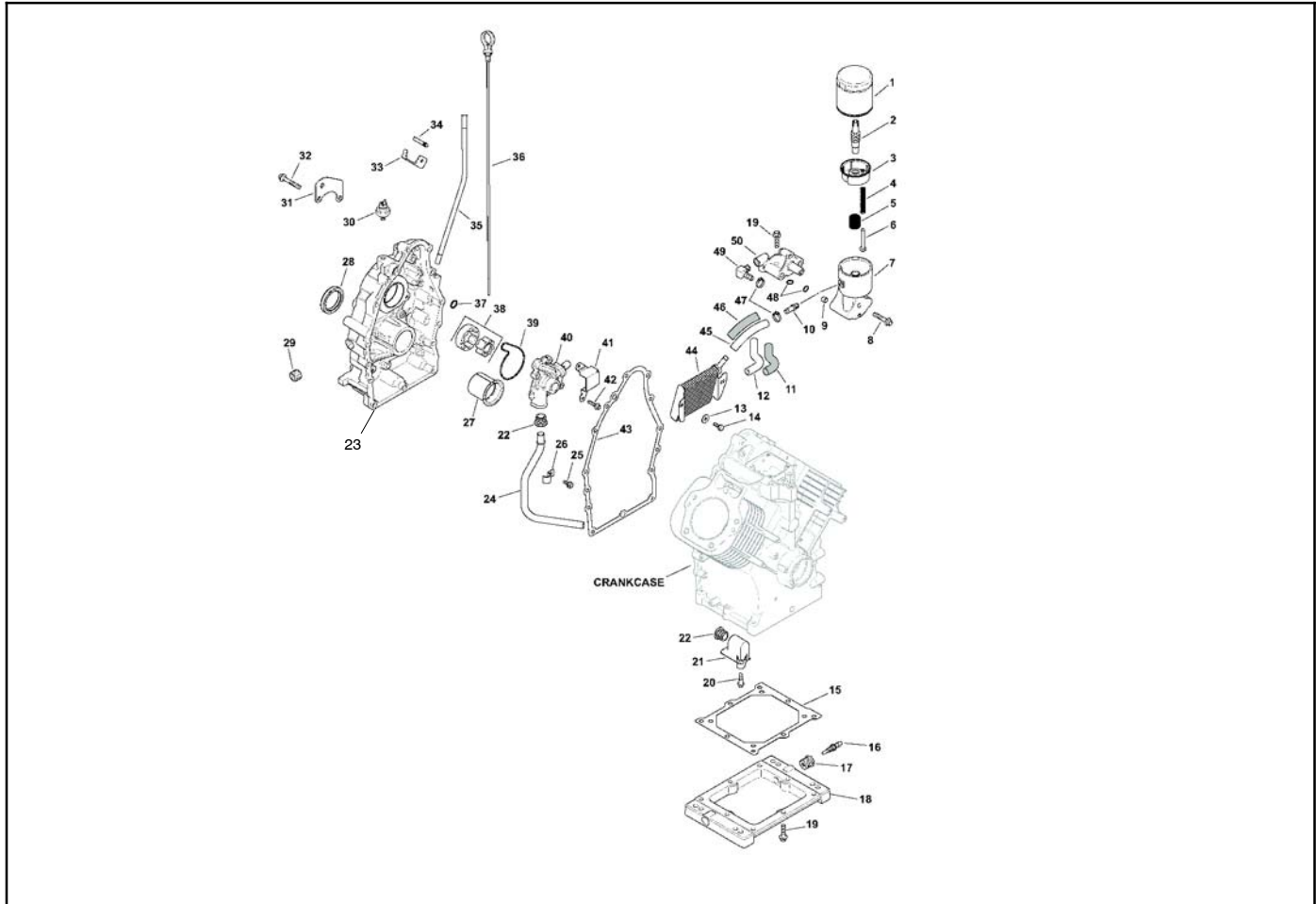


3-62-21

Item	Part Number	Description	Qty.	Item	Part Number	Description	Qty.
			Var.				Var.
			21				21
1	52 050 02-S	Filter, oil	1	26	62 237 02-S	Clamp	1
2	62 136 05-S	Nipple, oil filter	1	28	62 032 21-S	Seal, oil	1
3	62 109 02-S	Cup, oil filter	1	30	48 099 07-S	Switch, oil pressure	1
4	62 089 11-S	Spring, oil filter valve	1	31	62 445 04-S	Strap, lifting	1
5	62 089 12-S	Spring, oil filter cup	1	32	62 086 07-S	Screw, flg, M8 x 1.25 x 50	14
6	62 462 02-S	Valve, oil filter	1	33	62 126 13-S	Bracket, dipstick tube	1
7	62 081 34-S	Housing, horizontal oil filter	1	34	25 237 14-S	Clamp, spring hose, 1/2 in.	1
8	M-851040-S	Screw, flg M8 x 1.25 x 40	1	35	62 123 15-S	Kit, dipstick tube (includes 25 597 05-S)	1
10	12 294 04-S	Fitting, hose to pipe	1	36	62 038 04-S	Dipstick	1
11	25 431 12-S	Sleeve, anti abrasion	1	37	24 153 08-S	O-ring	1
12	62 326 06-S	Hose, oil supply	1	38	62 393 01-S	Pump assembly, oil/gerotor	1
13	X-25-52-S	Washer, flat 1/4 in.	2	39	62 153 04-S	O-ring, oil pump housing	1
14	24 086 12-S	Screw, tap M6 x 1.7 x 18	2	40	62 081 37	Housing, oil pump	1
15	62 041 22-S	Gasket, oil reservoir	1	43	62 041 21-S	Gasket, oil pan	1
16	GM28823	Sensor, temperature	1	44	62 594 03-S	Cooler, oil assembly	1
17	25 158 19-S	Bushing, reducer 1/2-1/8 in. NPT, steel	1	45	62 326 10-S	Hose, oil return	1
18	62 199 02-S	Kit, oil reservoir	1	46	25 431 16-S	Sleeve, anti abrasion	1
19	M-851030-S	Screw, flg M8 x 1.25 x 30	9	47	25 237 02-S	Clamp	4
20	32 086 01-S	Screw, shd thd frm, M6 x 1.0 x 26.5	1	48	24 153 01-S	O-ring, oil pick-up	3
21	62 081 06-S	Housing assembly, oil pickup	1	49	24 294 12-S	Fitting, 90 deg. barbed	1
22	62 032 19-S	Seal, oil pick-up tube	2	—	25 597 05-S	Sealant, Loctite (not shown)	1
23	62 009 25-S	Plate, closure	1				
24	62 123 05-S	Tube, oil pickup	1				
25	M-645016-S	Screw, flg thd frm, M6 x 1.0 x 16	1				

Group 3: Oil Pan/Lubrication

20RESC

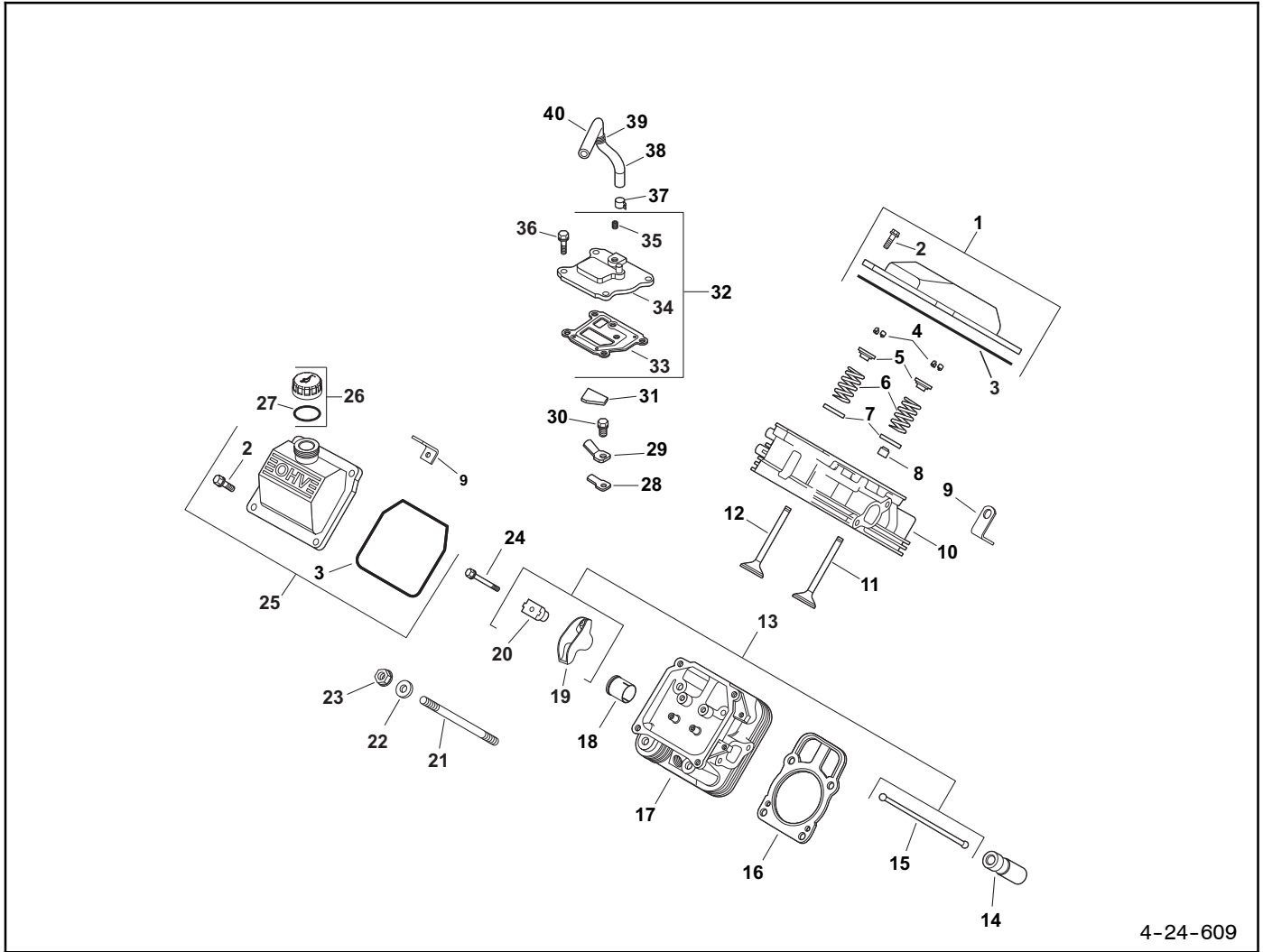


Item	Part Number	Description	Qty.
			Var. 52
1	52 050 02-S	Filter, oil	1
2	62 136 05-S	Nipple, oil filter	1
3	62 109 02-S	Cup, oil filter	1
4	62 089 11-S	Spring, oil filter valve	1
5	62 089 12-S	Spring, oil filter cup	1
6	62 462 02-S	Valve, oil filter	1
7	62 081 34-S	Housing, horizontal oil filter	1
8	M-851040-S	Screw, flg M8 x 1.25 x 40	1
10	25 294 16-S	Fitting, barbed	1
11	25 431 12-S	Sleeve, anti abrasion	1
12	62 326 06-S	Hose, oil supply	1
13	X-25-52-S	Washer, flat 1/4 in.	2
14	24 086 12-S	Screw, tap M6 x 1.7 x 18	2
15	62 041 22-S	Gasket, oil reservoir	1
16	GM28823	Sensor, temperature	1
17	25 158 19-S	Bushing, reducer 1/2-1/8 in. NPT, steel	1
18	62 199 02-S	Kit, oil reservoir	1
19	M-851030-S	Screw, flg M8 x 1.25 x 30	9
20	32 086 01-S	Screw, shd thd frm, M6 x 1.0 x 26.5	1
21	62 081 06-S	Housing assembly, oil pickup	1
22	62 032 19-S	Seal, oil pick-up tube	2
23	62 009 33-S	Plate, closure	1
24	62 123 05-S	Tube, oil pickup	1
25	25 086 397-S	Screw, flg thd frm	1

Item	Part Number	Description	Qty.
			Var. 52
26	62 237 02-S	Clamp	1
28	62 032 21-S	Seal, oil	1
30	48 099 07-S	Switch, oil pressure	1
31	62 445 04-S	Strap, lifting	1
32	62 086 07-S	Screw, hex flg	14
33	62 126 13-S	Bracket, dipstick tube	1
34	25 237 14-S	Clamp, spring hose, 1/2 in.	1
35	62 123 15-S	Kit, dipstick tube (includes 25 597 05-S)	1
36	62 038 04-S	Dipstick	1
37	24 153 08-S	O-ring	1
38	62 393 01-S	Pump assembly, oil/gerotor	1
39	62 153 04-S	O-ring, oil pump housing	1
40	62 081 37	Housing, oil pump	1
43	62 041 21-S	Gasket, oil pan	1
44	62 594 05-S	Cooler, oil assembly	1
45	62 326 10-S	Hose, oil return	1
46	25 431 16-S	Sleeve, anti abrasion	1
47	25 237 02-S	Clamp	3
48	24 153 01-S	O-ring, oil pick-up	3
—	25 155 38-S	Connector, hose	1
—	25 597 05-S	Sealant, Loctite (not shown)	1

Group 4: Cylinder Head/Valve/Breather

14RESA

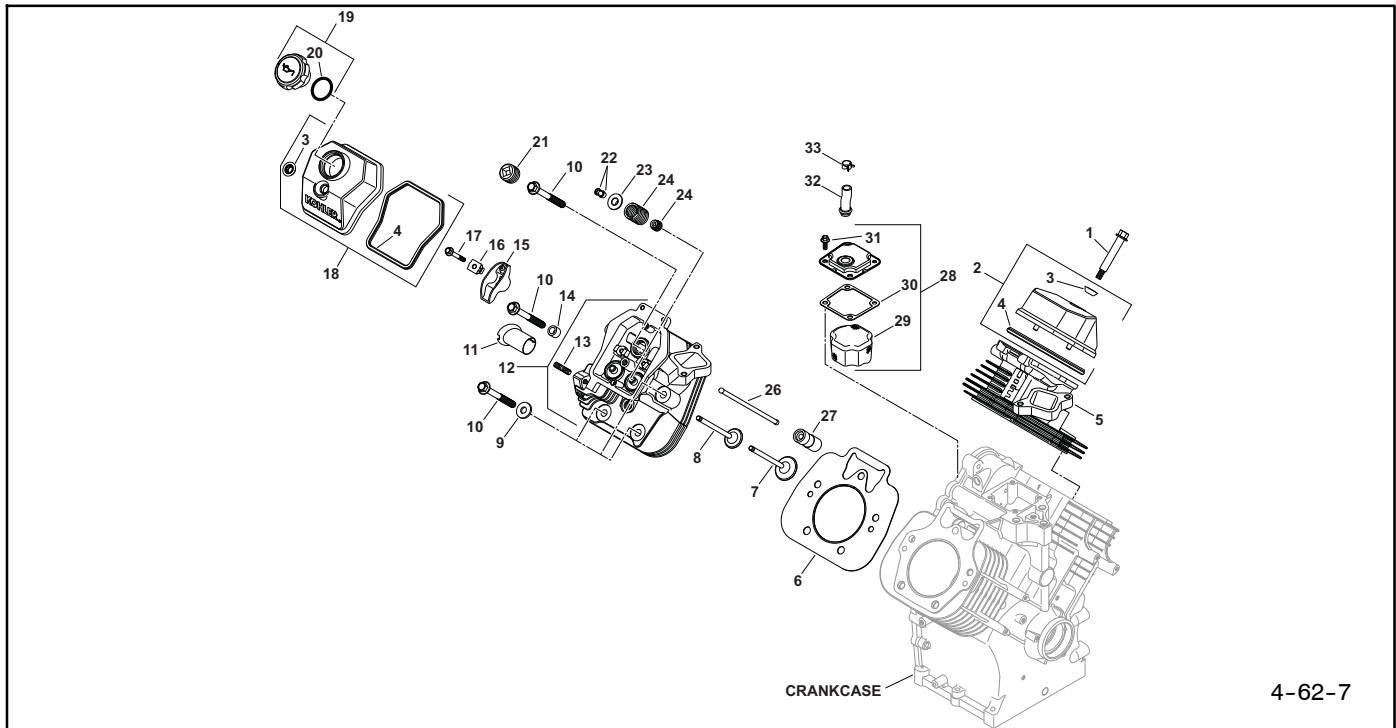


4-24-609

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
			Var 609				Var 609
1	24 755 141-S	Kit, valve cover-plain (includes items 2, 3)	1	21	24 072 04-S	Stud	8
2	M-651030-S	Screw, flange, M6 x 1.0 x 30	4	22	24 468 16-S	Washer, flat	8
3	24 153 30-S	O-ring	2	23	24 100 10-S	Nut, hex flange	8
4	12 755 03-S	Kit, retainer	2	24	M-640034-S	Screw, flange, M6 x 1.0 x 34	4
5	25 173 28-S	Cap, valve spring	4	25	24 755 140-S	Kit, oil fill rocker cover	1
6	24 089 02-S	Spring, valve	2	26	24 755 46-S	Kit, oil fill cap (includes 26)	1
7	235011-S	Retainer, spring	2	27	25 153 02-S	O-ring	1
8	66 032 05-S	Seal, valve stem	2	28	24 402 03-S	Reed, breather	1
9	12 445 02-S	Strap	2	29	66 018 04-S	Retainer, reed	1
10	24 318 110-S	Kit, cylinder head assembly	1	30	M-545010-S	Screw, flange thread forming, M5 x 0.8 x 10	1
11	24 017 01-S	Valve, intake, standard	2	31	24 050 11-S	Filter, breather	1
11	24 017 02-S	Valve, intake, 0.25	2	32	24 033 01-S	Kit, breather w/plug (includes 33-35)	1
12	24 016 01-S	Valve, exhaust, standard	2	33	24 041 67-S	Gasket, breather	1
12	24 016 02-S	Valve, exhaust, 0.25	2	34	-	Cover (See item 32)	1
13	24 755 66-S	Kit, valve train	1	35	25 139 60-S	Plug, pipe, 1/8 NPTF hex countersunk	1
14	25 351 07-S	Kit, hydraulic valve lifter	4	36	M-645020-S	Screw, thread forming, M6 x 1.0 x 20	4
15	24 411 05-S	Rod, push	2	37	25 237 08-S	Hose clamp	1
16	24 841 03-S	Kit, cylinder head gasket (includes 22, 23)	2	38	24 326 89-S	Hose, breather	1
17	24 318 118-S	Kit, cylinder head assembly	1	39	-	Not used	1
18	-	Not used		40	-	Not used	1
19	25 186 01-S	Arm, rocker	2	-	24 755 147-S	Kit, cylinder head hardware (includes 4-8, 11, 12, 15, 19, 20, 24)	1
20	24 599 02-S	Pivot, rocker arm	2				

Group 4: Cylinder Head/Valve/Breather

20RESA

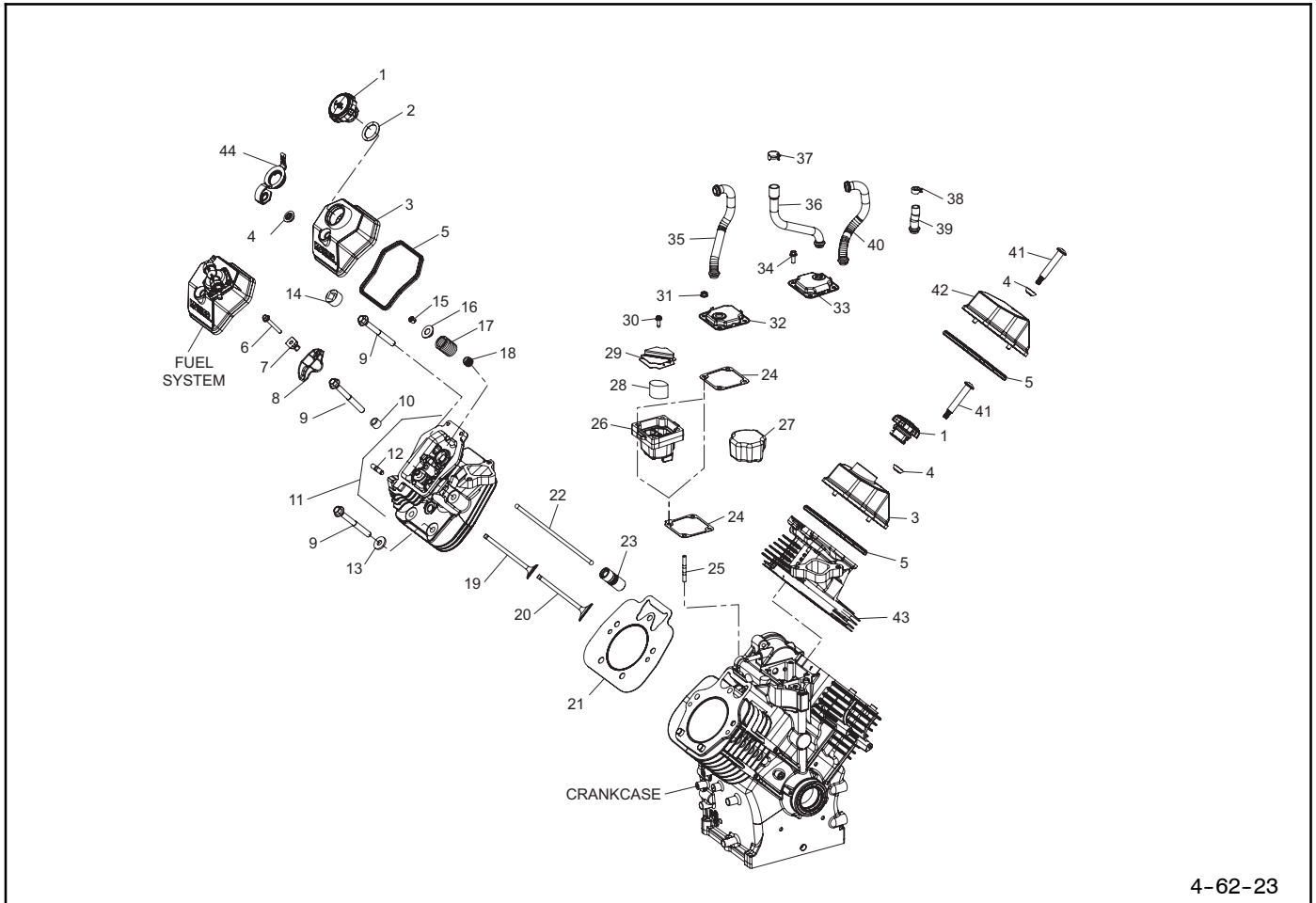


4-62-7

Item	Part Number	Description	Quantity	
			7	13
1	25 086 272-S	Screw, shoulder	2	2
2	62 096 26-S	Kit, cover, valve (includes items 3, 4)	1	1
3	62 313 04-S	Grommet, valve cover screw	2	2
4	62 032 15-S	Seal, valve cover	2	2
5	62 318 12-S	Kit, cylinder head #1 (includes item 13 [qty2])	1	1
6	62 841 01-S	Kit, cylinder head gasket (includes 62 041 14-S, 62 041 13-S)	2	2
7	62 017 01-S	Valve, intake	2	2
8	62 016 02-S	Valve, exhaust	2	2
9	12 468 05-S	Washer, flat, 13/32 in.	6	6
10	62 086 08-S	Screw, fig, M10 x 1.5 x 90	10	10
11	62 605 05-S	Liner, exhaust port	2	2
12	62 318 13-S	Kit, cylinder head #2 (includes item 13 [qty2])	1	1
13	25 072 04-S	Stud, M8 x 1.25 x 33	4	4
14	62 112 03-S	Spacer	2	2
15	25 186 01-S	Arm, rocker	4	4
16	24 599 02-S	Pivot, rocker arm	4	4
17	32 086 04-S	Screw, fig, M6 x 1.0 x 45	4	4
18	62 096 27-S	Kit, cover, valve (includes items 3, 4)	1	1
19	62 173 03-S	Cap, oil fill assembly (includes item 20)	1	1
20	62 153 10-S	O-ring	1	1
21	25 139 66-S	Plug, pipe, 3/4 NPTF sq ctsk	2	2
22	12 755 03-S	Kit, retainer	4	4
23	25 173 28-S	Cap, valve spring	4	4
24	24 089 02-S	Spring, valve	4	
24	24 089 54-S	Spring, valve		4
25	66 032 05-S	Seal, valve stem	4	4
26	12 411 04-S	Rod, push	4	4
27	25 351 04-S	Kit, hydraulic valve lifter (includes 25 357 14-S)	4	4
28	62 033 06-S	Kit, breather assembly (includes items 29-31)	1	1
29	62 050 08-S	Filter, breather	1	1
30	62 041 27-S	Gasket, breather	1	1
31	M-651016-S	Screw, fig, M6 x 1.0 x 16	4	4
32	62 326 15-S	Hose, breather horizontal generator	1	
32	62 326 29-S	Hose, breather		1
33	25 237 08-S	Clamp, band spring hose	2	
—	62 755 03-S	Kit, cylinder head hardware services 1 head. Quantities listed are for both heads) (includes items 7, 8, 15-17, 22-26)	2	2
—	25 357 14-S	Lubricant, camshaft (not shown)	1	1
—	62 041 14-S	Gasket, exhaust (not shown)	2	2
—	62 041 13-S	Gasket, intake manifold (not shown)	2	2

Group 4: Cylinder Head/Valve/Breather

20RESC

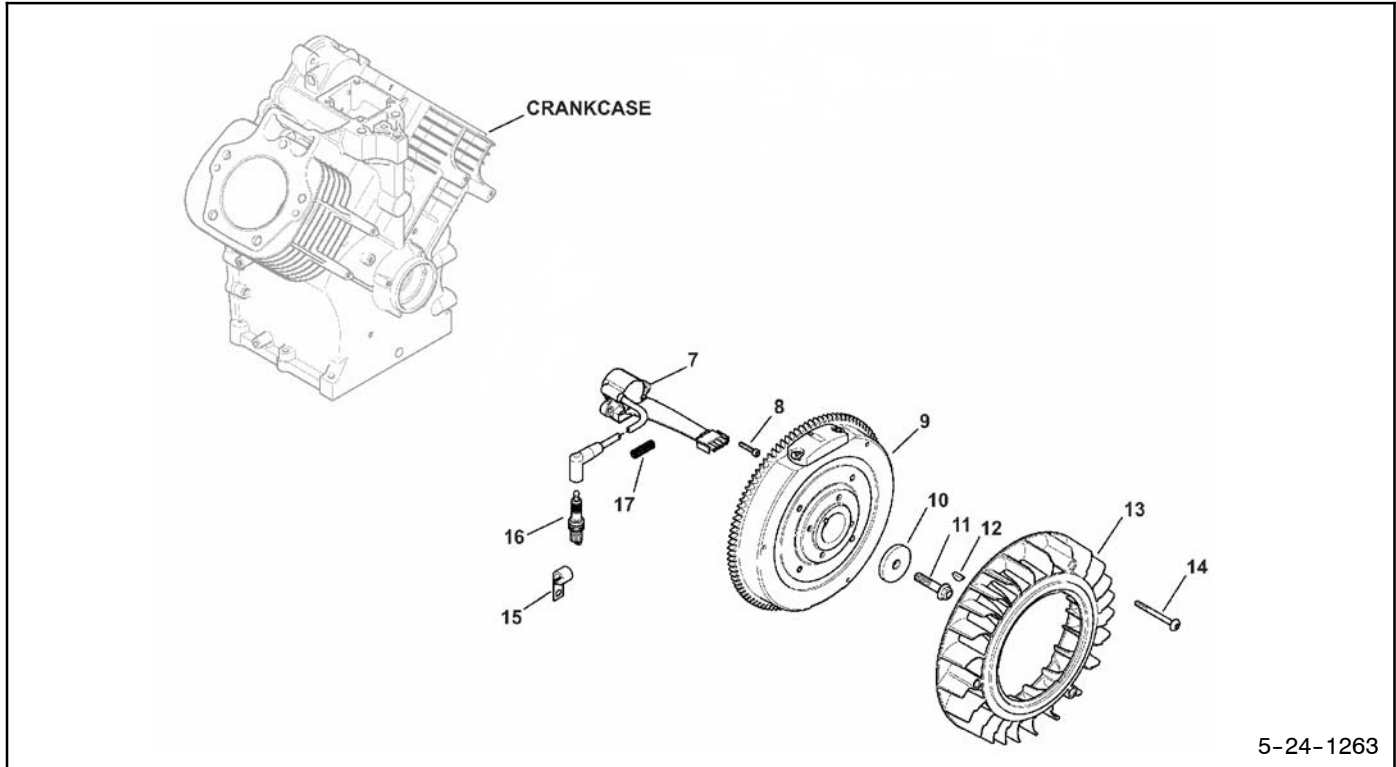


4-62-23

Item	Part Number	Description	Quantity
			Variation 23
3	62 096 37-S	Kit, cover, valve	1
6	32 086 04-S	Screw, flg, M6 x 1.0 x 45	4
7	24 599 02-S	Pivot, rocker arm	4
8	25 186 01-S	Arm, rocker	4
9	62 086 08-S	Screw, flg, M10 x 1.5 x 90	10
10	62 112 03-S	Spacer	2
11	62 318 30-S	Kit, cylinder head #2	1
12	25 072 04-S	Stud	4
13	12 468 05-S	Washer, flat, 13/32 in.	6
14	25 139 66-S	Plug, pipe, 3/4 NPTF sq ctsk	2
15	12 755 03-S	Kit, retainer	4
16	25 173 28-S	Cap, valve spring	4
17	24 089 54-S	Spring, valve	4
18	25 032 14-S	Seal, valve stem	2
19	62 016 02-S	Valve, exhaust	2
20	62 017 01-S	Valve, intake	2
21	62 841 01-S	Kit, cylinder head gasket (includes 62 041 14-S, 62 041 13-S)	2
22	12 411 04-S	Rod, push	4
23	25 351 10-S	Kit, hydraulic valve lifter (includes 25 357 14-S)	4
24	62 041 27-S	Gasket, breather	1
27	62 050 10-S	Filter, breather	1
33	62 033 06-S	Kit, breather assembly (includes items 24, 27)	1
34	M-651016-S	Screw, flg, M6 x 1.0 x 16	4
35	62 326 29-S	Hose, breather	1
41	25 086 410-S	Screw, shoulder	2
42	62 096 37-S	Kit, cover, valve	1
43	62 318 28-S	Kit, cylinder head #1	1
44	62 313 08-S	Grommet, oil fill	2

Group 5: Ignition/Electrical

14RESA

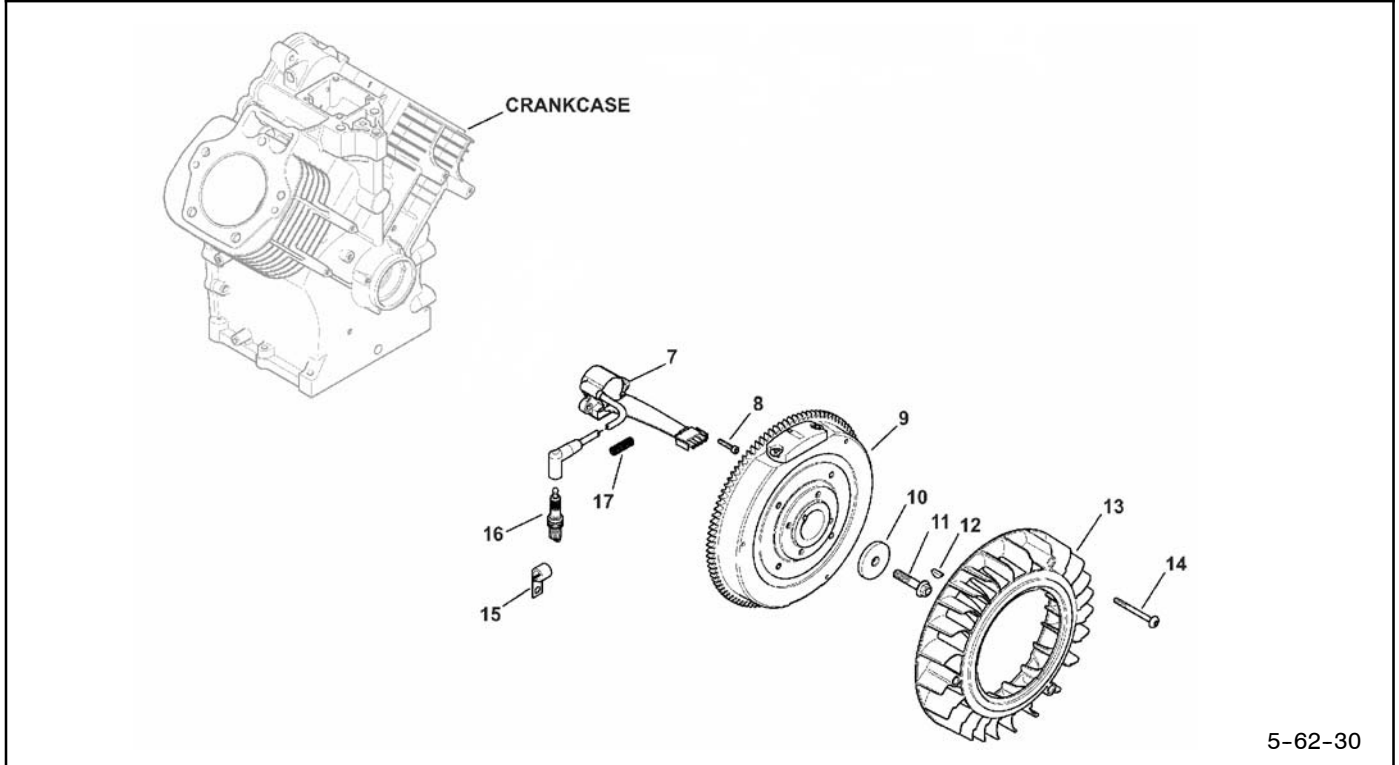


5-24-1263

Item	Part Number	Description	Quantity
			Variation 1263
7	24 584 65-S	Module, spark advance (DSA) assembly	2
8	M-561025-S	Screw, skt thd frm, M5 x 0.8 x 25	4
9	24 025 15-S	Flywheel assembly	1
10	12 468 03-S	Washer, flat	1
11	12 086 14-S	Screw, fig, M10 x 1.5 x 45	1
12	X-42-15-S	Key, 3/16 in. x 5/8 in.	1
13	24 157 16-S	Fan	1
14	25 086 47-S	Screw	4
15	235173-S	Clip, cable	1
16	25 132 14-S	Plug, spark	2
—	25 454 07-S	Tie (not shown)	2
—	24 176 147-S	Harness, wiring (not shown)	1
—	25 096 04-S	Cover, regulator (not shown)	1

Group 5: Ignition/Electrical

20RESA

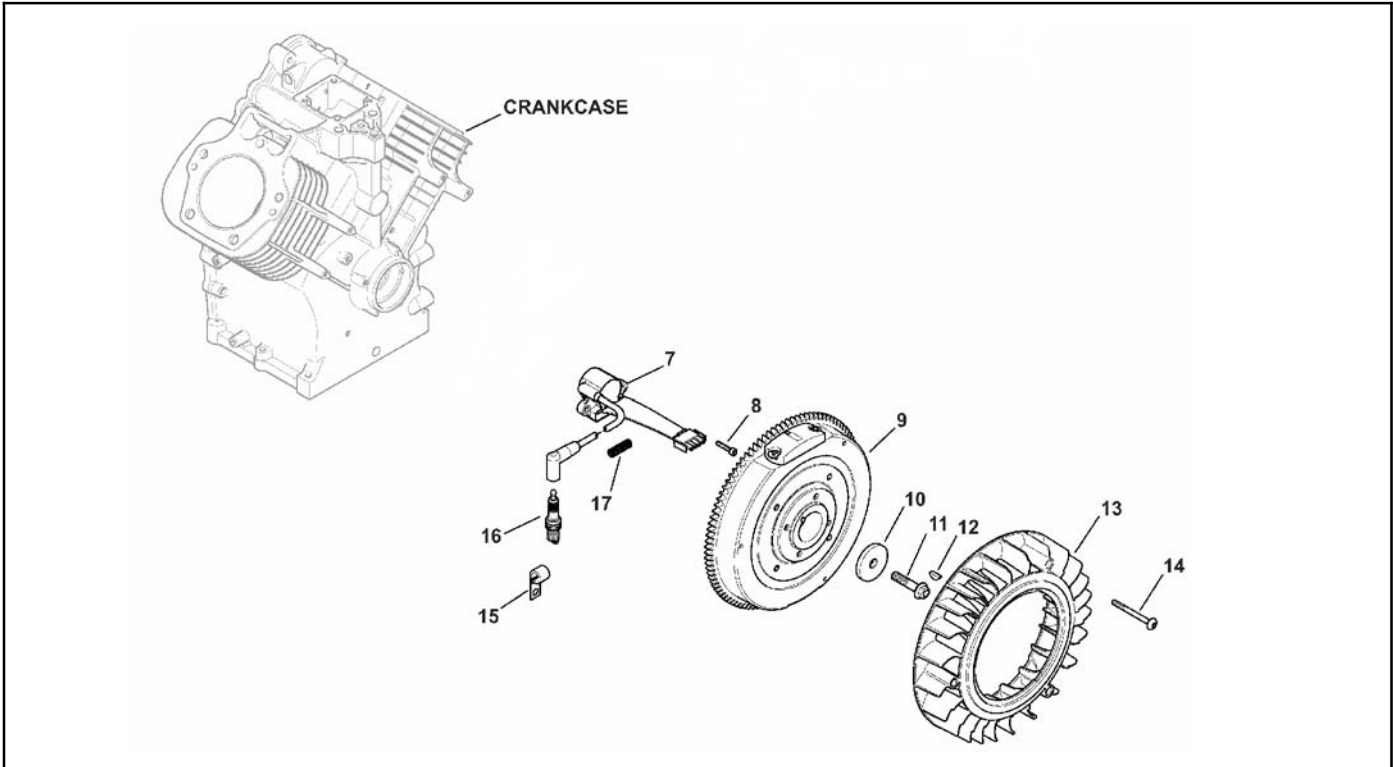


5-62-30

Item	Part Number	Description	Quantity	
			30	37
7	62 584 15-S	Module, spark advance (DSA) assembly	2	
7	62 584 04-S	Module, Ignition		2
8	M-561025-S	Screw, skt thd frm, M5 x 0.8 x 25	4	
9	62 025 05-S	Flywheel assembly	1	
9	62 025 11	Flywheel		1
10	62 468 01-S	Washer, flat 13/32 in.	1	1
11	12 086 14-S	Screw, flg, M10 x 1.5 x 45	1	1
12	X-42-15-S	Key, 3/16 in. x 5/8 in.	1	1
13	62 157 02-S	Fan, front drive adapter hole	1	
13	62 157 03	Fan		1
14	25 086 132-S	Screw, trs hd, M6 x 1.0 x 65	3	
15	25 154 04-S	Clip, cable	1	
15	47 154 01-S	Clip, cable		1
16	62 132 04-S	Plug, spark	2	2
17	62 431 02-S	Sleeve, corrugated	2	2
—	12 454 03-S	Tie, cable (not shown)	1	1
—	25 454 07-S	Tie (not shown)	2	2
—	62 176 15-S	Harness, wiring (not shown)	1	
—	62 176 02-S	Harness, wiring (not shown)		1

Group 5: Ignition/Electrical

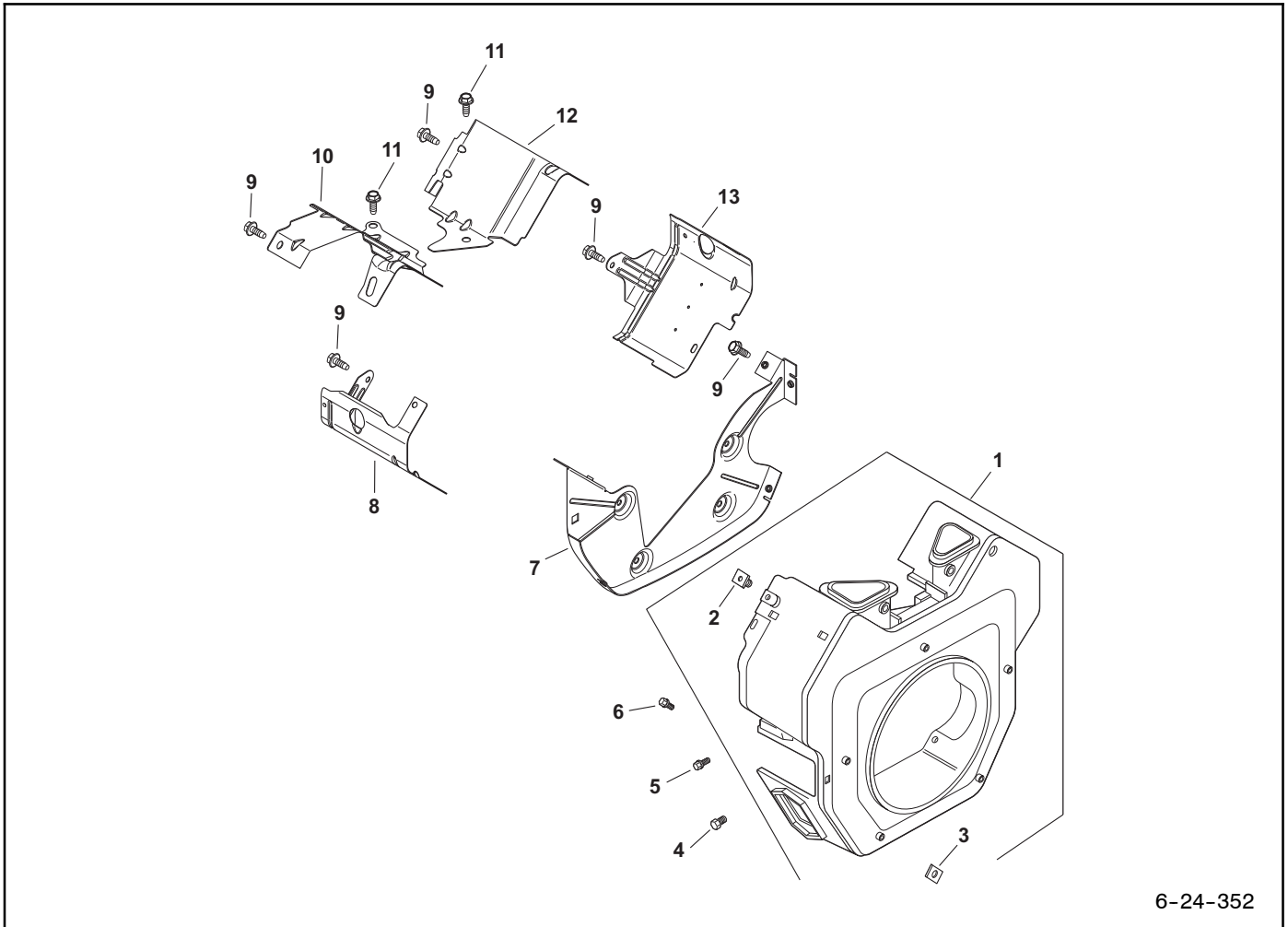
20RESC



Item	Part Number	Description	Quantity
			Variation
7	62 584 04-S	Module, Ignition	2
9	62 025 20-S	Flywheel	1
10	62 468 01-S	Washer, flat 13/32 in.	1
11	12 086 14-S	Screw, fig. M10 x 1.5 x 45	1
12	X-42-15-S	Key, 3/16 in. x 5/8 in.	1
13	62 157 04-S	Fan	1
14	25 086 47-S	Bolt, Shoulder	4
15	25 154 04-S	Clip, cable	1
16	62 132 04-S	Plug, spark	2
17	62 431 02-S	Sleeve, corrugated	2
—	12 454 03-S	Tie, cable (not shown)	1
—	25 454 07-S	Tie (not shown)	2
—	62 176 02-S	Harness, wiring (not shown)	1
—	25 086 656-S	Screw, thread throwing (not shown)	4

Group 6: Blower Housing and Baffles

14RESA

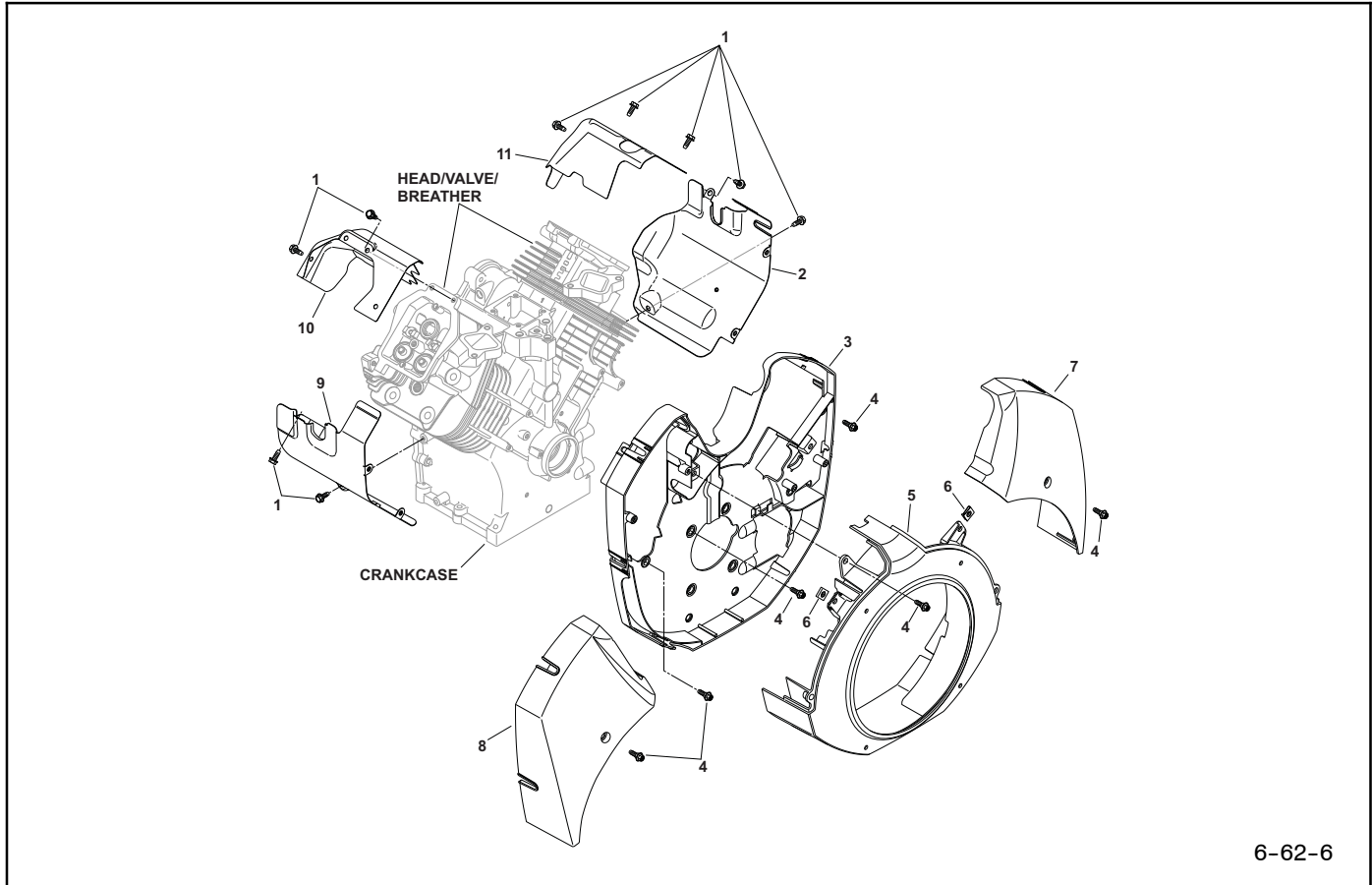


6-24-352

Item	Part Number	Description	Quantity
			Variation
1	24 027 195-S	Kit, blower housing assembly (includes items 2 and 3)	1
2	25 100 37-S	Nut, plastic	3
3	24 100 02-S	Nut, plastic	2
4	M-561016-S	Screw, flange thread forming, M5 x 0.8 x 16	1
5	M-545016-S	Screw, flange thread forming, M5 x 0.8 x 16	7
6	M-545020-S	Screw, flange thread forming, M5 x 0.8 x 20	4
7	24 146 59-S	Plate, backing	1
8	24 063 88-S	Baffle, left barrel	1
9	M-645016-S	Screw, flange thread forming, M6 x 1.0 x 16	8
10	24 063 94-S	Baffle, valley #2 side	1
11	M-545010-S	Screw, flange thread forming, M5 x 0.8 x 10	2
12	24 063 93-S	Baffle, valley #1	1
13	24 063 85-S	Baffle, right barrel	1
—	25 154 11-S	Clip, repair (U bolt speed nut) (not shown)	1

Group 6: Blower Housing and Baffles

20RESA

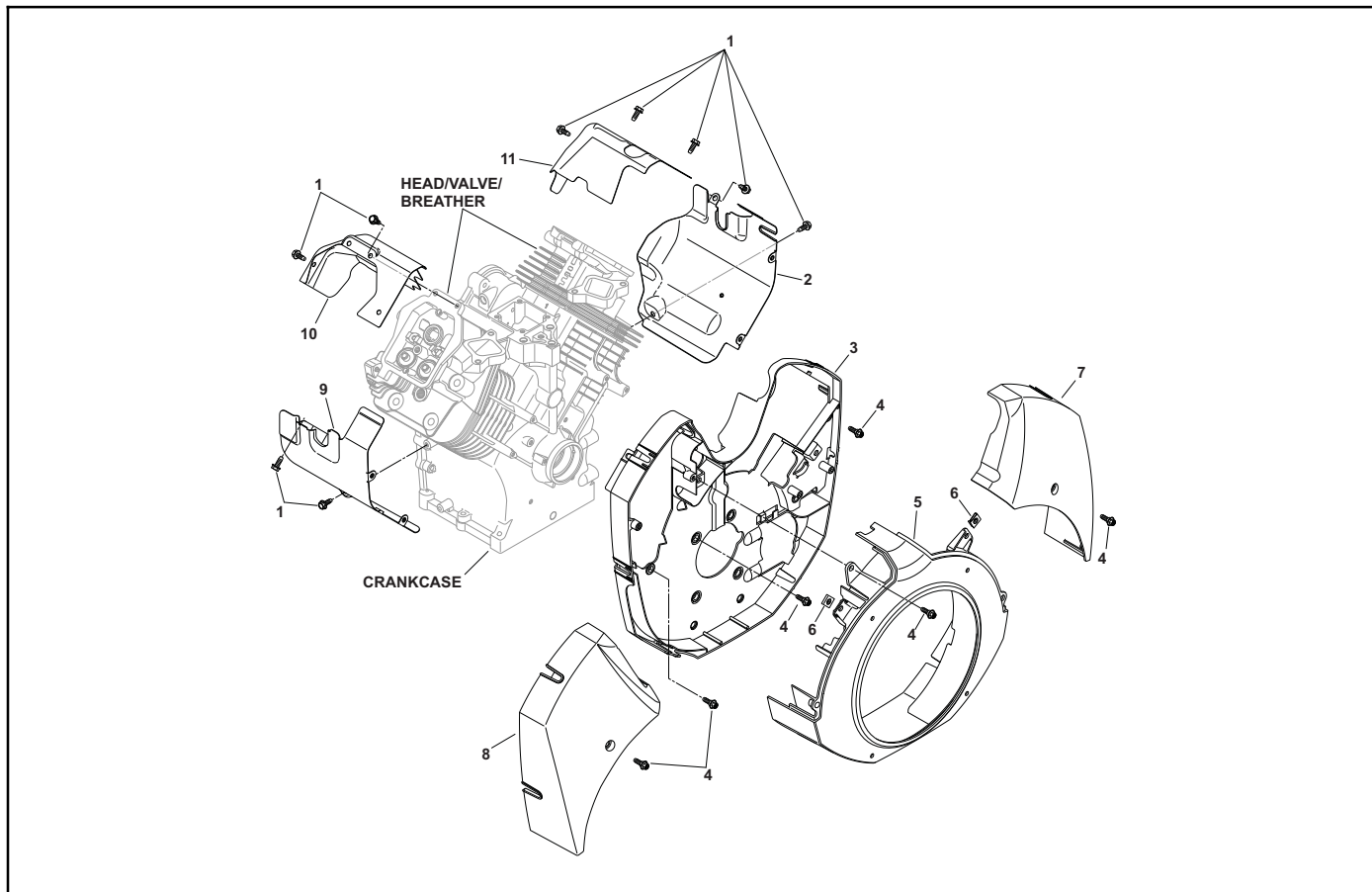


6-62-6

Item	Part Number	Description	Quantity
			Variation
1	M-645016-S	Screw, flg thd frm, M6 x 1.0 x 16	10
2	62 063 03-S	Baffle, cyl barrel #1 side	1
3	62 424 07-S	Shroud, backing	1
4	62 086 10-S	Screw, shd thd frm	18
5	62 027 03-S	Kit, blower housing assembly (includes 41 037 10-S)	1
6	25 154 02-S	Clip, mounting	12
7	62 424 08-S	Shroud, #1 cylinder	1
8	62 424 09-S	Shroud, #2 cylinder	1
9	62 063 07-S	Baffle, cyl barrel #2 side	1
10	62 063 16-S	Baffle, valley #2 side	1
11	62 063 11-S	Baffle, valley #1 side	1
—	41 037 10-S	Nameplate, service (not shown)	1

Group 6: Blower Housing and Baffles

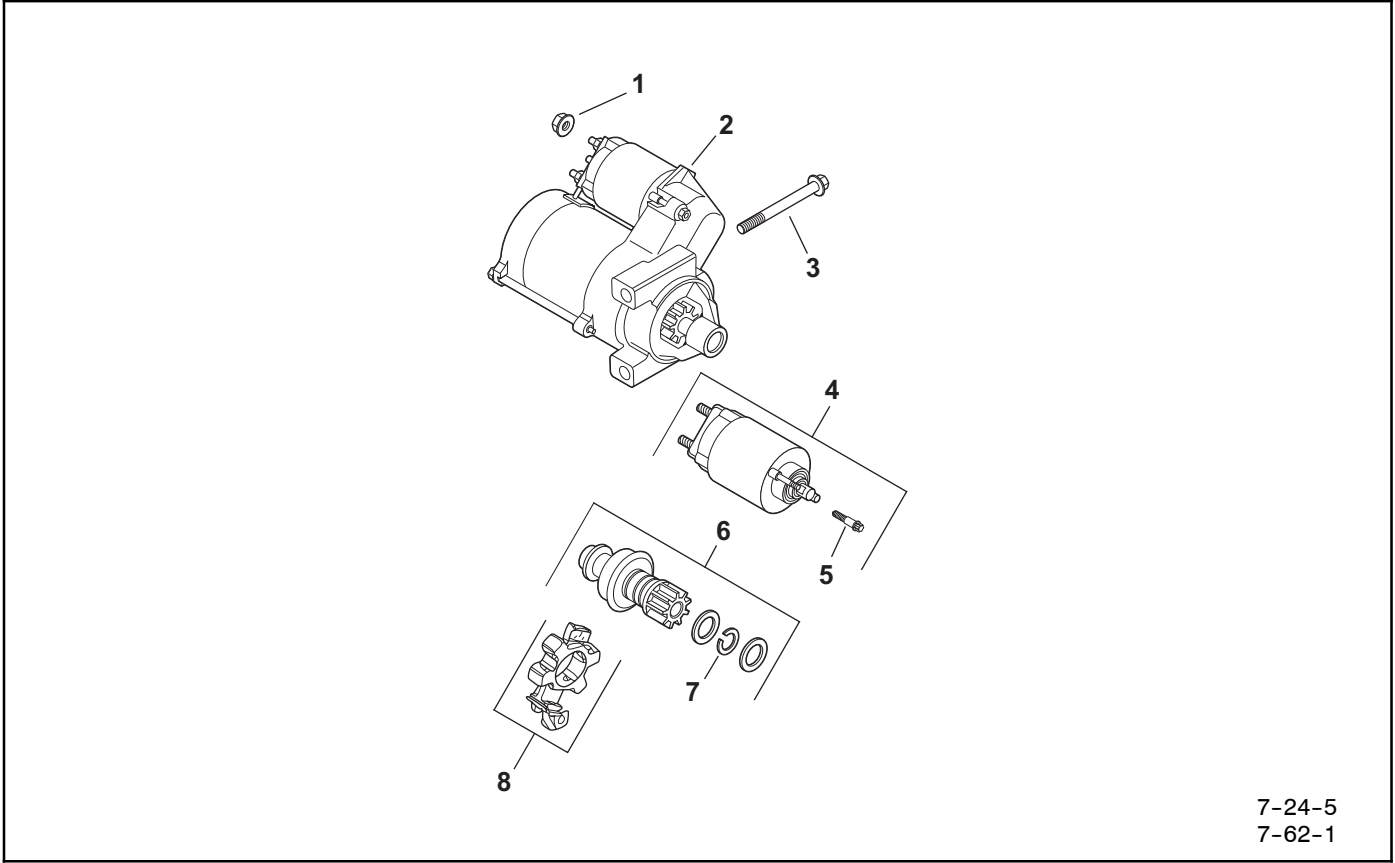
20RESC



Item	Part Number	Description	Quantity
			Variation
			26
1	25 086 397-S	Screw, flg thd frm, M6 x 1.0 x 16	10
2	62 063 31-S	Baffle, cyl barrel #1 side	1
3	62 424 15-S	Shroud, backing	1
4	62 086 10-S	Screw, shd thd frm	4
5	62 027 20-S	Kit, blower housing assembly	1
6	25 154 13-S	Clip, mounting	10
7	62 424 17-S	Shroud, #1 cylinder	1
8	62 424 18-S	Shroud, #2 cylinder	1
9	62 063 32-S	Baffle, cyl barrel #2 side	1
10	62 063 38-S	Baffle, valley #2 side	1
11	62 063 37-S	Baffle, valley #1 side	1

Group 7: Starter

14RESA/20RESA/20RESC

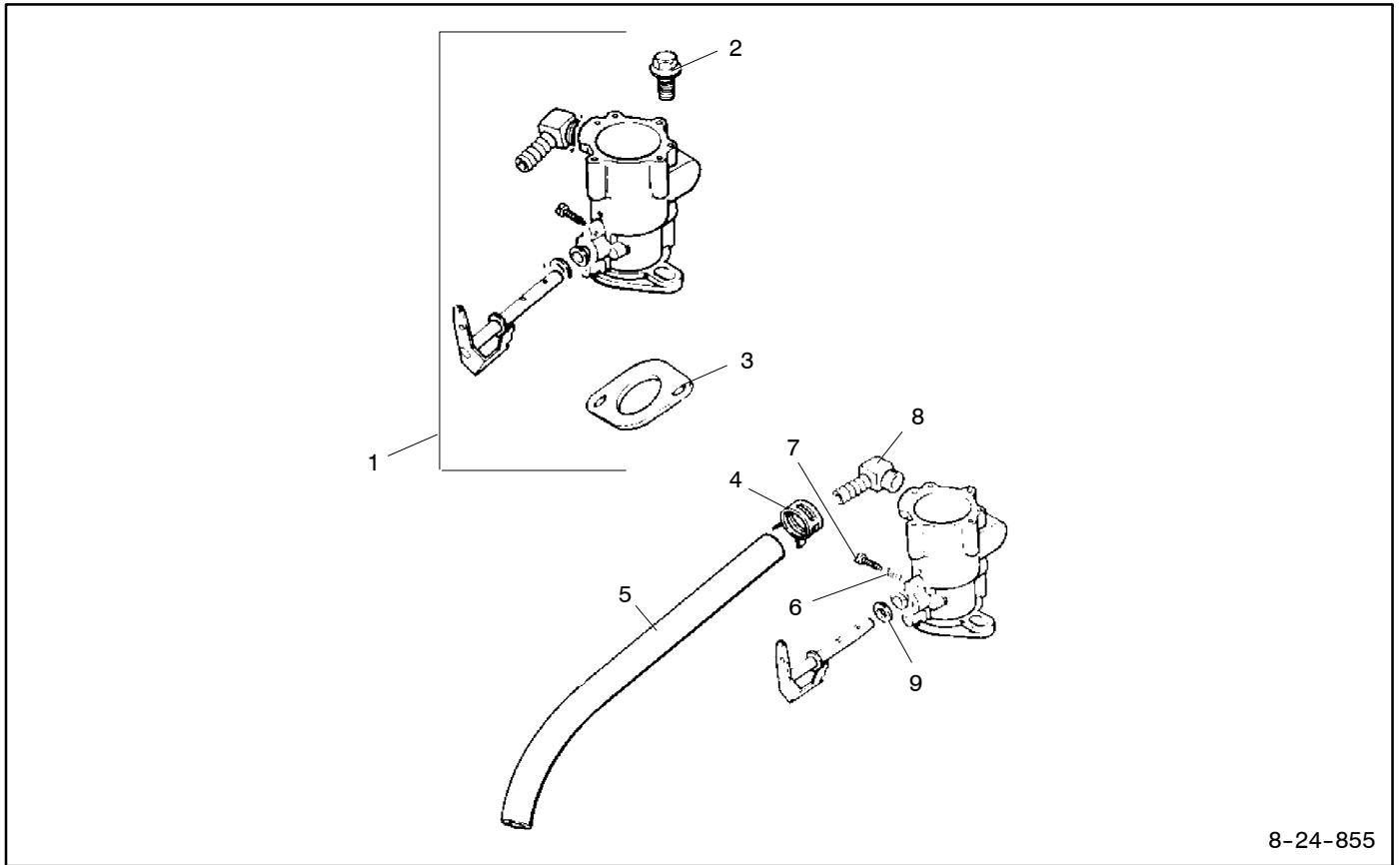


7-24-5
7-62-1

Item	Part Number	Description	Quantity	
			1	5
1	M-841080-S	Nut, flg, M8 x 1.25	1	1
2	25 098 11-S	Starter assembly, solenoid shift (includes items 4-8)	1	1
3	M-851080-S	Screw, flg, M8 x 1.25 x 80	2	2
4	25 435 06-S	Kit, solenoid (includes item 5)	1	1
5	25 086 113-S	Screw, external torx head	3	3
6	25 755 33-S	Kit, starter pinion (includes item 7)	1	1
7	25 141 05-S	Ring, retaining	1	1
8	25 221 01-S	Kit, brush holder	1	1

Group 8: Carburetor

14RESA

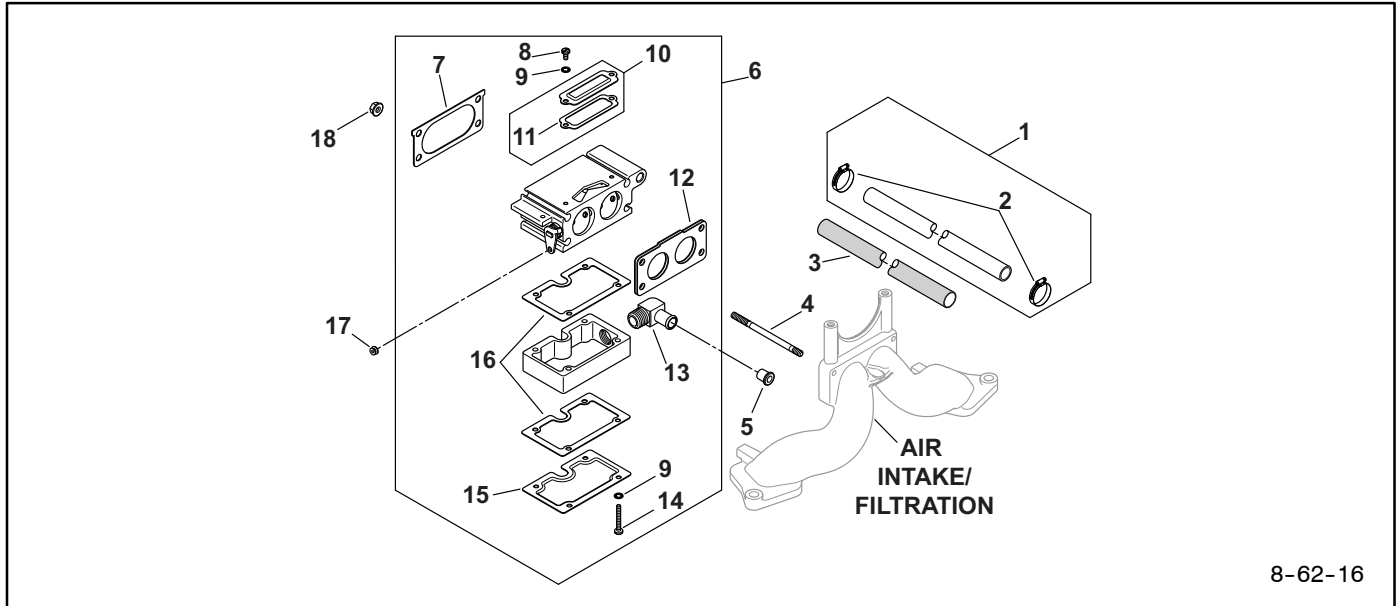


8-24-855

Item	Part Number	Description	Quantity
			Variation 855
1	24 853 49-S	Kit, carburetor w/gaskets	1
2	M-851030-S	Screw, flg M8 x 1.25 x 30	2
3	24 041 26-S	Gasket, carburetor	1
4	25 237 12-S	Clamp, hose	1
5	24 353 40-S	Line, LP fuel, 29 in.	1
6	232555-S	Spring	1
7	232556-S	Screw, special	1
8	24 294 23-S	Fitting	1
9	X-25-8-S	Washer	1
—	25 431 19-S	Sleeve, anti-abrasion (not shown)	1
—	46 086 04-S	Screw	2

Group 8: Carburetor, continued

20RESA/RESC

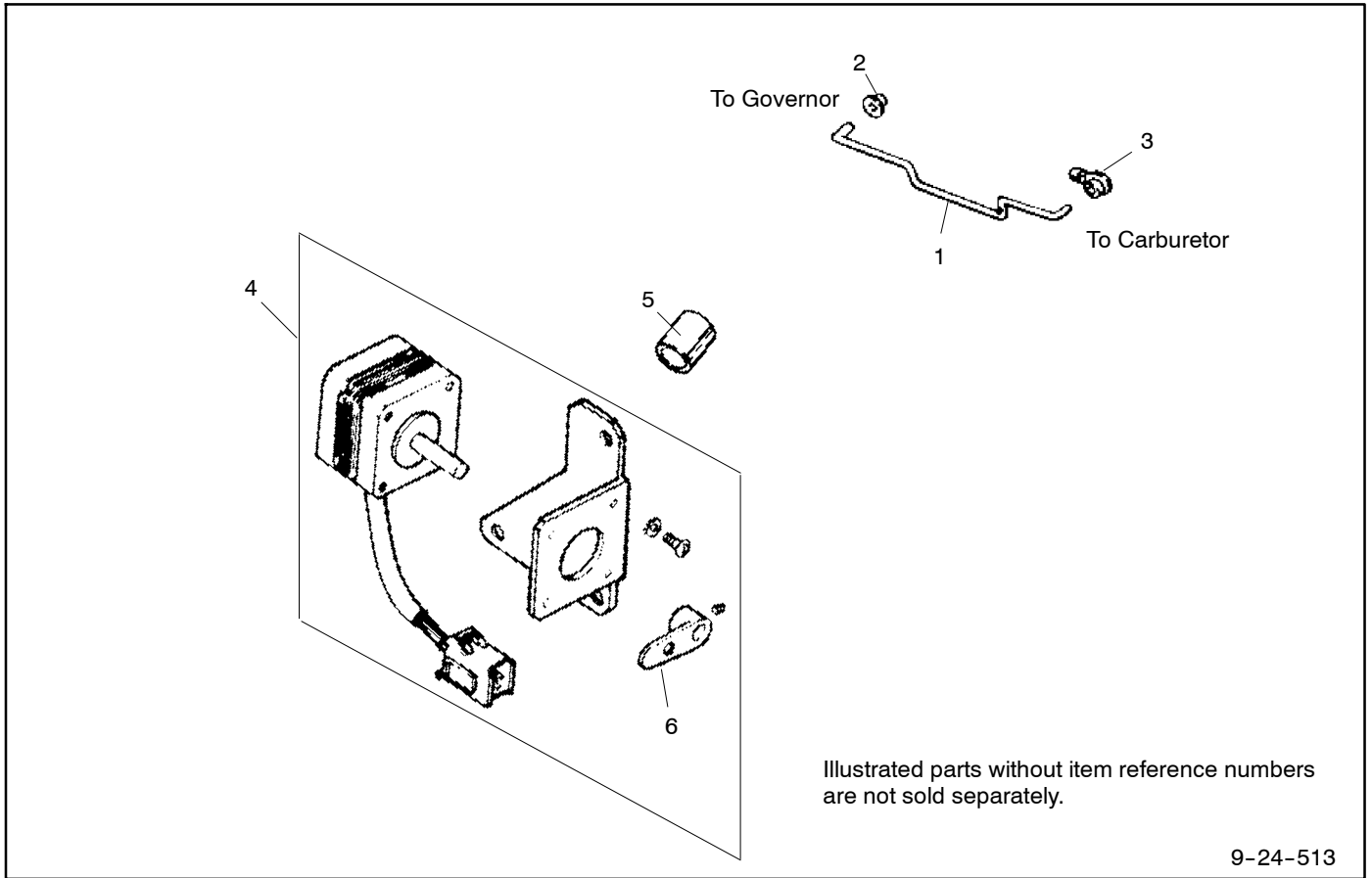


8-62-16

Item	Part Number	Description	Quantity	
			Variation	
			16	20
1	25 353 34	LP fuel line (23")	1	1
2	25 237 32-S	Clamp, hose	2	
3	25 431 19-S	Sleeve, anti-abrasion	1	
4	M-629095-S	Stud, M6 x 1.0 x 96	4	
4	25 072 26-S	Stud		4
5	-	Fitting, restrictor (See Fuel System group)	1	
6	62 853 44-S	Kit, Carburetor (includes items 7-17)	1	1
7	62 041 29-S	Gasket, air cleaner elbow	1	1
8	25 086 133-S	Screw, slotted pan, M4 x 0.7 x 8	2	
9	X-22-7-S	Washer, int tooth lock #8	6	
10	62 096 30-S	Cover, idle circuit	1	
11	62 041 30-S	Gasket, idle circuit plate	1	
12	24 041 82-S	Gasket, carburetor	1	1
13	25 294 19-S	Fitting, 90 deg. elbow	1	
14	25 086 134-S	Screw, slotted pan, M4 x 0.7 x 30	4	
15	62 096 31-S	Cover, plenum	1	
16	62 041 31-S	Gasket, plenum-carburetor	2	
17	45 158 03-S	Bushing	1	1
18	M641060-S	Nut, hex flange	4	4

Group 9: Engine Controls

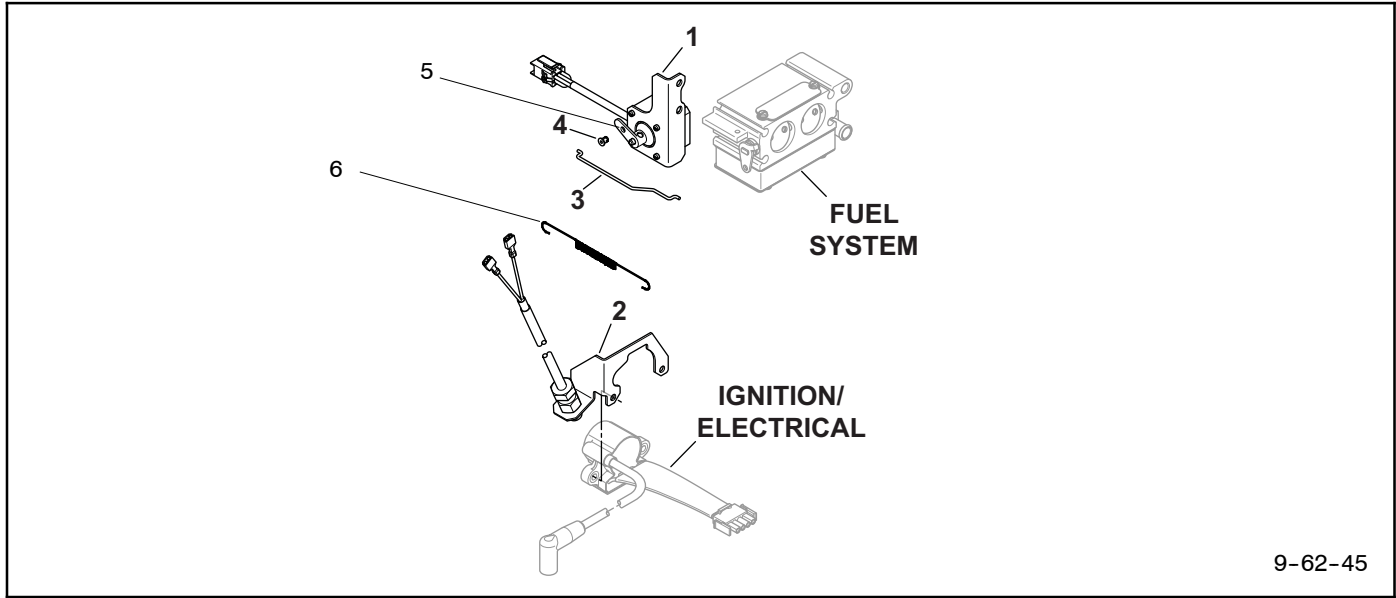
14RESA



Item	Part Number	Description	Quantity
			Variation
1	24 079 09-S	Linkage, throttle	1
2	25 158 08-S	Bushing, linkage	1
3	25 158 11-S	Bushing, throttle linkage	1
4	GM81314	Governor assembly	1
5	25 112 09-S	Spacer	3
6	358359	Coupling, stepper motor	1

Group 9: Engine Controls, continued

20RESA/RESC

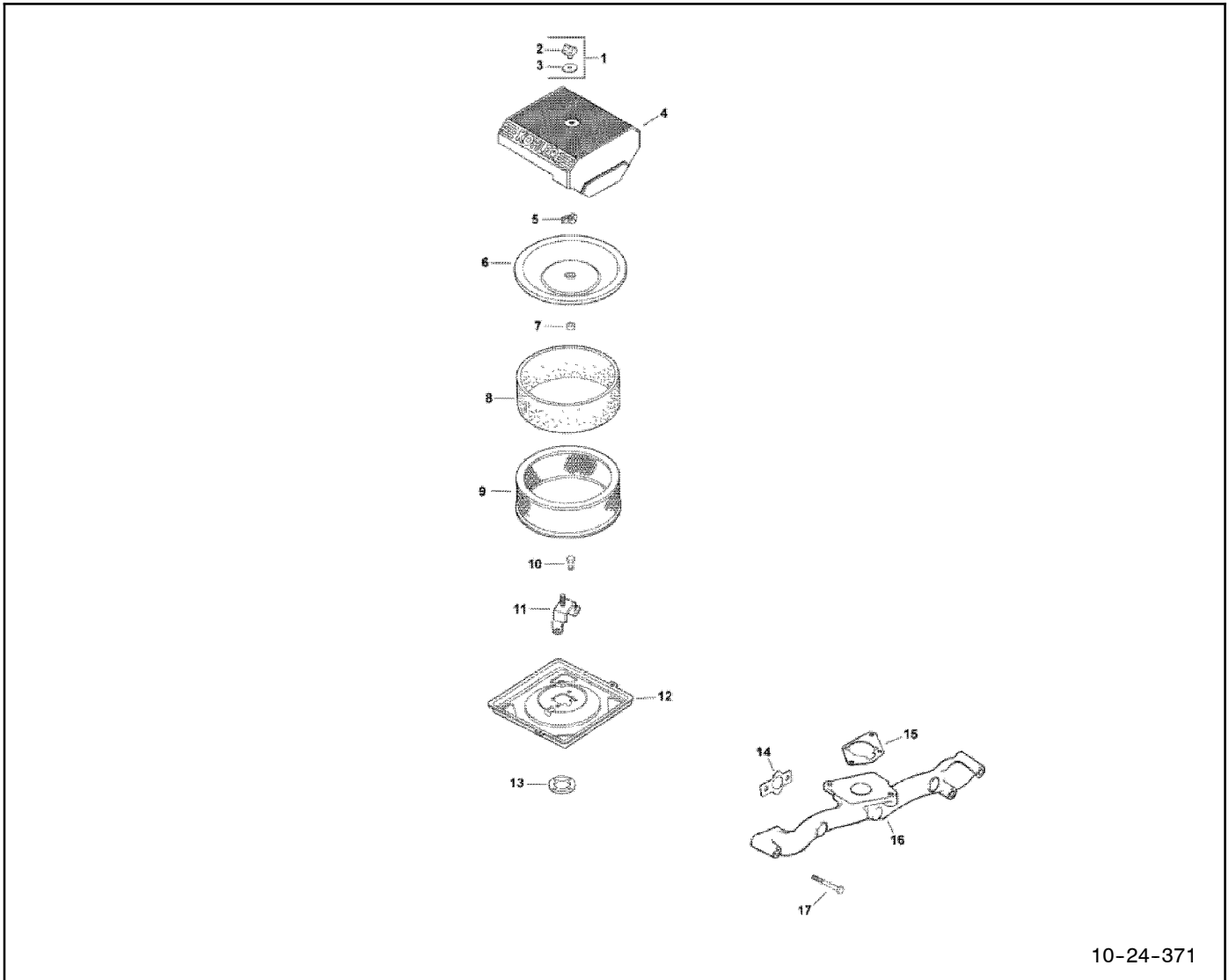


9-62-45

Item	Part Number	Description	Quantity
			45
1	GM81265	Governor assembly	1
2	-	not used	1
3	62 079 16-S	Linkage, throttle	1
4	25 158 08-S	Bushing, linkage retaining	1
5	358358	Coupling, stepper motor	1
6	62 089 45-S	Spring, linkage	1

Group 10: Air Intake/Filtration

14RESA

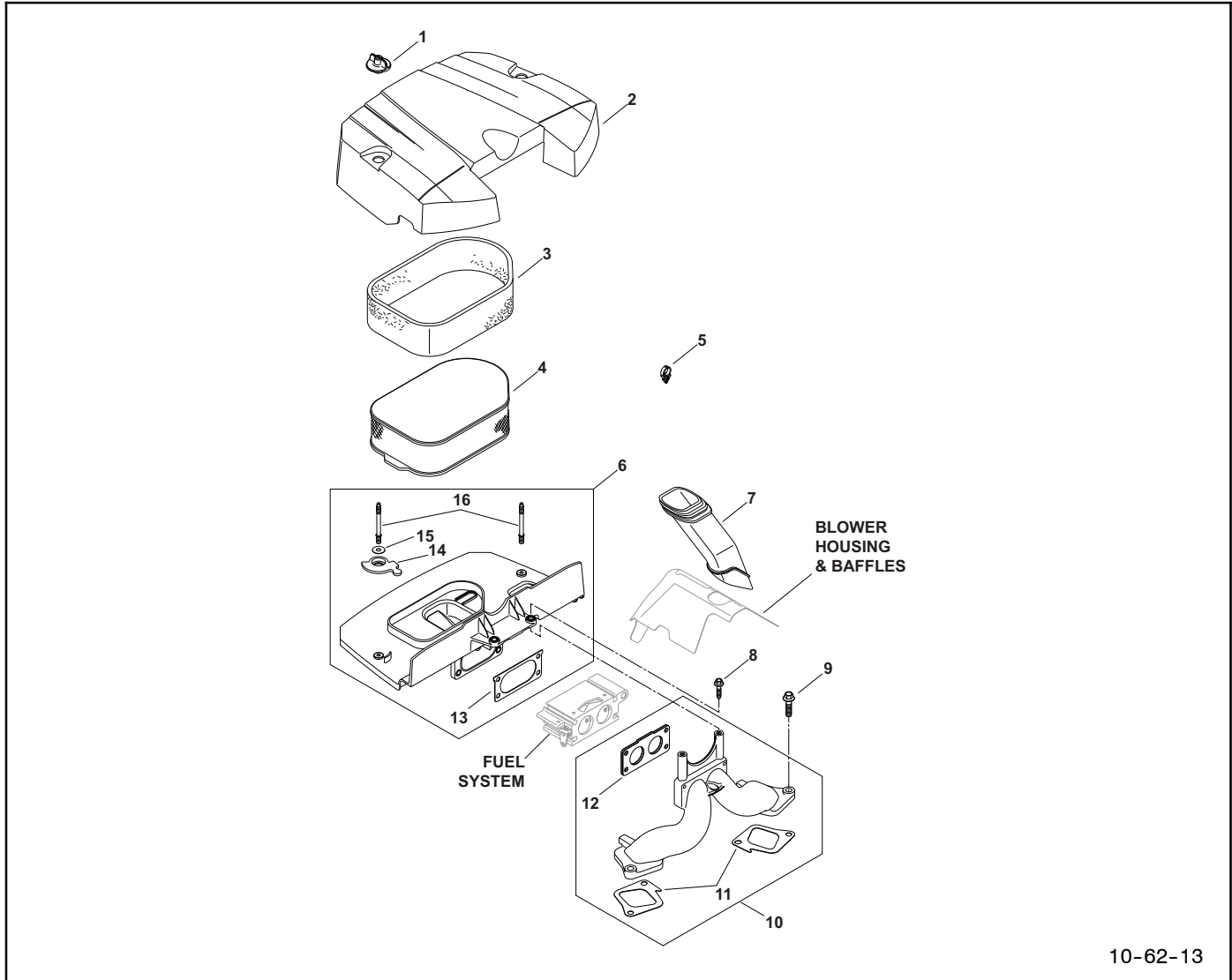


10-24-371

Item	Part Number	Description	Quantity
			Variation 371
1	54 755 01-S	Kit, knob w/seal	1
2	25 341 04-S	Knob, air cleaner cover	1
3	24 153 20-S	O-ring	1
4	24 096 67-S	Cover, air cleaner	1
5	12 100 01-S	Nut, wing	1
6	24 096 01-S	Cover, inner air cleaner	1
7	230046-S	Seal	1
9	24 083 09-S	Element, air filter	1
10	25 086 48-S	Screw, flange M6 x 1.0 x 55	4
11	24 126 74-S	Bracket, air cleaner	1
12	24 094 29-S	Base, air cleaner	1
13	52 112 12-S	Spacer, air cleaner	1
14	24 041 01-S	Gasket, intake manifold	2
15	277093-S	Gasket	2
16	24 164 18-S	Manifold, intake	1
17	25 086 48-S	Screw, HD 10-32 x 3/4 in.	4
—	24 153 27-S	O-ring, intake port	2
—	24 041 52-S	Gasket, carburetor	1

Group 10: Air Intake/Filtration, continued

20RESA/RESC

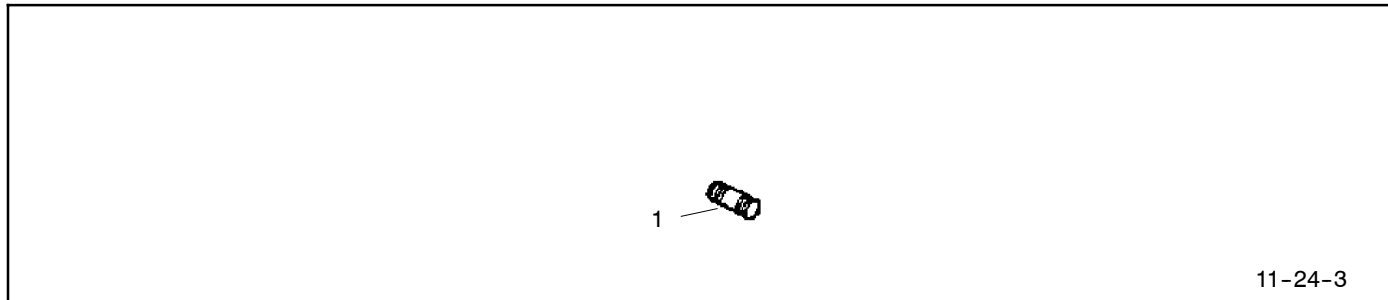


10-62-13

Item	Part Number	Description	Quantity	
			13	30
1	25 341 04-S	Knob, cover	2	2
2	62 096 17-S	Cover, air cleaner	1	1
3	—	Not used		
4	62 083 04-S	Element, air filter	1	1
5	62 154 05-S	Clip, fuel line	1	
6	62 094 40-S	Kit, air cleaner base (includes items 16,17)	1	
6	62 094 36	Base, air cleaner		1
7	62 123 19-S	Tube, air intake	1	
7	62 123 37-S	Tube, air intake		1
8	25 086 124-S	Screw, flg, M6 x 1.0 x 25	2	2
9	M-851030-S	Screw, flg, M8 x 1.25 x 30	4	4
10	62 164 22-S	Kit, intake manifold (includes items 11,12)	1	1
11	62 041 13-S	Gasket, intake manifold	2	2
12	24 041 82-S	Gasket, carburetor	1	1
13	62 041 29-S	Gasket, air cleaner elbow	1	1
14	-	not used		
15	-	not used		
16	20 072 04-S	Stud, air cleaner base	2	2
17	62 326 29-S	Hose, breather (not shown, see Group 4)	1	

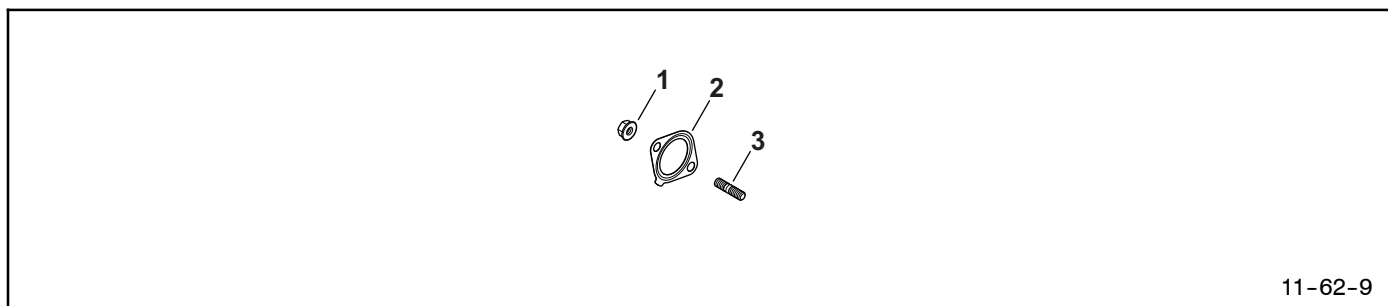
Group 11: Engine Exhaust

14RESA



Item	Part Number	Description	Quantity
			Variation
1	25 072 04-S	Stud, exhaust	3
			4

20RESA/RESC



Item	Part Number	Description	Quantity
			Variation
1	M-841080-S	Nut, flg, M8 x 1.25	9
2	62 041 14-S	Gasket, exhaust	4
3	25 072 04-S	Stud, M8 x 1.25 x 33	2
			4

Group 12: Engine Decals

Decals are not illustrated.

14RESA

Item	Part Number	Description	Quantity
			Variation
			851
1	25 113 39-S	Decal, clear laminate	1
2	25 113 05-S	Decal, oil sentry	1
3	62 113 32-S	Decal, CO warning	1

20RESA

Item	Part Number	Description	Quantity
			Variation
			16
1	25 113 39-S	Decal, clear laminate	1
2	25 113 50-S	Decal, Powered by Kohler-white	1
3	62 113 24-S	Decal, air cleaner	1

20RESC

Item	Part Number	Description	Quantity
			Variation
			53
1	25 113 79-S	Decal, clear laminate	1
2	25 113 50-S	Decal, Powered by Kohler-white	1

Group 13: Gasket Set

20RESA

Gasket set not illustrated.

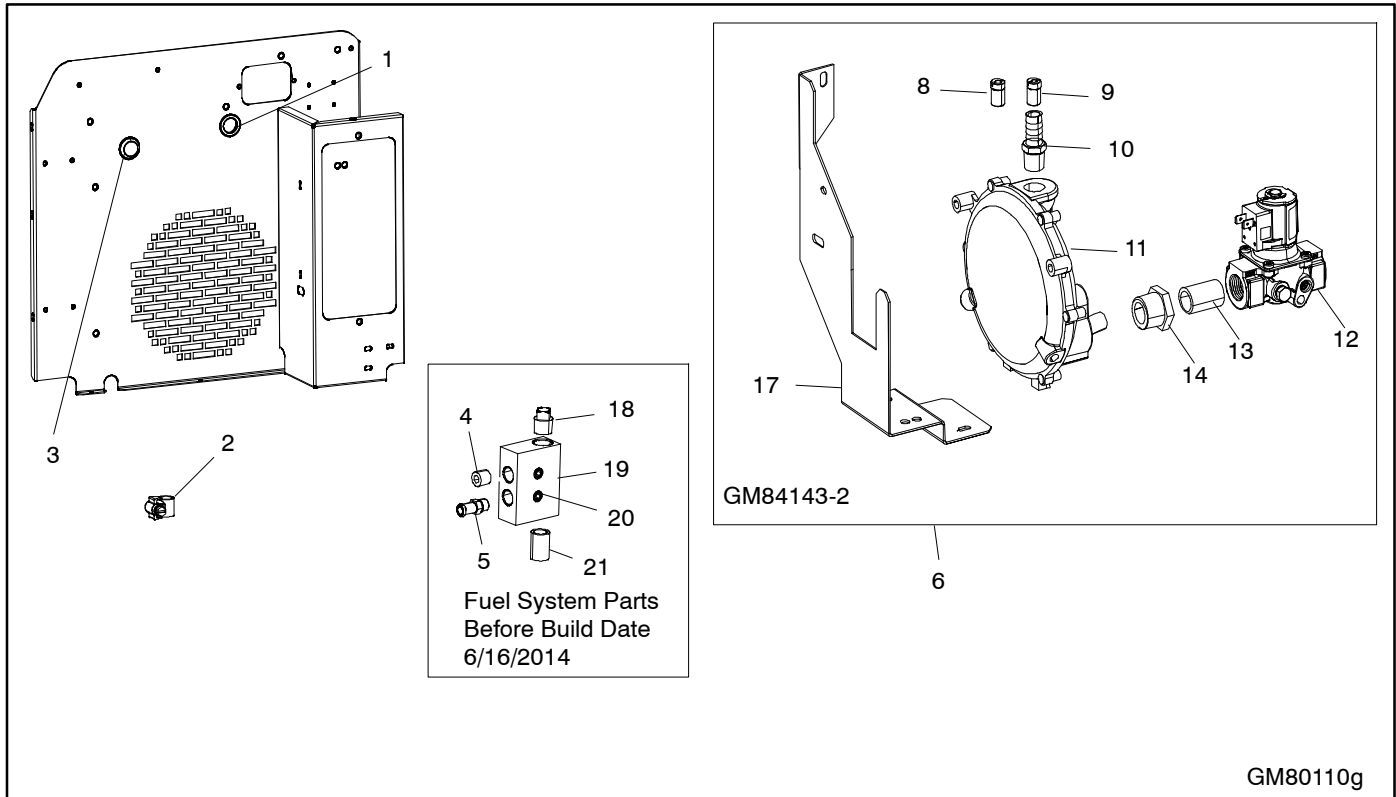
Item	Part Number	Description	Quantity
			Variation
1	62 755 02-S	Gasket set	1

14RESA

24 755 207-S Gasket Set

Fuel System

14RESA



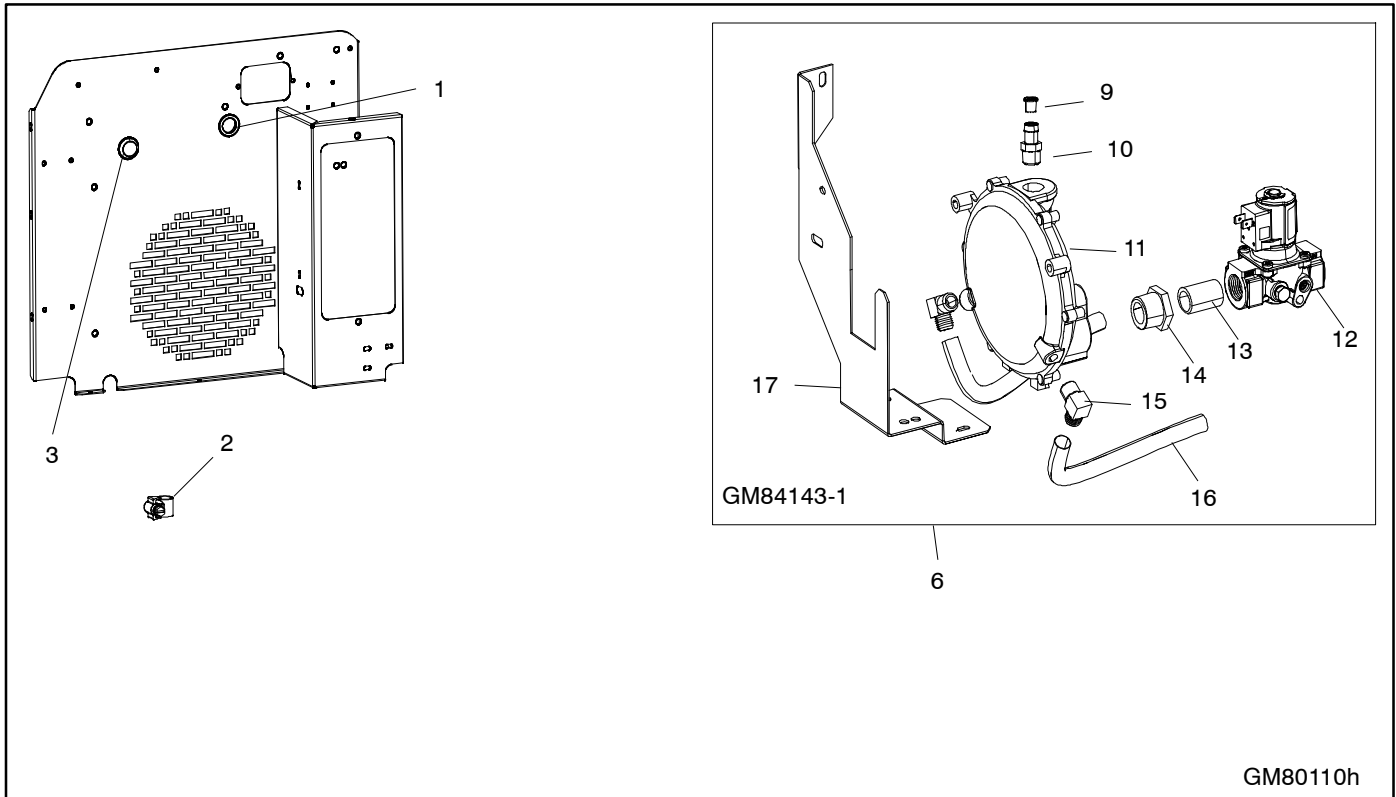
GM80110-GR2

Item	Part Number	Description	Quantity
			Variation
1	X-634-28	Bushing	1
2	X-426-12	Clamp, hose, .69/1.25 in.	1
3	X-301-45	Plug, Button, 1.37 (Hole Dia. 1.01)	1
4	X-75-51*	Plug, Pipe 1/4 in.	1
5	344508*	Connector, hose + Vibra Seal	1
6	GM84143-2	Fuel System Subassembly (includes items 8-21)	1
8	24 337 66	Jet, NG	1
9	24 337 65	Jet, LPG	1
10	24 294 29	Fitting, straight LPG/NG	1
11	A-227531	Regulator, gas	1
-	X-75-51	Plug, pipe (1/4" nptf) (not shown)	1
12	GM85084	Valve, Gas Shut-Off	1
13	X-209-2	Pipe (1/2"npt x 1.19")	1
14	X-202-63	Bushing, reducing (1/2 x 3/4"npt)	1
17	GM80024	Bracket, Fuel Regulator Mtg.	1
18	25 139 57*	Plug, pipe (1/8" nptf)	1
19	GM16807*	Valve, Fuel Metering	1
20	X-6219-9*	Screw, hex socket set	2
21	X-204-9*	Pipe (3/8"npt x 1.00")	1

* Fuel system part used before build date of 6/16/2014

Fuel System

20RESA/RESC



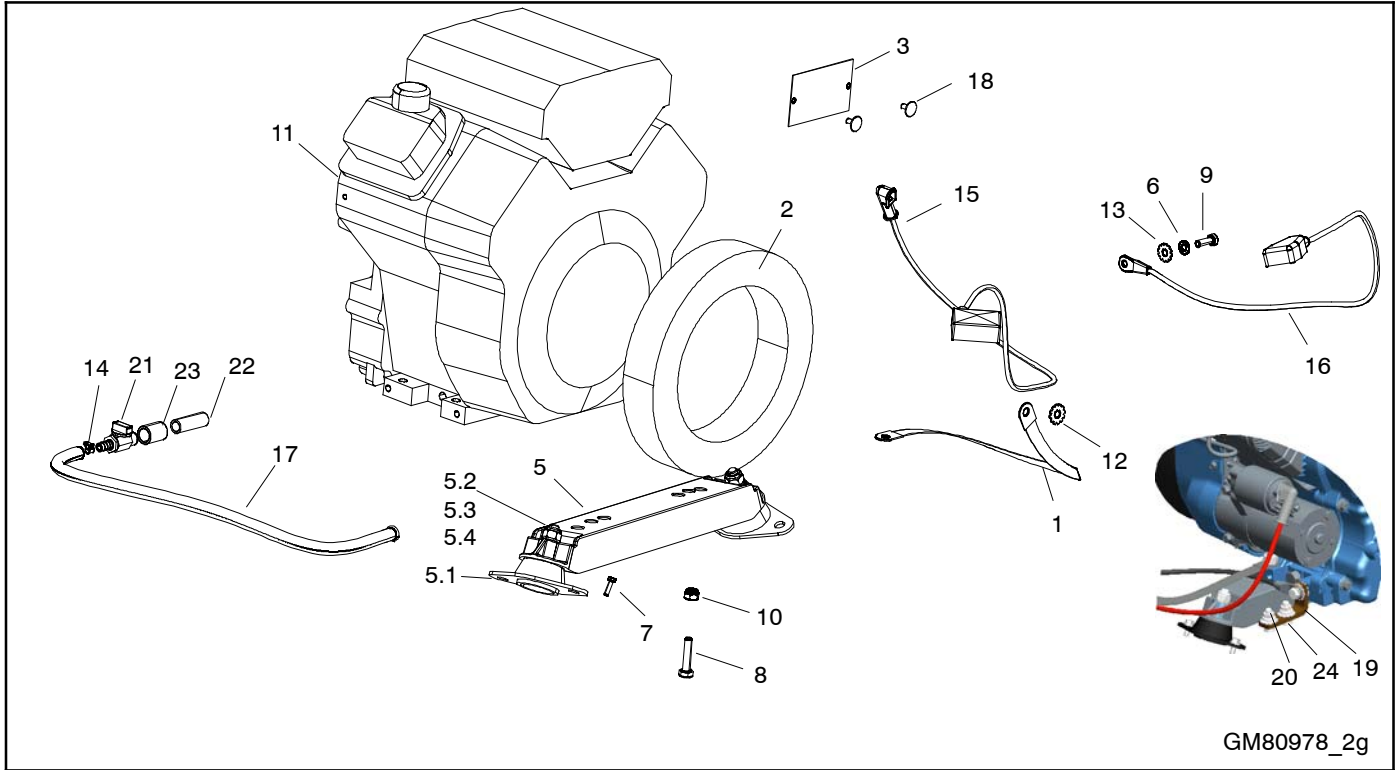
GM80110h

GM80110-GR1

Item	Part Number	Description	Quantity
			Variation
			1
1	X-634-28	Bushing	1
2	X-426-12	Clamp, hose, .69/1.25 in.	1
3	X-301-45	Plug, Button, 1.37 (Hole Dia. 1.01)	1
6	GM84143-1	Fuel System Subassembly (includes items 8-21)	1
9	62 294 06-S	Fitting, restrictor	1
10	25 294 21-S	Fitting, hose connector	1
11	GM71184	Regulator, Gas	1
-	X-75-1	Plug, pipe (1/8" nptf) (not shown)	1
12	GM85084	Valve, Gas Shut-Off	1
13	X-209-2	Pipe (1/2"npt x 1.19")	1
14	X-202-63	Bushing, reducing (1/2 x 3/4"npt)	1
15	25 155 38	Connector, hose	2
16	GM76024	Tubing, flexible	2
17	GM80024	Bracket, Fuel Regulator Mtg.	1

Engine

14RESA

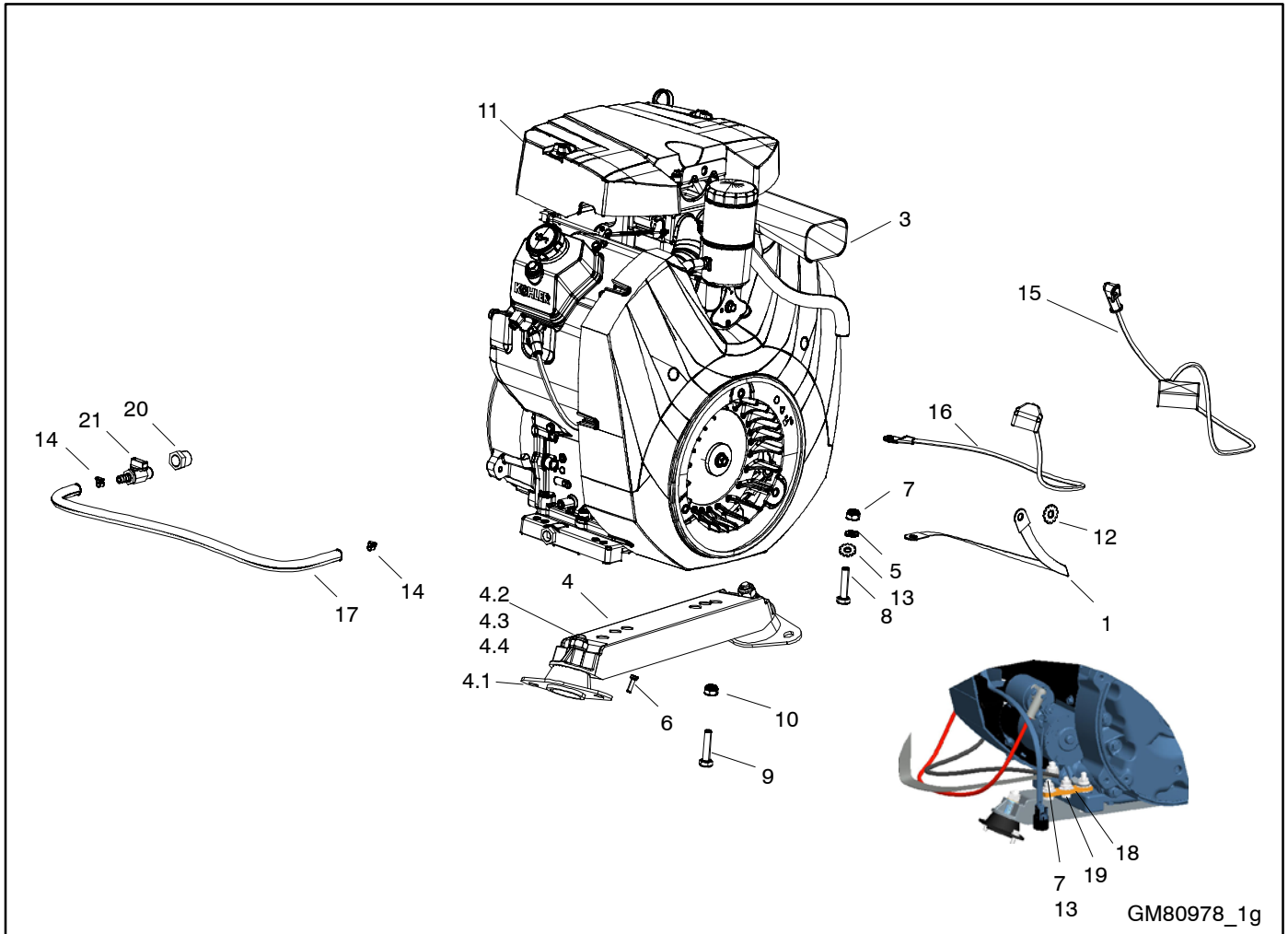


GM80978-

Item	Part Number	Description	Quantity		
			2	4	7
1	GM50449	Strap, Ground	1	1	1
2	GM69902	Insulation, Engine Air Inlet	1	1	1
3	GM69919	Cover, Air Inlet	1	1	1
5	GM87305	Vibromount Assy. (includes 5.1-5.4)	1	1	1
5.1	GM75548	Vibromount	2	2	2
5.2	M931-10055-60	Screw, hex cap	2	2	2
5.3	M125A-10-80	Washer, Plain, 10.5 ID x 20.0 OD	2	2	2
5.4	M982-10-80	Nut, hex elastic stop	2	2	2
6	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	1	1	1
7	M6921-06014-60	Screw, hex cap	4	4	4
8	M933-10050-60	Screw, hex cap	2	2	2
9	M933-08030-60	Screw, hex cap	1	1	1
10	M982-10-80	Nut, hex elastic stop	4	2	2
11	PS-CH740-0149	CH740EP E1 KPS GM80977	1	1	1
12	X-22-12	Washer, lock.262 IDx.743 in.OD	1	1	1
13	X-22-16	Washer, lock.326 IDx.883 in.OD	1	1	1
14	X-426-9	Clamp, hose, .25/.70 in.	1	1	1
15	X-545-230	Cable, Battery	1	1	1
16	X-545-231	Cable, Battery	1	1	1
17	X-612-28	Hose, Oil Proof	1	1	1
18	X-6340-2	Clip, panel fastener	2	2	2
21	359653	Valve, oil drain (3/8-18 npt)	1	1	1
22	X-204-6	Pipe, Nipple (3/8" npt x 2.00")	1	1	1
23	X-216-23	Coupling, pipe (3/8"npsc)	1	1	1

Engine

20RESA/RESC



GM80978-, GM95492-

Item	Part Number	Description	Quantity			
			Variation			
			1	3	5	6
1	GM50449	Strap, Ground	1	1	1	1
3	GM84246	Insulation, Acoustic Foam	1	1	1	1
4	GM87305	Vibromount Assy. (includes 4.1-4.4)	1	1	1	1
4.1	GM75548	Vibromount	2	2	2	2
4.2	M931-10055-60	Screw, hex cap	2	2	2	2
4.3	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD	2	2	2	2
4.4	M982-10-80	Nut, hex elastic stop	2	2	2	2
5	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	1	1	1	1
6	M6921-06014-60	Screw, hex cap	4	4	4	4
7	M6923-08-80	Nut, Hex 8mm	1	1	1	1
8	M931-08055-60	Screw, hex cap	1	1	1	1
9	M931-10050-60	Screw, hex cap	2	2	2	2
10	M982-10-80	Nut, hex elastic stop	2	2	2	2
11	PS-CH1000-2022	CH1000EP E3 KPS - GM80976	1			
11	PS-CH1000-2025	CH1000EP EPA		1	1	
11	PS-CH1000-3011	CH1000EP EPA				1
12	X-22-12	Washer, lock.262 IDx.743 in.OD	2	2	2	1
13	X-22-16	Washer, lock.326 IDx.883 in.OD	1	1	1	1
14	X-426-9	Clamp, hose, .25/.70 in.	2	2	2	2
15	X-545-230	Cable, Battery	1	1	1	1
16	X-545-231	Cable, Battery	1	1	1	1
17	X-612-28	Hose, Oil Proof	1	1	1	1
20	X-202-28	Bushing, reducing (3/8 x 1/2"npt)	1	1	1	1
21	359653	Valve, oil drain (3/8-18 npt)	1	1	1	1

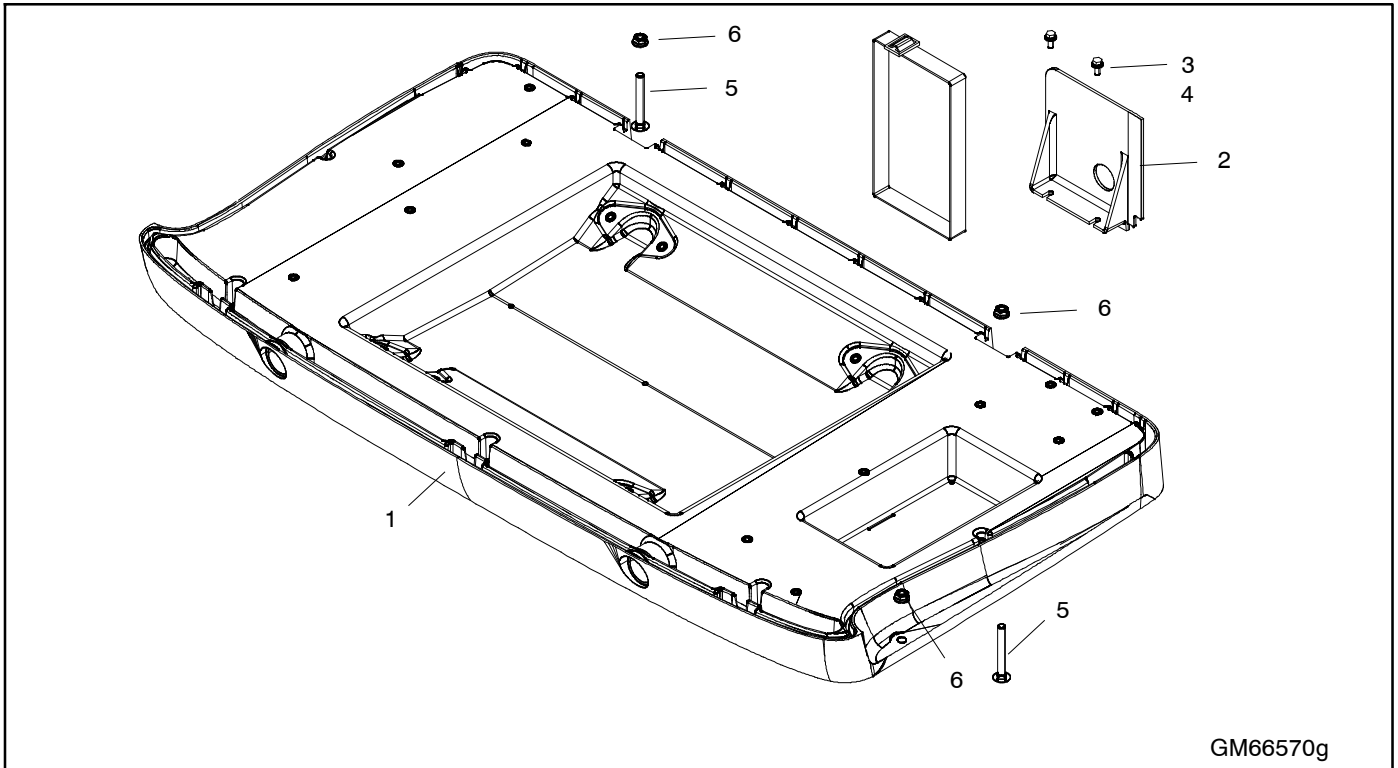
Nameplate and Decals

Nameplate and decals are not illustrated.

GM84090-GR1

Item	Part Number	Description	Quantity
			Variation
2	239789	Decal, notice, neutral bonded to frame	1
3	249808	Decal, warning rotating parts	1
4	249809	Decal, caution hot engine	2
5	255882	Decal, caution stdby svc connect	1
6	257438	Decal, danger moving rotor	1
7	294520	Decal, danger, high voltage	1
8	GM15299	Decal, rainproof enclosure	1
10	GM29924	Decal, notice, fuel connection	1
11	GM47407	Decal, fuel type	1
12	GM53084	Decal, power breaker	1
13	GM60175	Decal, warning non gfci outlet	1
14	GM75579	Decal, Kohler logo	1
15	GM75728	Decal, fuel type	1
16	GM81760	Decal, Kohler maintenance	1
17	GM81763	Decal, Notice	1

Skid

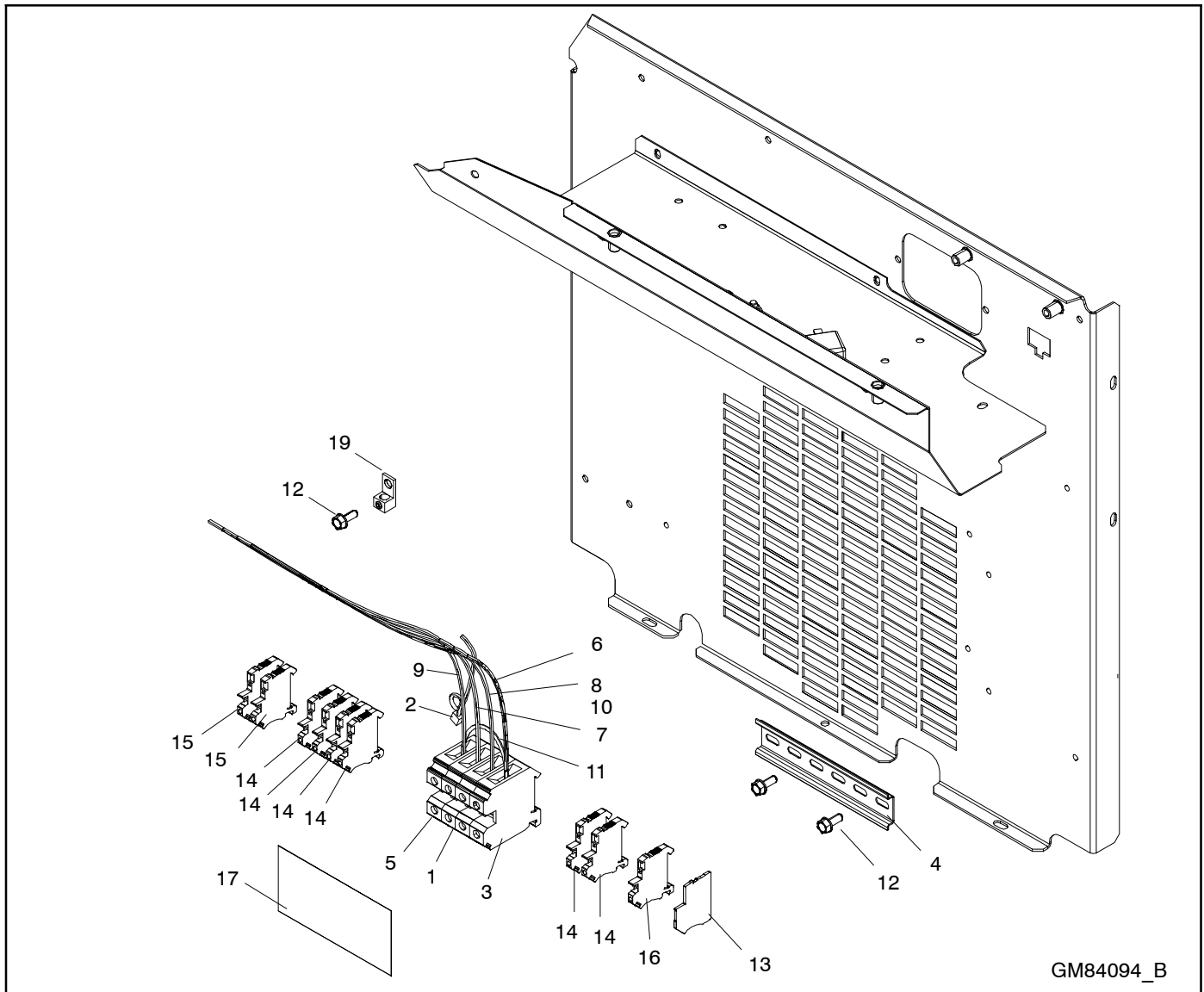


GM66570g

GM66570-GR1

Item	Part Number	Description	Quantity
			Variation
			1
1	GM66985	Enclosure, Base	1
2	GM69846	Enclosure, Wire Access Panel	1
3	M125A-06-80	Washer, Plain	2
4	M6921-06014-60	Screw, Hex Cap Flange	2
5	PNP-2003-30	Bolt, carriage (3/8-16 x 3.00")	4
6	X-6210-9	Nut, flange spirallock, 3/8-16	4
	GM61432	Strap, Poly Battery	1

Customer Connection (Terminal Block)

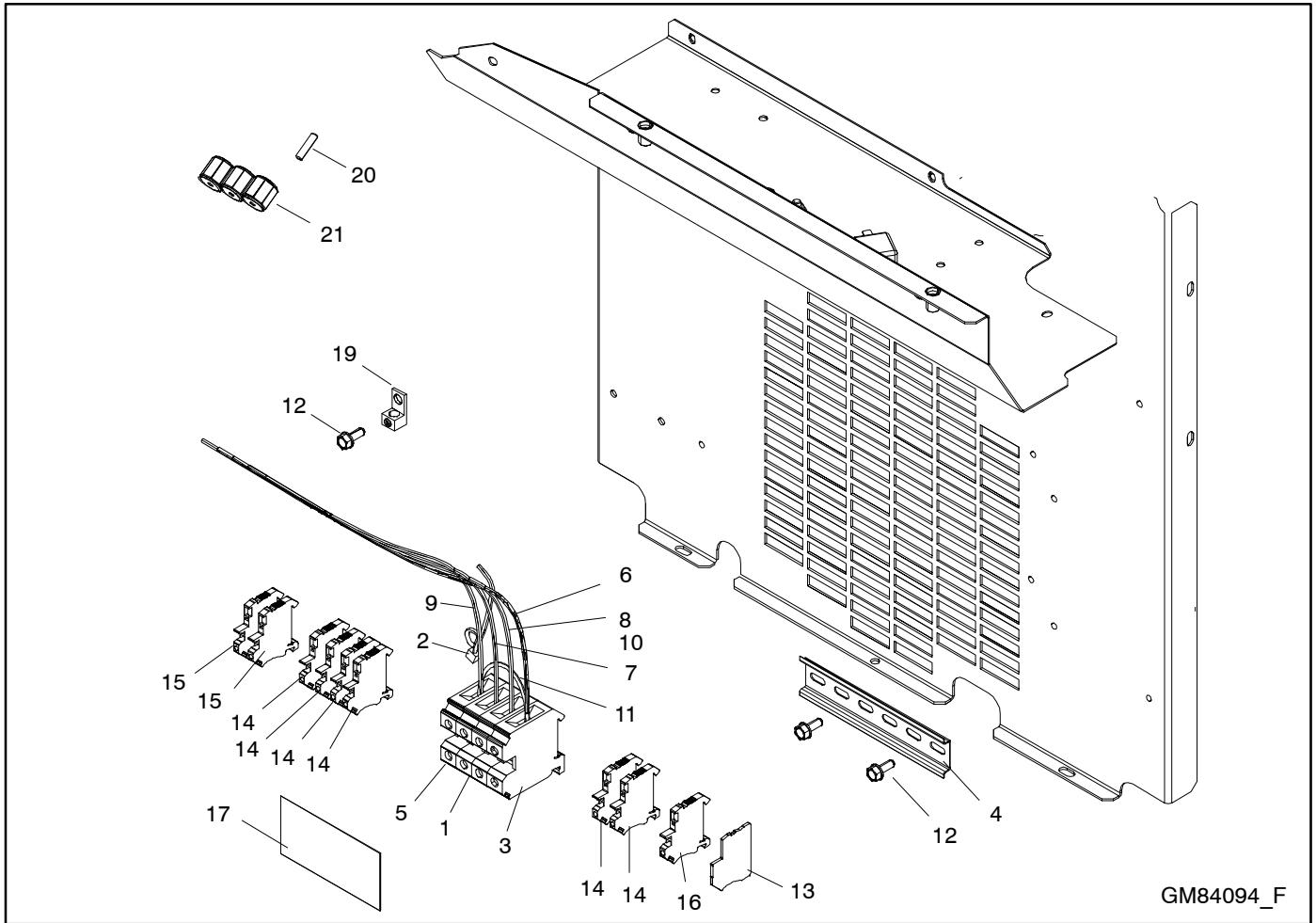


GM84094-GR1, GR2

Item	Part Number	Description	Quantity Variation	
			1	2
1	GM69859	Block, Terminal	2	3
2	357477	Cable, Patch, 3 ft. RJ-45	1	1
3	GB31613529803	Block, Terminal	1	1
4	GM89998	Rail, Din	1	1
5	GM69860	Block, Terminal	1	1
6	GM69982	Lead, Customer Connection	1	1
7	GM69983	Lead, Customer Connection	1	1
8	GM69984	Lead, Customer Connection	1	1
9	GM69985	Lead, Customer Connection	1	1
10	GM69986	Lead, Customer Connection		1
11	GM75874	Lead, jumper	1	1
12	GM78761-1	Screw, Sheetmetal	3	3
13	GM79116	Plate, End	2	2
14	GM79117	Block, Terminal	6	6
15	GM79118	Block, Terminal	2	2
16	GM79119	Block, Terminal	1	1
17	GM84092	Decal, Terminal Block	1	
	GM84093	Decal, Terminal Block		1
19	X-6207-1	Lug, Terminal, Aluminum	1	1

Note: Terminal Block Bagged Kit GM79122 includes items 1 (qty. 2), 3-5, 13-16.

Customer Connection (Terminal Block)

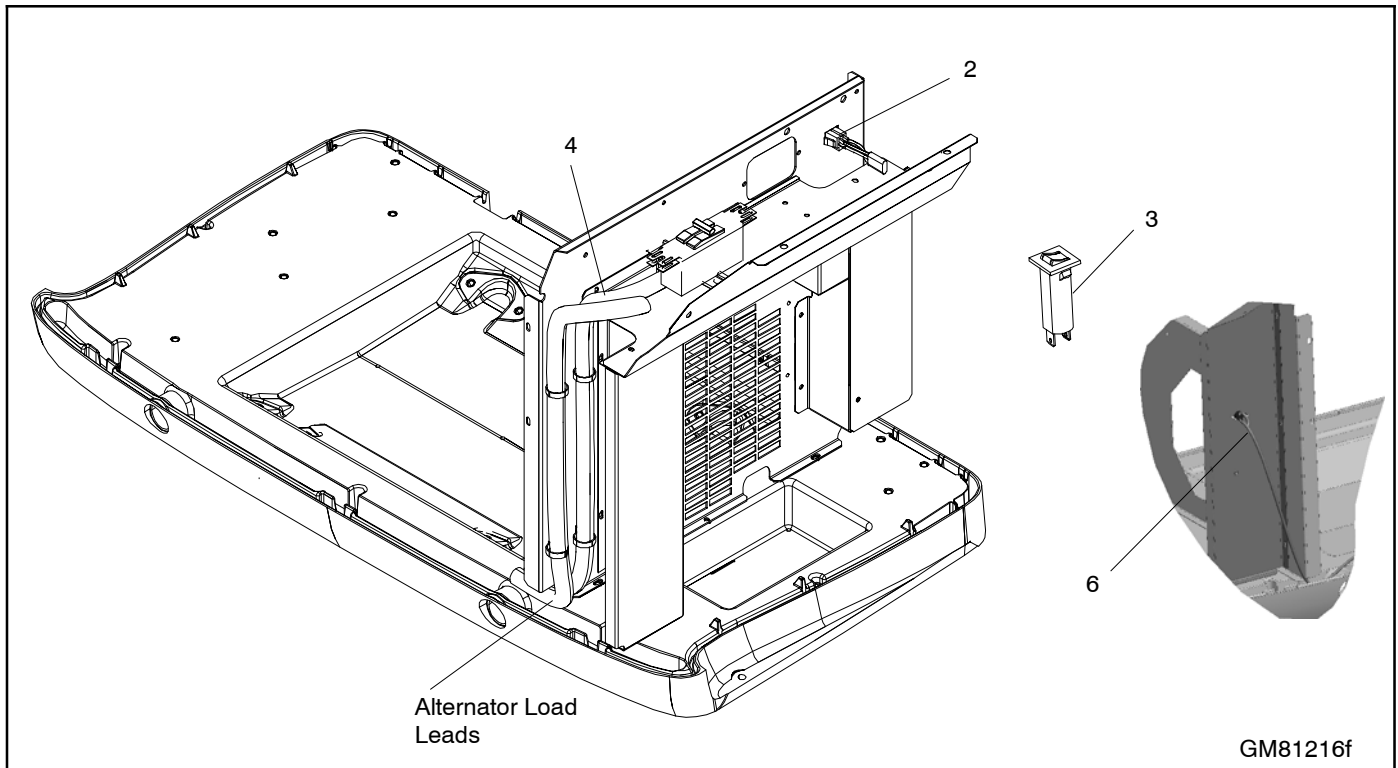


GM84094-

Item	Part Number	Description	Quantity Variation					
			MA1	MA2	MA3	MA4	MA5	MA6
1	GM69859	Block, Terminal	2	3				
1	GM91984	Block, Terminal			1			
2	357477	Cable, Patch, 3 ft. RJ-45	1	1	1	1	1	1
3	GB31613529803	Block, Terminal	1	1	1	1	1	1
4	GM89998	Rail, Din	1	1	1	1	1	1
5	GM69860	Block, Terminal	1	1	1	1	1	1
6	GM69982	Lead, Customer Connection	1	1	1	1	1	1
7	GM69983	Lead, Customer Connection	1	1	1	1	1	1
8	GM69984	Lead, Customer Connection	1	1	1	1	1	
8	GM95694	Lead, Customer Connection						1
9	GM69985	Lead, Customer Connection	1	1		1	1	
9	GM95695	Lead, Customer Connection						1
10	GM69986	Lead, Customer Connection		1		1	1	
10	GM95696	Lead, Customer Connection						1
11	GM75874	Lead, jumper	1	1	1	1	1	1
12	GM78761-1	Screw, Sheetmetal	3	3	3	3	3	3
13	GM79116	Plate, End	2	2	2	2	2	2
14	GM79117	Block, Terminal	6	6	6	6	6	6
15	GM79118	Block, Terminal	2	2	2	2	2	2
16	GM79119	Block, Terminal	1	1	1	1	1	1
17	GM91712	Decal, Terminal Block	1					
17	GM91714	Decal, Terminal Block			1			
17	GM91713	Decal, Terminal Block		1		1	1	1
19	X-6207-1	Lug, Terminal, Aluminum	1	1	1	1	1	1
20	X-6054-23	Stud				3	3	3
21	X-6128-35	Insulator, Standoff				3	3	3
22	GM69627	Ferrule, Terminal (not shown)		3				

Note: Terminal Block Bagged Kit GM79122 includes items 1 (qty. 2), 3-5, 13-16.

Harness

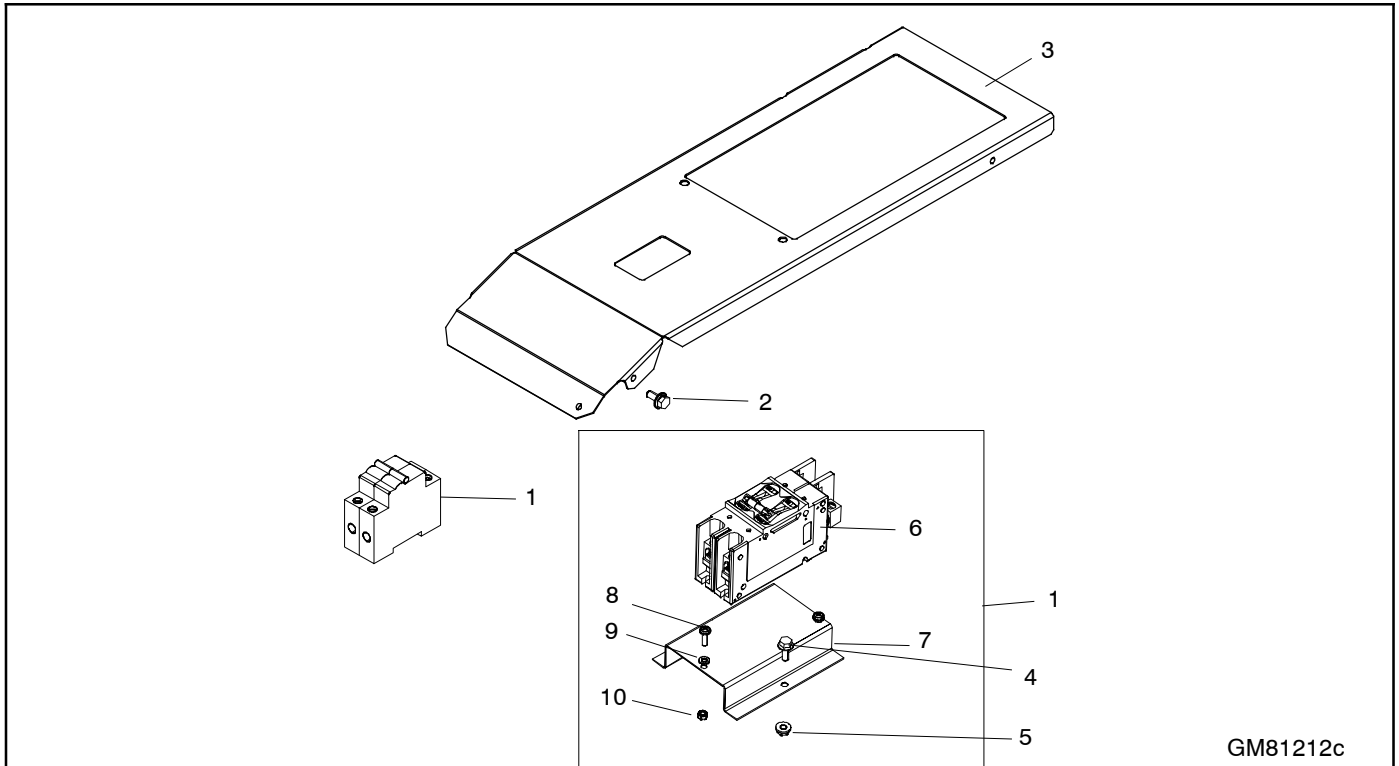


GM81216f

GM81216-

Item	Part Number	Description	Quantity			
			Variation			
			1	2	3	4
1	361567	Base, tie wrap snapin (not shown)	4	4	4	4
2	GM48108	Harness, Pigtail Customer Connection	1	1	1	1
3	GM63134	Breaker, Circuit (20 amp)		1	1	1
4	GM81218	Harness, Engine	1			
4	GM93297	Harness, Engine		1		
4	GM96292	Harness, Engine			1	1
5	X-468-1	Cable Tie (not shown)	4	4	4	4
6	GM96291	Harness, Thermostat			1	

Circuit Breaker



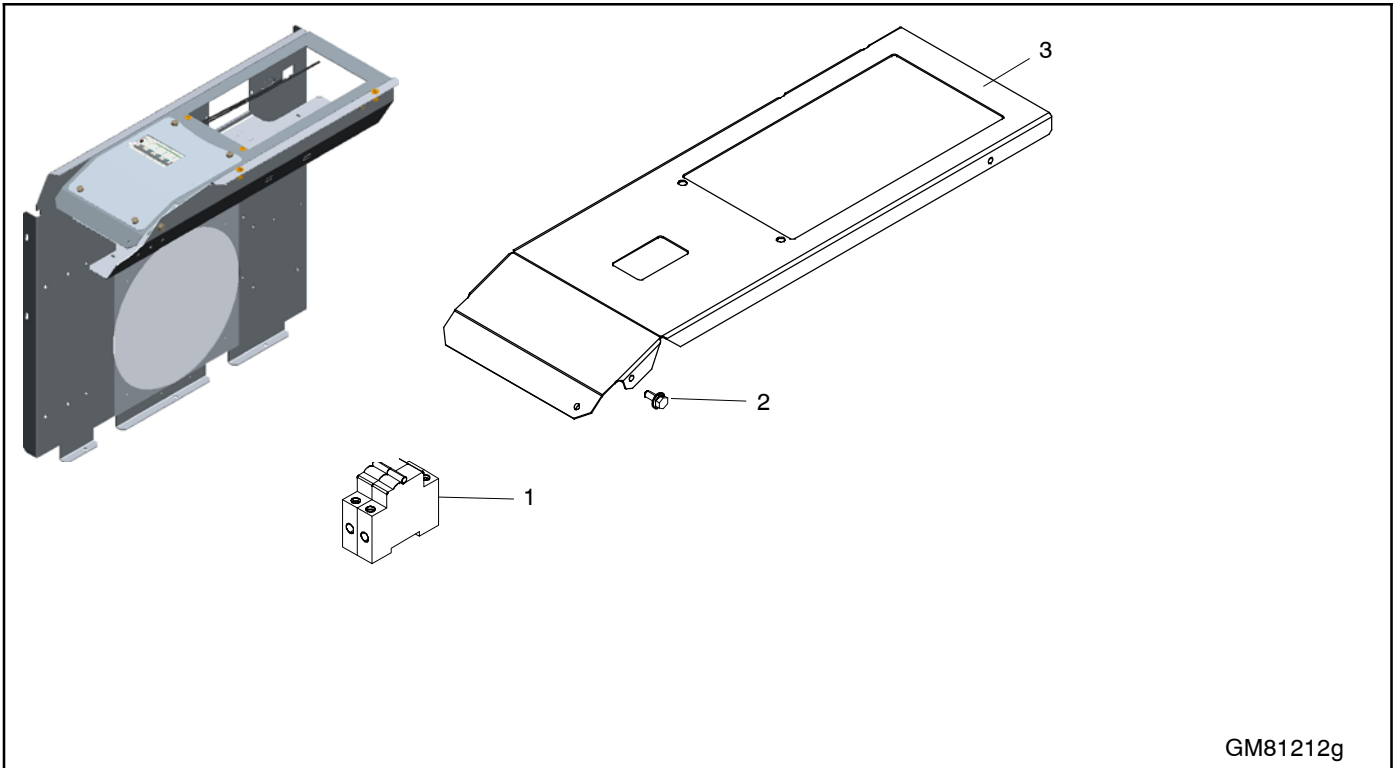
GM81212c

GM81212-GR1, GR2, GR3, GR4

Item	Part Number	Description	Quantity			
			Variation			
			1	2	3	4
1	GM75545	Breaker, Circuit 70 amp		1		
1	GM77628	Breaker, Circuit 3 pole				1
1	GM42030	Breaker, Circuit 50 amp	1			
1	GM87307	Circuit Breaker Assy. (include items 6-10)			1	
2	GM78761-1	Screw, Sheetmetal	3	3	3	3
3	GM80973	Panel, Controller Mtg.	1	1		
3	GM80983	Panel, Controller Mtg.			1	
3	GM81213	Panel, Controller Mtg.				1
4	M6921-06014-60	Screw, Hex Cap Flange			2	
5	M6923-06-83	Nut, Hex 6mm			2	
6	GM77390	Breaker, Circuit 100 amp			1	
7	GM77519	Bracket, Circuit Breaker Mtg.			1	
8	M7985A-05016-20	Screw, pan head machine			2	
9	M125A-05-80	Washer, Plain			2	
10	M934-05-50	Nut, Hex 5mm			2	

Item	Part Number	Description	Quantity		
			Module		
			GM81212-MA3	GM81212-MA8	GM81212-MA21
1	GM87307	Circuit Breaker Assembly	1		
1	GM91004	Circuit Breaker Assembly		1	
1	GM91005	Circuit Breaker Assembly			1
2	GM78761-1	Screw, Sheetmetal	3	3	3
3	GM80983	Panel, Controller Mtg.	1		
3	GM90761	Panel, Controller Mtg.		1	1
4	M6921-06014-60	Screw, Hex Cap Flange	2	2	2
5	M6923-06-83	Nut, Hex 6mm	2	2	2
6	GM77390	Circuit Breaker	1		
6	GM90396	Circuit Breaker (includes mounting hardware)		1	
6	GM90397	Circuit Breaker (includes mounting hardware)			1
7	GM77519	Bracket, Circuit Breaker Mtg.	1		
7	GM90973	Bracket, Circuit Breaker Mtg.		1	
8	M7985A-05016-20	Screw, pan head machine	2		
9	M125A-05-80	Washer, Plain	2		
10	M934-05-50	Nut, Hex 5mm	2		

Circuit Breaker, continued



GM81212g

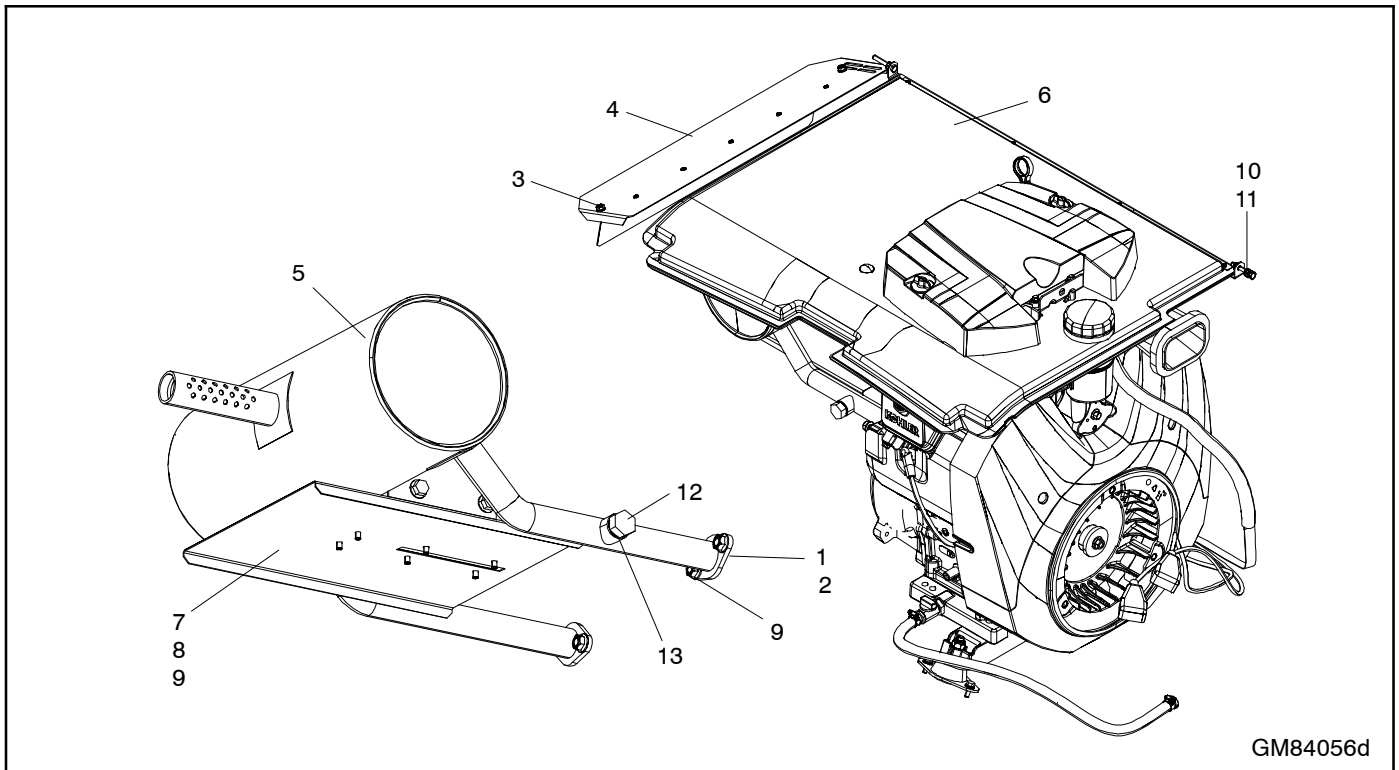
GM81212-MA

Item	Part Number	Description	Qty.
1	See chart	Breaker, Circuit	1
2	GM78761-1	Screw, Sheetmetal	3
3	See chart	Panel, Controller Mtg.	1

Use this table to identify part numbers of items 1 and 3

Module	Part Number	
	Item 1, Circuit Breaker	Item 3, Mounting Panel
GM81212-MA2	GM75545	GM80973
GM81212-MA5	GM90427	GM90759
GM81212-MA6	GM90422	GM90758
GM81212-MA7	GM90430	GM90760
GM81212-MA9	GM90429	GM90759
GM81212-MA10	GM90754	GM90756
GM81212-MA11	GM90428	GM90759
GM81212-MA12	GM95161	GM90755
GM81212-MA13	GM95162	GM90755
GM81212-MA14	GM90426	GM90759
GM81212-MA15	GM90425	GM90758
GM81212-MA16	GM90421	GM94510
GM81212-MA17	GM90420	GM90971
GM81212-MA18	GM90423	GM90756
GM81212-MA19	GM90419	GM91035
GM81212-MA20	GM90424	GM90757
GM81212-MA26	GM95143	GM90756
GM81212-MA27	GM95142	GM90756

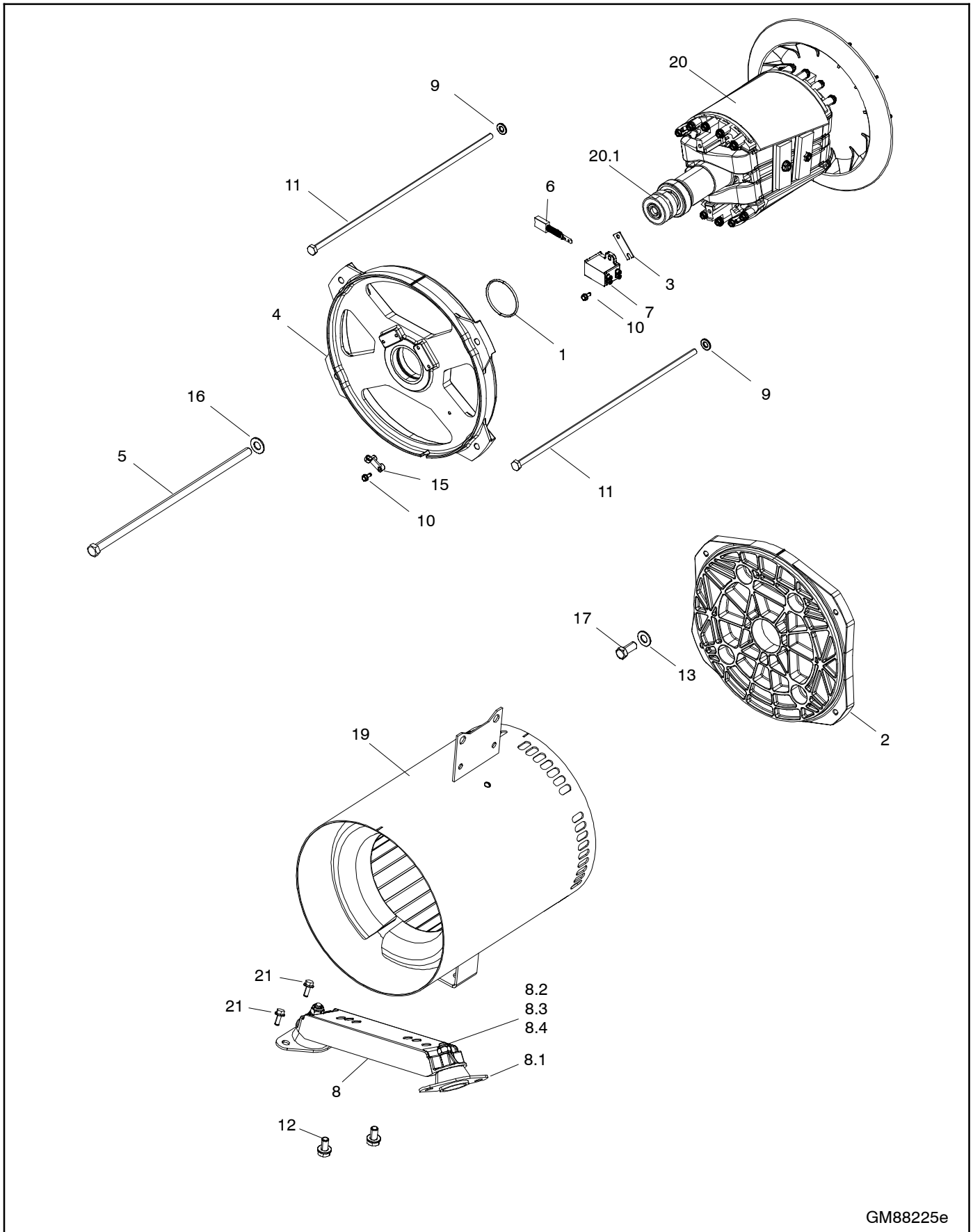
Exhaust



GM84056-GR1, GR2

Item	Part Number	Description	Quantity	
			1	2
1	62 041 14-S	Gasket, Exhaust	2	
1	24 041 49-S	Gasket, Exhaust		2
2	24 605 07-S	Liner, Exhaust Port		2
3	GM78761-1	Screw, Sheetmetal	2	2
4	GM81642	Duct, Exhaust Top	1	1
5	GM84036	Silencer, Exhaust	1	
5	GM84037	Silencer, Exhaust		1
6	GM84044	Cover Assembly	1	
6	GM84045	Cover Assembly		1
7	GM84089	Shield, Heat	1	1
8	M6921-08020-60	Screw, Hex Flange M8 x 20	2	2
9	M6923-08-80	Nut, Hex 8mm	6	6
10	M933-06040-60	Screw, Hex Cap	2	2
11	M982-06-80	Nut, hex elastic stop, 8MM	2	2
12	358224	Plug, Water		1
13	358306	Gasket		1

Alternator



GM88225e

Alternator

GM80979-GR1, GR2, GR3, GR4

Item	Part Number	Description	Quantity			
			Variation			
			1	2	3	4
1	256466	O-Ring (2.050" ID)	1	1	1	1
2	GM60283	Adapter, Alternator	1	1	1	1
3	GM62996	Shim, Brush Holder	1	1	1	1
4	GM66767	Bracket, End	1	1	1	1
5	GM76192	Bolt, Armature Thru	1	1	1	1
6	GM80981	Brush w/spring	2	2	2	2
7	GM80982	Holder, Brush*	1	1	1	1
8	GM87306	Vibromount Assembly (includes 8.1-8.4)	1	1	1	1
8.1	GM75725	Vibromount	2	2	2	2
8.2	M931-10055-60	Screw, hex cap	2	2	2	2
8.3	M125A-10-80	Washer, Plain (EXP) 10.5 ID x 20.0 OD	2	2	2	2
8.4	M982-10-80	Nut, hex elastic stop	2	2	2	2
9	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	4	4	4	4
10	M7500D-04016-83	Screw, Metric Thread Forming 16mm	3	3	3	3
11	M931-08385-60	Screw, Hex Cap (Metric)	4	4	4	4
12	M933-10020-60	Screw, hex cap	2	2	2	2
13	X-25-34	Washer, plain, .469 ID x .922 in. OD	4	4	4	4
14	X-468-1	Cable Tie	2	2	2	2
15	X-468-3	Cable tie, nylon	1	1	1	1
16	X-801-6	Washer, hardened, .469 ID x .922 in. OD	1	1	1	1
17	X-6024-2	Bolt, Hex Cap	4	4	4	4
18	X-6028-4	Grommet, U-Channel (not shown)	1	1	1	1
19	GC81494	Stator Assembly	1			
19	GC81495	Stator Assembly		1		
19	GC81492	Stator Assembly			1	
19	GC81493	Stator Assembly				1
20	GM69562	Rotor Assembly (includes item 20.1)	1	1		
20	GM69561	Rotor Assembly (includes item 20.1)			1	1
20.1	GM53091	Ring, collector	1	1	1	1
21	M6921-06016-60	Screw, Hex Flnge M6x16mm fly thrd js500	4	4	4	4

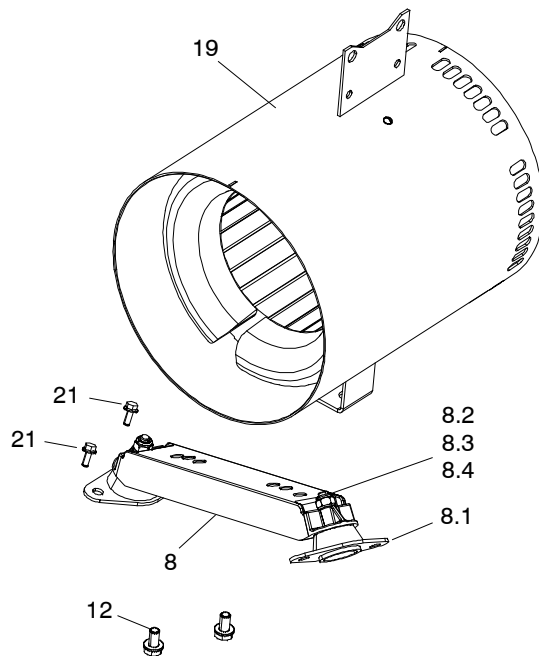
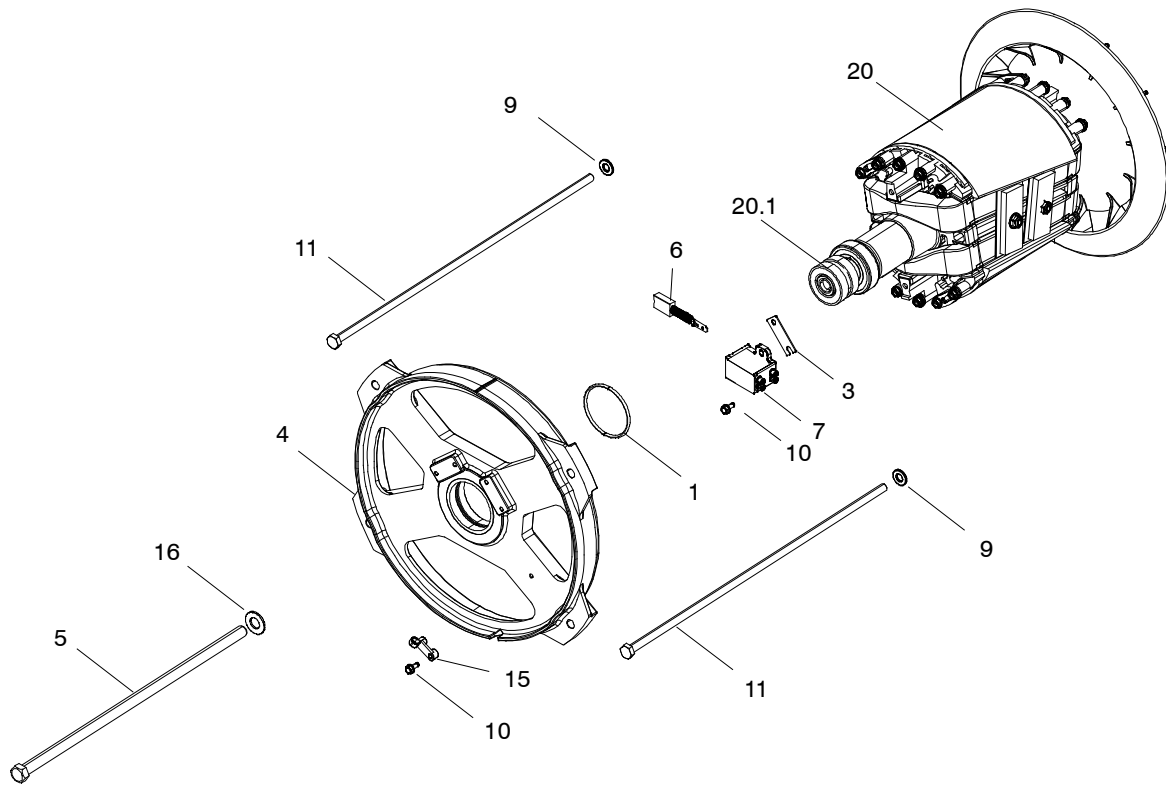
* Brush Holder Service Kit GM82981-S includes items 6 and 7.

GM88225-

Item	Part Number	Description	Quantity	
			Variation	
			MA1	MA2
1	256466	O-Ring (2.050" ID)	1	1
2	GM60283	Adapter, Alternator	1	1
3	GM62996	Shim, Brush Holder	1	1
4	GM66767	Bracket, End	1	1
5	GM76192	Bolt, Armature Thru	1	1
6	GM80981	Brush w/spring	2	2
7	GM80982	Holder, Brush*	1	1
8	GM87306	Vibromount Assembly (includes 8.1-8.4)	1	1
8.1	GM75725	Vibromount	2	2
8.2	M931-10055-60	Screw, hex cap	2	2
8.3	M125A-10-80	Washer, Plain (EXP) 10.5 ID x 20.0 OD	2	2
8.4	M982-10-80	Nut, hex elastic stop	2	2
9	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	4	4
10	M7500D-04016-83	Screw, Metric Thread Forming 16mm	3	3
11	M931-08385-60	Screw, Hex Cap (Metric)	4	4
12	M933-10020-60	Screw, hex cap	2	2
13	X-25-34	Washer, plain, .469 ID x .922 in. OD	4	4
14	X-468-1	Cable Tie	2	2
15	X-468-3	Cable tie, nylon	1	1
16	X-801-6	Washer, hardened, .469 ID x .922 in. OD	1	1
17	X-6024-2	Bolt, Hex Cap	4	4
18	X-6028-4	Grommet, U-Channel (not shown)	1	1
19	GC81494	Stator Assembly, 1 PH	1	
19	GC90179	Stator Assembly, 3 PH		1
20	GM69562	Rotor Assembly (includes item 20.1)	1	
20	GM88216	Rotor Assembly (includes item 20.1)		1
20.1	GM53091	Ring, collector	1	1
21	M6921-06014-60	Screw, Hex Cap Flange	4	4

* Brush Holder Service Kit GM82981-S includes items 6 and 7.

Alternator, continued



GM88221g

Alternator, continued

GM80980-GR1, GR2

Item	Part Number	Description	Quantity	
			Variation	
			5	6
1	256466	O-Ring (2.050" ID)	1	1
3	GM62996	Shim, Brush Holder	1	1
4	GM66767	Bracket, End	1	1
5	GM62982	Bolt, Armature Thru	1	1
6	GM80981	Brush w/spring	2	2
7	GM80982	Holder, Brush*	1	1
8	GM87306	Vibromount Assembly (includes 8.1-8.4)	1	1
8.1	GM75725	Vibromount	2	2
8.2	M931-10055-60	Screw, hex cap	2	2
8.3	M125A-10-80	Washer, Plain (EXP) 10.5 ID x 20.0 OD	2	2
8.4	M982-10-80	Nut, hex elastic stop	2	2
9	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	4	4
10	M7500D-04016-83	Screw, Metric Thread Forming 16mm	3	3
11	M931-08385-60	Screw, Hex Cap (Metric)	4	4
12	M933-10020-60	Screw, hex cap	2	2
14	X-468-1	Cable Tie	2	2
15	X-468-3	Cable tie, nylon	1	1
16	X-801-6	Washer, hardened, .469 ID x .922 in. OD	1	1
19	GC81496	Stator Assembly	1	
19	GC81497	Stator Assembly		1
20	GM69563	Rotor Assembly (includes item 20.1)	1	1
20.1	GM53091	Ring, collector	1	1
21	M6921-06016-60	Screw, Hex Flnge M6x16mm fly thrd js500	4	4

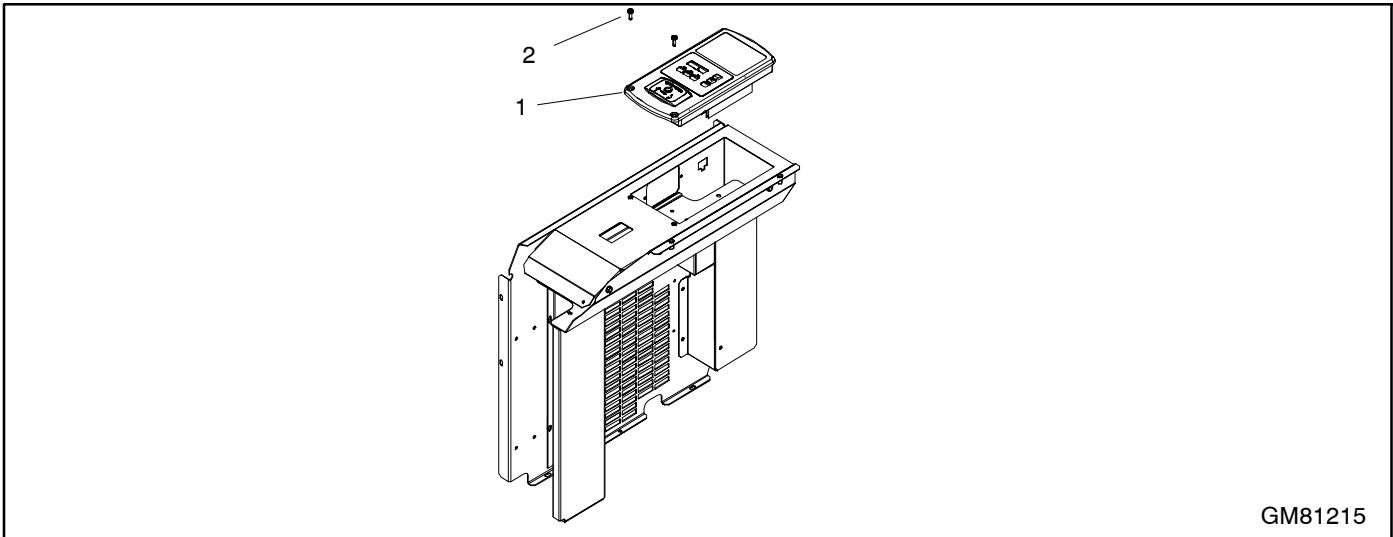
* Brush Holder Service Kit GM82981-S includes items 6 and 7.

GM88221-

Item	Part Number	Description	Quantity		
			Variation		
			MA1	MA2	MA3
1	256466	O-Ring (2.050" ID)	1	1	1
3	GM62996	Shim, Brush Holder	1	1	1
4	GM66767	Bracket, End	1	1	1
5	GM62982	Bolt, Armature Thru	1	1	1
6	GM80981	Brush w/spring	2	2	2
7	GM80982	Holder, Brush*	1	1	1
8	GM87306	Vibromount Assembly (includes 8.1-8.4)	1	1	1
8.1	GM75725	Vibromount	2	2	2
8.2	M931-10055-60	Screw, hex cap	2	2	2
8.3	M125A-10-80	Washer, Plain (EXP) 10.5 ID x 20.0 OD	2	2	2
8.4	M982-10-80	Nut, hex elastic stop	2	2	2
9	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	4	4	4
10	M7500D-04016-83	Screw, Metric Thread Forming 16mm	3	3	3
11	M931-08385-60	Screw, Hex Cap (Metric)	4	4	4
12	M933-10020-60	Screw, hex cap	2	2	2
14	X-468-1	Cable Tie	2	2	2
15	X-468-3	Cable tie, nylon	1	1	1
16	X-801-6	Washer, hardened, .469 ID x .922 in. OD	1	1	1
19	GC90173	Stator Assembly, 1 PH	1		1
19	GC90180	Stator Assembly, 3 PH		1	
20	GM88217	Rotor Assembly (includes item 20.1)	1	1	1
20.1	GM53091	Ring, collector	1	1	1
21	M6921-06014-60	Screw, Hex Cap Flange	4	4	4

* Brush Holder Service Kit GM82981-S includes items 6 and 7.

Controller

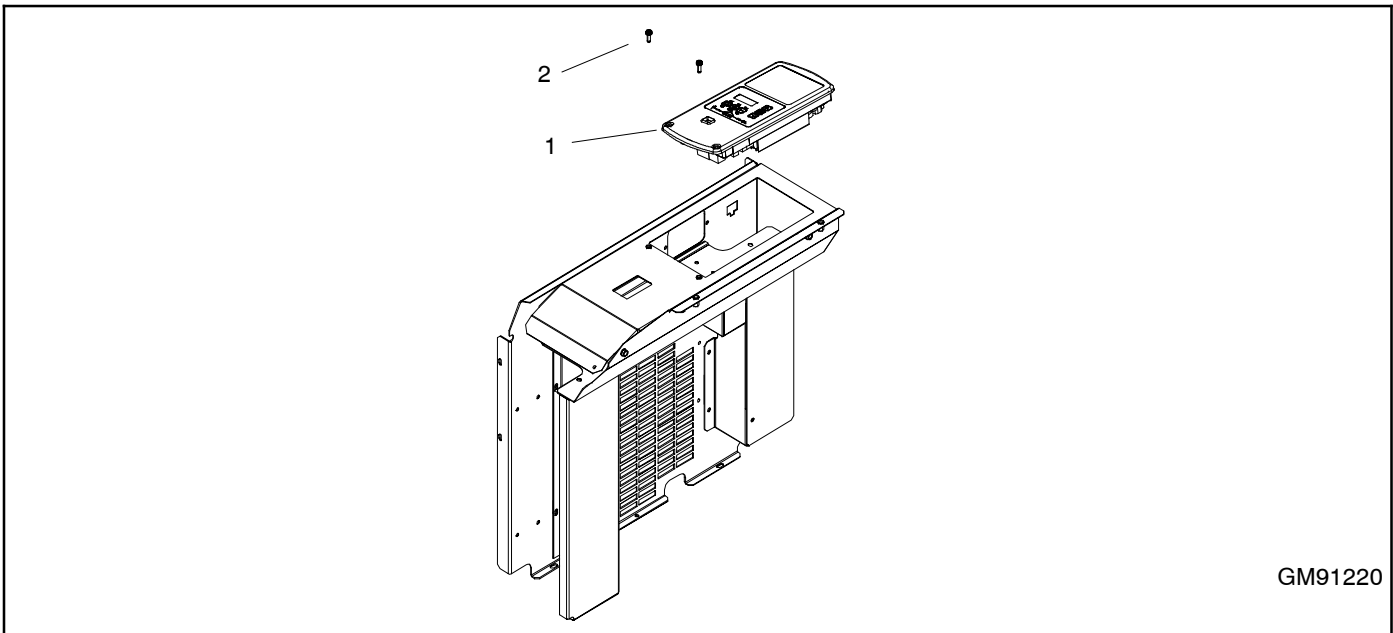


GM81215

GM81215-GR1, GR2

Item	Part Number	Description	Quantity	
			Variation	
			1	2
1	GM84962	Service Controller RDC2 (ref. GM77569-1, green board)	1	
1	GM84963	Service Controller DC2 (ref. GM77569-2, green board)		1
2	M7985A-05016-20	Screw, Pan Head Machine	2	2

If a green board controller is being replaced with a later version (red or blue board) controller on model 14/20RESA/L, relay kit GM95104 is required.

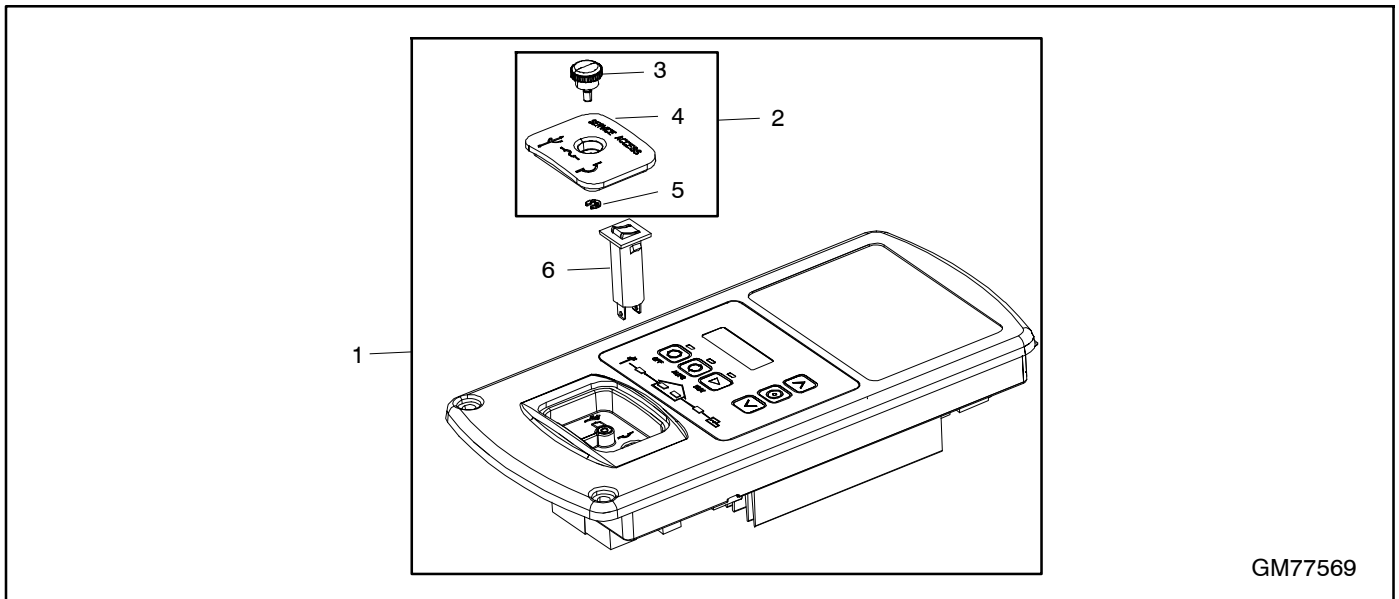


GM91220

GM91220-GR1, GR2

Item	Part Number	Description	Quantity	
			Variation	
			3	4
1	GM92089	Controller RDC2 (ref. red or blue boards)	1	
1	GM92090	Controller DC2 (ref. red or blue boards)		1
2	M7985A-05016-20	Screw, Pan Head Machine	2	2

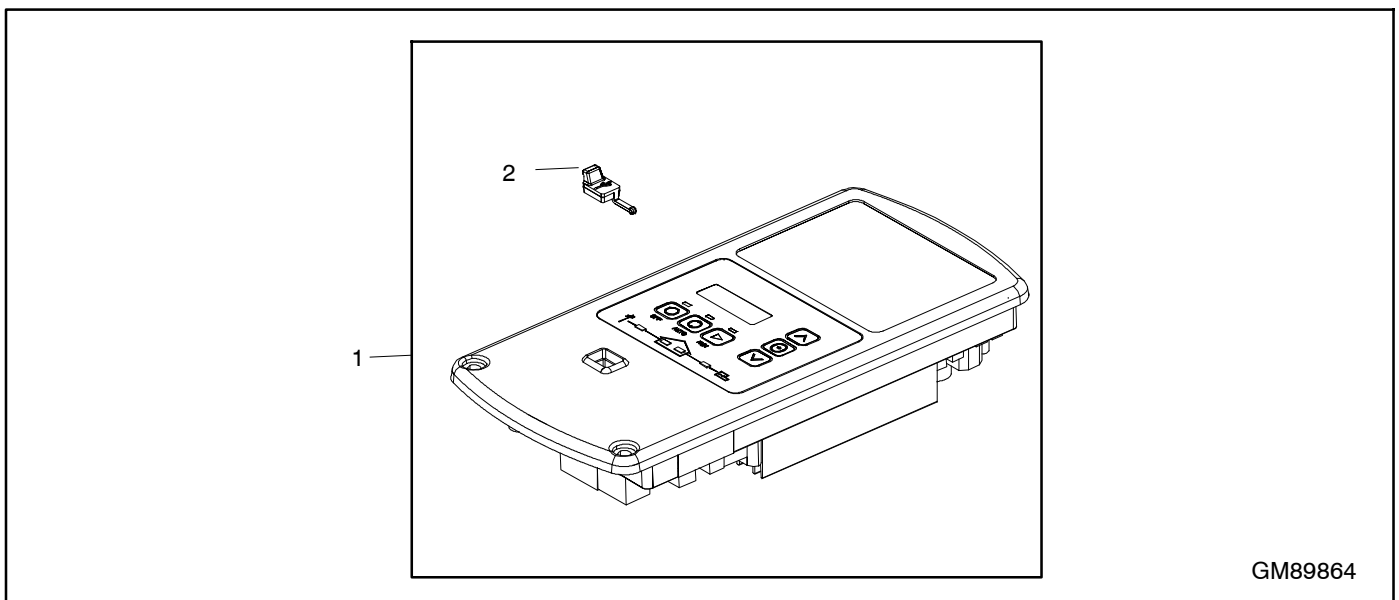
Controller



GM77569

GM81215-GR1, GR2

Item	Part Number	Description	Quantity	
			Variation	
			1	2
1	GM84962	Service Controller RDC2 (ref. GM77569-1)	1	
1	GM84963	Service Controller DC2 (ref. GM77569-2)		1
	GM71174	Fuse Cover Assy	1	1
3	GM63652	Screw, Thumb	1	1
4	GM62862	Cover, Fuse	1	1
5	X-269-51	Ring, Retaining	1	1
6	GM63134	Breaker, Circuit (20A.)	1	1

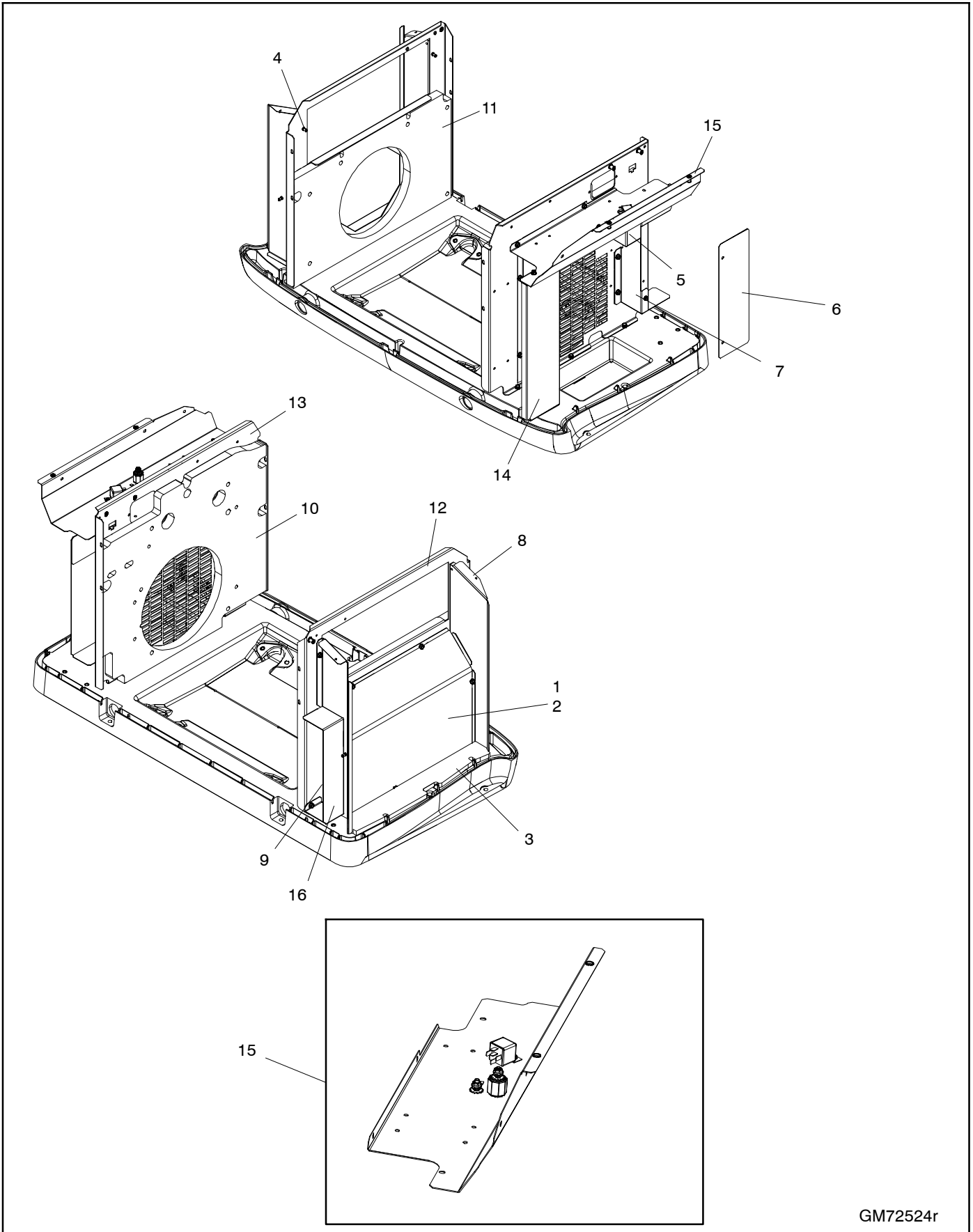


GM89864

GM91220-GR1, GR2

Item	Part Number	Description	Quantity	
			Variation	
			3	4
1	GM92089	Controller RDC2 (ref. GM89864-1)	1	
1	GM92090	Controller DC2 (ref. GM89864-2)		1
2	GM89865	Plug, USB	1	1

Bulkhead



GM72524r

Bulkhead

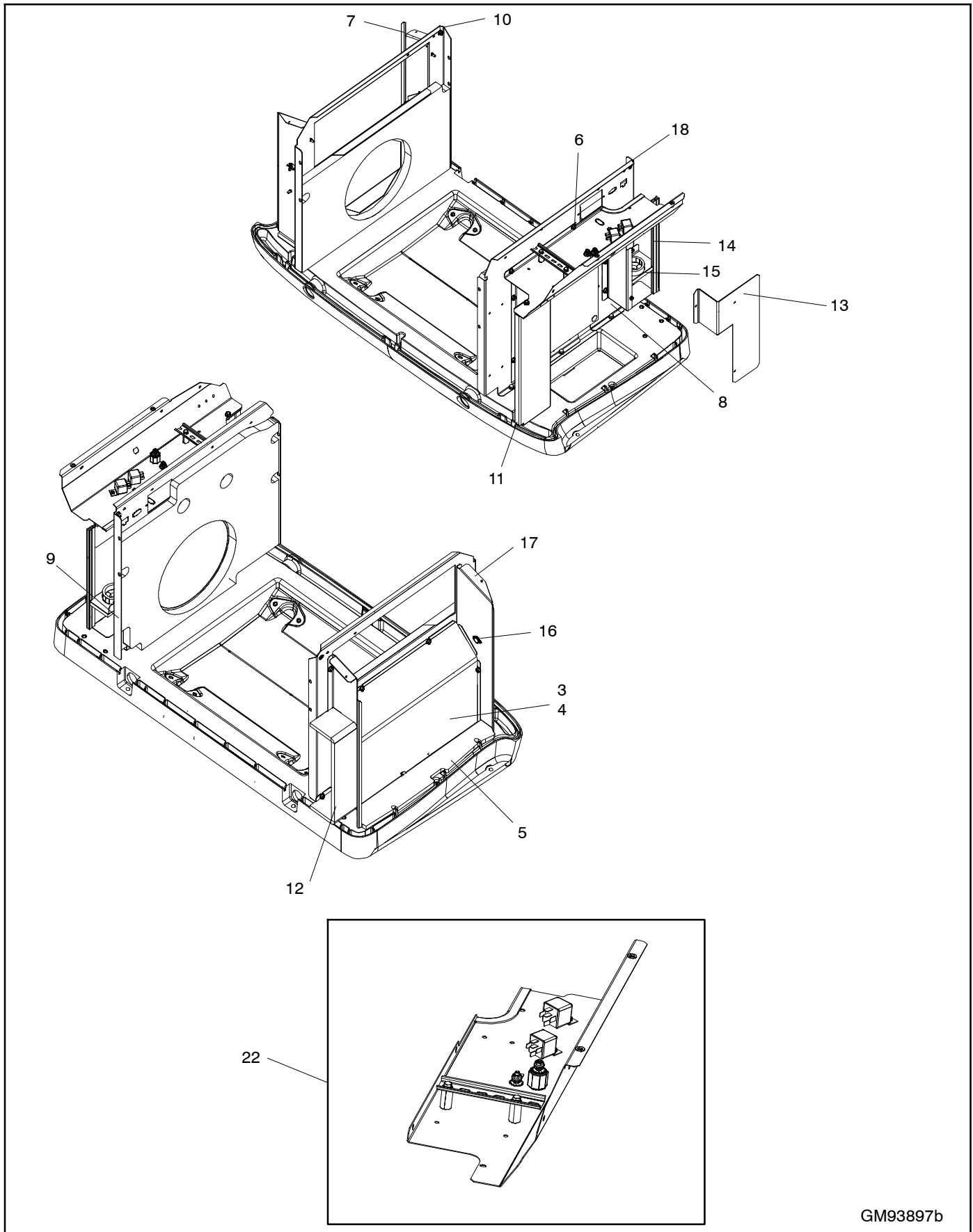
GM72524-GR2, -GR3

Item	Part Number	Description	Quantity	
			2	3
1	GM74978	Duct, Alt. Air Inlet	1	1
2	GM75415	Insulation, Exhaust Duct	1	1
3	GM75867	Insulation, Exhaust Duct	1	1
4	GM78761-1	Screw, Sheetmetal	17	17
5	GM80094	Cover, Low Voltage Connection	1	1
6	GM80095	Cover, High Voltage Connection	1	1
7	GM80096	Box, High Voltage Connection	1	1
8	GM81253	Duct, Exhaust (RH)	1	1
9	GM81254	Duct, Exhaust (LH)	1	1
10	GM84046-1	Insulation, Bulkhead	1	1
11	GM84046-2	Insulation, Bulkhead	1	1
12	GM84047	Bulkhead, Rear	1	1
13	GM84048	Bulkhead, Front	1	1
14	GM84049	Duct, Front Bulkhead (RH)	1	1
15	GM84140	Trough Subassembly	1	
15	GM84860	Trough Subassembly		1
16	GM84710	Insulation, Alternator Duct	1	1

GM72524-MA1, MA2, MA4

Item	Part Number	Description	Quantity		
			MA1	MA2	MA4
1	GM74978	Duct, Alt. Air Inlet	1	1	1
2	GM75415	Insulation, Exhaust Duct	1	1	1
3	GM75867	Insulation, Exhaust Duct	1	1	1
4	GM78761-1	Screw, Sheetmetal	17	17	17
5	GM80094	Cover, Low Voltage Connection	1	1	1
6	GM80095	Cover, High Voltage Connection	1	1	1
7	GM80096	Box, High Voltage Connection	1	1	1
8	GM81253	Duct, Exhaust (RH)	1	1	1
9	GM81254	Duct, Exhaust (LH)	1	1	1
10	GM84046-1	Insulation, Bulkhead	1	1	1
11	GM84046-2	Insulation, Bulkhead	1	1	1
12	GM84047	Bulkhead, Rear	1	1	1
13	GM84048	Bulkhead, Front	1	1	1
14	GM84049	Duct, Front Bulkhead (RH)	1	1	1
15	GM93315	Trough Subassembly	1		
15	GM93316	Trough Subassembly		1	
15	GM95417	Trough Subassembly			1
16	GM84710	Insulation, Alternator Duct	1	1	1

Bulkhead, continued



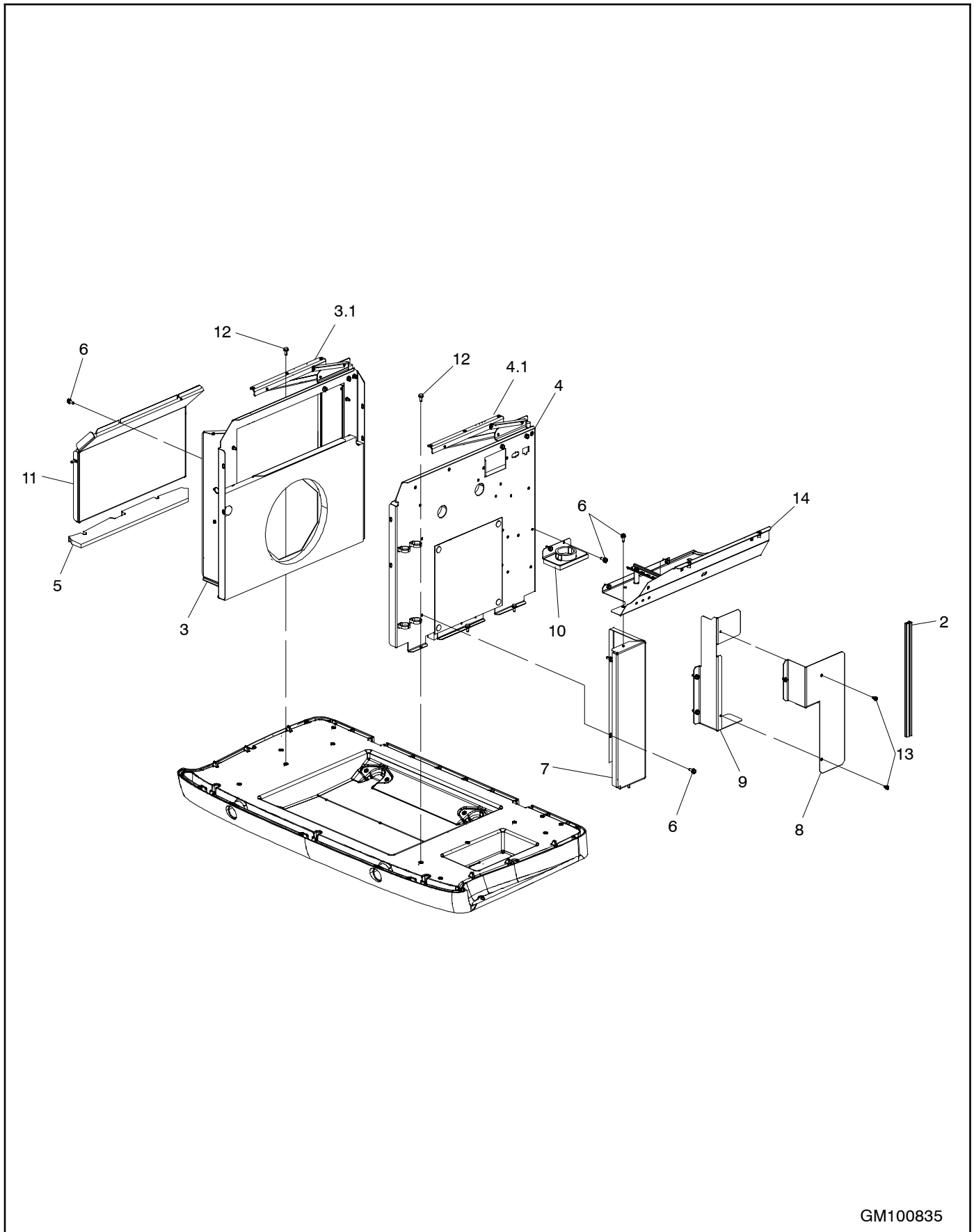
GM93897b

Bulkhead, continued

GM93897-MA1, MA2, MA3

Item	Part Number	Description	Quantity		
			MA1	MA2	MA3
3	GM74978	Duct, Alt. Air Inlet	1	1	1
4	GM75415	Insulation, Exhaust Duct	1	1	1
5	GM75867	Insulation, Exhaust Duct	1	1	1
6	GM78761-1	Screw, Sheetmetal	19	19	19
7	GM81254	Duct, Exhaust (LH)	1	1	1
8	GM84046-1	Insulation, Bulkhead	1	1	1
9	GM84046-2	Insulation, Bulkhead	1	1	1
10	GM84047	Bulkhead, Rear	1	1	1
11	GM84049	Duct, Front Bulkhead (RH)	1	1	1
12	GM84710	Insulation, Alternator Duct	1	1	1
13	GM95456	Cover, Low Voltage Connection	1	1	1
14	GM95457	Box, High Voltage Connection	1	1	1
15	GM95508	Panel Subassy, Protection	1	1	1
16	GM96297	Thermostat, 350 deg. F	1	1	1
17	GM96344	Duct, Exhaust (RH)	1	1	1
18	GM96798	Panel, Subassy Bulkhead	1	1	1
22	GM95510-1	Trough Subassembly	1		
22	GM95510-2	Trough Subassembly		1	
22	GM95510-3	Trough Subassembly			1

Bulkhead, continued



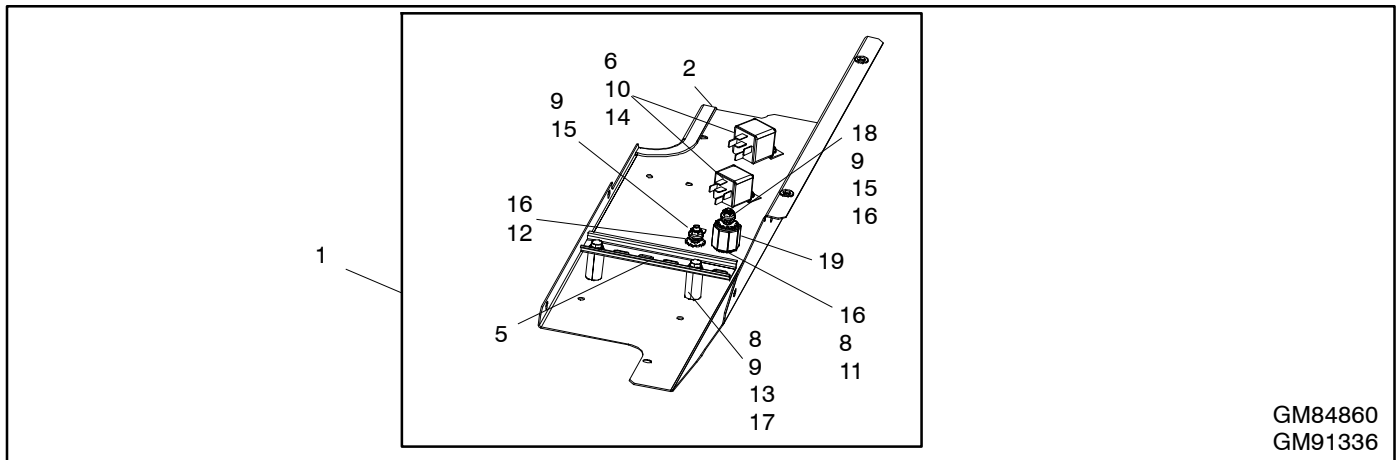
GM100835

Bulkhead, continued

GM100835-MA1, MA2, MA3

Item	Part Number	Description	Quantity		
			MA1	MA2	MA3
2	GM95511	Seal, Push-On Trim	1	1	1
3	GM100832	Rear Bulkhead, Sub-Assembly	1	1	1
3.1	GM100831	Hinge, Composite Enclosure	1	1	1
4	GM100833	Front Bulkhead, Sub-Assembly	1	1	1
4.1	GM100831	Hinge, Composite Enclosure	1	1	1
5	GM75867	Insulation, Exhaust Duct	1	1	1
6	GM78761-1	Screw, Sheetmetal	13	13	13
7	GM84049	Duct, Front Bulkhead (RH)	1	1	1
8	GM95456	Cover, Low Voltage Connection	1	1	1
9	GM95457	Box, High Voltage Connection	1	1	1
10	GM95508	Panel Subassy, Protection	1	1	1
11	GM98935	Air Inlet Duct, Sub-Assembly	1	1	1
12	M6921-06014-60	Screw, Hex Cap Flange	8	8	8
13	X-6216-1	Screw, PHillips Hex Crimptite	3	3	3
14	GM95510-1	Trough Subassembly	1		
14	GM95510-2	Trough Subassembly		1	
14	GM95510-3	Trough Subassembly			1

Bulkhead, continued

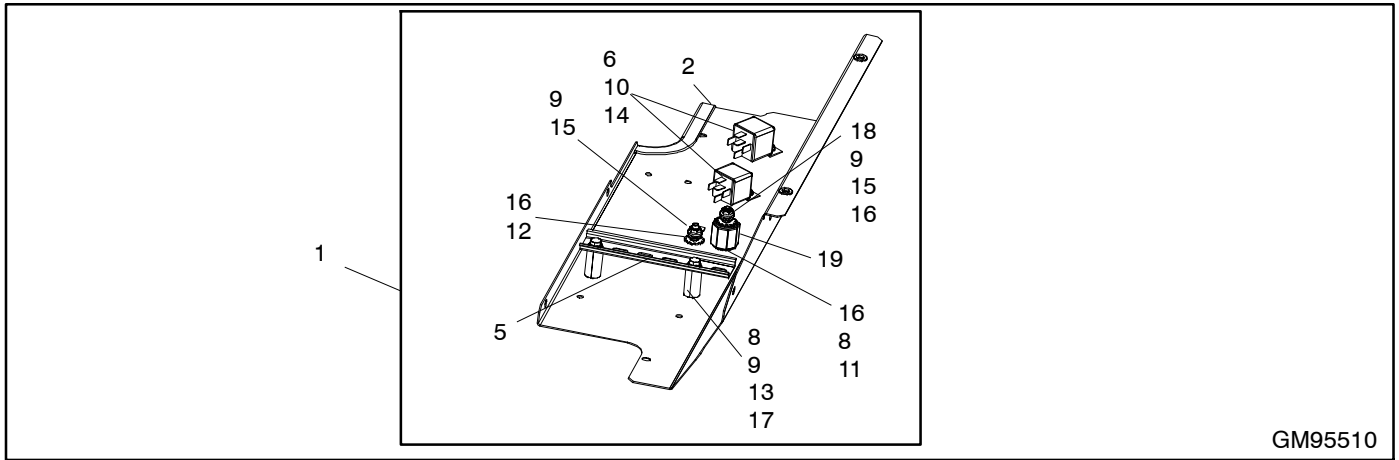


GM84860
GM91336

GM84140, GM84860

Item	Part Number	Description	Quantity				
			GM84140	GM84860	GM93315	GM93316	GM95417
1	GM84140	Trough Subassembly	1				
1	GM84860	Trough Subassembly		1			
1	GM93315	Trough Subassembly			1		
1	GM93316	Trough Subassembly				1	
1	GM95417	Trough Subassembly					1
2	X-6047-55	Channel U	1	1	1	1	1
5	GM89998	Rail, DIN		1		1	1
6	GM49746	Relay, 12 VDC	1	1	2	2	2
8	M125A-06-80	Washer, Plain	3	1	1	3	3
9	M6923-06-83	Nut, Hex 6mm	4	2	2	4	4
10	M7985A-05012-20	Screw, pan head mach.	1	1	2	2	2
11	M933-06010-60	Screw, hex cap	1	1	1	1	1
12	M933-06020-60	Screw, hex cap	1	1	1	1	1
13	M933-06050-60	Screw, hex cap, M6x50mm full thrd	2			2	2
14	M982-05-60	Nut, hex elastic stop, 5mm	1	1	2	2	2
15	X-22-11	Washer, lock, .262 ID x .469 OD	2	2	2	2	2
16	X-22-12	Washer, lock, .262 ID x .743 in. OD	4	4	4	4	4
17	X-400-218	Spacer, .406 ID x .625 OD x 1.23 in.	2			2	
17	X-400-260	Spacer					2
18	X-6054-23	Stud (Metric)	1	1	1	1	1
19	X-6128-35	Insulator, Standoff	1	1	1	1	1

Bulkhead, continued

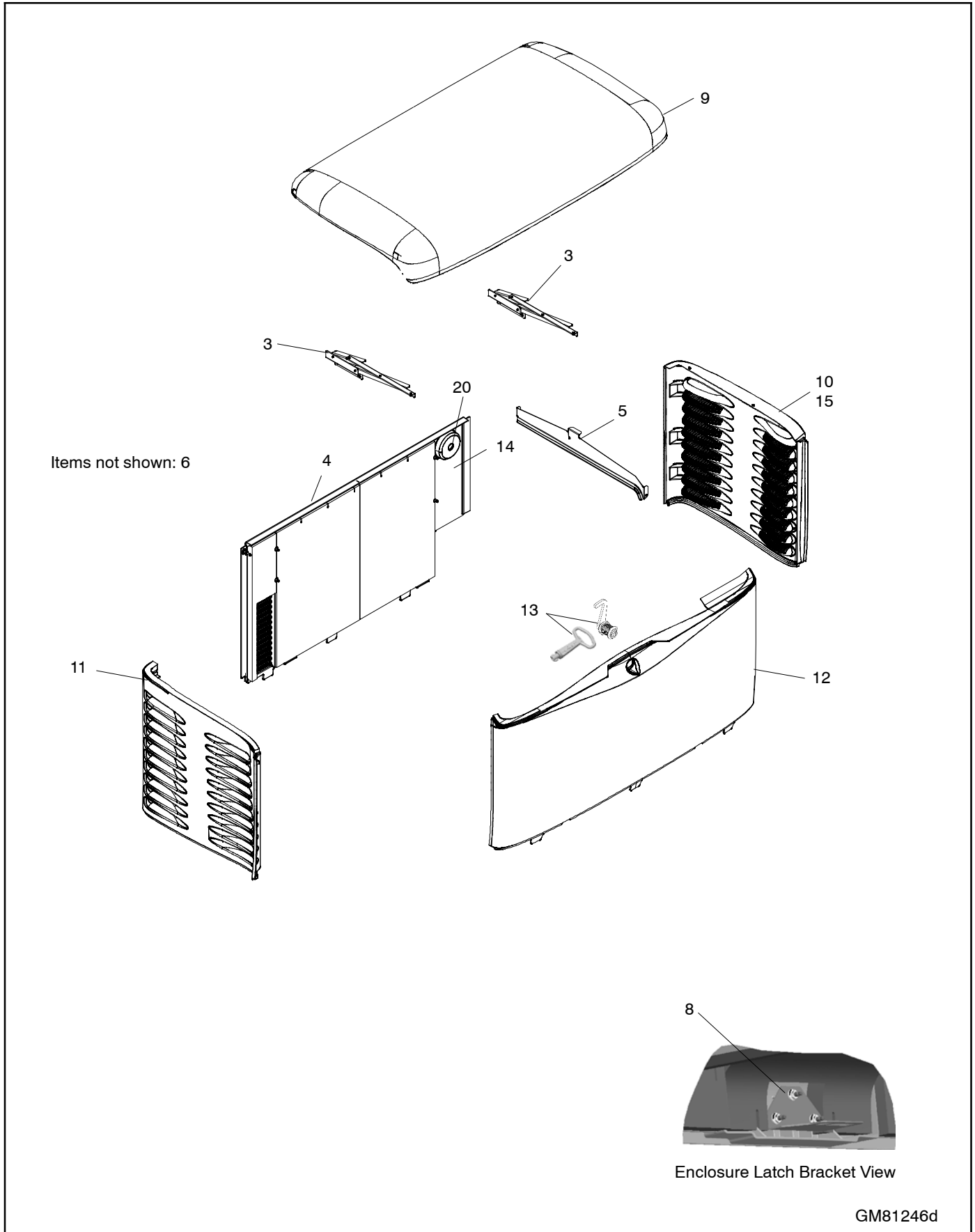


GM95510

GM95510

Item	Part Number	Description	Quantity		
			GM95510-1	GM95510-2	GM95510-3
1	GM95510-1	Trough Subassembly	1		
1	GM95510-2	Trough Subassembly		1	
1	GM95510-3	Trough Subassembly			1
2	X-6047-55	Channel U	1	1	1
5	GM89998	Rail, DIN		1	1
6	GM49746	Relay, 12 VDC	2	2	2
8	M125A-06-80	Washer, Plain	1	3	3
9	M6923-06-83	Nut, Hex 6mm	2	4	4
10	M7985A-05012-20	Screw, pan head mach.	2	2	2
11	M933-06010-60	Screw, hex cap	1	1	1
12	M933-06020-60	Screw, hex cap	1	1	1
13	M933-06050-60	Screw, hex cap, M6x50mm, js500 full thrd		2	2
14	M982-05-60	Nut, hex elastic stop, 5mm	2	2	2
15	X-22-11	Washer, lock, .262 ID x .469 OD	2	2	2
16	X-22-12	Washer, lock, .262 ID x .743 in. OD	4	4	4
17	X-400-218	Spacer, .406 ID x .625 OD x 1.23 in.		2	
17	X-400-260	Spacer			2
18	X-6054-23	Stud (Metric)	1	1	1
19	X-6128-35	Insulator, Standoff	1	1	1

Enclosure

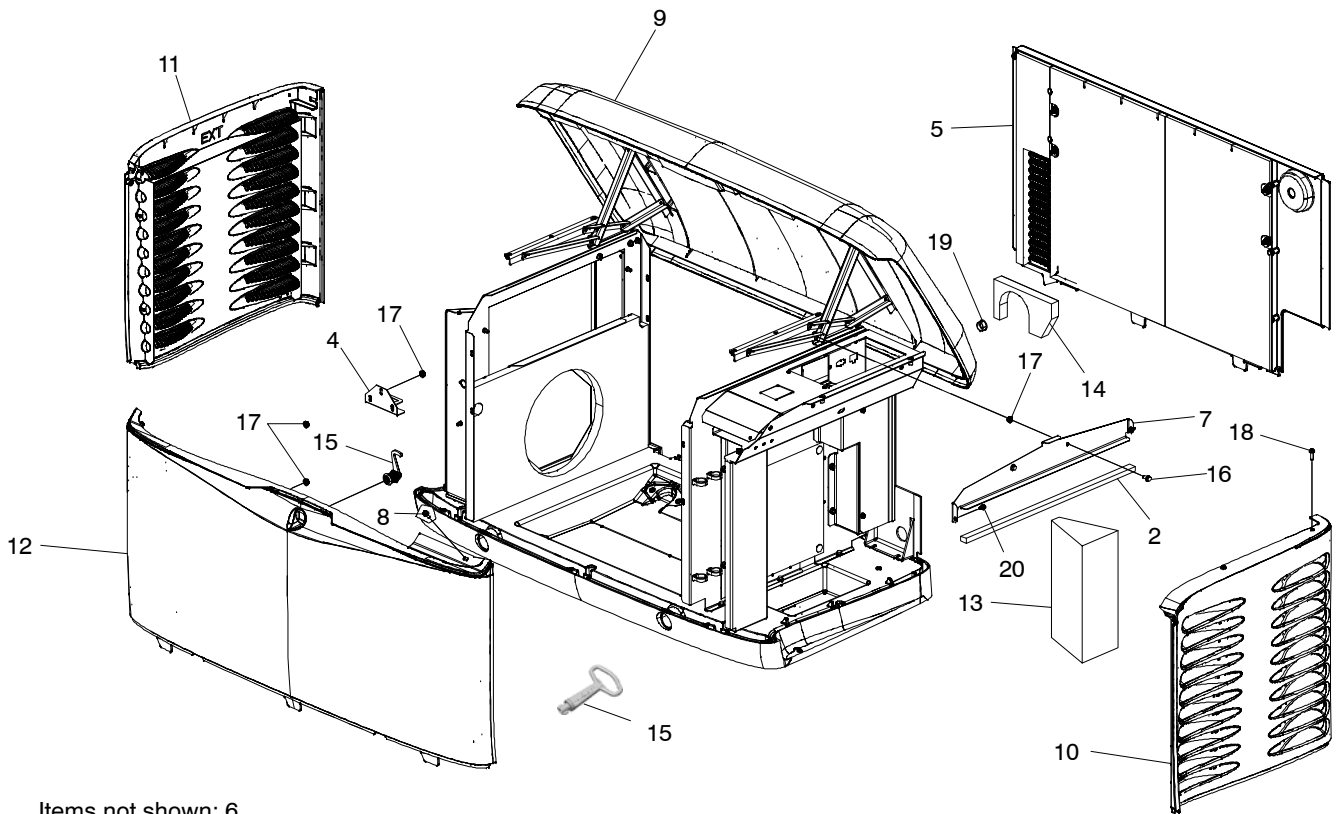


Enclosure

GM81246-GR1
GM81246-MA1

Item	Part Number	Description	Quantity
			Variation
			1
3	GM62980	Hinge	2
4	GM66987-S	Panel Assy., Rear	1
4	GM71330-S	Rear Panel Foam Kit (not shown)	1
5	GM75527	Bracket, Front Bulkhead (Upper)	1
6	GM75735	Plug, button (not shown)	4
7	GM78761-1	Screw, Sheetmetal	5
8	GM84871	Roof Bracket Assy	1
9	GM81234-S	Panel Assy., Top (includes item 5)	1
9	GM81239	Roof Panel Foam Kit (not shown)	1
10	GM81242-S	Panel Assy., Intake (includes item 15)	1
11	GM81243	Panel Assy., Exhaust	1
12	GM81244-S2	Panel Assy., Front	1
12	GM71328-S	Front Panel Foam Kit (not shown)	1
13	GM93995	Latch Assembly (includes tool)	1
13	GM82922	Tool, Latch Opening	1
14	GM84046-3	Insulation, Acoustic Foam	1
15	GM83931	Wedge, Acoustic	1
20	X-301-29	Plug, Button	1

Enclosure, continued



Items not shown: 6

GM100837

Enclosure, continued

GM100837-MA1

Item	Part Number	Description	Quantity
			Variation
2	19000 08075	Foam, gasket seal (3/4" tape) (1.88 ft)	1
4	GM100836	Roof Bracket Assy	1
5	GM66987-S	Panel Assy., Rear	1
5	GM71330-S	Rear Panel Foam Kit (not shown)	1
6	GM71332	Seal, Bulb (not shown)	1
7	GM75527	Bracket, Front Bulkhead (Upper)	1
8	GM78761-1	Screw, Sheetmetal	1
9	GM81234-S	Panel Assy., Top (includes item 7)	1
9	GM81239	Roof Panel Foam Kit (not shown)	1
10	GM81242-S	Panel Assy., Intake	1
11	GM81243	Panel Assy., Exhaust	1
12	GM81244-S2	Panel Assy., Front	1
12	GM71328-S	Front Panel Foam Kit (not shown)	1
13	GM83931	Wedge, Acoustic	1
14	GM84046-3	Insulation, Acoustic Foam	1
15	GM93995	Latch Assembly (includes tool)	1
15	GM82922	Tool, Latch Opening	1
16	M6921-06014-60	Screw, Hex Cap Flange	4
17	M6923-06-83	Nut, Hex	19
18	M7985A-06020-20	Screw, Pan Head Machine	2
19	X-301-29	Plug, Button	1
20	X-6216-1	Screw, PHillips Hex Crimptite	2

Literature

Item	Part Number	Description	Quantity							
			Variation							
			62	63	64	65	68	69	70	71
1	62 690 01	CH940-980 Kohler Engine Service Manual			1	1		1	1	
1	24 690 06	SM, CH18-CH750 COMMAND TWIN	1	1			1			1
2	TP-6766	Warranty, Residential/Light Commercial	1	1			1			1
2	TP-6884	Warranty, CARB/EPA Emissions, SORE	1	1			1			1
2	TP-6885	Warranty, CARB/EPA Emissions, LSI			1	1		1	1	
3	TP-6479	Warranty, 5-Yr. Standby	1	1	1	1	1	1	1	1
4	TP-6803	I/M 14/20RESA/RESAL	1	1	1	1	1	1	1	1
5	TP-6804	O/M 14/20RESA/RESAL	1	1	1	1	1	1	1	1
6	TP-6805	S/M 14/20RESA/RESAL	1	1	1	1	1	1	1	1
7	TP-6806	P/C 14/20RESA/RESAL	1	1	1	1	1	1	1	1

Item	Part Number	Description	Quantity			
			Variation			
			81	82	86	87
1	62 690 01	CH940-980 Kohler Engine Service Manual	1	1		
1	24 690 06	SM, CH18-CH750 COMMAND TWIN			1	1
2	TP-6766	Warranty, Residential/Light Commercial			1	1
2	TP-6884	Warranty, CARB/EPA Emissions, SORE			1	1
2	TP-6885	Warranty, CARB/EPA Emissions, LSI	1	1		
3	TP-6479	Warranty, 5-Yr. Standby	1	1	1	1
4	TP-6803	I/M 14/20RESA/RESAL	1	1	1	1
5	TP-6804	O/M 14/20RESA/RESAL	1	1	1	1
6	TP-6805	S/M 14/20RESA/RESAL	1	1	1	1
7	TP-6806	P/C 14/20RESA/RESAL	1	1	1	1

Kit Parts List

Qty.	Description	Part No.
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Fuel System Kit

Flexible Fuel Line		GM31054-KA1
1	Fuel line, flexible, 0.50 in. ID x 12 in.	X-504-1

Flexible Fuel Line		GM95496-KA1
1	Line, Flex Fuel	GM95497

Regulator Heater Kit		GM79141-KP1-QS
2	Spacer, .281 X .500 X .375 Steel	265861
1	Heater, Regulator Pad	GM79142
1	Splitter, Receptacle	GM84773
1	Bushing	X-634-28
1	TT Regulator Heater Kit, 20RES/RESL	TT-1569

Regulator Heater Kit, 240V, 100W		GM79141-KP2-QS
2	Spacer, .281 X .500 X .375 Steel	265861
1	Harness, Adapter	GM88995
1	Heater, Regulator Pad	GM89838
2	Nut, Hex 6mm	M6923-06-80
2	Screw, hex cap	M933-06040-60
1	Regulator Heater Kit, 20RES(A)/RESL(A)	TT-1569
2	Cable Tie	X-468-2
1	Bushing	X-634-28

Regulator Heater Kit, 240V, 100W		GM79141-KP3-QS
2	Spacer, .281 X .500 X .375 Steel	265861
1	Heater, Regulator Pad	GM79142
1	Bushing	X-634-28
1	TT Regulator Heater Kit, 20RES/RESL	TT-1569

Electrical System Kits

Battery, 1/12V, 500CCA, Wet		GM75513-KP1
1	Battery (Wet)	GM75512

Battery Heater, 80W, 110-120V		PA-352359
1	Heater, battery wrap	336814
1	Heater, battery pad	336826

Battery Heater, 80W, 110-120V		GM89021-KP1
1	Heater, battery wrap	336814
1	Heater, battery pad	336826

Kit, Battery Heater, 50W, 110-120V		GM92406-KP1-QS
1	Battery Heater, 50W, 120V	GM92403
1	TT Battery Heater Wrap, Res/Comm	TT-1634
1	Bushing	X-634-28

Kit, Batter Heater, 50W, 230-240V		GM92406-KP2-QS
1	Harness, Adapter	GM88996
1	Battery Heater, 50W, 240V	GM92404
1	TT Battery Heater Wrap, Res/Comm	TT-1634

Breaker, Kit APM-14RESA		GM86368-KP1-QS
2	Breaker, Circuit	GM28743
1	BRACKET, CIRCUIT BREAKER	GM85151
4	Lead	LN-0607-0606
1	TT Automatic Paralleling Module Kit, Res	TT-1596
8	Spacer, .209 ID x .375 OD x .234 in.	X-400-145
8	Screw, Tapping	X-67-132

Breaker, Kit APM-20RESA		GM86369-KP1-QS
2	Breaker, Circuit	GM77390
1	BRACKET, CIRCUIT BREAKER	GM85151
4	Lead	LN-0407-0606
1	TT Automatic Paralleling Module Kit, Res	TT-1596
4	Screw, Tapping	X-67-132

Emergency Stop		GM90095-KP1-QS
1	Decal, Emergency Stop	GB31311173101
1	Harness, Assembly E-Stop	GM90094

Qty.	Description	Part No.
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Load Control Module, w/ Harness

GM77177-KP1-QS		
1	Load Control Module Assy, w/ Harness	GM77177-1
1	Decal, CSA	297721
1	Decal, equipment grd (NRP)	344295
2	Insert, threaded, #10-24	346258
1	Dimension Print, Load Control Module	ADV-8198
4	Gasket	GM20990
2	Label, Blank	GM24703
1	Decal, 120VAC Only	GM75393
1	Plate, Mounting	GM77176
4	Relay	GM77178
1	Cover w/ Decals, Load Shed	GM77191
1	Enclosure, Load Shed	GM79445
1	Harness, Load Control	GM80092
1	Harness, Relay Control	GM80673
1	Indicator, Load Status	GM80879
1	Decal, Wiring Diagram	GM80950
2	Decal, Warning	GM81264
1	PCB Assy, RDC2 Load Control	GM81372-1
1	Transformer, Current	GM83929
1	Decal, LCM - w/ whip	GM84656-1
1	TT Load Control Module, Res/Comm	TT-1574
1	Terminal block	X-405-2
3	Washer	X-6086-23
3	Lug, terminal, aluminum	X-6207-3

Load Control Module, w/ Terminal Blocks

GM77177-KP2-QS		
1	Load Control Module Assy, w/ Term.	GM77177-2
1	Decal, equipment grd (NRP)	344295
2	Insert, threaded, #10-24	346258
1	Dimension Print, Load Control Module	ADV-8198
4	Gasket	GM20990
1	Decal, Nameplate	GM21291
2	Label, Blank	GM24703
1	Decal, 120VAC Only	GM75393
1	Plate, Mounting	GM77176
4	Relay	GM77178
1	Cover w/ Decals, Load Shed	GM77191
1	Enclosure, Load Shed	GM79445
1	Harness, Relay Control	GM80673
8	Harness, Terminal Block	GM80674
4	Block, Terminal	GM80862
1	Indicator, Load Status	GM80879
1	Marker, Strip	GM80949
1	Decal, Wiring Diagram	GM80950
2	Decal, Warning	GM81264
1	PCB Assy, RDC2 Load Control	GM81372-1
1	Diagram, Wiring Load Control	GM81374
1	Diagram, Schematic Load Control	GM81638
1	Transformer, Current	GM83929
1	TT Load Control Module, Res/Comm	TT-1574
1	Terminal block	X-405-2
3	Washer	X-6086-23
3	Lug, terminal, aluminum	X-6207-3

Kit Parts List, continued

Qty.	Description	Part No.
Load Control Module, w/ Harness, CSA GM77177-KP3-QS		
1	Load Control Module Assy, w/ Harness	GM77177-1
1	Decal, CSA	297721
1	Decal, equipment grd (NRP)	344295
2	Insert, threaded, #10-24	346258
1	Dimension Print, Load Control Module	ADV-8198
4	Gasket	GM20990
2	Label, Blank	GM24703
1	Decal, 120VAC Only	GM75393
1	Plate, Mounting	GM77176
4	Relay	GM77178
1	Cover w/ Decals, Load Shed	GM77191
1	Enclosure, Load Shed	GM79445
1	Harness, Load Control	GM80092
1	Harness, Relay Control	GM80673
1	Indicator, Load Status	GM80879
1	Decal, Wiring Diagram	GM80950
2	Decal, Warning	GM81264
1	PCB Assy, RDC2 Load Control	GM81372-1
1	Transformer, Current	GM83929
1	Decal, LCM - w/ whip	GM84656-1
1	TT Load Control Module, Res/Comm	TT-1574
1	Terminal block	X-405-2
3	Washer	X-6086-23
3	Lug, terminal, aluminum	X-6207-3
Load Control Module, w/ Terminal Blocks, CSA GM77177-KP4-QS		
1	Load Control Module Assy, w/ Term.	GM77177-2
1	Decal, CSA	297721
1	Decal, equipment grd (NRP)	344295
2	Insert, threaded, #10-24	346258
1	Dimension Print, Load Control Module	ADV-8198
4	Gasket	GM20990
1	Decal, Nameplate	GM21291
2	Label, Blank	GM24703
1	Decal, 120VAC Only	GM75393
1	Plate, Mounting	GM77176
4	Relay	GM77178
1	Cover w/ Decals, Load Shed	GM77191
1	Enclosure, Load Shed	GM79445
1	Harness, Relay Control	GM80673
8	Harness, Terminal Block	GM80674
4	Block, Terminal	GM80862
1	Indicator, Load Status	GM80879
1	Marker, Strip	GM80949
1	Decal, Wiring Diagram	GM80950
2	Decal, Warning	GM81264
1	PCB Assy, RDC2 Load Control	GM81372-1
1	Diagram, Wiring Load Control	GM81374
1	Diagram, Schematic Load Control	GM81638
1	Transformer, Current	GM83929
1	TT Load Control Module, Res/Comm	TT-1574
1	Terminal block	X-405-2
3	Washer	X-6086-23
3	Lug, terminal, aluminum	X-6207-3
Programmable Interface Module (PIM) GM81529-KP1-QS		
1	Dimension Print, Programable Intf Module	ADV-8199
1	Diagram, Wiring PIM	GM84085
1	Diagram, Schematic PIM	GM84086
1	Programmable Interface Module (PIM)	TT-1584
1	PIM, Assy NEMA 3R	GM81529-1
2	Gasket	GM20990
1	Decal, Nameplate	GM21291
1	PCB Assy, RDC2 Programmable Int.	GM81372-2
1	Enclosure, PIM	GM81527
1	Silkscreen, Cover	GM82189
1	Decal, Torque	GM82855

Qty.	Description	Part No.
Programmable Interface Mod. (PIM),CSA GM81529-KP2-QS		
1	Dimension Print, Programable Intf Module	ADV-8199
1	Diagram, Wiring PIM	GM84085
1	Diagram, Schematic PIM	GM84086
1	Programmable Interface Module (PIM)	TT-1584
1	PIM, Assy NEMA 3R	GM81529-1
2	Gasket	GM20990
1	Decal, Nameplate	GM21291
1	PCB Assy, RDC2 Programmable Int.	GM81372-2
1	Enclosure, PIM	GM81527
1	Silkscreen, Cover	GM82189
1	Decal, Torque	GM82855
Automatic Paralleling Module, 200A GM85144-KP1-QS		
2	APM, OnCue, RDC2/DC2/VSC	GM81385-1
1	AUTOMATIC PARALLELING MODULE, 200A N3R	GM85144-1
2	TRANSFORMER, CURRENT ASSY	GM86609
2	Harness, Adapter	GM86610
1	Software, RDC2 Paralleling	GM87436
1	TT Automatic Paralleling Module Kit, Res	TT-1596
Miscellaneous Kits		
Carburetor Heater 120 V GM19462-KP1-QS		
1	Heater, Inlet 37W 120V	GM19463
1	Tube, Breather (.375" OD) Copper	GM19464
1	Insulator, breather line (.56" ID x 4")	GM19465
1	Plug, button	X-301-23
1	Bushing, 1.312 x 1.50 in. NPT	X-634-16
4	Screw, Hex Head	X-97-22
1	Decal, Caution Hot Carburetor Heater	GM22387
1	TT Carburetor Heater,	TT-1297
Carburetor Heater 240 V GM19462-KP3-QS		
1	Tube, Breather (.375"od) Copper	GM19464
1	Insulator, breather line (.56" id x 4")	GM19465
1	Decal, Caution Hot Carburetor Heater	GM22387
1	Heater, Plate 37W/240V	GM88229
1	TT Carburetor Heater, 8.5/11RMY, 8.5/12RES	TT-1297
1	Plug, button	X-301-23
1	Bushing, 1.312 x 1.50 in. NPT	X-634-16
4	Screw, Hex Head	X-97-22
Carburetor Heater 240 V GM19462-KP4-QS		
1	Heater, Inlet 37W 120V	GM19463
1	Cord, 3 Way Extension	GM95628
1	Tube, Breather (.375"od) Copper	GM19464
1	Insulator, breather line (.56" id x 4")	GM19465
1	Decal, Caution Hot Carburetor Heater	GM22387
1	Plug, button	X-301-23
1	Bushing, 1.312 x 1.50 in. NPT	X-634-16
4	Screw, Hex Head	X-97-22
1	TT Carburetor Heater, 8.5/11RMY, 8.5/12RES	TT-1297
Carburetor Heater 120 V GM57969-KP1-QS		
1	Decal, caution hot carburetor	GM22387
1	Heater, carburetor	GM57968
1	Bushing, 1.000 x 1.375 in. NPT	X-634-15
1	Bushing, 1.312 x 1.50 in. NPT	X-634-16
1	Installation Instructions	TT-1482
Carburetor Heater 240 V GM57969-KP3-QS		
1	Decal, Caution Hot Carburetor Heater	GM22387
1	Heater, Carburetor	GM88228
1	Carburetor Heater, 17/18/20kW, Res/Coml	TT-1482
1	Bushing, 1.000 x 1.375 in. NPT	X-634-15
1	Bushing, 1.312 x 1.50 in. NPT	X-634-16

Kit Parts List, continued

Qty.	Description	Part No.
Carburetor Heater, 40W, 120V GM57969-KP4-QS		
1	Decal, Caution Hot Carburetor Heater	GM22387
1	Heater, Carburetor	GM57968
1	Cord, Extension	GM91360
1	Adapter, Carb Heater	GM91361
1	CarbHeater, 17/18/20, 8-10RESV, Res/Coml	TT-1482
Carburetor Heater, 40W, 120V GM57969-KP5-QS		
1	Decal, Caution Hot Carburetor Heater	GM22387
1	Heater, Carburetor	GM57968
1	Adapter, Carb Heater	GM91361
1	Cord, 3 Way Extension	GM95628
1	CarbHeater, 17/18/20, 8-10RESV, Res/Coml	TT-1482
CSA Certification / Residential GM49204-KA4		
1	Decal, CSA	GM87828
CSA Certification / Residential GM49204-KA4		
1	Decal, CSA	GM87828
Concrete Mounting Pad, 3" Thick GM90969-KP1-QS		
1	Pad, Concrete Mounting 3"	GM90969
Concrete Mounting Pad, 4" Thick GM90969-KP2-QS		
1	Pad, Concrete Mounting 4"	GM90970
Maintenance Service Kits		
(includes oil, oil filter, air filter, spark plugs, and instructions (TT-1445))		
1	Kit, Residential Maint (14RESA)	GM62346-SKP1-QS
1	Kit, Residential Maint (20kW)	GM62347-SKP1-QS
OnCue,RDC2/DC2/VSC Controller GM81385-KP1-QS		
1	OnCue Welcome Letter	G18-181
1	Decal, OnCue Activation Code	GM81386
1	Dwg, OnCue Decal Placement	GM81770
1	Connector, RJ45 Female to RJ45 Female	GM84651
1	O/M OnCue Software, 14/20RES(L)	TP-6796
OnCue Plus,RDC2/DC2/VSC GM81385-KP2-QS		
1	OnCue Plus Welcome Letter	G18-246
1	OnCue App Quick Start Guide	G18-247
1	Decal, OnCue Activation Code	GM81386
1	Dwg, OnCue Decal Placement	GM81770
1	Connector, RJ45 Female to RJ45 Female	GM84651
1	O/M OnCue Plus	TP-6920
OnCue Plus, Wireless, RDC2/DC2/VSC GM81385-KP3-QS		
1	Cable, Patch, 3 Ft. RJ-45	357477
1	Decal, OnCue Activation Code	GM81386
1	Dwg, OnCue Decal Placement	GM81770
1	Kit, Wireless Router	GM91273
1	Tape, VHB 3/4", 10in Long	GM94015
1	O/M OnCue Plus Res/Coml	TP-6928
1	Install Guide WiFi Kit Res/Coml	TT-1618

Appendix A Abbreviations

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

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

k	kilo (1000)	mtg.	mounting	rms	root mean square
K	kelvin	MTU	Motoren-und Turbinen-Union	rnd.	round
kA	kiloampere	MW	megawatt	ROM	read only memory
KB	kilobyte (2 ¹⁰ bytes)	mW	milliwatt	rot.	rotate, rotating
KBus	Kohler communication protocol	μF	microfarad	rpm	revolutions per minute
kg	kilogram	N, norm.	normal (power source)	RS	right side
kg/cm ²	kilograms per square centimeter	NA	not available, not applicable	RTU	remote terminal unit
kgm	kilogram-meter	nat. gas	natural gas	RTV	room temperature vulcanization
kg/m ³	kilograms per cubic meter	NBS	National Bureau of Standards	RW	read/write
kHz	kilohertz	NC	normally closed	SAE	Society of Automotive Engineers
kJ	kilojoule	NEC	National Electrical Code	scfm	standard cubic feet per minute
km	kilometer	NEMA	National Electrical Manufacturers Association	SCR	silicon controlled rectifier
kOhm, kΩ	kilo-ohm	NFPA	National Fire Protection Association	s, sec.	second
kPa	kilopascal			SI	<i>Systeme internationale d'unites</i> , International System of Units
kph	kilometers per hour	Nm	newton meter	SI/E0	side in/end out
kV	kilovolt	NO	normally open	sil.	silencer
kVA	kilovolt ampere	no., nos.	number, numbers	SN	serial number
KVAR	kilovolt ampere reactive	NPS	National Pipe, Straight	SNMP	simple network management protocol
kW	kilowatt	NPSC	National Pipe, Straight-coupling	SPDT	single-pole, double-throw
kWh	kilowatt-hour	NPT	National Standard taper pipe thread per general use	SPST	single-pole, single-throw
kWm	kilowatt mechanical	NPTF	National Pipe, Taper-Fine	spec	specification
kWth	kilowatt-thermal	NR	not required, normal relay	specs	specification(s)
L	liter	ns	nanosecond	sq.	square
LAN	local area network	OC	overcrank	sq. cm	square centimeter
L x W x H	length by width by height	OD	outside diameter	sq. in.	square inch
lb.	pound, pounds	OEM	original equipment manufacturer	SS	stainless steel
lbm/ft ³	pounds mass per cubic feet	OF	overfrequency	std.	standard
LCB	line circuit breaker	opt.	option, optional	stl.	steel
LCD	liquid crystal display	OS	oversize, overspeed	tach.	tachometer
ld. shd.	load shed	OSHA	Occupational Safety and Health Administration	TD	time delay
LED	light emitting diode	OV	overvoltage	TDC	top dead center
Lph	liters per hour	oz.	ounce	TDEC	time delay engine cooldown
Lpm	liters per minute	p., pp.	page, pages	TDEN	time delay emergency to normal
LOP	low oil pressure	PC	personal computer	TDES	time delay engine start
LP	liquefied petroleum	PCB	printed circuit board	TDNE	time delay normal to emergency
LPG	liquefied petroleum gas	pF	picofarad	TDOE	time delay off to emergency
LS	left side	PF	power factor	TDON	time delay off to normal
L _{wa}	sound power level, A weighted	ph., ∅	phase	temp.	temperature
LWL	low water level	PHC	Phillips® head Crimptite® (screw)	term.	terminal
LWT	low water temperature	PHH	Phillips® hex head (screw)	THD	total harmonic distortion
m	meter, milli (1/1000)	PHM	pan head machine (screw)	TIF	telephone influence factor
M	mega (10 ⁶ when used with SI units), male	PLC	programmable logic control	TIR	total indicator reading
m ³	cubic meter	PMG	permanent magnet generator	tol.	tolerance
m ³ /hr.	cubic meters per hour	pot	potentiometer, potential	turbo.	turbocharger
m ³ /min.	cubic meters per minute	ppm	parts per million	typ.	typical (same in multiple locations)
mA	milliampere	PROM	programmable read-only memory	UF	underfrequency
man.	manual	psi	pounds per square inch	UHF	ultrahigh frequency
max.	maximum	psig	pounds per square inch gauge	UL	Underwriter's Laboratories, Inc.
MB	megabyte (2 ²⁰ bytes)	pt.	pint	UNC	unified coarse thread (was NC)
MCCB	molded-case circuit breaker	PTC	positive temperature coefficient	UNF	unified fine thread (was NF)
MCM	one thousand circular mils	PTO	power takeoff	univ.	universal
meggar	megohmmeter	PVC	polyvinyl chloride	US	undersize, underspeed
MHz	megahertz	qt.	quart, quarts	UV	ultraviolet, undervoltage
mi.	mile	qty.	quantity	V	volt
mil	one one-thousandth of an inch	R	replacement (emergency) power source	VAC	volts alternating current
min.	minimum, minute	rad.	radiator, radius	VAR	voltampere reactive
misc.	miscellaneous	RAM	random access memory	VDC	volts direct current
MJ	megajoule	RDO	relay driver output	VFD	vacuum fluorescent display
mJ	millijoule	ref.	reference	VGA	video graphics adapter
mm	millimeter	rem.	remote	VHF	very high frequency
MOV	metal oxide varistor	Res/Coml	Residential/Commercial	W	watt
MPa	megapascal	RFI	radio frequency interference	WCR	withstand and closing rating
mpg	miles per gallon	RH	round head	w/	with
mph	miles per hour	RHM	round head machine (screw)	w/o	without
MS	military standard	rly.	relay	wt.	weight
ms	millisecond			xfrm	transformer
m/sec.	meters per second				
MTBF	mean time between failure				
MTBO	mean time between overhauls				

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.

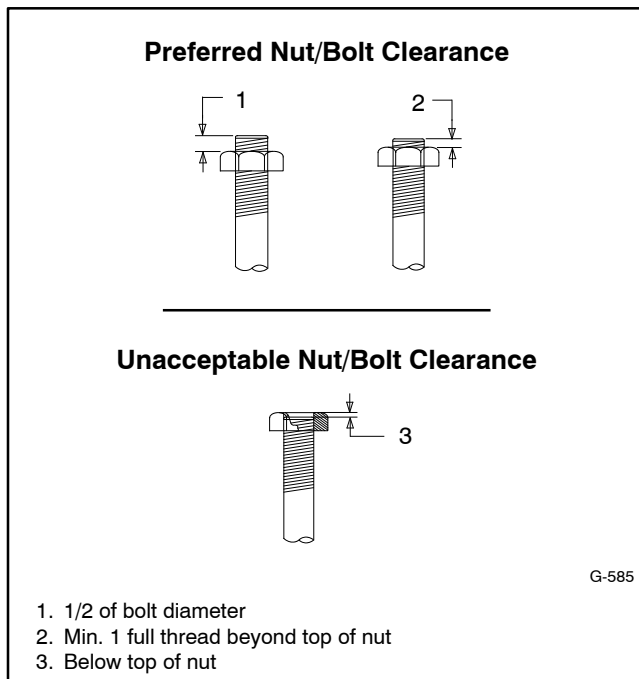


Figure 1 Acceptable Bolt Lengths

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.

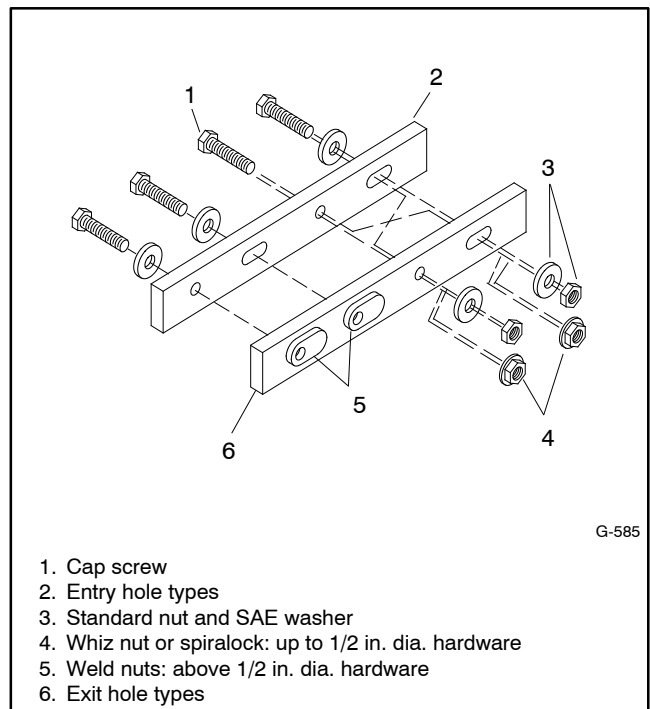


Figure 2 Acceptable Hardware Combinations

Appendix C General Torque Specifications















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)	—	See Note 3
10-24	Nm (in. lb.)	2.9 (26)	3.6 (32)	—	
10-32	Nm (in. lb.)	2.9 (26)	3.6 (32)	—	
1/4-20	Nm (in. lb.)	6.8 (60)	10.8 (96)	14.9 (132)	
1/4-28	Nm (in. lb.)	8.1 (72)	12.2 (108)	16.3 (144)	
5/16-18	Nm (in. lb.)	13.6 (120)	21.7 (192)	29.8 (264)	
5/16-24	Nm (in. lb.)	14.9 (132)	23.1 (204)	32.5 (288)	
3/8-16	Nm (ft. lb.)	24.0 (18)	38.0 (28)	53.0 (39)	
3/8-24	Nm (ft. lb.)	27.0 (20)	42.0 (31)	60.0 (44)	
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	6.2 (4.6)	9.5 (7)	13.6 (10)	See Note 3	
M8 x 1.25	15.0 (11)	23.0 (17)	33.0 (24)		
M8 x 1.00	16.0 (11)	24.0 (18)	34.0 (25)		
M10 x 1.50	30.0 (22)	45.0 (34)	65.0 (48)		
M10 x 1.25	31.0 (23)	47.0 (35)	68.0 (50)		
M12 x 1.75	53.0 (39)	80.0 (59)	115.0 (85)		
M12 x 1.50	56.0 (41)	85.0 (63)	122.0 (90)		
M14 x 2.00	83.0 (61)	126.0 (93)	180.0 (133)		
M14 x 1.50	87.0 (64)	133.0 (98)	190.0 (140)		
M16 x 2.00	127.0 (94)	194.0 (143)	278.0 (205)		
M16 x 1.50	132.0 (97)	201.0 (148)	287.0 (212)		
M18 x 2.50	179.0 (132)	273.0 (201)	390.0 (288)		
M18 x 1.50	189.0 (140)	289.0 (213)	413.0 (305)		






Notes:

1. The torque values above are general guidelines. Always use the torque values specified in the service manuals and/or assembly drawings when they differ from the above torque values.
2. The torque values above are based on new plated threads. Increase torque values by 15% if non-plated threads are used.
3. Hardware threaded into aluminum must have either two diameters of thread engagement or a 30% or more reduction in the torque to prevent stripped threads.
4. Torque values are calculated as equivalent stress loading on American hardware with an approximate preload of 90% of the yield strength and a friction coefficient of 0.125.

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	

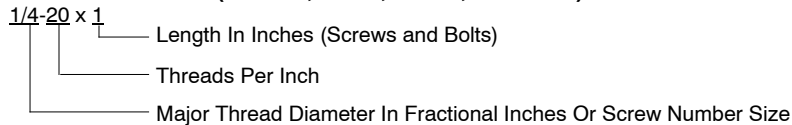
Hardness Grades	
American Standard	
Grade 2	
Grade 5	
Grade 8	
Grade 8/9 (Hex Socket Head)	
Metric	
Number stamped on hardware; 5.8 shown	

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

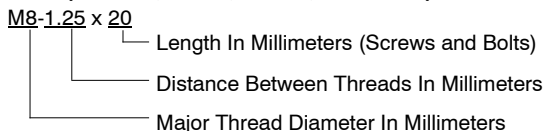
Phillips® screw is a registered trademark of Phillips Screw Company.

Sample Dimensions

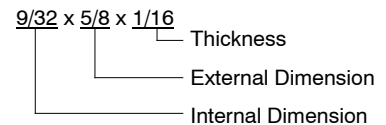
American Standard (Screws, Bolts, Studs, and Nuts)



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 Hex Head Bolts (Grade 5)

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

Part No. Dimensions Hex Head Bolts, cont.

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

Part No. Dimensions Type

Hex Nuts

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

Washers

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

Metric

Hex head bolts are hardness grade 8.8 unless noted.

Part No.	Dimensions	Part No.	Dimensions	Part No.	Dimensions
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				
M931-08045-60	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				
M931-08200-60	M8-1.25 x 200				
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				
M931-10235-60	M10-1.50 x 235				
M931-10260-60	M10-1.50 x 260				
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				
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				
M931-16100-82	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				
M931-20090-60	M20-2.50 x 90				
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				
M931-24200-60	M24-3.00 x 200				
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				
M933-06030-60	M6-1.00 x 30				
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				
Hex Head Bolts (Full Thread), continued					
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				
M933-12030-82	M12-1.75 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*				
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
M934-04-B	M4-0.70	Brass
M934-05-50	M5-0.80	Standard
M934-06-60	M6-1.00	Standard
M934-06-64	M6-1.00	Std. (green)
M6923-06-80	M6-1.00	Spirallock
M982-06-80	M6-1.00	Elastic Stop
M934-08-60	M8-1.25	Standard
M6923-08-80	M8-1.25	Spirallock
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	Spirallock
M6923-10-62	M10-1.50	Spirallock†
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	Spirallock
M982-12-80	M12-1.75	Elastic Stop
M982-14-60	M14-2.00	Elastic Stop
M6923-16-80	M16-2.00	Spirallock
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.

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