



PARTS MANUAL

P843-3

For Models: M843NW3 and NL843NW3



www.northern-lights.com

**ULTRA LOW
SULFUR FUEL
ONLY**

RE529956

As of January 2011, U.S. EPA regulations require the application of a permanently applied label near the fuel tank fill port for diesel driven equipment. This label is to state:

ULTRA LOW SULFUR FUEL ONLY

Northern Lights is providing this label for application to the fuel inlet of the fuel supply tank for each engine or generator set. This is to be applied by the installer of the engine or gen set, or by the manufacturer of the equipment that the engine or gen set is installed in. The location of the label must be in clear site of personnel that refill the supply tank.



— CALIFORNIA —
Proposition 65 Warning:

Breathing Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

- * Always start and operate the engine in a well-ventilated area.
- * If in an enclosed area, vent the exhaust to the outside.
- * Do not modify or tamper with the exhaust system.
- * Do not idle the engine except as necessary.

For more information, go to www.P65warnings.ca.gov/diesel.

Northern Lights
4420 14th Avenue N.W.
Seattle, WA 98107
Tel: (206) 789-3880
Fax: (206) 782-5455

Copyright ©2016-7 Northern Lights, Inc.
All rights reserved. Northern Lights™, and
the Northern Lights logo are trademarks of
Northern Lights, Inc.

Printed in U.S.A.
PART NO.: P843-3 5/20



PARTS CATALOG

for Models

M843NW3 AND NL843NW3

Please read thoroughly before attempting to use this manual:

Table of Contents	I
Model Designation & Serial Numbers	II
Reading a Parts Page	III

Table of Contents

GROUP 1 - ENGINE

Cylinder Block Assembly	0 - 1
Crankshaft and Flywheel Assembly	2 - 3
Camshaft and Oil Pump	4 - 5
Cylinder Head	6 - 7
Rocker Arm Assembly	8 - 10

GROUP 2 - INTAKE & EXHAUST SYSTEM

Air Filter and Housing	1
Air Filter and Mounting	2
Exhaust Manifold and Muffler	3

GROUP 3 - COOLING SYSTEM

Exhaust Manifold and Heat Exchanger	0 - 1
Exhaust Tank and Exhaust Manifold	2 - 3
Coolant Pump	4
Coolant Pump, Fan, & Thermostat Housing	5
Raw Water Pump and Mounting	6 - 7
Radiator and Guard	8 - 9

GROUP 4 - FUEL SYSTEM

Injection Pump and Lines	0 - 1
Governor and Timing Gear Case	2 - 3
Fuel Filter and Piping	4 - 5
Fuel Line Connection	6
Fuel Injector	7
Fuel Feed Pump	8

GROUP 5 - ELECTRICAL SYSTEM

12 & 24 Volt Engine	0 - 16
Alternator, Starter, and Flywheel Housing	17
Alternator	18
Starter Assembly	19
Alternator Assembly	20
Control Panels	21 - 29
Belt Guard Assembly	30

GROUP 6 - GASKET SETS

Gasket Kit	0
------------------	---

GROUP 7 - FRAME & MOUNTING

Base Frame Assembly	0 - 3
---------------------------	-------

GROUP 8 - ACCESSORIES & OPTIONAL EQUIPMENT

PTO Adapter	0
Electric Clutch	1
Oil Drain Kit	2
Keel Cooling Conversion	3
Coolant Recovery Tank	4
Remote Expansion Tank	5
Low Coolant Level Switch/Gauge	6

Proprietary Information

This publication is the property of Northern Lights, Inc.

It may not be reproduced in whole or in part without the written permission of Northern Lights, Inc.

© Northern Lights, Inc. All rights reserved. Litho U.S.A. Publication number P843-3 5/20

Model Designation

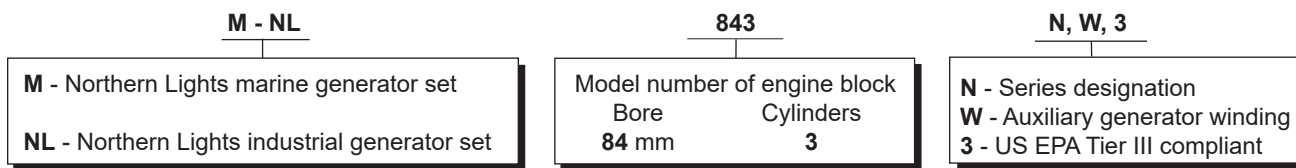
MODELS INCLUDED

This manual covers the parts and components used in:

M843nw3 and NL843nw3, which both use the 843 engine.

Model Numbers

Model numbers give the unit's application, block model, aspiration, and RPM:



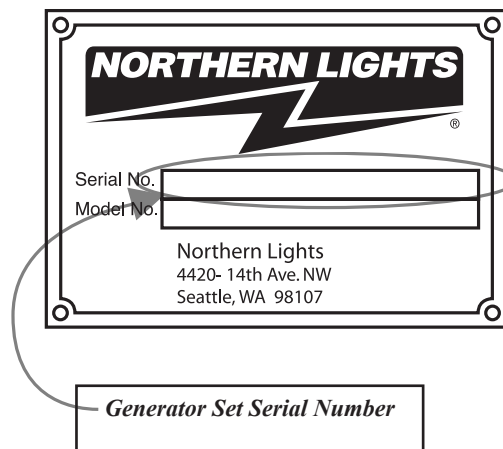
M843nw3 = Northern Lights marine diesel generator set with an 843 engine and a PX-312K2 generator, Tier II compliant.

NL843nw3 = Northern Lights industrial diesel generator set with an 843 engine and a PX-312K2 generator, Tier III compliant.

Serial Numbers

NORTHERN LIGHTS

Your set has three serial numbers: ① an engine number stamped on the block, ② a generator plate, and ③ a generator set plate. Use the serial number on the **generator set plate** when ordering parts or in correspondence. The generator set plate is found on the service side of the generator and resembles the drawing below.



READING A PARTS PAGE

IMPORTANT:

Before selecting parts, be sure that you are choosing parts from the correct page. Check the model designation at the page top. Do not use this illustration for parts purchasing.

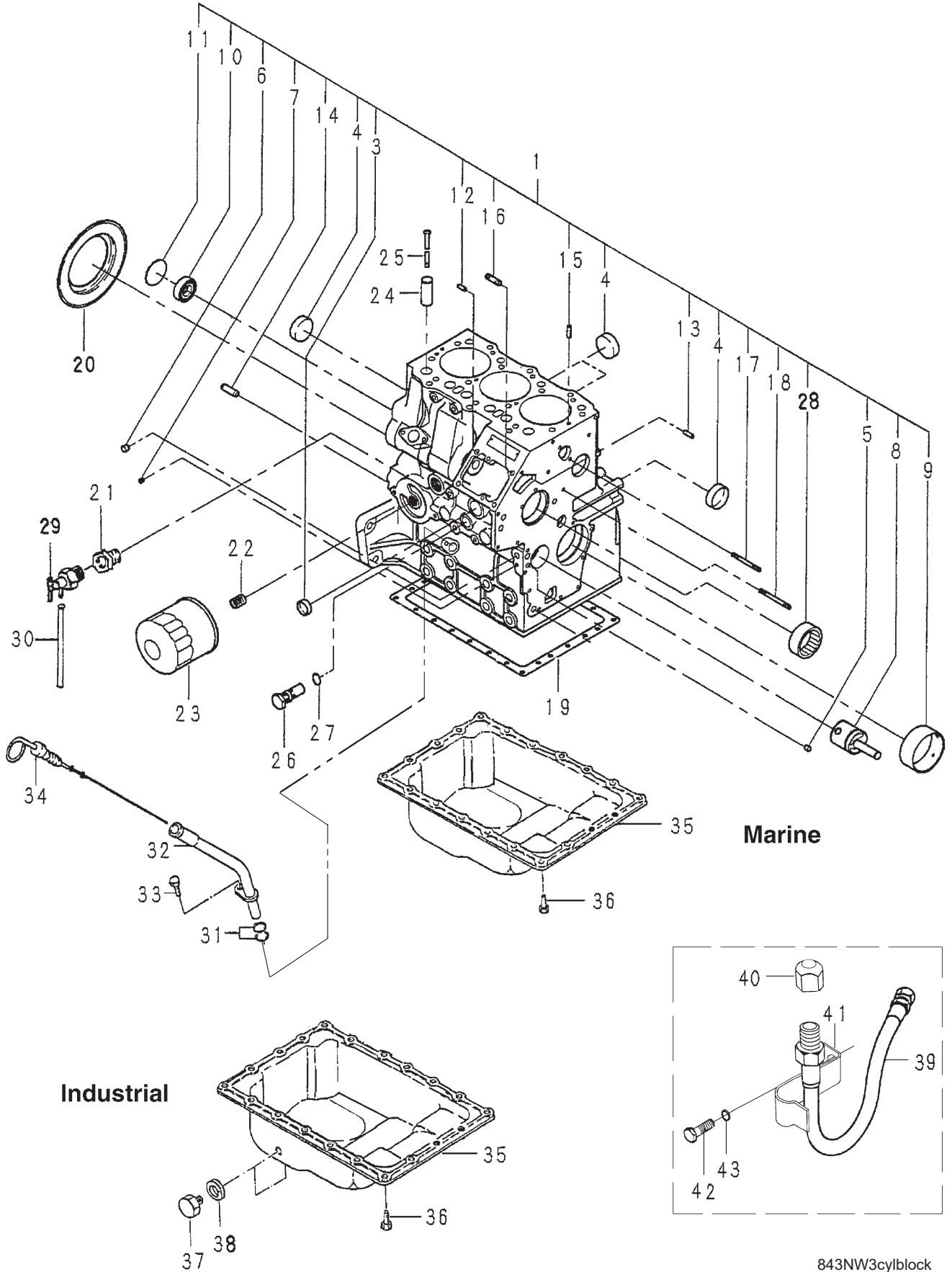
KEY	PART NUMBER	QTY.	DESCRIPTION	SERIALNUMBER
0	185046210	1	Alternator Assembly	-
1	185446219	1	Flywheel, complete	-
2	185446217	1	Plate, complete	-
3	185716200	1	Plate	-
4	185446218	1	Stator, complete	-
5	040126210	2	Bearing	-
6	020210010	1	Nut	-
7	027100010	1	Spring washer	-
8	026100010	1	Washer	-
9	185446220	1	Clamp	-
10	015140408	1	Screw	-
11	015140425	2	Screw	-
12	199236510	1	Collar	-

REFERENCES:

1. Grouping section title.
2. Model designation of equipment that uses parts listed on this page.
3. Title and description of assembly.
4. Drawing numbers that correspond to key column numbers for parts identification.
5. Key column for locating parts shown on drawing.
6. Part number.
7. Quantity of parts used.
8. Description of each component part.
9. Serial number of unit the part fits.
10. Assembly or kit designated by Key 0 or •••.
11. Grouping index number.
12. Page number within the grouping index.
13. Manual title.
14. Page publication date.

NOTE: ⇨ Arrows always point toward the front of the engine.

Cylinder Block Assembly

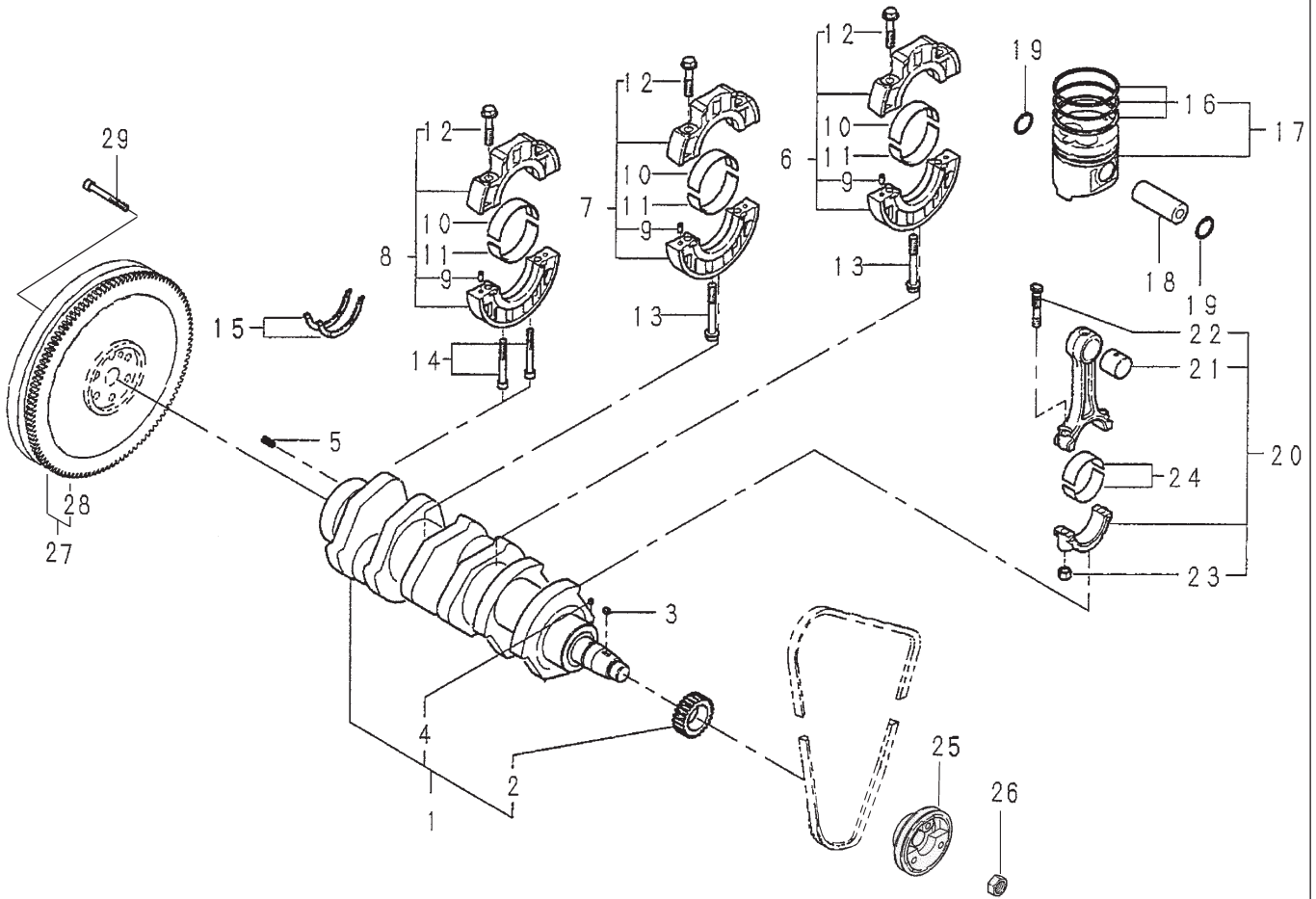


843NW3cylblock

Cylinder Block Assembly

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL
1	110101290	1	Cylinder Block Assembly (Marine, includes keys #3 - 18, 28)	-
	110101310	1	Cylinder Block Assembly (Industrial, includes keys #3- 18, 28)	-
3	064210025	1	Expansion Plug 25 mm	-
4	064209055	4	Expansion Plug 40 mm	-
5	198466010	2	Plug	-
6	198466020	4	Plug	-
7	198466030	4	Plug	-
8	165296260	1	Idle Gear Shaft Assembly	-
9	198517222	1	Bushing, Standard	-
	198517226	1	Bushing, Undersized 0.25 mm	-
	198517229	1	Bushing, Undersized 0.50 mm	-
10	040106203	1	Bearing	-
11	064100045	1	Expansion Plug	-
12	030500612	2	Dowel Pin	-
13	030500616	2	Dowel Pin	-
14	030501025	2	Dowel Pin	-
15	030309005	2	Spring Pin	-
16	13-00709	2	Stud	-
17	012110635	1	Stud	-
18	012110660	1	Stud	-
19	110996820	1	Gasket	-
20	198636170	1	Oil Seal	-
21	198486770	1	Bushing	-
22	140546020	1	Filter Joint	-
23	24-02002	1	Oil Filter Assembly (former # 24-03100)	-
24	120116160	6	Tappet	-
25	120456251	6	Push Rod	-
26	140036220	1	Relief Valve Assembly	-
27	052109078	1	O-ring	-
28	042309013	1	Needle Bearing	-
29	198736050	1	Drain Cock	-
30	068105250	1	Tube	-
31	052109113	2	O-ring	-
32	110756140	1	Dipstick Tube	-
33	011310612	1	Bolt	-
34	198416320	1	Dipstick	-
35	110707450	1	Oil Pan (Marine)	up to s/n xxxx-46623C
	36-73104	1	Oil Pan (Marine)	from s/n xxxx-46624C
	110707390	1	Oil Pan (Industrial)	-
36	010109235	26	Bolt (Marine & Industrial)	-
37	010411212	2	Plug, Hex Head M12 x 1 (Industrial)	-
38	025100012	2	Seal Washer (Industrial)	-
39	18-72004	1	Oil Drain Hose	-
40	21-00003	1	Cap	-
41	23-72003	1	Bracket	up to s/n xxxx-46623C
42	12-11002	1	Capscrew, Hex Head 3/8- 16 x 3/4" S/S	-
43	15-00342	1	Lock Washer 3/8" S/S	-

Crankshaft and Flywheel Assembly



843NW3crankshaft

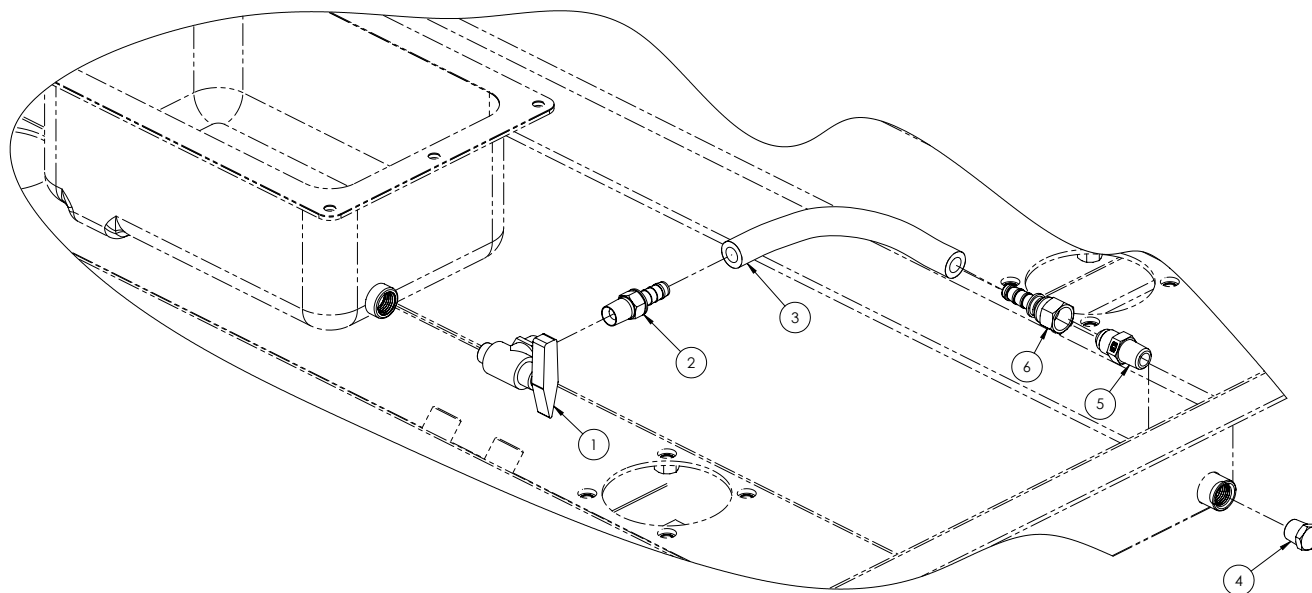
Crankshaft and Flywheel Assembly

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	115256950	1	Crankshaft Assembly (includes keys 2- 5)	-
2	115276200	1	Crankshaft Gear	-
3	034100508	1	Key	-
4	030509020	1	Dowel Pin	-
5	030300816	1	Spring Pin	-
6	110156171	1	Bearing Holder Assembly (includes keys 9 &12)	-
7	110156181	1	Bearing Holder Assembly (includes keys 9 &12)	-
8	110156191	1	Bearing Holder Assembly (includes keys 9 &12)	-
9	030500612	6	Dowel Pin	-
10	198517232	3	Bearing; Standard (Upper)	-
	198517236	3	Bearing; Undersized 0.25 mm (Upper)	-
	198517239	3	Bearing; Undersized 0.50 mm (Upper)	-
11	198517242	3	Bearing; Standard (Lower)	-
	198517246	3	Bearing; Undersized 0.25 mm (Lower)	-
	198517249	3	Bearing; Undersized 0.50 mm (Lower)	-
12	010109406	6	Bolt	-
13	010109667	2	Bolt	-
14	010700865	2	Bolt	-
15	199266200	2	Thrust Washer	-
16	115107970	3	Piston Ring Kit, Standard	-
17	115017541	3	Piston Kit, Standard (formerly #115017540)	-
18	115326220	3	Piston Pin	-
19	036500028	6	Snap Ring	-
20	115026251	3	Connecting Rod Assembly (includes keys 21-23)	-
21	198517265	3	Bushing	-
22	115176140	6	Connecting Rod Bolt	-
23	020109120	6	Nut	-
24	198517650	6	Bearing, Standard	-
	198517256	6	Bearing, 0.25 mm	-
	198517259	6	Bearing, 0.50 mm	-
25	115397390	1	Crankshaft Pulley (Marine)	-
	115396810	1	Crankshaft Pulley (Industrial)	-
26	020109086	1	Nut	-
27	115357040	1	Flywheel Assembly (includes key 28)	-
28	115376040	1	Ring Gear (109 Teeth)	-
29	010109341	6	Bolt	-

GROUP 1 – ENGINE

Kit, Oil Drain and Valve

M843N From S/N xxxx-46624C

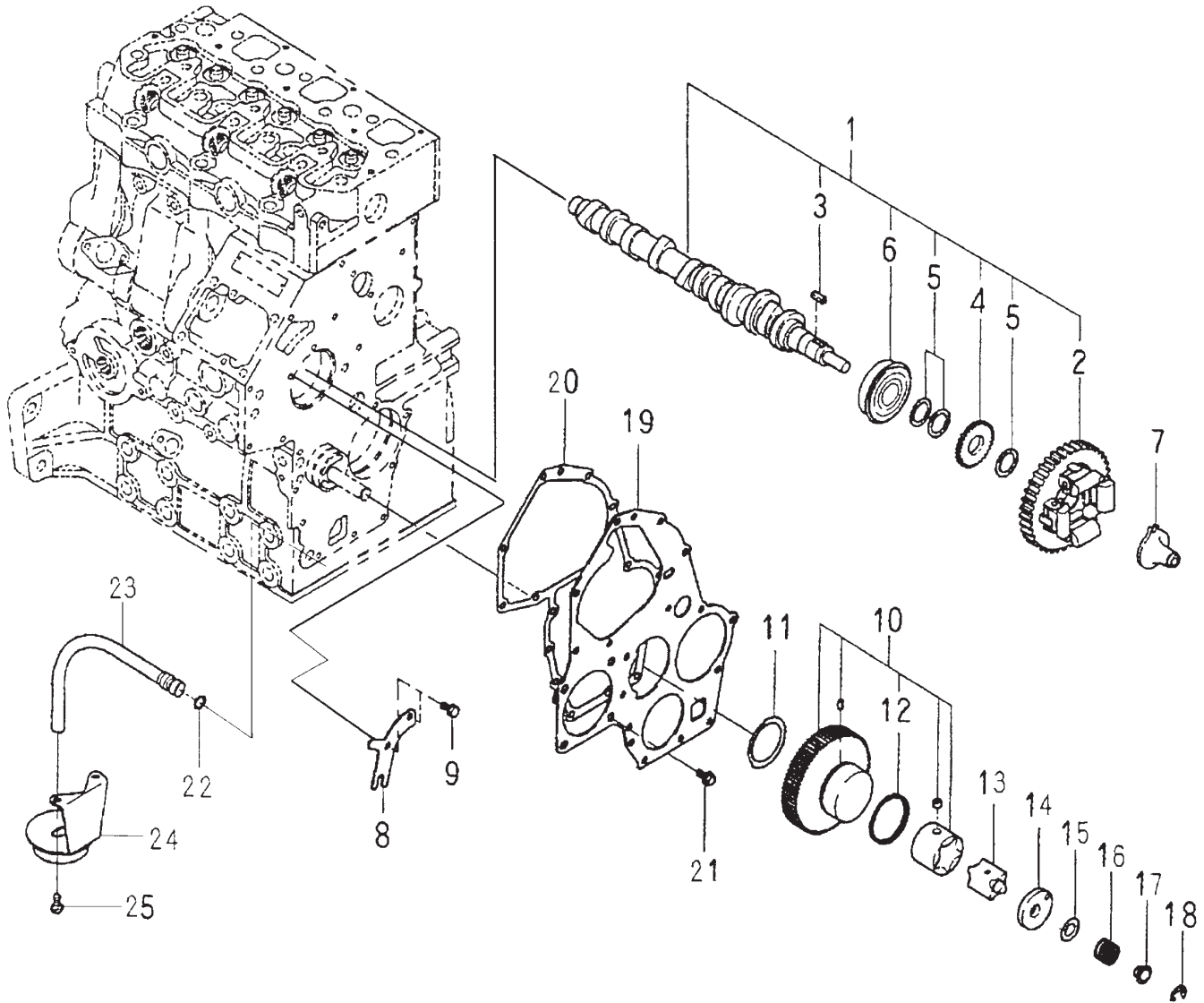


b-9826

KEY	PART NUMBER	QTY	DESCRIPTION	S/N
1	36-72012	1	Ball valve, Brass 90 Deg 1/4NPT Male X 1/4NPT Female	-
2	21-71203	1	Male Connector Brass 1/4NPT X 3/8HB Push-On	-
3	18-71207	1	Hose 3/8"ID X 7" Push-On	-
4	21-31624	1	Plug, Hex Head, Brass 1/4NPT	-
5	21-00612	1	Male Connector, Stl. 1/4NPT X 3/8-37T	-
6	21-71034	1	Female Swivel, Brass. 3/8HB X 3/8-37T Push-On	-

Notes

Camshaft and Oil Pump

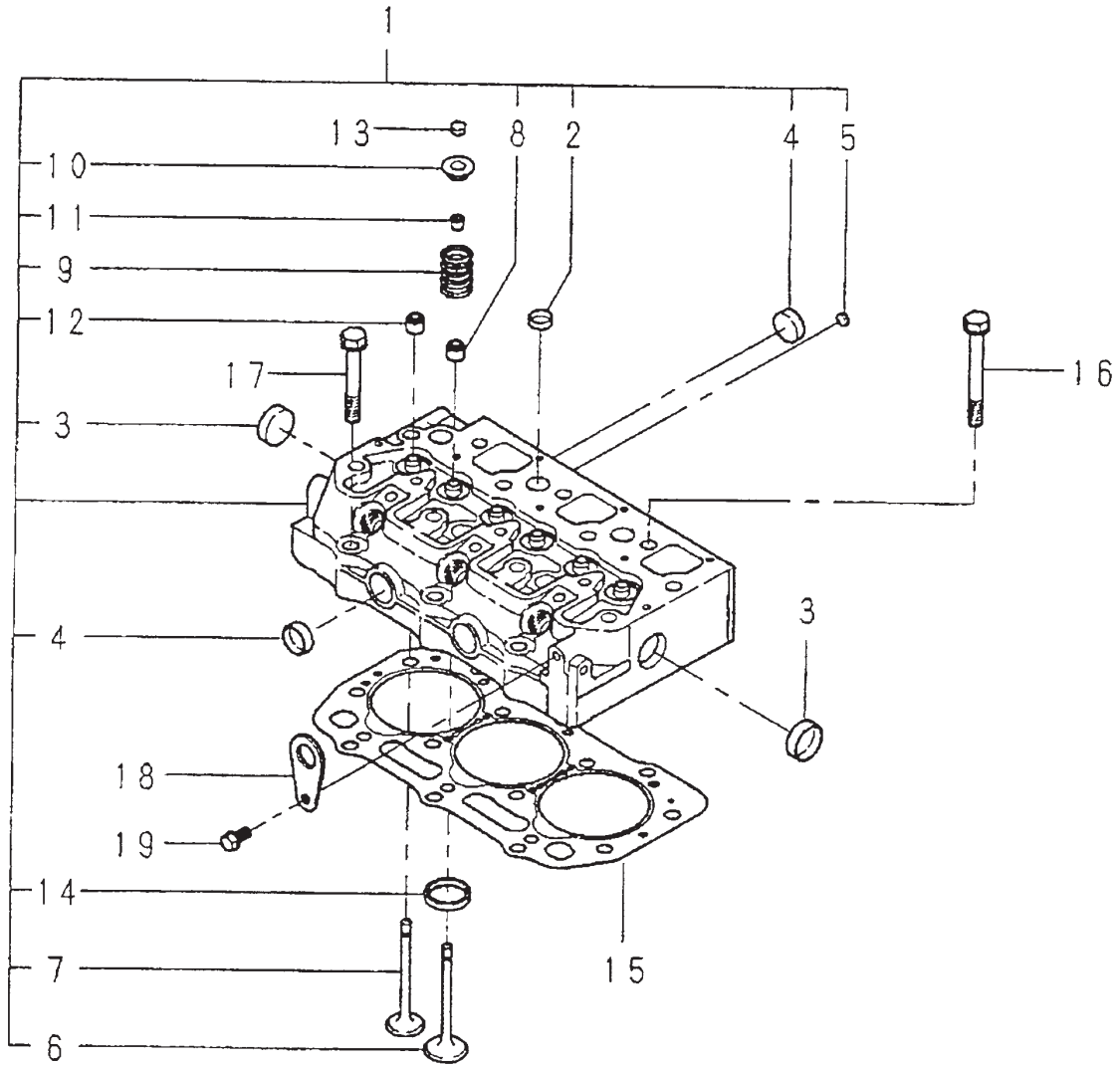


843NW3oilpump

Camshaft and Oil Pump

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	120026740	1	Camshaft Assembly (includes keys 2- 6)	-
2	120016050	1	Cam Gear	-
3	034100508	1	Key	-
4	120736081	1	Gear	-
5	199216230	3	Spacer	-
6	040156304	1	Bearing	-
7	125256120	1	Slider	-
8	199566651	1	Plate	-
9	011310612	2	Bolt	-
10	165026400	1	Idle Gear Assembly (includes key #12)	-
11	199266270	1	Thrust Washer	-
12	198217760	1	Spring	-
13	140166380	1	Rotor	-
14	140116220	1	Oil Pump Cover	-
15	199286150	1	Shim; t = 0.10	-
	199286160	1	Shim; t = 0.15	-
	199286170	1	Shim; t = 0.20	-
	199286180	1	Shim; t = 0.50	-
16	198216720	1	Spring	-
17	199236540	1	Collar	-
18	036800010	1	Snap Ring	-
19	165166640	1	Front Plate - Marine (white)	-
	165166630	1	Front Plate - Industrial (blue)	-
20	165996540	1	Gasket	-
21	011300612	2	Bolt	-
22	052109076	1	O-ring	-
23	140986970	1	Oil Pipe	-
24	140406310	1	Suction Filter Assembly	-
25	011310612	2	Bolt	-

Cylinder Head

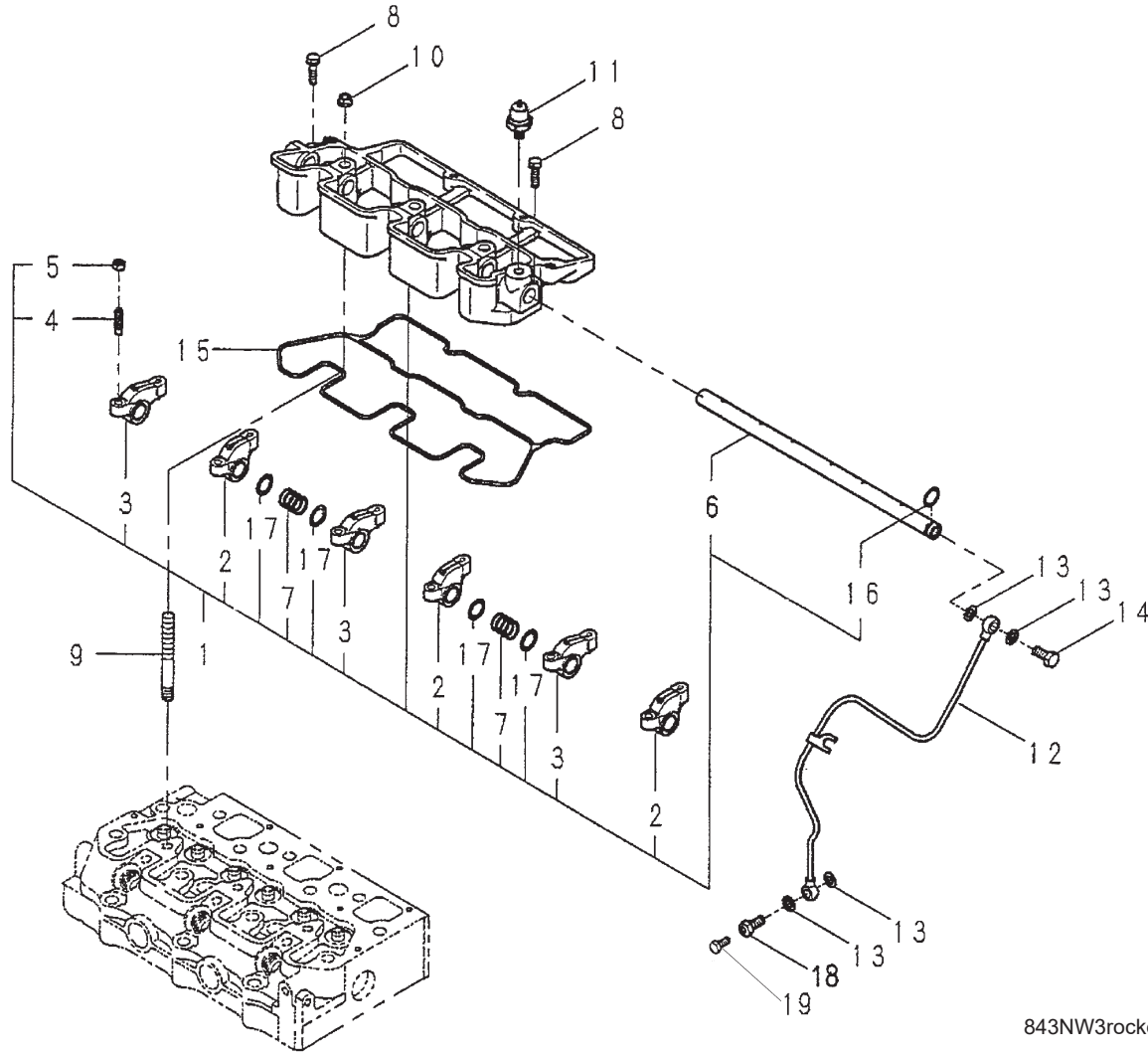


843NW3cylhead

Cylinder Head

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	111011260	1	Cylinder Head Assembly (Marine, includes keys 1-14)	-
	111011280	1	Cylinder Head Assembly (Industrial, includes keys 1-14)	-
2	064210018	5	Expansion Plug, 18 mm	-
3	064210030	2	Expansion Plug, 30 mm	-
4	064210025	4	Expansion Plug, 25 mm	-
5	064210010	2	Expansion Plug, 10 mm	-
6	120166380	3	Intake Valve (former # 120166350)	-
7	120176380	3	Exhaust Valve (former # 120176360)	-
8	120406070	3	Valve Guide Seal - Intake	-
9	198216700	6	Spring	-
10	120186080	6	Retainer	-
11	120226070	12	Cotter	-
12	120406050	3	Valve Guide Seal - Exhaust	-
13	120216041	6	Cap	-
14	110136400	3	Valve Seat - Intake	-
15	111147491	1	Head Gasket t=1.3 mm	-
	111147501	1	Head Gasket t=1.4 mm	-
16	111136480	11	Head Bolt	-
17	111136490	3	Head Bolt	-
18	195816540	1	Lifting Eye (Marine)	-
	195816030	1	Lifting Eye (Industrial)	-
19	011510816	1	Bolt	-

Rocker Arm Assembly

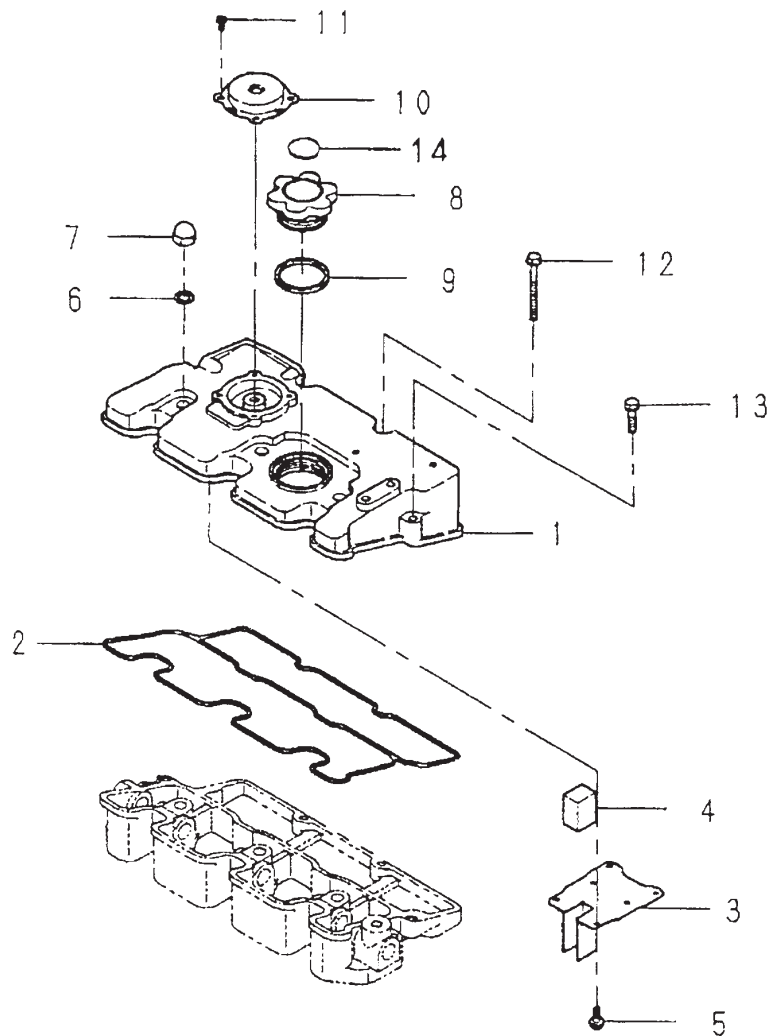


843NW3rockerarm

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	120036990	1	Rocker Arm Assembly (Marine, includes keys 2-7, 16-17)	-
	120037070	1	Rocker Arm Assembly (Industrial, includes keys 2-7, 16-17)	-
2	120356131	3	Intake Rocker Arm	-
3	120356141	3	Exhaust Rocker Arm	-
4	199486220	6	Screw	-
5	020109076	6	Nut	-
6	120316281	1	Rocker Arm Shaft	-
7	198217170	2	Spring	-
8	011310635	2	Bolt	-
9	012109044	3	Stud	-
10	023100010	3	Nut	-
11		1	Oil Pressure Switch (see Electrical System)	-
12	140606941	1	Oil Pipe Assembly	-
13	140996260	4	Sealing Washer	-
14	198486780	1	Banjo Bolt	-
15	120996140	1	Gasket	-
16	052109076	1	O-ring	-
17	199280300	4	Shim	-
18	198487590	1	Banjo Bolt (Tapped 1/8 NPT)	-
19	064500010	1	Plug	-

Rocker Arm Cover

Marine

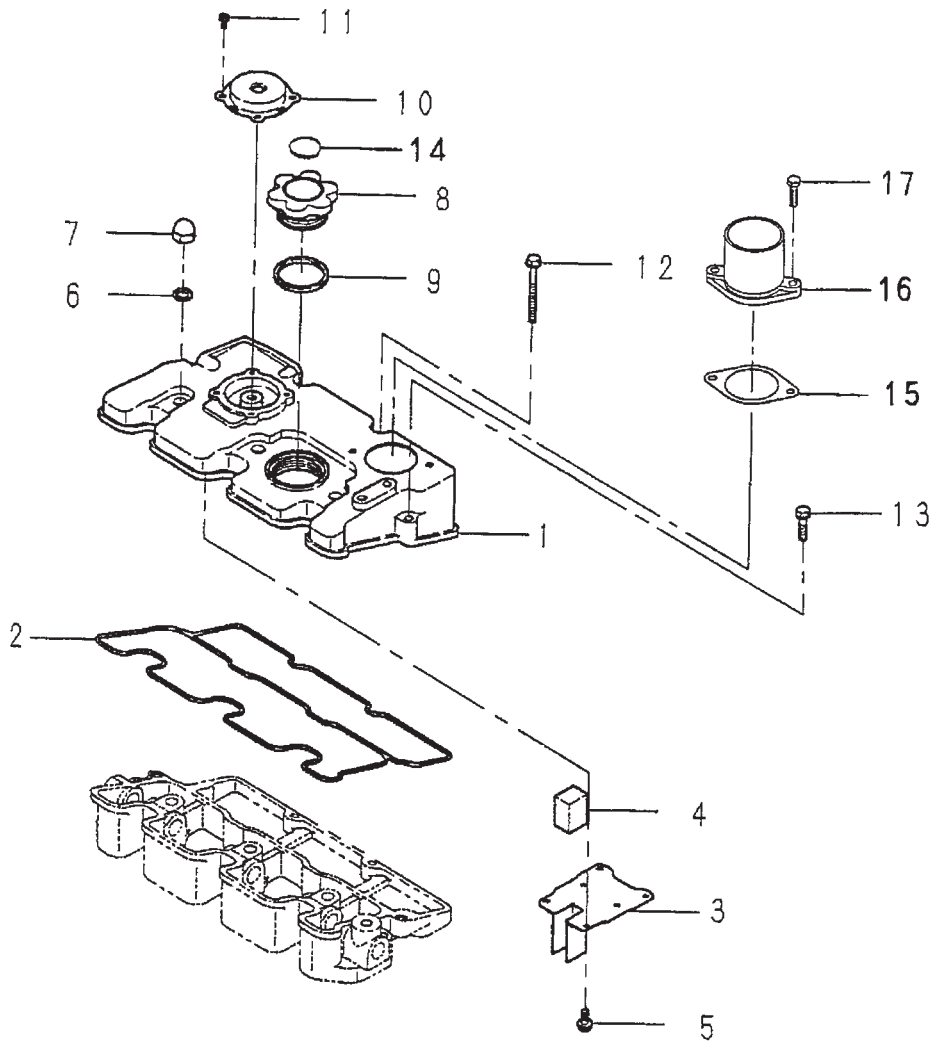


843NW3rockercover

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	111217780	1	Rocker Arm Cover	-
2	111996410	1	Gasket	-
3	110666210	1	Oil Stopper	-
4	110666060	1	Steel Wool	-
5	015600406	6	Screw	-
6	140996270	3	Gasket	-
7	024600010	3	Cap Nut	-
8	198436010	1	Cap	-
9	052100400	1	O-ring	-
10	110566080	1	Breather Valve	-
11	011100408	4	Bolt	-
12	011310660	2	Bolt	-
13	011310640	2	Bolt	-
14	190196630	1	Caution Plate	-

Rocker Arm Cover

Industrial

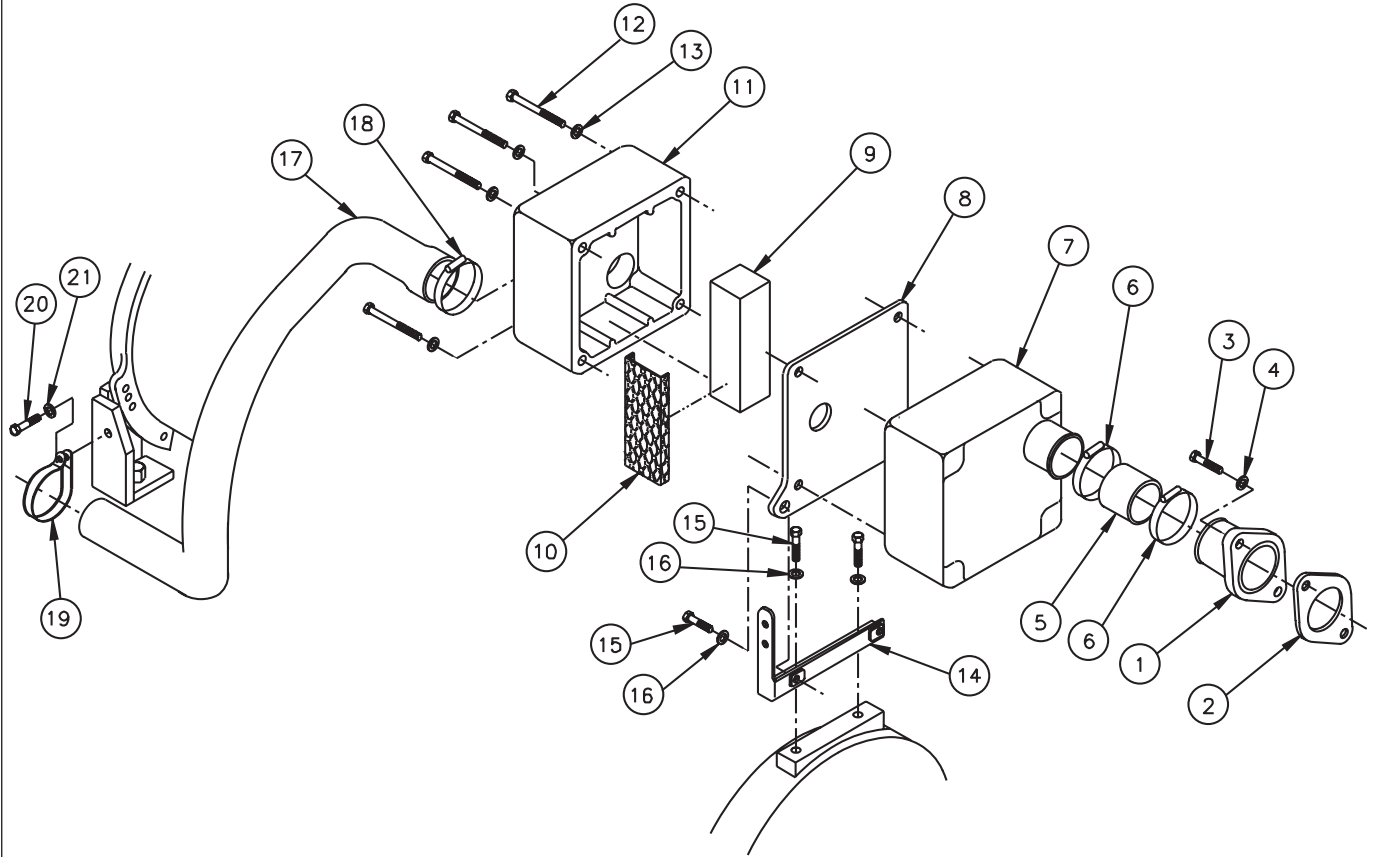


843NW3rockercoverind

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	111217820	1	Rocker Arm Cover	-
2	111996410	1	Gasket	-
3	110666210	1	Oil Stopper	-
4	110666060	1	Steel Wool	-
5	015600406	6	Screw	-
6	140996270	3	Gasket	-
7	024600010	3	Cap Nut	-
8	198436010	1	Cap	-
9	052100400	1	O-ring	-
10	110566080	1	Breather Valve	-
11	011100408	4	Bolt	-
12	011310660	2	Bolt	-
13	011310640	2	Bolt	-
14	190196630	1	Caution Plate	-
15	135996951	1	Gasket	-
16	135566510	1	Gasket, Air Intake Mounting	-
17	011310620	2	Bolt	-

Air Filter and Housing

Marine

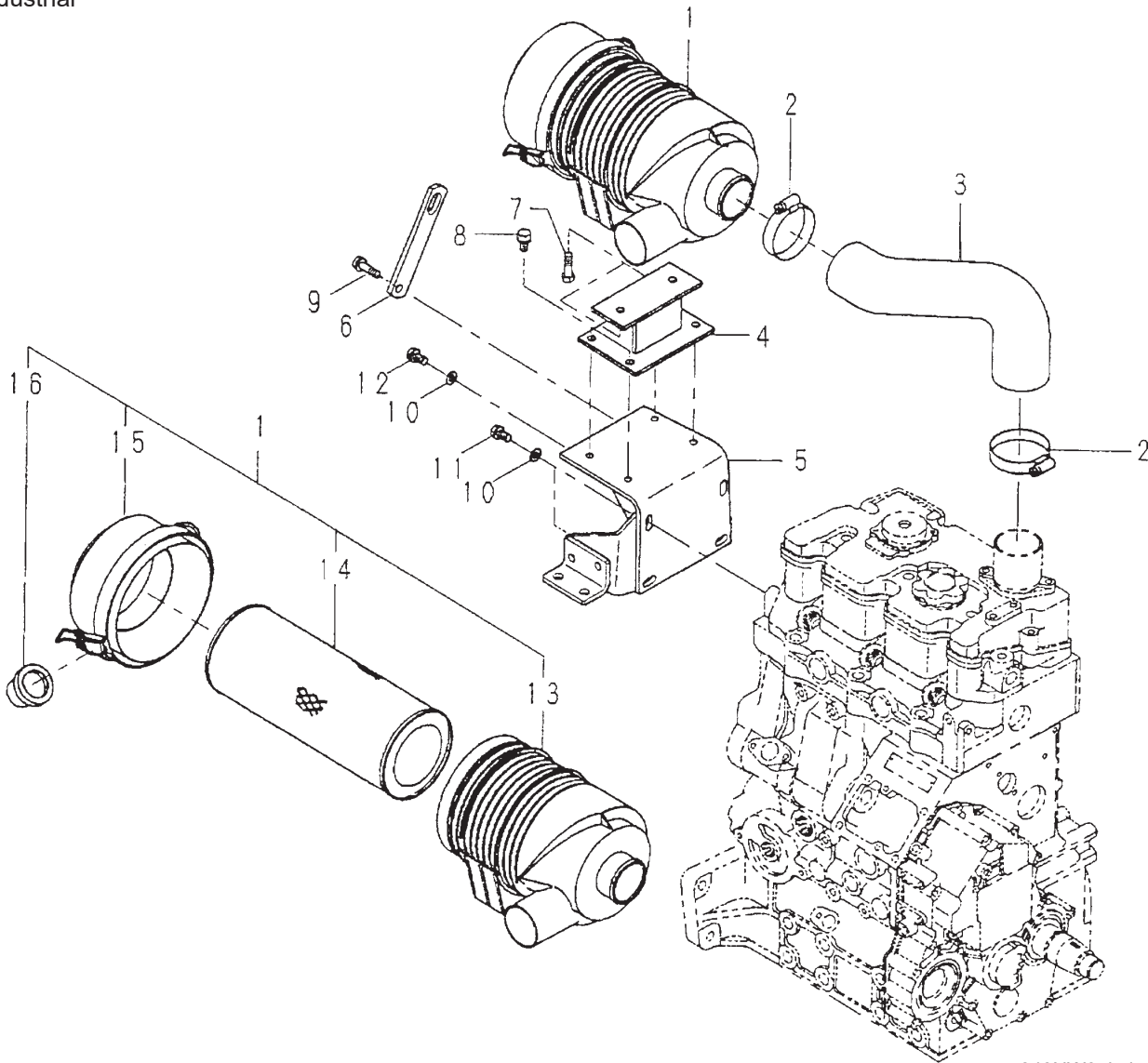


A-10262, A-10312 / C-5444

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	10-22004	1	Connector, Air Inlet	-
2	135996951	1	Gasket, Air Intake Mounting	-
3	12-01131	2	Capscrew, Hex Head M6 x 1.0 x 20 mm	-
4	15-99131	2	Wave Washer M6 S/S	-
5	18-22002	1	Hose 1-3/4" ID x 2-1/4"	-
6	19-01028	2	Hose Clamp #28	-
7	10-22006	1	Front Cover, Air Filter Housing	-
8	28-22001	1	Plate, Air Filter Baffle	-
9	24-22009	1	Element, Air Filter	-
10	24-22011	1	Screen, Air Filter Retaining	-
11	10-22003	1	Rear Cover, Air Filter Housing	-
12	12-09132	4	Capscrew, Hex Head M6 x 1.0 x 85 mm S/S	-
13	15-99131	4	Wave Washer M6 S/S	-
14	23-22001	1	Bracket, Air Filter Support	-
15	12-09751	4	Capscrew, Hex Head M8 x 1.25 x 16 mm S/S	-
16	15-99707	4	Wave Washer M8 S/S	-
17	18-22001	1	Hose, Air Intake (Molded)	-
18	19-01028	1	Hose Clamp #28	-
19	19-70028	1	Cushion Clamp #28	-
20	12-01102	1	Capscrew, Hex Head M6 x 1.0 x 16 mm S/S	-
21	15-01134	1	Flat Washer, M6 S/S	-

Air Filter and Mounting

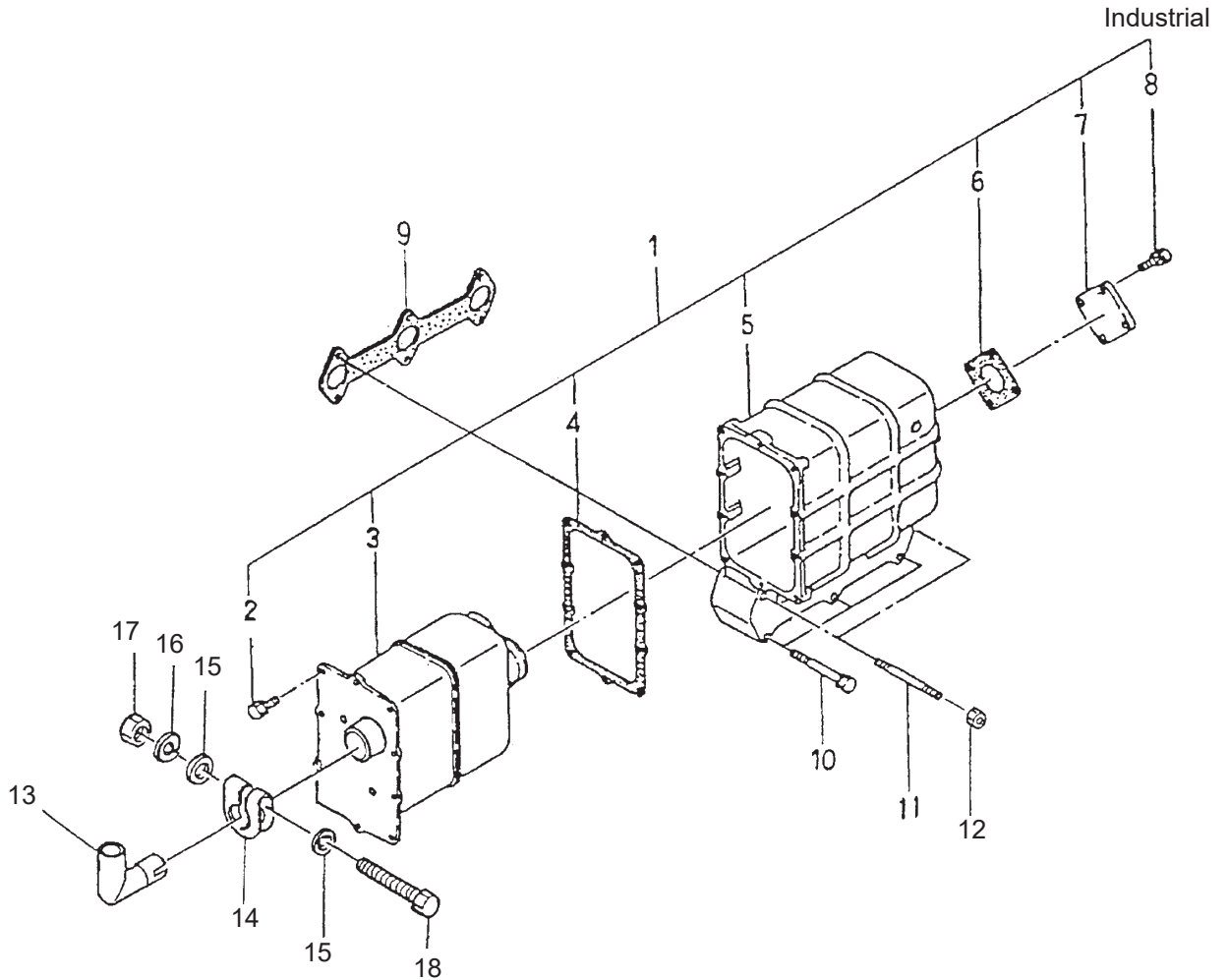
Industrial



843NW3aircleaner

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	135016300	1	Air Filter Assembly (includes keys #13 - 16)	-
2	19-00036	2	Clamp #36	-
3	135597860	1	Hose	-
4	135876600	1	Bracket	-
5	135976420	1	Bracket	-
6	195816100	1	Lifting Eye	-
7	011510820	2	Bolt	-
8	011510816	4	Bolt	-
9	011510825	1	Bolt	-
10	026100008	4	Washer	-
11	15-00701	2	Bolt	-
12	135016300	1	Bolt	-
13	135326197	1	Housing	-
14	24-27302	1	Element	-
15	135326199	1	Cover Assembly	-
16	314531163	1	Valve	-

Exhaust Manifold and Muffler

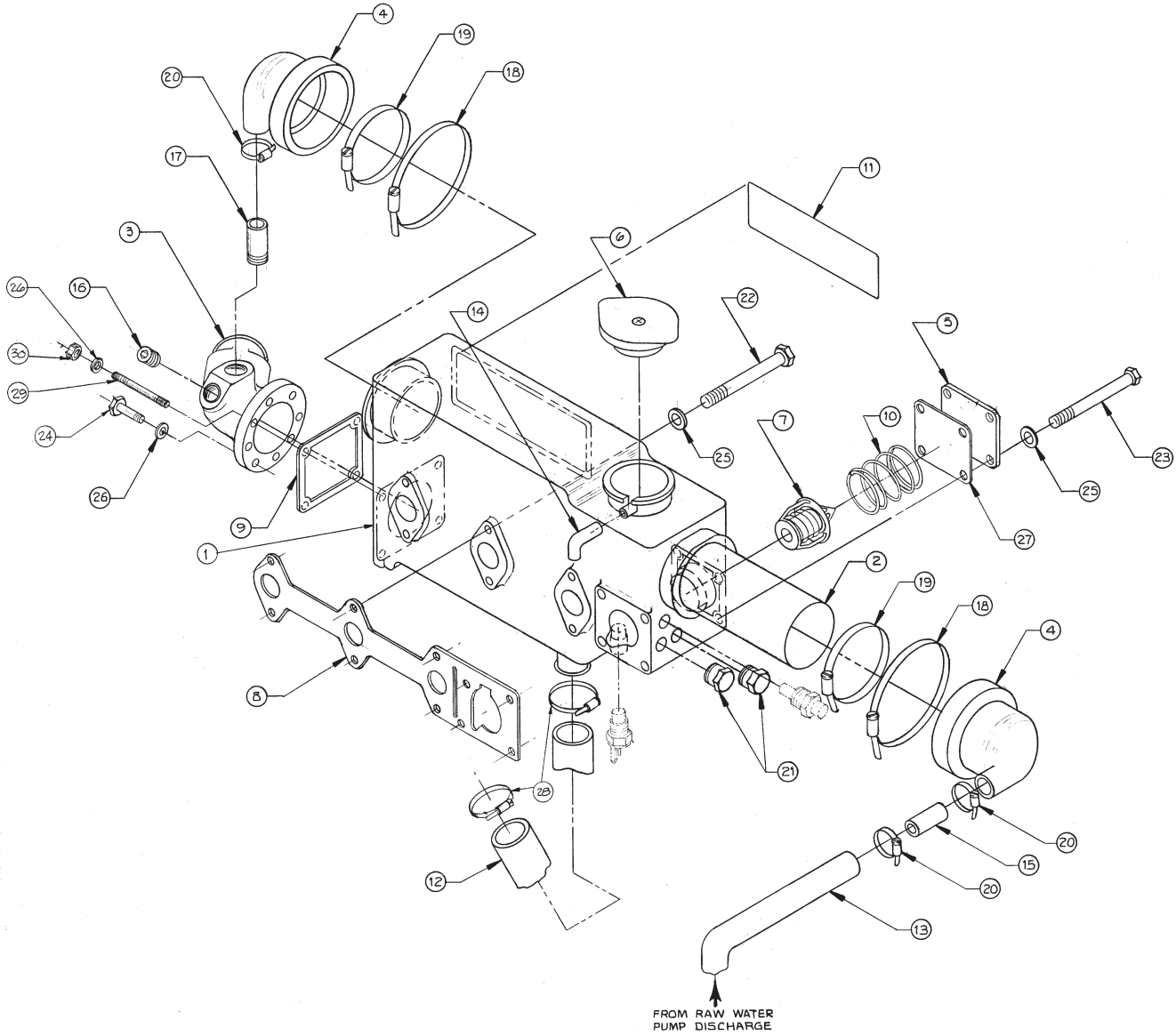


843NW3muffler

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	314011660	1	Muffler Assembly (includes keys #2 - 8)	-
2	011140612	10	Bolt	-
3	135406230	1	Muffler Element	-
4	135996900	1	Gasket	-
5	135616701	1	Exhaust Manifold	-
6	135996550	1	Gasket	-
7	314120300	1	Flange	-
8	011310620	4	Bolt	-
9	135996590	1	Gasket	-
10	011310670	4	Bolt	-
11	012110670	2	Stud	-
12	023100006	2	Nut	-
13	135606340	1	Exhaust Elbow (can use #27-33102)	-
	27-33103	1	Exhaust Elbow 1-1/2 NPT	-
14	314410110	1	Clamp	-
15	15-00701	2	Washer	-
16	15-00702	1	Spring Washer	-
17	020900008	1	Nut	-
18	010310865	1	Bolt	-

Exhaust Manifold and Heat Exchanger

Marine



A-4760B/ D-2106C

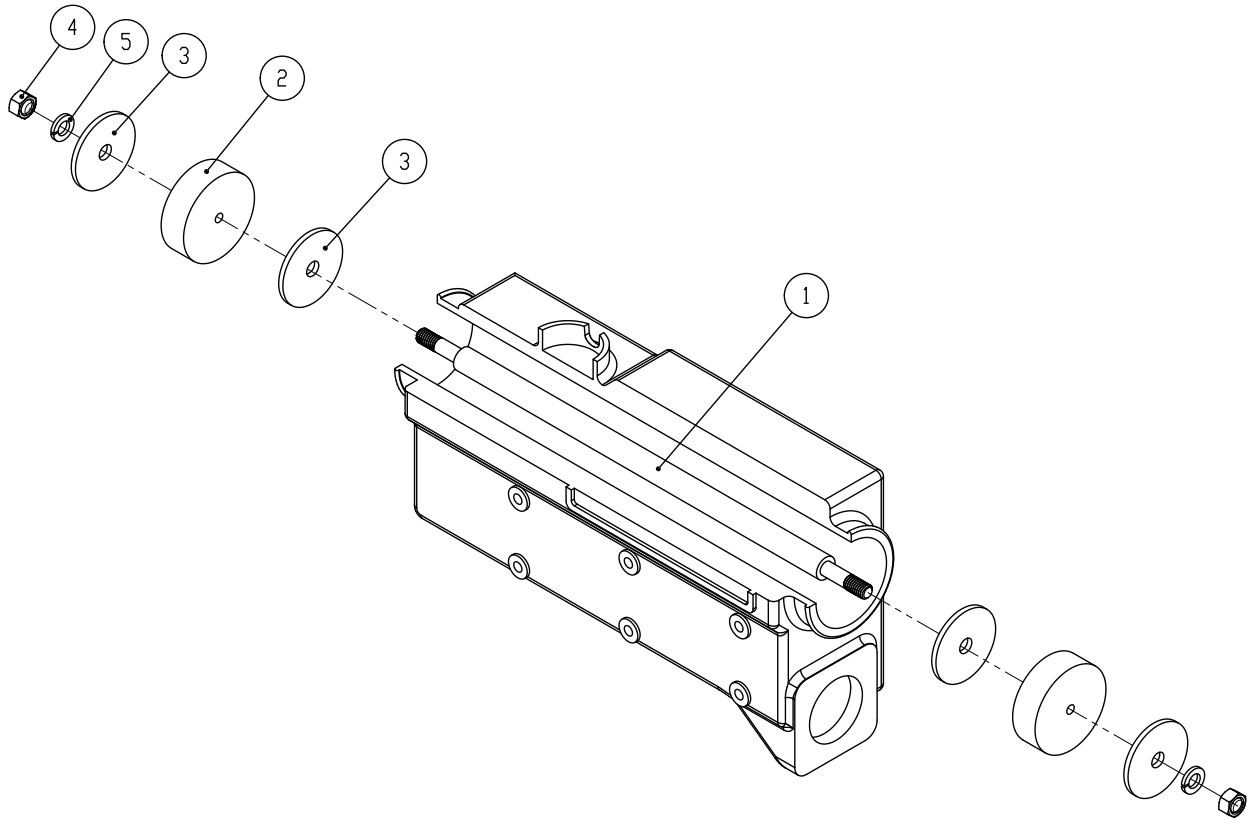
Exhaust Manifold and Heat Exchanger

Marine

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	10-33110	1	Exhaust Manifold / Expansion Tank	-
2	20-12002	1	Heat Exchanger Element	-
3	27-32014	1	Wet Exhaust Elbow S/S	-
4	145536370	2	Heat Exchanger End Cap	-
5	28-13101	1	Thermostat Housing Cover Plate	-
6	21-12013	1	Pressure Cap (formerly #21-12007)	-
7	145206022	1	Thermostat, 180°F / 82°C	-
8	11-33101	1	Exhaust Manifold Gasket	-
9	11-31902	1	Wet Exhaust Elbow Gasket	-
10	00-13101	1	Spring	-
11	00-08301	1	"Northern Lights" Decal (145 mm x 41 mm)	-
12	18-13107	1	Formed Hose	-
13	18-13108	1	Hose 3/4" ID x 18-1/2"	-
14	18-13109	1	Overflow Hose 5/16" ID x 25"	-
15	21-13102	1	Union 3/4 HB x 3/4 HB	-
16	21-13101	1	Socket Head Plug 1/2 NPT	-
17	145986150	1	Connector 1/2 NPT x 3/4 HB	-
18	19-00048	2	Hose Clamp #48	-
19	19-00040	2	Hose Clamp #40	-
20	19-00012	3	Hose Clamp #12	-
21	21-31002	2	Hex Head Plug, Brass 3/8 NPT	-
22	12-09137	6	Capscrew, Hex Head M6 x 1.0 x 105 mm S/S	-
23	12-09138	4	Capscrew, Hex Head M6 x 1.0 x 110 mm S/S	-
24	12-09712	3	Capscrew, Hex Head M8 x 1.25 x 25 mm S/S	-
25	15-01134	10	Flat Washer M6 S/S	-
26	15-00706	4	Flat Washer M8 S/S	-
27	11-13101	1	Thermostat Gasket	-
28	19-00024	2	Hose Clamp #24	-
29	13-09710	1	Stud M8 x 1.25 x 20 x 10 S/S (35 mm OAL)	-
30	14-09711	1	Hex Nut, M8 x 1.25 S/S	-
31	20-12207	1	Filler Neck	-
32	22-42070	1	Switch, High Exhaust Temperature (not shown)	-

GROUP 3 – COOLING SYSTEM

Expansion Tank & Exhaust Manifold M843



B-11087

Expansion Tank & Exhaust Manifold M843

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	20-12022	1	Heat exchanger expansion plug connection rod (M773L - M843)	-
2	00-18202	2	Partial expansion plug (rubber component) 2-3/8 to 2-1/2	-
3	15-00039	4	Washer 3/8" size with 2" OD (0.1" thickness)	-
4	14-00311	2	Hex Nut 3/8-16	-
5	15-00302	2	Lock washer, helical 3/8"	-

Coolant Pump

Marine

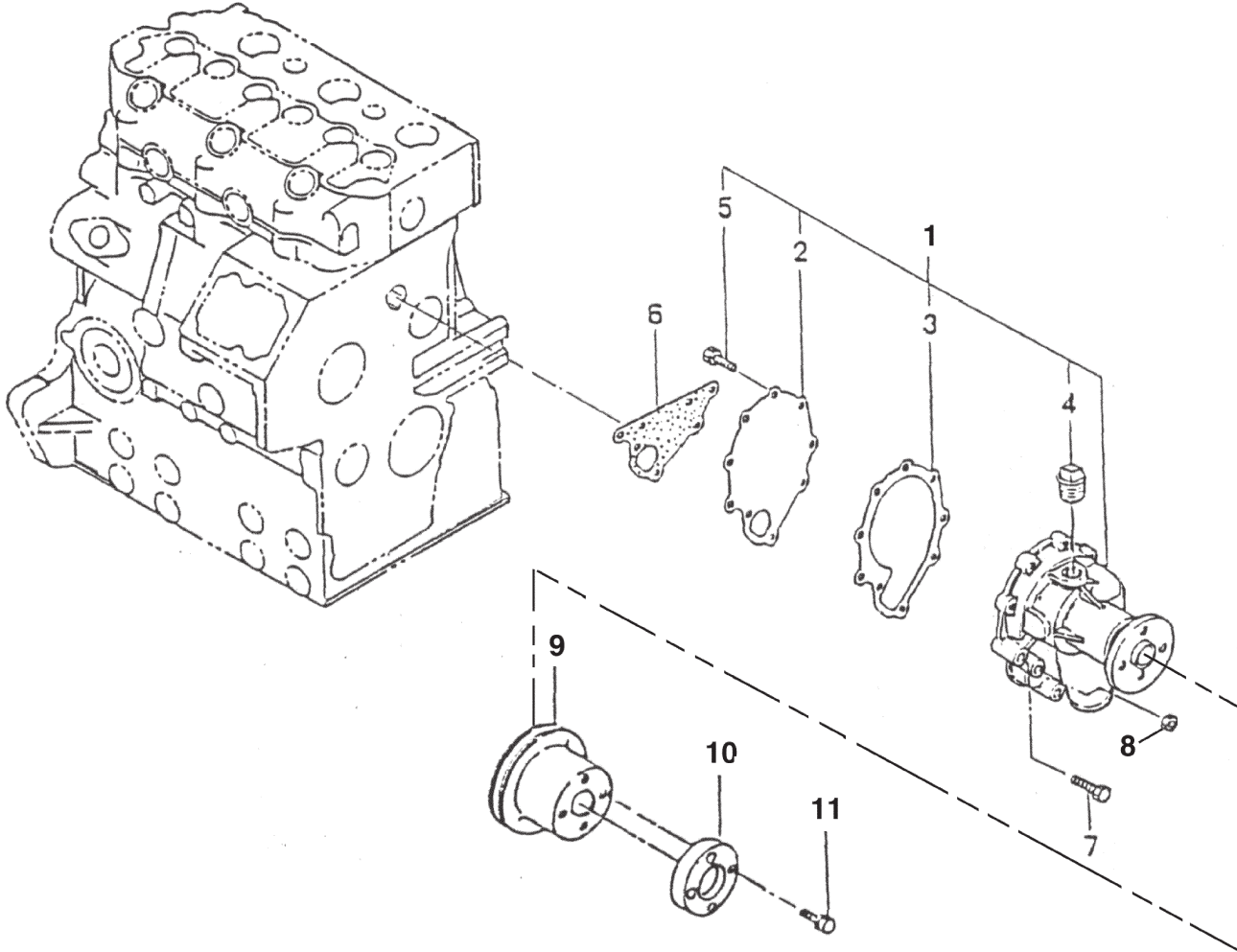
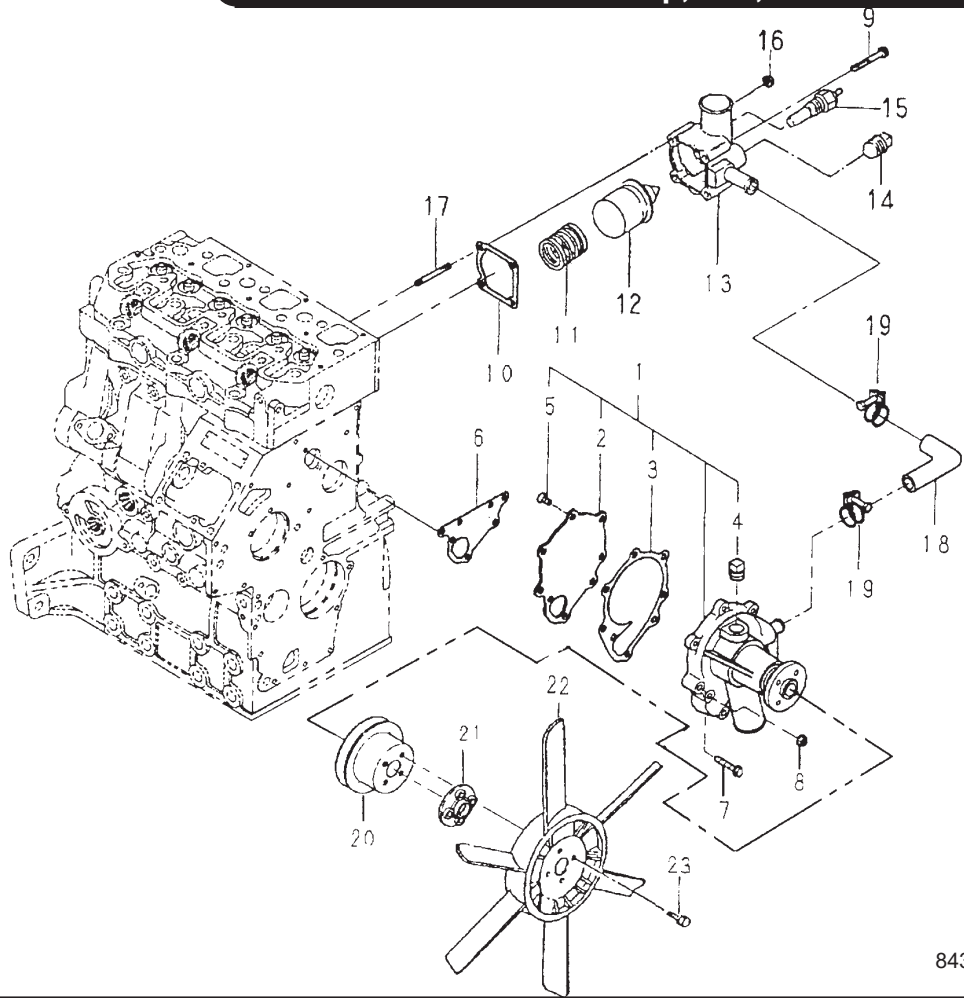


Fig. 3-2

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	145017800	1	Coolant Pump Assembly (includes keys #2 - 5)	-
2	145146320	1	Backing Plate	-
3	145996681	1	Gasket	-
4	064500030	1	Plug	-
5	015300614	5	Screw	-
6	145996670	1	Gasket	-
7	011310635	4	Bolt	-
8	023100006	1	Nut	-
9	145336620	1	Pulley	-
10	145386390	1	Spacer	-
11	011310620	4	Bolt	-

Coolant Pump, Fan, and Thermostat Housing

Industrial

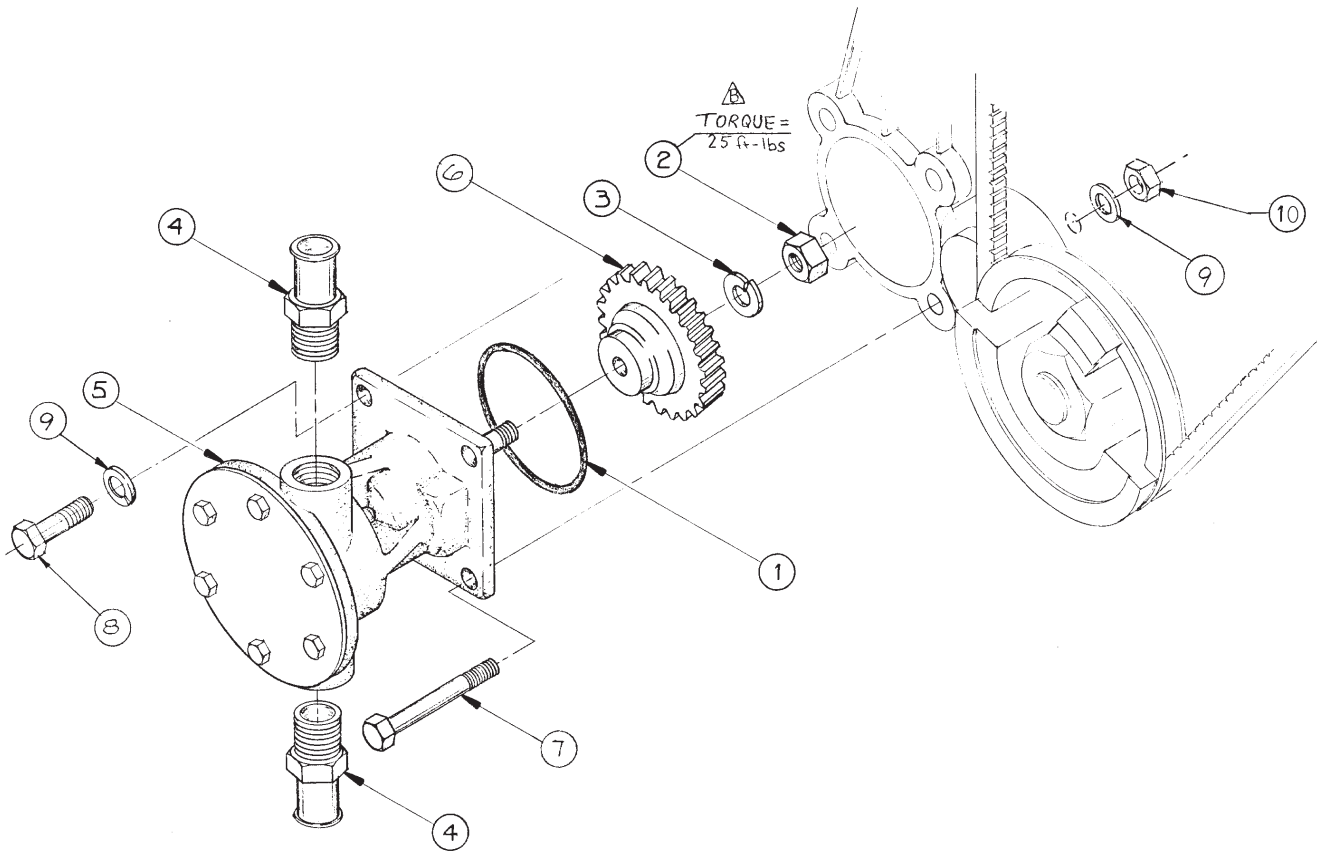


843NW3coolantpumpind

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
	145017730	1	Coolant Pump Assembly (includes keys #2 - 5)	-
2	145146320	1	Backing Plate	-
3	145996681	1	Gasket	-
4	064500030	1	Plug	-
5	015300614	3	Screw	-
6	145996670	1	Gasket	-
7	011310635	4	Bolt	-
8	023100006	1	Nut	-
9	12-01123	2	Bolt	-
10	145996710	1	Gasket	-
11	198217400	1	Spring	-
12	145206022	1	Thermostat, 180°F / 82°C	-
13	145216190	1	Thermostat Housing	-
14	064500030	1	Plug	-
15	385720101	1	Temperature Switch, 221°F/ 105°C	-
16	023100006	2	Nut	-
17	012110645	2	Stud	-
18	145536051	1	Hose	-
19	19-00006	2	Hose Clamp #6	-
20	145336620	1	Pulley	-
21	145386920	1	Spacer	-
22	145306620	1	Fan (Blower)	-
23	011310635	4	Bolt, M6 x 1.0 x 35 mm	-

Raw Water Pump and Mounting

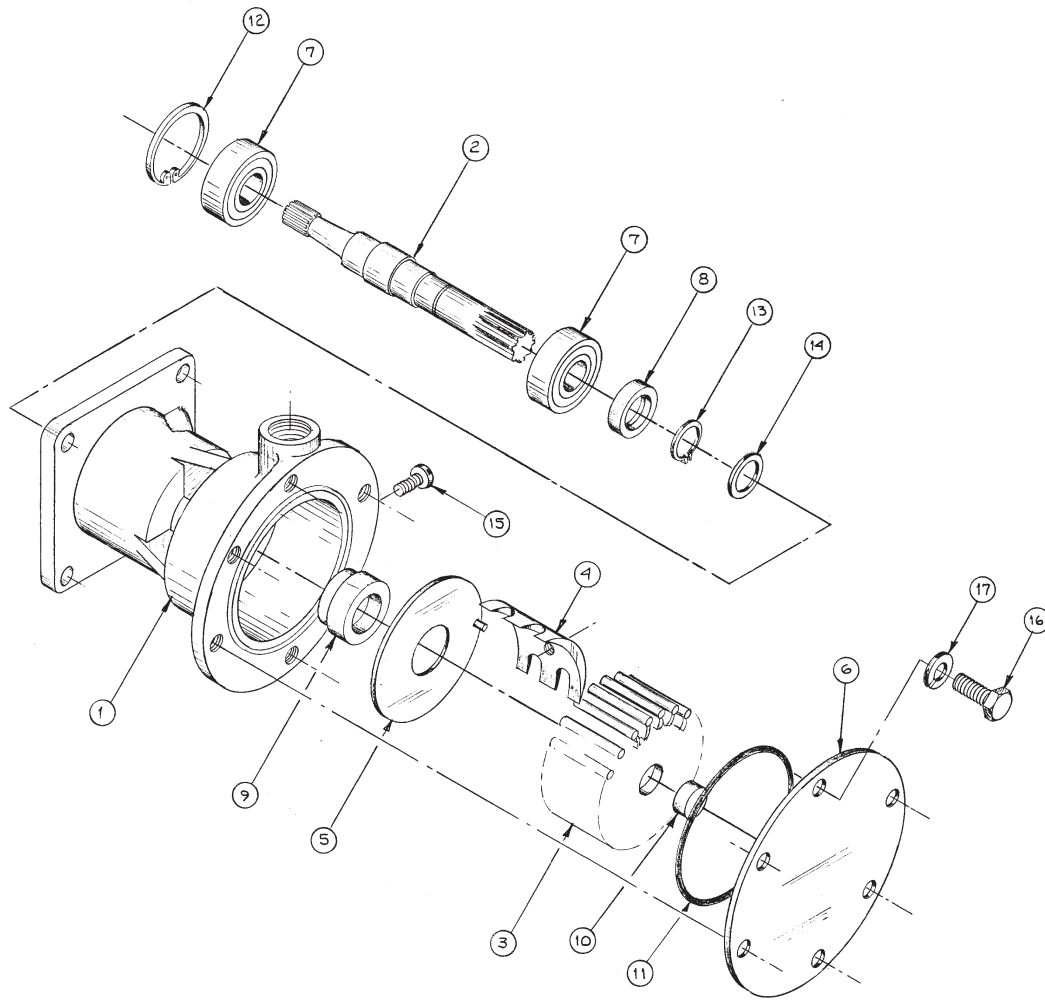
Marine



A-4779/ B-3842

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	16-13101	1	O-ring 2-1/2 x 2-3/4 x 1/8	-
2	14-00811	1	Nut M10 x 1.5	-
3	15-00802	1	Lock Washer M10	-
4	21-00129	2	Fitting 1/2 NPT x 3/4 HB	-
5	25-12057	1	Raw Water Pump (see parts detail)	-
6	340460141	1	Drive Gear	-
7	12-00710	3	Capscrew, Hex Head M8 x 1.25 x 90 mm	-
8	12-00754	1	Capscrew, Hex Head M8 x 1.25 x 85 mm	-
9	15-00702	4	Lock Washer, Helical M8	-
10	14-00711	3	Hex Nut M8 x 1.25	-

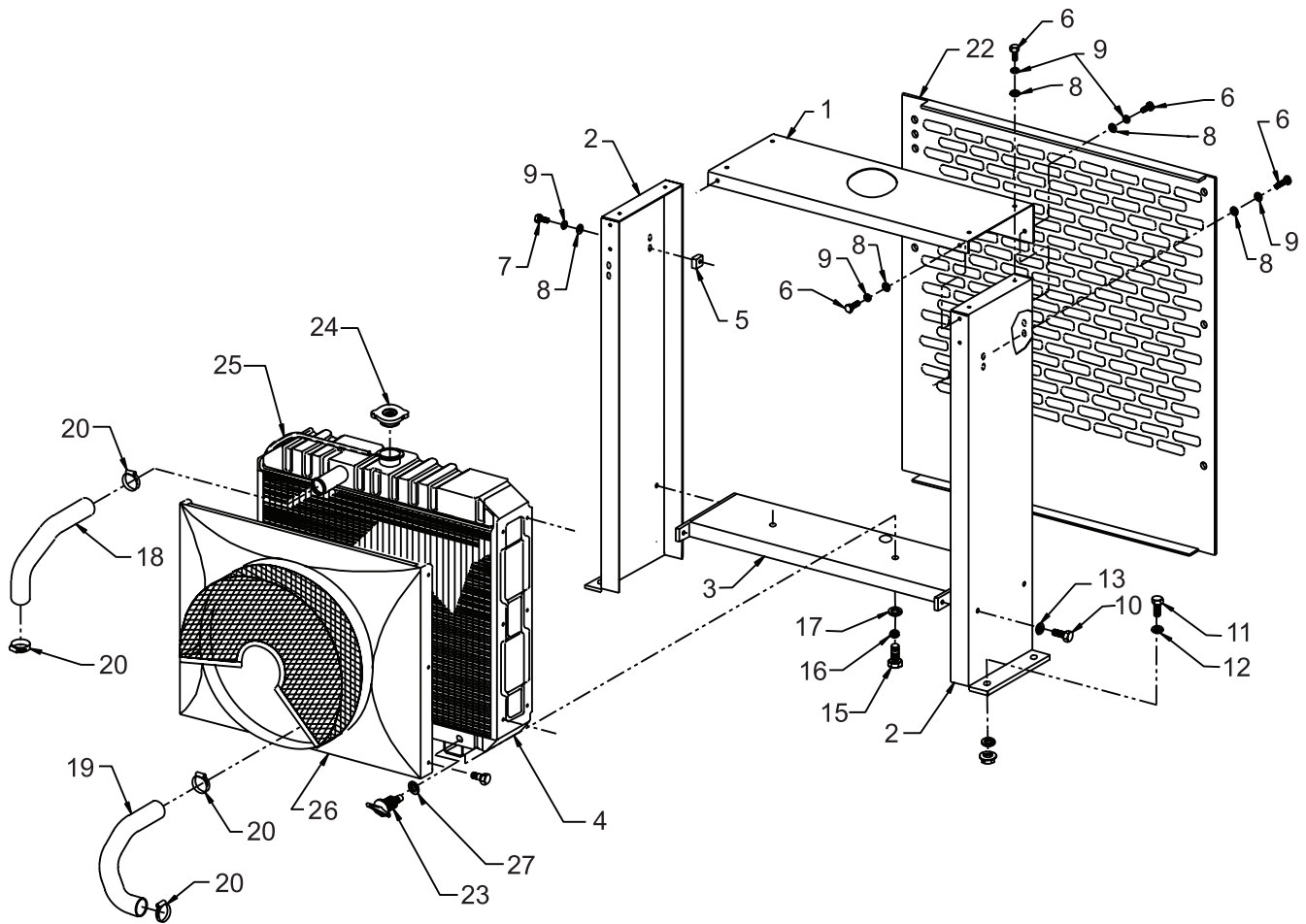
Raw Water Pump Detail



A-3706/ C-2204

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	25-12057	1	Raw Water Pump Assembly (includes keys 1 - 17)	-
•	25-12004	1	Repair Kit (includes keys 3- 9, 11)	-
1	25-12057	1	Raw Water Pump Body	-
2	25-12059	1	Shaft	-
3	25-12060	1	Impeller	-
4	25-12061	1	Cam	-
5	25-12062	1	Wear Plate	-
6	25-12063	1	End Cover	-
7	25-12064	1	Bearing	-
8	25-12065	1	Lip Seal	-
9	25-12066	1	Mechanical Seal	-
10	25-12017	1	Spline Seal	-
11	25-12067	1	O-ring	-
12	25-12068	1	Retaining Ring	-
13	25-12069	1	Retaining Ring	-
14	25-12070	1	Washer	-
15	25-12071	1	Pan Head Screw #10-32 x 3/8	-
16	25-12072	6	Hex Head Screw #10-32 x 3/8	-
17	25-12073	6	Split Lock Washer #10	-

Radiator and Guard

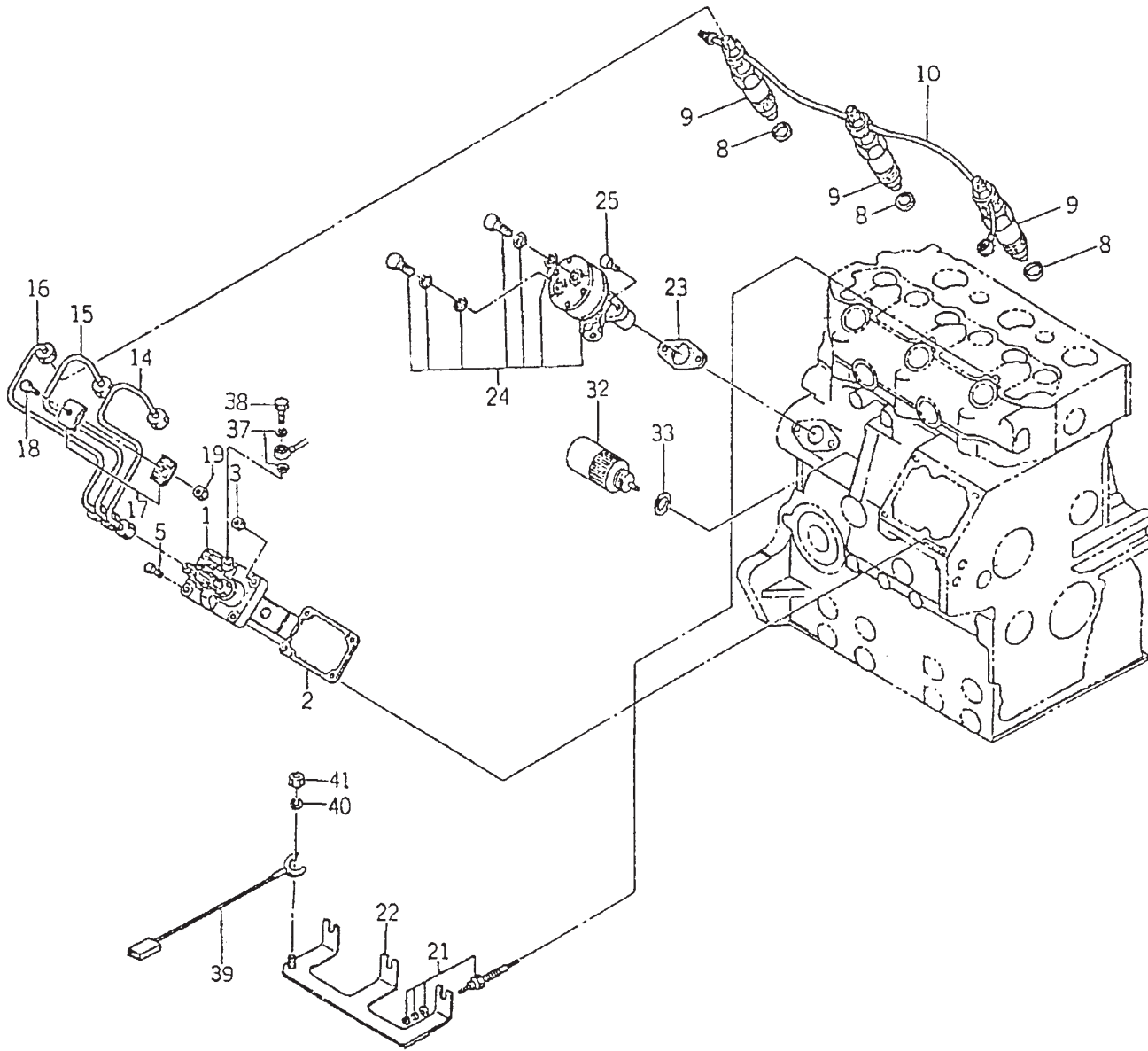


A-6501/ B-9154

Radiator and Guard

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	39-13113	1	Top Panel	
2	39-13112	2	Side Panel	
3	39-13114	1	Radiator Support	
4	145506620	1	Radiator Assembly, Aluminum (includes keys 23 -25)	
5	21-18101	2	Spacer, Radiator Support	
6	12-00030	14	Capscrew, Hex Head M6 x 1.0 x 16 mm	
7	12-01131	2	Capscrew, Hex Head M6 x 1.0 x 20 mm	
8	15-00008	16	Flat Washer M6	
9	15-01132	16	Lock Washer, Helical M6	
10	12-00751	4	Capscrew, Hex Head M8 x 1.25 x 16 mm	
11	12-00711	4	Capscrew, Hex Head M8 x 1.25 x 20 mm	
12	15-00701	8	Flat Washer M8	
13	15-00702	4	Lock Washer, Helical M8	
14	14-04802	4	Hex Nut, Nylock M8 x 1.25	
15	12-04400	2	Capscrew, Hex Head M10 x 1.5 x 16 mm	
16	15-00802	2	Lock Washer, Helical M10	
17	15-00805	2	Flat Washer M10	
18	145537240	1	Hose, Radiator Inlet	
19	145537250	1	Hose, Radiator Outlet	
20	19-00020	4	Hose Clamp #20	
21	00-70079	1	Label "Northern Lights" (not shown)	
22	39-13101	1	Grille	
23	21-12016	1	Drain Cock	
24	310110200	1	Filler Cap	
25	18-11906	1	Vent Hose	
26	145546950	1	Shroud with Fan Guard	
27	310190477	1	O-ring	

Injection Pump and Lines

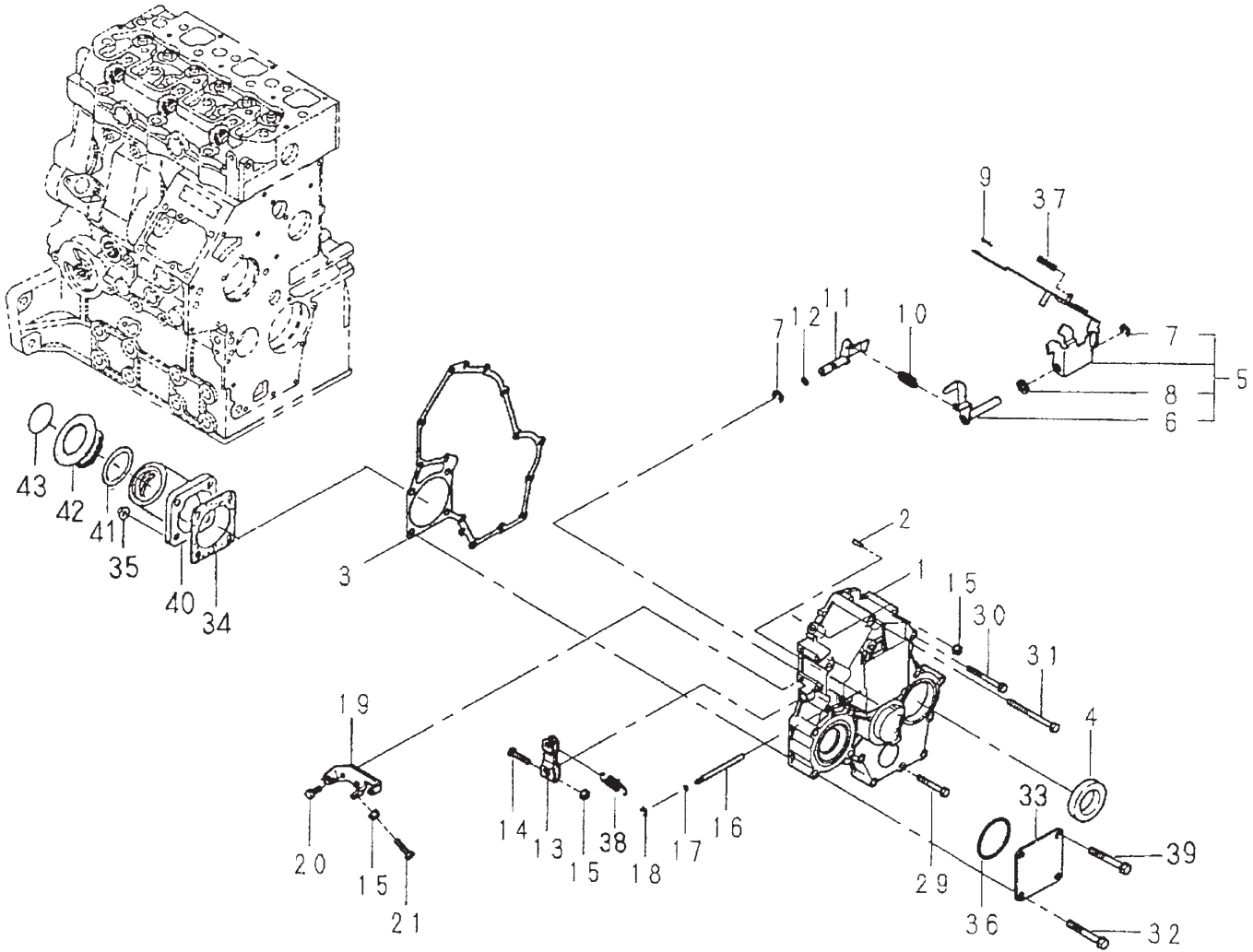


843injectionlines

Injection Pump and Lines

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	131017592	1	Injection Pump Assembly	-
2	131426310	1	Shim Set	-
3	023100008	2	Nut	-
5	19M7866	2	Bolt	-
8	131426200	3	Gasket	-
9	131406360	3	Injector Assembly	-
10	131606451	1	Return Line	-
14	131507450	1	Injection Line #1	-
15	131507460	1	Injection Line #2	-
16	121507470	1	Injection Line #3	-
17	199106021	4	Clamp	-
18	010110625	2	Bolt	-
19	023100006	2	Nut	-
21	185366060	3	Glow Plug, 12 Volt	-
	185366100	3	Glow Plug, 24 Volt	-
22	185376140	1	Connector	-
23	130996130	1	Gasket	-
24	130506140	1	Feed Pump Assembly (see parts detail)	-
25	011140616	2	Bolt	-
32	185206085	1	Solenoid, 12V Standard Ground	-
	185206192	1	Solenoid, 12V Isolated Ground	-
	185206200	1	Solenoid, 24V Isolated Ground	-
33	025100016	1	Seal Washer	-
37	025100008	2	Seal Washer	-
38	198487450	1	Screw	-
39	185606170	1	Wire Harness	-
40	027100004	1	Spring Washer	-
41	020100004	1	Nut	-

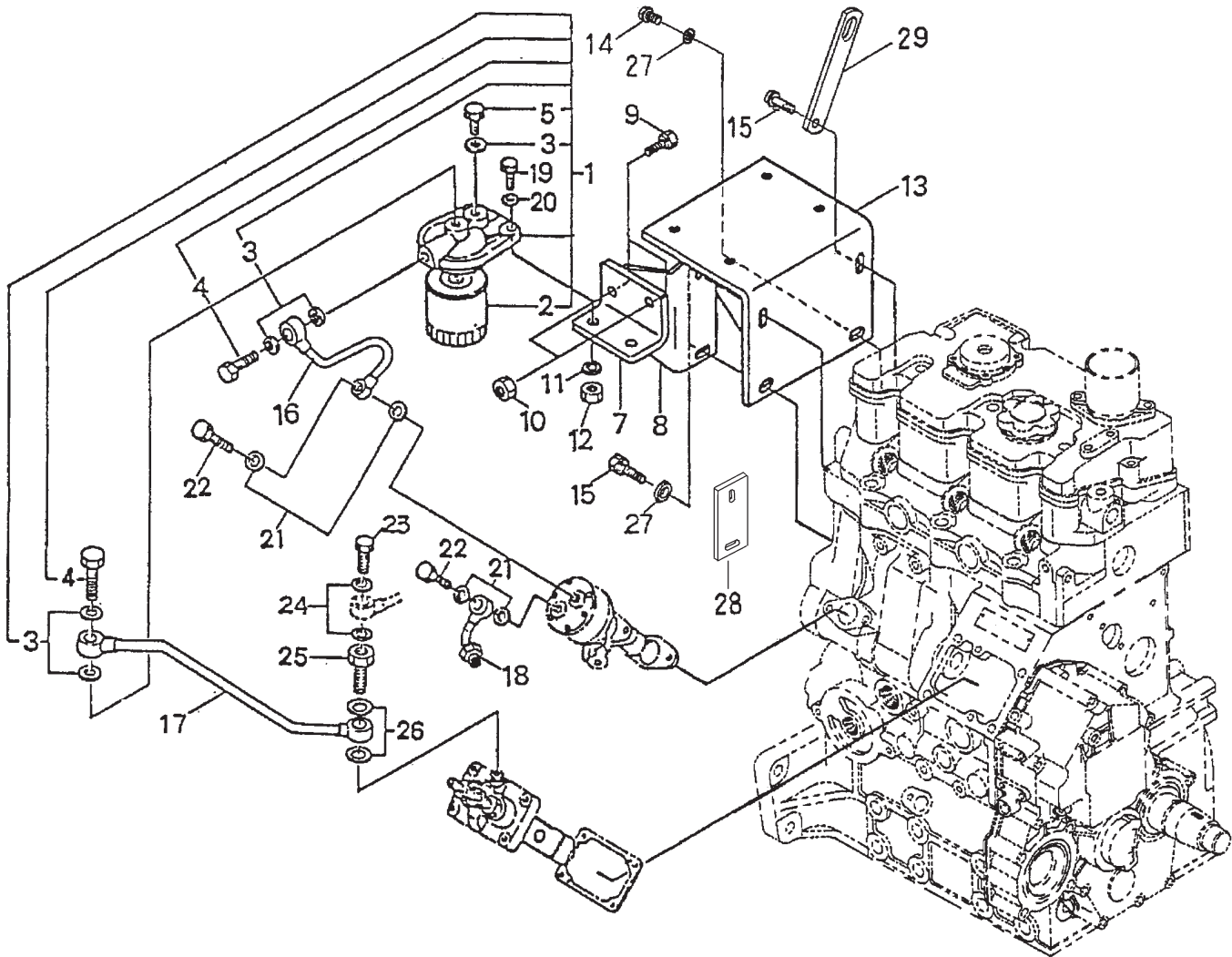
Governor and Timing Gear Case



843timinggear

Governor and Timing Gear Case				
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	165106810	1	Timing Gear Case - Marine (white)	-
	165106800	1	Timing Gear Case - Industrial (blue)	-
			} (includes key #2)	
2	030300410	1	Spring Pin	-
3	165996550	1	Gasket	-
4	198636160	1	Oil Seal	-
5	125046270	1	Governor Lever Assembly (includes keys 6- 8)	-
6	125406080	1	Tension Lever	-
7	036800008	2	Snap Ring	-
8	026200010	1	Washer	-
9	031100004	1	Snap Pin	-
10	198217390	1	Spring	-
11	125156250	1	Arm	-
12	052109110	1	O-ring	-
13	125416020	1	Governor Lever	-
14	010110630	1	Bolt	-
15	023100006	3	Nut	-
16	125116141	1	Shaft	-
17	052109108	2	O-ring	-
18	036800005	1	Snap Ring	-
19	125976120	1	Bracket	-
20	011300614	2	Bolt	-
21	012810640	1	Bolt	-
29	011310645	7	Bolt	-
30	011310660	3	Bolt	-
31	011310680	2	Bolt	-
32	010310865	**	Bolt (**as required)	-
33	165206320	1	Cover (Marine only, Keel Cooled)	-
	165206150	2	Cover (Industrial only)	-
34	11-12005	1	Gasket (former #165996610)	-
35	023100008	3	Nut	-
36	052300700	1	O-ring	-
37	198217420	1	Start Spring	-
38	398210070	1	Spring	-
39	011510860	1	Bolt	-
40	110766200	1	Oil Fill	-
41	052300400	1	O-ring	-
42	198436010	1	Cap	-
43	190196630	1	Caution Plate	-
			} Marine only	

Fuel Filter and Piping



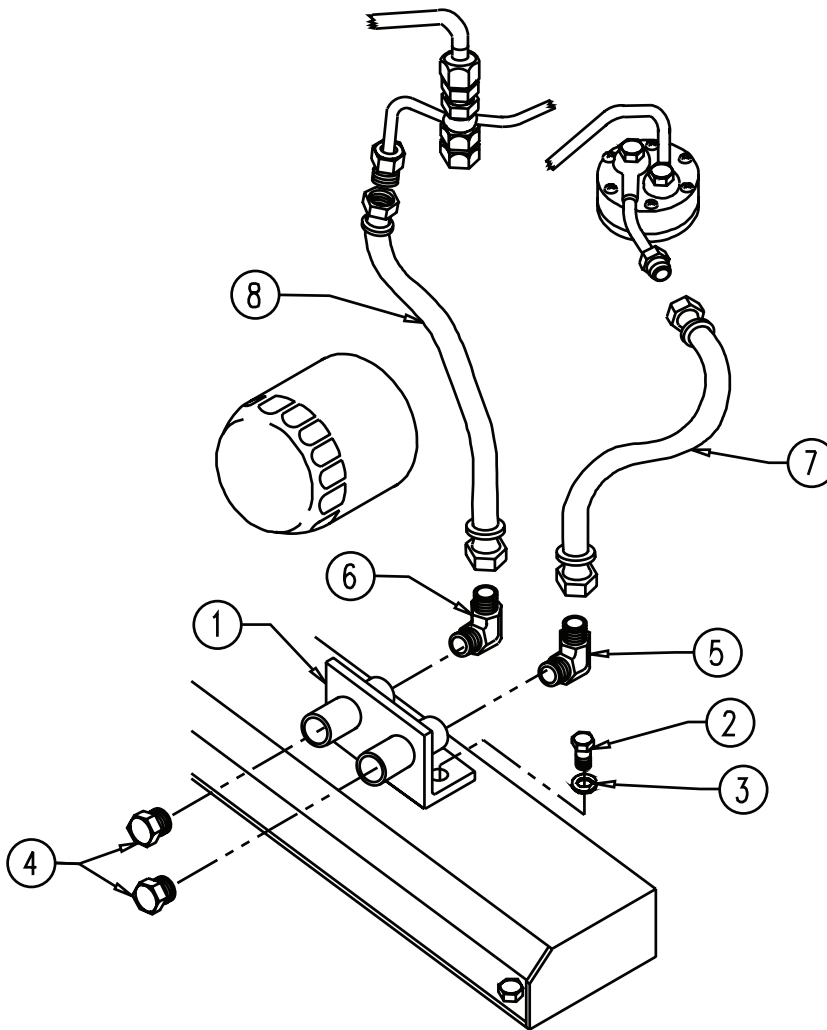
843NWfuelfilter

Fuel Filter and Piping

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	130306190	1	Fuel Filter Assembly (includes keys #2 - 5)	-
2	24-52020	1	Fuel Filter	-
3	130326051	5	Gasket	-
4	130436011	2	Joint Bolt	-
5	130396030	1	Plug	-
7	130976470	1	Bracket (Marine)	-
	130976450	1	Bracket (Industrial)	-
8	130976460	1	Bracket (Marine)	-
	130976440	1	Bracket (Industrial)	-
9	010310820	2	Bolt	-
10	023100008	2	Nut	-
11	15-00802	2	Spring Washer	-
12	020900010	2	Nut	-
13	135976420	1	Bracket - Industrial only	-
14	011510820	1	Bolt - Industrial only	-
15	011510825	**	Bolt	-
16	130556690	1	Pipe	-
17	130556701	1	Pipe	-
18	130556681	1	Connector, Fuel Inlet	-
19	010311030	2	Bolt	-
20	026200010	2	Washer	-
21	130516069	4	Gasket	-
22	130516092	2	Joint Bolt	-
23	198487450	1	Joint Bolt	-
24	025100008	2	Seal Washer	-
25	131246170	1	Joint Bolt	-
26	131296255	2	Sealing Washer M12	-
27	15-00701	**	Washer	-
28	199216311	1	Spacer (Marine)	-
29	195816100	1	Lifting Eye	-
			**As required	

USCG SAE J1527 ISO 7840 Fuel Lines

M843N up to s/n xxxx-46623C
 NL 843N All

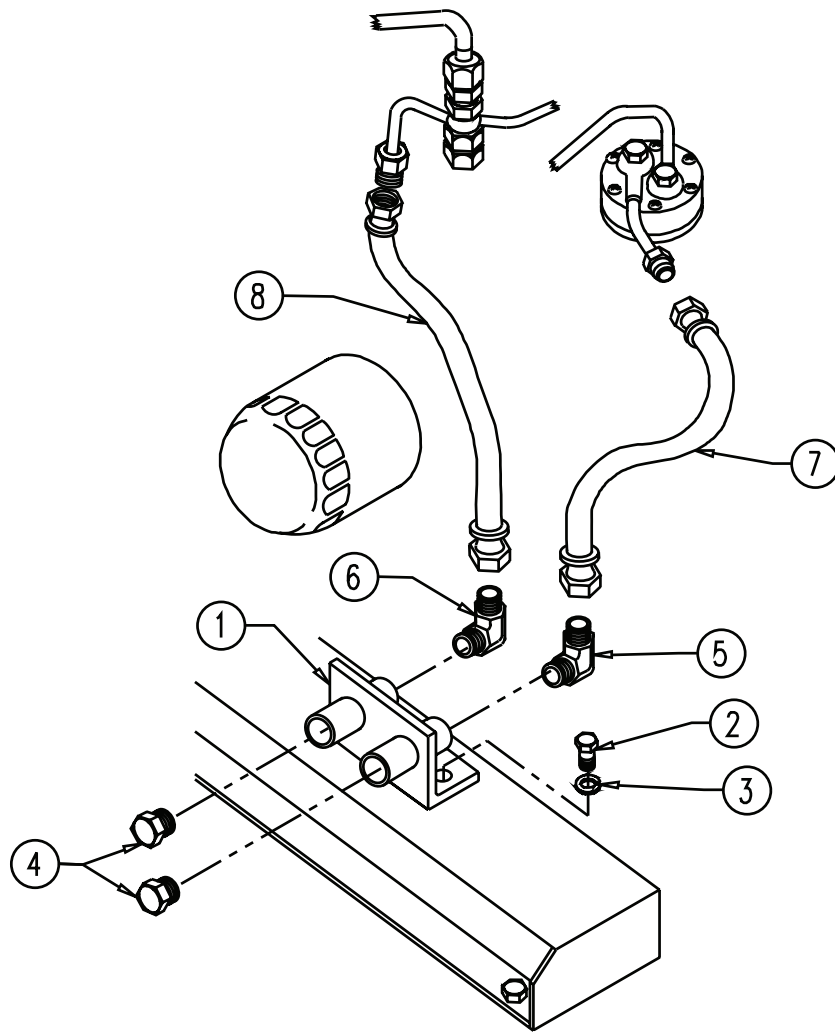


A-11853 / B-9278

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	10-51099	1	Fuel Manifold 1/4 NPT	-
2	12-01102	2	Capscrew, Hex Head M6 x 1.0 x 16 mm S/S	-
3	15-00610	2	Lock Washer, Helical M6 S/S	-
4	21-31624	2	Plug, Hex Head Brass 1/4 NPT	-
5	21-52245	1	Male Elbow 90°, Brass 1/4 NPT x 5/16-45T	-
6	21-71044	1	Male Elbow 90°, Brass 1/4 NPT x 1/4-45T	-
7	18-53114	1	Hose Assembly 1/4" ID x 14-1/2"	-
8	18-53115	1	Hose Assembly 1/4" ID x 22"	-

USCG SAE J1942 ABS Fuel Lines

M843N up to s/n xxxx-46623C

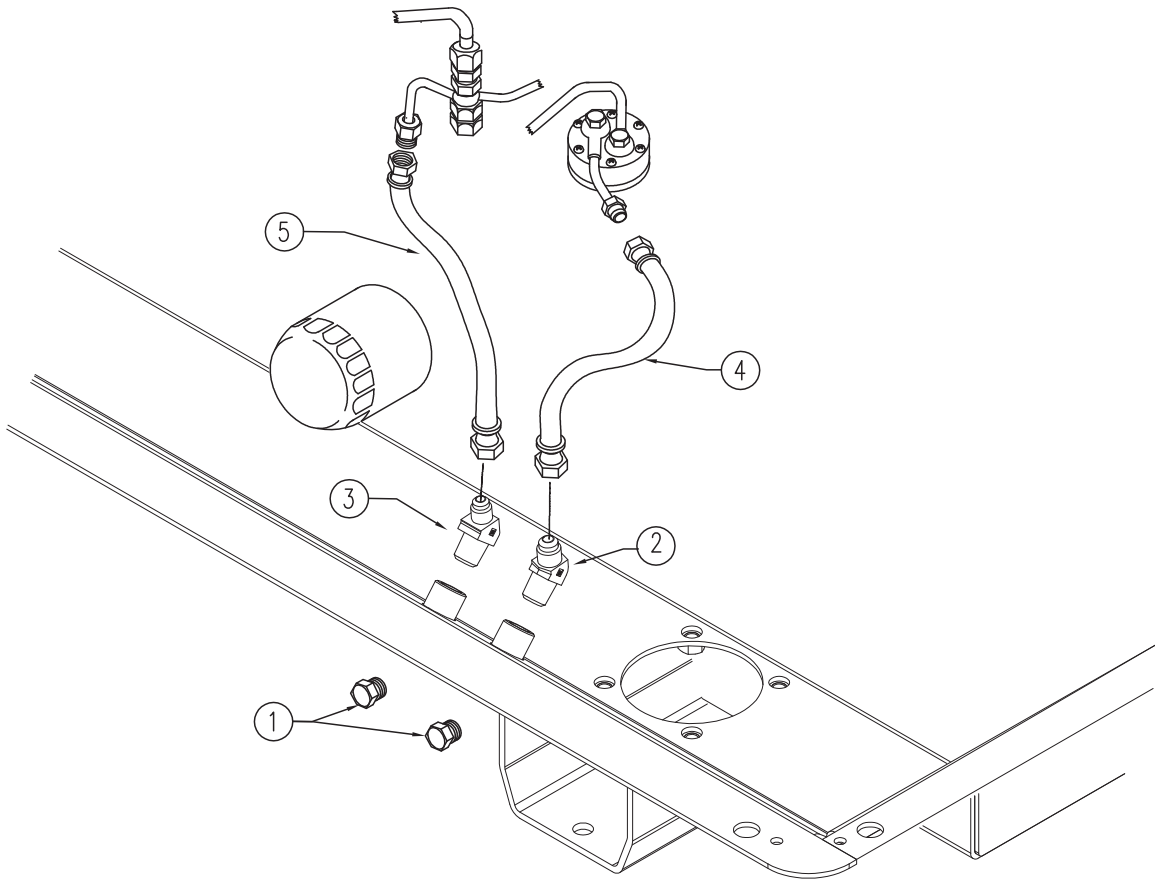


A-118520 / B-9278

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	10-51099	1	Fuel Manifold 1/4 NPT	-
2	12-01102	2	Capscrew, Hex Head M6 x 1.0 x 16 mm S/S	-
3	15-00610	2	Lock Washer, Helical M6 S/S	-
4	21-31624	2	Plug, Hex Head Brass 1/4 NPT	-
5	21-74411	1	Male Elbow 90°, Steel 1/4 NPT x 5/16-37T	-
6	21-71049	1	Male Elbow 90°, Steel 1/4 NPT x 1/4-37T	-
7	18-58502	1	Hose Assembly 1/4" ID x 15"	-
8	18-51211	1	Hose Assembly 3/16" ID x 23"	-

USG A-1 SAE J1527 ISO 7840 Fuel Lines

M843N from s/n xxxx-46624C

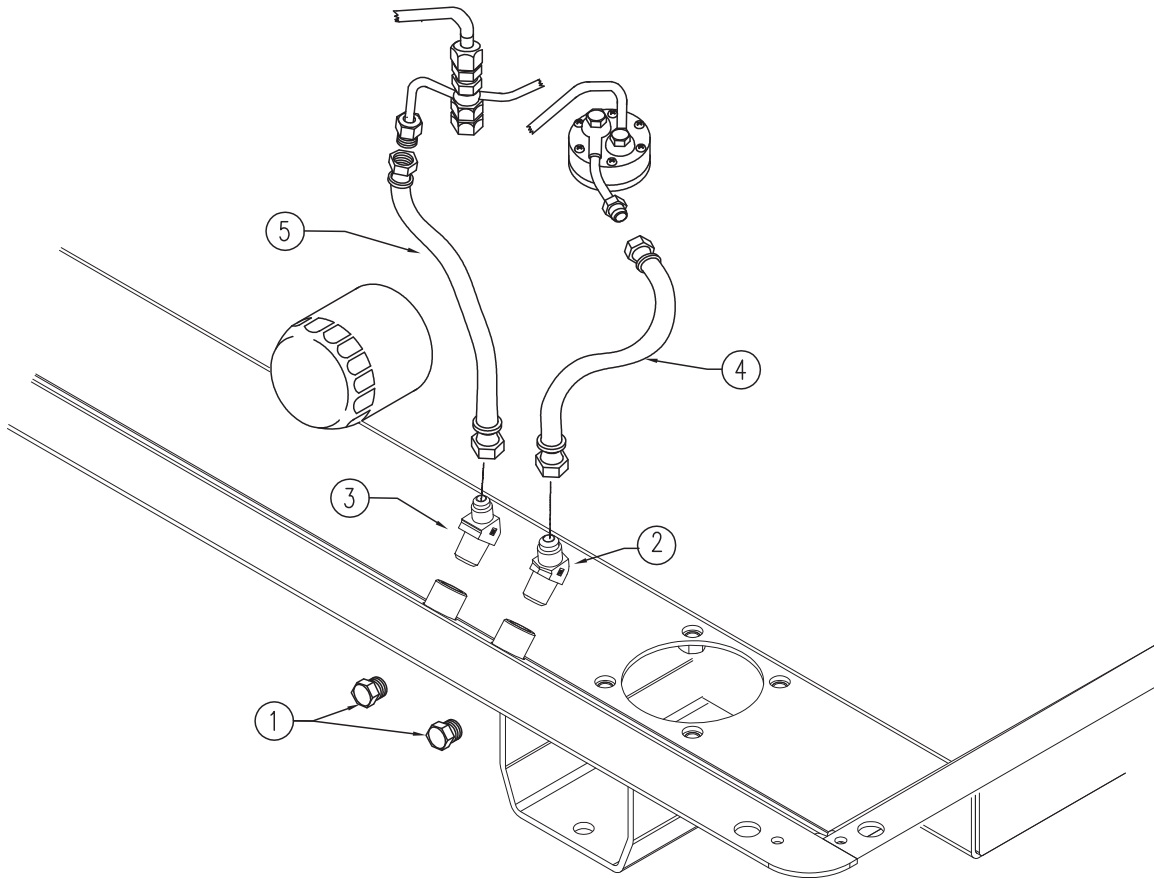


B-9827

Key	Part Number	Qty	Description	Serial Number
1	21-31624	2	Plug, Hex Head Brass 1/4 NPT	-
2	21-51204	1	Male Elbow, 45°, Brass. 1/4NPT X 5/16-45T	-
3	21-50054	1	Male Elbow, 45°, Brass. 1/4NPT X 1/4-45T	-
4	18-53114	1	Hose Assembly 1/4" ID x 14-1/2"	-
5	18-53115	1	Hose Assembly 1/4" ID x 22"	-

USG A-1 SAE J1942 ABS Fuel Lines

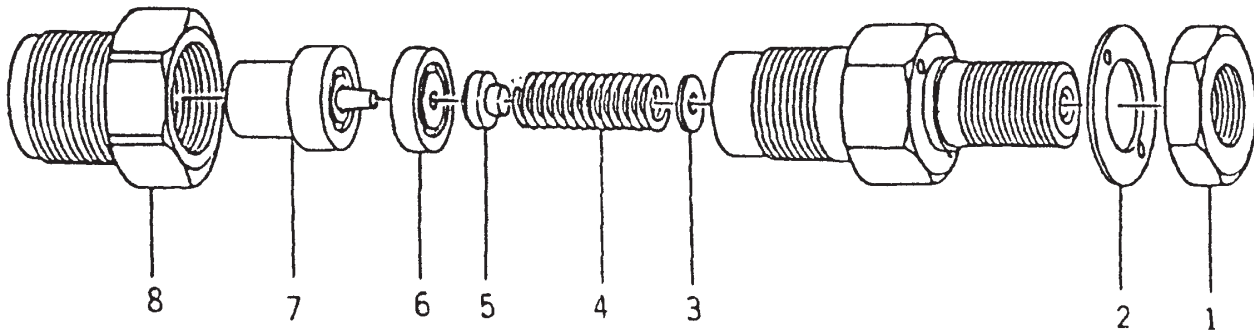
M843N from s/n xxxx-46624C



B-9827

Key	Part Number	Qty	Description	Serial Number
1	21-31624	2	Plug, Hex Head Brass 1/4 NPT	-
2	21-00600	1	Male Elbow, 45°, Steel 1/4NPT X 5/16-37T	-
3	21-05404	1	Male Elbow, 45°, Steel 1/4NPT X 1/4-37T	-
4	18-58502	1	Hose Assembly 1/4" ID x 15"	-
5	18-51211	1	Hose Assembly 3/16" ID x 23"	-

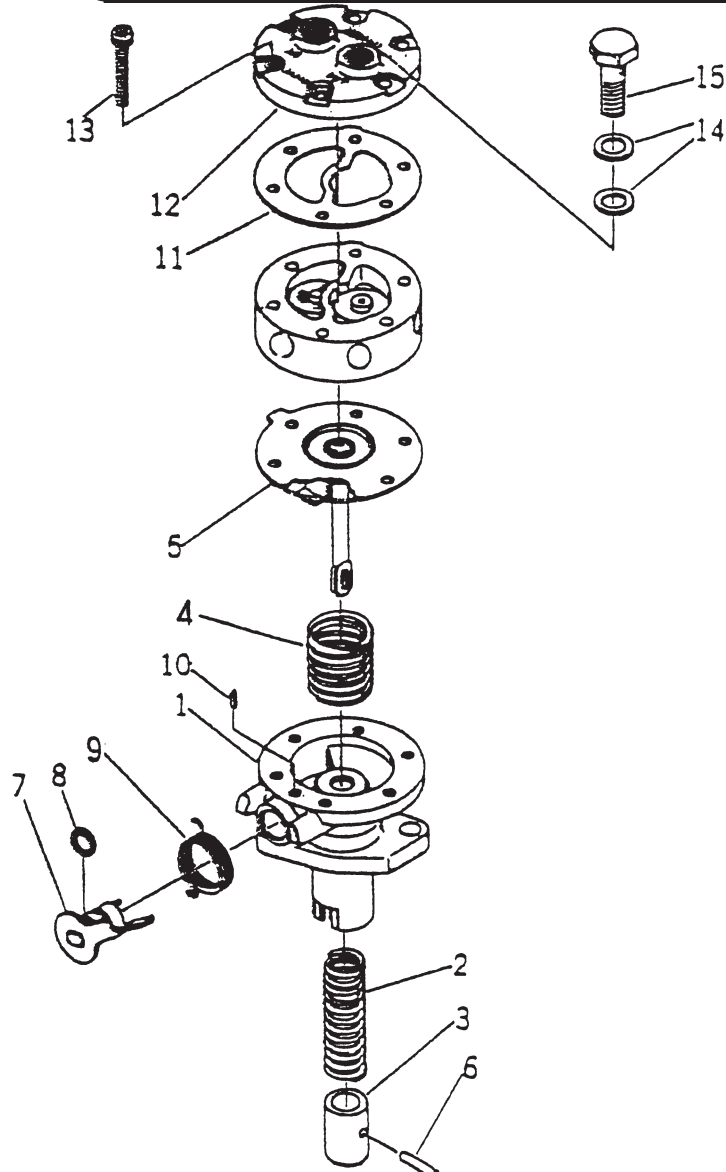
Fuel Injector



injector

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	131406360	1	Injector Assembly (includes keys #1 - 8)	-
1	131446006	1	Nut	-
2	131426230	1	Gasket	-
3	131437360	1	Shim	-
4	131446074	1	Spring	-
5	131446075	1	Spring seat	-
6	131446976	1	Spacer	-
7	131416170	1	Nozzle	-
8	131446077	1	Nut	-

Fuel Feed Pump



feedpump843

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	130506140	1	Feed Pump Assembly (includes keys #1 - 15)	-
1	130516080	1	Housing*	-
2	130516081	1	Spring	-
3	130516082	1	Piston	-
4	130516083	1	Spring	-
5	130516084	1	Diaphragm	-
6	130516085	1	Pin	-
7	130516086	1	Lever	-
8	131226180	1	O-ring	-
9	130516087	1	Spring	-
10	130516088	1	Guide*	-
11	130516101	1	Gasket	-
12	130516090	1	Cap*	-
13	130516091	6	Screw	-
14	130516069	4	Gasket	-
15	130516092	2	Banjo Bolt	-

*Not available separately.

Engine Electrical 12 Volt Standard Ground

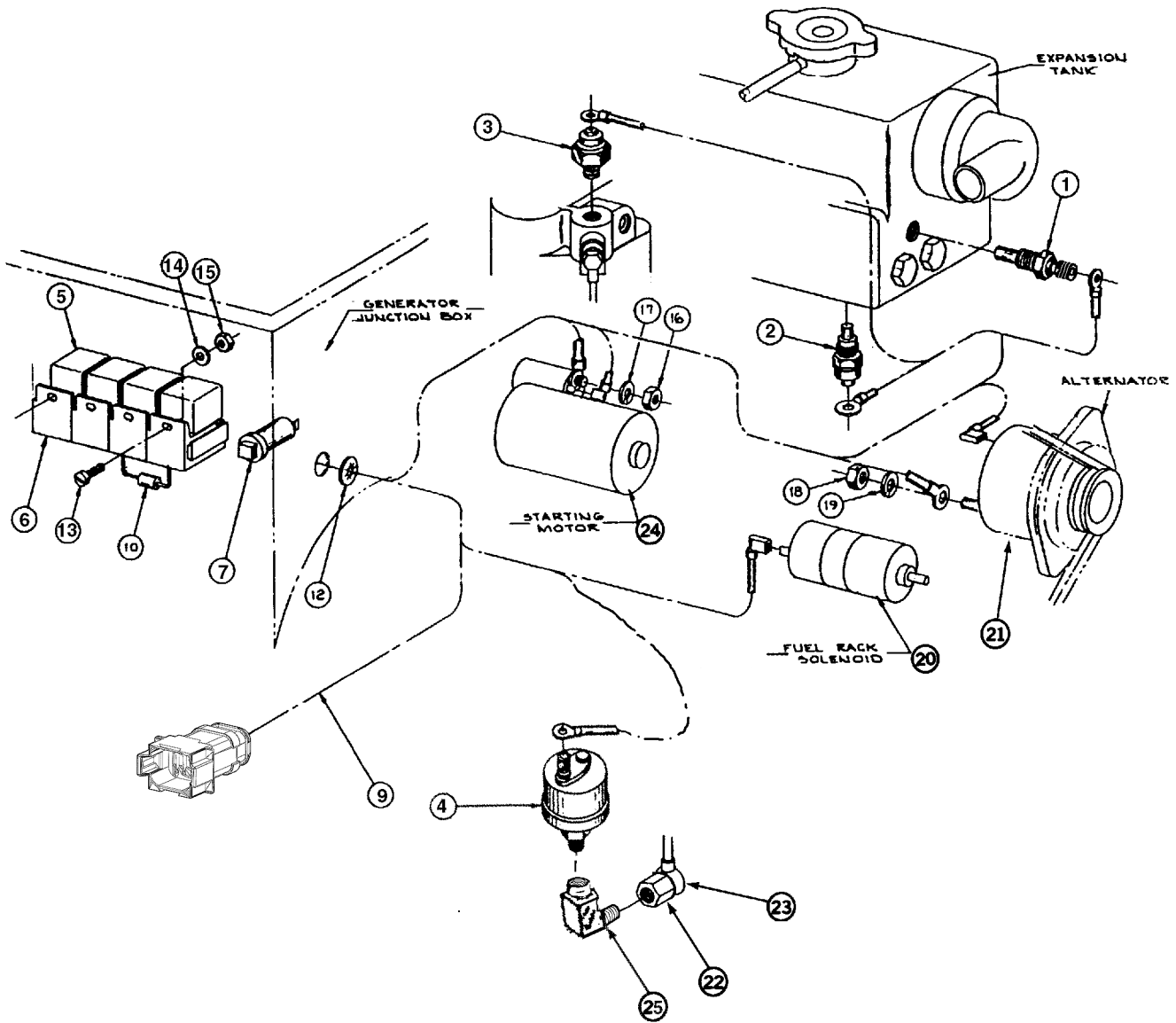
MARINE UNITS

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	22-42055	1	Temperature Sender 250°F 3/8 NPT	-
	22-74802	1	Dual Station Temperature Sender 250°F 1/8 NPT	-
	21-55201	1	Bushing, Brass 3/8NPT x 1/8 NPT (for sender 22-70226)	-
2	385720110	1	Temperature Switch 95°C M16 X 1.5	-
3	185246011	1	Oil Pressure Switch 1/8 NPT	-
4	22-41016	1	Oil Pressure Sender 1/8 NPT	-
	22-71016	1	Dual Station Oil Pressure Sender 1/8 NPT	-
5	22-42047	4	Relay, 12 Volt SPDT	-
6	22-40393	4	Terminal Retainer	-
	22-40391	4	Relay Base	-
7	22-42043	1	Circuit Breaker, DC 15 Amp - Snap-In Type	-
	22-40674	1	Circuit Breaker DC 15 Amp - Screw mount type	-
8	22-92120	1	Control Panel, S1-B (see detail)	-
9	22-43121	1	Engine Wire Harness - Round, Merc Plug Connector	-
10	22-41060	2	Diode, 6 Amp 50 Volt PIV	-
11	22-40930	1	Wire Harness Extension 20' (not shown)	-
12	00-40028	1	Grommet	-
13	12-00094	2	Machine Screw #10-32 x 3/8" s/s	-
14	15-00032	2	Flat Washer #10	-
15	14-00006	2	Hex Nut, Nylock #10-32	-
16	14-00711	1	Hex Nut, M8 x 1.25	-
17	15-00702	1	Lock Washer M8	-
18	14-04401	1	Hex Nut, M5 x 0.8	-
19	15-04400	1	Lock Washer M5	-
20	185206085	1	Stop Solenoid 12 Volt (see also Fuel System)	-
21	185046320	1	Alternator 12 Volt 40 AMP	-
22	198487590	1	Banjo Bolt M8 x 1.25 x 18mm (Tapped 1/8 NPT)	-
23	140606941	1	Oil Line	-
24	185086551	1	Starter 12 Volt (see mounting detail)	-
25	21-04801	1	Street 90° Steel 1/8 NPT x 1/8 NPT (not shown)	-

GROUP 5 – ELECTRICAL SYSTEM

Engine Electrical 12 Volt Standard Ground

B+ SYSTEM MARINE UNITS



Engine Electrical 12 Volt Standard Ground

B+ SYSTEM MARINE UNITS

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	22-42055	1	Temperature Sender 250°F 3/8 NPT	-
	22-74802	1	Dual Station Temperature Sender 250°F 1/8 NPT	-
	21-55201	1	Bushing, Brass 3/8NPT x 1/8 NPT (for sender 22-70226)	-
2	385720110	1	Temperature Switch 95°C M16 X 1.5	-
3	185246011	1	Oil Pressure Switch 1/8 NPT	-
4	22-41016	1	Oil Pressure Sender 1/8 NPT	-
	22-71016	1	Dual Station Oil Pressure Sender 1/8 NPT	-
5	22-42047	4	Relay, 12 Volt SPDT	-
6	22-40393	4	Terminal Retainer	-
	22-40391	4	Relay Base	-
7	22-40018	1	Circuit Breaker DC 10 Amp - Screw mount type	-
8	22-95605	1	Control Panel, S1-B (see detail)	-
9	22-43124	1	Engine Wire Harness - Square, Deutsch Plug Connector	-
10	22-40299	2	Diode, 1 Amp 200 Volt PIV	-
11	22-45620	1	Wire Harness Extension 20' (not shown)	-
12	00-40028	1	Grommet	-
13	12-00094	2	Machine Screw #10-32 x 3/8" s/s	-
14	15-00032	2	Flat Washer #10	-
15	14-00006	2	Hex Nut, Nylock #10-32	-
16	14-00711	1	Hex Nut, M8 x 1.25	-
17	15-00702	1	Lock Washer M8	-
18	14-04401	1	Hex Nut, M5 x 0.8	-
19	15-04400	1	Lock Washer M5	-
20	185206085	1	Stop Solenoid 12 Volt (see also Fuel System)	-
21	185046320	1	Alternator 12 Volt 40 AMP	-
22	198487590	1	Banjo Bolt M8 x 1.25 x 18mm (Tapped 1/8 NPT)	-
23	140606941	1	Oil Line	-
24	185086551	1	Starter 12 Volt (see mounting detail)	-
25	21-04801	1	Street 90° Steel 1/8 NPT x 1/8 NPT	-

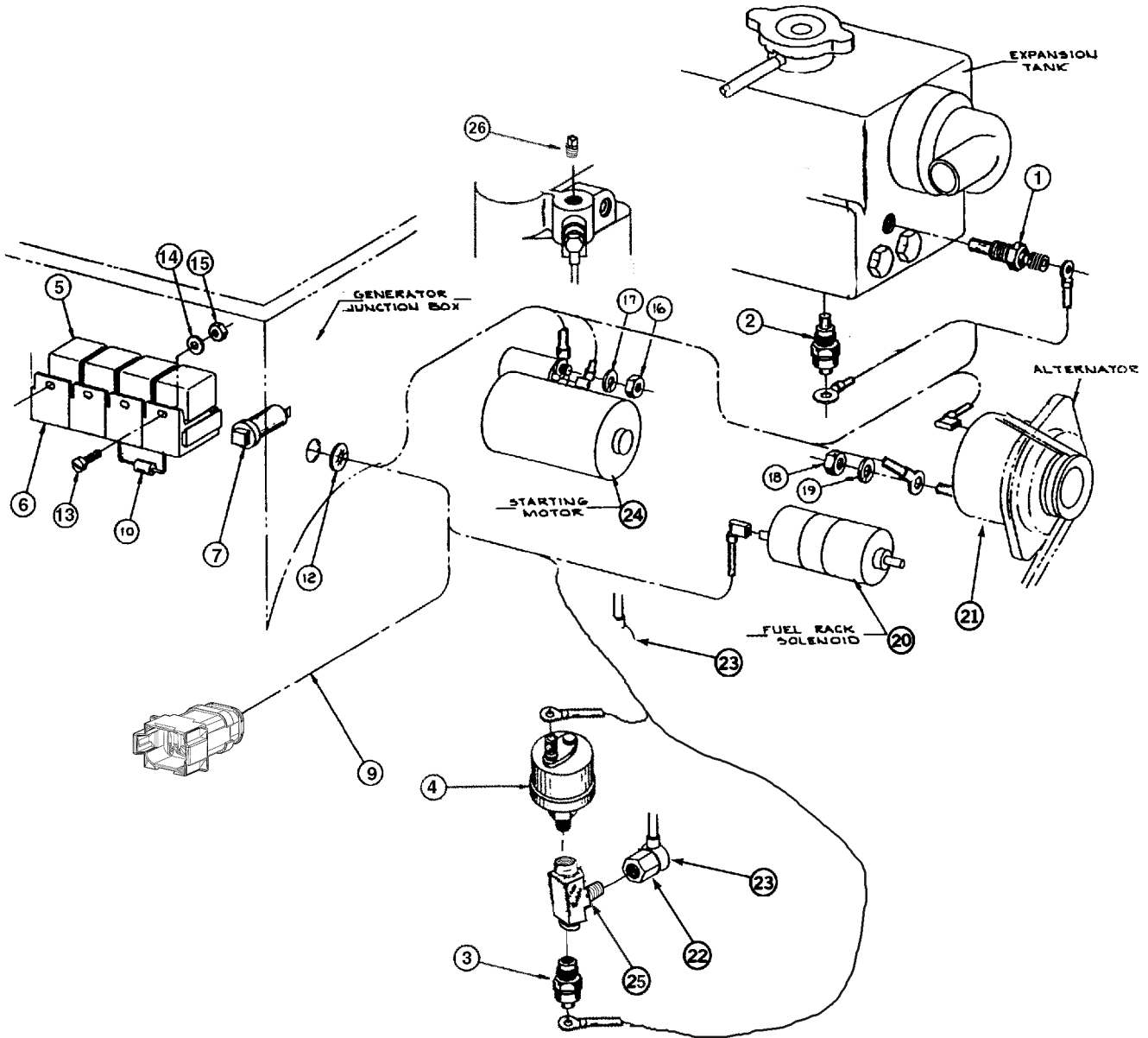
Engine Electrical 12 Volt Isolated Ground

MARINE UNITS

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	22-44810	1	Temperature Sender 250°F 3/8 NPT	-
	22-74802	1	Dual Station Temperature Sender 250°F (former # 22-40353) *	-
2	22-40358	1	Temperature Switch 95°C M16 X 1.5	-
3	22-40236	1	Oil Pressure Switch 1/8 NPT	-
4	22-42803	1	Oil Pressure Sender 1/8 NPT	-
	22-74803	1	Dual Station Oil Pressure Sender 1/8 NPT	-
5	22-74803	5	Relay, 12 Volt SPDT	-
6	22-40391	5	Relay Base	-
	22-40393	5	Terminal Retainer	-
7	22-42043	1	Circuit Breaker, 15 Amp - Snap-In Type	-
	22-40674	1	Circuit Breaker 15 Amp - Screw Mount type	-
8	22-92120	1	Control Panel, S1-B (see detail)	-
9	22-43121	1	Engine Wire Harness - Round Merc Plug Connector	-
	22-73101	1	Ground Harness Addition	-
10	22-41060	2	Diode, 6 Amp 50 Volt PIV	-
11	22-40930	1	Wire Harness Extension 20' (not shown)	-
12	00-40028	1	Grommet	-
13	12-00094	2	Machine Screw #10- 32 x 3/8" S/S	-
14	15-00032	2	Flat Washer #10	-
15	14-00006	2	Hex Nut, Nylock #10- 32	-
16	14-00711	1	Hex Nut, M8 x 1.25	-
17	15-00702	1	Lock Washer M8	-
18	14-04401	1	Hex Nut, M5 x 0.8	-
19	15-04400	1	Lock Washer M5	-
20	185206192	1	Stop Solenoid 12 Volt (see also Fuel System)	-
21	22-42032	1	Alternator 12 Volt 40 AMP (See mounting detail)	-
22	198487590	1	Banjo Bolt M8 x 1.25 x18mm (Tapped 1/8 NPT)	-
23	140606941	1	Oil Line	-
24	22-42129	1	Starter 12 Volt (see mounting detail)	-
25	21-21001	1	Branch Tee Steel 1/8 NPT x 1/8 NPT	-
26	21-00050	1	Plug 1/8BSPT	-
27	21-51099	1	Bushing 3/8 NPT x 1/4 NPT *	-
			* Bushing 21-51099 required with replacement sender 22-74802	

Engine Electrical 12 Volt Isolated Ground

B+ SYSTEM MARINE UNITS



A-6398, A-6402 / C-2490F

Engine Electrical 12 Volt Isolated Ground

B+ SYSTEM MARINE UNITS

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	22-44810	1	Temperature Sender 250°F 3/8 NPT	-
	22-74802	1	Dual Station Temperature Sender 250°F 1/4 NPT	-
2	22-40358	1	Temperature Switch 95°C M16 X 1.5	-
3	22-40236	1	Oil Pressure Switch 1/8 NPT	-
4	22-42803	1	Oil Pressure Sender 1/8 NPT	-
	22-74803	1	Dual Station Oil Pressure Sender 1/8 NPT	-
5	22-42047	5	Relay, 12 Volt SPDT	-
6	22-40391	5	Relay Base	-
	22-40393	5	Terminal Retainer	-
7	22-40018	1	Circuit Breaker 10 Amp - Screw Mount type	-
8	22-95605	1	Control Panel, S1-B (see detail)	-
9	22-43124	1	Engine Wire Harness - Square Deutsch Plug Connector	-
	22-73101	1	Ground Harness Addition	-
10	22-40299	2	Diode, 1 Amp 200 Volt PIV	-
11	22-45620	1	Wire Harness Extension 20' (not shown)	-
12	00-40028	1	Grommet	-
13	12-00094	2	Machine Screw #10- 32 x 3/8" S/S	-
14	15-00032	2	Flat Washer #10	-
15	14-00006	2	Hex Nut, Nylock #10- 32	-
16	14-00711	1	Hex Nut, M8 x 1.25	-
17	15-00702	1	Lock Washer M8	-
18	14-04401	1	Hex Nut, M5 x 0.8	-
19	15-04400	1	Lock Washer M5	-
20	185206192	1	Stop Solenoid 12 Volt (see also Fuel System)	-
21	22-42032	1	Alternator 12 Volt 40 AMP (see mounting detail)	-
22	198487590	1	Banjo Bolt M8 x 1.25 x18mm (Tapped 1/8 NPT)	-
23	140606941	1	Oil Line	-
24	22-42129	1	Starter 12 Volt (see mounting detail)	-
25	21-21001	1	Branch Tee Steel 1/8 NPT x 1/8 NPT	-
26	21-00050	1	Plug 1/8BSPT	-
27	21-51094	1	Bushing 3/8 NPT x 1/4 NPT *	-

* Bushing 21-51099 required
with sender 22-74802

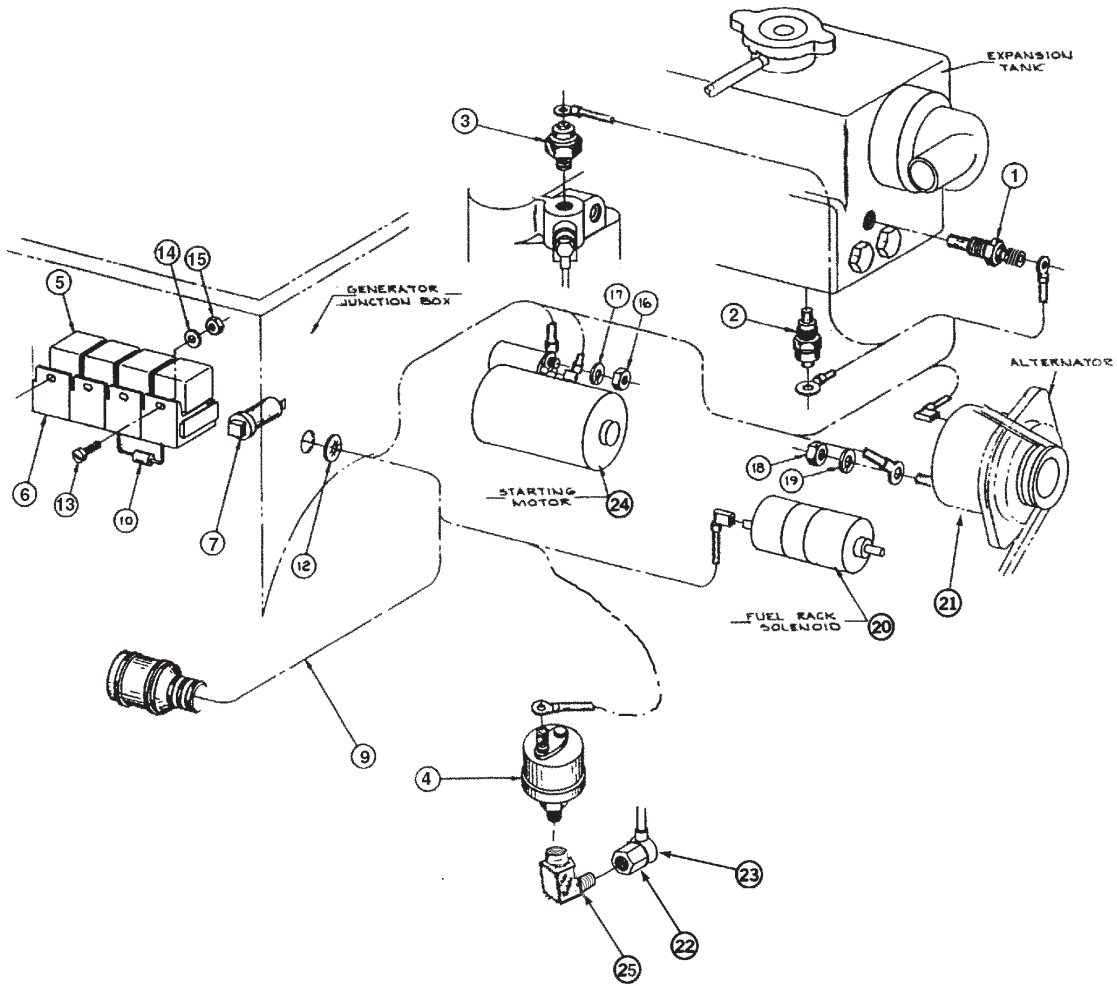
Engine Electrical 24 Volt Standard Ground

MARINE UNITS

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	22-42055	1	Temperature Sender 250°F 3/8 NPT	-
	22-74802	1	Dual Station Temperature Sender 250°F (former #22-40352)	-
	22-55201	1	Bushing, Brass 3/8NPT x 1/8 NPT (for sender 22-70226)	-
2	385720110	1	Temperature Switch 95°C M16 x 1.5	-
3	185246011	1	Oil Pressure Switch 1/8 NPT	-
4	22-41016	1	Oil Pressure Sender 1/8 NPT	-
	22-71016	1	Dual Station Oil Pressure Sender 1/8 NPT	-
5	22-40710	4	Relay, 24 Volt SPDT	-
6	22-40391	4	Relay Base	-
	22-40393	4	Terminal Retainer	-
7	22-42043	1	Circuit Breaker, 15 Amp - Snap-In Type	-
	22-40674	1	Circuit Breaker 15 Amp - Screw Mount Type	-
8	22-92125	1	Control Panel, S1-B (see detail)	-
9	22-43121	1	Engine Wire Harness - Round Merc Plug Connector	-
10	22-41060	2	Diode, 6 Amp 50 Volt PIV	-
11	22-40930	1	Wire Harness Extension 20' (not shown)	-
12	00-40028	1	Grommet	-
13	12-00094	2	Machine Screw #10-32 x 3/8" s/s	-
14	15-00032	2	Flat Washer #10	-
15	14-00006	2	Hex Nut, Nylock #10-32	-
16	14-00711	1	Hex Nut, M8 x 1.25	-
17	15-00702	1	Lock Washer M8	-
18	14-04401	1	Hex Nut, M5 x 0.8	-
19	15-04400	1	Lock Washer M5	-
20	185206203	1	Stop Solenoid 24 Volt (see also Fuel System)	-
21	22-40278	1	Alternator 24 Volt 40 AMP	up to S/N xxxx-46623C
	22-42088	1	Alternator 24 Volt 25 AMP	from S/N xxxx-46624C
22	198487590	1	Banjo Bolt M8 x 1.25 x 18mm (Tapped 1/8 NPT)	-
23	140606941	1	Oil Line	-
24	22-42121	1	Starter 24 Volt (see mounting detail) (former #22-42081)	-
25	21-04801	1	Street 90° Steel 1/8 NPT x 1/8 NPT	-

Engine Electrical 24 Volt Standard Ground

B+ SYSTEM MARINE UNITS



A-6258 / C-2490C

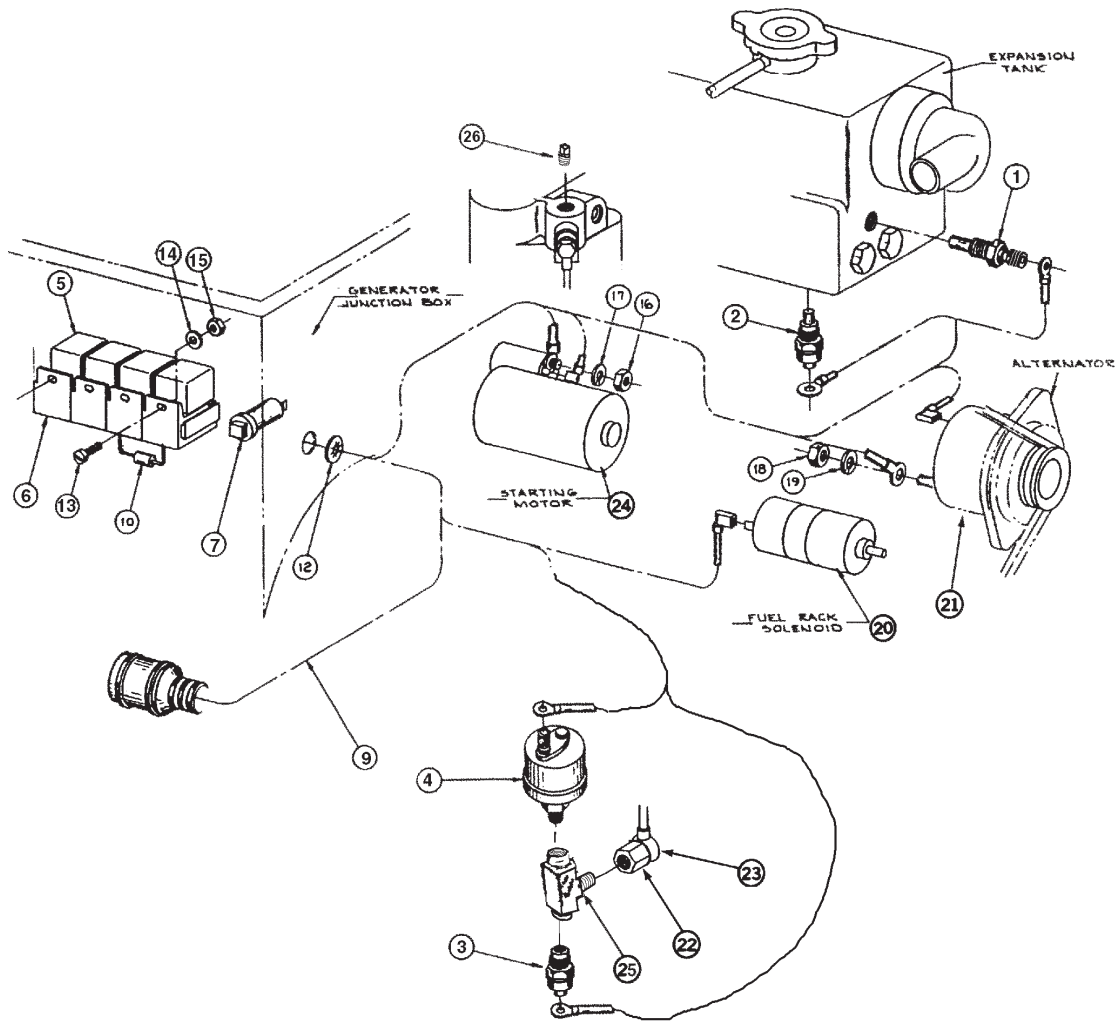
Engine Electrical 24 Volt Standard Ground

B+ SYSTEM MARINE UNITS

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	22-42055	1	Temperature Sender 250°F 3/8 NPT	-
	22-74802	1	Dual Station Temperature Sender 250°F 1/4 NPT	-
	21-55201	1	Bushing, Brass 3/8NPT x 1/8 NPT (for sender 22-70226)	-
2	385720110	1	Temperature Switch 95°C M16 x 1.5	-
3	185246011	1	Oil Pressure Switch 1/8 NPT	-
4	22-41016	1	Oil Pressure Sender 1/8 NPT	-
	22-71016	1	Dual Station Oil Pressure Sender 1/8 NPT	-
5	22-40710	4	Relay, 24 Volt SPDT	-
6	22-40391	4	Relay Base	-
	22-40393	4	Terminal Retainer	-
7	22-40018	1	Circuit Breaker 10 Amp - Screw Mount Type	-
8	22-95605	1	Control Panel, S1-B (see detail)	-
9	22-43124	1	Engine Wire Harness -Square Deutsch Plug Connector	-
10	22-40299	2	Diode, 1 Amp 200 Volt PIV	-
11	22-45620	1	Wire Harness Extension 20' (not shown)	-
12	00-40028	1	Grommet	-
13	12-00094	2	Machine Screw #10-32 x 3/8" s/s	-
14	15-00032	2	Flat Washer #10	-
15	14-00006	2	Hex Nut, Nylock #10-32	-
16	14-00711	1	Hex Nut, M8 x 1.25	-
17	15-00702	1	Lock Washer M8	-
18	14-04401	1	Hex Nut, M5 x 0.8	-
19	15-04400	1	Lock Washer M5	-
20	185206203	1	Stop Solenoid 24 Volt (see also Fuel System)	-
21	22-42088	1	Alternator 24 Volt 25 Amp (See mounting detail)	-
22	198487590	1	Banjo Bolt M8 x 1.25 x 18mm (Tapped 1/8 NPT)	-
23	140606941	1	Oil Line	-
24	22-42121	1	Starter 24 Volt (see mounting detail)	-
25	21-04801	1	Street 90° Steel 1/8 NPT x 1/8 NPT	-

Engine Electrical 24 Volt Isolated Ground

MARINE UNITS



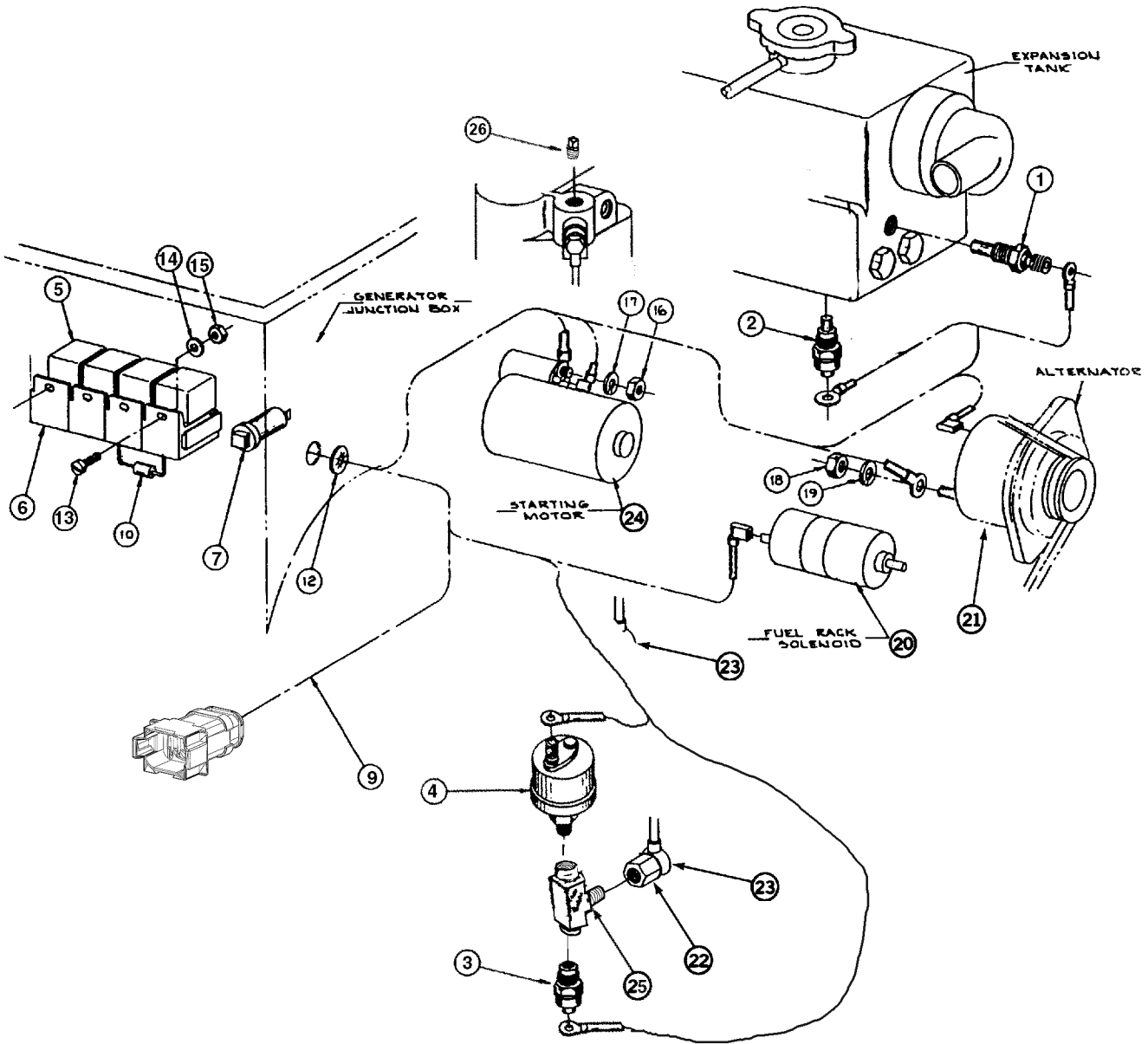
Engine Electrical 24 Volt Isolated Ground

MARINE UNITS

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	22-44810	1	Temperature Sender 250°F 3/8 NPT	-
	22-74802	1	Dual Station Temperature Sender 250°F 1/4 NPT (former #22-40353)	-
2	22-40358	1	Temperature Switch 95°C M16 x 1.5	-
3	22-40236	1	Oil Pressure Switch 1/8 NPT	-
4	22-42803	1	Oil Pressure Sender 1/8 NPT	-
	22-74803	1	Dual Station Oil Pressure Sender 1/8 NPT	-
5	22-40710	5	Relay, 24 Volt SPDT	-
6	22-40391	5	Relay Base	-
	22-40393	5	Terminal Retainer	-
7	22-42043	1	Circuit Breaker, DC 15 Amp - Snap-In Type	-
	22-40674	1	Circuit Breaker 15 Amp - Screw Mount Type	-
8	22-92125	1	Control Panel, S1-B (see detail)	-
9	22-43121	1	Engine Wire Harness - Round Merc Plug Connector	-
	22-73101	1	Ground Harness Addition	-
10	22-41060	2	Diode, 6 Amp 50 Volt PIV	-
11	22-40930	1	Wire Harness Extension 20' (not shown)	-
12	00-40028	1	Grommet	-
13	12-00094	2	Machine Screw #10- 32 x 3/8" S/S	-
14	15-00032	2	Flat Washer #10	-
15	14-00006	2	Hex Nut, Nylock #10- 32	-
16	14-00711	1	Hex Nut, M8 x 1.25	-
17	15-00702	1	Lock Washer M8	-
18	14-04401	1	Hex Nut, M5 x 0.8	-
19	15-04400	1	Lock Washer M5	-
20	185206203	1	Stop Solenoid 24 Volt (see also Fuel System)	-
21	22-40763	1	Alternator 24 Volt 35 AMP	up to S/N from S/N
	22-42089	1	Alternator 24 Volt 25 AMP	xxxx-46623C xxxx-46622C
22	198487590	1	Banjo Bolt M8 x 1.25 x 18mm (Tapped 1/8NPT)	-
23	140606941	1	Oil Line	-
24	22-42122	1	Starter 24 Volt (see mounting detail) (former #22-42082)	-
25	21-21001	1	Branch Tee Steel 1/8 NPT x 1/8 NPT (not shown)	-
26	21-00050	1	Plug 1/8BSPT	-
* Bushing 21-51099 required with replacement sender 22-74802				

Engine Electrical 24 Volt Isolated Ground

B+ SYSTEM MARINE UNITS



A-6398, A-6402 / C-2490C

Engine Electrical 24 Volt Isolated Ground

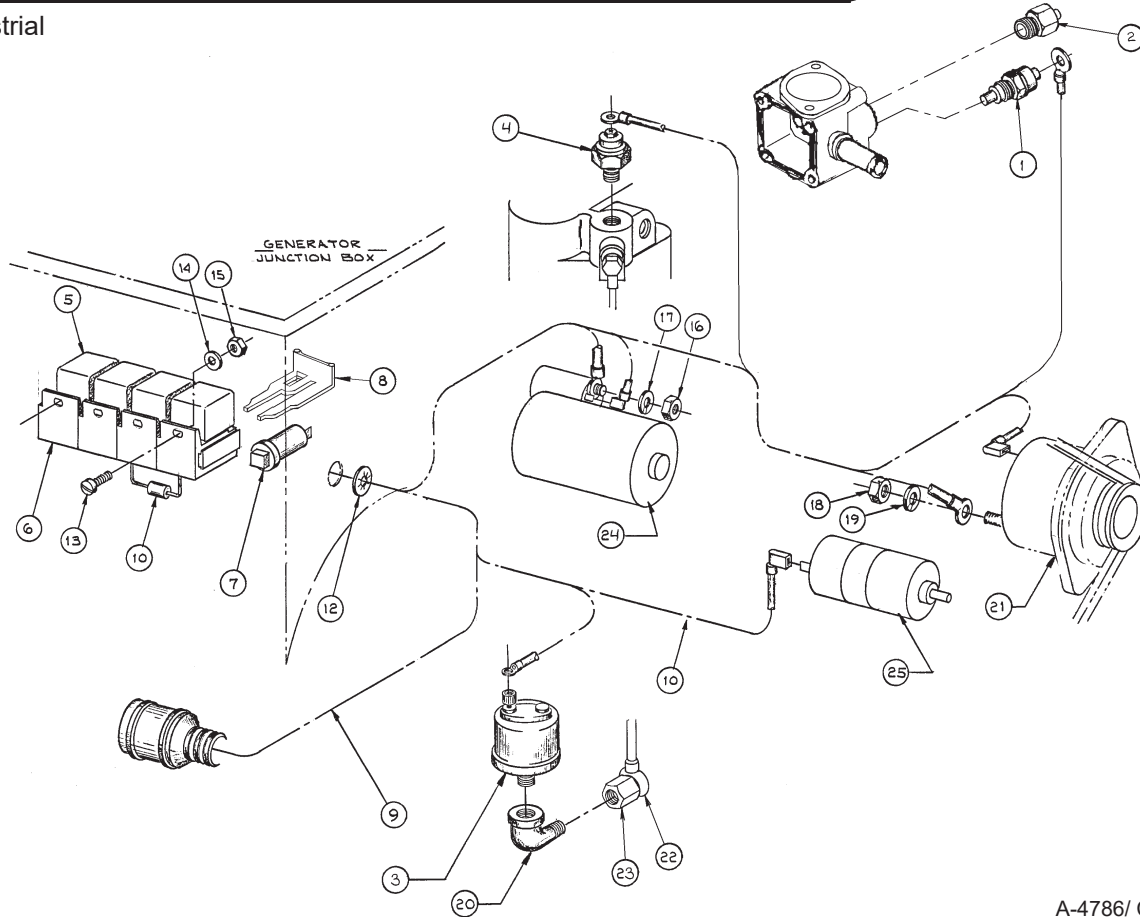
B+ SYSTEM MARINE UNITS

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	22-44810	1	Temperature Sender 250°F 3/8 NPT	-
	22-74802	1	Dual Station Temperature Sender 250°F 1/4 NPT *	-
2	22-40358	1	Temperature Switch 95°C M16 x 1.5	-
3	22-40236	1	Oil Pressure Switch 1/8 NPT	-
4	22-42803	1	Oil Pressure Sender 1/8 NPT	-
	22-74803	1	Dual Station Oil Pressure Sender 1/8 NPT	-
5	22-40710	5	Relay, 24 Volt SPDT	-
6	22-40391	5	Relay Base	-
	22-40393	5	Terminal Retainer	-
7	22-40018	1	Circuit Breaker 15 Amp - Screw Mount Type	-
8	22-95605	1	Control Panel, S1-B (see detail)	-
9	22-43124	1	Engine Wire Harness - Square Deutsch Plug Connector	-
	22-73101	1	Ground Harness Addition	-
10	22-40299	2	Diode, 1 Amp 200 Volt PIV	-
11	22-45620	1	Wire Harness Extension 20' (not shown)	-
12	00-40028	1	Grommet	-
13	12-00094	2	Machine Screw #10- 32 x 3/8" S/S	-
14	15-00032	2	Flat Washer #10	-
15	14-00006	2	Hex Nut, Nylock #10- 32	-
16	14-00711	1	Hex Nut, M8 x 1.25	-
17	15-00702	1	Lock Washer M8	-
18	14-04401	1	Hex Nut, M5 x 0.8	-
19	15-04400	1	Lock Washer M5	-
20	185206203	1	Stop Solenoid 24 Volt (see also Fuel System)	-
21	22-42089	1	Alternator 24 Volt 25 AMP (see mounting detail)	-
22	198487590	1	Banjo Bolt M8 x 1.25 x 18mm (Tapped 1/8 NPT)	-
23	140606941	1	Oil Line	-
24	22-42122	1	Starter 24 Volt (see mounting detail)	-
25	21-21001	1	Branch Tee Steel 1/8 NPT x 1/8 NPT	-
26	21-00050	1	Plug 1/8 BSPT	-

* Bushing 21-51099 required
with replacement sender 22-74802

Engine Electrical - 12 Volt Standard Ground

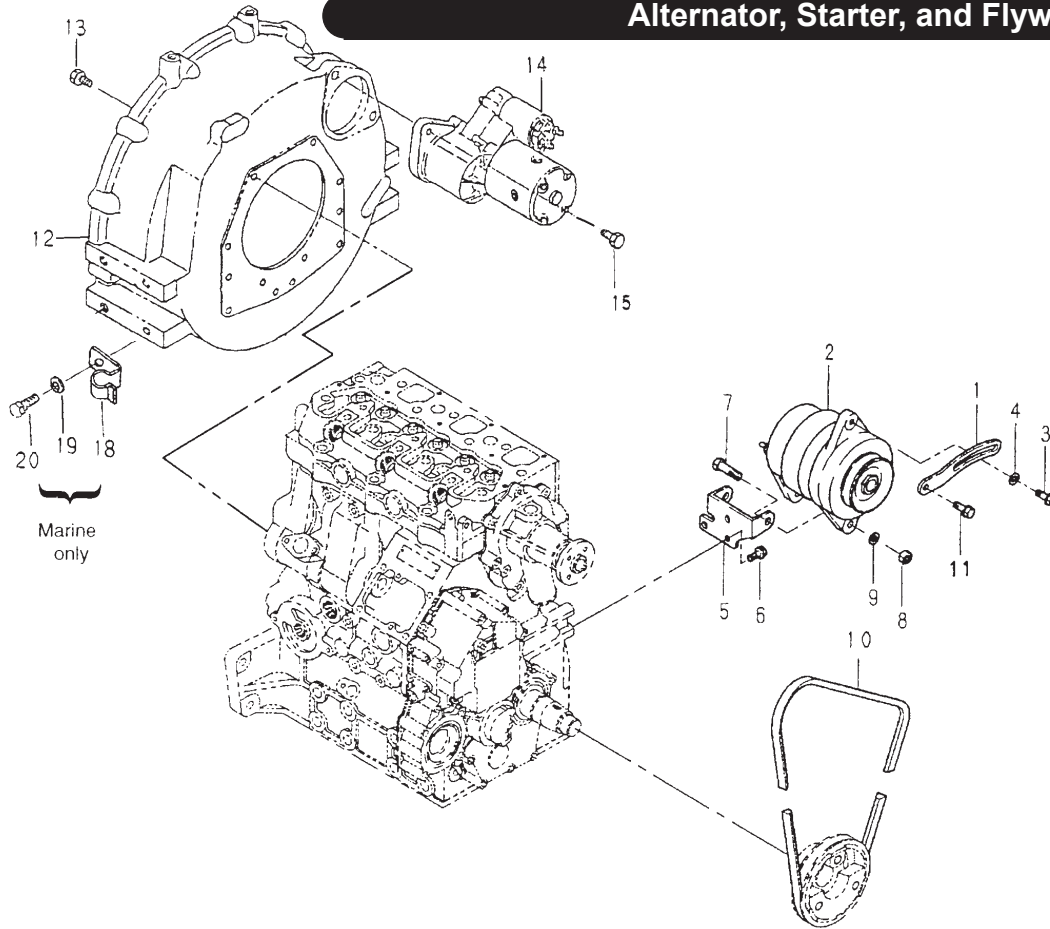
Industrial



A-4786/ C-2490Bnl

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	22-42055	1	Temperature Sender, 0-250°F Single Station 3/8 NPT	-
2	385720101	1	Temperature Switch 221°F/ 105°C	-
3	22-41016	1	Oil Pressure Sender 0-80 PSI, Single Station 1/8 NPT	-
4	185246011	1	Oil Pressure Switch	-
5	22-42047	4	Relay, 12 Volt SPDT	-
6	22-40391	4	Relay Base	-
7	22-42043	1	Circuit Breaker	-
8	22-40393	4	Terminal Retainer	-
9	22-43121	1	Engine Wire Harness (includes key #10)	-
10	22-41060	2	Diode, 6 Amp 50 Volt	-
11	22-40930	1	Wire Harness Extension 20' (not shown)	-
12	00-40028	1	Grommet	-
13	12-00094	2	Machine Screw #10-32 x 3/8" Stainless Steel	-
14	15-00032	2	Flat Washer #10	-
15	14-00001	2	Hex Nut, #10-32	-
16	14-00711	1	Hex Nut, M8 x 1.25	-
17	15-00702	1	Lock Washer M8	-
18	14-04401	1	Hex Nut, M5 x 0.8	-
19	15-04400	1	Lock Washer M5	-
20	21-04801	1	Street Elbow 90°, 1/8 NPT Steel	-
21	185046320	1	Alternator 12 Volt (see parts detail)	-
22	140607941	1	Oil Line	-
23	198487590	1	Banjo Bolt (Tapped 1/8 NPT Female)	-
24	185086551	1	Starter 12 Volt (see parts detail)	-
25	185206085	1	Fuel Solenoid	-

Alternator, Starter, and Flywheel Housing

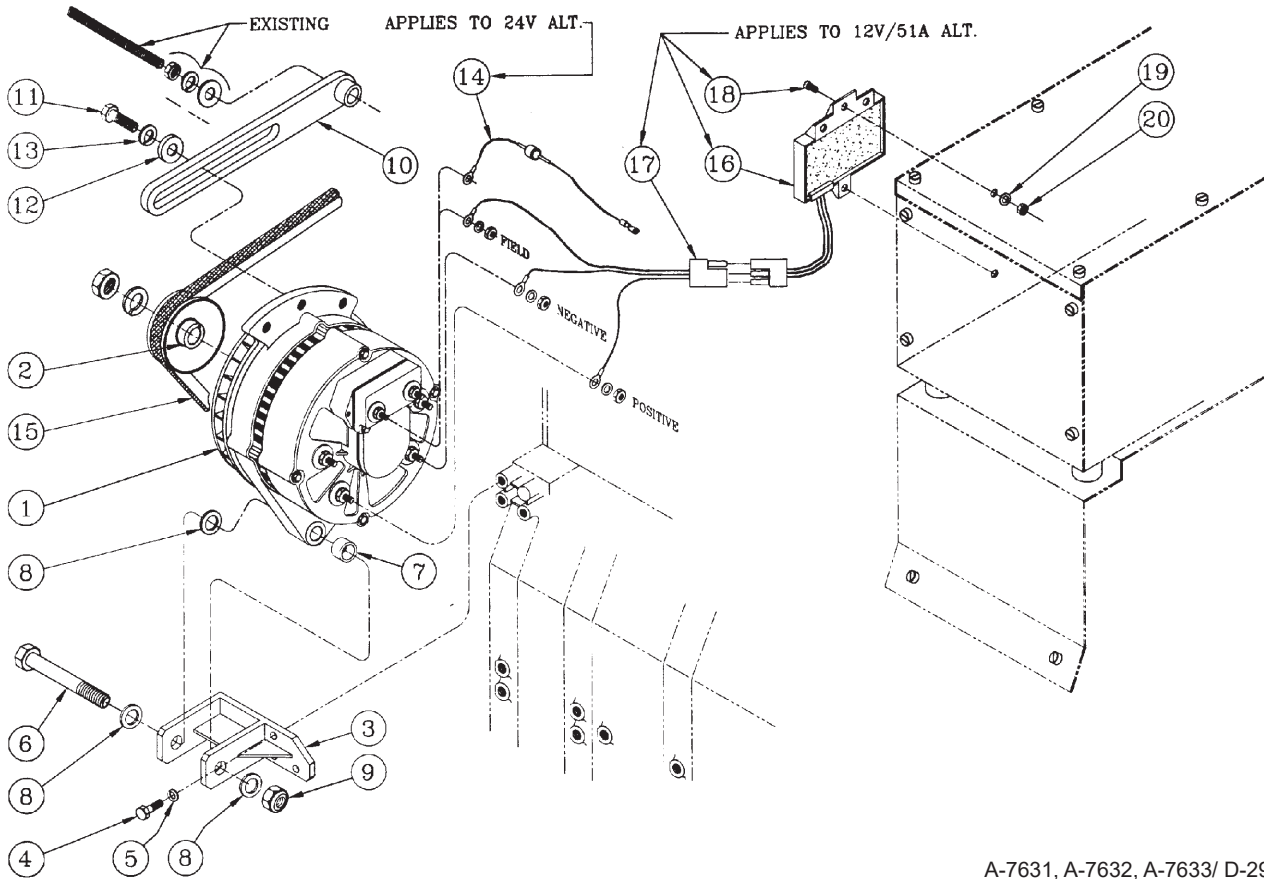


843NWalternator

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	185727000	1	Tensioning Arm	-
2	185046320	1	Alternator, 12 Volt 40 Amp Standard Ground	-
	22-42032	1	Alternator, 12 Volt 40 Amp Isolated Ground	-
3	011510825	1	Bolt	-
4	026109017	1	Washer	-
5	185976510	1	Bracket	-
6	011510816	3	Bolt	-
7	010311035	2	Bolt	-
8	020900010	2	Nut	-
9	15-00802	2	Spring Washer	-
10	40-02003	1	Drive Belt	-
11	011510820	1	Bolt	-
12	110446890	1	Flywheel Housing (Marine)	-
	110446880	1	Flywheel Housing (Industrial)	-
13	011510820	10	Bolt	-
14	185086551	1	Starter, 12 Volt Standard Ground	-
	22-42129	1	Starter, 12 Volt Isolated Ground	-
	22-42121	1	Starter, 24 Volt Standard Ground (former @22-42081)	-
	22-42122	1	Starter, 24 Volt Isolated Ground (former @22-42082)	-
15	01435-01025	2	Capscrew, Flange Head M10 x 1.5 x 25 mm (12 volt starters)	-
	01435-01030	2	Capscrew, Flange Head M10 x 1.5 x 30 mm (24 volt starters)	-
18	23-72003	1	Bracket, Drain Hose Support	-
19	15-00002	1	Spring Washer	-
20	199436350	1	Bolt	-

Alternator

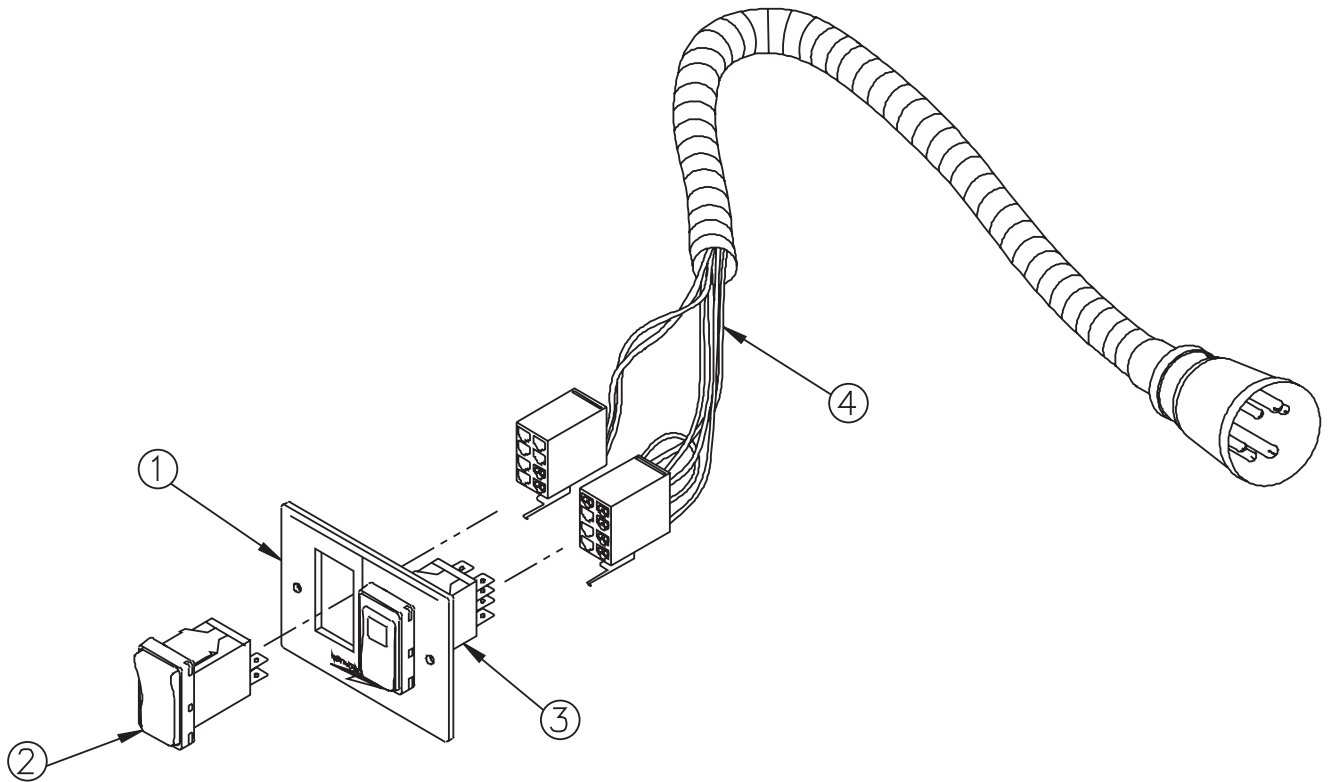
Isolated and Standard Ground



A-7631, A-7632, A-7633/ D-2926

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
	22-40523	1	Alternator (12V/51A ISO Ground)	-
	22-40278	1	Alternator (24V/40A Standard Ground)	-
	22-40763	1	Alternator (24V/35A ISO Ground)	-
2	34-42001	1	Pulley, 1-A x 2-1/2" x 5/8" ID	-
3	23-43107	1	Alternator Mounting Bracket	-
4	12-00711	3	Capscrew, Hex Head M8 x 1.25 x 20 mm	-
5	15-00702	3	Lock Washer, Helical M8	-
6	12-00519	1	Capscrew, Hex Head 1/2-13 x 2-3/4"	-
7	21-42206	1	Spacer	-
8	15-00504	2	Flat Washer 1/2 SAE	-
9	14-00512	1	Hex Nut, Nylock 1/2-13	-
10	23-42006	1	Tensioning Arm	-
	23-43110	1	Tensioning Arm (24 Volt 35 Amp Alternator only)	-
11	12-00212	1	Capscrew, Hex Head 5/16-18 x 1"	-
12	15-00201	1	Stud Washer 5/16	-
13	15-00202	1	Lock Washer, Helical 5/16	-
14	22-70048	1	Diode Harness Addition	-
15	40-02005	1	Drive Belt	-
16	22-40226	1	D.C. Voltage Regulator 12 Volt	-
17	16-1	1	Wire Harness, 36"	-
18	12-00001	2	Machine Screw, BH Slotted #10-32 x 3/4" S/S	-
19	15-70002	2	Flat Washer #10 S/S	-
20	14-00032	2	Hex Nut, Nylock #10-32 S/S	-

S-1 Control Panel 12 & 24 Volt

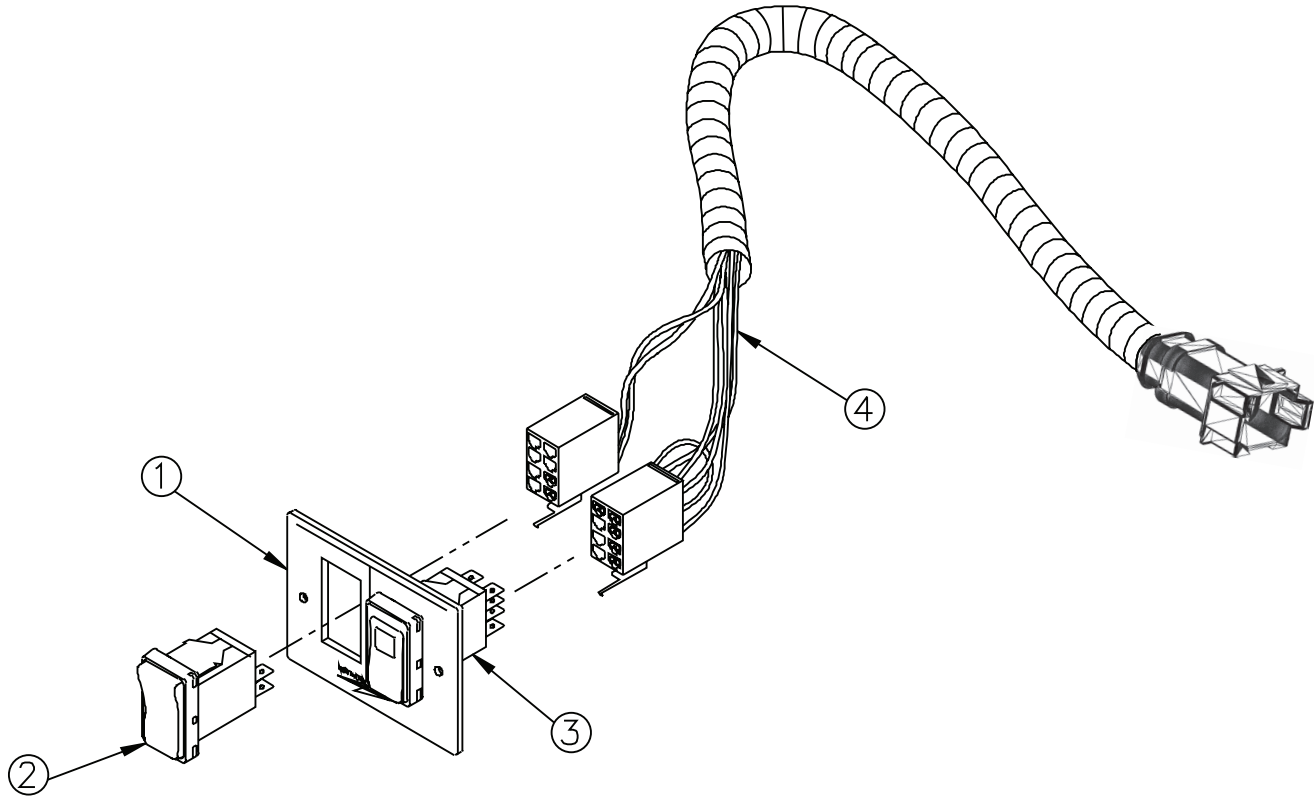


A-8551, A-8552/ B-5970

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	22-92110	1	S-1 Start/Stop Control Panel, 12/24 Volt (includes all keys)	-
1	00-40013	1	Plate, S-1 Control Panel	-
2	22-90167	1	Rocker Switch	-
3	22-90162	1	Rocker Switch	-
4	22-42063	1	Wire Harness, 12 Volt	-
	22-42067	1	Wire Harness, 24 Volt	-
5	00-00013	1	Label "12 Volt" *	-
	00-00014	1	Label "24 Volt" *	-
6	22-40012	1	Resistor, 200 Ohm, 3 Watt (24 Volt Panel only) *	-
			*Not shown	

S-1 Control Panel 12 & 24 Volt

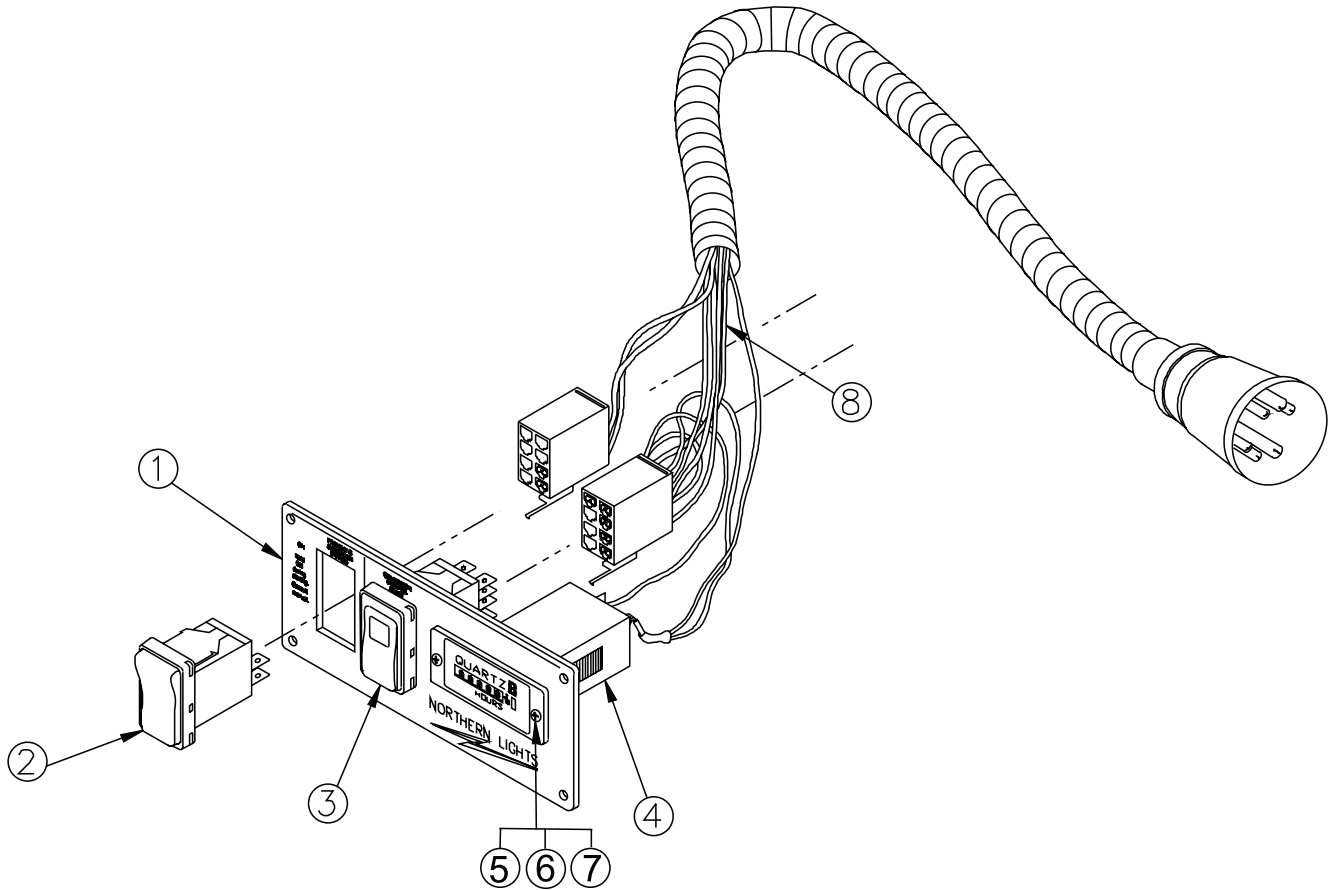
B+ ELECTRICAL SYSTEMS



KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	22-95600	1	S-1 Start/Stop Control Panel (includes all keys)	-
1	00-40013	1	Plate, S-1 Control Panel	-
2	22-90167	1	Rocker Switch, Momentary (On)-Off	-
3	22-90362	1	Rocker Switch, Momentary (On)-Off-(On) Green Lamp	-
4	22-45602	1	Wire Harness	-
5	00-00048	1	Label "12-24 Volt" (Not Shown)	-

Series 1-B Start-Stop Control Panel

12 AND 24 VOLTS

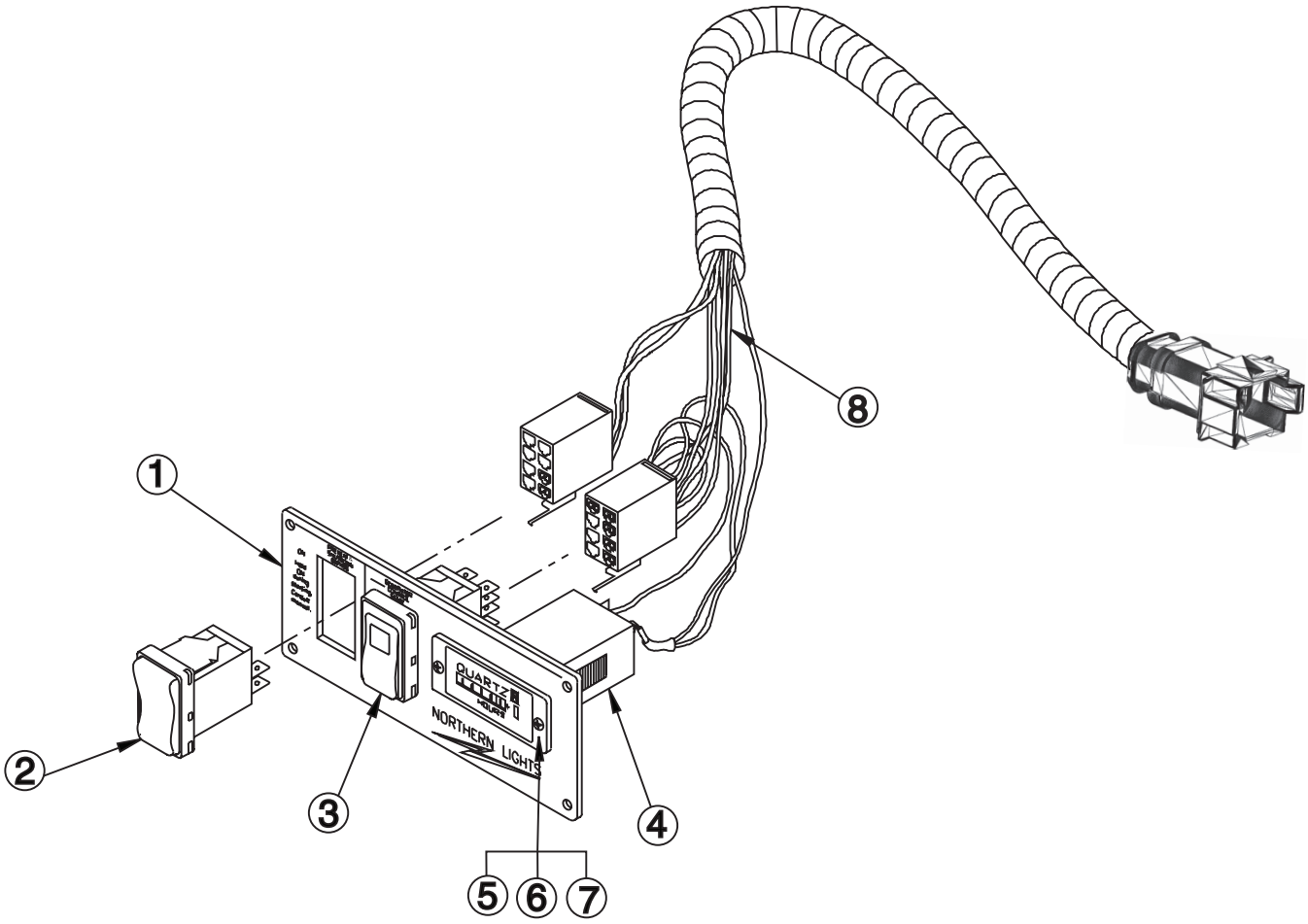


A-8553/ B-5971

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	22-92120	1	S 1-B Start/ Stop Control Panel - 12 Volt (includes all keys)	-
••	22-92125	1	S 1-B Start/ Stop Control Panel - 24 Volt (includes all keys)	-
1	28-90003	1	Plate	-
2	22-90167	1	Rocker Switch	-
3	22-90362	1	Rocker Switch	-
4	22-90009	1	Hour Meter	-
5	12-00093	2	Machine Screw, Round Head Philips #6 - 32 x 1/2"	-
6	15-00030	2	Star Washer, Internal #6, Stainless Steel	-
7	14-00015	2	Hex Nut #6 - 32, Stainless Steel	-
8	22-42063	1	Wire Harness - 12 Volt Panels	-
	22-42064	1	Wire Harness - 24 Volt Panels	-

Series 1-B Start/Stop Control Panel

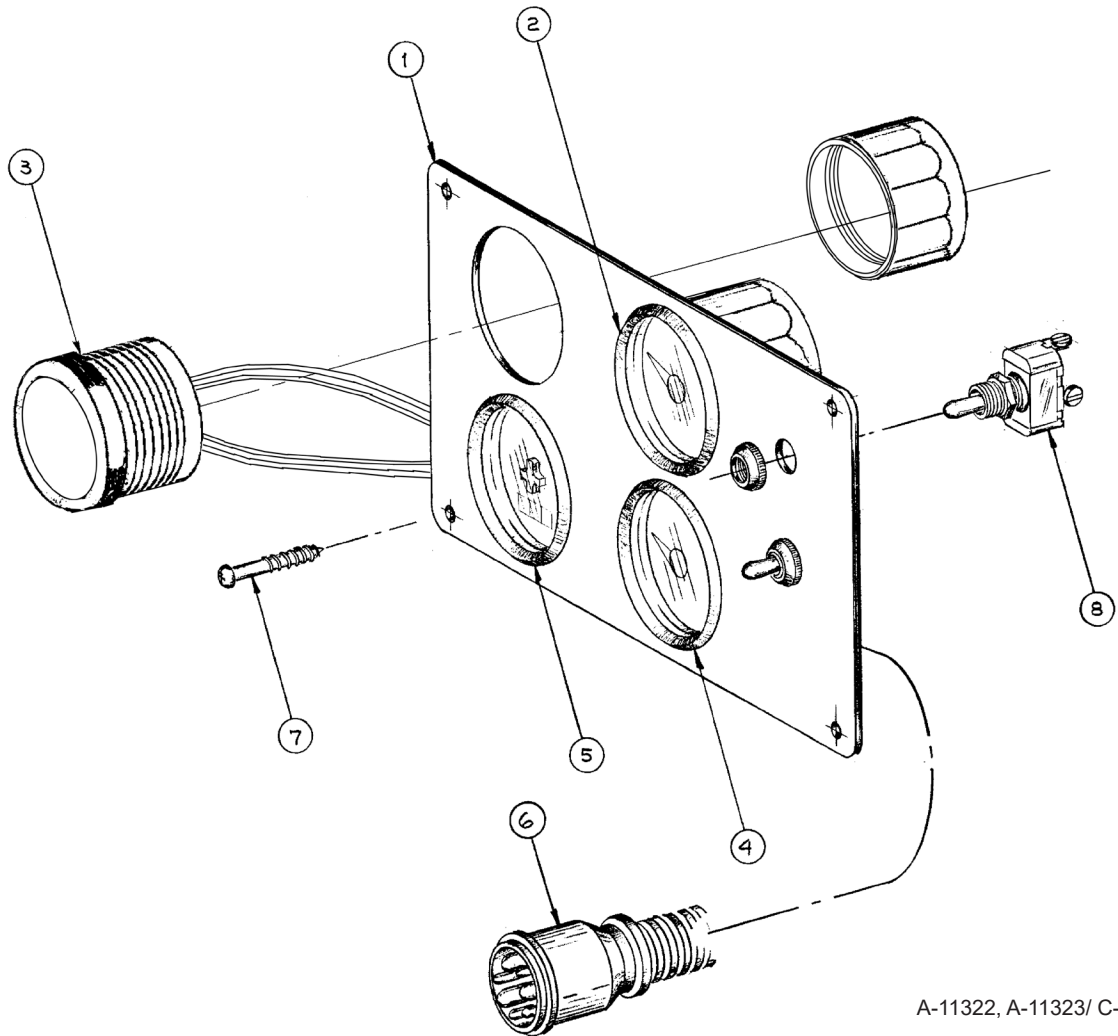
B+ ELECTRICAL SYSTEMS



KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	22-95605	1	Complete Series 1-B Start/Stop Control Panel (includes all keys)	-
1	28-90003	1	Plate	-
2	22-90167	1	Rocker Switch, Momentary (On)-Off	-
3	22-90362	1	Rocker Switch, Green LED (On)-Off-(On) Green Lamp	-
4	22-90009	1	Hour Meter	-
5	12-00093	2	Machine Screw, Round Head Phillips #6 - 32 x 1/2"	-
6	15-00030	2	Star Washer, Internal #6, Stainless Steel	-
7	14-00015	2	Hex Nut #6 - 32, Stainless Steel	-
8	22-45603	1	Wire harness	-
9	00-00048	1	Label "12-24 Volts" (Not shown)	-

Flush Mount Dual Station Control Panel 12 & 24 Volt

VDO OCEAN LINE GAUGES

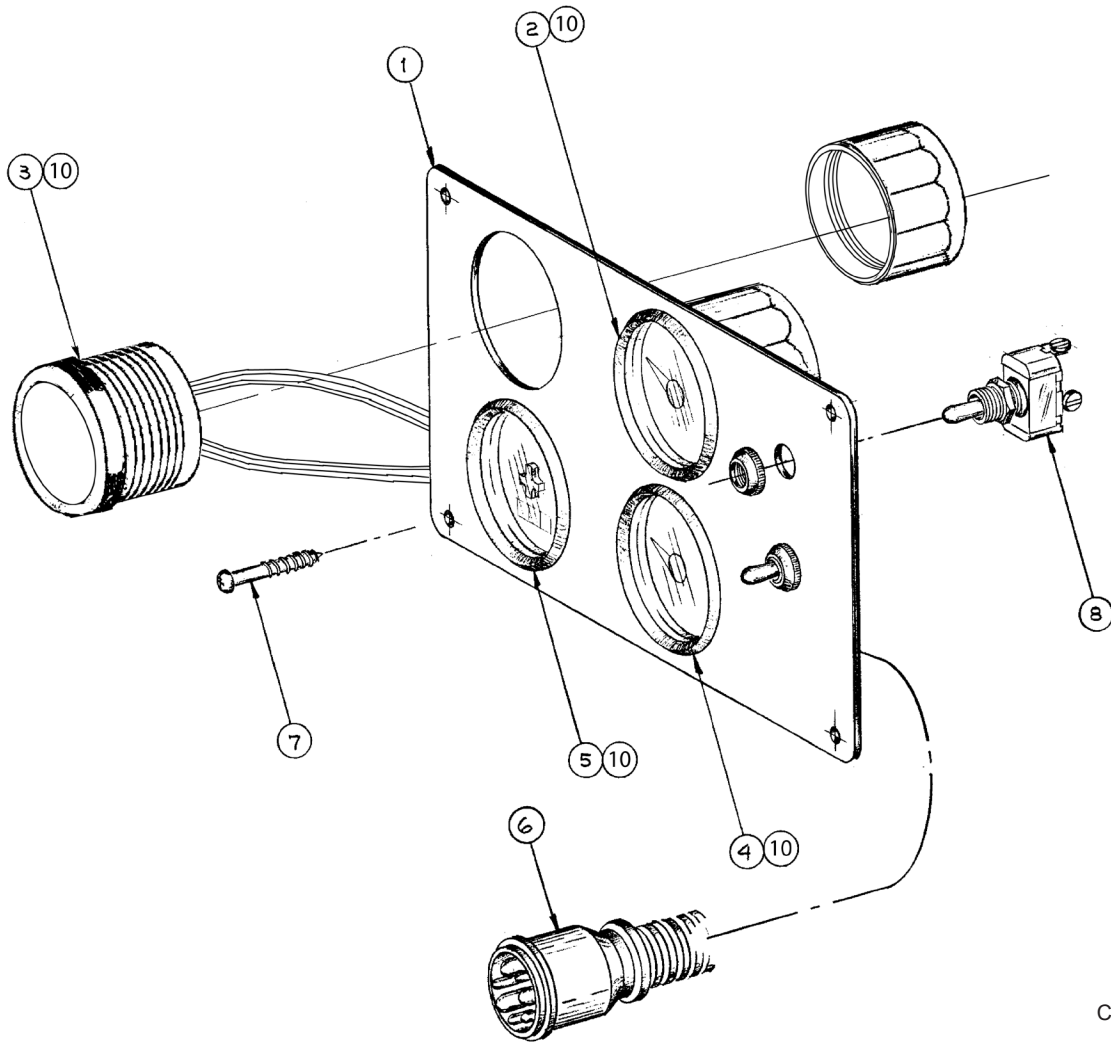


A-11322, A-11323/ C-2441

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	22-91216	1	S-3C Control Panel, 12 Volt (includes all keys)	-
••	22-91217	1	S-3C Control Panel, 24 Volt (includes all keys)	-
1	28-90010	1	Panel Plate	-
2	37-90081-1	1	Oil Pressure Gauge, 0-80 PSI 12 Volt	-
	37-90082-1	1	Oil Pressure Gauge, 0-80 PSI 24 Volt	-
3	37-90075-1	1	Temperature Gauge, 0- 250°F 12 Volt	-
	37-90076-1	1	Temperature Gauge, 0- 250°F 24 Volt	-
4	37-90072-1	1	DC Voltmeter, 8 - 16 VDC	-
	37-90073-1	1	DC Voltmeter, 18- 32 VDC	-
5	37-90074-1	1	Hourmeter 12/ 24 Volt	-
6	22-42024	1	Panel Wire Harness	-
7	12-90007	4	Self Tapping Screw, Oval Head Phillips #6 x 3/4"	-
8	22-41051	2	Toggle Switch	-
9	00-00013	1	Label 12 Volt (not shown)	-
	00-00014	1	Label 24 Volt (not shown)	-
10	37-41004	**	12 Volt Bulb (not shown)	-
	37-41003	**	24 Volt Bulb (not shown)	-
			**As required	

S-3C Control Panel 12 Volt

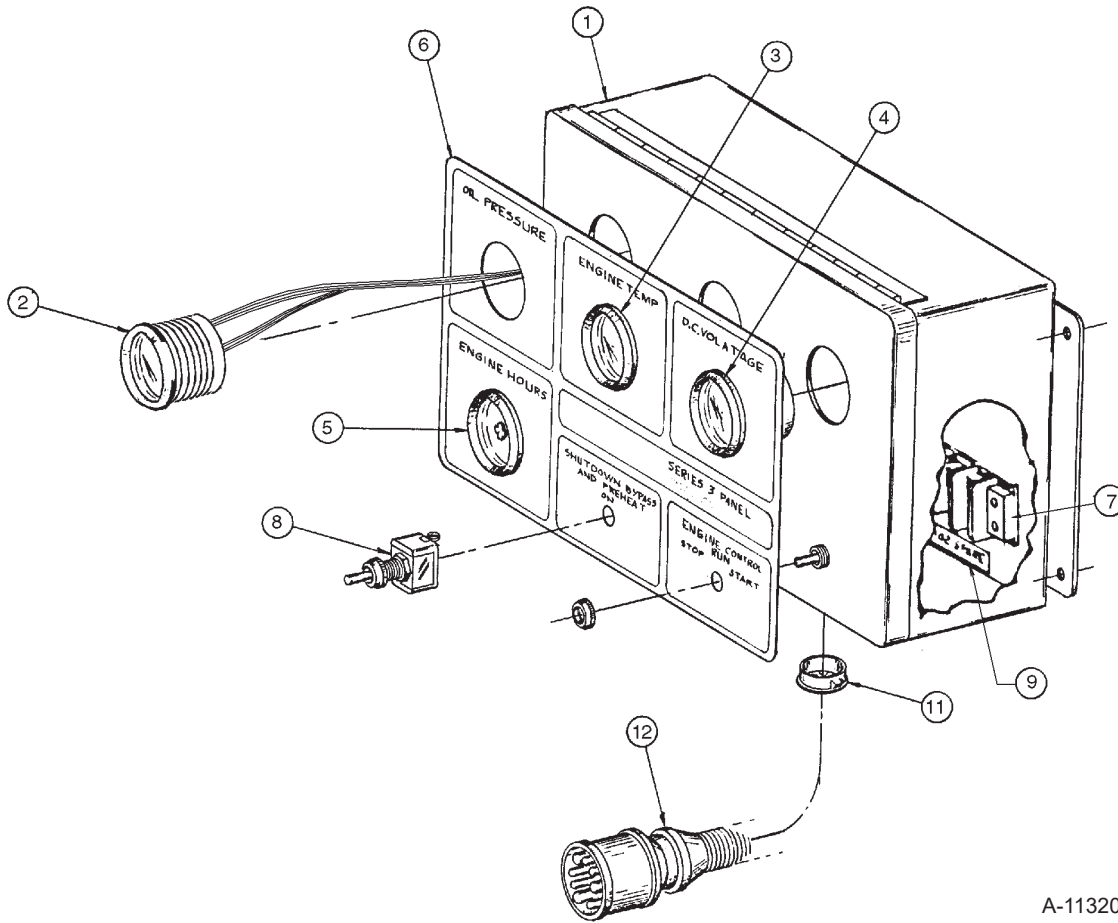
VDO Viewline Black Bezel Gauges



C-2441

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	22-91216	1	S-3C Control Panel, 12 Volt (includes all keys)	-
••	22-91217	1	S-3C Control Panel, 24 Volt (includes all keys)	-
1	28-90010	1	Panel Plate	-
2	37-91075-1	1	Oil Pressure Gauge, 0-80 PSI 12/24 Volt *	-
3	37-91074-1	1	Temperature Gauge, 0- 250°F 12/24 Volt *	-
4	37-91070-1	1	DC Voltmeter, 8 - 16 VDC *	-
	37-91071-1	1	Voltmeter 18 - 32 VDC *	-
5	37-91072-1	1	Hourmeter 12/ 24 Volt	-
6	22-42096	1	Panel Wire Harness	-
7	12-90007	4	Self Tapping Screw, Oval Head Phillips #6 x 3/4"	-
8	22-41051	2	Toggle Switch	-
9	00-00013	1	Label 12 Volt (not shown)	-
10	37-00014	4	Bezel	-
			* Note Bezel 37-00014 supplied separately	

S-3B Control Panel 12 & 24 Volt
VDO OCEAN LINE BLACK BEZEL GAUGES

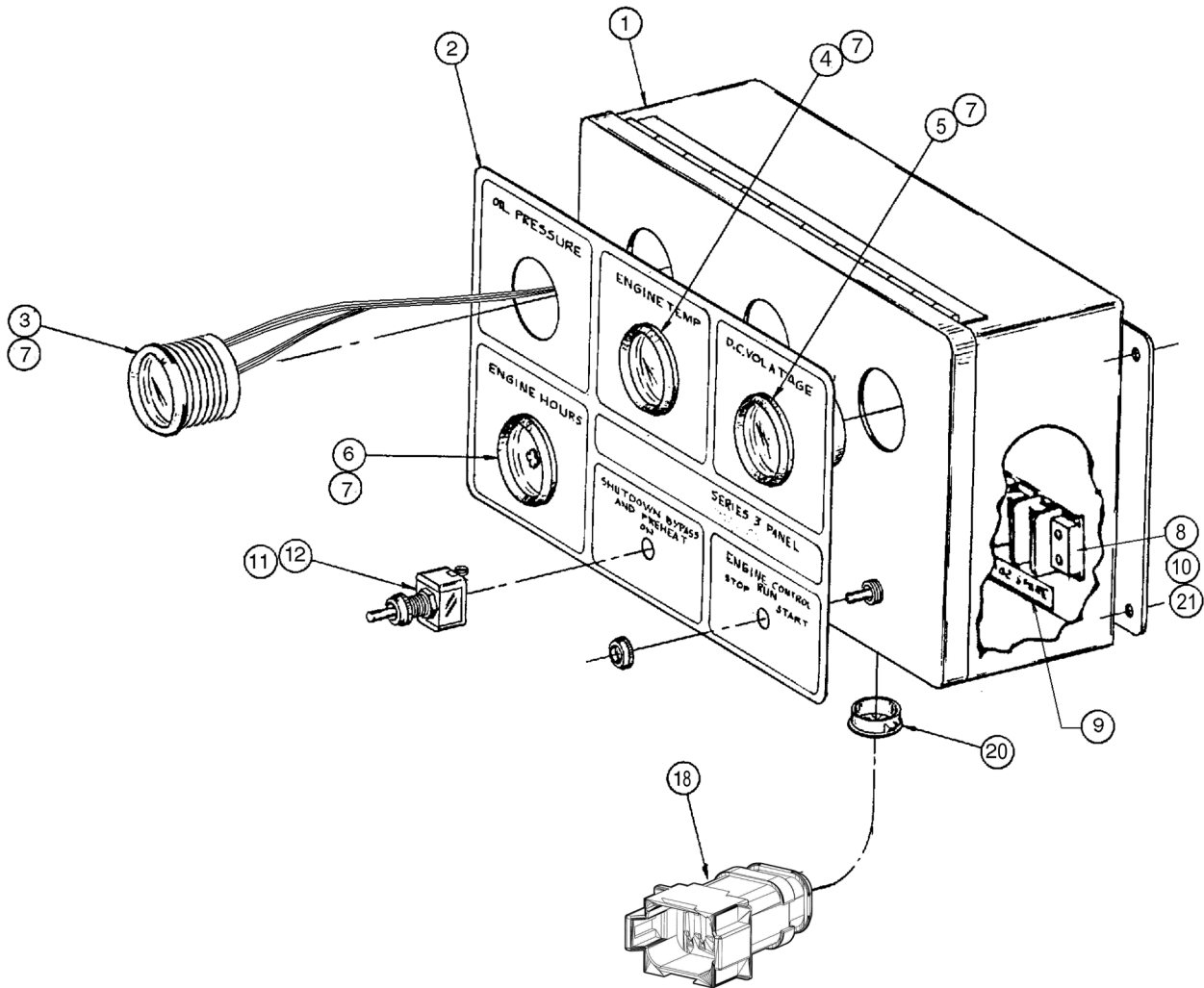


A-11320, A-11321 C-2470

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	22-91201	1	S-3C Control Panel, 12 Volt (includes all keys)	-
••	22-91202	1	S-3C Control Panel, 24 Volt (includes all keys)	-
1	39-40027	1	Enclosure	-
	39-41003	1	Back Plate	-
2	37-90081-1	1	Oil Pressure Gauge, 0-80 PSI 12 Volt	-
	37-90082-1	1	Oil Pressure Gauge, 0-80 PSI 24 Volt	-
3	37-90075-1	1	Temperature Gauge, 0- 250°F 12 Volt	-
	37-90076-1	1	Temperature Gauge, 0- 250°F 24 Volt	-
4	37-90072-1	1	DC Voltmeter, 8 - 16 VDC	-
	37-90073-1	1	DC Voltmeter, 18- 32 VDC	-
5	37-90074-1	1	Hourmeter 12/ 24 Volt	-
6	00-91018	1	Panel Decal	-
7	22-41077	1	Terminal Strip	-
8	22-41051	2	Toggle Switch	-
9	22-00052	1	Number Strip	-
10	22-40257	1	Wire Harness (not shown)	-
11	00-40028	1	Grommet	-
12	22-42027	1	Connection Harness	-
13	00-00013	1	Label 12 Volt (not shown)	-
	00-00014	1	Label 24 Volt (not shown)	-
14	37-41004	**	12 Volt Bulb (not shown)	-
	37-41003	**	24 Volt Bulb (not shown)	-
			**As required	

S-3B Control Panel 12 - 24 Volt B+ Systems

VDO Viewline Black Bezel Gauges



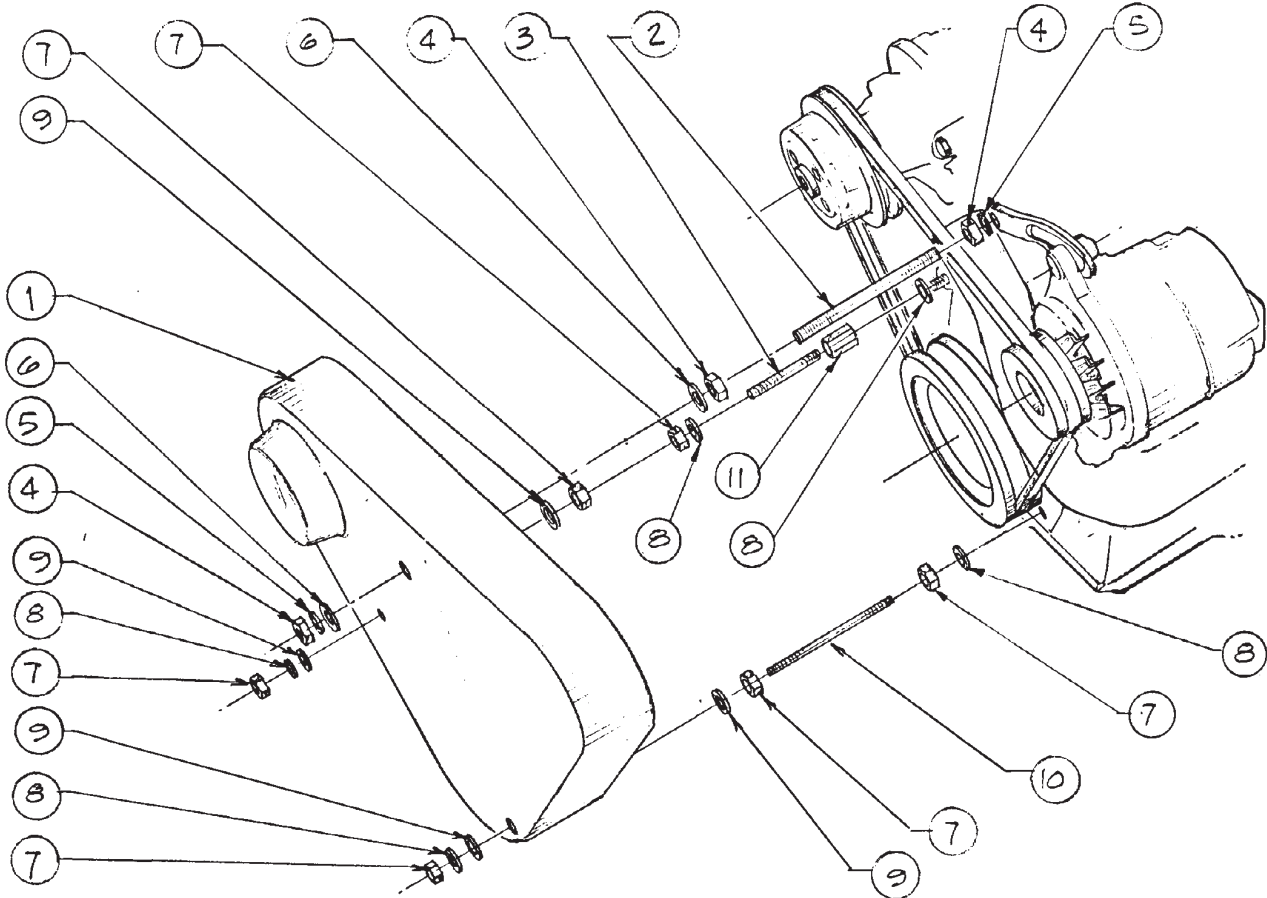
S-3B Control Panel 12 - 24 Volt B+ Systems

VDO Viewline Black Bezel Gauges

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	22-95601	1	S-3C Control Panel, 12 Volt (includes all keys)	-
••	22-95602	1	S-3C Control Panel, 24 Volt (includes all keys)	-
1	39-40027	1	Enclosure	-
2	00-91018	1	Decal	-
3	37-91076-1	1	Oil Pressure Gauge, 0-150 PSI 12/24 Volt *	-
4	37-91074-1	1	Temperature Gauge, 0- 250°F 12/24 Volt *	-
5	37-91070-1	1	Voltmeter, 8 - 16 VDC *	-
	37-91071-1	1	Voltmeter 18 - 32 VDC *	-
6	37-91072-1	1	Hourmeter 12/ 24 Volt	-
7	37-00014	4	Bezel	-
8	22-41077	1	Terminal Strip	-
9	22-00052	1	Number Strip	-
10	14-09021	2	Jam Nut, Nylock #8-32 S/S	-
11	22-41051	1	Toggle Switch	-
12	22-40335	1	Toggle Switch	-
13	23-95602	1	Bracket, Relay Mounting	-
14	22-45604	1	Wire Harness (not shown) (Includes keys 22-23)	-
15	12-00006	1	Machine Screw, Phillips #8-32 x 1/2" S/S	-
16	15-00035	1	Star Washer #8 S/S	-
17	22-42047	**	Relay 12 Volt	-
	22-40710	**	Relay 24 Volt	-
18	22-42027	1	Connection Harness	-
19	00-00013	1	Label 12 Volt (not shown)	-
20	00-40028	1	Grommet	-
21	12-42103	2	Machine Screw, Pan Head, Phillips #8-32 x 5/8" S/S	-
22	22-40931	1	Relay Base	-
23	22-40393	1	Retainer	-
			* Note Bezel 37-00014 supplied separately	

Belt Guard Assembly

Marine



A-5004, A-5020/ B-3986

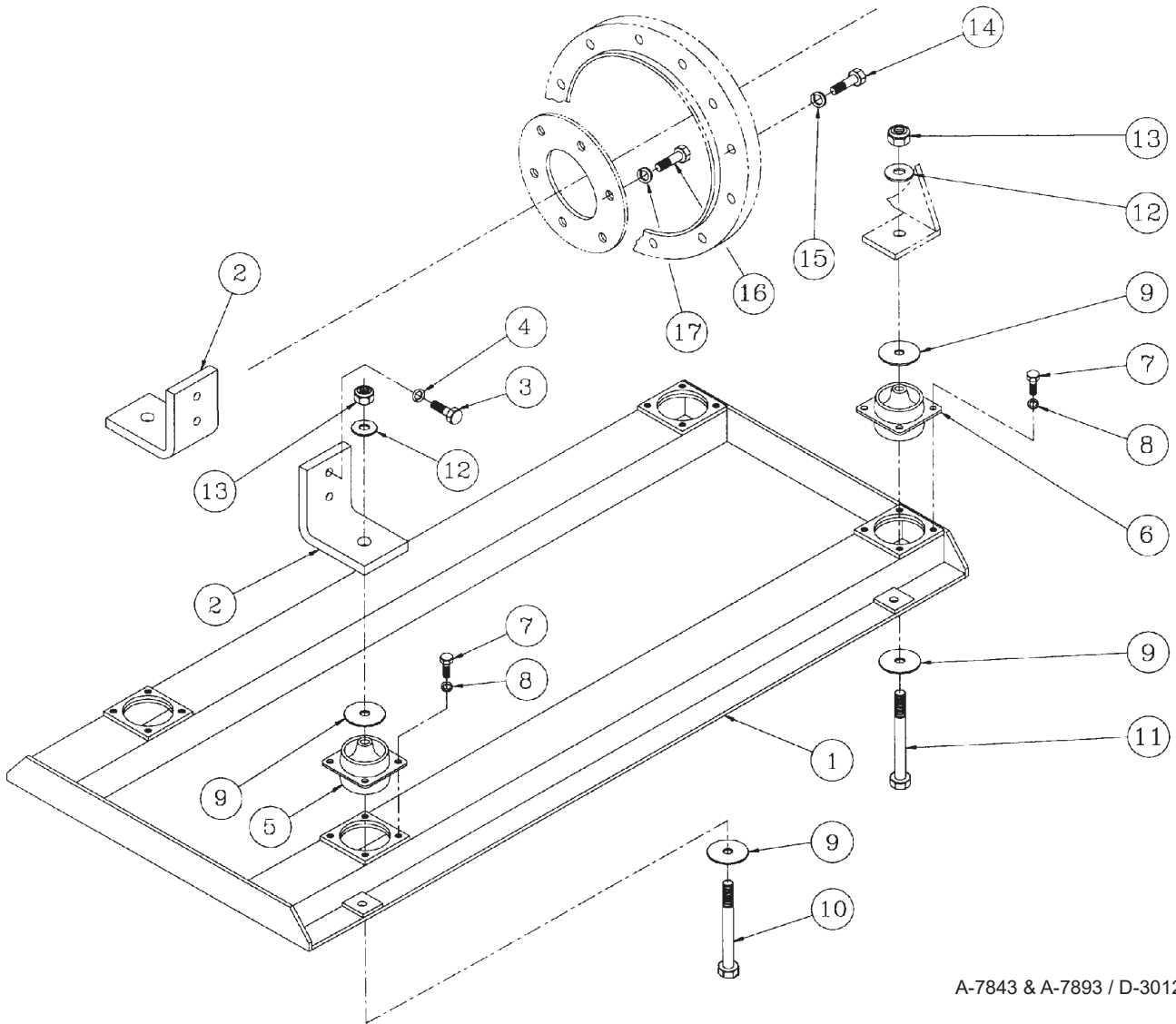
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	00-73143	1	Belt Guard, Small Frame Alternators (without PTO)	-
	00-73148	1	Belt Guard, Small Frame Alternators (with PTO)	-
	00-08402	1	Belt Guard, Medium Frame Alternators (without PTO)	-
	00-08401	1	Belt Guard, Medium Frame Alternators (with PTO)	-
2	13-03101	1	Stud, All Thread M8 x 1.25 x 110 mm S/S	-
3	13-03102	1	Stud, All Thread M6 x 1.0 x 140 mm S/S	-
4	14-09711	3	Hex Nut M8 x 1.25 S/S	-
5	15-00705	2	Lock Washer M8 S/S	-
6	15-00706	2	Flat Washer M8 S/S	-
7	14-01132	6	Hex Nut M6 x 1.0 S/S	-
8	15-00610	5	Lock Washer M6 S/S	-
9	15-01134	4	Flat Washer M6 S/S	-
10	13-03103	1	Stud, All Thread M6 x 1.0 x 70 mm S/S	-
11	14-73100	1	Hex Nut, X-L M6 x 1.0 x 19 mm	-
12	23-78403	**	Bracket (used with 00-73148 only – not shown)	-
	23-78402	**	Bracket (used with 00-08401 and 00-08402 only – not shown)	-
13	00-73147	1	PTO Guard (not shown)	-
			**As required	

Gasket Kit

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	29-03102	1	Gasket Kit (Marine, includes all keys)	
•	195907470	1	Gasket Kit (Industrial, includes keys #1 - 39)	-
1	198636170	1	Oil Seal, Rear	-
2	052109076	1	O-ring, Oil Line	-
3	110996820	1	Gasket, Oil Pan	-
4	025100012	2	Seal Washer, Oil Pan Drain	-
5	165996540	1	Gasket, Front Plate	-
6	052109108	2	O-ring, Governor Shaft	-
7	052109110	1	O-ring	-
8	165996550	1	Gasket, Timing Gear Case	-
9	198636160	1	Oil Seal, Front	-
10	165996610	1	Gasket, Gear Case Cover	-
11	131426310	1	Adjusting Shim Set, Injection Pump	-
12	025100008	2	Seal Washer, Air Bleed Screw	-
13	140996260	4	Gasket, Banjo Bolt	-
14	111147501	1	Head Gasket, t=1.3	-
15	120406050	3	Valve Guide Seal, Exhaust	-
16	120406070	3	Valve Guide Seal, Intake	-
17	131426200	3	Gasket, Lower side Injector	-
18	131426230	3	Gasket, Upper side injector	-
19	052109076	1	O-ring, Rocker Arm Shaft	-
20	120996140	1	Gasket, Rocker Arm Bracket	-
21	111996410	1	Gasket, Rocker Arm Cover	-
22	140996270	3	Gasket, Rocker Arm Cover	-
23	052100400	2	O-ring, Oil Fill Cap	-
24	135996951	1	Gasket, Air Intake	-
25	145996681	1	Gasket, Coolant Pump Set Plate	-
26	145996670	1	Gasket, Coolant Pump	-
27	145996710	1	Gasket, Thermostat Housing	-
28	130516069	4	Gasket, Fuel Pump Joint Bolt	-
29	130996130	1	Gasket, Fuel Feed Pump	-
30	052109113	2	O-ring, Dipstick Tube	-
31	025100016	1	Seal Washer, Solenoid	-
32	052109078	1	O-ring, Relief Valve	-
33	130326051	5	Gasket, Fuel Feed Pump Joint Bolt	-
34	135996900	1	Gasket	-
35	135996550	1	Gasket	-
36	135996590	1	Gasket, Exhaust Manifold	-
37	11-31902	1	Gasket, Elbow	-
38	052300700	1	O-ring, Gear Case Cover	-
39	11-33101	1	Gasket, Exhaust Manifold/ Expansion Tank	-
40	11-13101	1	Gasket, Thermostat Cover	-
41	16-13101	1	O-ring, Raw Water Pump	-

Base Frame Assembly

M843N up to s/n xxxx-46623C



A-7843 & A-7893 / D-3012

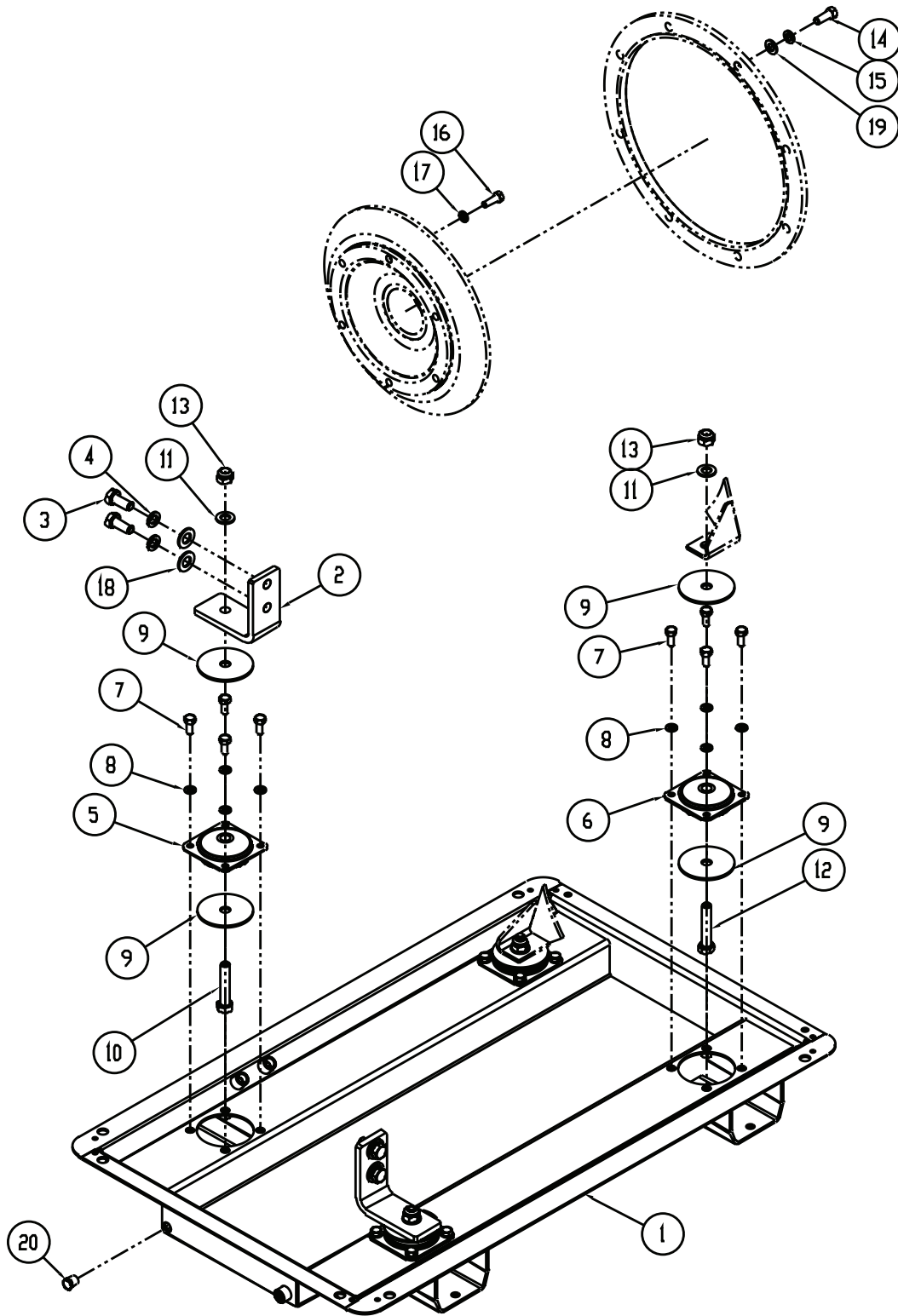
Base Frame Assembly

1	39-83124	1	Base Frame, Steel	-
	39-83123	1	Base Frame, Aluminum	-
2	23-83123	2	Bracket	-
3	12-01100	4	Capscrew, Hex Head M14 x 1.5 x 30 mm	-
4	15-01402	4	Lock Washer, Helical M14	-
5	33-85402	2	Platform Mount, 220 lb. (with PTO)	-
	33-82205	2	Platform Mount, 250 lb. (with PTO)	-
6	33-85402	2	Platform Mount, 220 lb.	-
7	12-00776	16	Capscrew, Hex Head M8 x 1.25 x 20 mm, S/S	-
8	12-00705	16	Lock Washer, Helical M8, S/S	-
9	15-00040	**	Snubbing Washer	-
10	12-09967	2	Capscrew, Hex Head M12 x 1.75 x 80mm S/S (w/o PTO)	-
	12-09922	2	Capscrew, Hex Head M12 x 1.75 x 90 mm S/S (with PTO)	-
11	12-95501	2	Capscrew, Hex Head M12 x 1.75 x 75 mm S/S	-
12	15-00907	4	Flat Washer M12 S/S	-
13	14-09830	4	Hex Nut, Nylock M12 x 1.75 S/S	-
14	12-00313	12	Capscrew, Hex Head 3/8-16 x 1-1/4"	-
15	15-00302	12	Lock Washer, Helical 3/8	-
16	12-00214	8	Capscrew, Hex Head 5/16-18 x 1-1/2	-
17	15-00202	8	Lock Washer, Helical 5/16	-
			* Units with PTO include additional snubbing washers under generator for height compensation (total 3 ea on each side)	

GROUP 7 – FRAME AND MOUNTING

Steel Base Pan with Platform Mounting

M843N / PX312K2 from s/n xxxx-46624C



D-4470B

Kit, Steel Base Pan with Plateform Mounting

M843N / PX312K2 from s/n xxxx-46624C

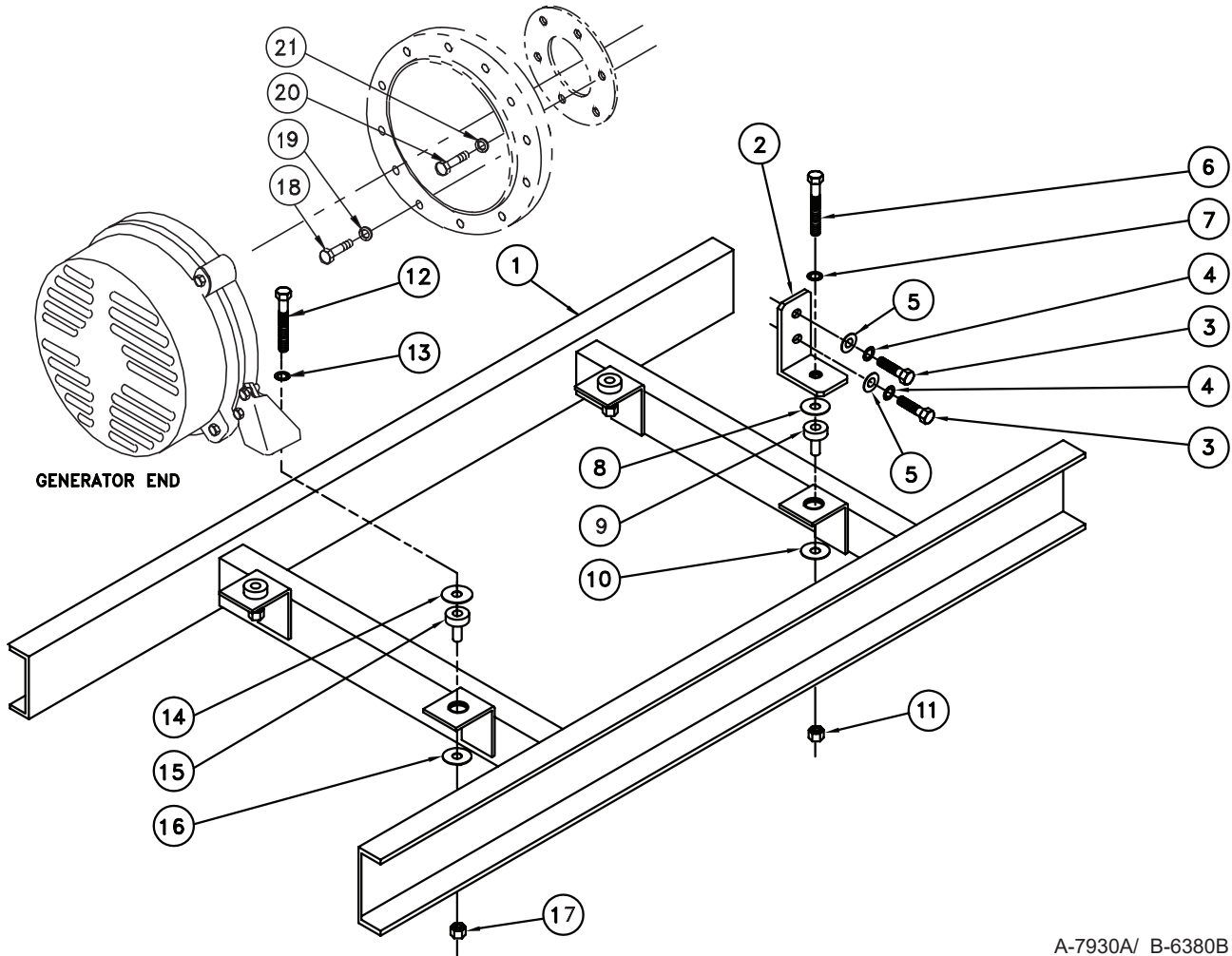
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	39-83128	1	Base Pan, Steel	-
2	23-83123	2	Bracket, Front Engine Mtg	-
3	12-09408	4	Capscrew, Hex Head M14 x 1.5 x 25 mm	-
4	15-09402	4	Lock Washer	-
5	33-85402	2	Mount, Pateform 220 Lb (w/o PTO)	-
	33-82205	2	Plateform Mount 250 lb (with PTO)	-
6	33-85402	2	Mount, Pateform 220 Lb	-
7	12-09751	16	Capscrew, Hex Head M8x1.25 X 16 mm S/S	-
8	15-00705	16	Lock Washer, Helical M8 S/S	-
9	15-00040	8	Snubbing Washer *	-
10	12-09967	2	Capscrew, Hex Head M12x1.75 X 80mm S/S (w/o PTO)	-
	12-09922	2	Capscrew, Hex Head M12 x 1.75 x 90mm S/S (with PTO)	-
11	15-09007	4	Flat Washer M12 S/S	-
12	12-95501	2	Capscrew, Hex Head M12x1.75 X 75mm S/S	-
13	14-09830	4	Hex Nut, Nylock M12x1.75 S/S	-
14	12-00313	12	Capscrew, Hex Head 3/8-16 X 1-1/4"	-
15	15-00302	12	Lock Washer, Helical 3/8"	-
16	12-00214	8	Capscrew, Hex Head 5/16-18 X 1- 1/2"	-
17	15-00202	8	Lock Washer, Helical 5/16	-
18	15-09401	4	Flat Washer M14 S/S	-
19	15-00805	12	Flat Washer M10	-
20	21-31624	1	Plug, Hex Head Brass 1/4 NPT	-

* Units with PTO include additional snubbing washers under generator for height compensation (total 3 ea on each side)

GROUP 7 – FRAME AND MOUNTING

Base Frame Assembly

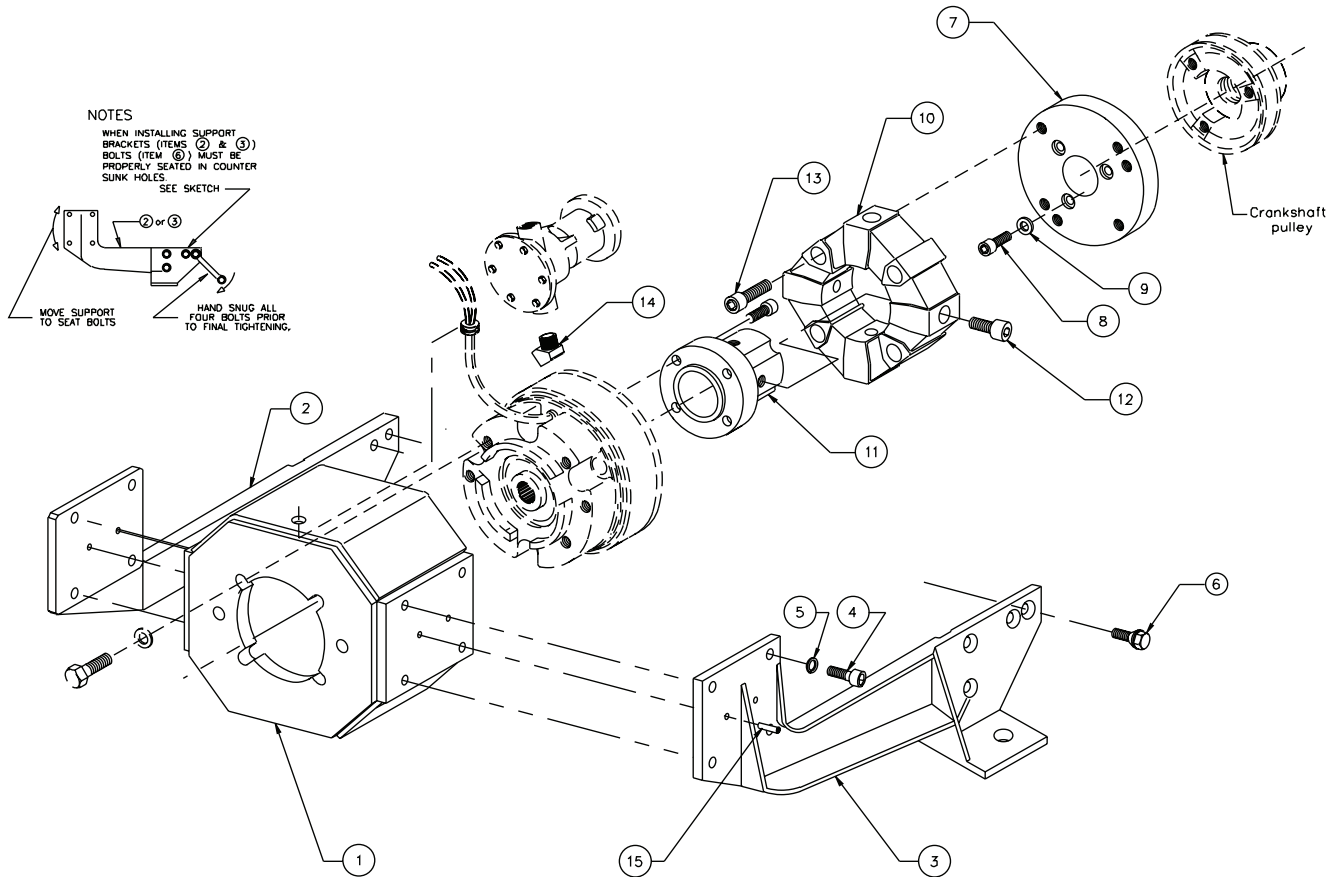
Industrial Application



A-7930A/ B-6380B

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	39-83126	1	Base Frame	-
2	23-83123	2	Bracket	-
3	12-01100	4	Capscrew, Hex Head M14 x 1.5 x 30 mm	-
4	15-01402	4	Lock Washer, Helical M14	-
5	15-01401	4	Flat Washer M14	-
6	12-00048	2	Capscrew, Hex Head M10 x 1.5 x 60 mm	-
7	15-00809	2	Flat Washer, Special	-
8	15-00014	2	Head/Tail Washer	-
9	33-83151	2	Mount, Centerbonded 200 lb.	-
10	15-00014	2	Head/Tail Washer	-
11	14-00812	2	Hex Nut, Nylock M10 x 1.5	-
12	12-00817	2	Capscrew, Hex Head M10 x 1.5 x 55 mm	-
13	15-00809	2	Flat Washer, Special	-
14	15-00014	2	Head/Tail Washer	-
15	33-83151	2	Mount, Centerbonded 200 lb.	-
16	15-00014	2	Head/Tail Washer	-
17	14-00812	2	Hex Nut, Nylock M10 x 1.5	-
18	12-00313	12	Capscrew, Hex Head 3/8-16 x 1-1/4"	-
19	15-00302	12	Lock Washer, Helical 3/8	-
20	12-00213	8	Capscrew, Hex Head 5/16-18 x 1-1/4"	-
21	15-00202	8	Lock Washer, Helical 5/16	-

PTO Adapter Parts



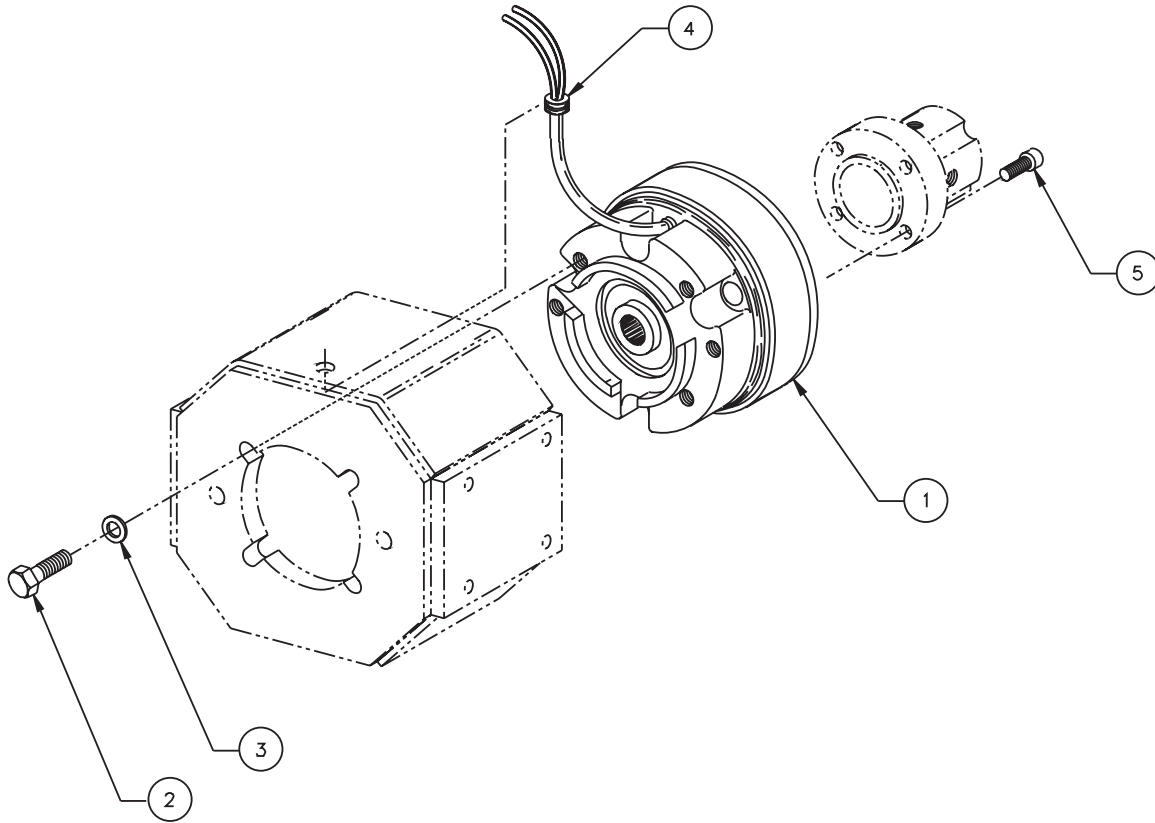
See PTO guard & related items on pages for Belt Guard Assembly

A-8091/ D-3154

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	31-63105	1	PTO Adapter (includes all keys)	-
1	10-65401	1	PTO Clutch Housing, H-28 B-Pad	-
2	23-63103	1	Engine/ PTO Support Bracket, Right Hand	-
3	23-63104	1	Engine/ PTO Support Bracket, Left Hand	-
4	12-34803	8	Capscrew, Socket Head M10 x 1.5 x 25 mm	-
5	15-00803	8	Lock Washer, High Collar M10	-
6	12-68101	6	Capscrew, Hex Head with Tapered Seat, M14 x 1.5 x 30 mm	-
7	31-68101	1	PTO Drive Adapter	-
8	12-20912	3	Capscrew, Socket Head M12 x 1.75 x 25 mm	-
9	15-04802	3	Lock Washer, High Collar M12	-
10	34-65406	1	Coupling Assembly (with hardware, size 22 model)	-
11	34-65407	1	Hub	-
12	12-20920	4	Capscrew, Socket Head M12 x 1.75 x 40 mm	-
13	12-20914	4	Capscrew, Socket Head M12 x 1.75 x 35 mm	-
14	21-00128	1	Steel Elbow, 45 degrees, Brass 1/2 NPT x 1/2 NPT	-
15	32-60001	4	Taper Pin #4 x 1"	-

GROUP 8 – ACCESSORIES AND OPTIONAL EQUIPMENT

Electric Clutch

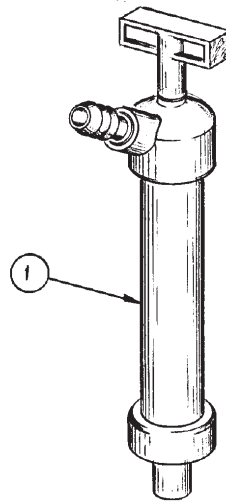


A-6291 & A-6346/ C-3020

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	34-60091	1	Electric Clutch Assembly (12 volt)	-
	34-60092	1	Electric Clutch Assembly (24 volt)	-
2	12-00513	4	Capscrew, Hex Head 1/2-13 x 1-1/4	-
3	15-00007	4	Flat Washer M12	-
4	00-61003	1	Grommet	-
5	12-63800	4	Capscrew, Socket Head 3/8-24 x 3/4	-

Oil Drain Kit

Marine Application

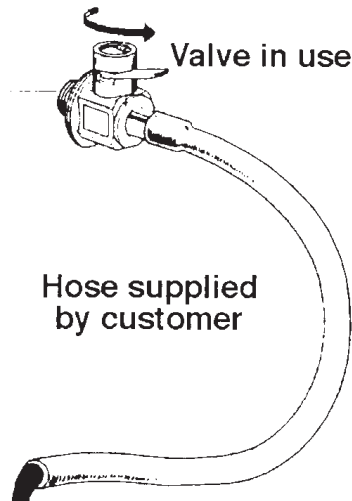


A-5024/ B-3990

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	36-70010		Oil Drain Pump Kit (with hose & connectors)	-
1	36-72002	1	Hand Pump	-

Oil Drain

Industrial Application



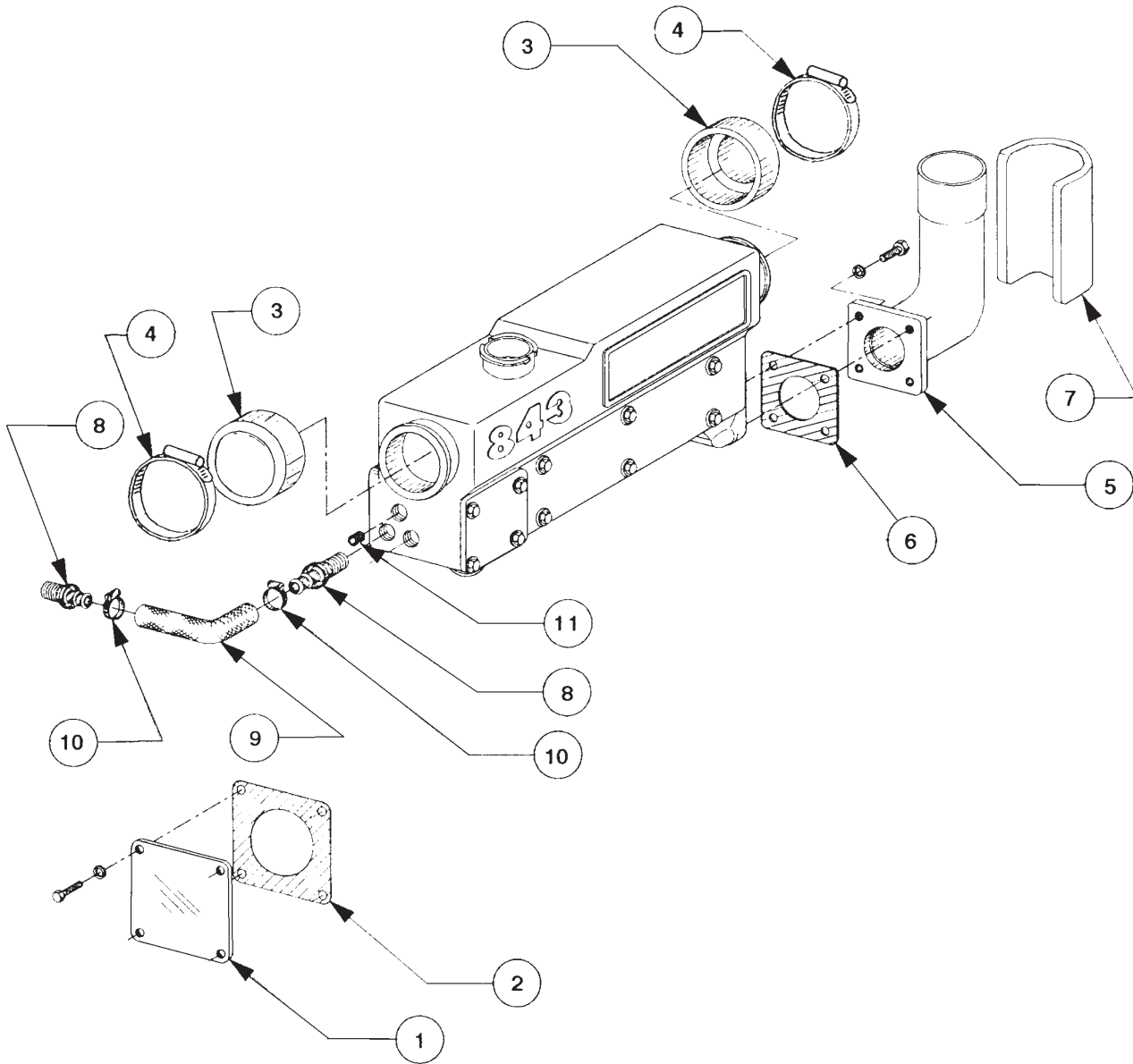
A-6480

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	36-72003	1	Drain Valve	-

GROUP 8 – ACCESSORIES AND OPTIONAL EQUIPMENT

Keel Cooling Conversion

Marine Application - with Dry Exhaust

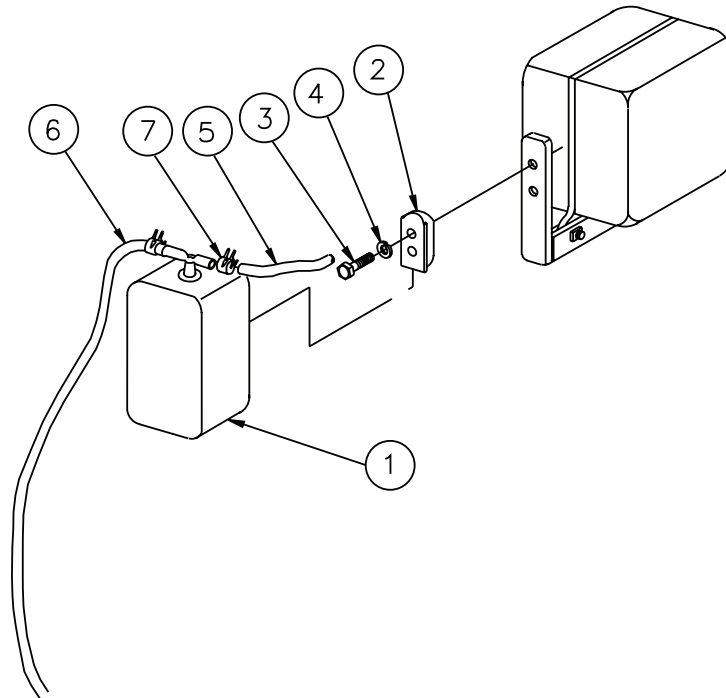
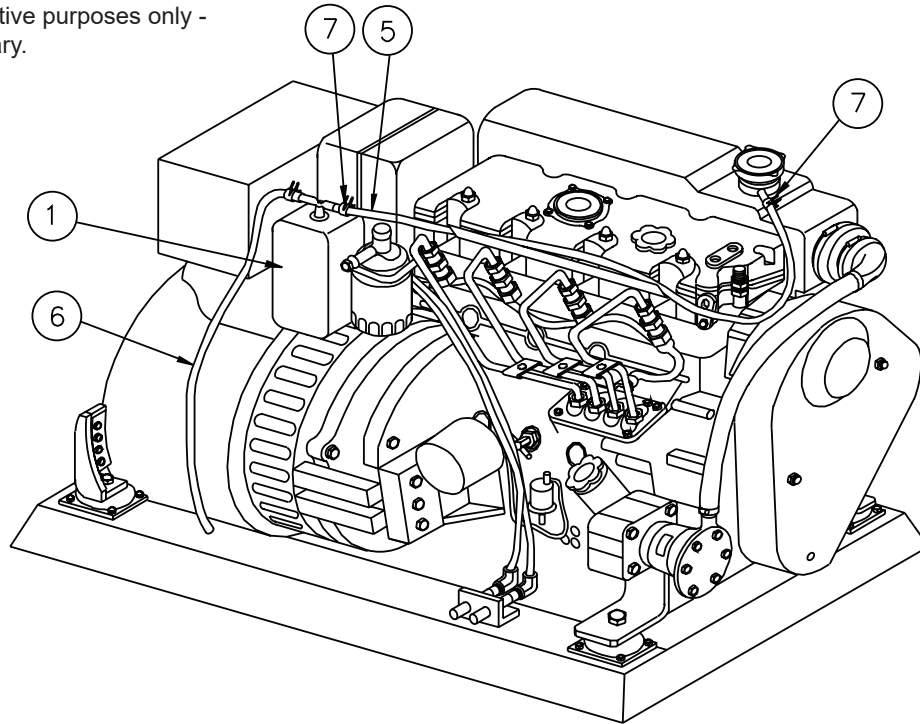


A-11305/ P843 KC

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	165206320	1	Cover (see Governor & Timing Gear Case)	-
2	11-12005	1	Gasket (see Governor & Timing Gear Case)	-
3	20-12019	2	End Cap	-
4	19-04048	2	Hose Clamp #48 (formerly # 19-00044)	-
5	27-32007	1	Elbow, Dry Exhaust 1-1/2 NPT	-
6	11-31902	1	Gasket	-
7	00-32008	1	Lagging	-
8	21-12014	2	Male Connector, Brass, 3/8 NPT x 1/2 HB	-
9	18-12003	1	Hose	-
10	19-00008	2	Hose Clamp #8	-
11	21-51900	1	Plug, Socket Head, Steel, 1/8 NPT	-

Coolant Recovery Tank

Drawing for illustrative purposes only -
your model may vary.



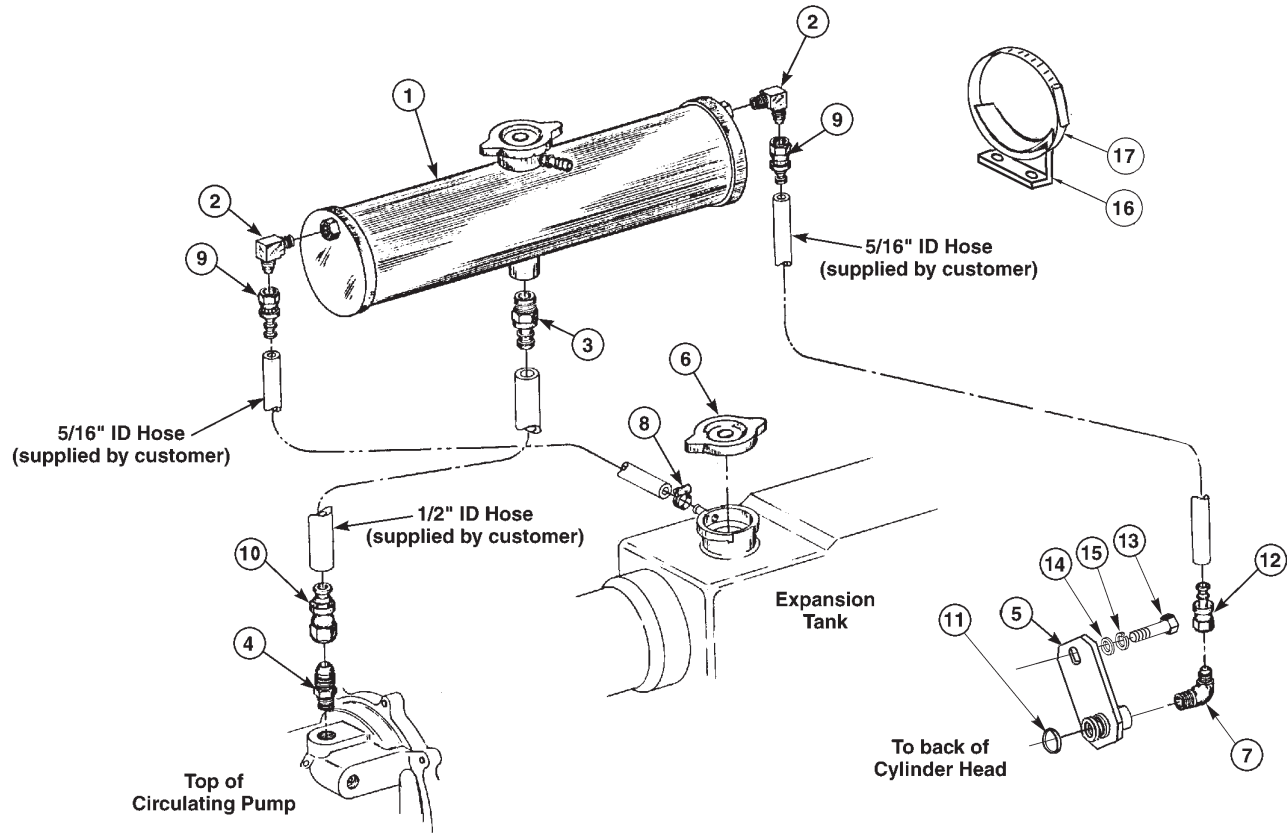
A-10342/ B-8022

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	310550130	1	Coolant Recovery Tank	-
2	222300090	1	Coolant Recovery Tank Mounting Bracket	-
3	12-01102	2	Capscrew, Hex Head, M6 x 1.0 x 16 mm S/S	-
4	15-00610	2	Lock Washer, Helical M6 S/S	-
5	27-12003	1	Hose, 5/16" x 26" Polyurethane	-
6	18-12006	1	Hose, 5/16" x 26" Polyvinyl	-
7	19-18602	3	Hose Clamp	-

GROUP 8 – ACCESSORIES AND OPTIONAL EQUIPMENT

Remote Expansion Tank

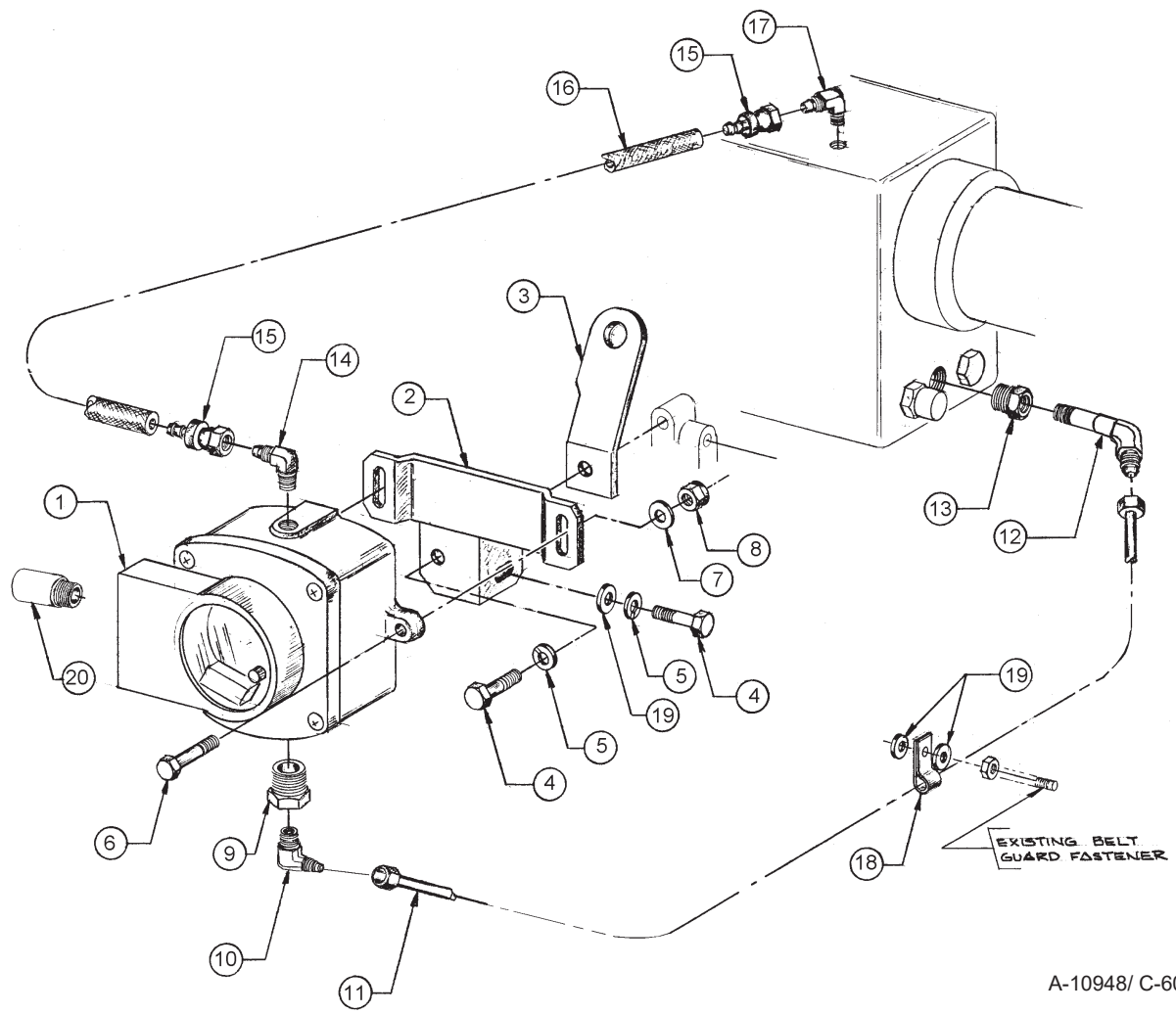
Marine



A-5931A/ D-2345

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	10-12002	1	Tank Assembly (includes keys #2 & #16 - #17)	-
2	21-52245	2	Male Elbow, Brass 1/4 NPT x 5/16-45T	-
3	21-51093	1	Male Connector, Brass 1/2 NPT x 1/2 HB	-
4	21-71093	1	Male Connector, Brass 3/8 NPT x 1/2 HB	-
5	31-12001	1	Port Adapter (requires key #11)	-
6	21-12008	1	Filler Cap	-
7	21-10030	1	Male Elbow, Steel 3/8 Port x 5/16-37T	-
8	19-01004	1	Hose Clamp	-
9	21-71056	2	Female Swivel, Brass 5/16 HB x 5/16-45T	-
10	21-71042	1	Female Swivel, Brass 1/2 HB x 1/2-45T	-
11	16-90001	1	O-ring (for Port Adapter)	-
12	21-70007	1	Female Swivel, Brass 5/16 HB x 5/16-37T	-
13	12-00751	1	Capscrew, Hex Head M8 x 1.25 x 16 mm	-
14	15-00701	1	Flat Washer M8	-
15	15-00702	1	Lock Washer M8	-
16	23-75404	2	Mounting Foot	-
17	19-00064	2	Hose Clamp #64 (for tank mounting)	-

Low Coolant Level Switch/ Gauge



A-10948/ C-6066

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	22-10003	1	Coolant Level Switch/ Gauge	-
2	23-73106	1	Bracket, Coolant Level Switch/ Gauge	-
3	00-73146	1	Lifting Eye, Front	-
4	12-00712	2	Capscrew, Hex Head M8 x 1.25 x 25 mm	-
5	15-00702	2	Lock Washer, Helical M8	-
6	12-00031	2	Capscrew, Hex Head M6 x 1.0 x 25 mm	-
7	15-00008	1	Flat Washer M6	-
8	14-04803	2	Hex Nut, Nylock M6 x 1.0	-
9	21-00135	1	Bushing, Brass 1/2 NPT x 1/4 NPT	-
10	21-71049	1	Male Elbow 90° Steel 1/4 NPT x 1/4- 37T	-
11	18-15408	1	Hose Assembly 1/4" I.D. x 15"	-
12	21-15710	1	Male Elbow 90° Steel 1/8 NPT x 1/4- 37T	-
13	21-55201	1	Bushing, Brass 3/8 NPT x 1/8 NPT	-
14	21-71044	1	Male Elbow 90° Brass 1/4 NPT x 1/4- 45T	-
15	21-71045	2	Female Swivel, Brass 1/4 HB x 1/4- 45T	-
16	18-52205	1	Hose, 1/4" I.D. x 13" Push-on	-
17	21-71053	1	Male Elbow 900 Steel 1/8 NPT x 1/4- 37T	-
18	19-72252	1	Adelle Clamp 3/8" I.D. x 3/8" Stud	-
19	15-00701	3	Flat Washer M8	-
20	00-40016	1	Strain Relief Connection 1/2 NPT	-



4420 14th Ave. NW., Seattle WA 98107

Tel: (206) 789-3880 • 1-800-762-0165 • Fax: (206) 782-5455

Northern Lights and Lugger are registered trademarks of Northern Lights, Inc.

© 2020 All rights reserved. Litho USA.