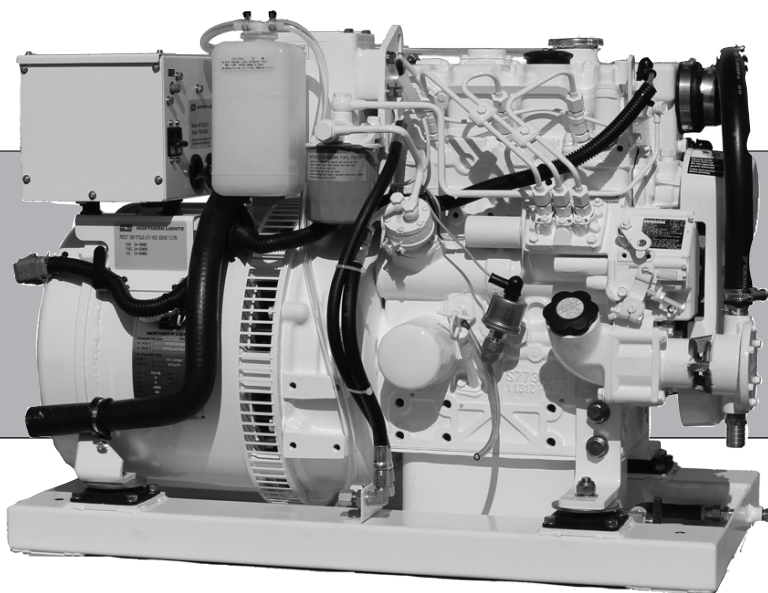




PARTS MANUAL

P773N-3

For Model: M773LW3GN



NORTHERN LIGHTS


www.northern-lights.com



— 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.

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Printed in U.S.A.
PART NO.: P773N-3 3/26



PARTS MANUAL

for Model M773LW3GN

Please read thoroughly before attempting to use this manual:

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Proprietary Information

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Model Designation

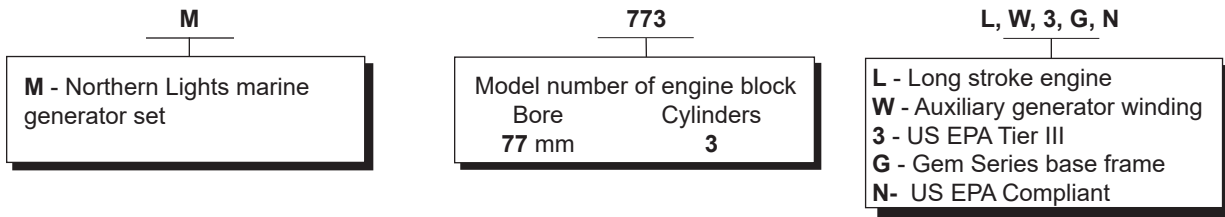
MODELS INCLUDED

This manual covers the parts and components used in:

M773LW3GN

Model Numbers

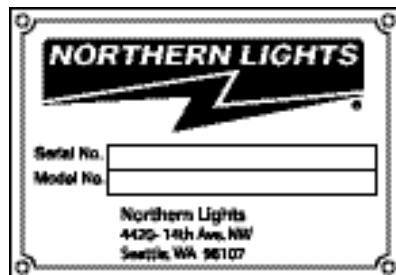
Model numbers give the unit's application, block model, aspiration, and RPM:



M773LW3GN = Northern Lights marine diesel generator set with an 773 engine and a PX-309K2 generator with auxiliary winding on a Gem Series base frame. US EPA Compliant.

Serial Numbers

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.



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.

15 Updated 3-31-16

1 ELECTRICAL SYSTEM

ALTERNATOR ASSEMBLY: M - NL773

5 KEY	PART NUMBER	QTY.	DESCRIPTION	SERIAL NUMBER
0	185046210	1	Alternator Assembly 10	-
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	-

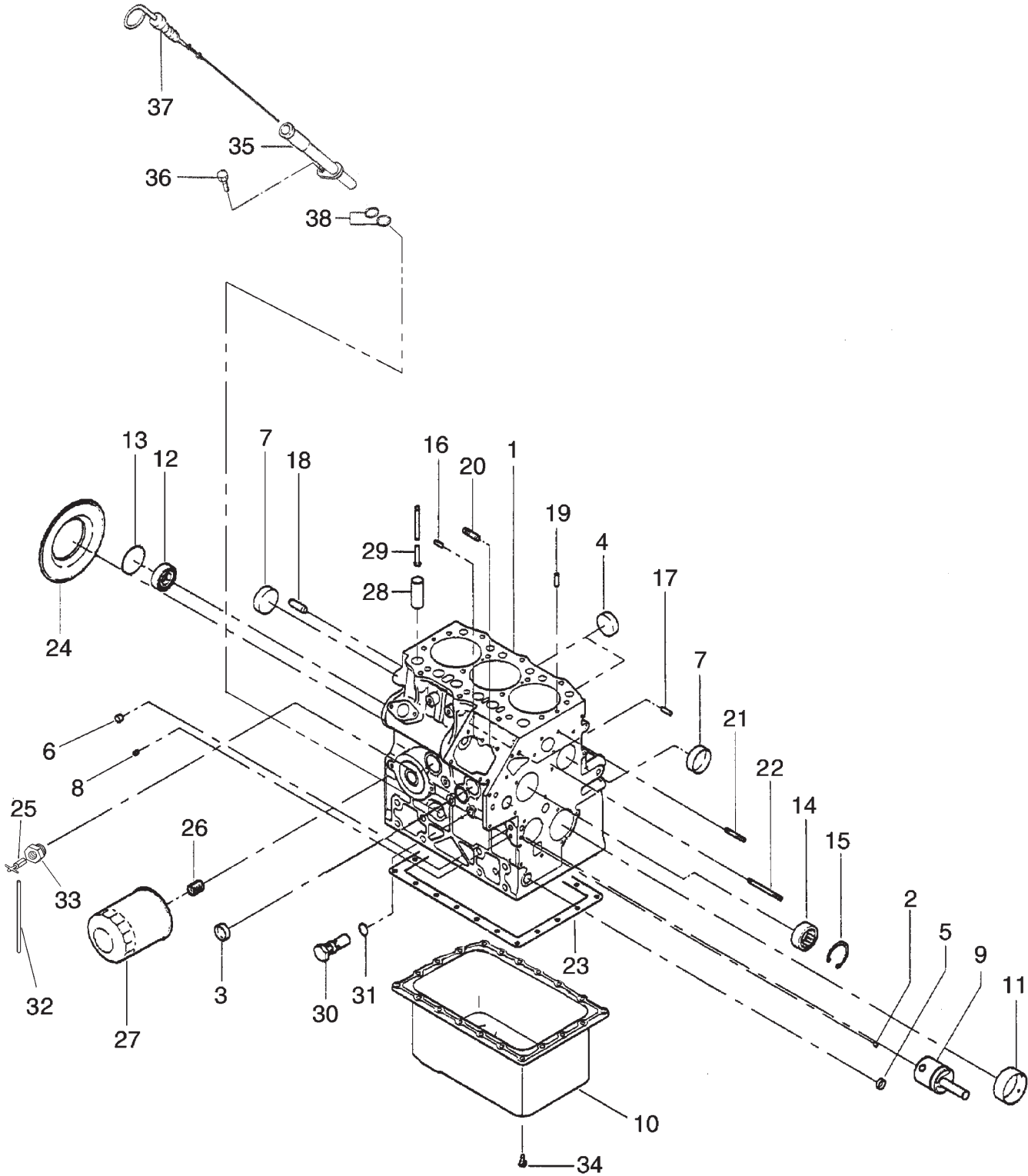
13 14
 P773 06/02
11 5-2 12

REFERENCES:

- | | |
|--|--|
| <ol style="list-style-type: none"> 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. | <ol style="list-style-type: none"> 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 •• or •. 11. Grouping index number. 12. Page number within the grouping index. 13. Manual title. 14. Page publication date. 15. Date of most recent update |
|--|--|

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

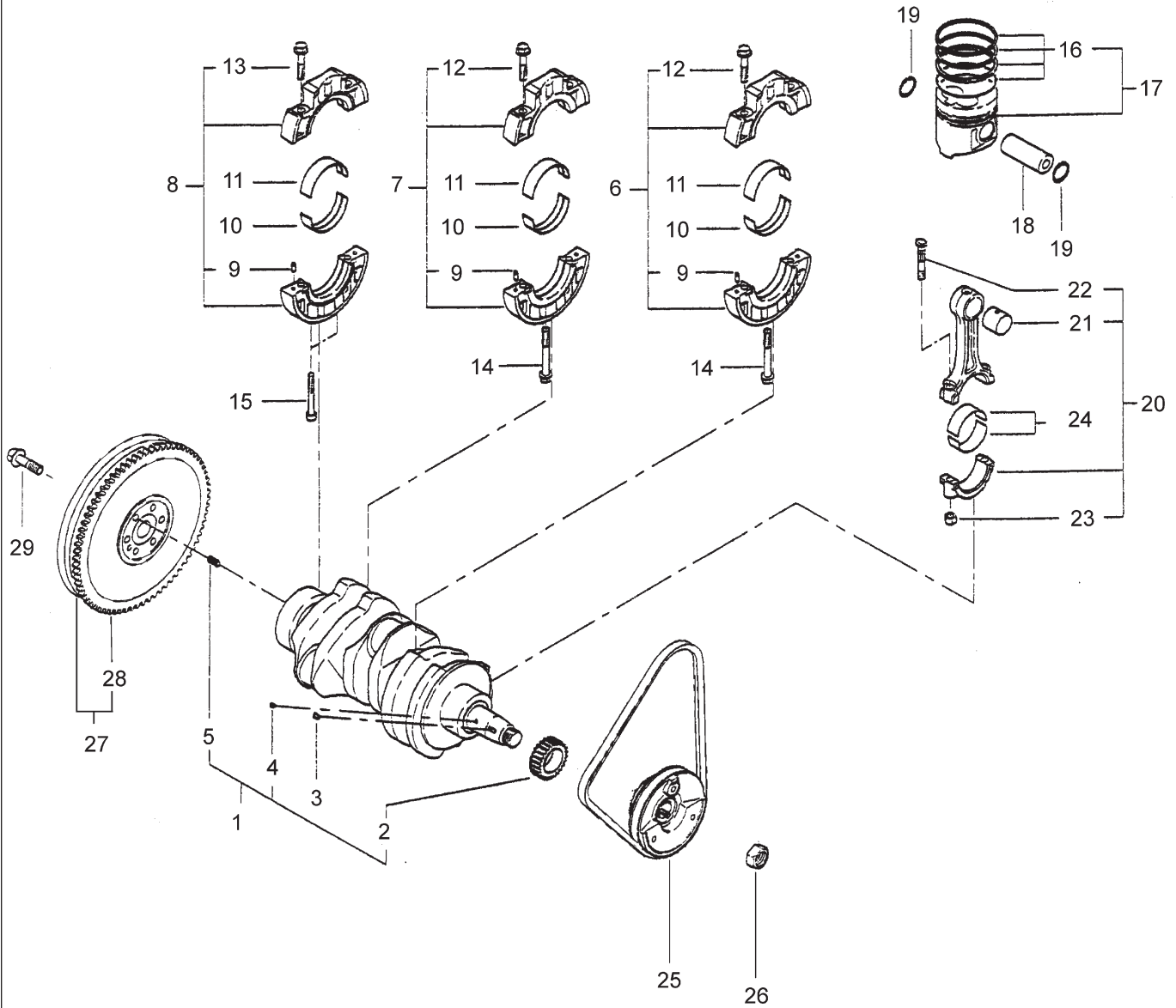
Cylinder Block Assembly



Cylinder Block Assembly

KEY	PART NUMBER	QTY	DESCRIPTION	S/N
1	110103541	1	Cylinder Block Assembly (Includes keys #2 - #21)	-
2	198466050	1	Plug	-
3	064210025	1	Expansion Plug, 25 mm	-
4	064210035	2	Expansion Plug, 35 mm	-
5	064210015	2	Expansion Plug, 15 mm	-
6	198466010	4	Plug	-
7	064209055	2	Expansion Plug, 40 mm	-
8	198466940	4	Plug	-
9	165296142	1	Idle Gear Shaft Assembly	-
10	T433961	1	Oil Pan	-
11	198517592	1	Bushing; S.T.D.	-
	198517596	1	Bushing; U.S. 0.25	-
	198517599	1	Bushing; U.S. 0.50	-
12	040106203	1	Bearing	-
13	064100045	1	Expansion Plug, 45 mm	-
14	042303015	1	Bearing	-
15	036509005	1	Snap Ring	-
16	030500512	2	Dowel Pin	-
17	030500616	2	Dowel Pin	-
18	030501025	2	Dowel Pin	-
19	T03509005	2	Spring Pin	-
20	0109440	2	Stud	-
21	T434590	1	Stud	-
22	T434939	1	Stud	-
23	U10996900	1	Gasket	-
24	050209107	1	Oil Seal	-
25	198736050	1	Drain Cock	-
26	140546020	1	Joint	-
27	24-02002	1	Oil Filter	-
28	120116160	6	Tappet	-
29	120456223	6	Push Rod	-
30	140036220	1	Relief Valve Assembly	-
31	052109078	1	O-ring	-
32	068115200	1	Tube	-
33	198486770	1	Bushing	-
34	U10996900	20	Capscrew, Hex Head M6 x 1.0 x 14 mm (with Lock Washer)	-
35	110756490	1	Dipstick Tube	-
36	2314F001	1	Bolt	-
37	T438385	1	Dipstick	-
38	T430626	2	O-ring	-

Crankshaft Assembly



773crankshaft

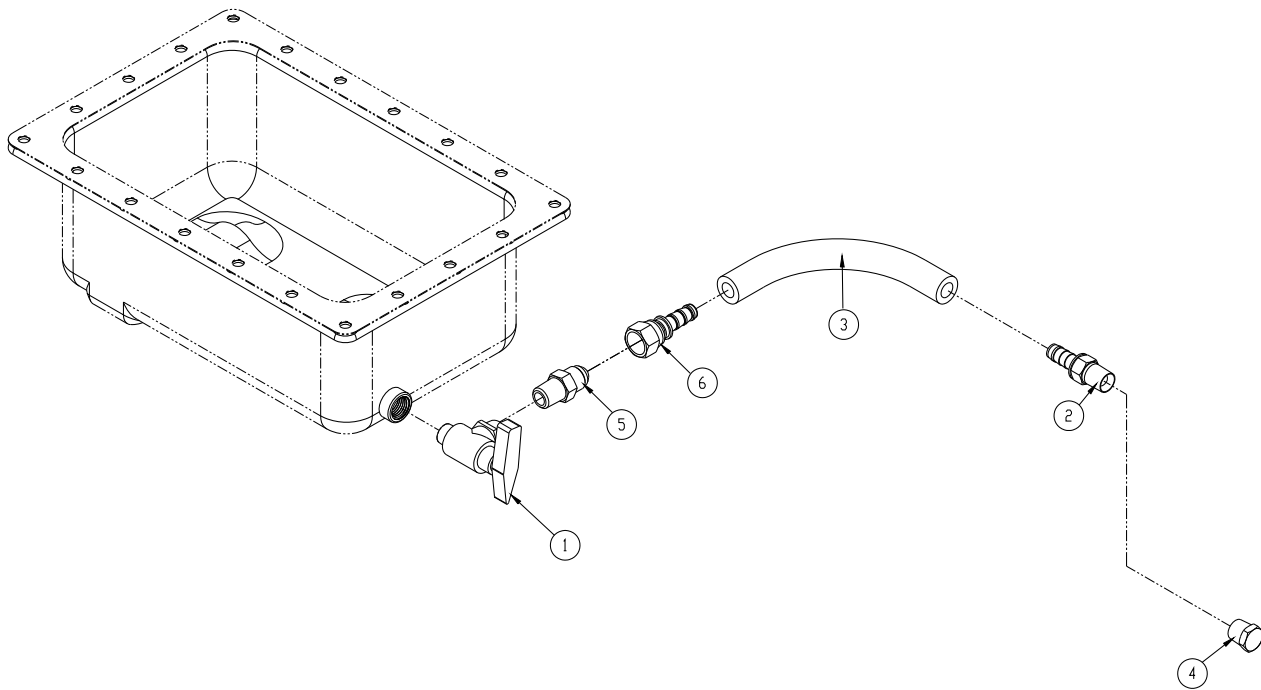
Crankshaft Assembly

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	T431025	1	Crankshaft Assembly (includes keys #2 - 5)	-
2	U15276280	1	Crankshaft Gear	-
3	T426252	1	Key	-
4	030509020	1	Dowel Pin	-
5	030300816	1	Spring Pin	-
6	110156400	1	Bearing Holder Assembly (includes keys #9 & 12)	-
7	110156410	1	Bearing Holder Assembly (includes keys #9 & 12)	-
8	110156420	1	Bearing Holder Assembly (includes keys #9 & 13)	-
9	030500612	6	Dowel Pin	-
10	198517582	3	Bearing; Lower S.T.D.	-
	198517586	3	Bearing; Lower U.S. 0.25 mm	-
	198517589	3	Bearing; Lower U.S. 0.50 mm	-
11	198517572	3	Bearing; Upper S.T.D.	-
	198517576	3	Bearing; Upper Undersized 0.25 mm	-
	198517579	3	Bearing; Upper Undersized 0.50 mm	-
12	010810840	4	Bolt	-
13	010810845	2	Bolt	-
14	011510850	4	Bolt	-
15	010700845	2	Bolt	-
16	115107901	3	Ring Kit; S.T.D.	-
	115107430	3	Ring Kit; Oversized 0.50 mm	-
17	115017461	3	Piston Kit; S.T.D.	-
	115017450	3	Piston Kit; Oversized 0.50 mm	-
18	115326231	3	Piston Pin	-
19	036500021	6	Snap Ring	-
20	115026340	3	Connecting Rod Assembly (includes keys #21 - 23)	-
21	198517120	3	Bushing	-
22	115176150	6	Connecting Rod Bolt	-
23	020109075	6	Nut	-
24	198517602	6	Bearing; S.T.D.	-
	198517606	6	Bearing; Undersized 0.25	-
	198517609	6	Bearing; Undersized 0.50	-
25	U15397310	1	Crankshaft Pulley	-
26	020800018	1	Nut	-
27	U15356720	1	Flywheel Assembly (includes key #28)	-
28	T436321	1	Ring Gear, 96 Teeth	-
29	010109340	6	Bolt	-

GROUP 1 – ENGINE

Kit, Oil Drain and Valve

From S/N xxxx-67488



B-12630

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	18-70005	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	-

Oil Pump & Pick-up

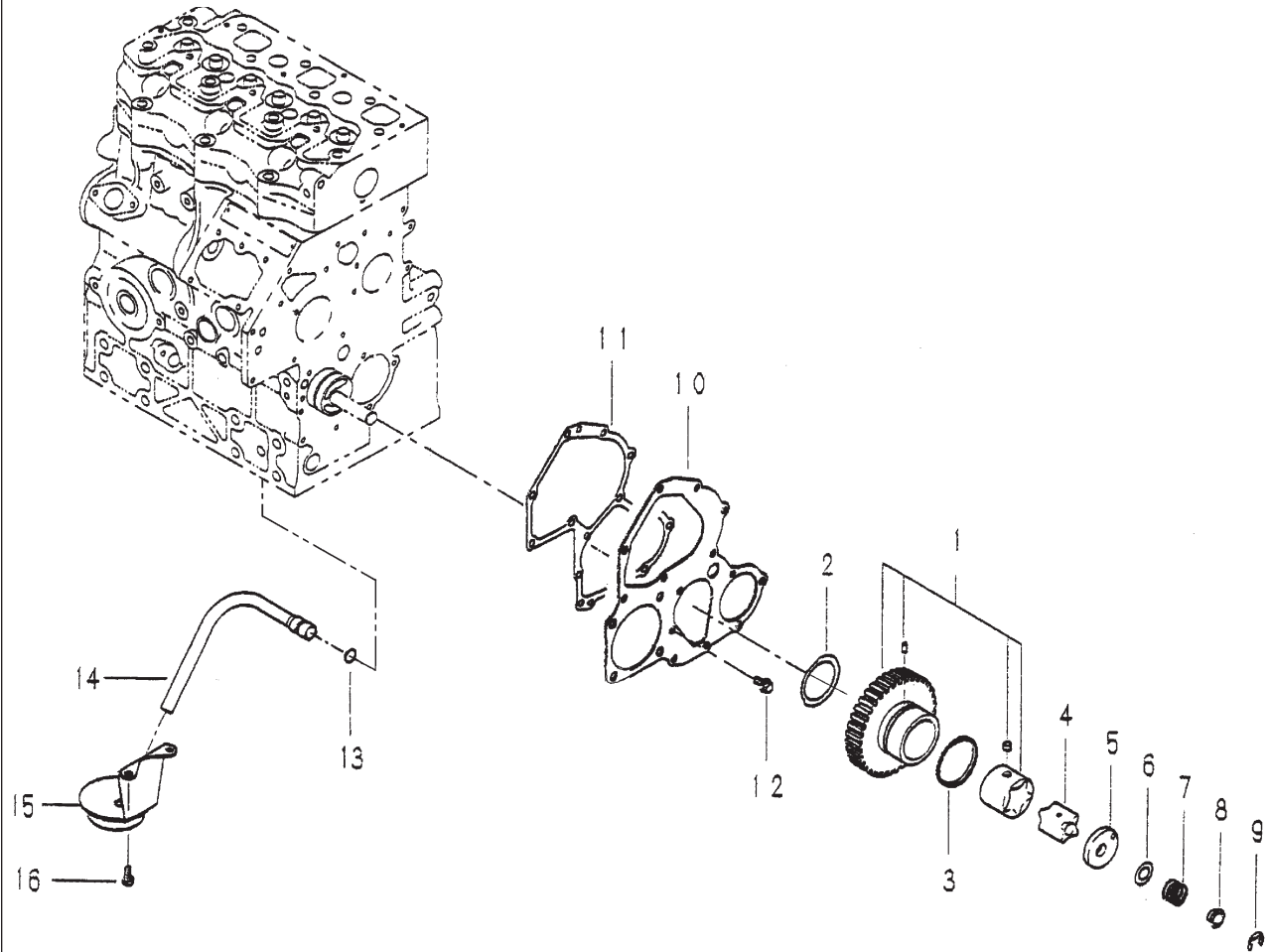
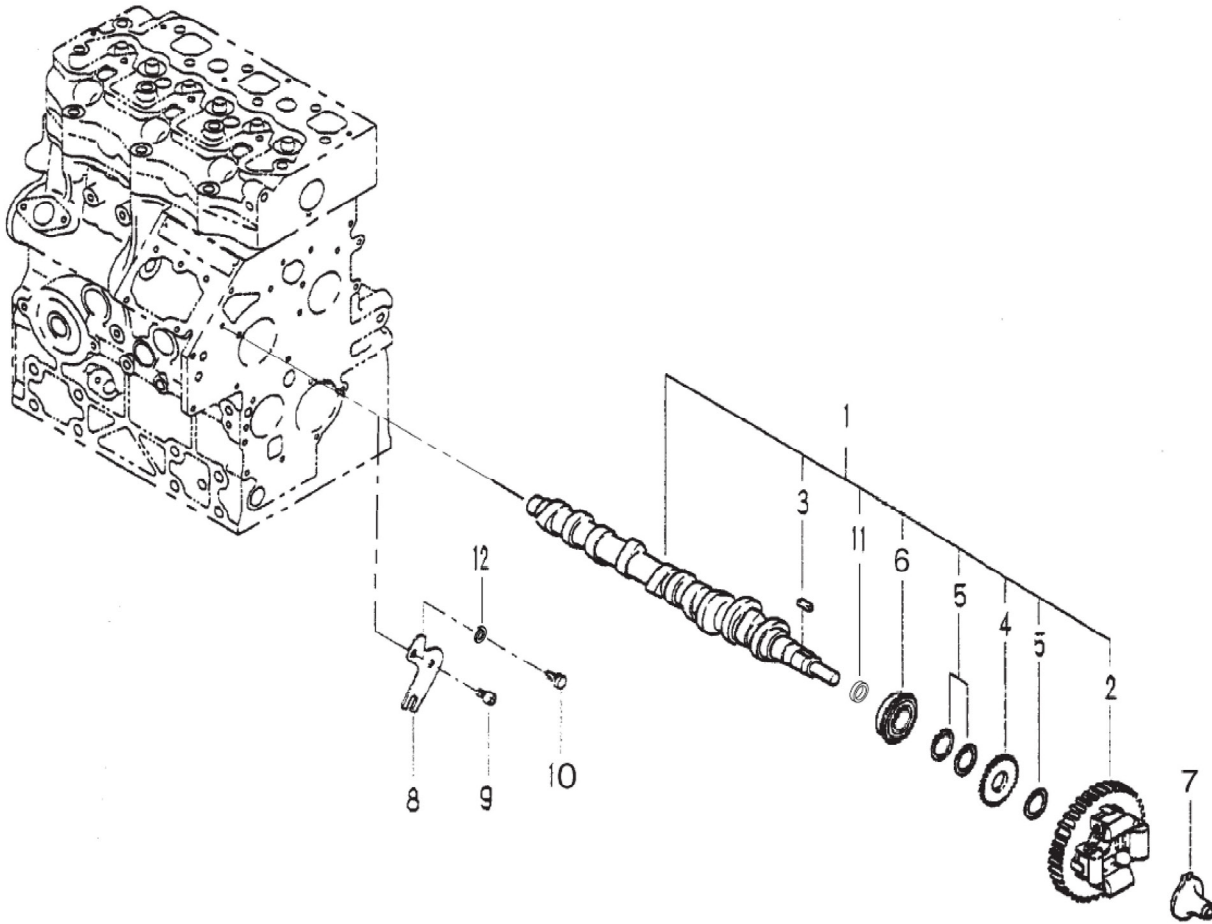


Fig. 1-4

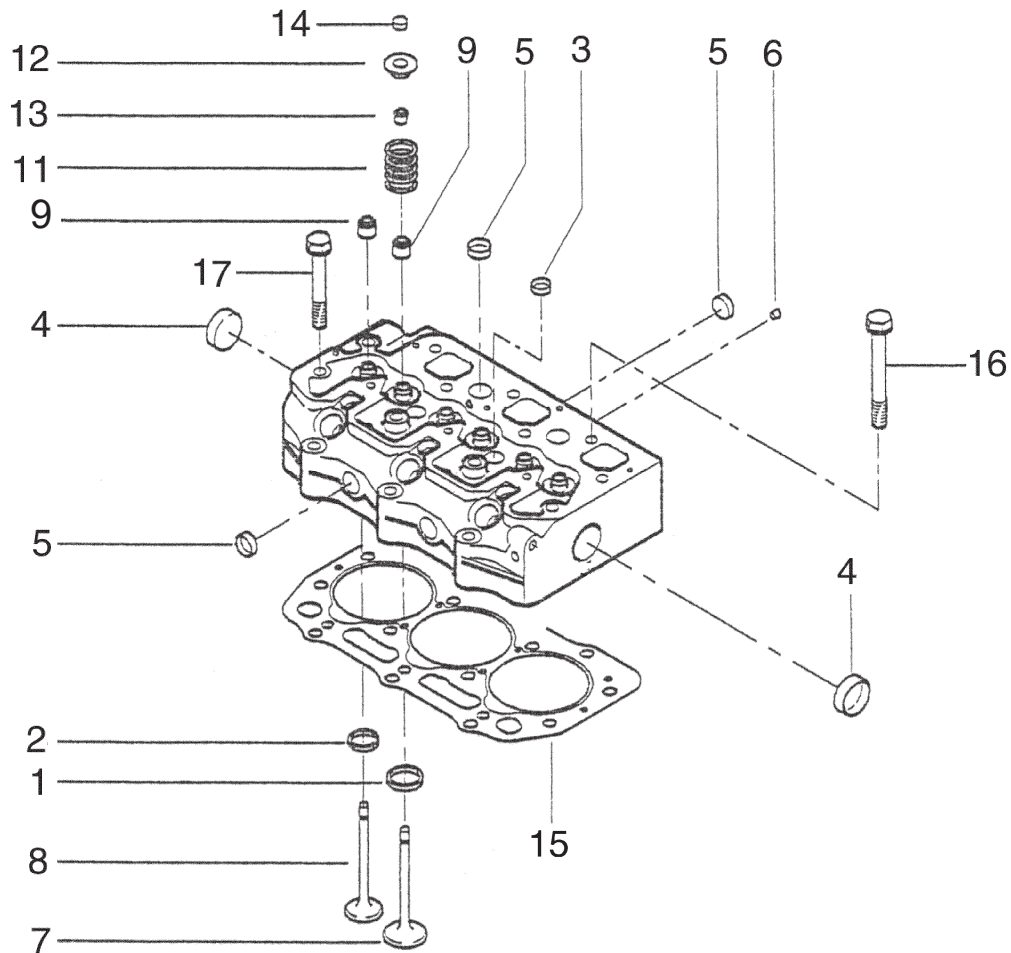
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	T438294	1	Idle Gear Assembly (former # 165026100)	-
2	199266180	1	Thrust Washer	-
3	198216821	1	Spring	-
4	140166400	1	Rotor	-
5	140116140	1	Oil Pump Cover	-
6	199286150	**	Shim, 0.1 mm	-
	199286160	**	Shim, 0.15 mm	-
	199286170	**	Shim, 0.2 mm	-
	199286180	**	Shim, 0.5 mm	-
7	198216720	1	Spring	-
8	199236540	1	Collar	-
9	036800010	1	Snap Ring	-
10	165166410	1	Front Plate	-
11	T435160	1	Gasket	-
12	T422798	3	Bolt	-
13	052109076	1	O-ring	-
14	140987140	1	Oil Pipe	-
15	U40406500	1	Pick-up	-
16	011310612	2	Bolt	-
			**As required	

Camshaft



KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	T433905	1	Cam Shaft Assembly (includes keys #2- 6)	-
2	T433913	1	Cam Gear Assembly	-
3	034100508	1	Key	-
6	04909059	1	Bearing	-
7	125256120	1	Slider	-
8	199566652	1	Plate	-
9	010700610	1	Bolt	-
10	T430202	1	Bolt	-
11	U99216320	1	Spacer	-
12	T434095	1	Split lock washer	-

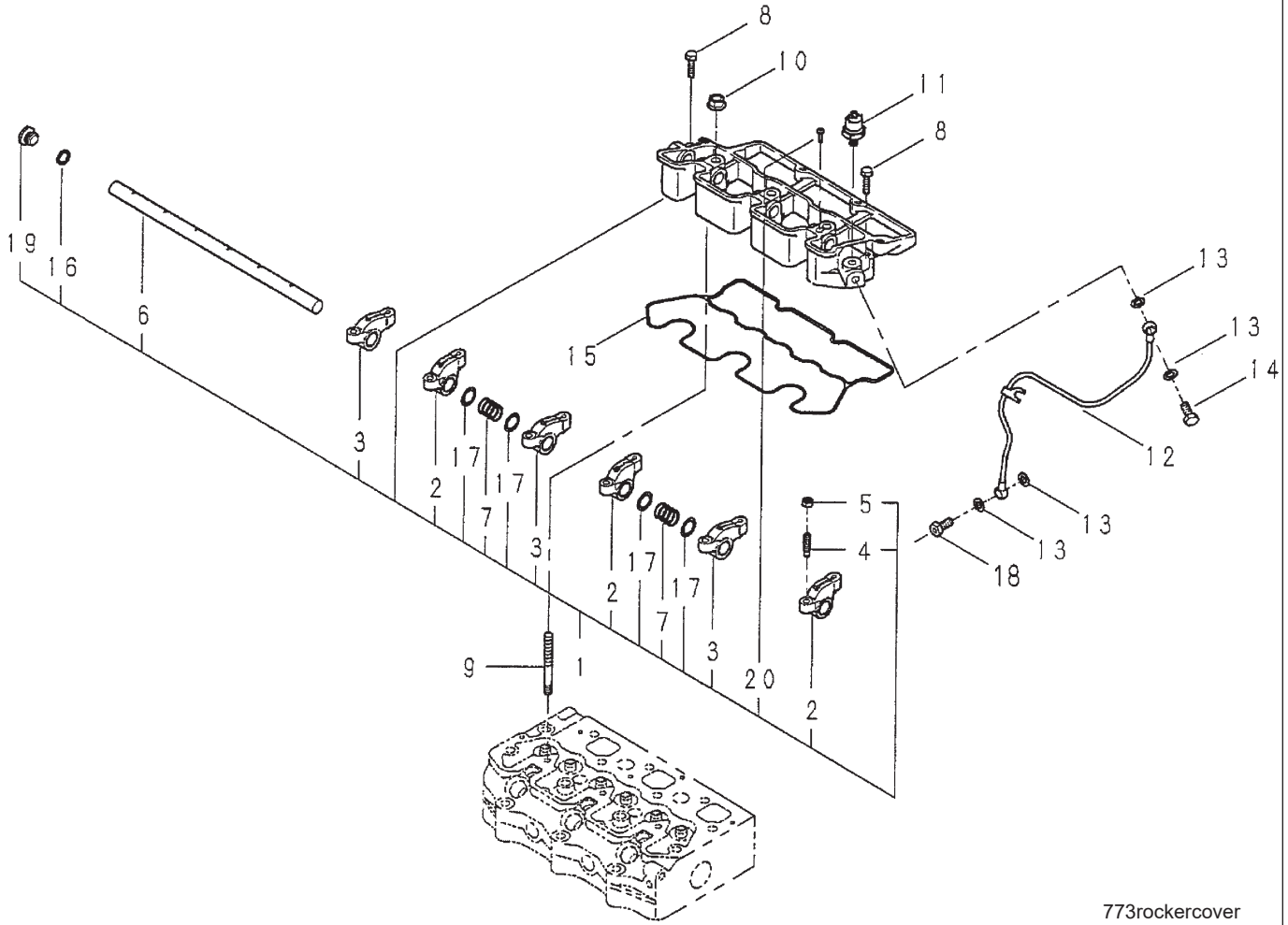
Cylinder Head



773 1-6a

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	111013020	1	Cylinder Head Assembly - (Marine, Includes keys #2-3, 6-13 & 19)	-
	111011630	1	Cylinder Head Assembly - (Industrial, Includes keys #2-3, 6-13 & 19)	-
1	T435273	3	Valve Seat	-
2	U10136460	3	Valve Seat	-
3	T426253	2	Expansion Plug, 15 mm	-
4	T426254	2	Expansion Plug, 30 mm	-
5	T426253	6	Expansion Plug, 18 mm	-
6	198466030	2	Plug	-
7	120166360	3	Intake Valve	-
8	120176250	3	Exhaust Valve	-
9	U20406140	3	Valve Guide Seal	-
11	U98217470	6	Spring	-
12	120186080	6	Retainer	-
13	120226070	12	Cotter	-
14	120216041	6	Cap	-
15	111147560	1	Head Gasket; t = 1.2	-
	111147570	1	Head Gasket; t = 1.3	-
16	T432075	11	Head Bolt	-
17	T436734	6	Head Bolt	-

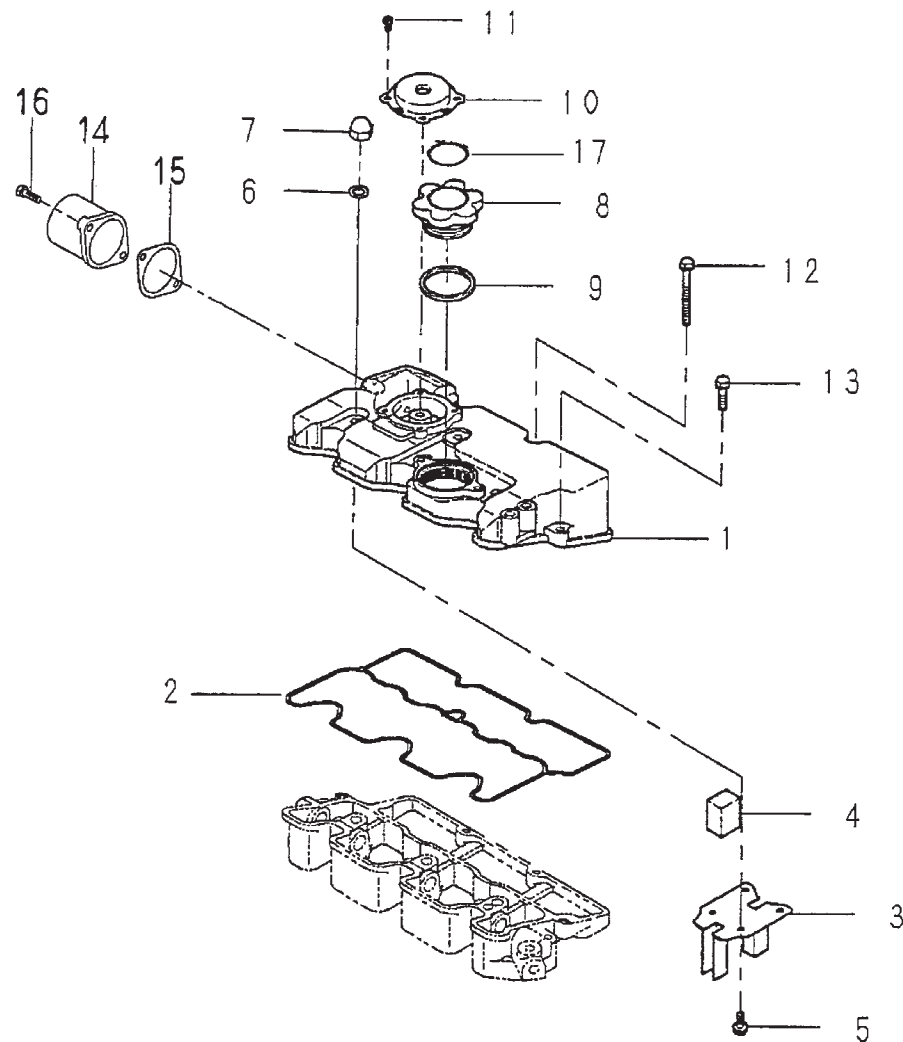
Rocker Arm Assembly



773rockercover

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	T434077	1	Rocker Arm Assembly (Includes keys #2- 7, 16,17,19, & 20)	-
2	T434085	3	Intake Rocker Arm	-
3	T434086	3	Exhaust Rocker Arm	-
4	T433930	6	Screw	-
5	020109076	6	Nut	-
6	T434078	1	Rocker Arm Shaft	-
7	T434087	2	Spring	-
8	011310625	2	Bolt	-
9	012109177	3	Stud Bolt	-
10	023100008	3	Nut	-
11		1	Oil Pressure Switch (see Electrical System)	-
12	140607270	1	Oil Pipe	-
13	140996260	4	Gasket	-
14	198486780	1	Eye Bolt	-
15	120996150	1	Gasket	-
16	T434080	1	O-ring	-
17	199280280	6	Shim	-
18	198487590	1	Banjo Bolt (Tapped 1/8 NPT Female)	-
19	T434079	1	Plug	-
20	015100410	1	Screw	-

Rocker Arm Cover

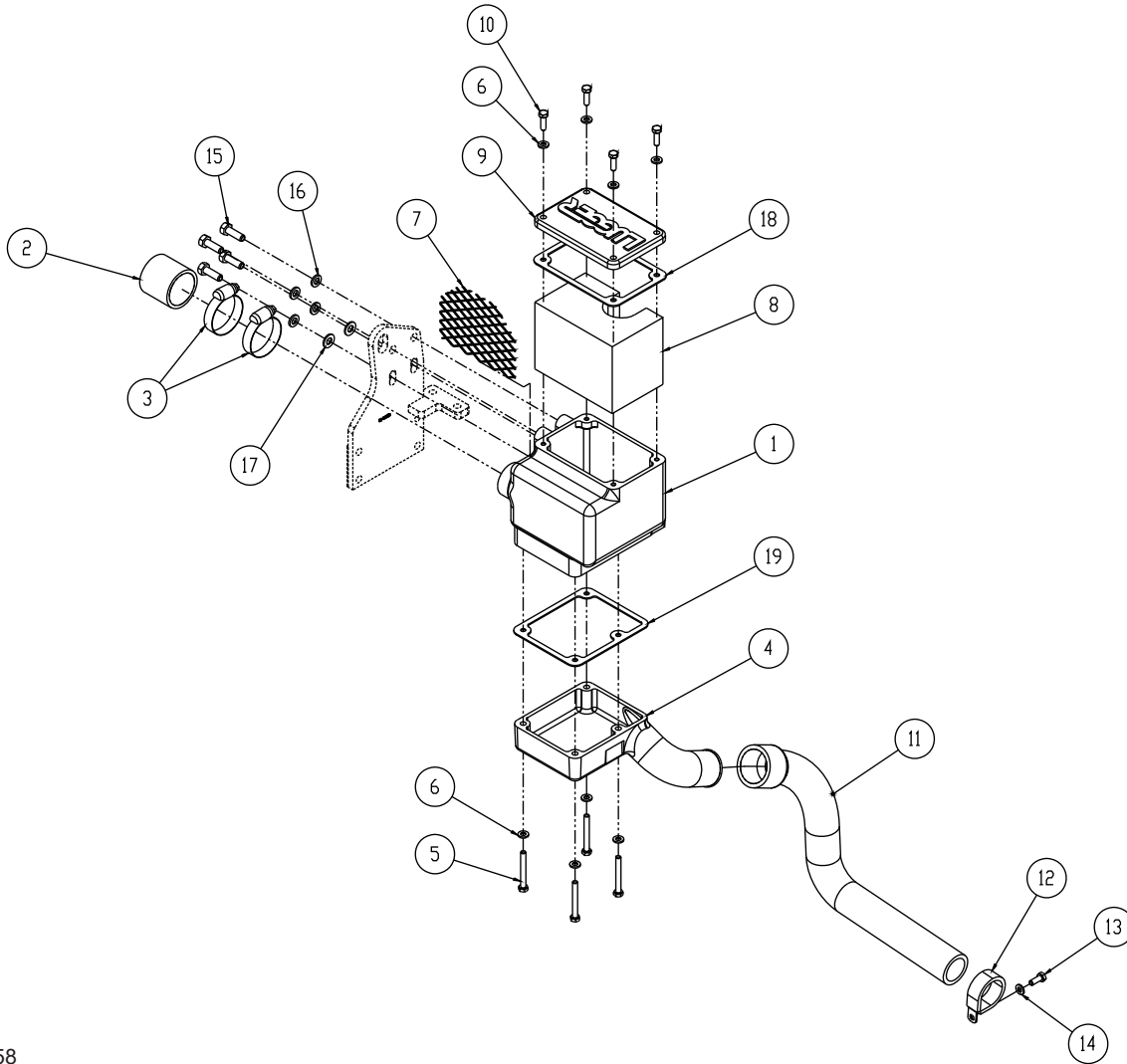


773rockerarmcover

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	U11217510	1	Rocker Arm Cover	-
2	111996420	1	Gasket	-
3	110666220	1	Baffle	-
4	110666060	1	Vent Filter	-
5	015600406	4	Screw	-
6	140996260	3	Gasket	-
7	024600008	3	Cap nut	-
8	U98436350	1	Cap	-
9	T403274	1	O-ring	-
10	110566080	1	Valve	-
11	011100408	4	Bolt	-
12	011310680	3	Bolt	-
13	011310630	2	Bolt	-
14	135566610	1	Air Intake	-
15	U35997290	1	Gasket	-
16	011310620	2	Bolt	-
17	390190460	1	Caution Label	-

GROUP 2 – INTAKE AND EXHAUST

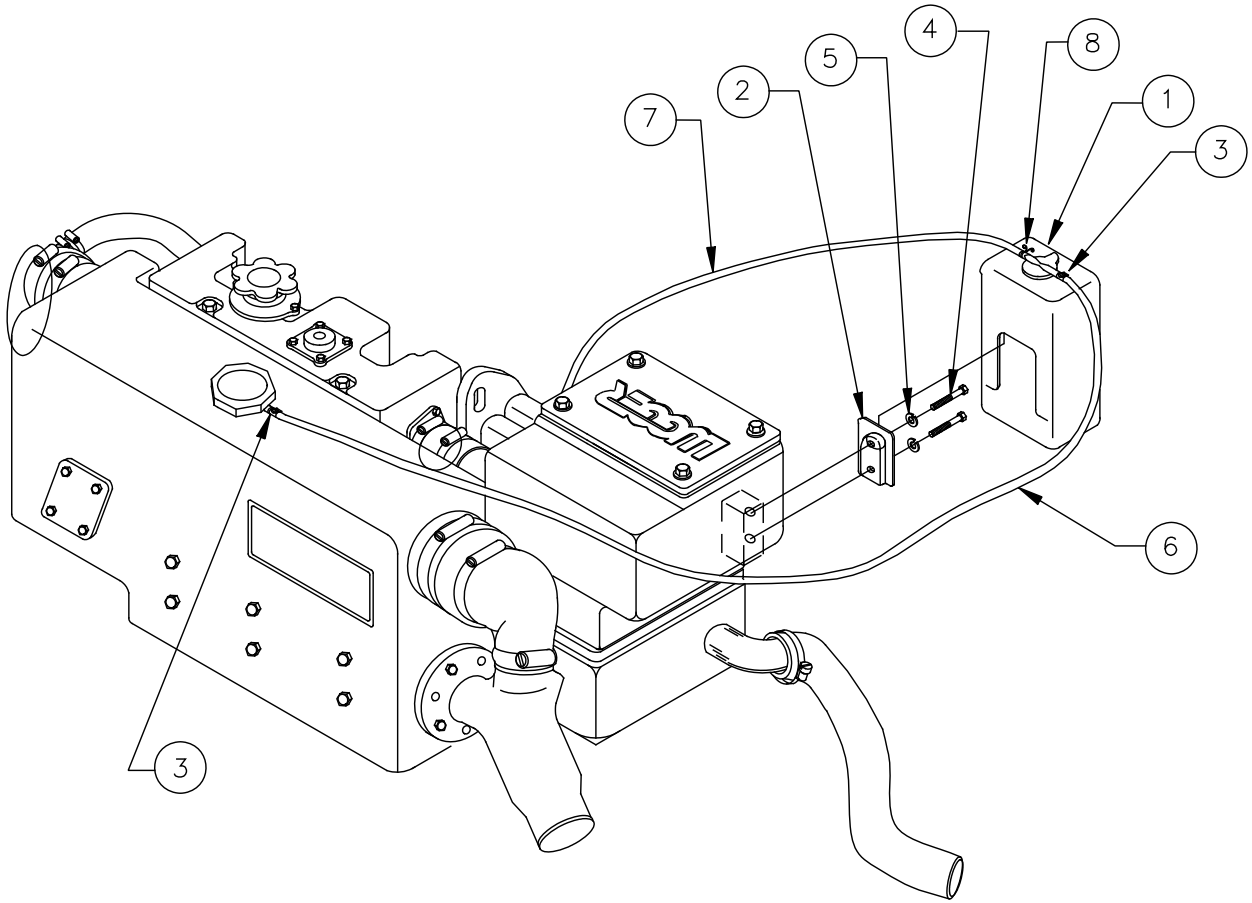
Air Filter and Housing



D-5658

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	10-28203	1	Housing, Air Filter M773L	-
2	18-28201	1	Hose 1- 5/8" ID x 1- 3/4" 3 Ply Silicone	-
3	19-01024	2	Hose Clamp #24	-
4	28-28604	1	Cover, Air Filter Housing (Lower)	-
5	12-09124	1	Capscrew, Hex Head M6 x 1.0 x 50 mm S/S	-
6	15-01134	8	Flat Washer M6 S/S	-
7	24-28601	1	Screen, Air Filter Retaining	-
8	24-28602	1	Air Filter Element	-
9	24-28602	1	Cover, Air Filter Housing	-
10	12-09131	4	Capscrew, Hex Head M6 x 1.0 x 20 mm S/S	-
11	18-28602	1	Hose, Air Intake Snorkel	-
12	19-70026	1	Cushion Clamp #26 S/S	-
13	19-01102	1	Capscrew, Hex Head M6 x 1.0 x 16 mm S/S	-
14	15-01134	1	Flat Washer M6 S/S	-
15	12-09712	4	Capscrew, Hex Head M8 x 1.25 x 25 mm	-
16	15-00705	4	Lock Washer, Helical M8 S/S	-
17	15-00706	2	Flat Washer M8 S/S	-
18	11-28601	1	Gasket, Air Filter Housing Cover	-
19	11-28602	1	Gasket, Air Filter Housing Lower Intake Cover	-

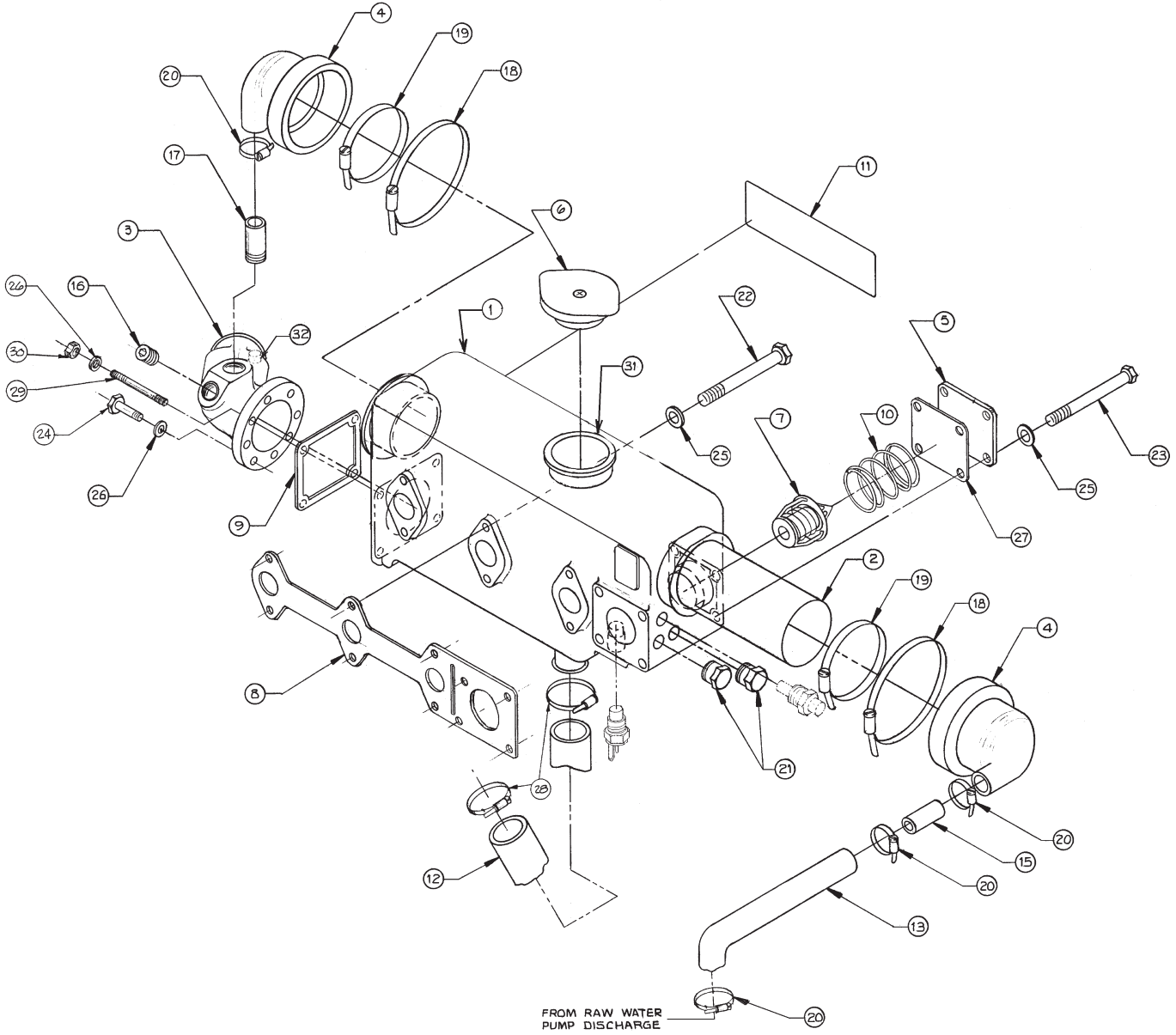
Coolant Recovery Tank



A-9347/ B-8741

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	310550180	1	Coolant Recovery Tank	-
2	222300090	1	Coolant Recovery Tank Mounting Bracket	-
3	19-18602	2	Hose Clamp	-
4	12-00030	2	Capscrew, Hex Head, M6 x 1.0 x 16 mm	-
5	15-01132	2	Lock Washer	-
6	27-18601	1	Tube 5/16" ID x 23" Polyurethane	-
7	18-18602	1	Hose 5/16" ID x 28" Polyvinyl	-
8	19-18602	1	Hose Clamp	-

Exhaust Manifold and Heat Exchanger

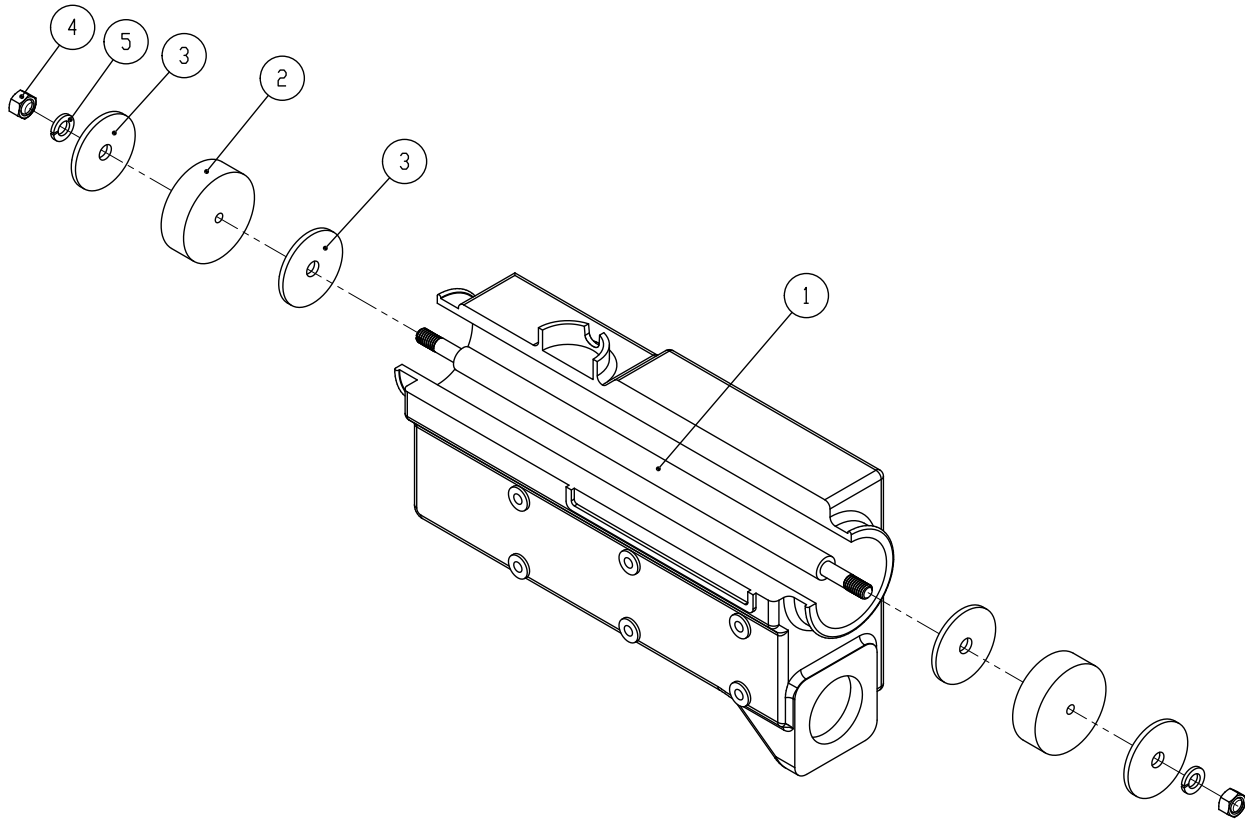


A-9289/ D-3465

Exhaust Manifold and Heat Exchanger

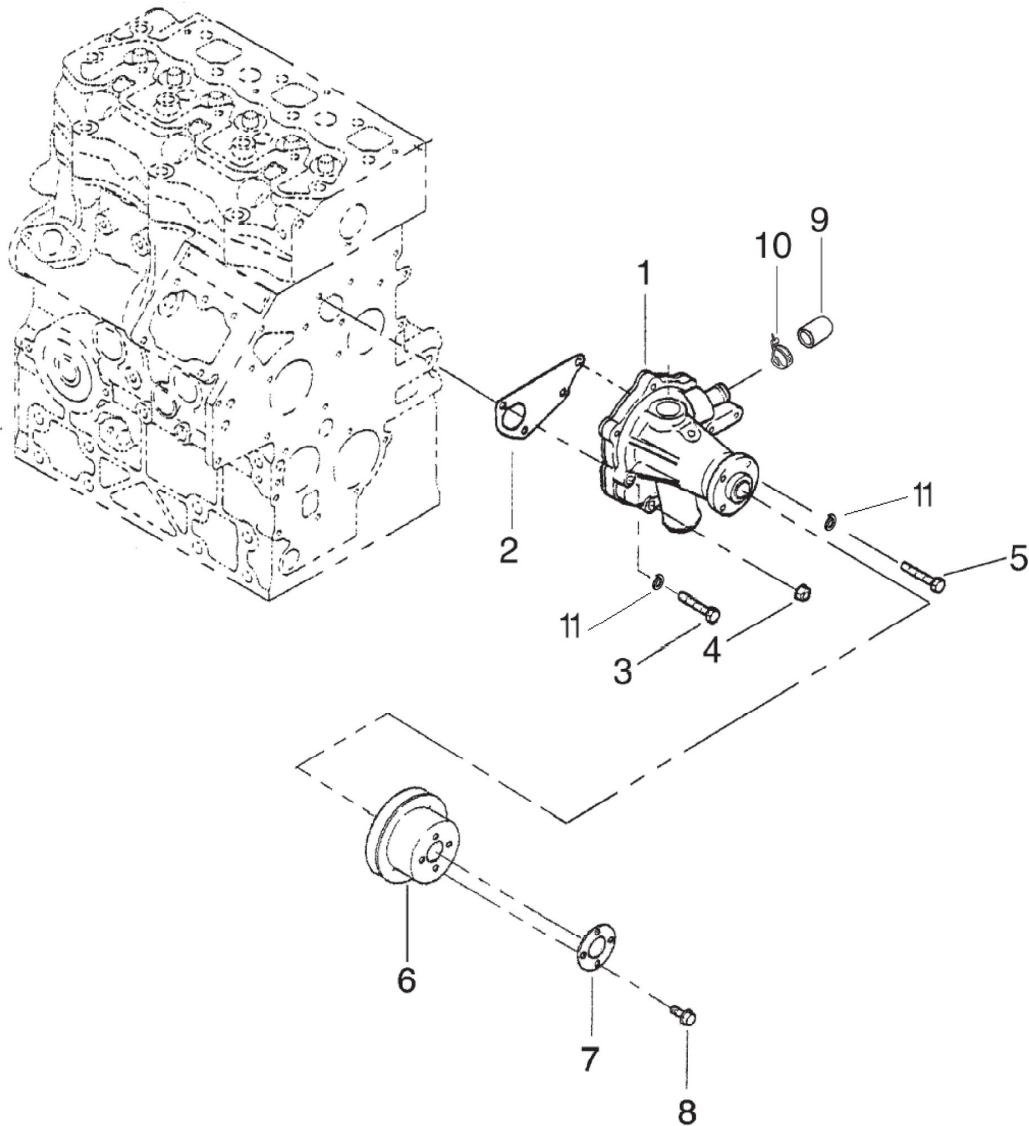
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	10-02001	1	Exhaust Manifold/ Expansion Tank	-
2	20-12002	1	Heat Exchanger Element	-
3	27-32003	1	Wet Exhaust Elbow, Stainless Steel	-
	27-32014	1	Wet Exhaust Elbow, Cast Iron	-
4	145536370	2	Heat Exchanger End Cap	-
5	28-18601	1	Thermostat Cover Plate	-
6	21-12013	1	Filler Cap	-
7	145206210	1	Thermostat	-
8	11-08601	1	Gasket	-
9	11-31902	1	Gasket	-
10	00-13101	1	Spring	-
11	00-08301	1	"Northern Lights" Decal	-
12	18-18601	1	Coolant Pump Inlet Hose	-
13	41-00004	13"	Hose 3/4" ID x 18-1/2"	-
15	21-13102	1	Union 3/4" Hose Barb	-
16	21012012	1	Socket Head Plug 1/2 BSPT, Steel	-
17	145986150	1	Connector 1/2 BSPT x 3/4 HB, Steel	-
18	19-00048	2	Hose Clamp #48	-
19	19-00040	2	Hose Clamp #40	-
20	19-00012	4	Hose Clamp #12	-
21	21-31003	**	Hex Head Plug, Brass 3/8 NPT	-
22	12-09136	6	Capscrew, Hex Head M6 x 1.0 x 90 mm S/S	-
23	12-09130	4	Capscrew, Hex Head M6 x 1.0 x 95 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	11-18602	1	Gasket	-
28	19-00016	2	Hose Clamp #16	-
29	13-09710	1	Stud M8 x 1.25 x 25 mm (35 mm LOA S/S)	-
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	-
33	22-40482	1	Harness, Exhaust Temperature Switch (not shown)	-
			**As required	

Expansion Tank & Exhaust Manifold



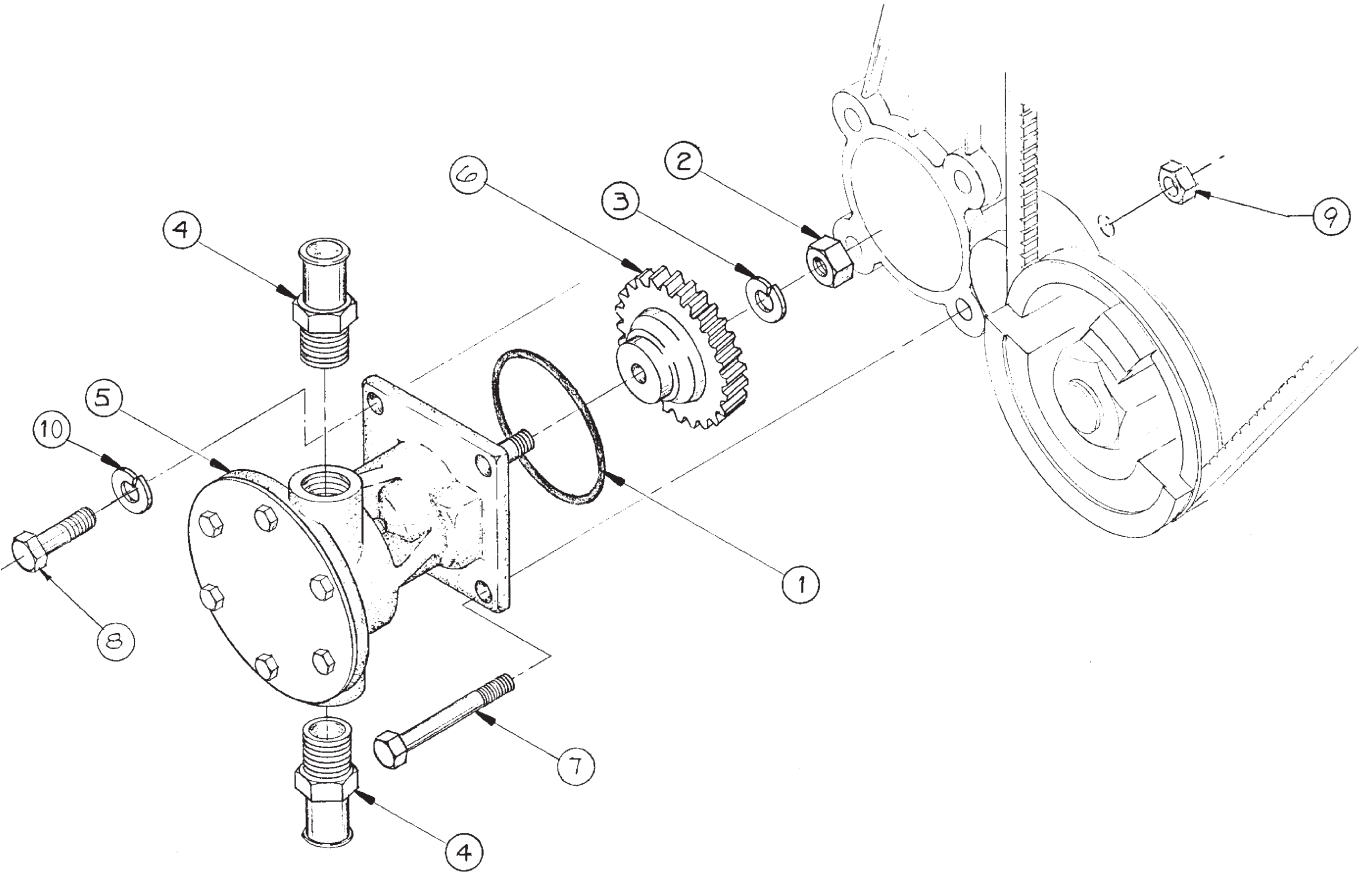
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	20-12022	1	Heat exchanger expansion plug connection rod (M773L - M844)	-
2	00-18202	2	Partial expansion plug (rubber component) 2-3/8 to 2-1/2	-
3	15-00039	4	Washer 3/8" size with 2" OD (0.1" thickness)	-
4	14-00311	2	Hex Nut 3/8-16	-
5	15-00302	2	Lock washer, helical 3/8"	-

Coolant Pump



KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	145017870	1	Coolant Pump Assembly	-
2	U45996831	1	Gasket	-
3	T403128	1	Bolt	-
4	023100006	1	Nut	-
5	T402913	2	Bolt	-
6	145336490	1	Pulley	-
7	145386520	1	Spacer	-
8	2314F003	4	Bolt	-
9	21-18601	1	Cap	-
10	19-18601	1	Clamp	-
11	T434095	3	Split lock washer	-

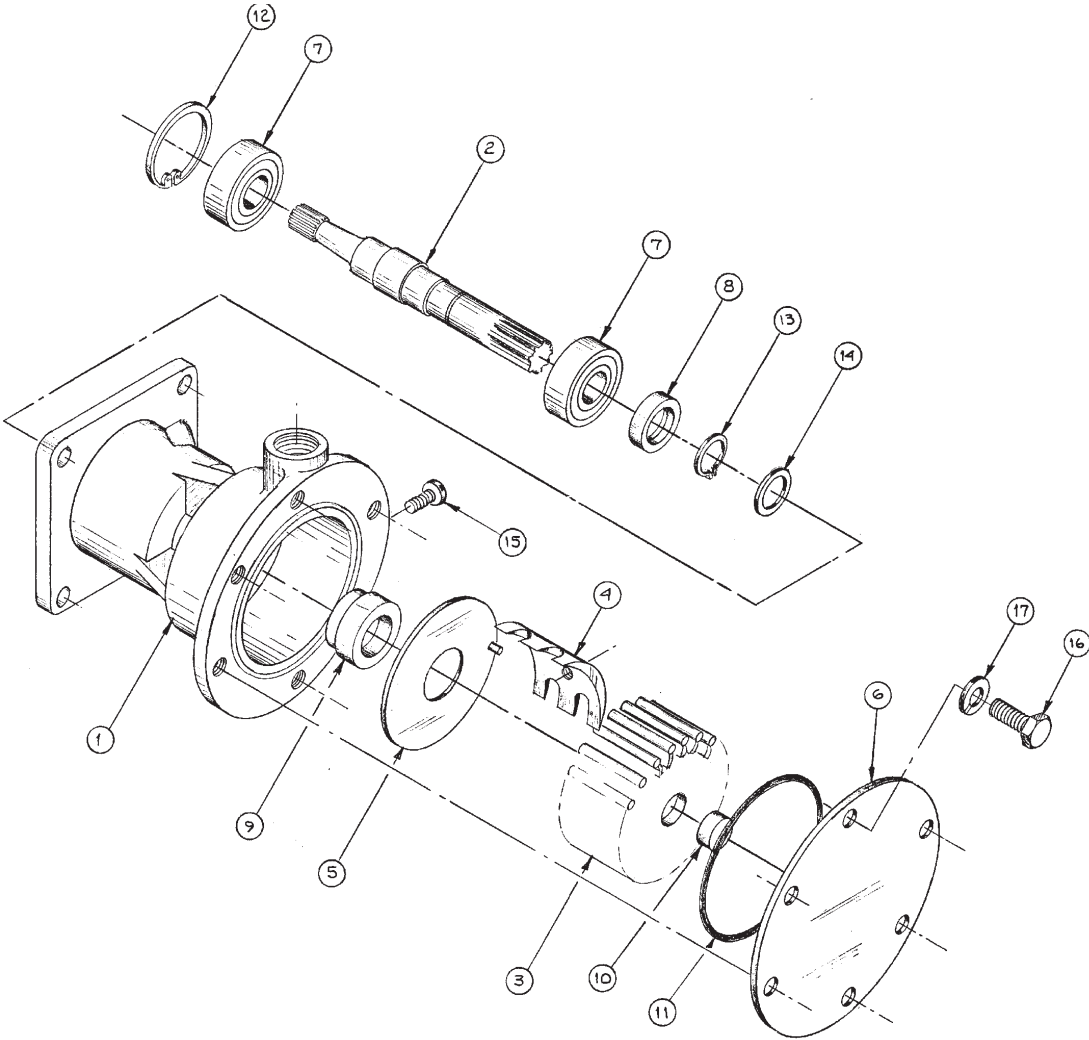
Raw Water Pump and Mounting



A-4779/ B-3842B

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	16-13101	1	O-Ring	-
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 Hose Barb	-
5	25-12057	1	Raw Water Pump (see parts detail)	-
6	340460141	1	Drive Gear	-
7	12-34801	3	Capscrew, Hex Head M8 x 1.25 x 70 mm	-
8	12-00718	1	Capscrew, Hex Head M8 x 1.25 x 65 mm	-
9	023100008	3	Hex Nut M8 x 1.25, Flanged	-
10	15-00702	1	Lock Washer M8	-

Raw Water Pump Assembly



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	25-12058	1	Raw Water Pump Housing	-
2	25-12059	1	Raw Water Pump 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	-

Injection Pump and Lines

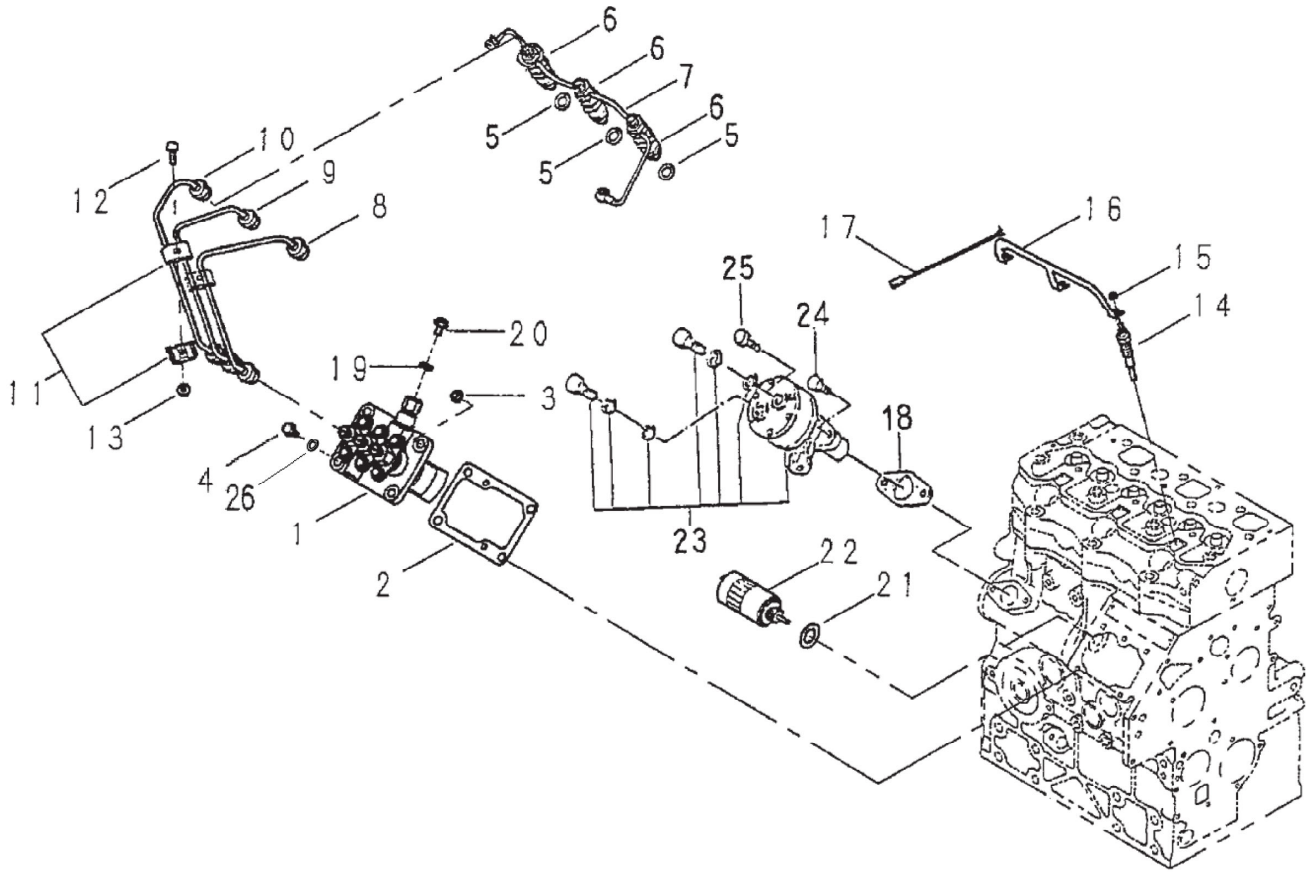
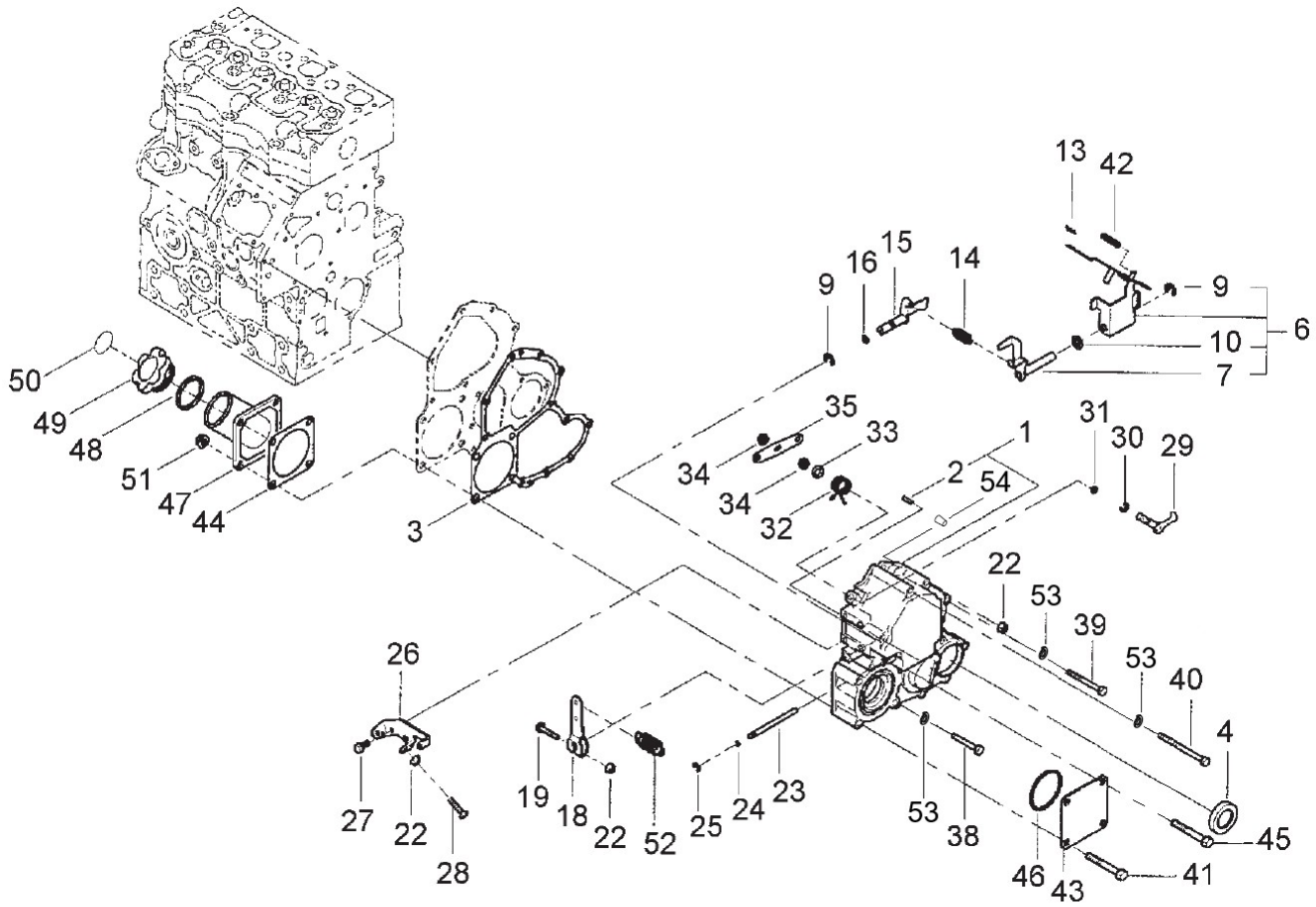


Fig. 4-00

Injection Pump and Lines

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	131017921	1	Injection Pump Assembly	-
2	131426300	1	Shim Set	-
3	023100006	2	Nut	-
4	011310620	2	Bolt	-
5	131426200	3	Gasket	-
6	131406560	3	Injector Assembly	-
7	131606880	1	Return Line	-
8	131507740	1	Injection Line #1	-
9	131507750	1	Injection Line #2	-
10	131507760	1	Injection Line #3	-
11	199106021	4	Clamp	-
12	010110625	2	Bolt	-
13	023100006	2	Nut	-
14	185366250	3	Glow Plug, 12 Volt	-
15	023100004	3	Nut	-
16	185376372	1	Connector	-
17	185606170	1	Wire Harness	-
18	130996130	1	Gasket	-
19	025100006	1	Seal Washer	-
20	131236280	1	Screw	-
21	025100016	1	Seal Washer	-
22	185206085	1	Solenoid, 12 Volt Standard Ground	-
	185206192	1	Solenoid, 12 Volt Isolated Ground	-
	185206203	1	Solenoid, 24 Volt Isolated Ground	-
23	130506140	1	Feed Pump	-
24	011140614	2	Bolt	-
25	011140616	1	Bolt	-
26	T434095	2	Split Lock Washer	-

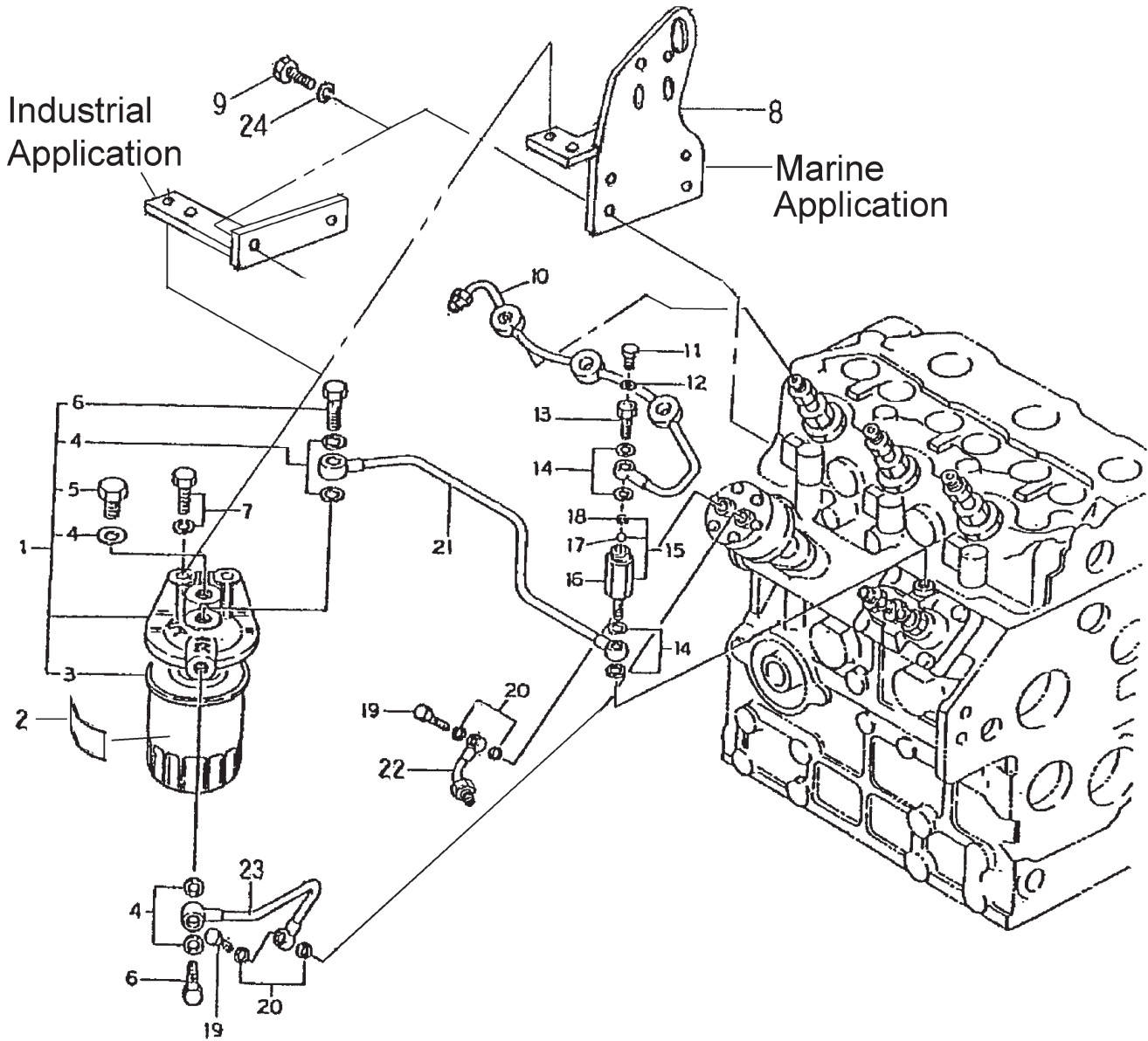
Governor and Timing Gear Case



Governor and Timing Gear Case

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	T434873	1	Timing Gear Case (includes key #2)	-
2	030300414	1	Spring Pin	-
3	T435154	1	Gasket	-
4	198636090	1	Oil Seal	-
6	125046260	1	Governor Lever Assembly (includes keys 7, 9, 10)	-
7	125406071	1	Tension Lever	-
9	036800008	2	Snap Ring	-
10	026200010	1	Washer	-
13	031100004	1	Snap Pin	-
14	198217351	1	Spring	-
15	125156250	1	Armature	-
16	052109110	1	O-ring	-
18	125416020	1	Governor Lever	-
19	010110630	1	Bolt	-
22	023100006	3	Nut	-
23	125116131	1	Shaft	-
24	052109108	2	O-ring	-
25	036800005	1	Snap Ring	-
26	125976120	1	Bracket	-
27	010109687	2	Bolt	-
28	012810640	1	Bolt	-
29	125156180	1	Arm	-
30	036800006	1	Snap Ring	-
31	052109109	1	O-ring	-
32	198216760	1	Spring	-
33	T402964	1	Washer	-
34	020700008	2	Nut	-
35	125176080	1	Stop Lever	-
38	T434122	5	Bolt	-
39	T434123	3	Bolt	-
40	T434124	2	Bolt	-
41	2314H012	3	Bolt	-
42	198217420	1	Start Spring	-
43	165206510	1	Cover (Keel Cooled Units Only)	-
44	11-12005	1	Gasket (former #165996610)	-
45	2314K161	1	Bolt	-
46	052300700	1	O-ring	-
47	110766360	1	Holder	-
48	T432690	1	O-ring	-
49	U98436350	1	Cap	-
50	390190461	1	Plate	-
51	023100008	3	Nut	-
52	398210070	1	Spring	-
53	T434095	10	Split Lock Washer	-
54	TPN830	1	Plug	-

Fuel Filter and Piping

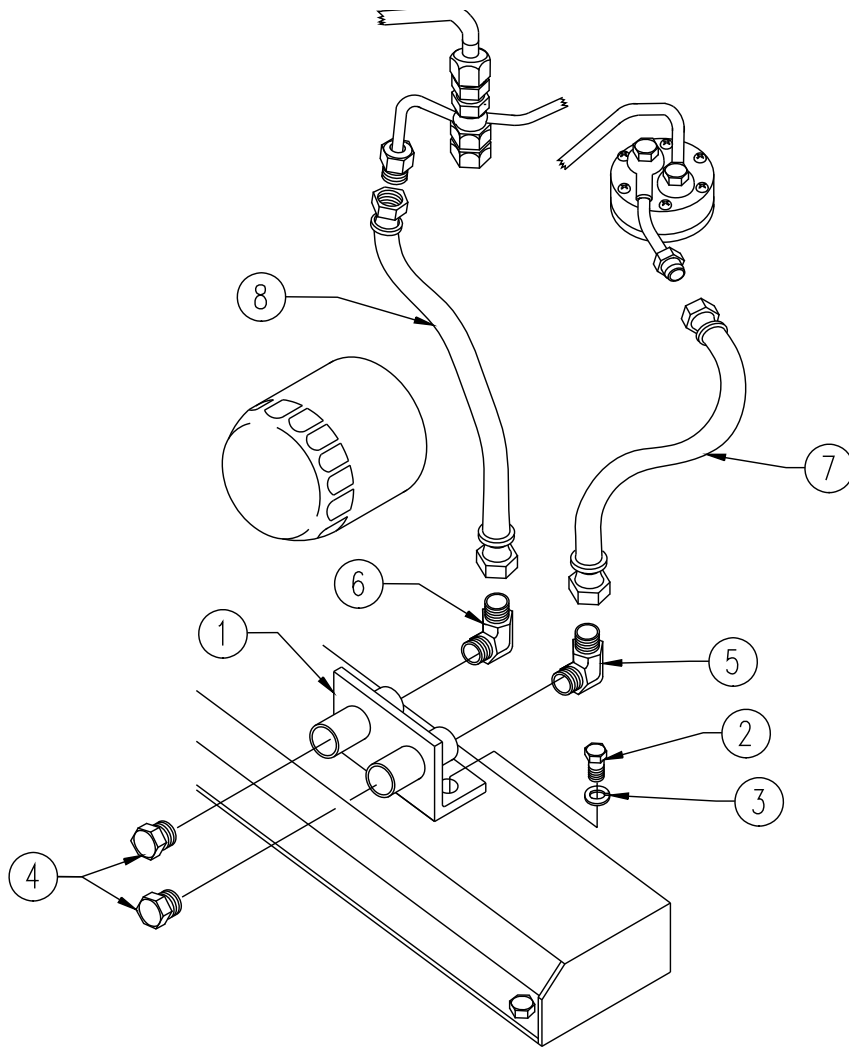


773fuelfilter

Fuel Filter and Piping

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	130306190	1	Fuel Filter Assembly (includes keys #3 - 6)	-
2	190196830	1	Caution Label	-
3	24-52020	1	Fuel Filter	-
4	130326051	5	Gasket	-
5	130396030	1	Plug	-
6	130436011	2	Joint Bolt	-
7	011511025	2	Bolt	-
8	23-08603	1	Bracket, Filter Support & Lifting Eye (Marine)	-
9	2311D559	4	Bolt	-
10	131606880	1	Return Pipe	-
11	131236280	1	Screw	-
12	025100006	1	Seal Washer	-
13	131236190	1	Bolt	-
14	140996270	4	Gasket	-
15	140036141	1	Valve Assembly (includes keys 16- 18)	-
16	198487002	1	Connector	-
17	048100010	1	Steel Ball	-
18	198116230	1	Rubber	-
19	130516092	2	Bolt	-
20	140996200	4	Gasket	-
21	130556921	1	Pipe (Marine)	-
	130556960	1	Pipe (Industrial)	-
22	130556681	1	Pipe	-
23	130556931	1	Pipe (Marine)	-
	130556970	1	Pipe (Industrial)	-
24	15-00702	4	Spring Washer	-

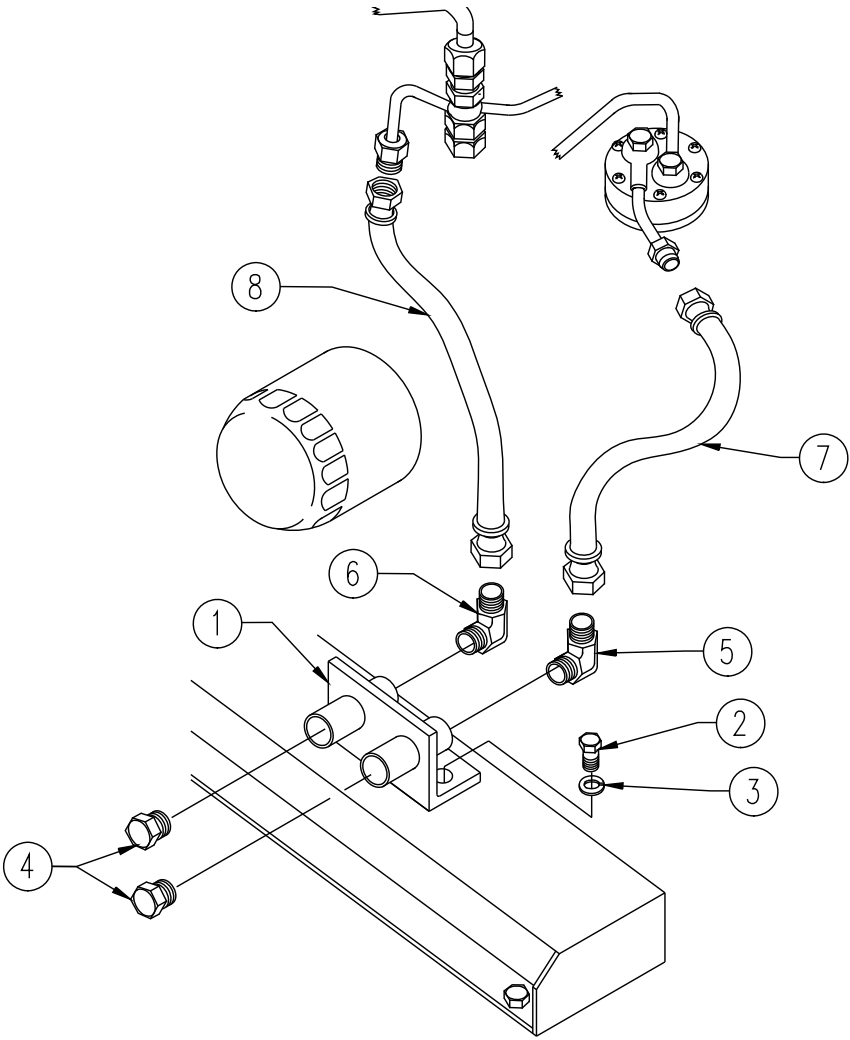
USCG SAE J1527 ISO 7840 Fuel Lines



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	21-52245	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	18-58602	1	Hose Assembly 1/4" ID x 12-1/2"	-
8	18-58603	1	Hose Assembly 1/4" ID x 19"	-

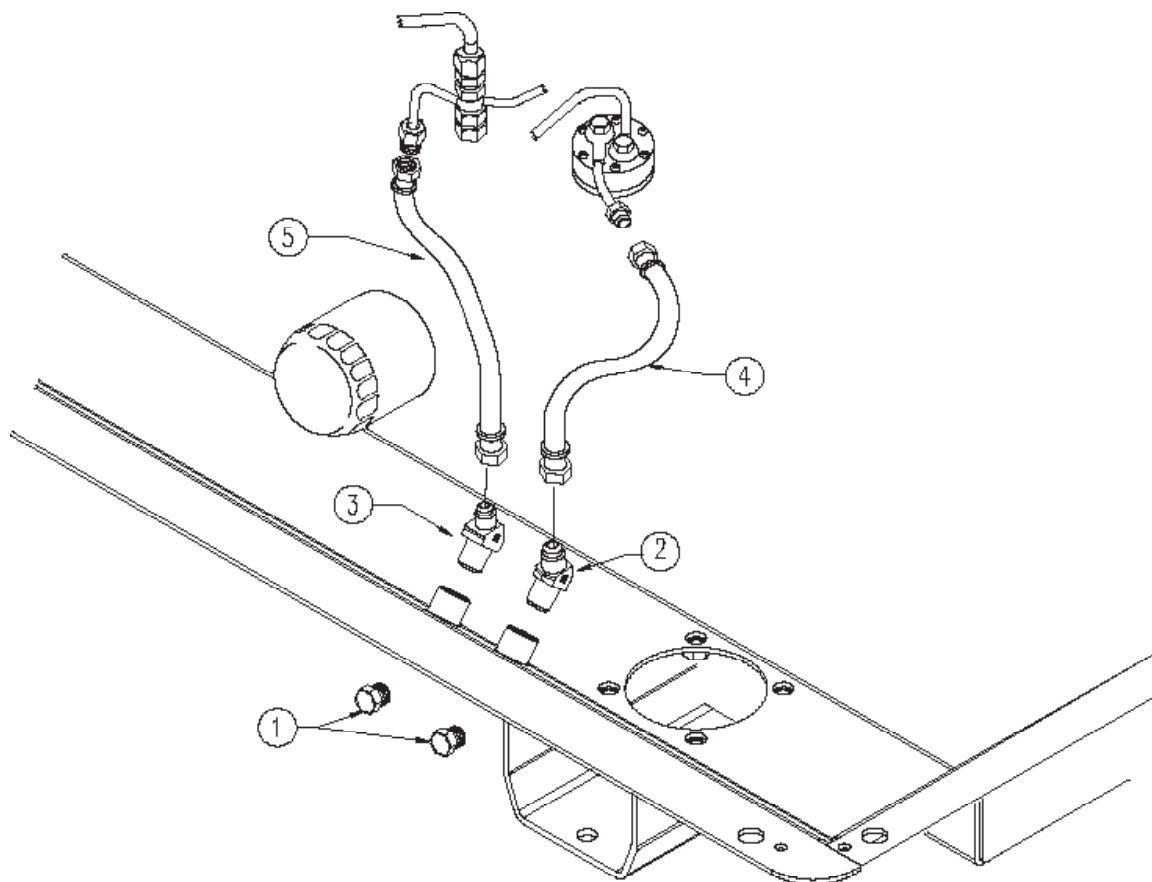
USCG SAE J1942 ABS Fuel Lines



A-10003/ 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	18-58602	1	Hose Assembly 1/4" ID x 12-1/2"	-
8	18-58710	1	Hose Assembly 3/16" ID x 19"	-

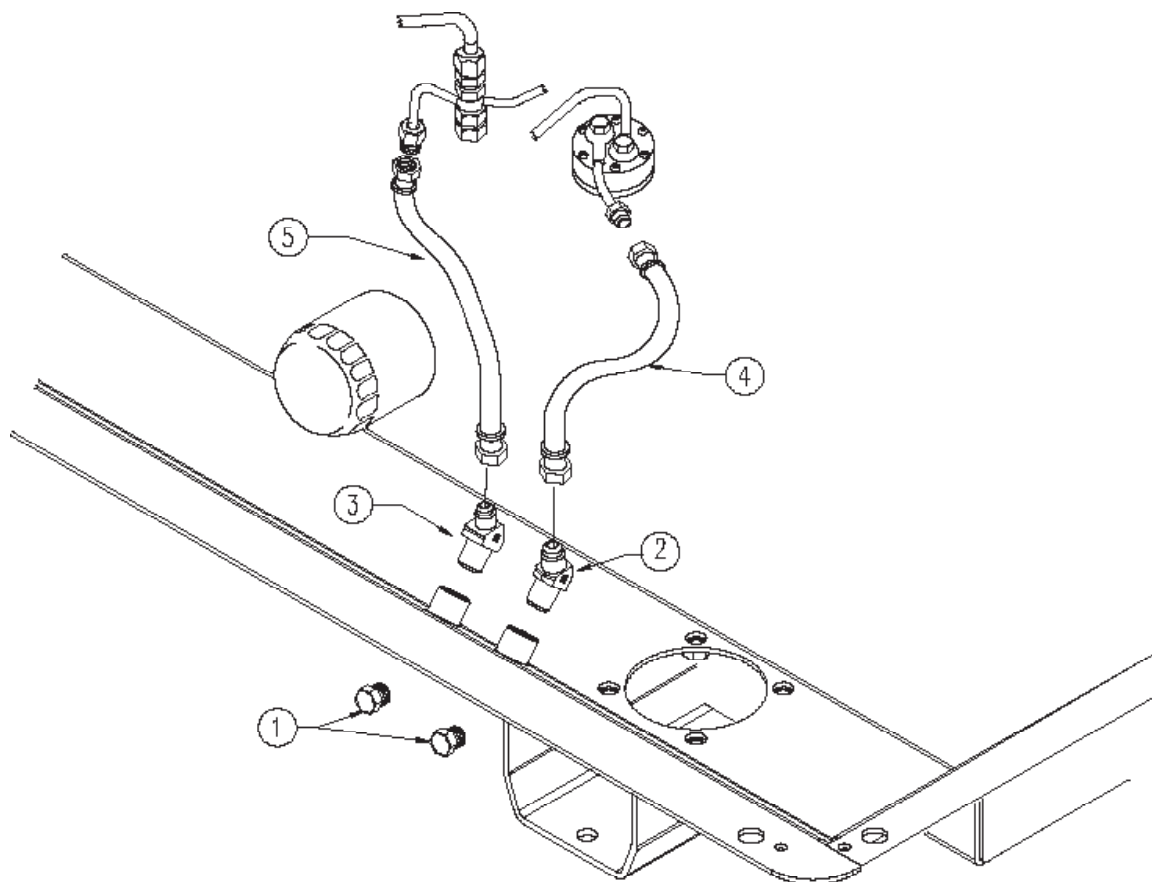
USG A-1 SAE J1527 ISO 7840 Fuel Lines



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	18-58602	1	Hose Assembly 1/4" ID x 12-1/2"	-
5	18-58603	1	Hose Assembly 1/4" ID x 19"	-

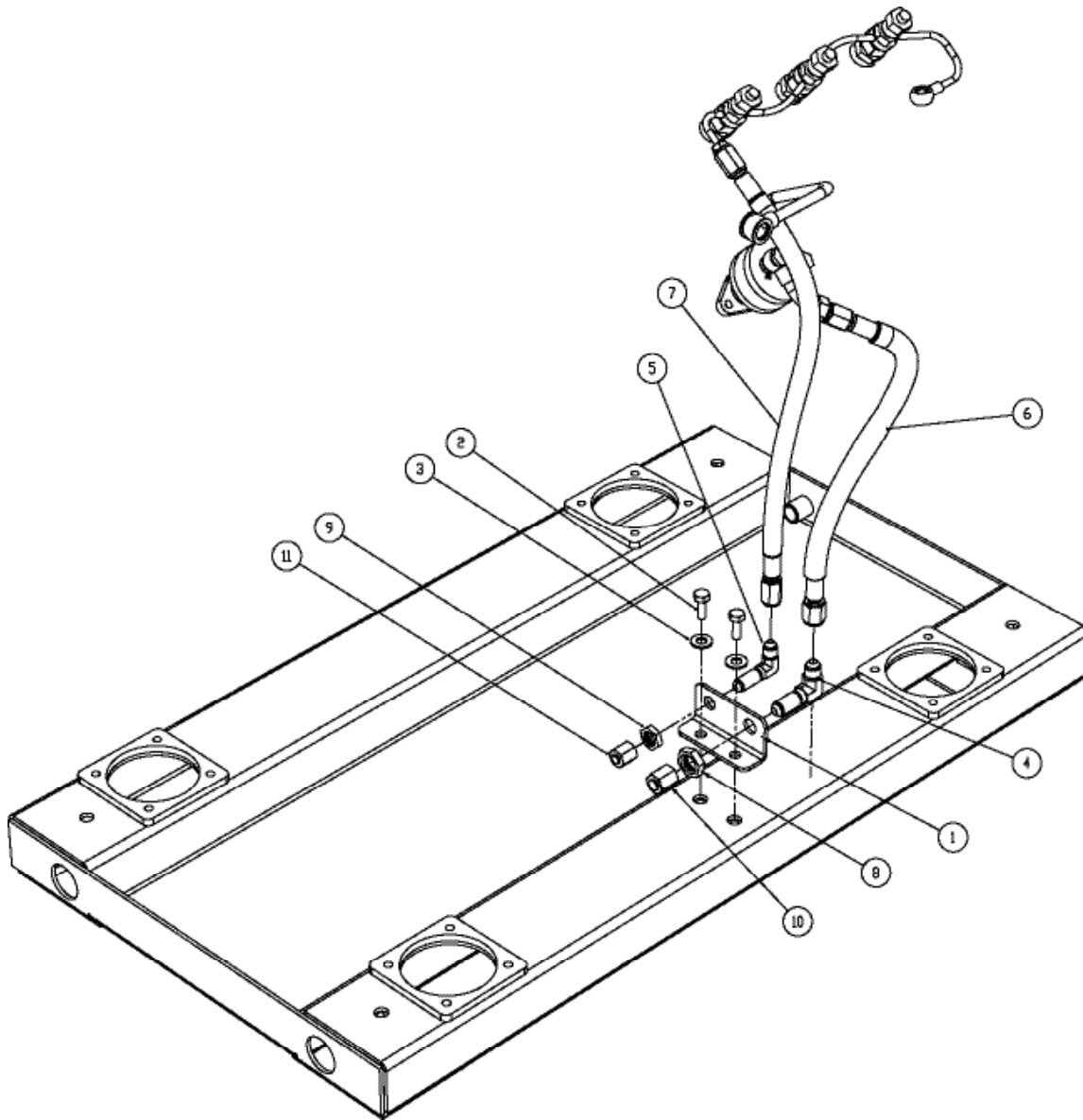
USG A-1 SAE J1942 ABS Fuel Lines



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	18-58604	1	Hose Assembly 1/4" ID x 12-1/2"	-
5	18-58710	1	Hose Assembly 3/16" ID x 19"	-

USG A-1 SAE J1527 ISO 7840 Fuel Lines



D-5044

Key	Part Number	Qty	Description	Serial Number
1	10-52002	1	Fuel Manifold for 1/4-37T and 5/16-37T union elbow 90	-
2	12-09751	2	Capscrew Hex Head M8x1.25 X 16mm S/S	-
3	15-00705	2	LOCK WASHER,HELICAL M8 S/S	-
4	21-52019	1	Bulkhead Union Elbow 90,STL. 5/16-37T (w/o Locking Nut)	-
5	21-59527	1	Bulkhead Union Elbow 90,STL. 1/4-37T (w/o Locking Nut)	-
6	18-50007	1	Hose Assy 5/16"ID X 12" 5/16FMS X 5/16FMS	-
7	18-58603	1	Hose Assy 1/4"ID X 19" 1/4FMS X 1/4FMS	-
8	14-00509	1	Jam Nut 1/2-20 STL	-
9	14-00508	-	Jam Nut 7/16-20 STL	-
10	21-50071	1	Cap, Hex Head STL 5/16-37T	-
11	21-50072	1	Cap, Hex STL 1/4-37T	-

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Fuel Injector

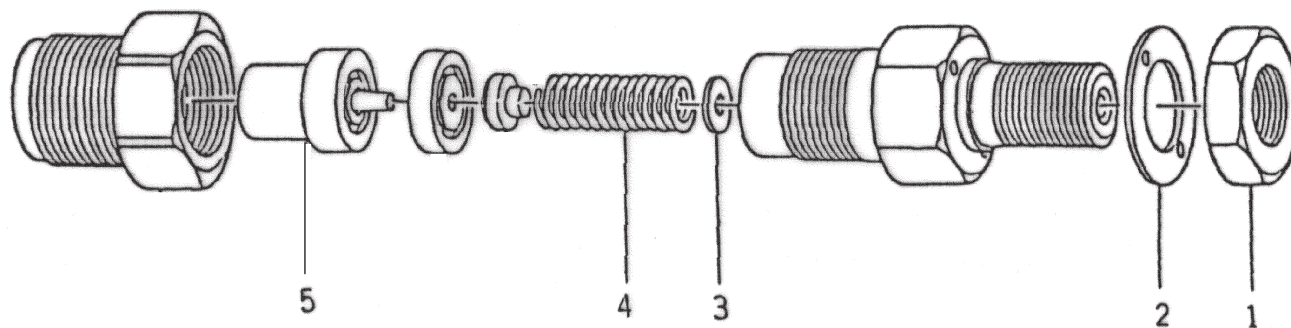
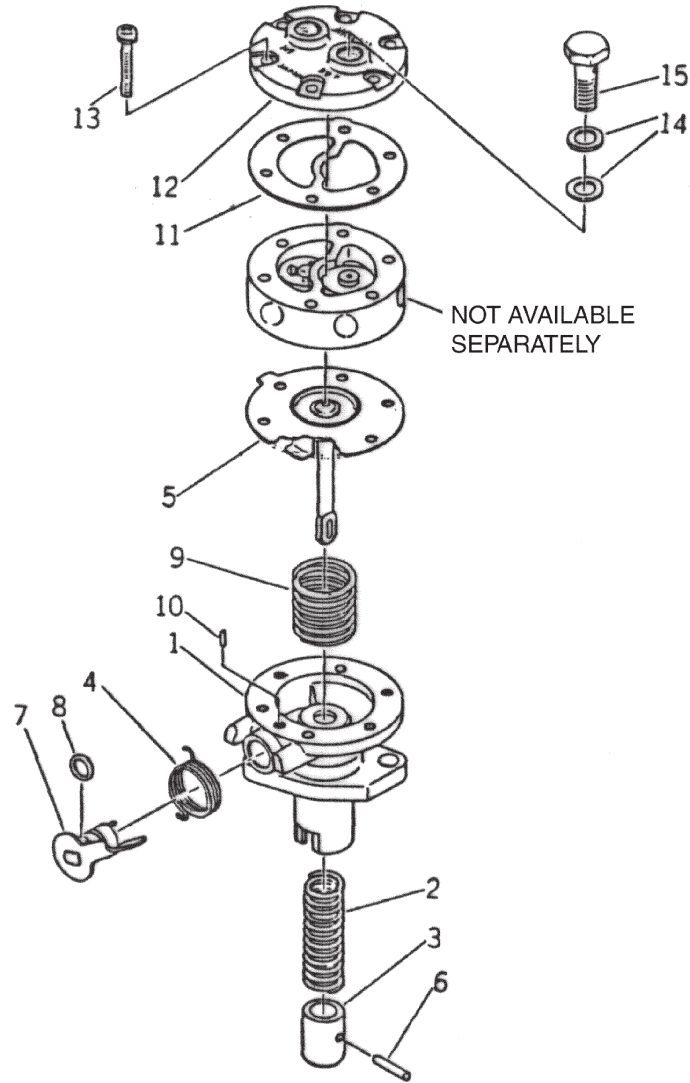


Fig. 4-10

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	131406560	1	Injector Assembly (includes keys #1 - #5)	-
1	131446069	1	Nut (Marine)	-
	131446987	1	Nut (Industrial)	-
2	131426210	1	Gasket	-
3	131437640	1	Shim	-
4	131446986	1	Spring	-
5	131416250	1	Nozzle	-

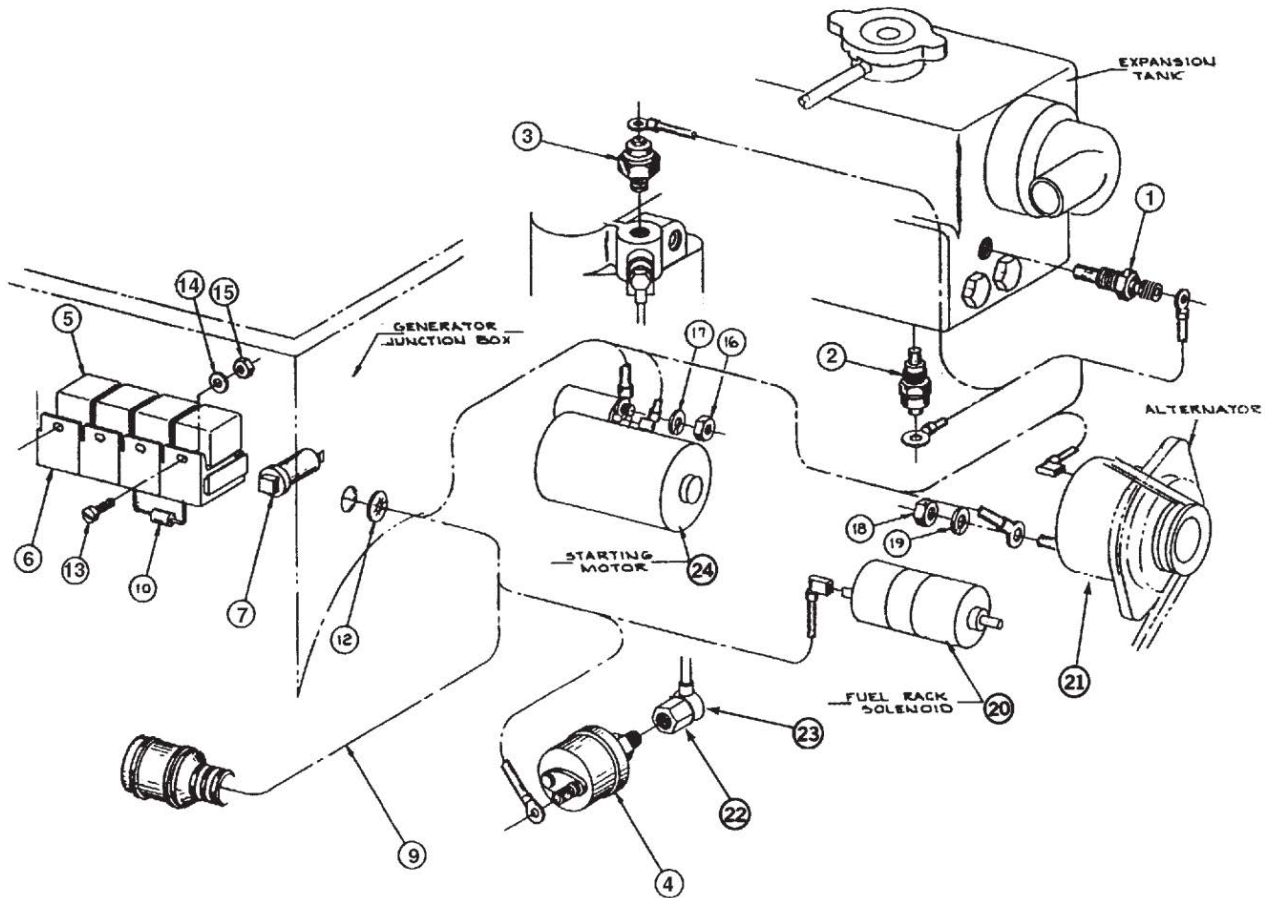
Fuel Feed Pump



KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	26-10002	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	Joint Bolt	-
			*Not available separately	

Engine Electrical 12 Volt Standard Ground

B+ System Marine Units



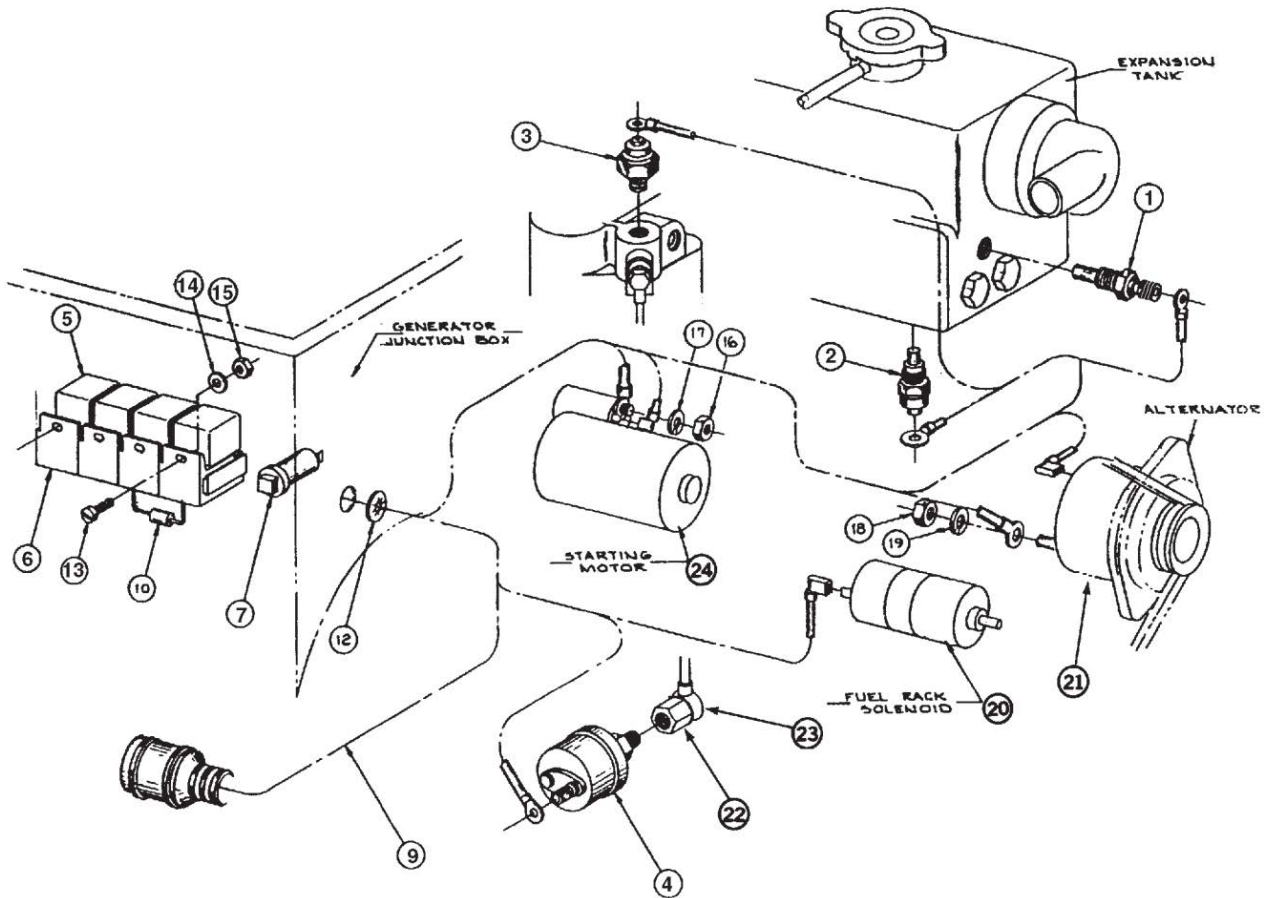
Engine Electrical 12 Volt Standard Ground

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 *	-
2	22-40846	1	Temperature Switch 95°C M16 X 1.5	-
3	185246011	1	Oil Pressure Switch 1/8 NPT 14.2 PSI	-
4	22-41016	1	Oil Pressure Sender 1/8 NPT	-
	22-71026	1	Dual Station Oil Pressure Sender 1/8 NPT	-
5	22-42047	4	Relay, 12 Volt SPDT	-
6	22-40391	4	Terminal Retainer	-
	22-40393	4	Retainer	-
7	22-40018	1	Circuit Breaker DC 15 Amp - Screw mount type *	-
8	22-95605	1	Control Panel S-1B (not shown,see detail)	-
9	22-48608	1	Engine Wire Harness - Round "Merc" Plug Connector	-
10	22-40299	2	Diode, 1 Amp 200 Volt PIV	-
11	22-49520	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	T436999	1	Alternator 12 Volt (see mounting detail)	-
22	198487590	1	Banjo Bolt - M8 x 1.25 x 18mm (Tapped 1/8 NPT)	-
23	140606701	1	Oil Line	-
24	185086551	1	Starter 12 Volt (see mounting detail)	-
25	21-04801	**	Elbow 90° Steel 1/8 NPT x 1/8 NPT (not shown)	-
			* Replaces 22-40352 (NLA) Requires 3/8 x 1/8 NPT Bushing 21-55201	
			**As required	

Engine Electrical 12 Volt Isolated Ground

B+ System Marine Units



Engine Electrical 12 Volt Isolated Ground

B+ System Marine Units

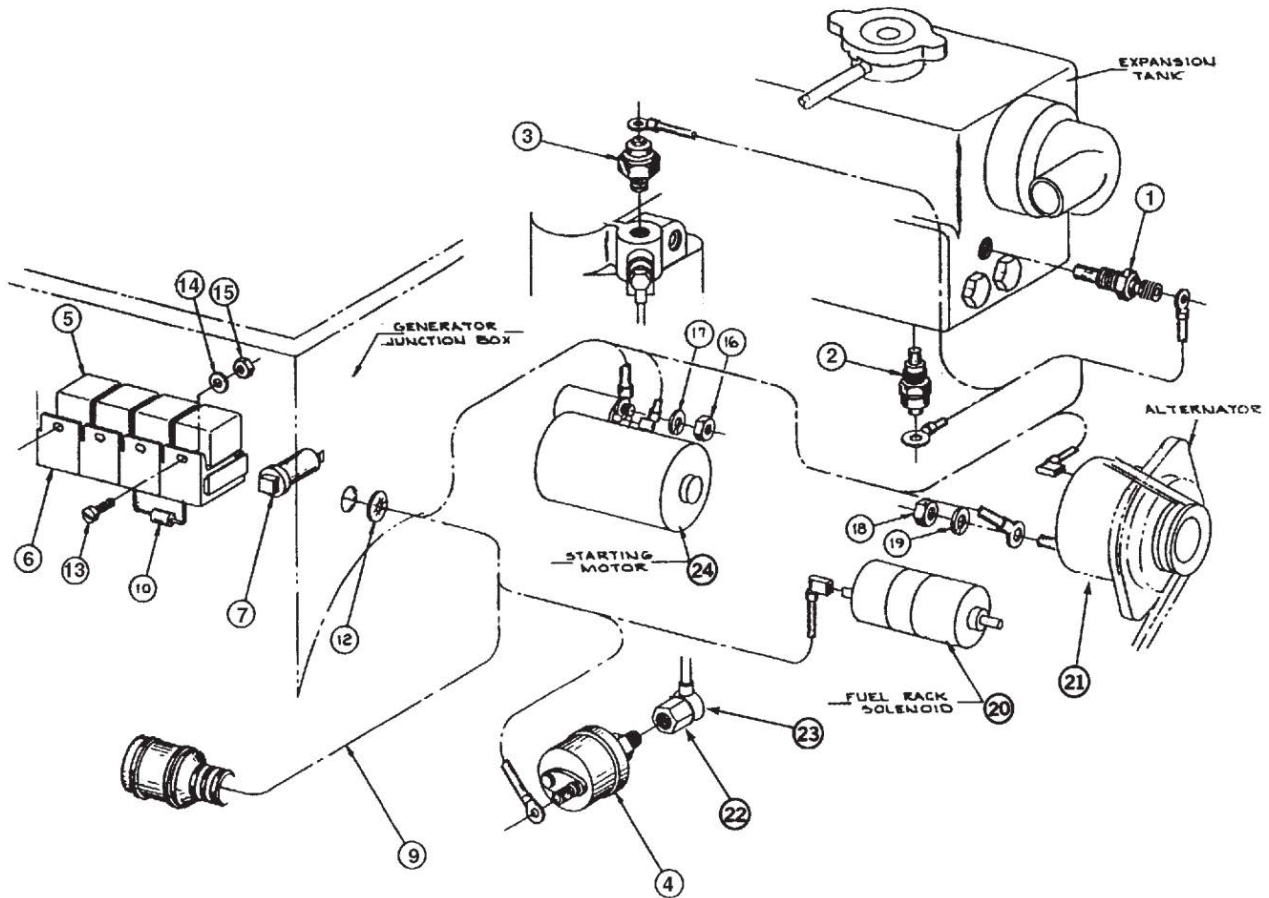
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	22-44810	1	Temperature Sender 250°F 3/8 NPT	-
	22-74802	1	Dual Station Temperature Sender 250°F 1/4 NPT *	-
2	22-40358	1	Temperature Switch 95°C M16 x 1.5	-
3	22-40236	1	Oil Pressure Switch 1/8 NPT	-
4	22-42803	1	Oil Pressure Sender 1/8 NPT	-
	22-74803	1	Dual Station Oil Pressure Sender 1/8 NPT	-
5	22-42047	4	Relay, 12 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	22-48608	1	Engine Wire Harness - Square Deutsch Plug Connector	-
	22-78603	1	Harness Ground Circuit Addition	-
10	22-40299	2	Diode, 1 Amp 200 Volt PIV (included in 22-48608)	-
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	22-48206	1	Alternator 12 Volt (see mounting detail)	-
22	198487590	1	Banjo Bolt M8 x 1.25 x 18mm (Tapped 1/8 NPT)	-
23	140606701	1	Oil Line	-
24	22-42129	1	Starter 12 Volt (see mounting detail)	-
25	21-21001	**	Branch Tee Steel 1/8 NPT x 1/8 NPT (not shown)	-
26	21-00050	**	Plug 1/8 BSPT	-

* Replaces 22-40353 (NLA) requires
3/8 NPT x 1/4 NPT Bushing 21-51099

**As required

Engine Electrical 24 Volt Standard Ground

B+ System Marine Units



Engine Electrical 24 Volt Standard Ground

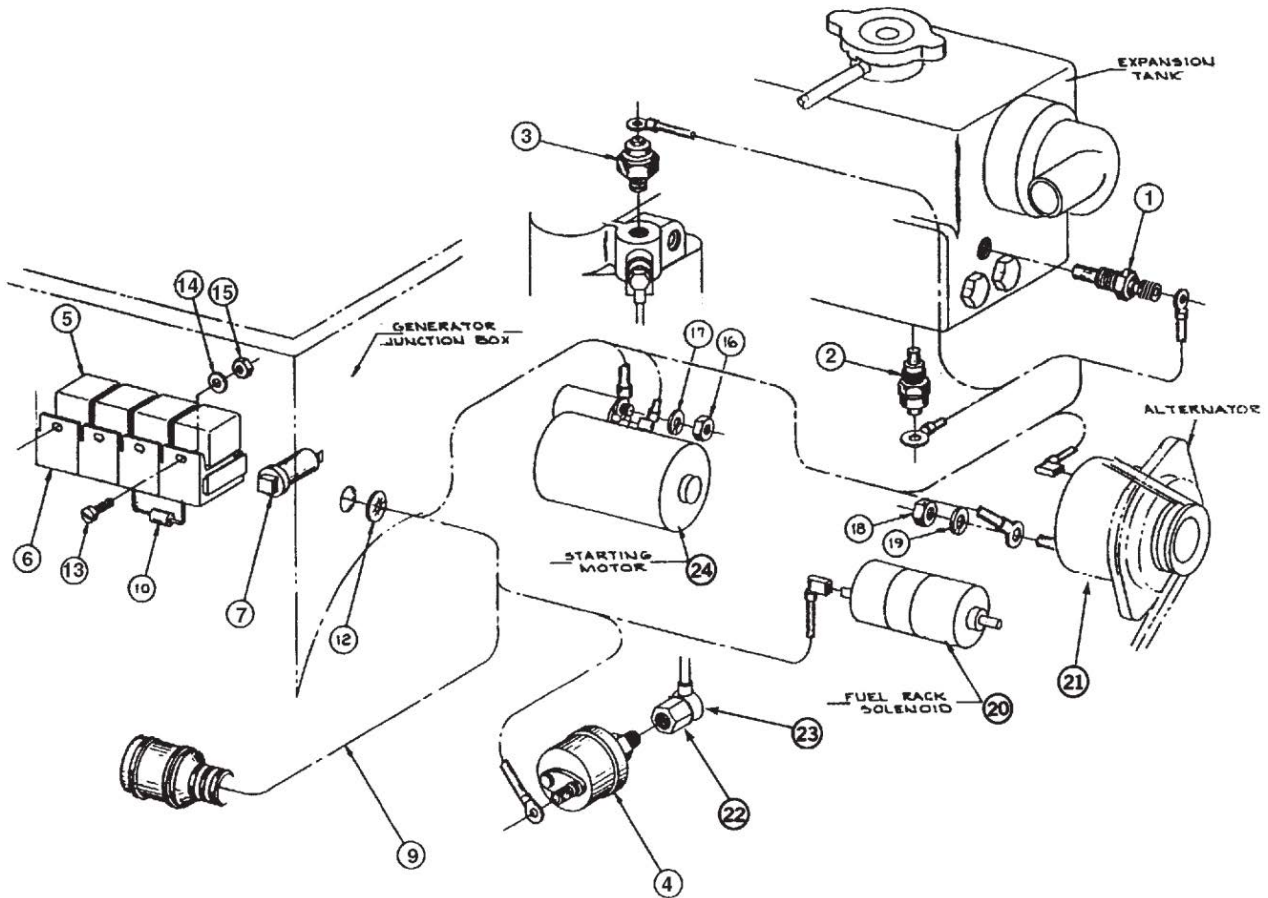
B+ System Marine Units

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 1/8 NPT *	-
2	22-40846	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, DC 10 Amp (Screw Mount Type)	-
8	22-95605	1	Control Panel, S1-B (see detail)	-
9	22-48608	1	Engine Wire Harness - with Square Deutsch Plug Connector	-
	22-48602	1	Wire Harness, Glow Plug Pulse Circuit	-
10	22-40299	2	Diode, 1 Amp 200 Volt PIV (included in 22-48608)	-
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	22-48603	1	Alternator 24 Volt 25 Amp	-
22	198487590	1	Banjo Bolt M8 x 1.25 x 18mm (Tapped 1/8 NPT)	-
23	140606701	1	Oil Line	-
24	22-42121	1	Starter 24 Volt (see mounting detail)	-
25	21-21001	1	Branch Tee Steel 1/8 NPT x 1/8 NPT (not shown)	-
26	22-48611	1	Timer	-
27	22-41079	1	Solenoid 24 VDC 85 Amp	-
28	23-48605	1	Bracket, Solenoid Mounting	-
29	12-00030	2	Capscrew, Hex Head M6 x 1.0 x 16mm	-
30	15-00008	4	Flat Washer M6	-
31	14-04803	2	Hex Nut, Nylock M12 x 1.0	-
32	12-50941	2	Capscrew, Hex Head M12 x 1.25 x 20mm S/S	-
33	15-00912	2	Lock Washer M12	-
34	12-09032	1	Capscrew, Hex Head M6 x 1.0 x 30mm S/S	-
35	15-01134	2	Flat Washer M6 S/S	-
36	14-01133	1	Hex Nut, Nylock M6 x 1.0	-
37	21-00050	1	Plug 1/8 BSPT	-

* Replaces 22-40352 (NLA) requires
3/8 NPT x 1/8 NPT Bushing 21-55201

Engine Electrical 24 Volt Isolated Ground

B+ System Marine Units



Engine Electrical 24 Volt Isolated Ground

B+ System Marine Units

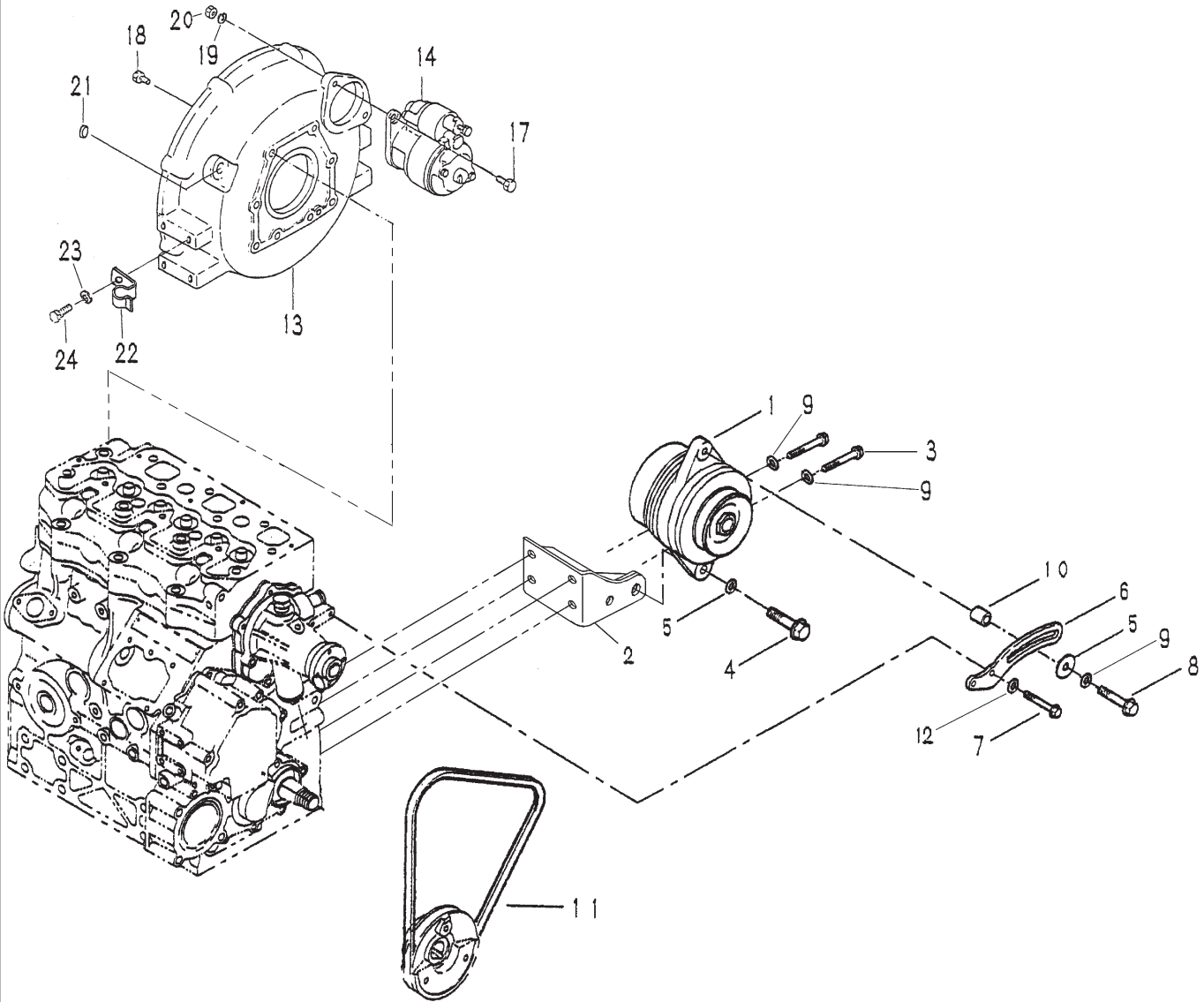
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	22-44810	1	Temperature Sender 250°F 3/8 NPT	-
	22-74802	1	Dual Station Temperature Sender 250°F 1/4 NPT *	-
2	22-40358	1	Temperature Switch 95°C M16 x 1.5	-
3	22-40236	1	Oil Pressure Switch 1/8 NPT	-
4	22-42803	1	Oil Pressure Sender 1/8 NPT	-
	22-74803	1	Dual Station Oil Pressure Sender 1/8 NPT	-
5	22-40710	4	Relay, 24 Volt SPDT	-
6	22-40391	4	Relay Base	-
	22-40393	4	Terminal Retainer	-
7	22-40018	1	Circuit Breaker, DC 10 Amp (Screw Mount Type)	-
8	22-95605	1	Control Panel, S1-B (see detail)	-
9	22-48608	1	Engine Wire Harness - Square Deutsch Plug Connector	-
	22-48602	1	Harness Assembly, Glow Plug Pulse Circuit	-
10	22-40299	2	Diode, 1 Amp 200 Volt PIV (included in 22-48604)	-
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	22-48604	1	Alternator 24 Volt 25 Amp	-
22	198487590	1	Banjo Bolt M8 x 1.25 x 18mm (Tapped 1/8 NPT)	-
23	140606701	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 (not shown)	-
26	22-48611	1	Timer	-
27	22-41079	1	Solenoid 24 Volt 85 Amp	-
28	23-48605	1	Bracket, Solenoid Mounting	-
29	12-00030	2	Capscrew, Hex Head M6 x 1.0 x 16mm	-
30	15-00008	4	Flat Washer M6	-
31	14-04803	2	Hex Nut, Nylock M12 x 1.0	-
32	12-50941	2	Capscrew, Hex Head M12 x 1.25 x 20mm S/S	-
33	15-00912	2	Lock Washer M12	-
34	12-09032	1	Capscrew, Hex Head M6 x 1.0 x 30mm S/S	-
35	15-01134	2	Flat Washer M6 S/S	-
36	14-01133	1	Nylock Nut, Nylock M6 x 1.0	-
37	21-00050	**	Plug 1/8 BSPT	-

Note: #26 - 36 Required for glow plug operation

* Replaces 22-40353(NLA) requires
3/8 NPT x 1/4 NPT Bushing 21-51099

GROUP 5 – ELECTRICAL SYSTEM

Small Frame Alternators and Starter



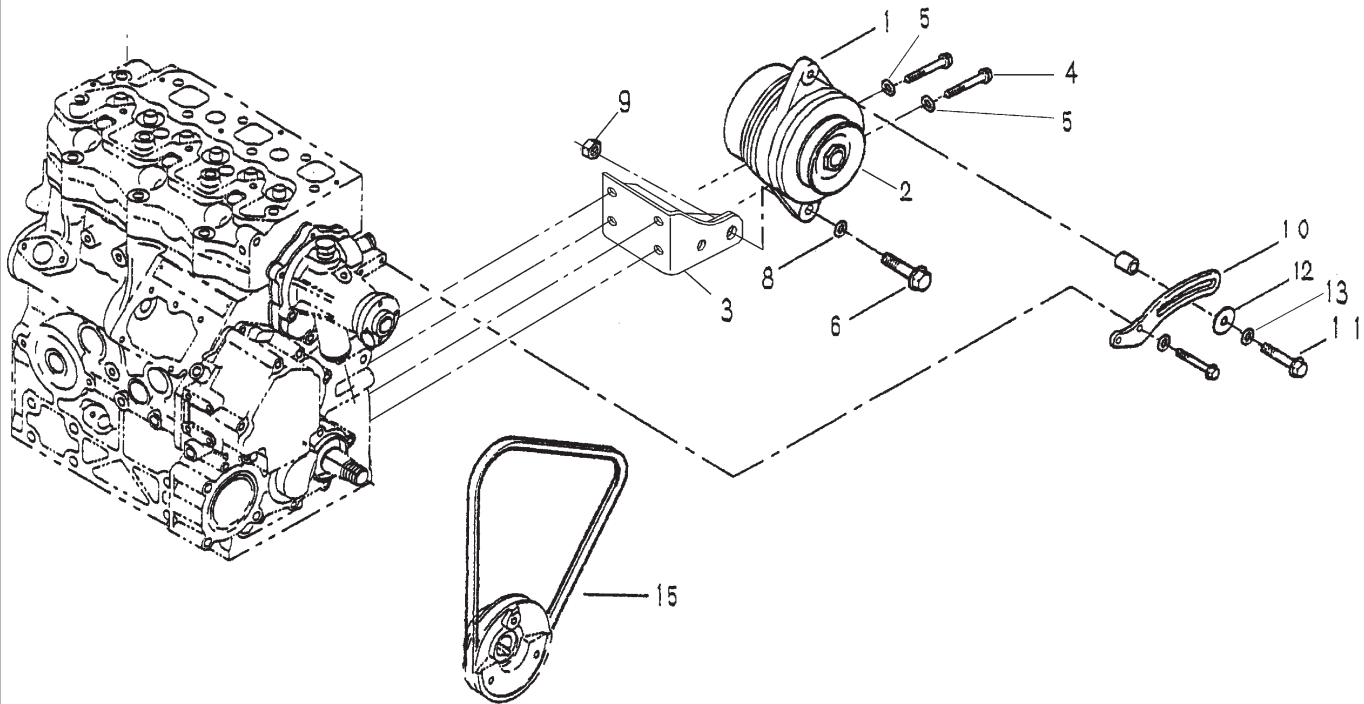
773altandstarter

Small Frame Alternators and Starter

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	185046220	1	Alternator 12 Volt, 40 Amp Standard Ground	-
	22-48206	1	Alternator 12 Volt, 40 Amp Isolated Ground	-
	22-48603	1	Alternator 24 Volt 25 Amp Standard Ground	-
	22-48604	1	Alternator 24 Volt 25 Amp Isolated Ground	-
2	23-48601	1	Bracket, Alternator Mounting	-
3	12-09712	2	Capscrew, Hex Head M8 x 1.25 x 25 mm S/S	-
4	T436999	1	Capscrew, Hex Head M10 x 1.5 x 35 mm S/S	-
5	15-09805	2	Flat Washer M10 S/S	-
6	23-48602	1	Tensioning Arm	-
7	12-01102	2	Capscrew, Hex Head M6 x 1.0 x 16 mm S/S	-
8	12-09714	1	Capscrew, Hex Head M8 x 1.25 x 40 mm S/S	-
9	15-00705	2	Lock Washer M8 S/S	-
10	199236680	1	Spacer	-
11	40-08601	1	Drive Belt (use with 185046220 & 22-48603)	-
	40-08604	1	Drive Belt (use with 22-48206 & 22-48604)	-
12	15-00610	2	Lock Washer M6 S/S	-
13	T435063	1	Flywheel Housing	-
14	185086551	1	Starter, 12 Volt (see parts detail)	-
	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)	-
17	01435-01045	2	Capscrew, Hex Head M10 x 1.5 x 45 mm (use with starters #185086551 & 22-42079)	-
	01435-01050	2	Capscrew, Hex Head M10 x 1.5 x 50 mm (use with starters #22-42081 & 22-42082 - 21-42121 - 22-42122))	-
18	010311020	8	Bolt	-
19	15-00802	2	Spring Washer	-
20	020900010	2	Nut	-
21	2487646	1	Plug (Marine)	-
22	140976080	1	Bracket	-
23	15-00802	1	Spring Washer	-
24	199436350	1	Bolt	-

GROUP 5 – ELECTRICAL SYSTEM

Medium Frame Alternators 24 V/ 40 Amp & 24V/ 35 Amp

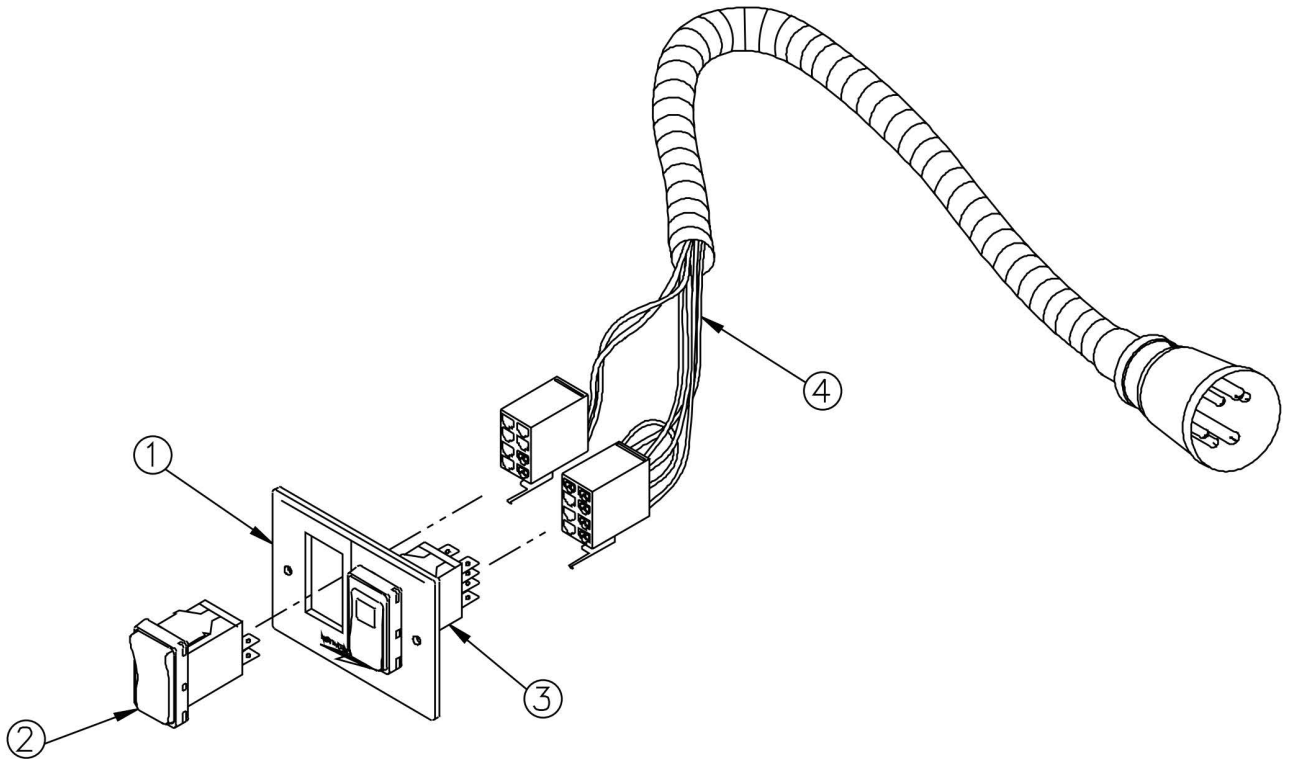


A-9711, A-9712

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	22-40763	1	Alternator 24 Volt, 35 Amp Isolated Ground	-
	22-40278	1	Alternator 24 Volt, 40 Amp Standard Ground	-
2	34-41017	1	Pulley	-
3	23-48603	1	Bracket, Medium Frame Alternator Mtg.	-
4	12-00776	4	Capscrew, Hex Head M8 x 1.25 x 20 mm S/S	-
5	15-00705	4	Lock Washer, Helical M8 S/S	-
6	12-00517	1	Capscrew, Hex Head 1/2-13 x 2-1/4"	-
8	15-00504	2	Flat Washer 1/2" SAE	-
9	14-00512	1	Hex Nut, Nylock 1/2-13	-
10	23-48604	1	Tensioning Arm	-
11	12-09212	1	Capscrew, Hex Head 5/16-18 x 1" S/S	-
12	15-00201	1	Stud Washer 5/16	-
13	15-00222	1	Lock Washer, Helical 5/16 S/S	-
14	22-70048	1	Diode Harness Addition (not shown)	-
15	40-08603	1	Drive Belt	-

S-1 Control Panel 12 & 24 Volt

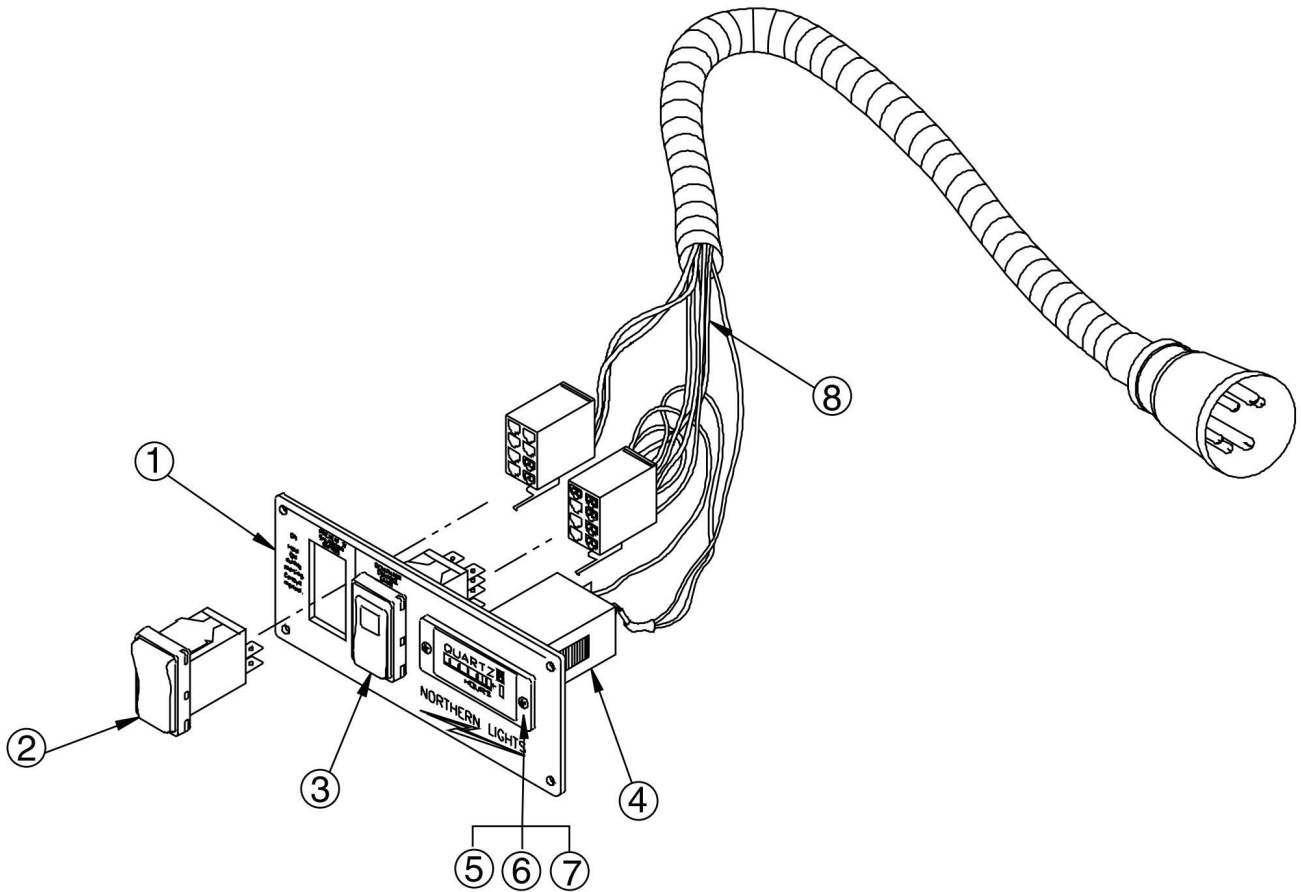
B+ Electrical Systems



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)	-

S-1B Start/Stop Control Panel

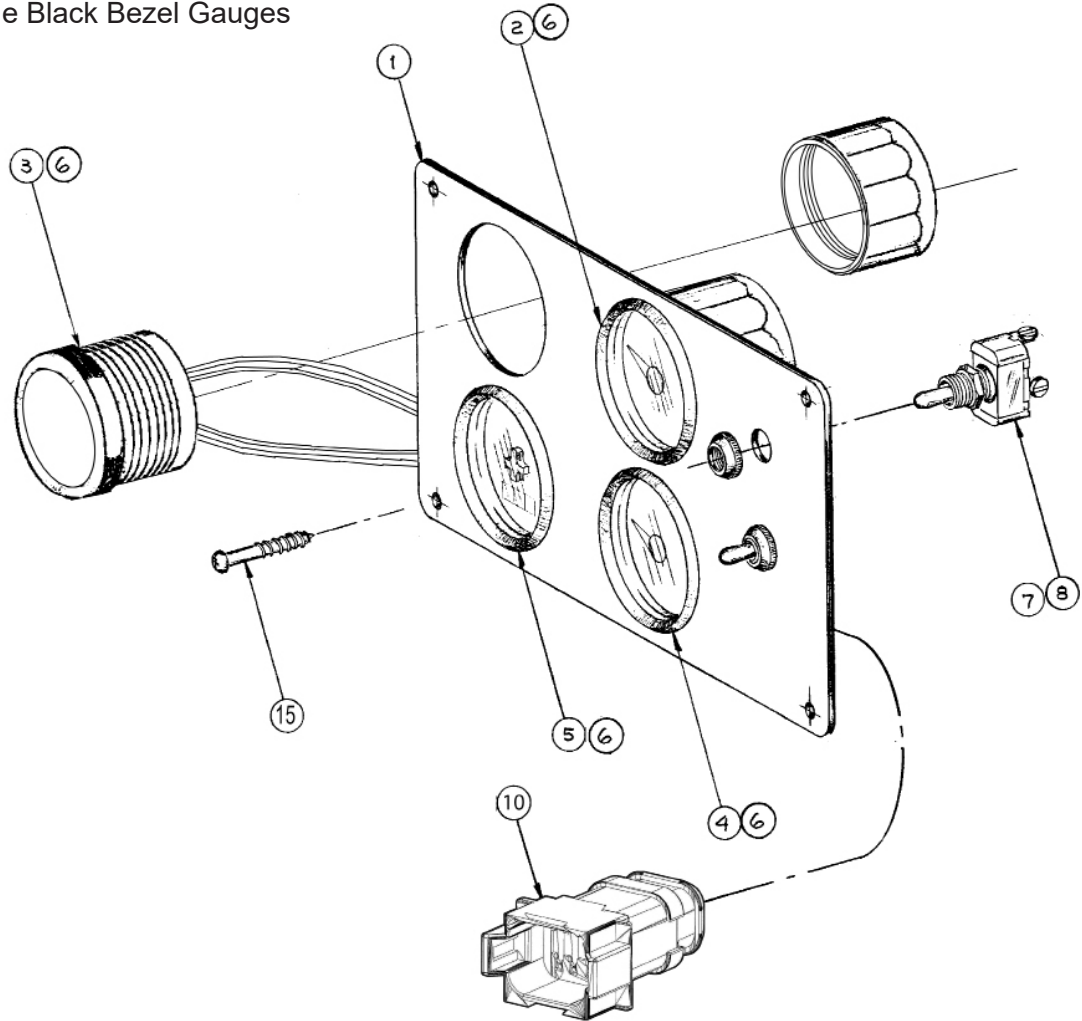
B+ Electrical Systems



KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	22-95605	1	Series 1-B Start/Stop Control Panel 12 or 24 Volt (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)	-

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

VDO Viewline Black Bezel Gauges

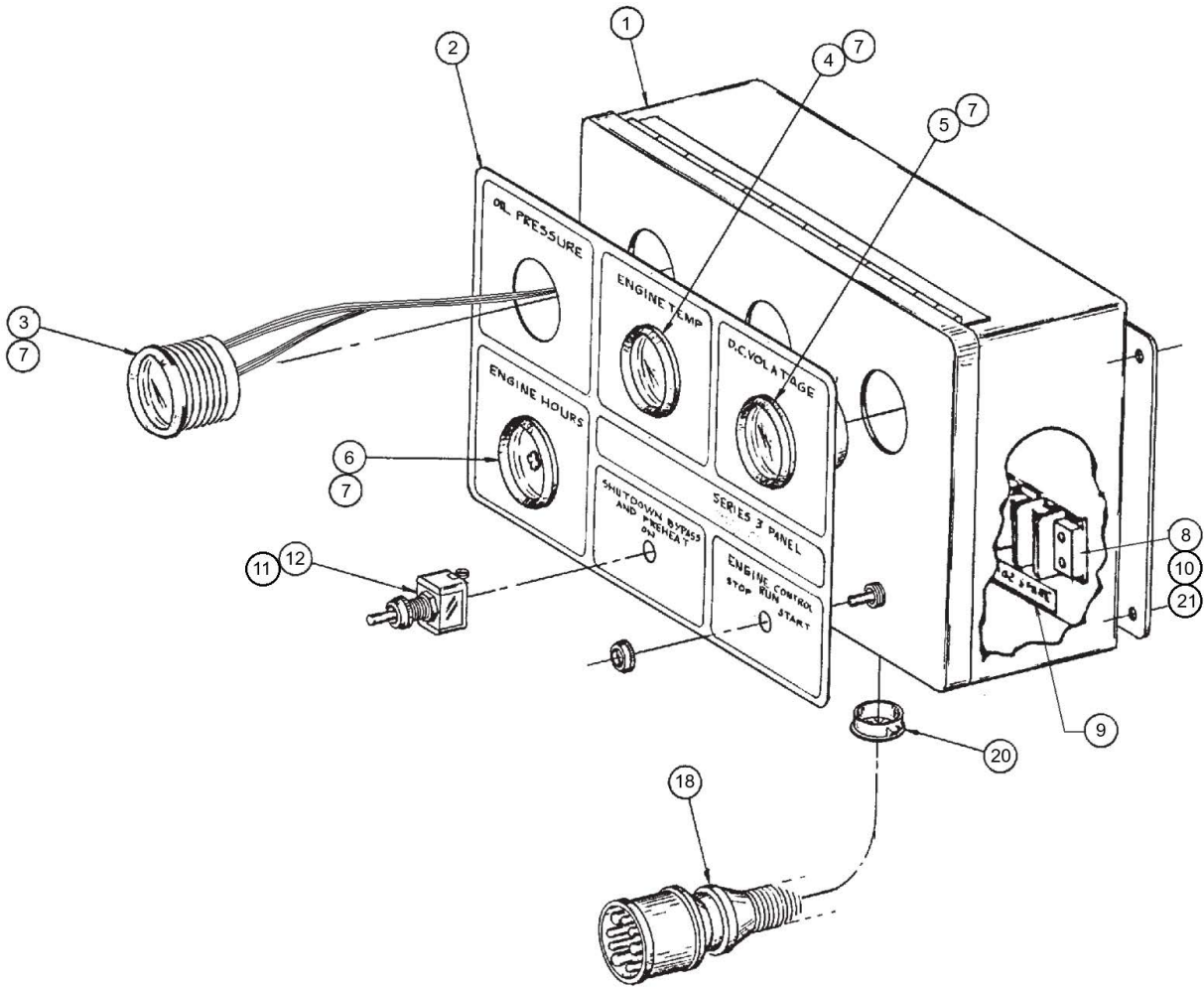


KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
**	22-95611	1	S-3C Control Panel, 12 Volt (includes all keys)	-
**	22-95612	1	S-3C Control Panel, 24 Volt (includes all keys)	-
1	28-90010	1	Panel Plate	-
2	37-91075-1	1	Oil Pressure Gauge, 0-80 PSI 12/24 Volt *	-
3	37-91074-1	1	Temperature Gauge, 0- 250°F 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	37-00014	4	Bezel	-
8	22-41051	1	Toggle Switch	-
	22-40335	1	Toggle Switch	-
9	23-95601	1	Bracket, Relay Base Mounting	-
10	22-45606	1	Panel Wire Harness	-
11	12-00075	1	Machine Screw #8-32 x 1/4"	-
12	15-00035	1	Star Washer #8	-
13	22-42047	**	Relay 12 Volt	-
	22-40710	**	Relay 24 Volt	-
14	00-00013	**	Label 12 Volt (not shown)	-
	00-00014	**	Label 24 Volt (not shown)	-
15	12-90007	4	Self Tapping Screw, Oval Head Phillips #6 x 3/4"	-

** As Required

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

VDO Viewline Black Bezel Gauges



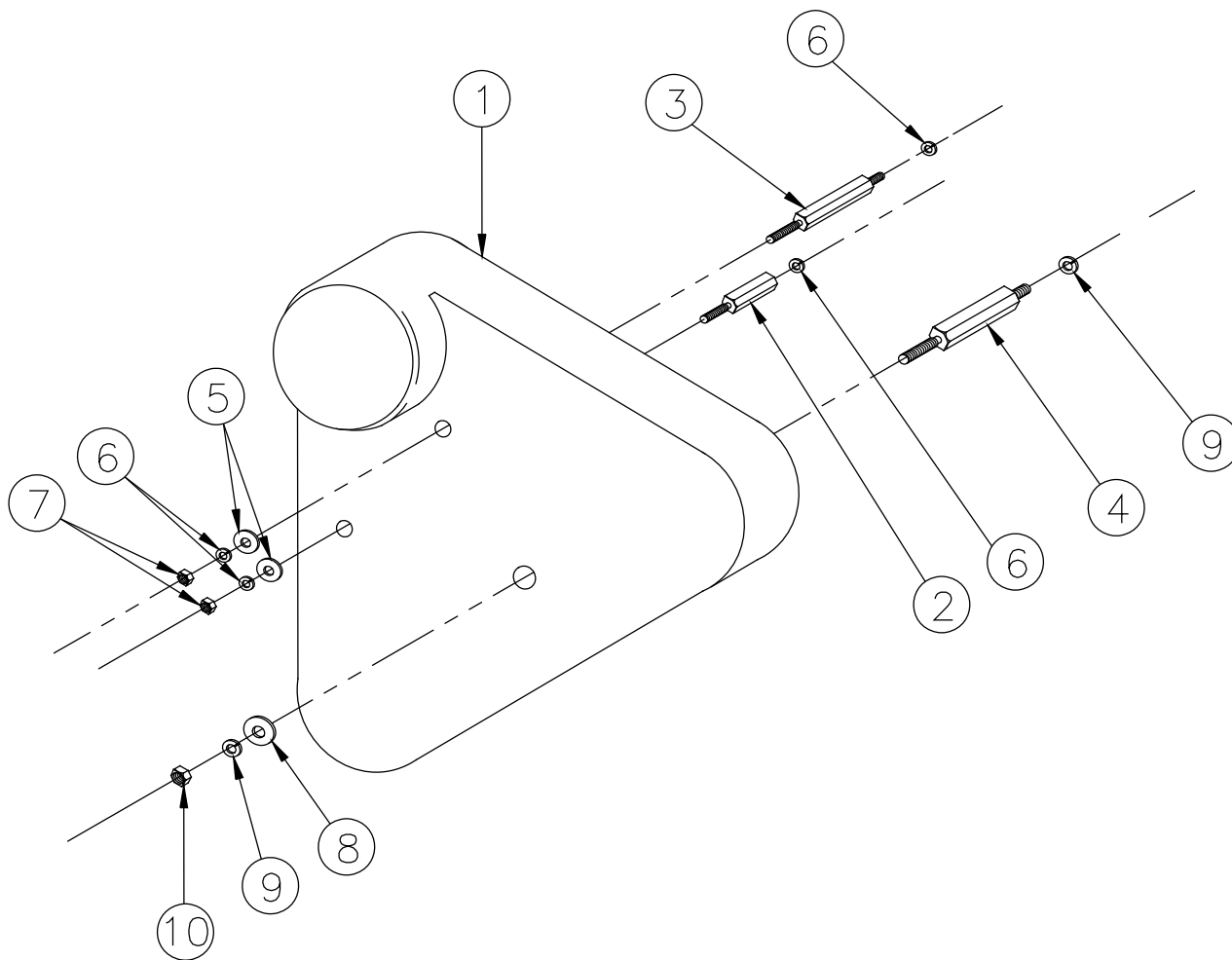
S-3B Control Panel 12 - 24 Volt B+ Systems

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	37-91075-1	1	Oil Pressure Gauge, 0-80 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	12-00075	1	Machine Screw, Phillips #8-32 x 1/4" S/S	-
16	15-00035	1	Star Washer #8 S/S	-
17	22-42047	**	Relay 12 Volt	-
	22-40710	**	Relay 24 Volt	-
18	22-45607	1	Connection Harness	-
19	00-00013	**	Label 12 Volt (not shown)	-
	00-00014	**	Label 24 Volt	-
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

Standard Small Frame Alternators

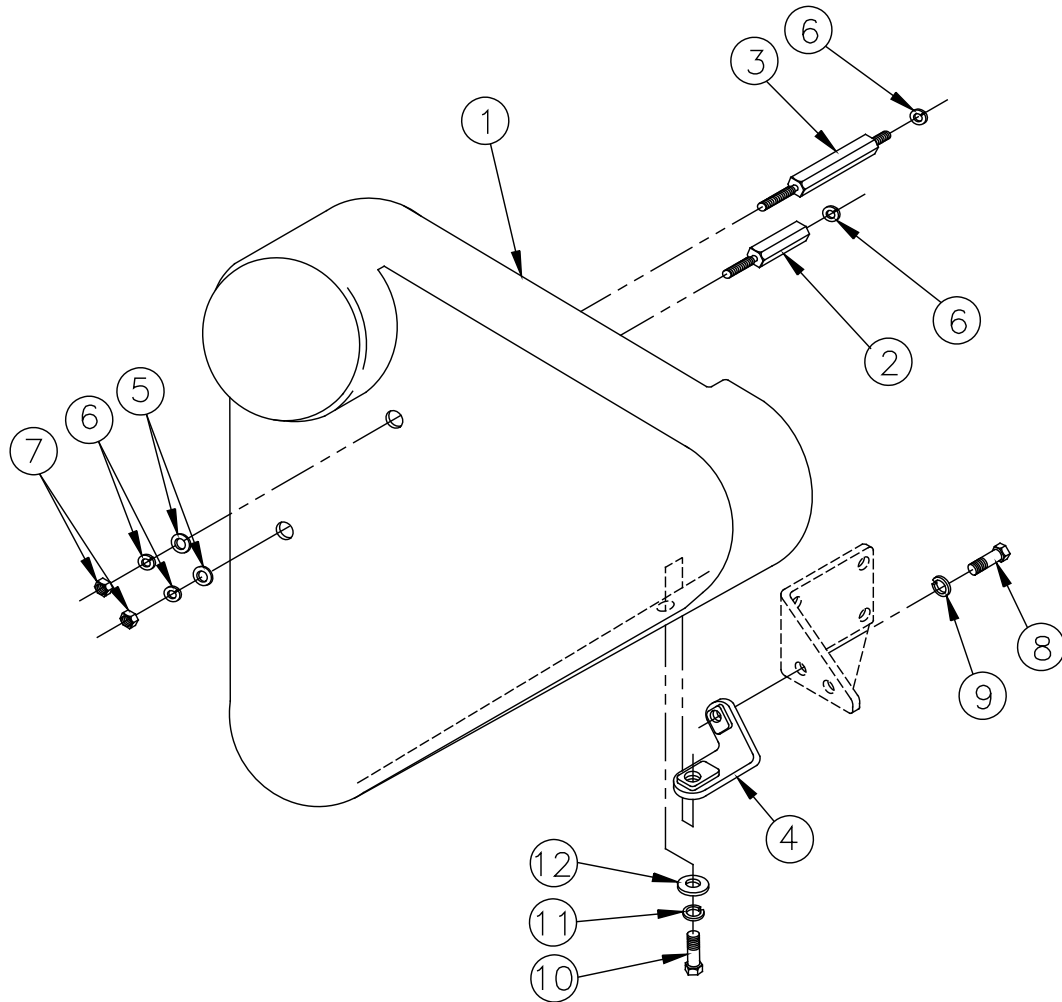


A-9314/ B-6972

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	00-08601	1	Belt Guard	-
2	12-90049	1	Capscrew, Hex Head M6 x 1.0 x 15 mm (Head tapped M6 x 1.0 x 10 mm Special)	-
3	13-91132	1	Stud, M6 x 1.0 x 111.4 mm	-
4	13-90070	1	Stud, M10 x 1.5 x 110.8 mm	-
5	15-01134	2	Flat Washer M6 S/S	-
6	15-00610	4	Lock Washer, Helical M6 S/S	-
7	14-01132	2	Hex Nut M6 x 1.0 S/S	-
8	15-09805	1	Flat Washer M10 S/S	-
9	15-00808	2	Lock Washer, Helical M10 S/S	-
10	14-00817	1	Hex Nut M10 x 1.5 mm S/S	-

Belt Guard Assembly

Optional Medium Frame Alternators



A-9832/ B-9464

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	00-08603	1	Belt Guard	-
2	12-90049	1	Capscrew, Hex Head M6 x 1.0 x 15 mm (Head tapped M6 x 1.0 x 10 mm Special)	-
3	13-91132	1	Stud, M6 x 1.0 x 111.4 mm	-
4	23-08602	1	Bracket, Lower Belt Guard Mtg.	-
5	15-01134	2	Flat Washer, M6 S/S	-
6	15-00610	4	Lock Washer, Helical M6 S/S	-
7	14-01132	2	Hex Nut M6 x 1.0 S/S	-
8	12-00711	1	Capscrew, Hex Head M8 x 1.25 x 20 mm	-
9	15-00702	1	Lock Washer, Helical M8	-
10	12-09712	1	Capscrew, Hex Head M8 x 1.25 x 25 mm S/S	-
11	15-00705	1	Lock Washer, Helical M8 S/S	-
12	15-70004	1	Snubbing Washer S/S	-

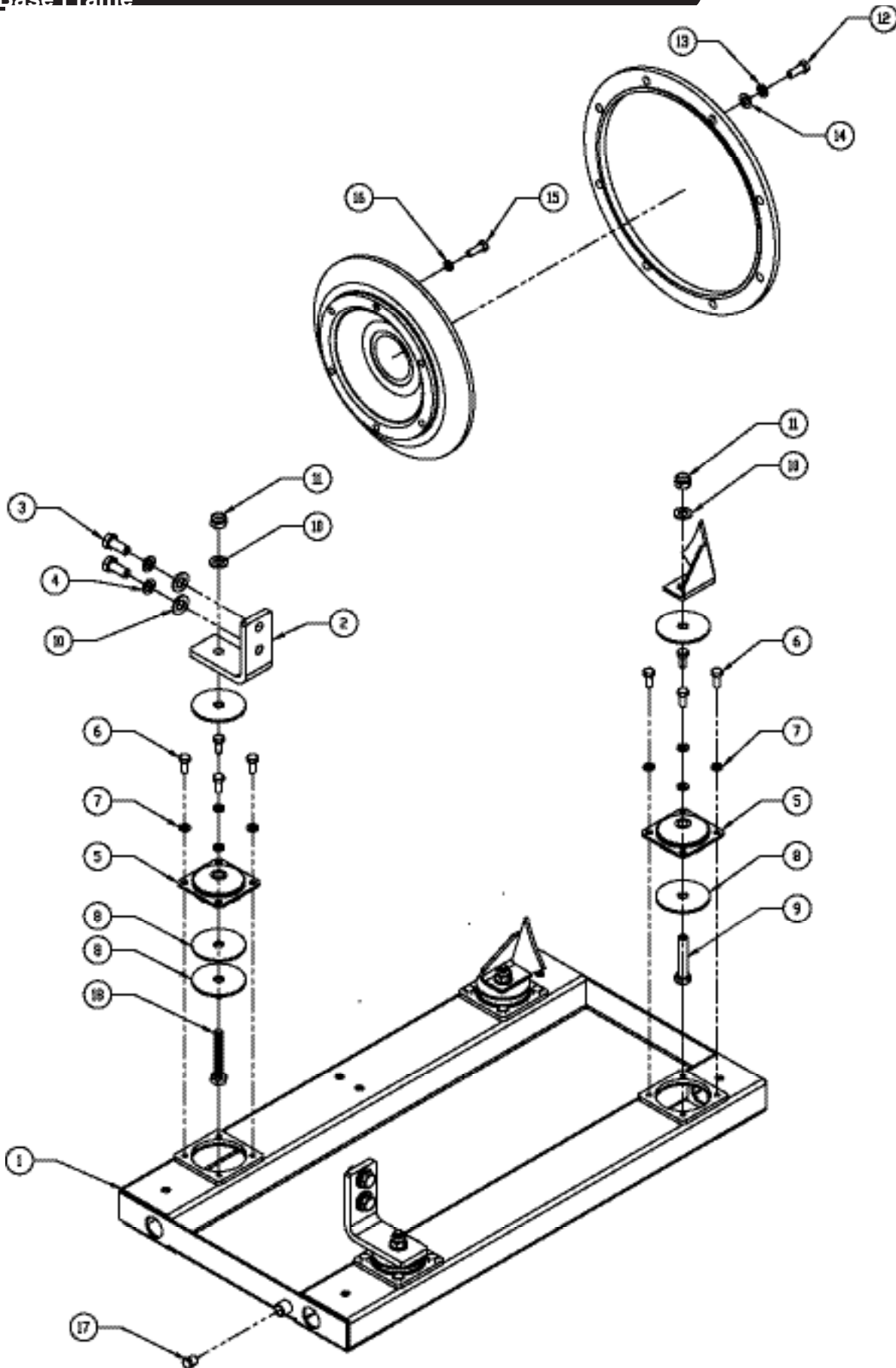
GROUP 6 – GASKET SETS

Gasket Kits

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	29-08602	1	Gasket Kit (Marine, includes all keys)	-
•	195907460	1	Gasket Kit (Industrial, includes keys 1-40)	-
1	050209107	1	Oil Seal, Rear	-
2	052109076	1	O-ring, Suction Oil Pipe	-
3	U10996900	1	Gasket, Oil Pan	-
4	025100016	2	Seal Washer, Oil Pan Drain	-
5	T435160	1	Gasket, Front Plate	-
6	052109108	2	O-ring, Governor Shaft	-
7	052109110	1	O-ring, Rocker Arm	-
8	052109109	1	O-ring, Rocker Arm	-
9	T435154	1	Gasket, Timing Gear	-
10	198636090	1	Oil Seal, Front	-
11	165996610	1	Gasket, Gear Case Cover	-
12	131426300	1	Adjusting Shim Set, Injection Pump	-
13	025100006	1	Seal Washer, Air Bleed Screw	-
14	140996260	4	Gasket, Banjo Bolt	-
15	111147570	1	Head Gasket, t=1.3	-
16	U20406140	3	Valve Guide Seal, Exhaust & Intake	-
17				
18	131426200	3	Gasket, Injector Lower Side	-
19	131426210	3	Gasket, Injector Upper Side	-
20	T434080	1	O-ring, Rocker Arm Shaft	-
21	120996150	1	Gasket, Rocker Arm Bracket	-
22	111996420	1	Gasket, Rocker Arm Cover	-
23	140996260	3	Gasket, Rocker Arm Cover	-
24	T432690	2	O-ring, Oil Filler Cap	-
25	U35997290	1	Gasket, Air Intake	-
26	U45996831	1	Gasket, Coolant Pump	-
27	145996840	1	Gasket, Thermostat Housing	-
28	145996850	1	Gasket, Thermostat Cover	-
29	130516069	4	Gasket, Joint Bolt	-
30	130996130	1	Gasket, Fuel Pump	-
31	T430626	2	O-ring, Dipstick Guide	-
32	025100016	1	Seal Washer, Solenoid	-
33	052109078	1	O-ring, Relief Valve	-
34	130326051	5	Gasket, Joint Bolt	-
35	140996270	4	Gasket, Valve Assembly	-
36	135996900	1	Gasket	-
37	135996541	1	Gasket, Exhaust Manifold	-
38	314990013	1	Gasket	-
39	052300700	1	O-ring, Gear Case Cover	-
40	314990030	1	Gasket, Elbow	-
41	11-08601	1	Gasket, Exhaust	-
42	11-18602	1	Gasket, Thermostat Cover	-
43	16-13101	1	O-ring, Raw Water Pump	-

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Base Frame



D-5043

Base Frame

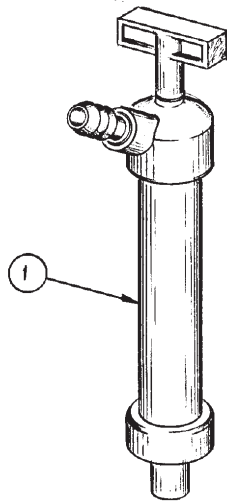
"Gem Series"

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	39-88008	1	Base Frame, Stainless Steel, Plateform Mtg (Gem Series)	-
2	23-88001	1	Bracket, Front Engine Mtg R.h.	-
3	23-88002	1	Bracket, Front Engine Mtg L.h. With Regulator Mtg Pad	-
4	12-09831	3	Capscrew, Hex Head M10x1.5 X 25mm S/S	-
5	15-00808	4	Lock Washer, Helical M10 S/S	-
6	15-09805	4	Flat Washer M10 S/S	-
7	12-09956	4	Capscrew, Hex Head, M12x1.75 X 65mm S/S	-
8	15-88002	10	Snubbing Washer, STL. 0.510"ID X 2.680"OD X 0.125"	-
9	33-83105	4	Flex Mount, Plateform 120 LB	-
10	15-09007	4	Flat Washer M12 S/S	-
11	14-09830	4	Hex Nut, Nylock M12x1.75 S/S	-
12	12-09751	16	Capscrew, Hex Head M8x1.25 X 16mm S/S	-
13	15-00705	16	LOCK WASHER, HELICAL M8 S/S	-
14	12-09753	6	Capscrew, Hex Head M8x1.25 X 30mm S/S	-
15	15-00705	6	LOCK WASHER, HELICAL M8 S/S	-
16	15-00706	6	Flat Washer M8 S/S	-
17	012110025	4	STUD M10x1.25 X 25mm (37mmLOA)	-
18	14-00814	4	Hex Nut M10x1.25 (17mm Hex) Property Class 8	-
19	15-00802	4	Lock Washer, Helical M10	-
20	12-09831	1	Capscrew, Hex Head M10x1.5 X 25mm	-

GROUP 8 – ACCESSORIES AND OPTIONAL EQUIPMENT

Oil Drain Kit

Marine Application

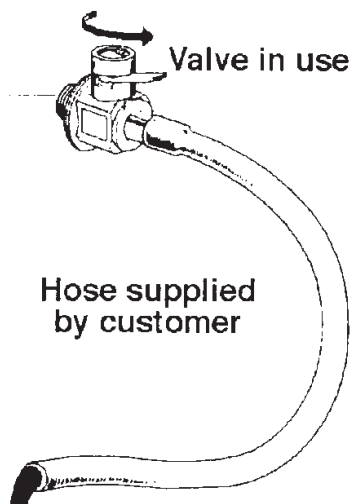


A-5024/ B-3990

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

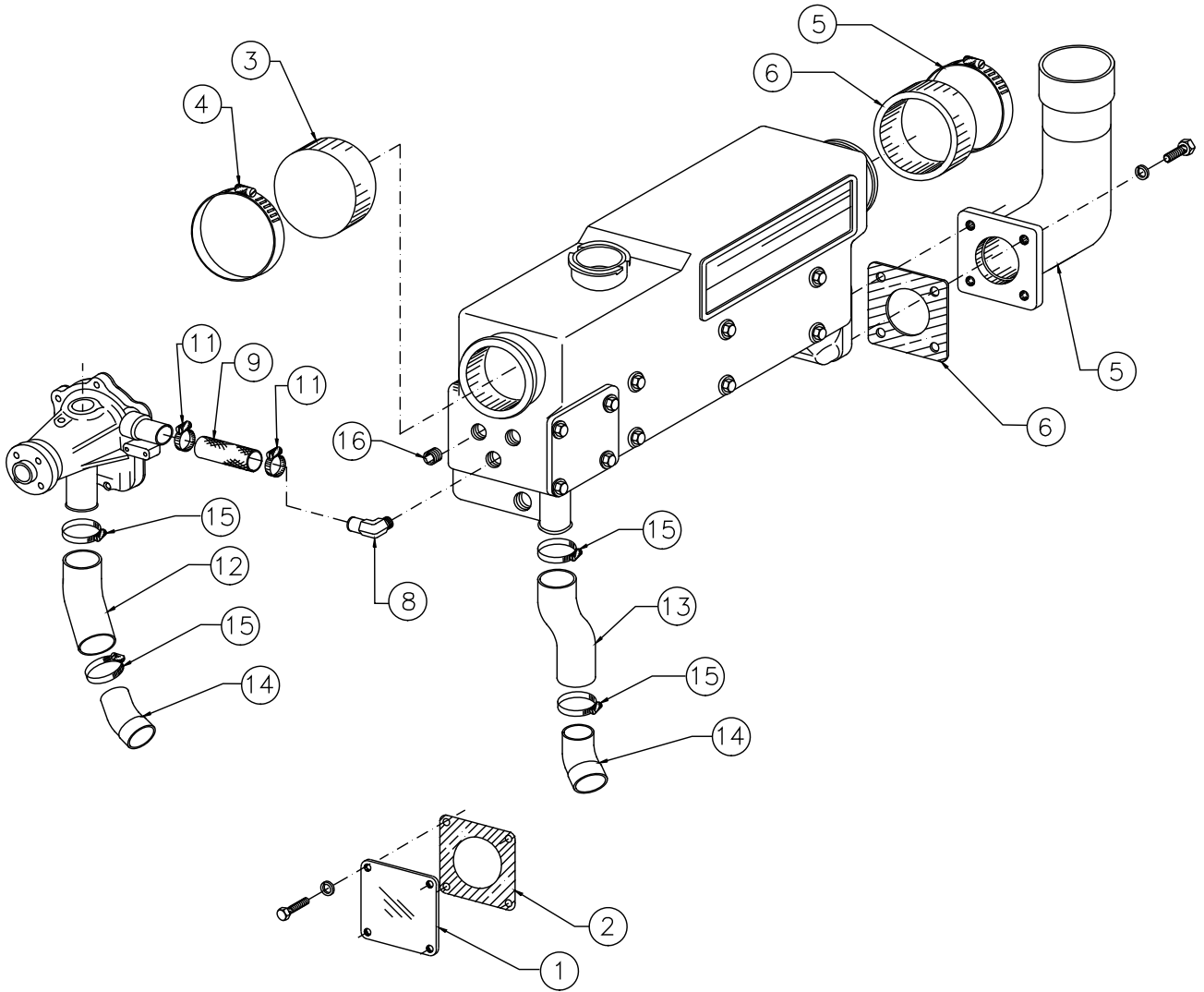


A-6480

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	36-77400	1	Drain Valve	-

Keel Cooling Conversion

Marine Application - with Dry Exhaust



KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	165206320	1	Cover (white)	-
2	052300700	1	O-ring	-
3	20-12019	2	End Cap, Rubber	-
4	19-04048	2	Hose Clamp, #48 (formerly #19-00048)	-
5	27-32007	1	Elbow, Dry Exhaust 1-1/2" NPT	-
6	11-31902	1	Gasket, Exhaust Outlet Mtg.	-
7	00-32008	1	Exhaust Lagging (not shown)	-
8	21-10031	1	Male Elbow 90° Brass 3/8 NPT x 1/2 HB (Beaded Barb)	-
9	18-18606	1	Hose, 1/2" I.D. x 3-1/2" 3 Ply Silicone	-
10	21-10044	1	Adapter, 3/8 NPT x 3/8 NPT	-
11	19-01008	2	Hose Clamp #8 Extended Band S/S	-
12	18-18604	1	Hose, Coolant Pump Inlet	-
13	18-18605	1	Hose, Expansion Tank Outlet	-
14	21-18602	2	Male Elbow, 45°, Copper 1-1/8" HB x 1-1/4" HB	-
15	19-00016	4	Hose Clamp #16	-
16	21-51900	1	Plug, Socket Head 1/8 NPT	-



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