

***For Your Convenience: This Northern
Lights File Is Shared By Diesel Parts Direct***



YOUR ONE STOP SUPERSTORE FOR DIESEL ENGINE PARTS

SHOP NOW



DIESEL PARTS
— **D I R E C T** —

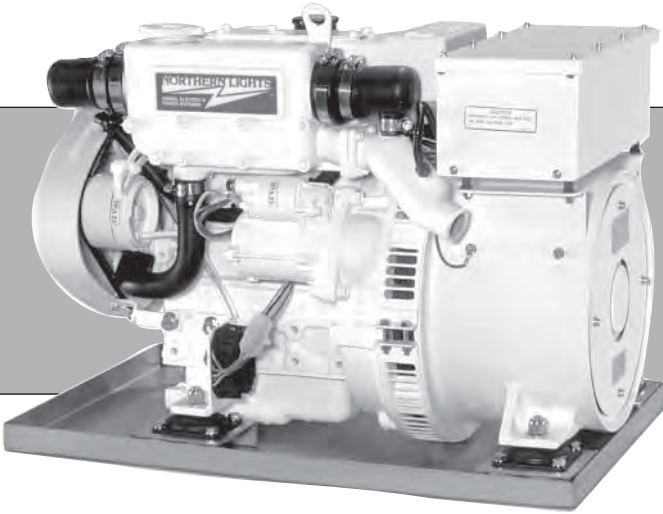
How To Use This Parts Catalog

For your convenience, Diesel Specialists is providing access to this Northern Lights Parts Catalog to assist you with purchasing the correct parts for your generator or engine.

Any of the parts listed in this catalog are available for purchase from the Northern Lights Generator Parts website.

Use the PDF search function to search the catalog: press CTRL + F and the search box will appear.

Once you have located the part number in the catalog, return to the Northern Lights Generator Parts website and type the part number in the Store Search Box. Then, add the item to your shopping cart to complete your purchase.



P643

For Models: M643, M643K, M643M, & NL643

PARTS CATALOG

Marine Generators | Marine Diesel Engines | Land-Based Generators



LUGGER





— CALIFORNIA —
Proposition 65 Warning:

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

Northern Lights

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

Copyright ©2000 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.: P643 05/00



PARTS CATALOG

for Models M643, M643K, M643M, & NL643

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
Flywheel Housing & Starting Motor	2
Oil Pan & Oil Fill	3
Crankshaft, Pistons & Camshaft.....	4 - 5
Cylinder Head & Rocker Arm Assembly.....	6 - 7
Rocker Arm Cover.....	8

GROUP 2 - INTAKE & EXHAUST SYSTEM

Air Cleaner	1
Exhaust Manifold & Dry Exhaust Elbow	2 - 3
Muffler	4

GROUP 3 - COOLING

Raw Water Pump	1 - 3
Radiator & Mounting Kit	4 - 5
Oil Pump, Coolant Pump & Alternator	6 - 7

GROUP 4 - FUEL SYSTEM

General Arrangement	0 - 1
Governor & Timing Gear Case	2 - 3
Fuel Filter & Mounting	4 - 5
U.S. Coast Guard Fuel Line Connection	6
Injection Pump Assembly	7 - 8
Injector Assembly	10
Fuel Lift Pump	11

GROUP 5 - ELECTRICAL SYSTEM

12 Volt Engine.....	0
Alternator Assembly	1
Starting Motor Assembly.....	2 - 4
Belt Guard	5

GROUP 6 - GASKET SETS

Gasket Kit	0 - 1
------------------	-------

GROUP 7 - GENERATORS

Generator Components, TFII-18B,TFIII-18B	1
Generator Components, TF276K.....	2 - 3
Generator Components, TF276M	4 - 5

GROUP 8 - FRAME & MOUNTING

Base Frame Kit - Marine	0 - 1
Base Frame Kit - Industrial.....	2 - 3

GROUP 9 - ACCESSORIES

& OPTIONAL EQUIPMENT

Control Panels.....	0 - 4
Oil Drain Kit.....	5
Heat Exchanger	6
Aluminum Sound Enclosure Assembly	8 - 9

Proprietary Information

This publication is the sole property of Northern Lights, Inc.

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

© Northern Lights, Inc. 2000. All rights reserved. Litho U.S.A. Publication number: P643 05/00.

Model Designation

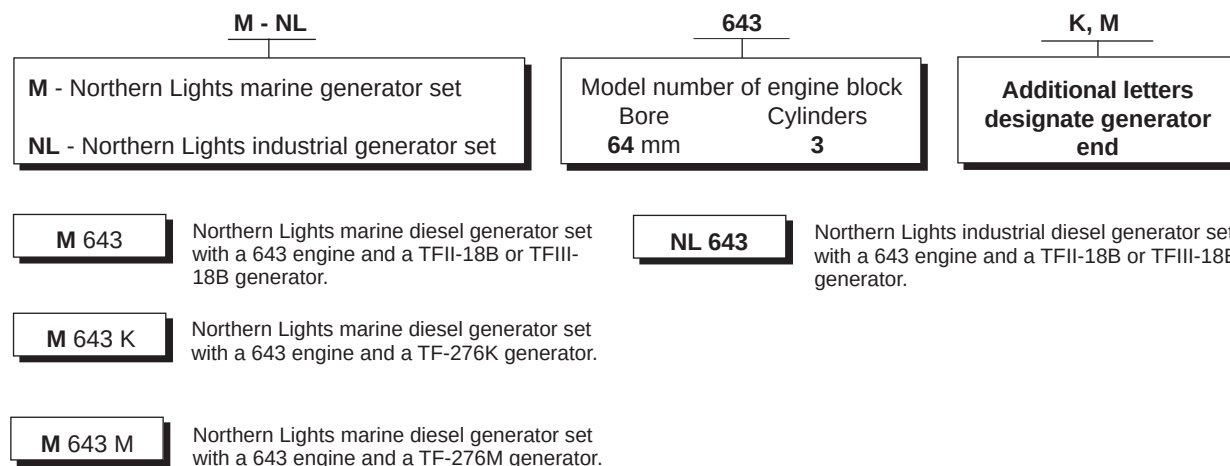
MODELS INCLUDED

This manual covers the operating instructions for:

M643 and NL643, which both use the 643 engine.

Model Numbers

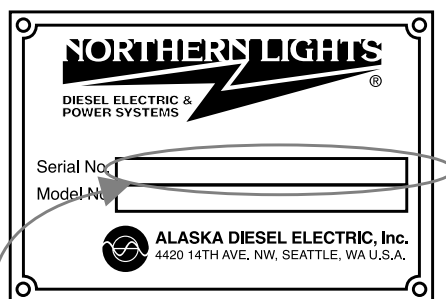
Model numbers give the unit's application, block model, aspiration, and RPM:



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.



Generator Set Serial Number

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.

1 — ELECTRICAL SYSTEM

ALTERNATOR ASSEMBLY: M - NL643

2 —

3 —

4 —

5 —

6 —

7 —

8 —

9 —

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	-

10 —

11 —

12 —

13 —

14 —

P643 05/00

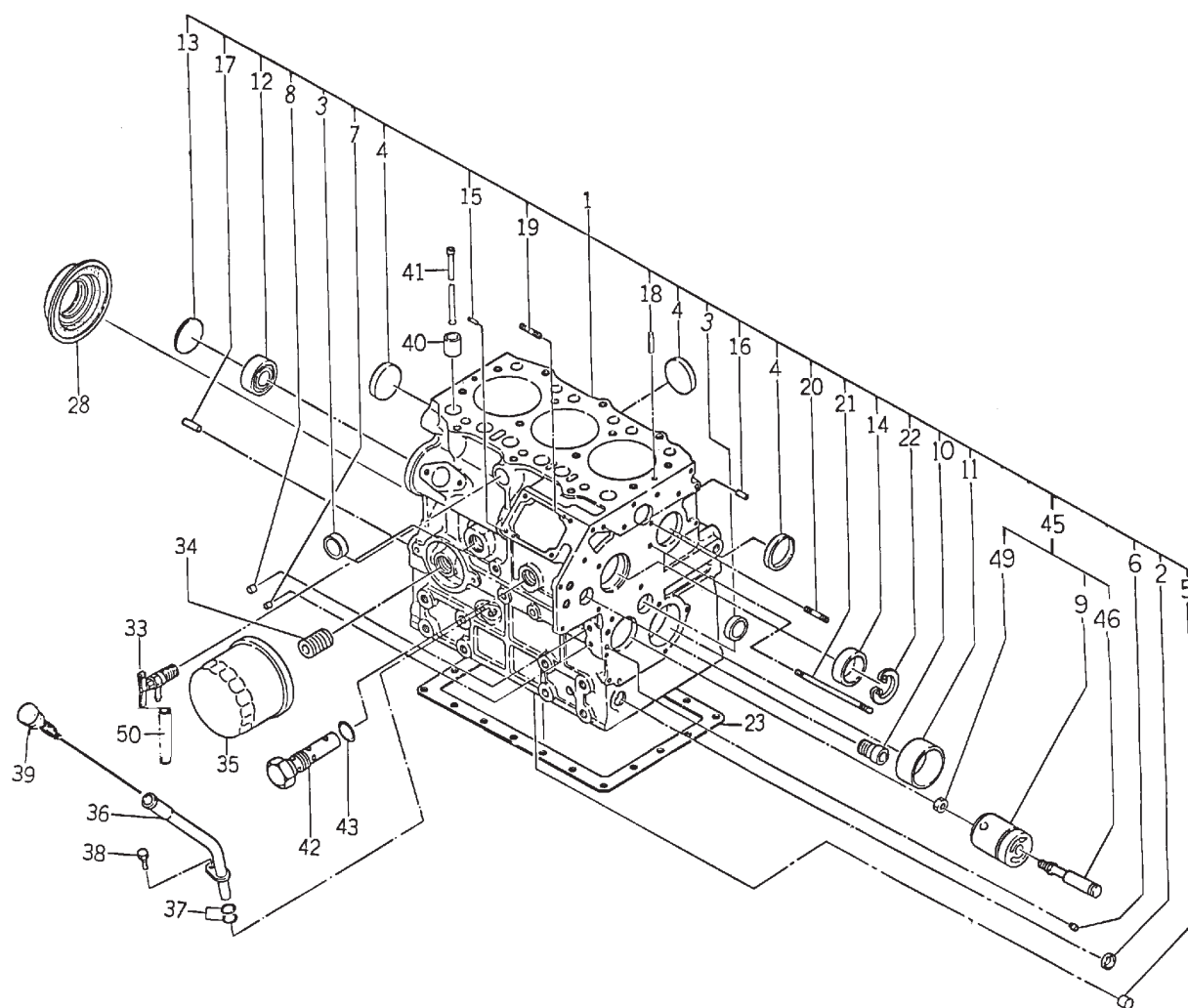
5-2

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.

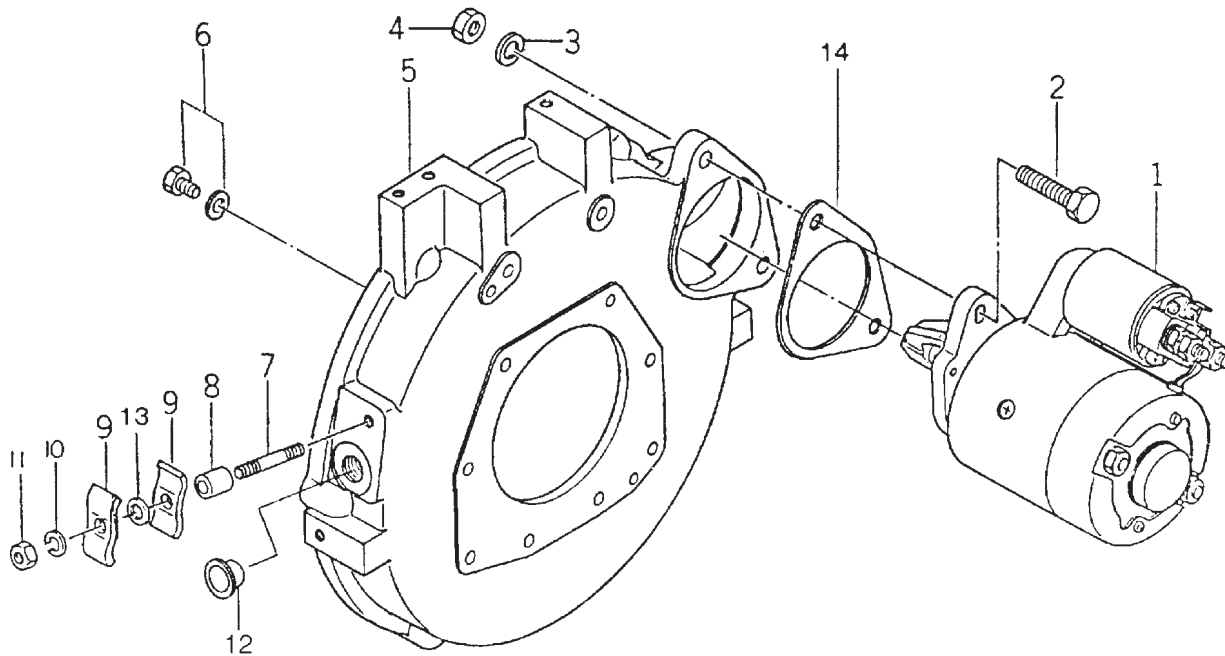
Cylinder Block Assembly



Cylinder Block Assembly

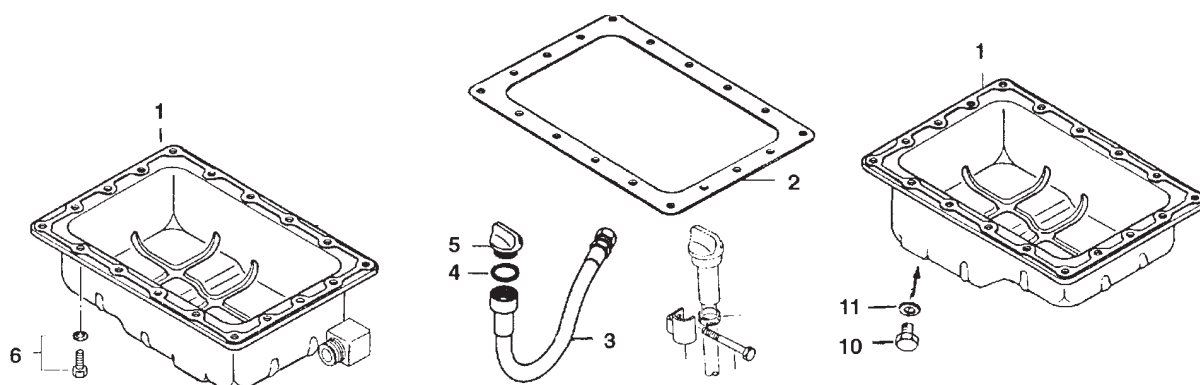
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	110107971	1	Cylinder Block Assembly (Industrial - includes Keys #1 - #22 & #46 - #49. Formerly #110107090)	-
	110107951	1	Cylinder Block Assembly (Marine - includes Keys #1 - #22 & #46 - #49. Formerly #110107080)	-
2	064200015	1	Expansion Plug 15 mm	-
3	064200018	2	Expansion Plug 18 mm	-
4	064200035	4	Expansion Plug 35 mm	-
5	198466070	5	Plug	-
6	198466050	1	Plug	-
7	198466030	1	Plug	-
8	198466010	4	Plug	-
9	165296120	4	Idle Gear Shaft	-
10	198466060	1	Sealing Cap	-
11	198517301	1	Bushing, Standard (formerly #198517300)	-
	198517305	1	Bushing, undersize 0.25 mm (formerly #198517304)	-
	198517308	1	Bushing, undersize 0.50 mm (formerly #198517307)	-
12	040106203	1	Bearing	-
13	064100045	1	Expansion Plug 45 mm	-
14	042303015	1	Bearing	-
15	030500512	1	Dowel Pin	-
16	030500616	2	Dowel Pin	-
17	030500820	2	Dowel Pin	-
18	030309005	2	Lock Pin	-
19	012110620	2	Stud Bolt	-
20	012100635	1	Stud Bolt	-
21	012100660	1	Stud Bolt	-
22	036509005	1	Retaining Ring	-
23	110996590	1	Gasket	-
28	198636080	1	Oil Seal	-
33	198736050	1	Drain Cock	-
34	140546020	1	Joint	-
35	24-02001	1	Oil Filter	-
36	110756070	1	Dipstick Tube	-
37	052100100	2	O-Ring	-
38	011140612	1	Bolt	-
39	198416350	1	Dipstick	-
40	120116100		Tappet*	-
	120116180		Tappet #1 Cylinder - Exhaust only	-
41	120456240	6	Push Rod	-
42	140036220	1	Relief Valve Assembly (formerly #140036111 & 140036120)	-
43	152100150	1	O-Ring	-
45	165296161	1	Idler Shaft Assembly (includes Keys #9, #46 & #49)	-
46	140196062	1	Shaft (formerly #140196061)	-
49	023100008	1	Nut	-
50	068115200	1	Tube	-
*Note: Camshaft 120026170 & 120026171 use 6 ea. tappet #120116100. Replacement camshaft 120026172 requires 5 ea. tappet #120116100 and 1 ea. 120116180.				

Flywheel Housing and Starting Motor Assembly



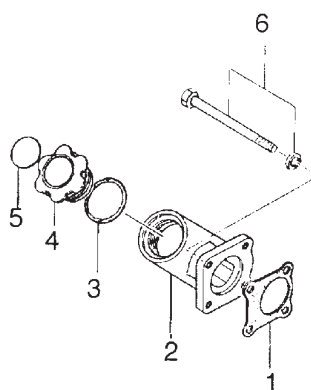
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	185086321	1	Starting Motor (Hitachi)*	To S/N xxxx-4040
	185086321	1	Starting Motor (Nippon Denso)*	From S/N xxxx-4041
	185086440	1	Starting Motor*	To S/N xxxx-6620
				From S/N xxxx-6621
2	011301040	2	Bolt	-
3	027100010	2	Lock Washer	-
4	020100010	2	Nut	-
5	110446470	1	Flywheel Housing	-
6	011300820	7	Bolt	-
7	012100850	1	Stud Bolt	-
8	199236690	1	Collar	-
9	399110160	2	Clamp	-
10	027100008	1	Lock Washer	-
11	020100008	1	Nut	-
12	398460091	1	Plug	-
13	026100008	1	Washer	-
14	199216250	1	Spacer	-
*Note: See Electrical for Parts Detail.				

Oil Pan



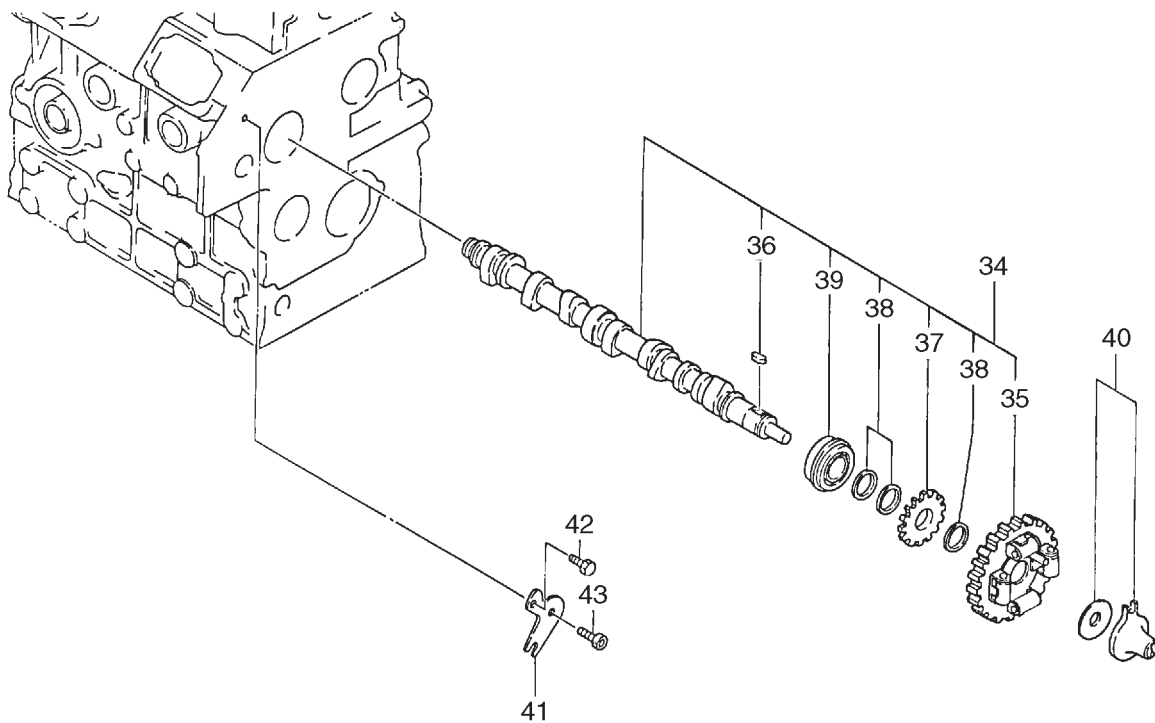
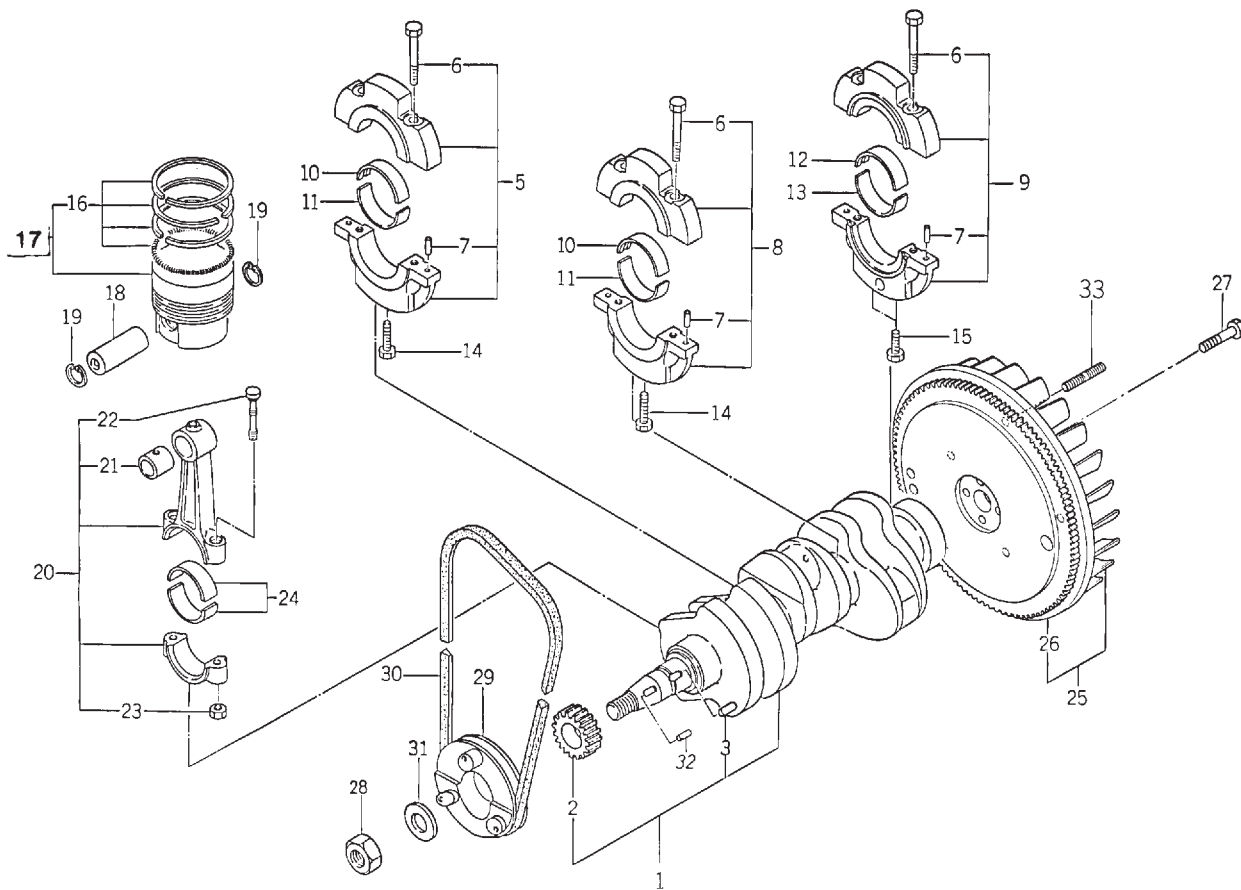
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	110706770	1	Oil Pan (Marine)	-
	110706691	1	Oil Pan (Industrial)	-
2	110996590	1	Gasket	-
3	140606710	1	Drain Hose	-
4	052100280	1	Gasket (formerly #054109013)	-
5	398430560	1	Cap (formerly #398430080)	-
6	010109235	18	Bolt	-
7	19-00010	1	Hose Clamp #10	-
8	011310860	1	Bolt	-
9	140976040	1	Bracket	-
10	010401212	**	Plug, Hex Head M12 x 1.25`	-
11	025100012	**	Gasket	-
**As required.				

Oil Fill



KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	165996420	1	Gasket	-
2	110766210	1	Housing	-
3	052100400	1	O-Ring	-
4	198436010	1	Cap	-
5	190196340	1	Decal	-
6	12-00047	1	Capscrew, Hex Head M8 x 1.25 x 100 mm	-

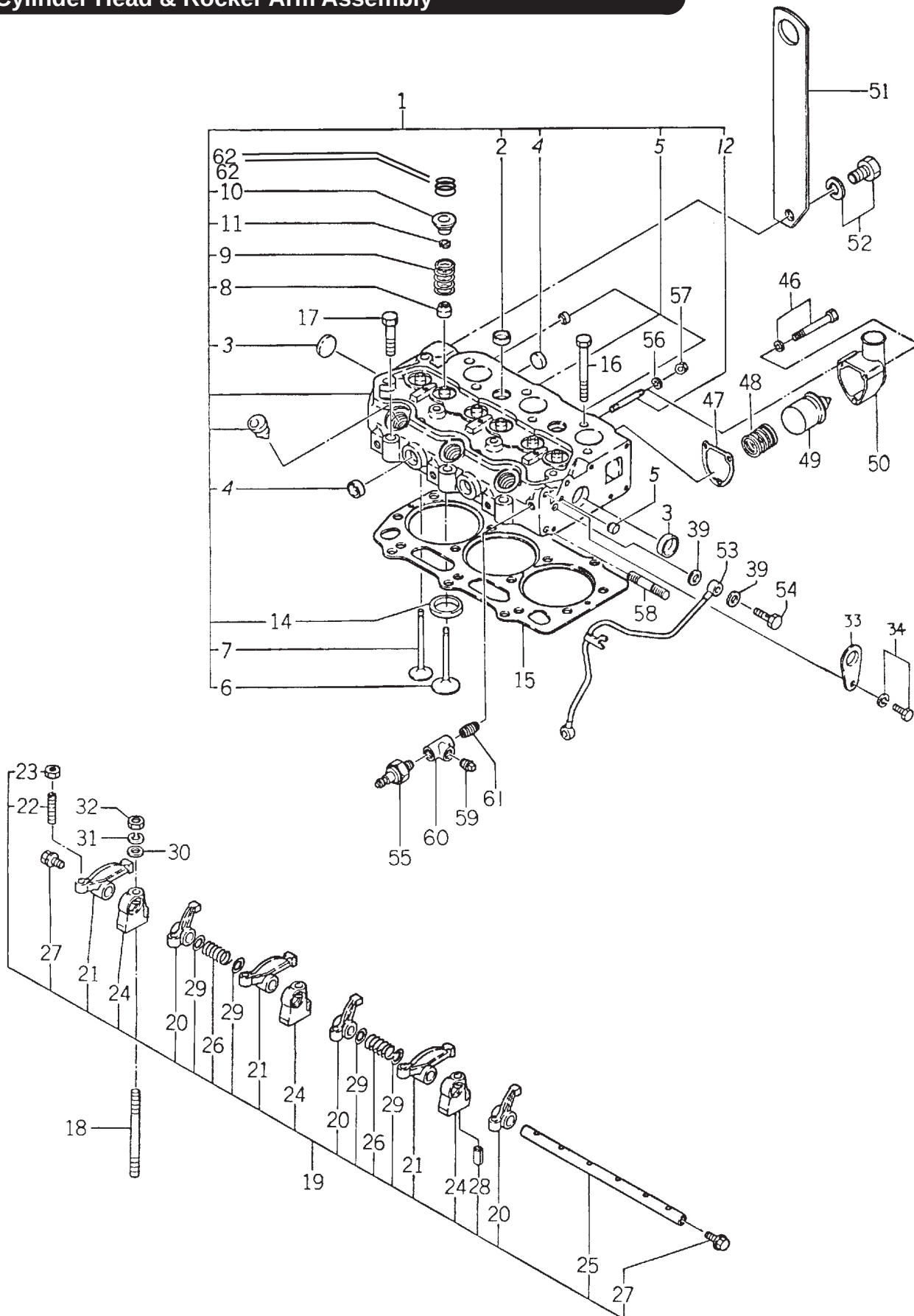
Crankshaft, Pistons & Camshaft



Crankshaft, Pistons & Camshaft

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	115256570	1	Crankshaft (includes keys #2 - #3 & #32)	-
2	115276210	1	Gear	-
3	034100508	1	Key	-
5	110156220	1	Bearing Holder Assembly (includes keys #6 - #7)	-
6	010810840	6	Bolt	-
7	030500612	6	Dowel Pin	-
8	110156230	1	Bearing Holder Assembly (includes keys #6 - #7)	-
9	110156240	1	Bearing Holder Assembly (includes keys #6 - #7)	-
10	198517330	2	Main Bearing; standard	-
	198517334	2	Main Bearing; undersize 0.25 mm	-
	198517337	2	Main Bearing; undersize 0.50 mm	-
11	198517340	2	Main Bearing; standard	-
	198517344	2	Main Bearing; undersize 0.25 mm	-
	198517347	2	Main Bearing; undersize 0.50 mm	-
12	198517101	1	Main Bearing; standard	-
	198517105	1	Main Bearing; undersize 0.25 mm	-
	198517108	1	Main Bearing; undersize 0.50 mm	-
13	198517111	1	Main Bearing; standard (formerly #198517110)	-
	198517115	1	Main Bearing; undersize 0.25 mm (formerly #198517114)	-
	198517118	1	Main Bearing; undersize 0.50 mm (formerly #198517117)	-
14	011311850	2	Bolt	-
15	010700845	3	Bolt	-
16	115016670	3	Piston, standard	-
	115016674	3	Piston; oversize 0.50 mm	-
	115016677	3	Piston; oversize 1.00 mm } (includes key 17)	-
17	115107260	3	Ring Kit; standard	-
	115107263	3	Ring Kit; oversize 0.50 mm	-
	115107265	3	Ring Kit; oversize 1.00 mm	-
18	115326260	3	Piston Pin	-
19	036500019	6	Snap Ring	-
20	115026240	3	Connecting Rod Assembly (includes keys #21 - #23)	-
21	198517325	3	Bushing	-
22	115176130	6	Connecting Rod Bolt	-
23	020109103	6	Nut	-
24	198517311	6	Rod Bearing; standard (formerly #198517310)	-
	198517315	6	Rod Bearing; undersize 0.25 mm (formerly #198517314)	-
	198517318	6	Rod Bearing; undersize 0.50 mm (formerly #198517317)	-
25	115356930	1	Flywheel Assembly (includes key #26)	-
26	115376040	1	Ring Gear	-
27	010109330	4	Bolt	-
28	020800018	1	Nut	-
29	115396780	1	Crankshaft Pulley	-
30	40-02002	1	Drive Belt (formerly #080109035 & 080109048)	-
31	026200018	1	Washer	-
32	034100508	1	Key	-
33	012111025	4	Stud	-
34	120026172	1	Camshaft Assembly (includes keys #6 & #35 - #38. Formerly #120026170 and #120026171, New tappets required - see cylinder block detail.)	-
35	120016060	1	Camgear	-
36	034100508	1	Key	-
37	120736081	1	Gear	-
38	199261230	3	Spacer	-
39	040109048	1	Bearing	-
40	125256120	1	Slider	-
41	199566651	1	Plate	-
42	011310612	1	Bolt	-
43	010700610	1	Bolt	-

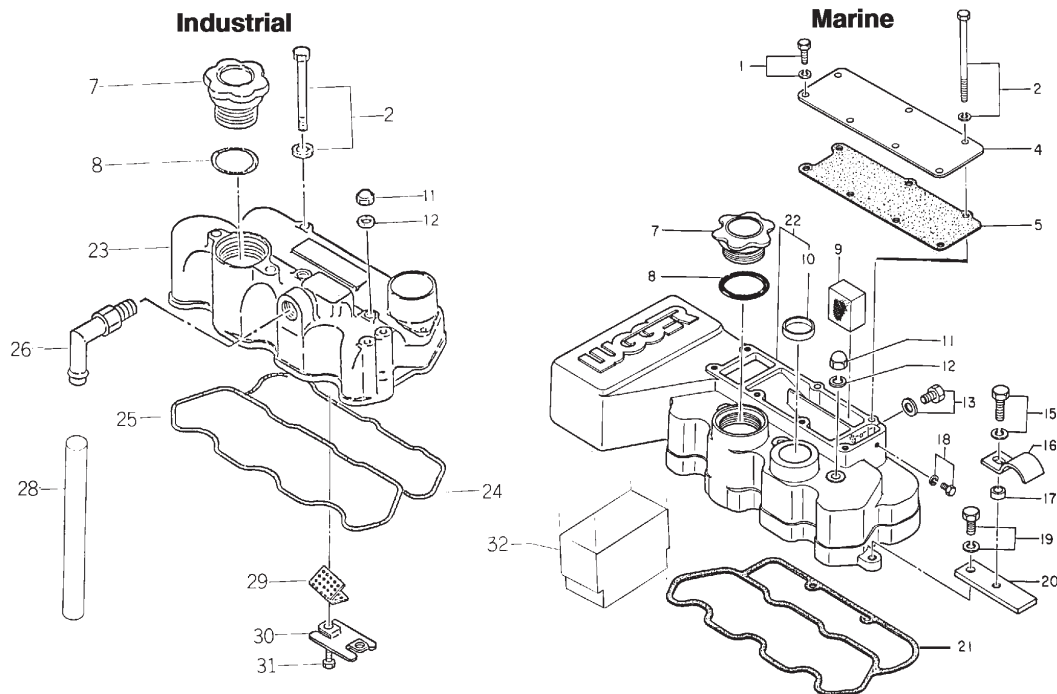
Cylinder Head & Rocker Arm Assembly



Cylinder Head & Rocker Arm Assembly

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	111016950	1	Cylinder Head Assembly (replaced by #111016951)	-
	111016951	1	Cylinder Head Assembly (includes Keys #2, #4 - #14)	-
2	064200018	2	Expansion Plug, 18 mm	-
3	064200025	2	Expansion Tank, 25 mm	-
4	064200022	6	Expansion Plug, 22 mm	-
5	198466070	4	Plug	-
6	120166280	3	Intake Valve	-
7	120176290	3	Exhaust Valve	-
8	120406080	6	Valve Guide Seal	-
9	198217070	6	Spring	-
10	120186100	6	Retainer	-
11	120226080	12	Valve Keeper	-
12	012100650	1	Stud M6 x 1.0 x 50 mm	-
14	110136290	3	Intake Valve Seat	-
15	111147530	1	Head Gasket, thickness = 1.1 mm (formerly #111147090)	-
	111147100	1	Head Gasket, thickness = 1.2 mm	-
	111147110	1	Head Gasket, thickness = 1.3 mm	-
16	111136460	11	Head Bolt (10 mm Hex. Formerly #111136340)	-
	111136340	11	Head Bolt (12 mm Hex)	-
17	111136470	3	Head Bolt (10 mm Hex. Formerly #111136350)	-
	111136350	3	Head Bolt (12 mm Hex)	-
18	012109177	3	Stud M8 x 1.25 x 75 mm	-
19	120036330	1	Rocker Arm Assembly (replaced by #120036700 and Cap #62)	-
	120036700	1	Rocker Arm Assembly – Late Production (includes Keys #20 - #32. Requires Valve Cap #62)	-
20	120356110	3	Rocker Arm, intake with swivel tip - Early Production	-
	120356200	3	Rocker Arm, intake - Late Production (requires Valve Cap #62)	-
21	120356120	3	Rocker Arm, exhaust with swivel tip - Early Production	-
	120356210	3	Rocker Arm, exhaust - Late Production (requires Valve Cap #62)	-
22	199486220	6	Adjusting Screw	-
23	020109076	6	Nut	-
24	120346170	3	Rocker Arm Stand	-
25	120316190	1	Rocker Arm Shaft	-
26	198217080	2	Spring	-
27	064609006	2	Plug	-
28	030300325	1	Spring Pin	-
29	199280280	4	Shim	-
30	026100008	3	Washer	-
31	027100008	3	Spring Washer	-
32	020100008	3	Nut	-
33	195816030	1	Lifting Eye	-
34	011310816	1	Bolt	-
39	198996060	7	Gasket	-
46	011300650	4	Bolt	-
47	145996440	1	Gasket (Industrial only)	-
48	198217410	1	Spring (formerly #198217090)	-
49	145206062	1	Thermostat (former #145206061)	-
50	145216171	1	Thermostat Cover (Industrial only. Formerly #145216170)	-
51	195816390	1	Lifting Eye (Industrial only)	-
52	011310816	1	Bolt (Industrial only)	-
53	140606680	1	Oil Pipe	-
54	198486780	2	Bolt	-
55	185246011	1	Oil Pressure Switch	-
56	027100006	1	Spring Washer	-
57	020100006	1	Nut	-
58	012100830	1	Stud M8 x 1.25 x 30 mm	-
59	21-00139	1	Adapter 1/8 BSPT x 1/8 NPT (with oil pressure sender)	-
	084500010	1	Plug 1/8 BSPT (without oil pressure sender)	-
60	198486720	1	Female Tee, 1/8 BSPT	-
61	198486380	1	Hex Nipple, 1/8 BSPT	-
62	120216130	6	Valve Cap - Late Production	-

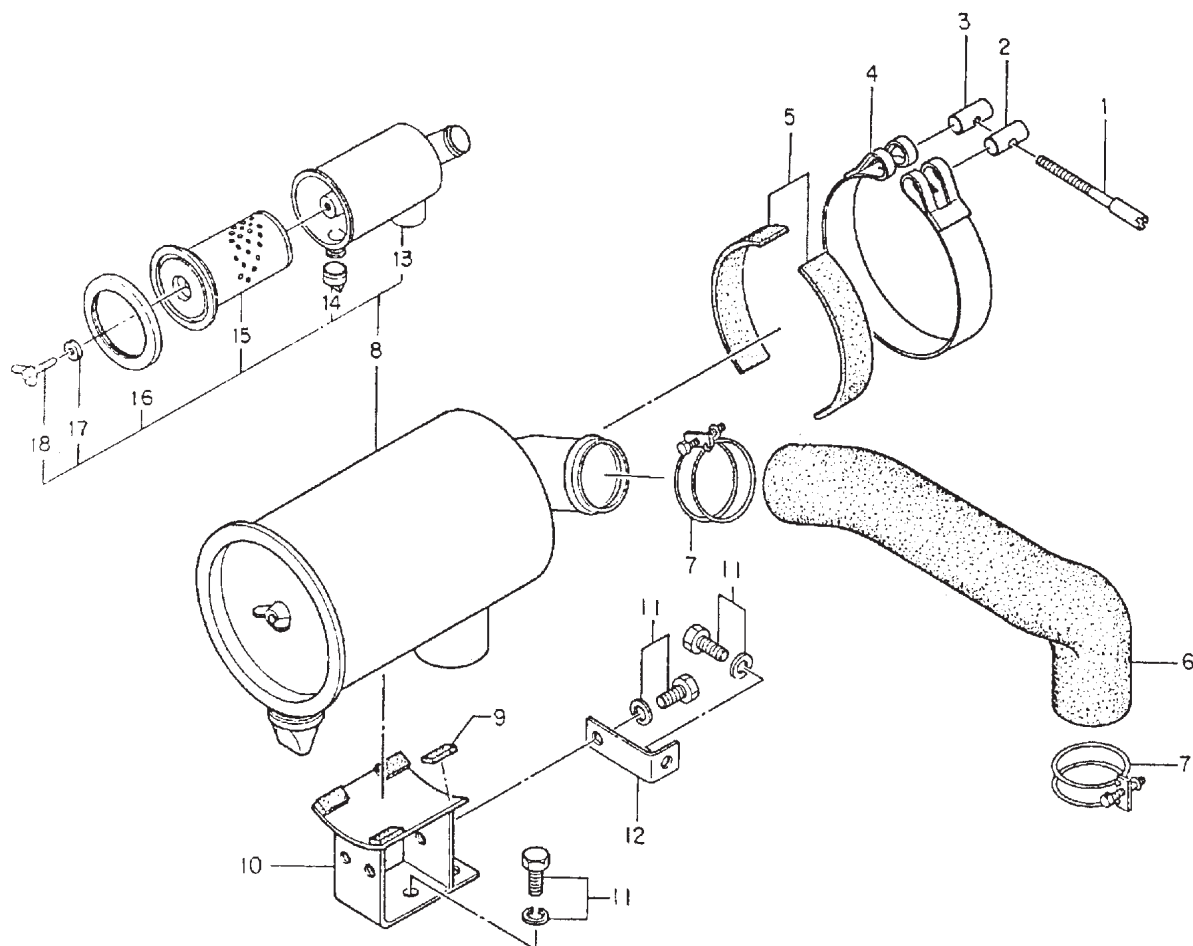
Rocker Arm Cover / Air Intake



KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	011300812	5	Bolt	-
2	010110690	2	Bolt	-
4	135176030	1	Plate	-
5	135996560	1	Gasket	-
7	198436010	1	Cap	-
8	052100400	1	O-Ring	-
9	110666090	2	Filter	-
10	064200030	1	Plug	-
11	024500008	3	Nut	-
12	198996060	3	Gasket	-
13	010100806	1	Bolt	-
14	011300825	1	Bolt	-
15	011300825	1	Bolt*	-
16	399112050	1	Clamp*	-
17	399233250	1	Collar*	-
18	010100506	1	Bolt (not required after S/N)*	Up to xxxx-7268
19	011310816	1	Bolt*	-
20	199566740	1	Plate*	-
21	111996340	1	Gasket (Marine)	-
22	111206270	1	Rocker Arm Cover/Air Intake (Marine)	-
23	111216610	1	Rocker Arm Cover (Industrial)	-
24	111996330	1	Gasket (Industrial)	-
25	111996060	1	Gasket	-
26	110986500	1	Pipe	-
28	068122560	1	Vinyl Tube	-
29	110666120	1	Filter	-
30	110666110	1	Oil Stopper	-
31	011140612	2	Bolt	-
32	24-28300	1	Air Filter	-
*Used as required.				

Air Filter

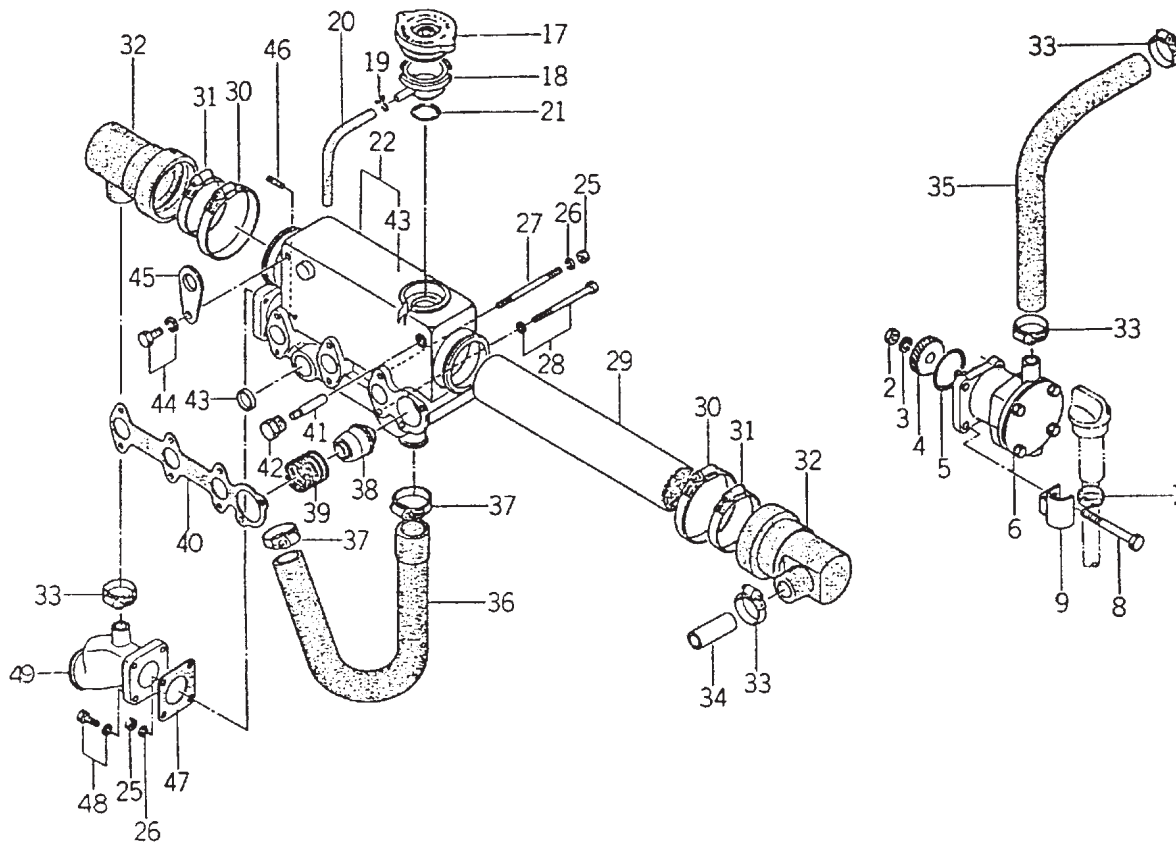
Industrial Application



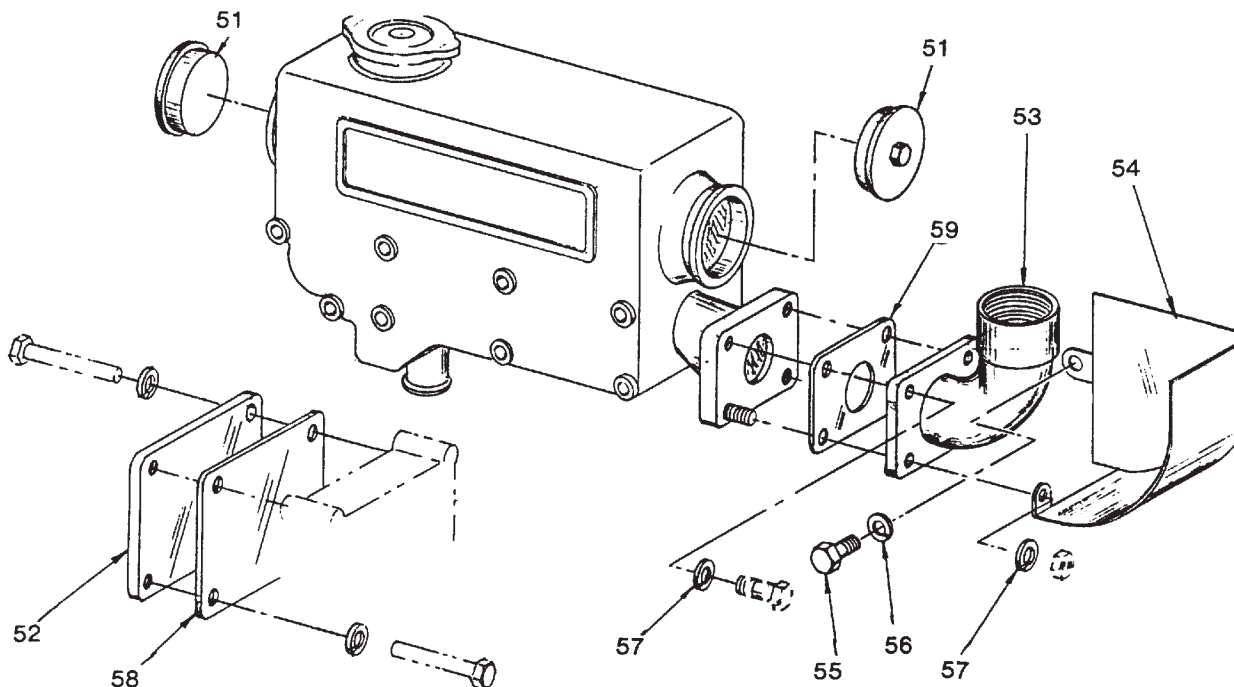
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	399480070	1	Screw	-
2	399610100	1	Pin	-
3	399610110	1	Pin	-
4	314630030	1	Clamp	-
5	398113190	2	Rubber	-
6	135596620	1	Air Intake Hose	-
7	067100056	2	Hose Clamp	-
8	135016190	1	Air Filter Assembly	-
9	398113270	4	Rubber	-
10	135976250	1	Bracket	-
11	011300815	5	Bolt	-
12	135176040	1	Plate	-
13	135156100	1	Filter Housing	-
14	408620004	1	Valve	-
15	408620002	1	Element	-
16	408620005	1	Packing	-
17	408620006	1	Packing	-
18	014100620	1	Wing Bolt	-

Exhaust Manifold & Heat Exchanger

Marine Application



Dry Exhaust Elbow (Keel Cooled Units)



A-3279/C-1997

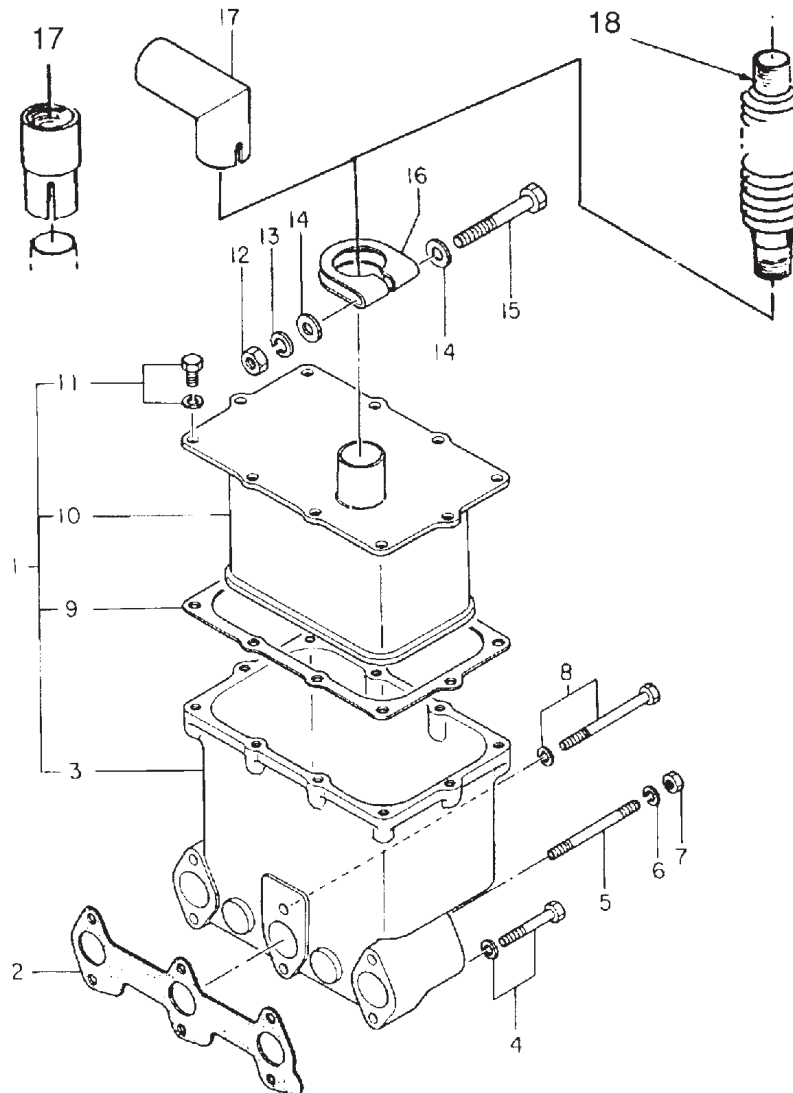
Exhaust Manifold and Cooling System

Marine Application

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
2	020100008	1	Nut	-
3	027100008	1	Spring Washer	-
4	340460170	1	Gear	-
5	052400400	1	O-Ring	-
6	145016820	1	Raw Water Pump - see parts detail (replaced by 25-12007)	Up to xxxx-5925
	25-18305	1	Raw Water Pump - see parts detail (replaced by 25-12007)	Up to xxxx-5926
	25-12007	1	Raw Water Pump - see parts detail	From xxxx-
7	19-00010	1	Hose Clamp #10	-
8	12-00717	3	Capscrew, Hex Head M8 x 1.25 x 60 mm	-
	12-00701	1	Capscrew, Hex Head M8 x 1.25 x 110 mm	-
9	140976040	1	Bracket	-
17	21-12007	1	Filler Cap (formerly #310110090)	-
18	145546430	1	Filler Neck	-
19	199116080	1	Clamp	-
20	068116400	1	Overflow Tube	-
21	052400280	1	O-Ring	-
22	135606160	1	Exhaust Manifold	-
25	14-01131	4	Nut M6 x 1.0	-
26	15-01132	4	Spring Washer M6	-
27	012110690	3	Stud Bolt	-
28	010110690	5	Bolt	-
29	20-12003	1	Heat Exchanger Element (formerly #145506260)	-
30	19-00040	2	Hose Clamp #40	-
31	19-00036	2	Hose Clamp #36	-
32	145536440	2	Joint	-
33	19-00012	5	Hose Clamp #12	-
34	145986170	1	Pipe	-
35	145536461	1	Hose (formerly #145536460)	-
36	145536450	1	Hose	-
37	19-00016	2	Hose Clamp #16	-
38	145206062	1	Thermostat (formerly #145206061)	-
39	198217410	1	Spring (formerly #198217090)	-
40	135996730	1	Gasket (formerly #135996570)	-
41			Zinc Anode (no longer required)	-
42	198436200	1	Plug	-
43	064200022	1	Plug	-
44	011310816	1	Bolt	-
45	195816340	1	Lifting Eye	-
46	012100618	1	Stud	-
47	135996550	1	Gasket	-
48	011300620	3	Bolt w/washer M6 x 1.0 x 20 mm	-
49	135616570	1	Wet Exhaust Elbow	-
50	00-08301	1	Decal "Northern Lights"	-
51	10-18301	2	End Cap, Expansion Tank	-
52	28-18300	1	Plate, Raw Water Pump Cover	-
53	27-38300	1	Dry Exhaust Elbow 1-1/4	-
54	00-38301	1	Heat Shield	-
55	12-00751	1	Cap Screw Hex Head M8 x 1.25 x 15 mm	-
56	15-00702	1	Lock Washer M8	-
57	15-01132	4	Lock Washer M6	-
58	11-78301	1	Gasket, Cover Plate	-
59	135996550	1	Gasket, Exhaust Elbow	-

Muffler

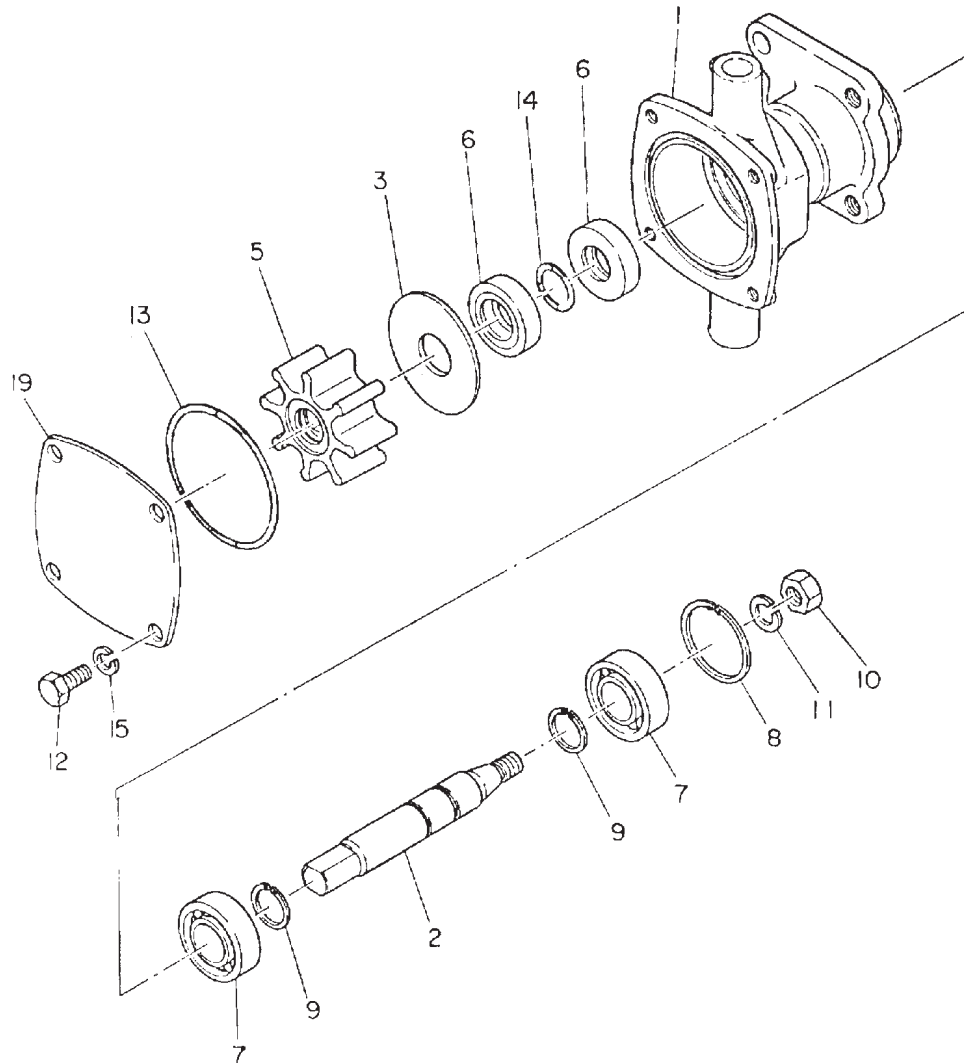
Industrial Application



KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	135046100	1	Muffler Assembly (includes keys #3, #9, #10, #11)	-
2	135996520	1	Gasket	-
3	135616551	1	Exhaust Manifold	-
4	011310640	3	Bolt	-
5	012110670	2	Stud	-
6	027100006	2	Spring Washer	-
7	020100006	2	Nut	-
8	011310670	1	Bolt	-
9	135996900	1	Gasket (formerly #135996530)	-
10	135406170	1	Muffler	-
11	011300612	10	Bolt	-
12	020100008	1	Nut	-
13	027100008	1	Spring Washer	-
14	026100008	2	Washer	-
15	010110860	1	Bolt	-
16	408330010	1	Clamp	-
17	135606150	1	Exhaust Adapter, 90°	-
	31-38300	1	Exhaust Adapter, straight 1-1/4 NPT	-
18	27-38302	1	Stainless Steel Exhaust Flex 1-1/4 NPT x 18"	-

Raw Water Pump

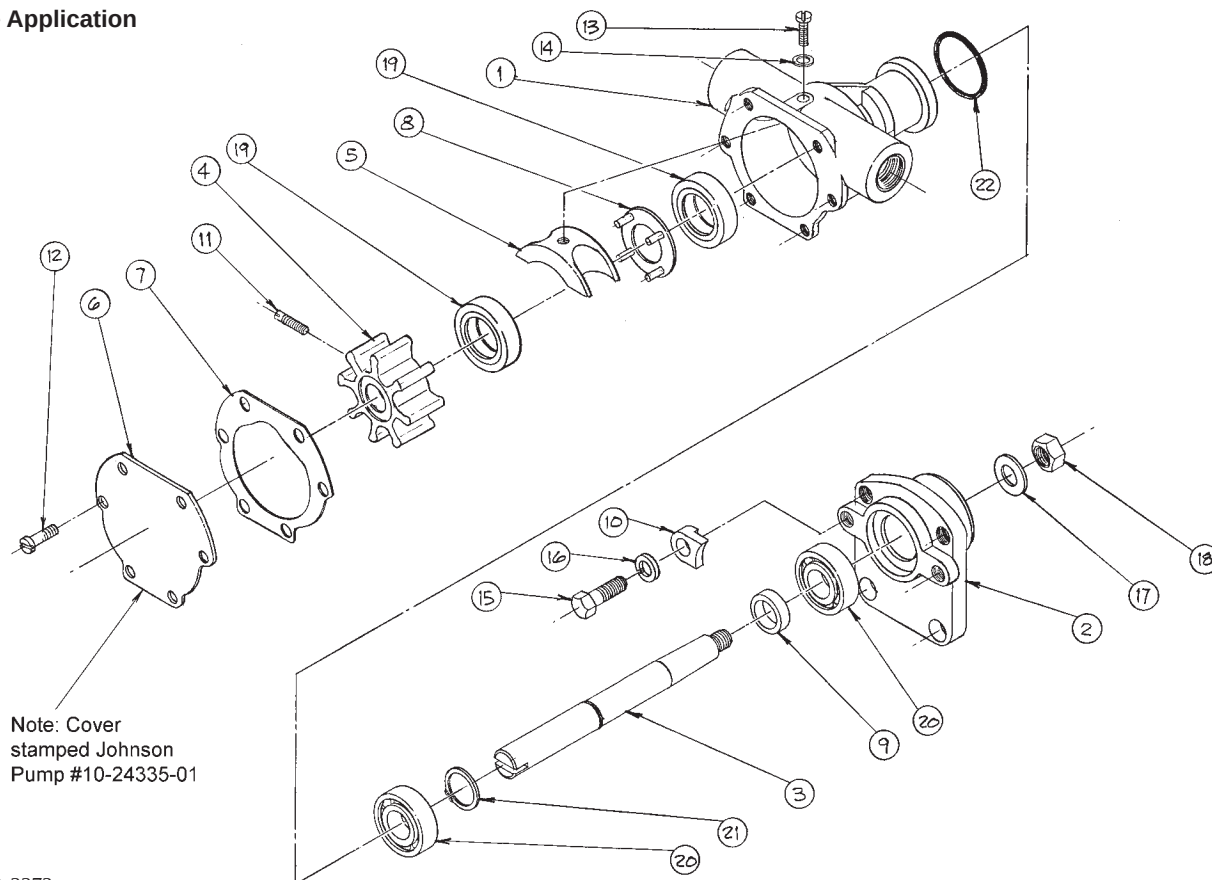
Marine Application



KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	145016820	1	Raw Water Pump (includes all keys)	Up to S/N xxxx-5925
••	25-18300	1	Repair Kit for 145016820 (includes keys #2, #3, #5 - #7, #13, #14, #19)	-
1	145136260	1	Housing	-
2	145626050	1	Shaft	-
3	145146280	1	Wear Plate	-
5	145116180	1	Impeller	-
6	198636200	2	Seal	-
7	040146002	2	Bearing	-
8	036500032	1	Snap Ring	-
9	036100015	2	Snap Ring	-
10	14-00711	1	Nut M8 x 1.25	-
11	15-00702	1	Lock Washer M8	-
12	12-00029	4	Capcrew, Hex Head M6 x 1.0 x 10 mm	-
13	052400550	1	O-Ring	-
14	052100140	1	O-Ring	-
15	15-00610	1	Lock Washer M6	-
19	165206380	1	Cover	-

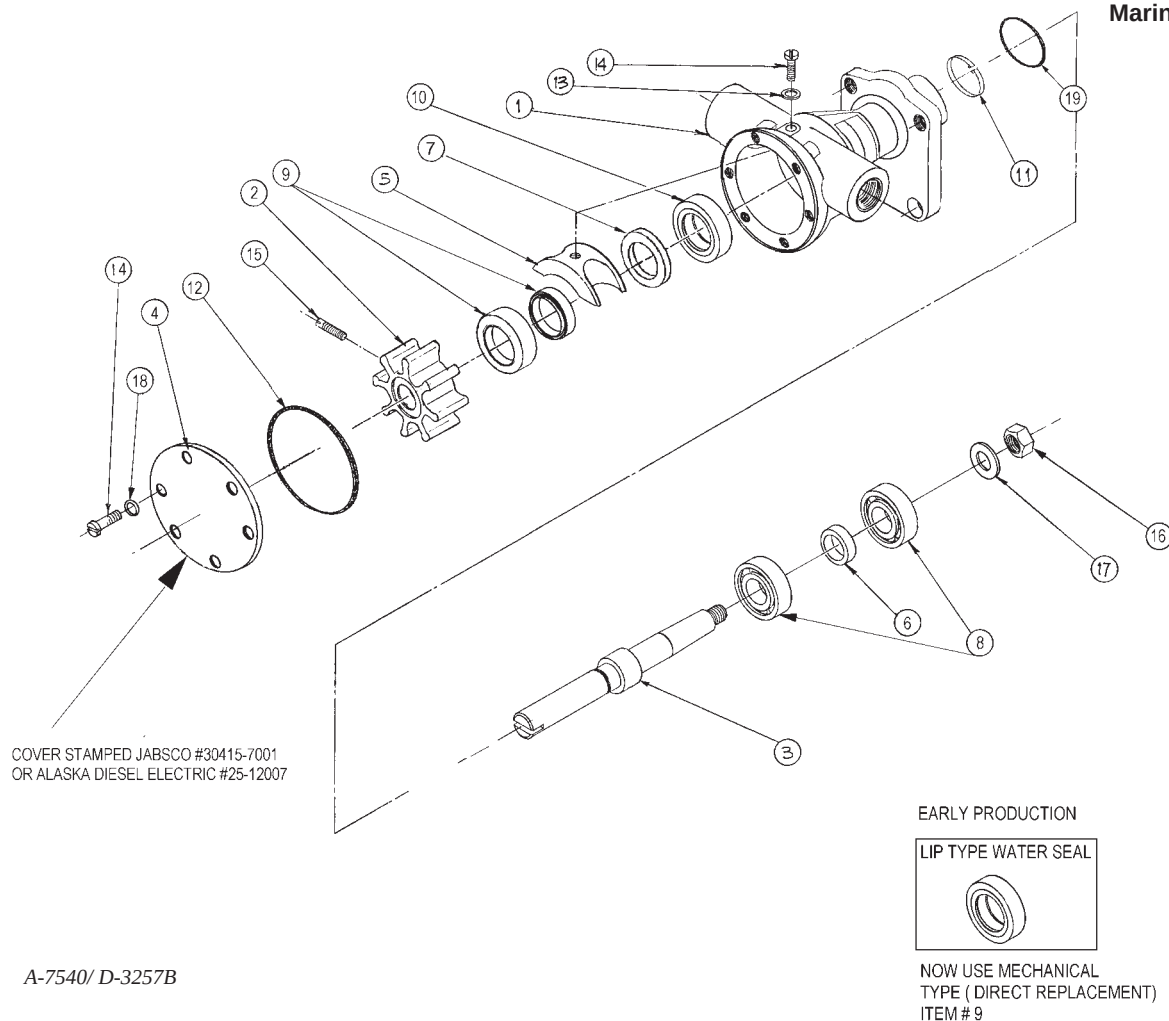
Raw Water Pump

Marine Application



A-3693/D-2273

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	25-18305	1	Raw Water Pump (includes keys #1 - 22)	Up to S/N xxxx- 18324
••	25-18306	1	Repair Kit for 25-18305 (includes keys #3, 6, 7, 11, 19, & 20)	-
1	25-18328	1	Housing	-
2	25-18327	1	Flange	-
3	25-18326	1	Shaft	-
4	25-18325	1	Impeller	-
5	25-18324	1	Cam	-
6	25-18323	1	End Cover	-
7	25-18322	1	Gasket	-
8	25-18321	1	Washer	-
9	25-18320	1	Spacer	-
10	25-18319	2	Clamp	-
11	25-18318	1	Screw	-
12	25-18317	6	Screw M4 x 0.7 x 8 mm	-
13	25-18316	1	Screw	-
14	25-18315	1	Washer	-
15	12-00712	2	Capscrew, Hex Head M8 x 1.25 x 25 mm	-
16	15-00702	2	Lock Washer M8	-
17	15-00701	1	Flat Washer M8	-
18	14-00711	1	Hex Nut M8 x 1.25	-
19	25-18310	2	Lip Seal	-
20	25-18309	2	Ball Bearing	-
21	25-18308	1	Retaining Ring	-
22	25-18307	1	O-Ring	-
23	21-18301	2	Male Connection, Brass 3/8 NPT x 3/4HB	-

Raw Water Pump**Marine Application**

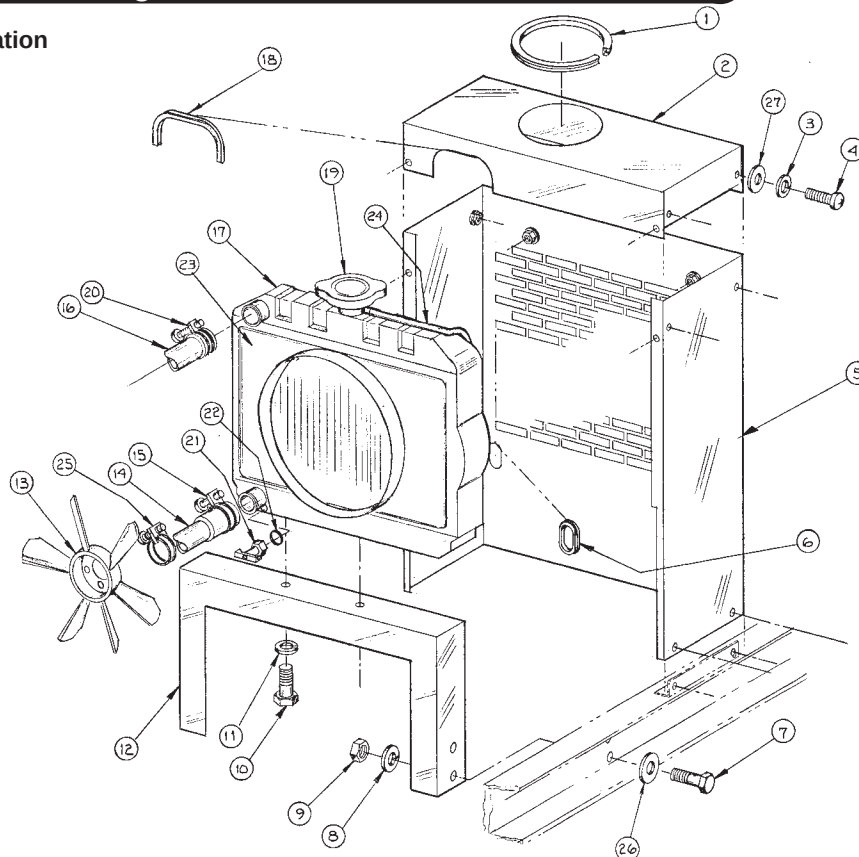
A-7540/ D-3257B

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	25-12007	1	Raw Water Pump (includes all keys, replaces 145016820 & 25-18305)	from S/N xxxx-18325
1	25-12008	1	Housing	-
2	25-12009	1	Impeller (includes keys #12 & #15)	-
3	25-12011	1	Shaft	-
4	25-12013	1	End Cover	-
5	25-12023	1	Cam	-
6	25-12024	1	Spacer	-
7	25-12026	1	Spacer	-
8	25-12027	2	Bearing	-
9	25-12066	1	Mechanical Seal	-
10	25-12028	1	Seal, Lip type	-
11	25-12029	1	Snap Ring	-
12	25-12031	1	O-Ring	-
13	25-12032	1	O-Ring	-
14	25-12033	7	Capscrew, Hex Head x 0.7 x 10 mm s/s	-
15			Set Screw #10-32 x 1" (included in impeller kit)*	-
16	14-00711	1	Hex Nut M8 x 1.25	-
17	15-00702	1	Lock Washer, Helical M8	-
18	15-00023	6	Lock Washer, Helical M4	-
19	052400400	1	O-ring (for pump mounting)	-

* Not Available Separately

Radiator and Mounting

Industrial Application

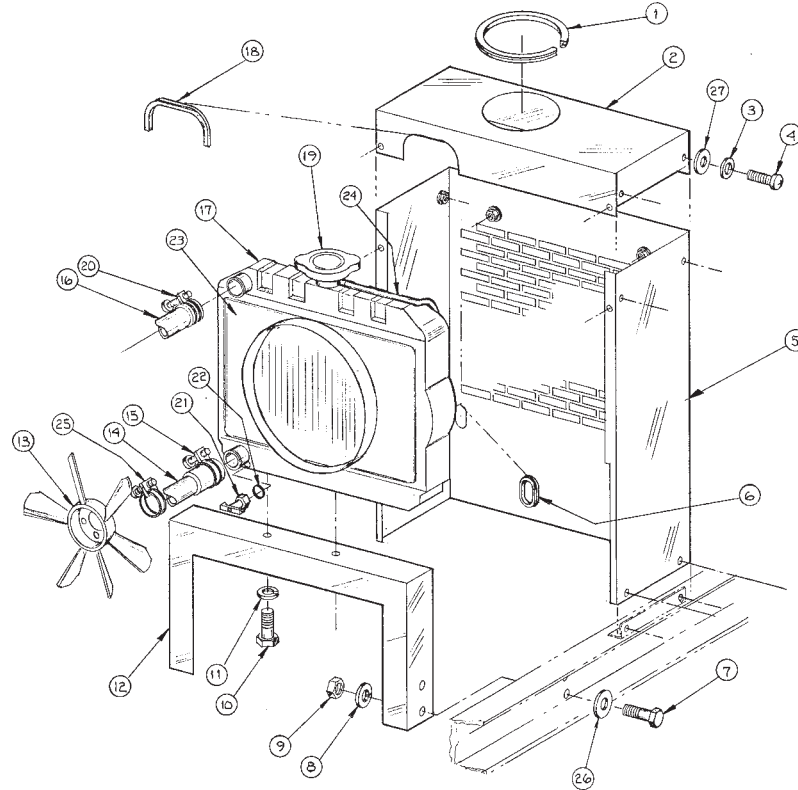


A-3207/C-1930

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	00-18302	1	Grommet	up to S/N xxxx-12696
2	39-18302	1	Shroud Cover	-
3	15-01132	10	Lock Washer M6	-
4	12-00097	10	Cap screw, Hex Head, M6 x 1.0 x 12 mm	-
5	39-18301	1	Radiator Shroud	-
6	00-18303	1	Grommet	-
7	12-00711	4	Cap Screw, Hex Head M8 x 1.25 x 20 mm	-
8	15-00702	4	Lock Washer, M8	-
9	14-00009	4	Nut M8 x 1.25	-
10	12-00835	2	Cap Screw, Hex Head M10 x 1.25 x 25 mm	-
11	15-00802	2	Lock Washer, M10	-
12	23-18301	1	Bracket, Radiator Support	-
13	145306600	1	Fan	-
14	408160010	1	Hose, Radiator Outlet	-
15	19-00020	1	Hose Clamp #20	-
16	408160020	1	Hose, Radiator Inlet	-
17	145506270	1	Radiator Assembly (includes Keys #19, #21 - #22 & #24)	-
18	00-18304	1	Grommet	-
19	145546060	1	Radiator Cap	-
20	19-00012	2	Hose Clamp #12	-
21	408130010	1	Drain Cock	-
22	052100070	1	O-Ring	-
23	145546440	1	Fan Shroud	-
24	408120010	1	Overflow Hose	-
25	067100036	1	Hose Clamp	-
26	15-00701	4	Flat Washer M8	-
27	15-00008	10	Flat Washer M6	-

Radiator and Mounting

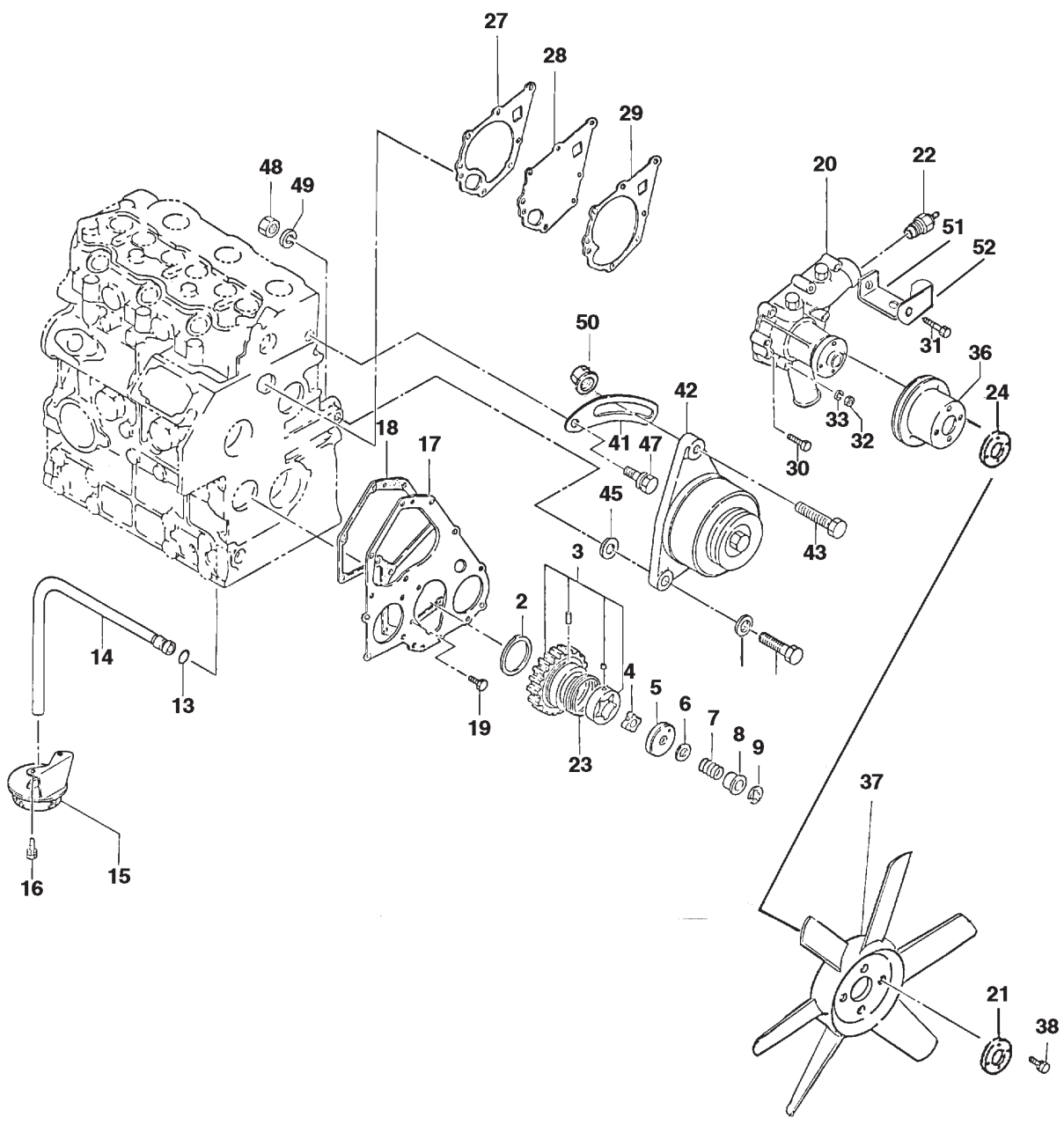
Industrial Application



A-6671/C-1930

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	00-18302	1	Grommet	From S/N xxxx-12697
2	39-18302	1	Shroud Cover	-
3	15-01132	10	Lock Washer M6	-
4	12-00097	10	Cap screw, Hex Head, M6 x 1.0 x 12 mm	-
5	39-18301	1	Radiator Shroud	-
6	00-18303	1	Grommet	-
7	12-00711	4	Cap Screw, Hex Head M8 x 1.25 x 20 mm	-
8	15-00702	4	Lock Washer, M8	-
9	14-00009	4	Nut M8 x 1.25	-
10	12-00835	2	Cap Screw, Hex Head M10 x 1.25 x 25 mm	-
11	15-00802	2	Lock Washer, M10	-
12	23-18301	1	Bracket, Radiator Support	-
13	145306600	1	Fan, Blower	-
14	145536520	1	Hose, Radiator Outlet	-
15	19-00016	1	Hose Clamp #16	-
16	145536510	1	Hose, Radiator Inlet	-
17	145506280	1	Radiator Assembly (includes Keys #19 & #21 - #24)	-
18	00-18304	1	Grommet	-
19	145546060	1	Radiator Cap	-
20	19-00020	2	Hose Clamp #20	-
21	408130010	1	Drain Cock	-
22	052100070	1	O-Ring	-
23	145546450	1	Fan Shroud with Guard	-
24	408120010	1	Overflow Hose	-
25	19-00012	2	Hose Clamp #12	-
26	15-00701	4	Flat Washer M8	-
27	15-00008	10	Flat Washer M6	-
28	145386920	1	Fan Spacer (for Fan Installation - not shown)	-
29	011310635	4	Capscrew, Hex Head M6 x 1.0 x 35 mm (for Fan Installation - not shown)	-

Oil Pump, Coolant Pump & Alternator



Oil Pump, Coolant Pump & Alternator

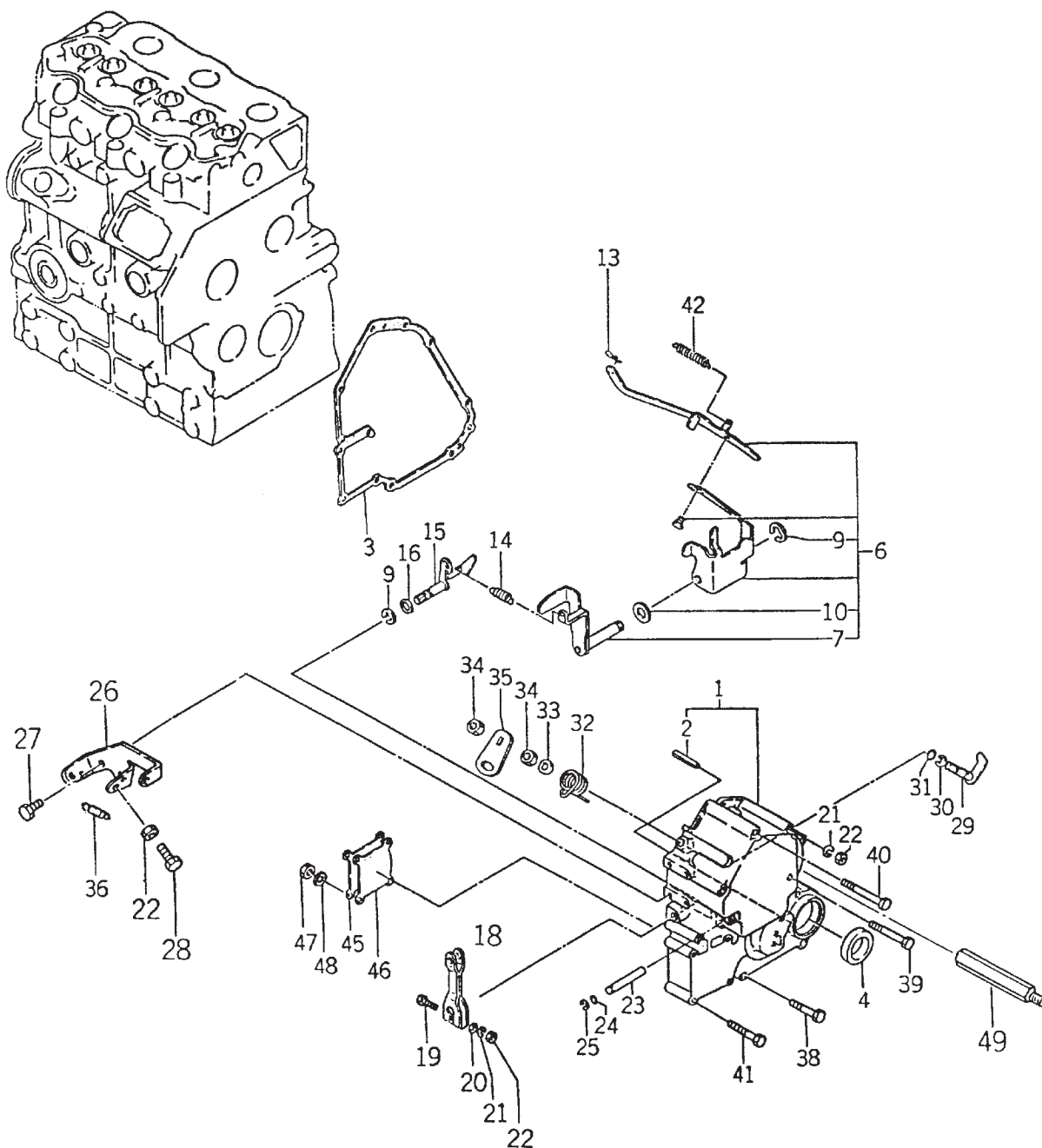
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
2	199266180	1	Thrust Washer	-
3	165026110	1	Idle Gear Assembly	-
4	140166130	1	Rotor	-
5	140116140	1	Oil Pump Cover	-
6	199286150	**	Shim: Thickness = 0.10 mm	-
	199286160	**	Shim: Thickness = 0.15 mm	-
	199286170	**	Shim: Thickness = 0.20 mm	-
	199286180	**	Shim: Thickness = 0.50 mm	-
7	199216720	1	Spring	-
8	199236540	1	Collar	-
9	036800010	1	Snap Ring	-
13	052109076	1	O-Ring (formerly #052100110)	-
14	140986590	1	Oil Pipe	-
15	140406310	1	Suction Filter	-
16	011310612	2	Bolt	-
17	165166280	1	Front Plate	-
18	165996400	1	Gasket	-
19	011140612	3	Bolt	-
20	145016860	1	Coolant Pump Assembly - Marine (parts not available separately)	-
	1450016850	1	Coolant Pump Assembly - Industrial (parts not available separately)	-
21	145386520	1	Plate	up to S/N 12696
22	385720110	1	Temperature Switch 203°F (95°C) - Marine	-
	385720030	1	Temperature Switch 230°F (110°C)- Industrial	-
23	198216821	1	Spring	-
24	145386920	1	Fan Spacer	from S/N 12697
27	145996630	1	Gasket (formerly #145996420)	-
28	145146290	1	Backing Plate	-
29	145996640	1	Gasket (formerly #145996430)	-
30	011300635	3	Bolt	-
31	011300650	4	Capscrew, Hex Head with Washer M6 x 1.0 x 50 mm	-
32	020100006	1	Nut	-
33	027100006	**	Lock Washer M6	-
36	145336490	1	Fan Pulley	-
37	145306600	1	Cooling Fan - Industrial only	-
38	12-00062	4	Capscrew, Hex Head M6 x 1.0 x 10 mm - Marine	-
	011310614	4	Capscrew, Hex Head with Washer M6 x 1.0 x 14 mm - Industrial	up to S/N 12696
	011310635	4	Capscrew, Hex Head with Washer M6 x 1.0 x 35 mm - Industrial	from S/N 12697
41	185726460	1	Tension Bracket	-
42	185046210	1	Alternator Assembly (see detail in Electrical Section)	-
43	012810830	1	Capscrew, Hex Head M8 x 1.25 x 30 mm	-
44	026100008	1	Washer	-
45	026109011	1	Washer	-
46	010110850	1	Bolt	-
47	011310816	1	Bolt	-
48	020100008	1	Nut	-
49	027100008	1	Spring Washer	-
50	023100008	1	Hex Nut, Flanged M8 x 1.25	-
51	140976060	1	Bracket, Belt Guard Support (see Belt Guard detail)	-
52	199116080	1	Clamp	-
			**As required.	



General Arrangement

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	131017390	1	Injection Pump Assembly (see parts detail. Formerly #131017340)	-
2	131426300	1	Shim Set	-
	131437590	**	Shim 0.2 mm (formerly #131437240 & #131437310)*	-
	131437600	**	Shim 0.3 mm (formerly #131437242 & #131437320)*	-
	131437610	**	Shim 0.4 mm (formerly #131437244 & #131437330)*	-
	131437620	**	Shim 0.5 mm (formerly #131437246 & #131437340)*	-
	131437248	**	Adjusting Shim; 1.0 mm - NLA	-
3	020100006	4	Nut	-
4	027109010	2	Spring Washer	-
5	010109246	2	Bolt	-
6	198996090	3	Gasket	-
7	111316280	3	Insert	-
8	131426200	3	Gasket	-
9	131406350	3	Injector Assembly (see parts detail)	-
10	131606280	1	Return Line	-
14	131507010	1	Injection Line #1	-
15	131507020	1	Injection Line #2	-
16	131507030	1	Injection Line #3	-
17	199106020	4	Clamp Assembly	-
18	010100625	2	Bolt	-
19	020100006	2	Nut	-
20	027100006	2	Spring Washer	-
21	185366060	3	Glow Plug, 12 volt	-
22	185376170	1	Connector	-
23	130996070	1	Gasket	-
24	011140614	2	Bolt	-
25	130506140	1	Fuel Feed Pump Assembly (see parts detail)	-
26	131046160	1	Screw	-
28	025100010	2	Seal washer	-
29	023109002	1	Nut	-
30	010109271	1	Bolt (formerly #010109270)	-
32	185206082	1	Stop Solenoid, 12 volt	-
33	025100016	1	Seal washer	-
34	130516069	4	Gasket	-
35	130516092	2	Joint Bolt	-
36	198486840	1	Connector	-
*Superceded shims will be available until stock is depleted.				
**As required.				

Governor & Timing Gear Case

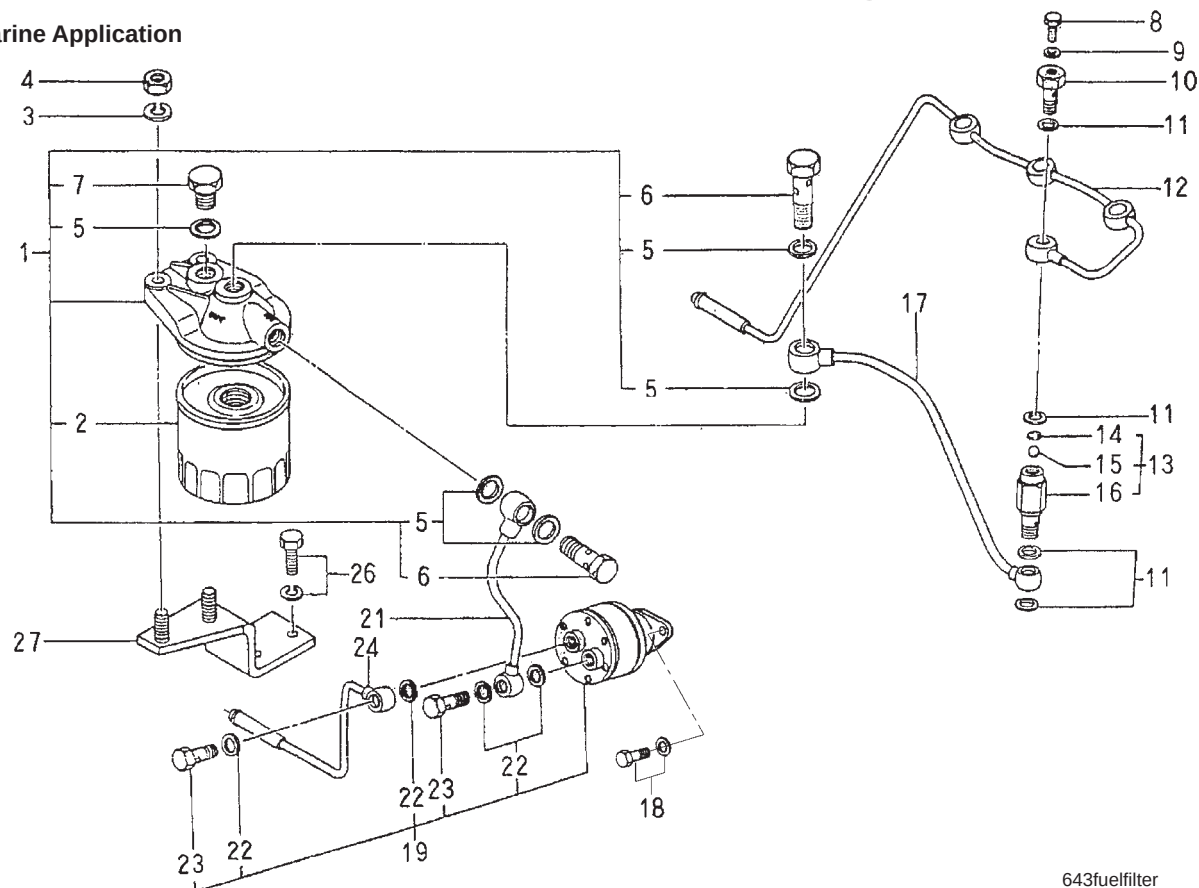


Governor & Timing Gear Case

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	165106140	1	Timing Gear Case - Industrial (includes key #2)	-
	165106150	1	Timing Gear Case - Marine (includes key #2)	-
2	030300414	1	Spring Pin	-
3	165996410	1	Gasket	-
4	198636090	1	Oil Seal	-
6	125046250	1	Governor Lever Assy. (includes keys #7, #9 & #10. formerly #125046140)	-
7	125406071	1	Tension Lever	-
9	036800008	2	Snap Ring	-
10	026200010	1	Washer	-
13	031100004	1	Snap Pin	-
14	198217040	1	Spring	-
15	125156250	1	Arm (formerly #125156170)	-
16	052100070	1	O-ring	-
18	124416020	1	Governor Lever	-
19	010100630	1	Bolt	-
20	026100006	1	Washer	-
21	027100006	2	Spring Washer	-
22	020100006	3	Nut	-
23	125116131	1	Shaft (formerly #125116130, single o-ring)	-
24	052100030	**	O-ring	-
25	036800025	1	Snap Ring	-
26	125976120	1	Stay	-
27	011140614	2	Bolt	-
28	012800640	1	Bolt (formerly #010109264)	-
29	125156180	1	Arm	-
30	036800006	1	Snap Ring	-
31	052100050	1	O-ring	-
32	198216760	1	Spring	-
33	026100008	1	Washer	-
34	020300008	2	Nut	-
35	125176180	1	Stop Lever (formerly #125176080)	-
36	398210070	1	Spring	-
38	011300640	4	Bolt	-
39	011300660	2	Bolt	-
40	011300680	2	Bolt	-
41	010100850	4	Bolt	-
42	198216731	1	Start Spring	-
45	165206370	1	Cover- Industrial	-
46	165996420	1	Gasket	-
47	020100008	4	Nut	-
48	027100008	4	Spring Washer	-
49	199436340	1	Capscrew, special (see Belt Guard detail)	-
			*As required	

Fuel Filter & Mounting

Marine Application

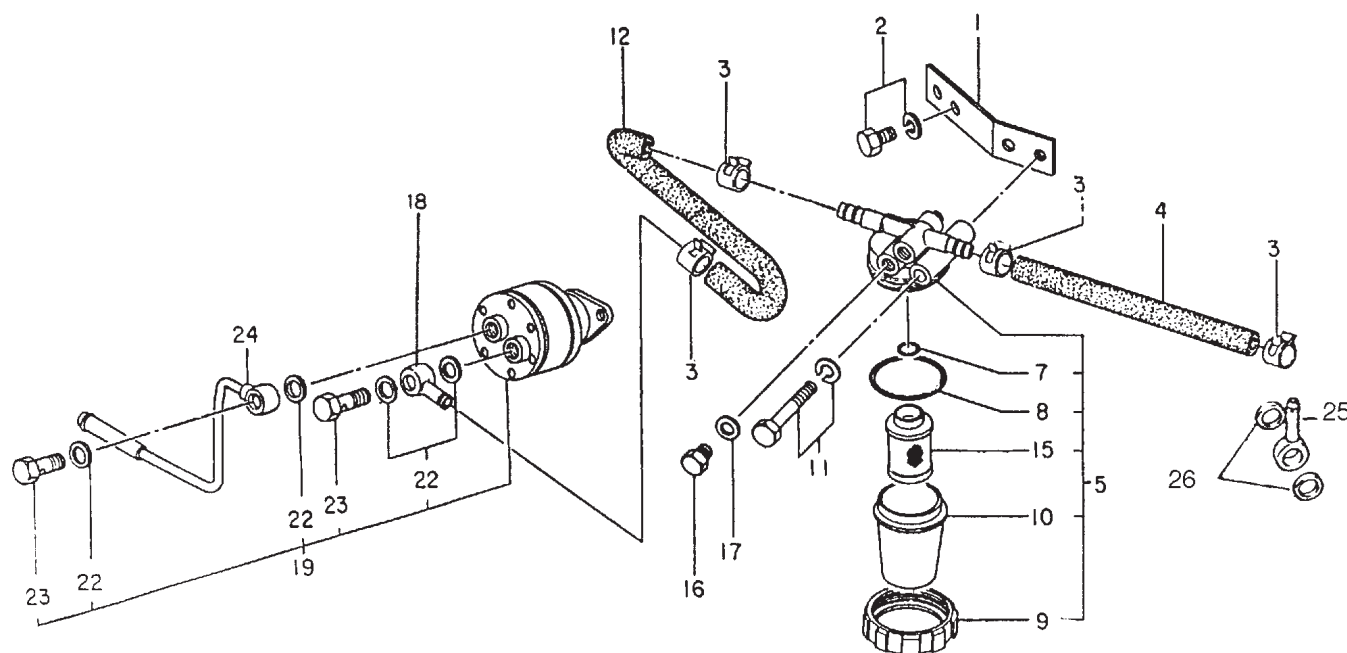


643fuelfilter

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	130306190	1	Fuel Filter Assembly (includes keys #1, 2, 5, 6, 7)	-
2	24-52020	1	Fuel Filter	-
3	027100008	2	Lock Washer M8	-
4	020100008	2	Nut	-
5	130326051	5	Gasket	-
6	130436011	2	Joint bolt	-
7	130396030	1	Plug	-
8	131236200	1	Screw	-
9	131426190	4	Washer	-
10	131236190	1	Bolt	-
11	131426180	4	Washer	-
12	131606280	1	Return Pipe	-
13	140036140	1	Valve Assembly (includes keys #14 - 16)	-
14	198116230	1	Rubber	-
15	048100010	1	Ball	-
16	198487001	1	Connector	-
17	130556340	1	Pipe	-
18	011140614	2	Bolt	-
19	130506140	1	Feed Pump (includes keys #22, 23 - see parts detail)	-
21	130556350	1	Pipe	-
22	130516069	4	Gasket	-
23	130516092	2	Joint Bolt	-
24	130556361	1	Pipe (formerly #130556361)	-
26	011300816	2	Bolt	-
27	131976040	1	Mounting Bracket	-

Fuel Filter & Mounting

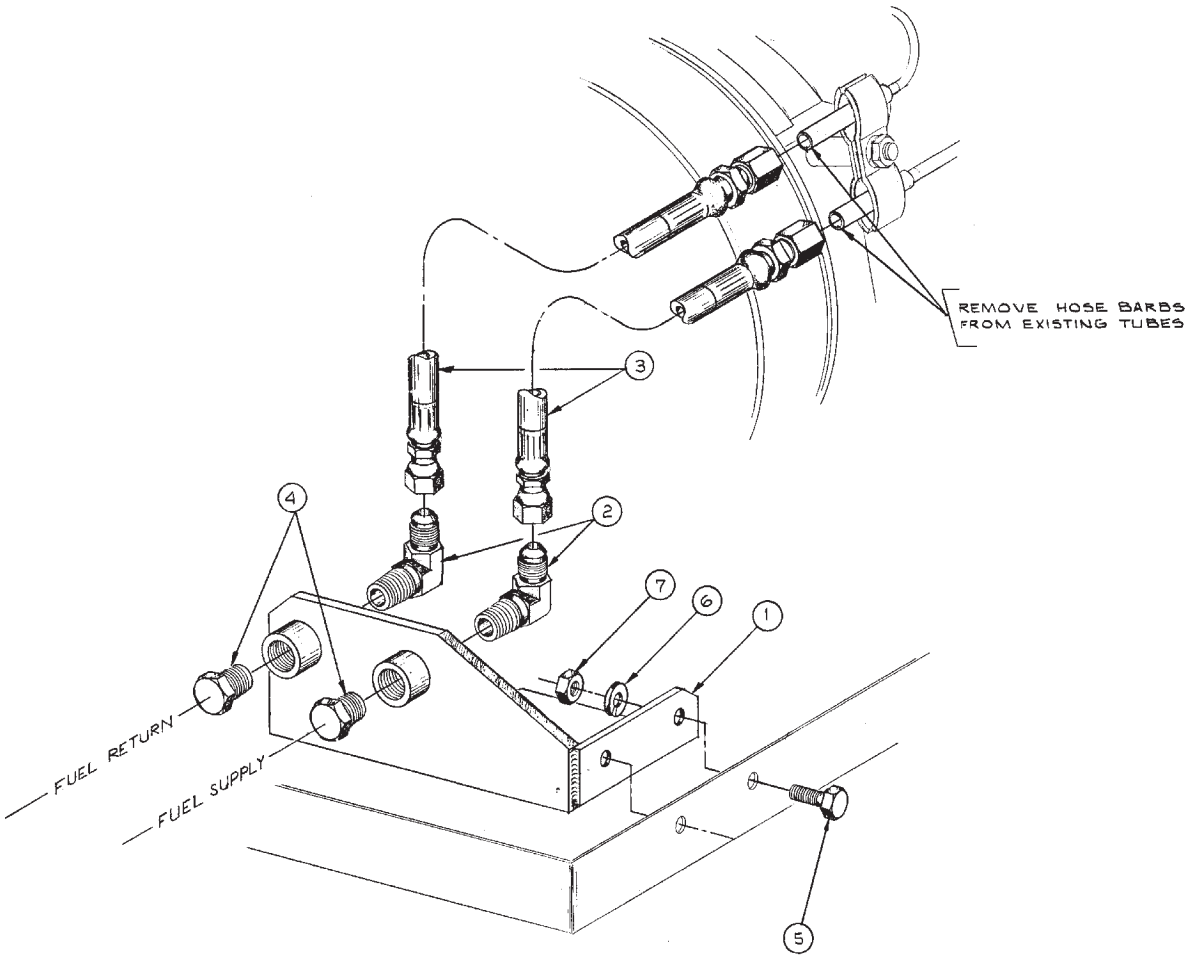
Industrial Application



KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	140976050	1	Bracket	-
2	011300815	2	Bolt	-
3	398750310	4	Hose Clamp	-
4	068209084	1	Hose	-
5	360700031	1	Fuel Filter (includes Keys #7 - #10, #15)	-
7	052100110	1	O-Ring	-
8	052100400	1	O-Ring	-
9	360740010	1	Nut	-
10	360710011	1	Cup	-
11	011300865	1	Bolt	-
12	360750780	1	Hose	-
15	360720020	1	Fuel Filter Element	-
16	360740080	2	Gasket	-
17	360740070	2	Plug	-
18	198486840	1	Connector	-
19	130506140	1	Feed Pump (includes Keys #22, #23 - see parts detail)	-
22	130516069	4	Gasket	-
23	130516092	2	Joint bolt	-
24	130556360	1	Pipe	-
25	131266130	1	Nipple	-
26	131426180	2	Sealing Washer	-

U.S. Coast Guard Fuel Line Connection

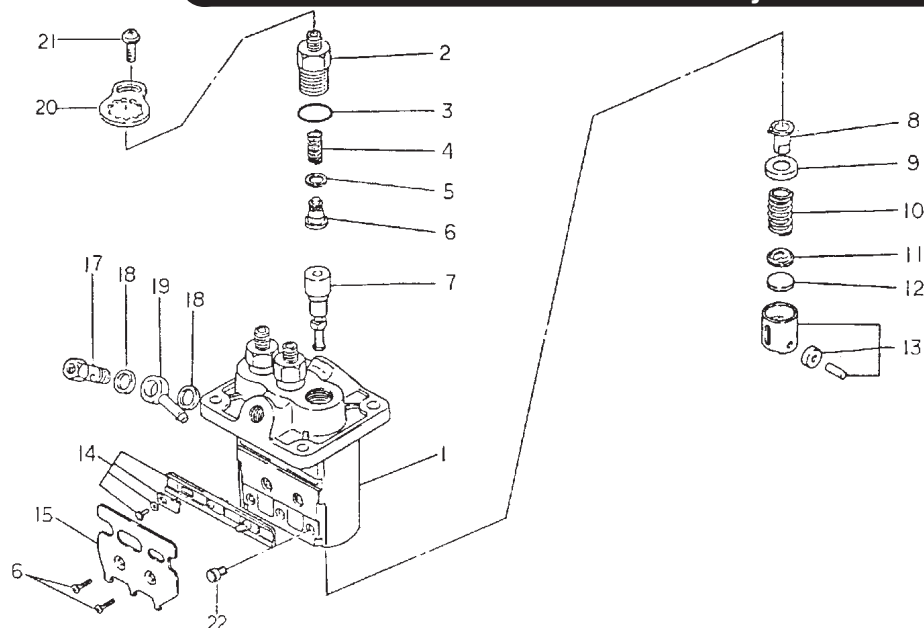
Marine Application



A-4959/ C-2554

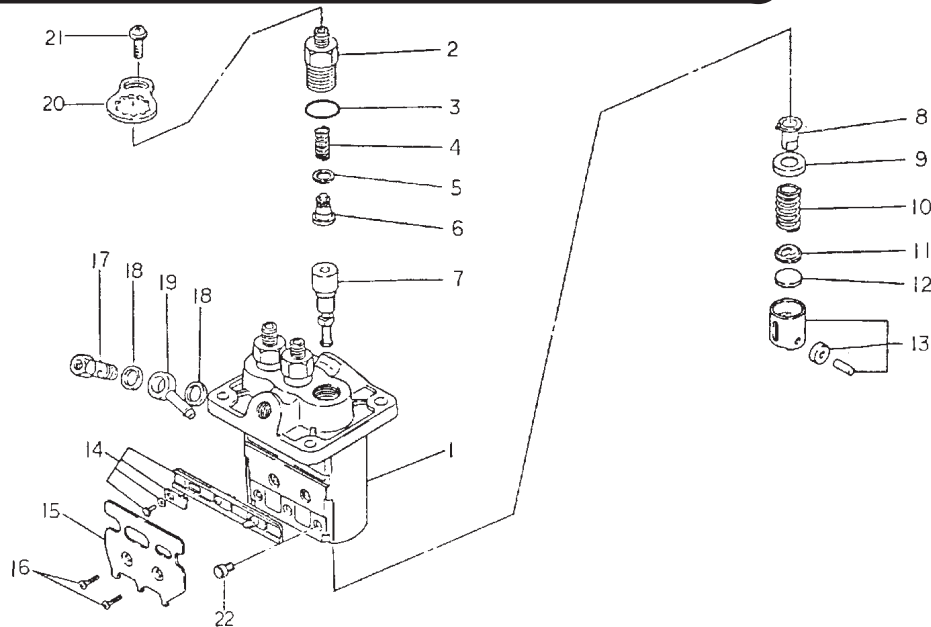
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	10-58301	1	Fuel Manifold	-
2	21-71049	2	Male Elbow, 90°, Steel 1/4 NPT x 1/4-37T	-
3	18-58301	2	Hose Assembly	-
4	21-31624	2	Plug, 1/4 NPT (for shipping)	-
5	12-00111	2	Capscrew, Hex Head 1/4-20 x 3/4"	-
6	15-00102	2	Lock Washer, 1/4	-
7	14-00011	2	Hex Nut	-

Injection Pump Assembly



KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	131017340	1	Injection Pump Assembly (includes all keys)	-
1	131296665	1	Housing Sub-assembly	-
2	131196120	3	Delivery Valve Holder	-
3	131226170	3	O-Ring	-
4	131176430	3	Delivery Valve Spring	-
5	131186100	3	Gasket	-
6	131156160	3	Valve Sub-assembly	-
7	131116410	3	Element Sub-assembly	-
8	131296638	3	Sleeve Sub-assembly	-
9	131296620	3	Upper Spring Seat	-
10	131176440	3	Plunger Spring	-
11	131296621	3	Lower Spring Seat	-
12	131296622	**	Shim; Thickness = 1.85 mm	-
	131296623	**	Shim; Thickness = 1.90 mm	-
	131296624	**	Shim; Thickness = 1.95 mm	-
	131296625	**	Shim; Thickness = 2.00 mm	-
	131296626	**	Shim; Thickness = 2.05 mm	-
	131296627	**	Shim; Thickness = 2.10 mm	-
	131296628	**	Shim; Thickness = 2.15 mm	-
	131296629	**	Shim; Thickness = 2.20 mm	-
	131296630	**	Shim; Thickness = 2.25 mm	-
	131296631	**	Shim; Thickness = 2.30 mm	-
	131296632	**	Shim; Thickness = 2.35 mm	-
	131296633	**	Shim; Thickness = 2.40 mm	-
	131296634	**	Shim; Thickness = 2.45 mm	-
	131296635	**	Shim; Thickness = 2.50 mm	-
13	131256120	3	Tappet Sub-assembly	-
14	131296636	1	Rack Assembly	-
15	131296650	1	Bracket	-
16	131136320	2	Screw	-
17	131236190	1	Bolt	-
18	131426180	2	Washer	-
19	131246130	1	Nipple	-
20	131296662	3	Shim	-
21	131136330	3	Screw	-
22	131296651	3	Pin	-
**As required.				

Injection Pump Assembly



KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	131017390	1	Injection Pump Assembly (includes all keys)	-
1	131296665	1	Housing Sub-assembly	-
2	131196130	1	Delivery Valve Holder	-
3	131226170	3	O-Ring	-
4	131176430	3	Delivery Valve Spring	-
5	131186050	3	Gasket	-
6	131156160	3	Valve Sub-assembly	-
7	131116410	3	Element Sub-assembly	-
8	131296951	3	Sleeve Sub-assembly	-
9	131296620	3	Upper Spring Seat	-
10	131176440	3	Plunger Spring	-
11	131296621	3	Lower Spring Seat	-
12	131296622	**	Shim; Thickness = 1.85 mm	-
	131296623	**	Shim; Thickness = 1.90 mm	-
	131296624	**	Shim; Thickness = 1.95 mm	-
	131296625	**	Shim; Thickness = 2.00 mm	-
	131296626	**	Shim; Thickness = 2.05 mm	-
	131296627	**	Shim; Thickness = 2.10 mm	-
	131296628	**	Shim; Thickness = 2.15 mm	-
	131296629	**	Shim; Thickness = 2.20 mm	-
	131296630	**	Shim; Thickness = 2.25 mm	-
	131296631	**	Shim; Thickness = 2.30 mm	-
	131296632	**	Shim; Thickness = 2.35 mm	-
	131296633	**	Shim; Thickness = 2.40 mm	-
	131296634	**	Shim; Thickness = 2.45 mm	-
	131296635	**	Shim; Thickness = 2.50 mm	-
13	131256120	3	Tappet Sub-assembly	-
14	131296636	1	Rack Assembly	-
15	131296650	1	Bracket	-
16	131136320	2	Screw	-
17	131236190	1	Bolt	-
18	131426180	2	Washer	-
19	131246130	1	Nipple	-
20	131296662	3	Shim	-
21	131136330	3	Screw	-
22	131296651	3	Pin	-
**As required.				

Injector Assembly

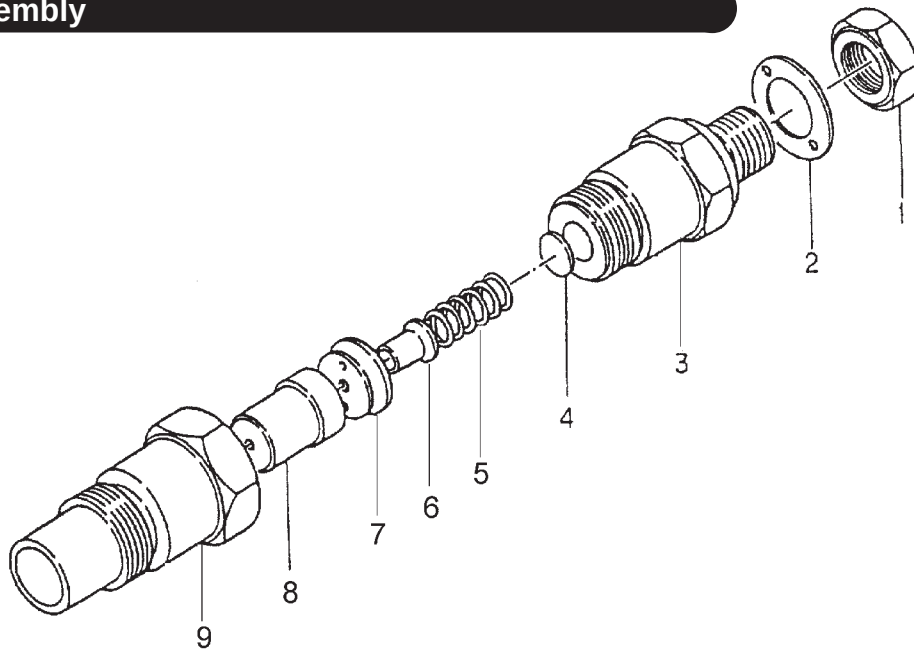
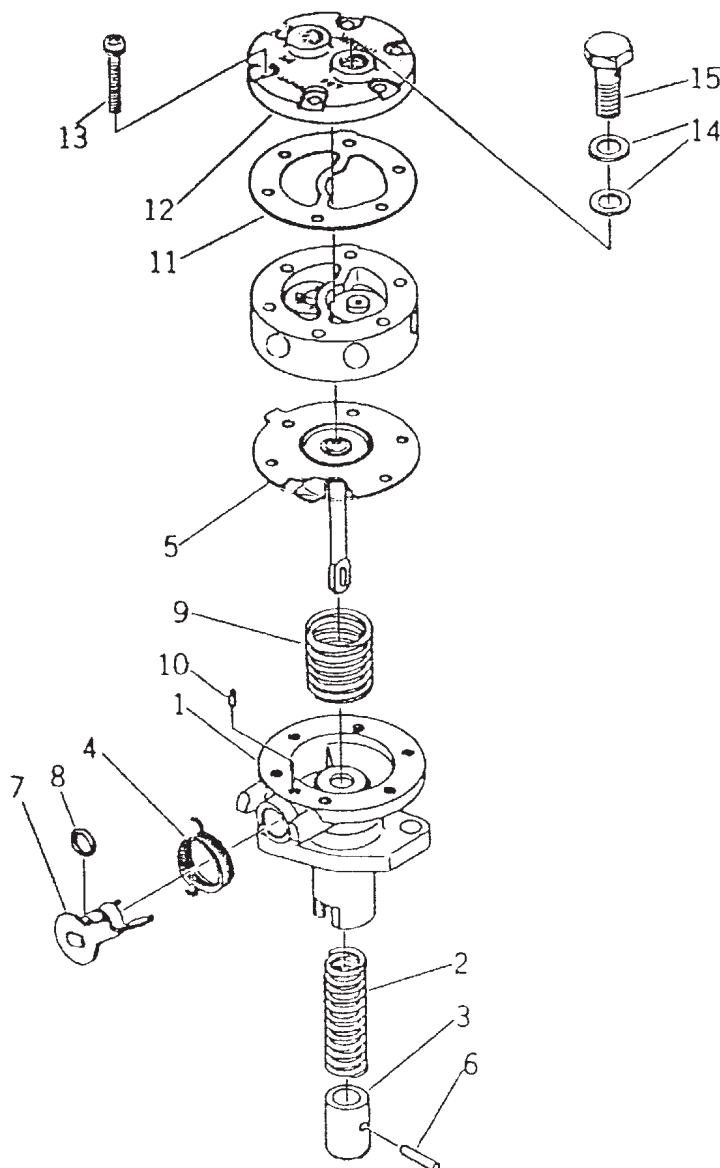


fig4-6

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	131406350	1	Injector Assembly (includes all keys)	-
1	131446069	1	Nut	-
2	131426210	1	Washer	-
3	131446065	1	Body Sub-assembly	-
4	131437250	**	Washer; Thickness = 0.90 mm	-
	131437251	**	Washer; Thickness = 0.925 mm	-
	131437252	**	Washer; Thickness = 0.95 mm	-
	131437253	**	Washer; Thickness = 0.975 mm	-
	131437254	**	Washer; Thickness = 1.00 mm	-
	131437255	**	Washer; Thickness = 1.025 mm	-
	131437256	**	Washer; Thickness = 1.05 mm	-
	131437257	**	Washer; Thickness = 1.075 mm	-
	131437258	**	Washer; Thickness = 1.10 mm	-
	131437259	**	Washer; Thickness = 1.125 mm	-
	131437260	**	Washer; Thickness = 1.15 mm	-
	131437261	**	Washer; Thickness = 1.175 mm	-
	131437262	**	Washer; Thickness = 1.20 mm	-
	131437263	**	Washer; Thickness = 1.225 mm	-
	131437264	**	Washer; Thickness = 1.250 mm	-
	131437265	**	Washer; Thickness = 1.275 mm	-
	131437266	**	Washer; Thickness = 1.30 mm	-
	131437267	**	Washer; Thickness = 1.325 mm	-
	131437268	**	Washer; Thickness = 1.35 mm	-
	131437269	**	Washer; Thickness = 1.375 mm	-
	131437270	**	Washer; Thickness = 1.40 mm	-
	131437271	**	Washer; Thickness = 1.425 mm	-
	131437272	**	Washer; Thickness = 1.45 mm	-
5	131446066	1	Spring	-
6	131446070	1	Pin	-
7	131446068	1	Spacer	-
8	131416160	1	Nozzle Assembly	-
9	131446067	1	Nut	-
			**As required.	

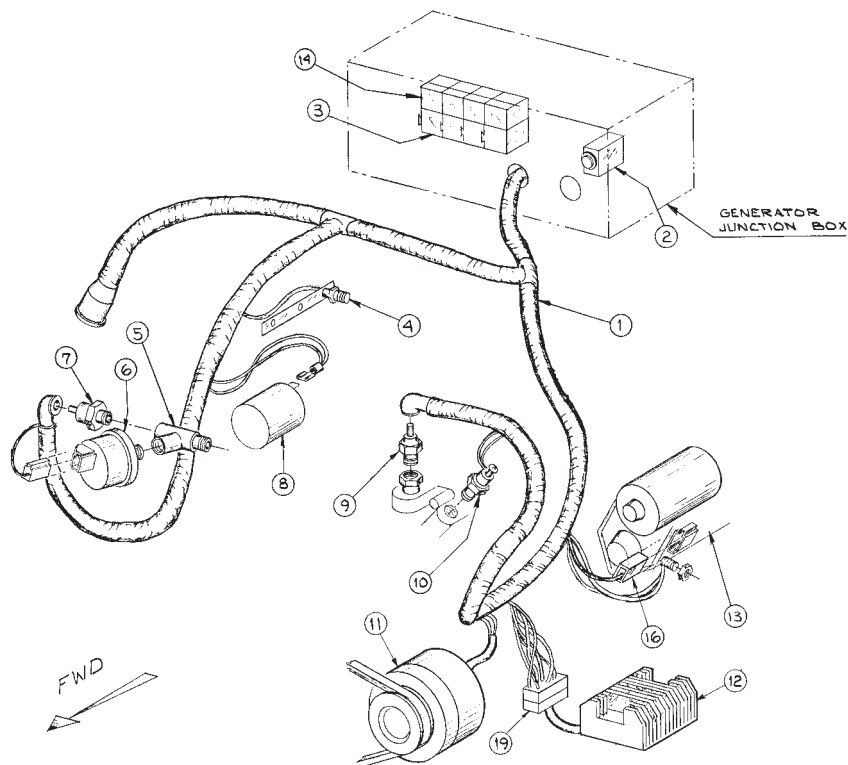
Fuel Feed Pump



fuelfeedpump

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	130506140	1	Feed Pump Assembly (includes keys #1 - 15)	-
1	130516080	1	Body	-
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 (formerly #130516089)	-
12	130516090	1	Cap	-
13	130516091	6	Screw	-
14	130516069	4	Gasket	-
15	130516092	2	Banjo Bolt	-

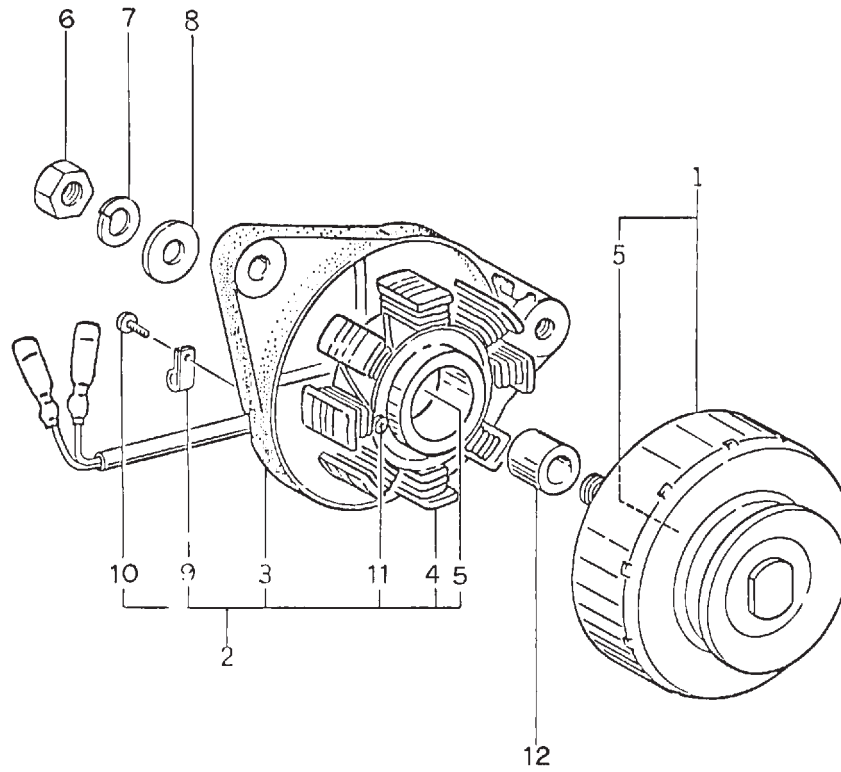
Engine Electrical



A-3203A/C-1925

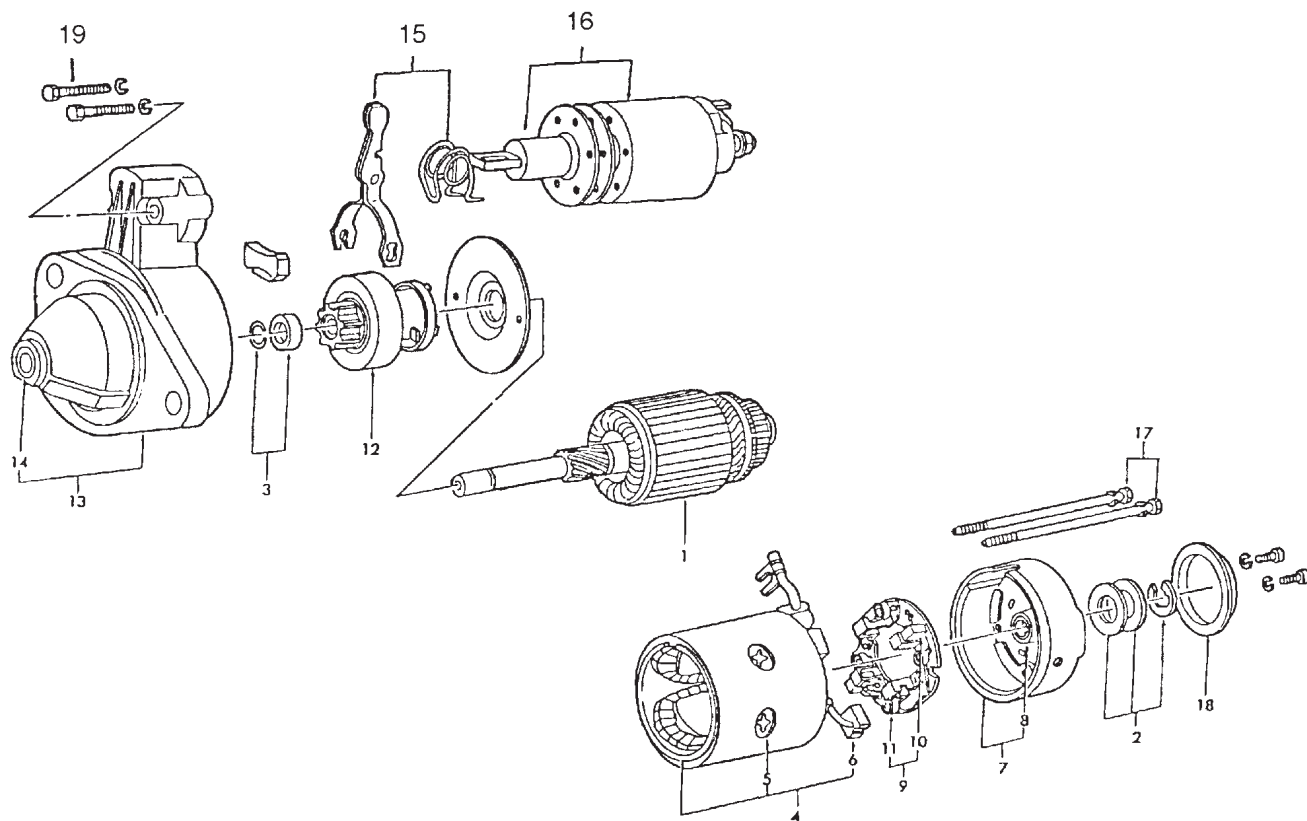
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	22-48301	1	Wire Harness	-
2	22-42043	1	Circuit Breaker	-
3	22-41032	4	Relay Base	-
4	185366060	3	Glow Plug	-
5	198486720	1	Female Tee 1/8 BSPT	-
6	22-40177	1	Sender, Oil Pressure - Single Station, YAZAKI guages	-
	22-41016	1	Sender, Oil Pressure - Single Station, VDO guages	-
	22-71016	1	Sender, Oil Pressure - Dual Station, YAZAKI & VDO guages	-
7	185246011	1	Switch, Oil Pressure	-
8	185206082	1	Fuel Control Solenoid, 12 volt	-
9	22-40176	1	Sender, Water Temperature - Single Station, YAZAKI guages	-
		1	Bushing 3/8NPT X M14 x 1.5 (Yazaki Temperature Sender)	-
	22-42055	1	Sender, Water Temperature - Single Station, VDO guages	-
	22-71026	1	Sender, Water Temperature - Dual Station, VDO guages	-
10	385720110	1	Switch, Water Temperature 95°C (Marine)	-
	385720030	1	Switch, Water Temperature 110°C (Industrial)	-
11	185046210	1	Alternator, 12 volt (see detail)	-
12	185516061	1	DC Voltage Regulator (formerly #185516060)	-
13	185086321	1	Starter (see parts detail)	Up to S/N xxxx-4040
	185086340	1	Starter (see parts detail)	From S/N xxxx-4041
	185086440	1	Starter	Up to S/N xxxx-6620
14	22-42047	4	Relay, 12 Volt	From S/N xxxx-6621
15	385620010	1	Regulator Connector	-
16	385620150	1	Starter Connector	-
17	385620280	1	Alternator Connector	-
18	21-51099	1	Bushing, 3/8 NPT x 1/4 NPT - Dual Station, VDO guages	-
19	385620010	1	Plug Assembly	-
20	23-48303	1	Bracket, Regulator Mtg. (NL only – not shown)	-

Alternator Assembly



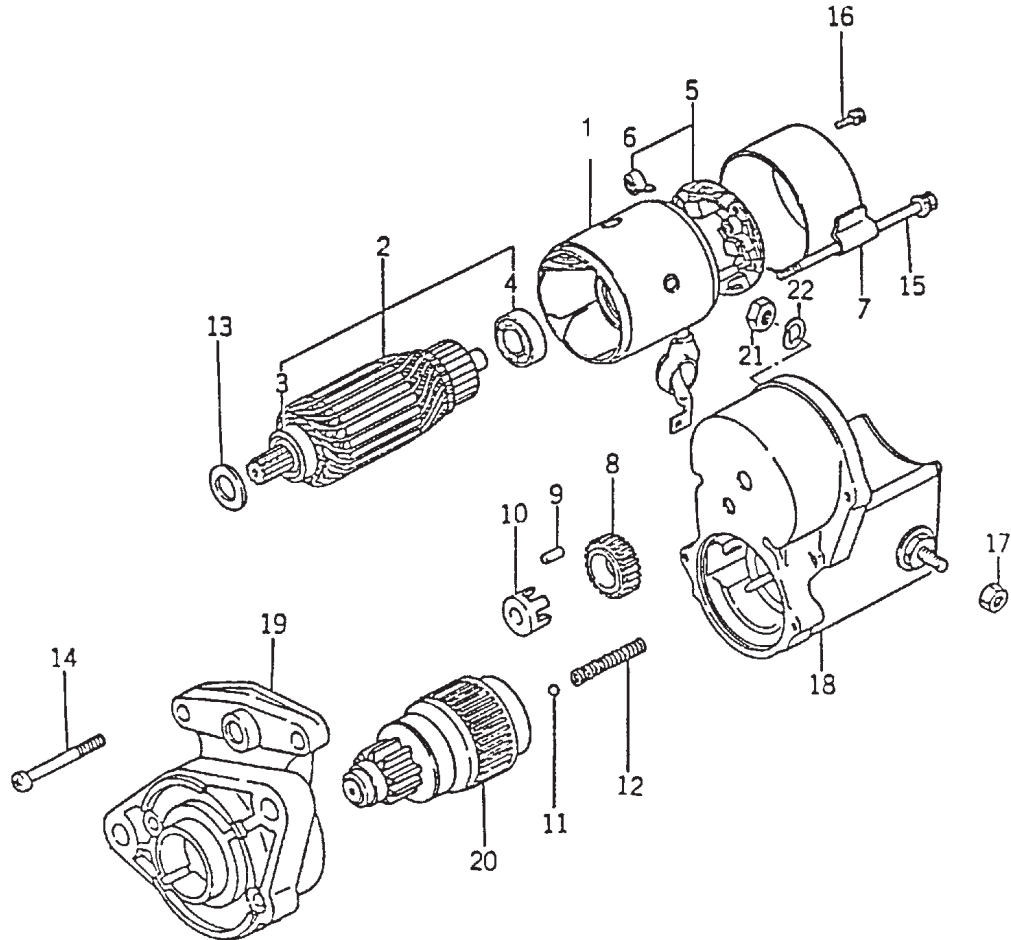
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	185046210	1	Alternator Assembly (includes all keys)	-
1	185446219	1	Rotor/Pulley Assembly (includes key #5)	-
2	185446217	1	Stator Assembly (includes keys #3 - 5, 9 - 10)	-
3	185716200	1	Plate	-
4	185446218	1	Stator, complete	-
5	040126201	2	Bearing	-
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	-

Starting Motor Assembly - Hitachi



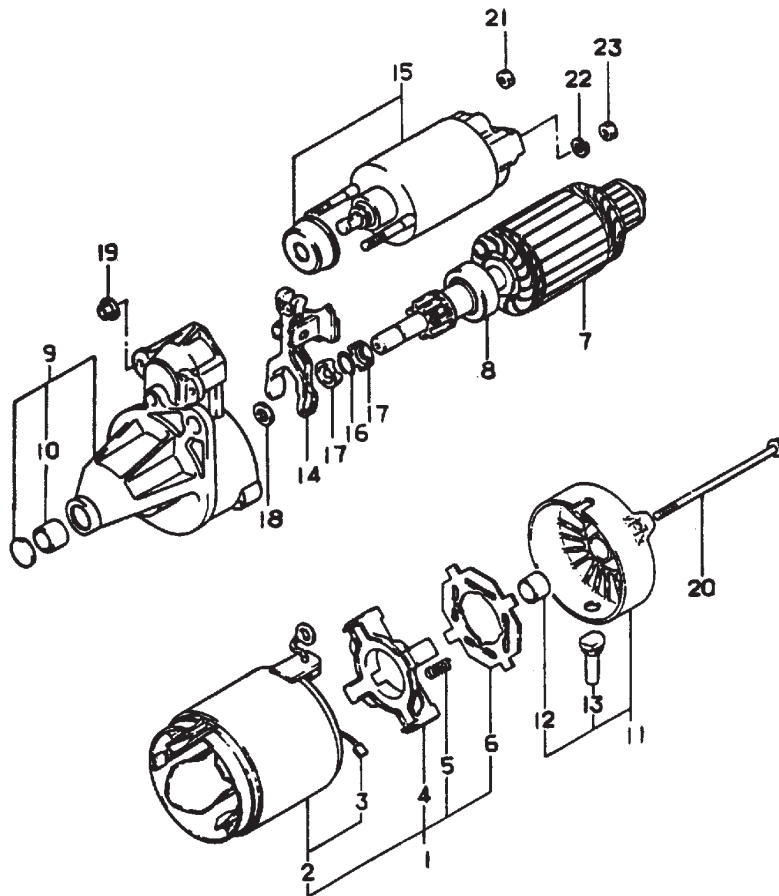
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	185086321	1	Starting Motor Assembly (Hitachi)	Up to S/N xxxx-4040
1	185846159	1	Armature Assembly	-
2	1858464126	1	Washer Kit	-
3	185846127	1	Stopper Set	-
4	185846160	1	Field Coil Assembly (includes Keys #5 - #6)	-
5	185846161	4	Set Screw	-
6	185416130	2	Brush	-
7	185846449	1	Rear Cover Assembly (includes Key #8)	-
9	185416150	1	Holder Assembly (includes Keys #10 - #11)	-
10	185416141	2	Brush	-
11	185846119	3	Spring	-
12	185866050	1	Pinion Assembly	-
13	185846454	1	Case Assembly (includes Key #14)	-
14	185846134	1	Bushing	-
15	185846165	1	Lever Kit	-
16	185816180	1	Solenoid Assembly	-
17	185846166	2	Bolt	-
18	185846136	1	Cover	-
19	185846300	2	Bolt	-

Starting Motor Assembly - Nippon Denso



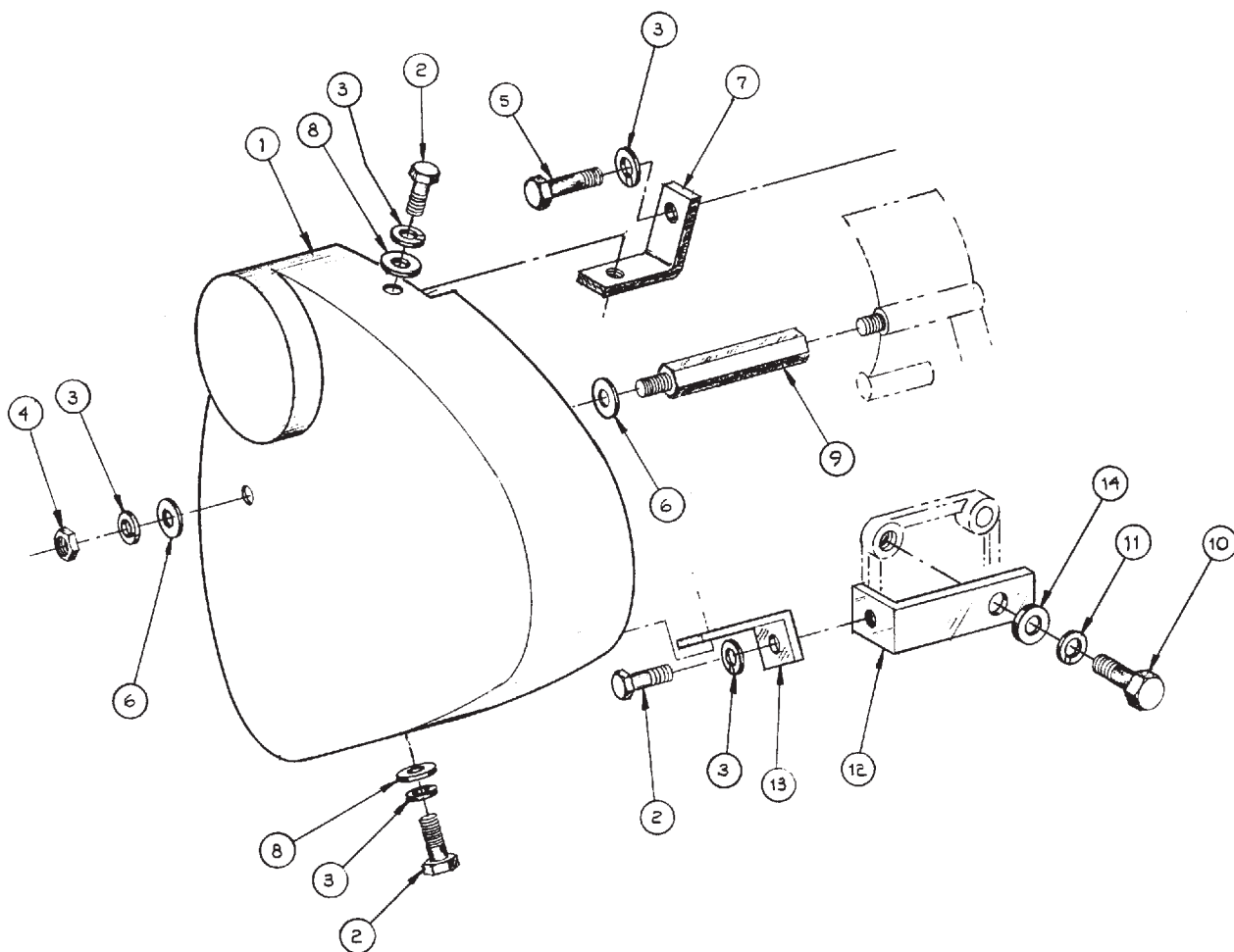
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	185086340	1	Starting Motor Assembly (Nippon Denso) 1.0 kW	From S/N xxxx-4041 Up to xxxx-6620
1	185846365	1	Field Coil Assembly (includes keys #5 - 6)	-
2	185846366	1	Armature Assembly (includes keys #3 - 4)	-
3	040116002	1	Bearing	-
4	185846379	1	Bearing	-
5	185846368	1	Holder Assembly	-
6	185846380	4	Spring	-
7	185846452	1	Frame Assembly	-
8	185846370	1	Pinion	-
9	185846371	5	Roller	-
10	185846372	1	Retainer	-
11	048100011	1	Steel Ball	-
12	185846373	1	Spring	-
13	185846374	1	Washer	-
14	185846375	2	Screw	-
15	185846376	2	Bolt	-
16	185846377	2	Screw	-
17	185846378	1	Nut	-
18	185816190	1	Switch Assembly	-
19	185846452	1	Housing Assembly	-
20	185866150	1	Clutch Assembly	-
21	020100008	1	Nut	-
22	027100008	1	Spring Washer	-

Starting Motor Assembly



KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	185086440	1	Starter Assembly (includes all keys)	-
1	185846510	1	Field Coil Assembly (includes keys #2 - 6)	-
2	185846511	1	Field Coil (includes key #3)	-
3	185846512	4	Starter Kit	-
4	185416470	1	Brush Holder	-
5	185846513	4	Spring	-
6	185846514	1	Insulator	-
7	185846515	1	Armature Assembly	-
8	185846516	1	Clutch Sub-assembly	-
9	185846517	1	Housing Sub-assembly (includes key #10)	-
10	185846518	1	Bearing	-
11	185846519	1	Frame Assembly (includes keys #12 - 13)	-
12	185846520	1	Bearing	-
13	185846521	1	Cover	-
14	185846522	1	Lever, Starter Drive	-
15	185816300	1	Solenoid	-
16	185846523	1	Ring, Snap	-
17	185846524	2	Nut, Pinion Stop	-
18	185846525	1	Washer	-
19	185846447	2	Nut	-
20	185846526	2	Bolt	-
21	185846527	1	Nut	-
22	15-00702	1	Lock Washer M8	-
23	14-00711	1	Hex Nut M8 x 1.25	-

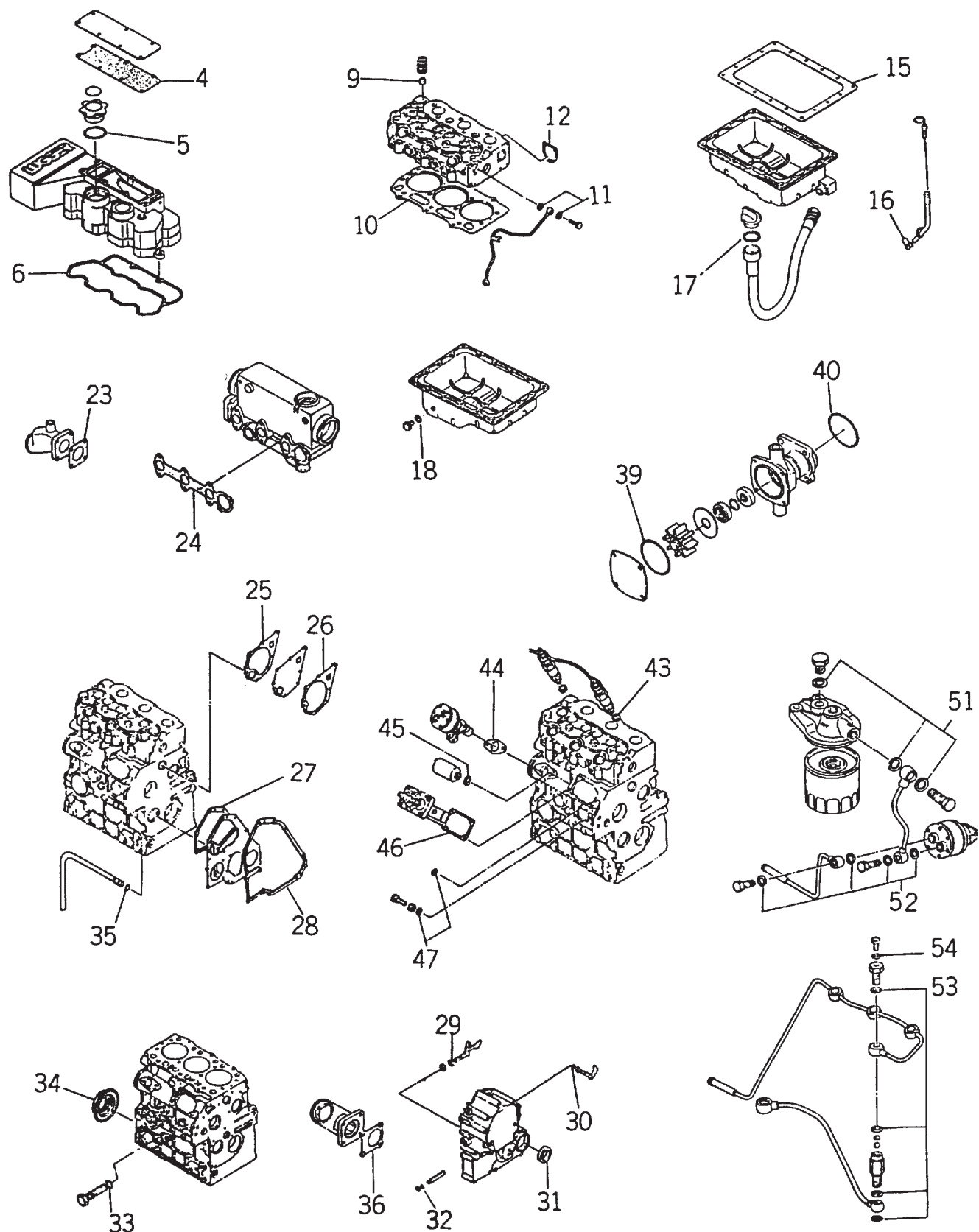
Belt Guard



A-3208/C-1931A

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	00-18301	1	Belt Guard	-
2	12-01131	3	Capscrew, Hex Head M6 x 1.0 x 20 mm	-
3	15-01132	5	Lock Washer, M6	-
4	14-01131	1	Hex Nut M6 x 1.0	-
5	12-01133	1	Capscrew, Hex Head M6 x 1.0 x 60 mm	-
6	15-00019	2	Snubbing Washer	-
7	140976060	1	Bracket, Belt Guard Support, upper	-
8	15-00008	3	Flat Washer M6	-
9	199436340	1	Capscrew, Hex Head M6 x 1.0 x 15mm (65mm OAL)	-
10	12-00805	1	Capscrew, Hex Head M10 x 1.5 x 20 mm	-
11	15-00802	1	Lock Washer, M10	-
12	23-08302	1	Bracket	-
13	23-08303	1	Bracket, Belt Guard Support, lower	-
14	15-00805	1	Flat Washer, M10	-

Gasket Sets

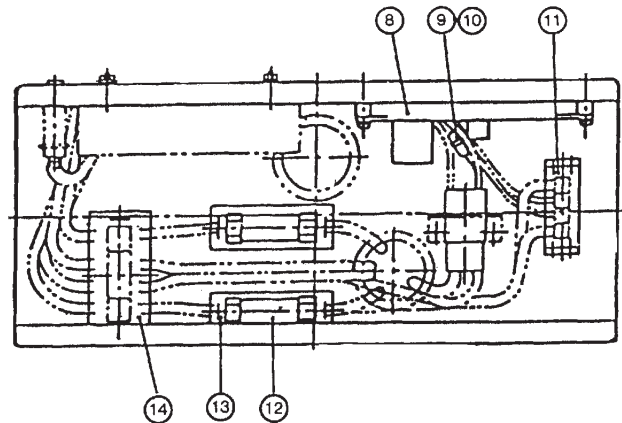
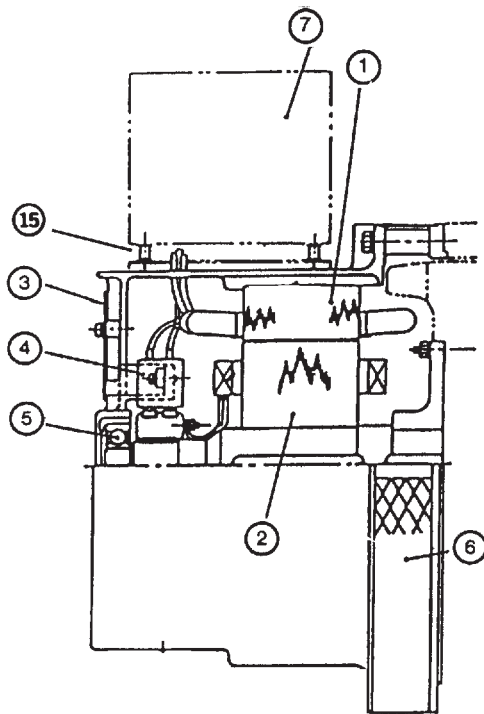


Gasket Sets

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	195906591	1	Gasket Kit (Includes all items)	-
4	135996560	1	Gasket	-
5	052100400	2	O-Ring	-
6	111996340	1	Gasket	-
9	120406080	6	Valve Guide Seal	-
10	111147400	1	Head Gasket 0.5 mm	-
	111147110	1	Head Gasket 1.3 mm	-
11	198996060	4	Gasket	-
15	110996590	1	Gasket	-
16	052100100	2	O-Ring	-
17	054109013	1	Gasket	-
23	135996550	1	Gasket	-
24	135996730	1	Gasket	-
25	145996420	1	Gasket	-
26	145996430	1	Gasket	-
27	165996400	1	Gasket	-
28	165996410	1	Gasket	-
29	052100070	1	O-Ring	-
30	052100050	1	O-Ring	-
31	198636090	1	Oil Seal	-
32	052100030	1	O-Ring	-
33	052100150	1	O-Ring	-
34	198636080	1	Oil Seal	-
35	052109076	1	O-Ring	-
36	165886420	1	Gasket	-
39	052300550	1	O-Ring	-
40	052400400	1	O-Ring	-
43	131426200	3	Gasket	-
44	130996070	1	Gasket	-
45	025100016	1	Seal Washer	-
46	131426300	1	Shim Set	-
47	025100010	2	Seal Washer	-
51	130326051	5	Gasket	-
52	130516089	4	Gasket	-
53	131426180	4	Washer	-
54	131426190	1	Washer	-

Notes

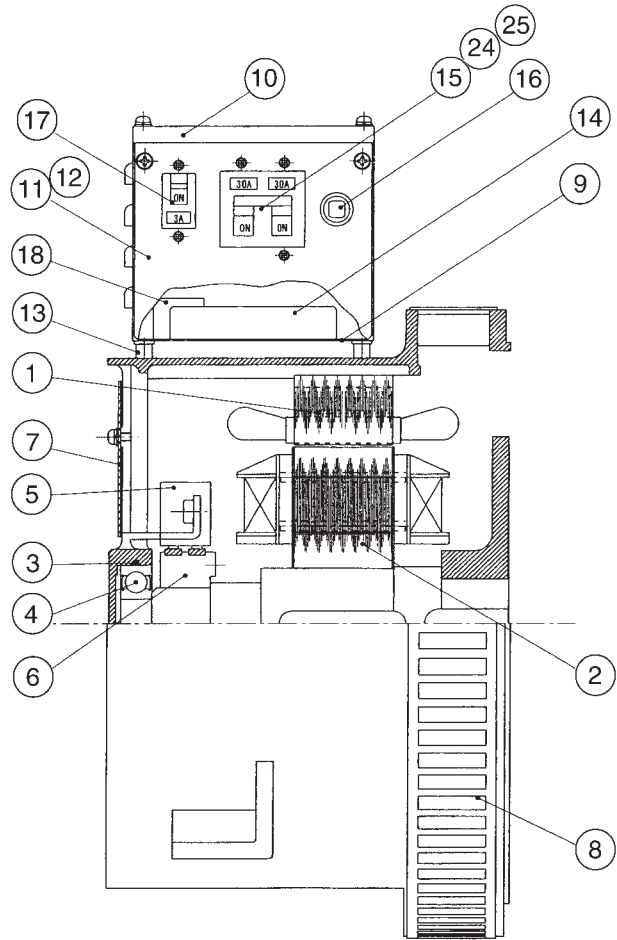
Generator Components, TFII-18B & TFIII-18B



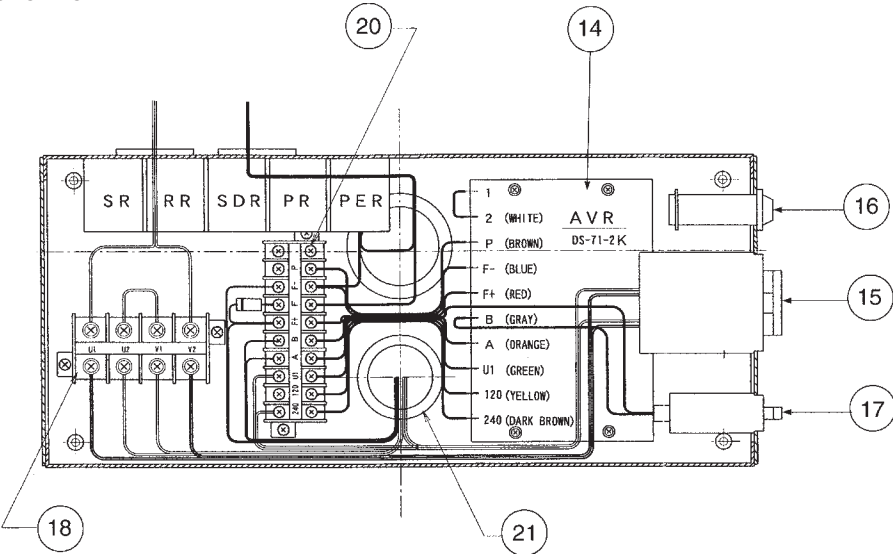
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	22-68301	1	Stator Assembly (TFII-18B)*	-
	22-68306	1	Stator Assembly (TFIII-18B)*	-
2	22-68302	1	Rotor Assembly (TFII-18B)*	-
	22-68307	1	Rotor Assembly (TFIII-18B)*	-
3	28-68303	1	Maintenance Cover	-
4	22-68304	1	Carbon Brush Assembly	-
5	22-68305	1	Ball Bearing	-
6	39-68306	1	Ventilation Cover	-
7	39-68307	1	Junction Box - Marine	-
	39-42009	1	J-Box Cover - Marine	-
	39-68308	1	Junction Box - Industrial	-
8	22-68308	1	Automatic Voltage Regulator	-
9	22-68309	1	Protective Fuse (for AVR)	-
10	22-68310	1	Fuse Holder (for above)	-
11	22-68311	1	Control Terminal Strip	-
12	22-68312	1	Main Protective Fuse	-
13	22-68313	1	Fuse Holder (for above)	-
14	22-68314	1	Output Terminal Strip	-
15	S30180	4	Rubber Shock Mount (can use #33-81070)	-
*Note: Do not combine TFII & TFIII Rotors & Stators.				

Generator Components, TF-276K

GENERATOR COMPONENTS:



GENERATOR JUNCTION BOX:

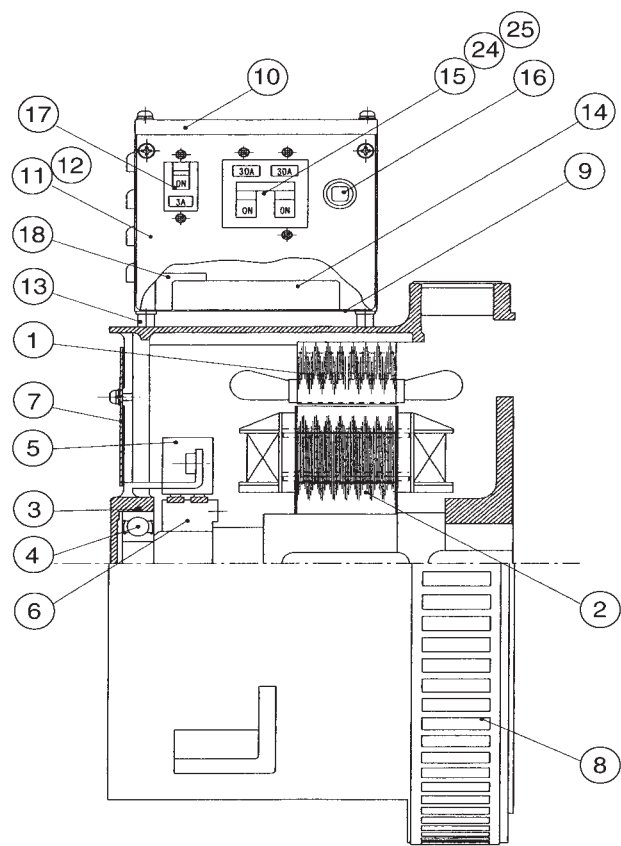


Generator Components, TF-276K

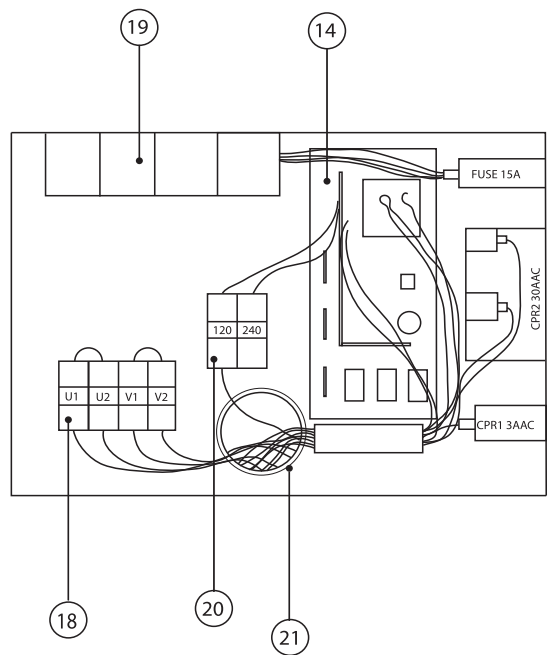
KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	WKC-00050-ST	1	Stator Assembly, Single Phase	-
2	WKC-00050-RT	1	Rotor Assembly	-
3	1BG60	1	O-ring	-
4	6305ZZ	1	Ball Bearing	-
5	22-68304	1	Brush Assembly	-
6	GM408032	1	Slip Ring	-
7	4T301-893	1	End Cover	-
8	3T301-618	1	Ventilation Cover - Marine	-
	3T301-567	1	Ventilation Cover - Industrial	-
9	3T301-813-1	1	Terminal Box - Marine	-
	3T301-826-1	1	Terminal Box - Industrial	-
10	4T301-816-1	1	Terminal Box (Top)	-
11	4T301-814	1	Terminal Box (Side) - Marine	-
	4T302-247	1	Terminal Box (Side) - Industrial	-
12	4T301-815	1	Terminal Box (Side)	-
13	33-4000-2	1	Rubber Mount	-
14	22-68003	1	A.C. Voltage Regulator	-
15	22-68007	1	Circuit Protector (Generator)	-
16	22-42043	1	Circuit Protector (Engine)	-
17	22-68004	1	Circuit Protector (A.C. Regulator)	-
18	S30051	1	Terminal Block (Output)	-
19	22-42047	5	Relay	-
20	TS-212-10P	1	Terminal Block	-
21	NG-R	1	Grommet	-
22	GM406467	2	Grommet (not shown)	-
23	22-68001	1	Diode (Excitation Circuit)	-
24	23-68001	1	Bracket, Circuit Protector Mounting	-
25	23-68002	1	Bracket, Circuit Protector Mounting (Aux. Contact Side)	-

Generator Components, TF-276M

GENERATOR COMPONENTS:



GENERATOR JUNCTION BOX:

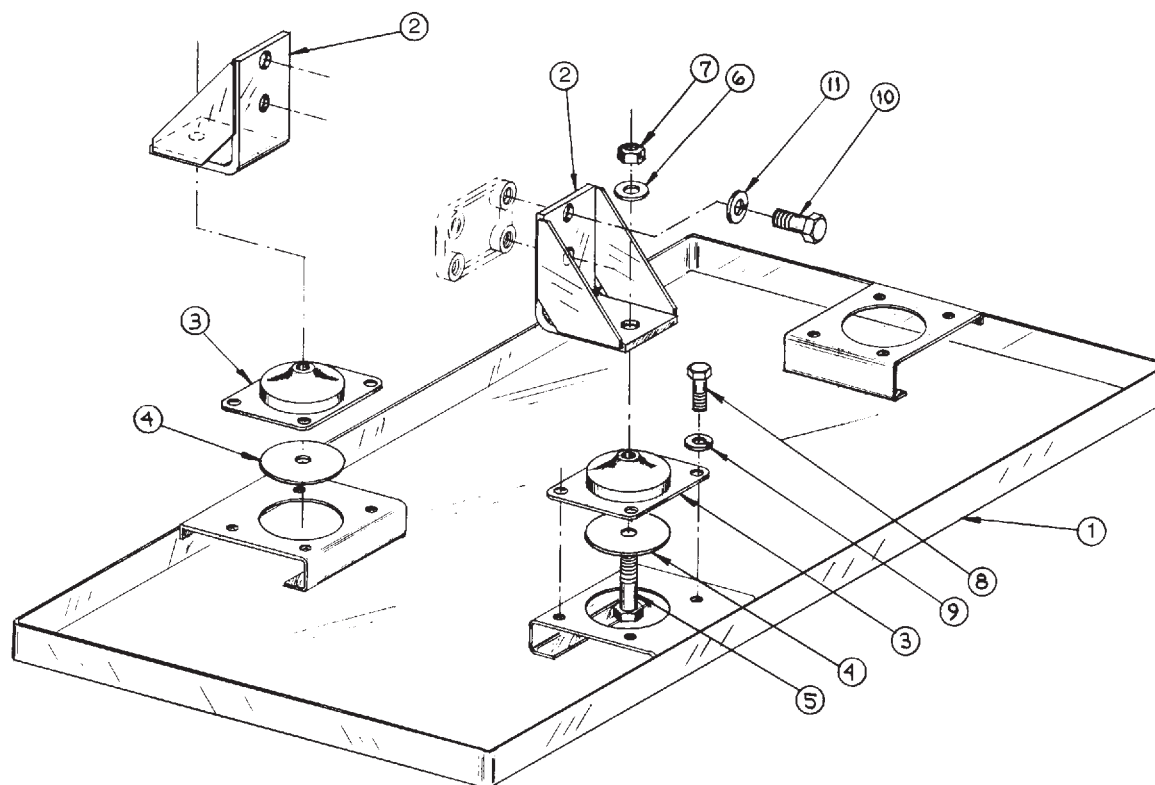


Generator Components, TF-276M

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	WKC-00050-ST	1	Stator Assembly, Single Phase	-
2	WKC-00050-RT-(MP)	1	Rotor Assembly	-
3	1BG60	1	O-ring	-
4	6305ZZ	1	Ball Bearing	-
5	22-68304	1	Brush Assembly	-
6	GM408032	1	Slip Ring	-
7	4T301-893	1	End Cover	-
8	3T301-618	1	Ventilation Cover - Marine	-
	3T301-567	1	Ventilation Cover - Industrial	-
9	3T301-813-2	1	Terminal Box - Marine	-
	3T301-826-2	1	Terminal Box - Industrial	-
10	4T302-248	1	Terminal Box (Top)	-
11	4T301-814	1	Terminal Box (Side) - Marine	-
	4T302-247	1	Terminal Box (Side) - Industrial	-
12	4T301-815-1	1	Terminal Box (Side)	-
13	33-4000-2	1	Rubber Mount	-
14	22-68006	1	A.C. Voltage Regulator	-
15	22-68007	1	Circuit Protector (Generator)	-
16	22-42043	1	Circuit Protector (Engine)	-
17	22-68004	1	Circuit Protector (A.C. Regulator)	-
18	S30051	1	Terminal Block (Output)	-
19	22-42047	4	Relay	-
20	TS-615-2P	1	Terminal Block	-
21	NG-R	1	Grommet	-
22	GM406467	2	Grommet (not shown)	-
24	23-68001	1	Bracket, Circuit Protector Mounting	-
25	23-68002	1	Bracket, Circuit Protector Mounting (Aux. Contact Side)	-
26	T301-	2	Bracket, J-Box Support (Marine)	-
	T301-	2	Bracket, J-Box Support (Industrial)	-

Base Frame Assembly

Marine Units with TFII-18B & TFIII-18B Generators

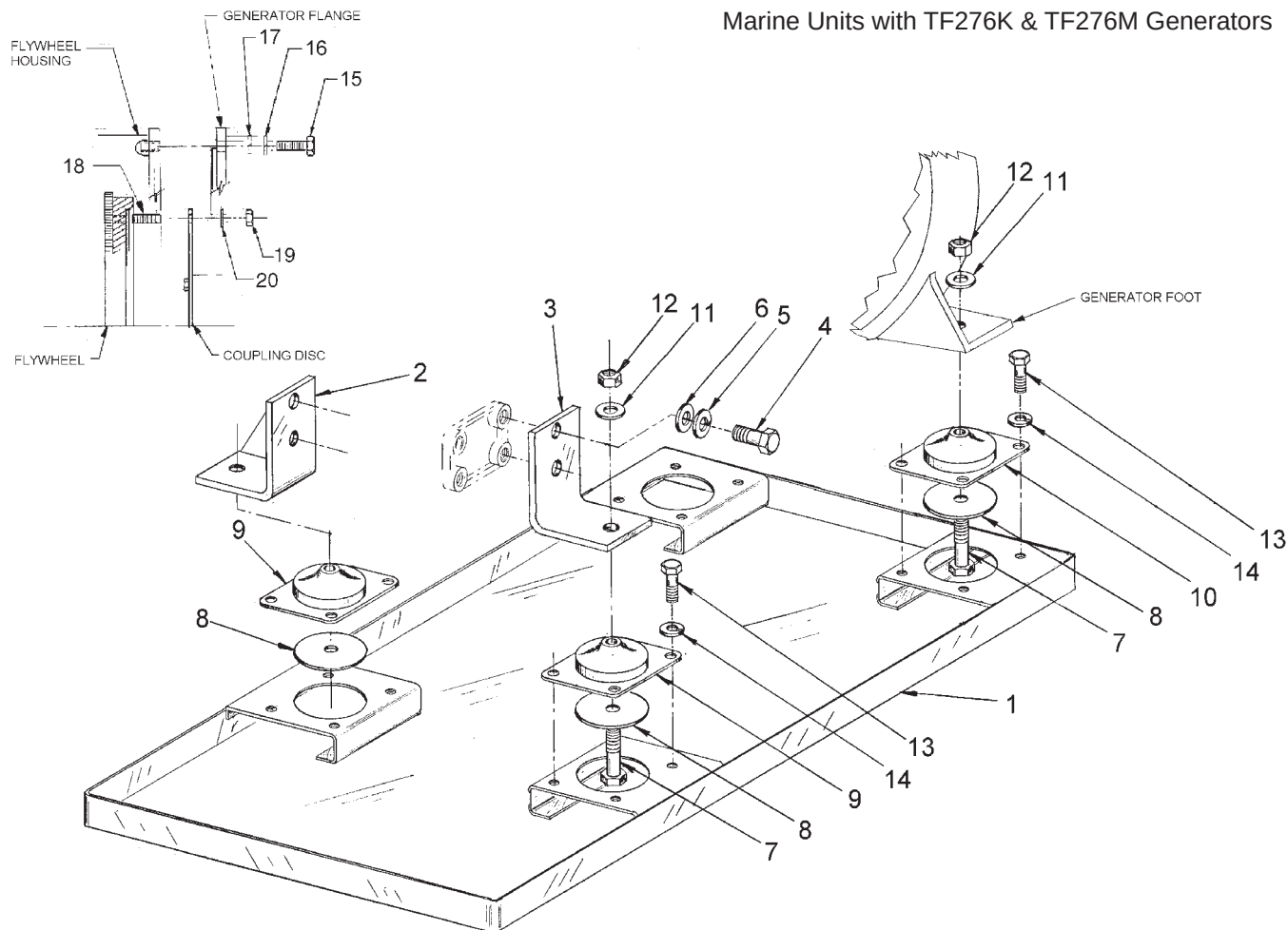


A-3201/C-1926

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	23-88307	1	Base Frame, Stainless Steel (formerly #39-88300)	-
2	39-88300	2	Mounting Bracket	-
3	33-83105	3	Platform Mount	-
4	15-88001	3	Snubbing Washer	-
5	12-00952	1	Capscrew, Hex Head M12 x 1.75 x 55 mm (under generator)	-
	12-00955	2	Capscrew, Hex Head M12 x 1.75 x 60 mm (under engine)	-
6	15-00007	3	Flat Washer, M12	-
7	14-00830	3	Nylock Nut M12 x 1.75	-
8	12-00712	12	Capscrew, Hex Head M8 x 1.25 x 25 mm	-
9	15-00702	12	Lock Washer, M8	-
10	12-00805	4	Capscrew, Hex Head M10 x 1.5 x 20 mm	-
11	15-00802	4	Lock Washer, M10	-
12	00-88301	4	Hold Down Clip	-
13	12-00718	6	Capscrew, Hex Head M8 x 1.25 x 65 mm	} Gen to Flywheel Housing
14	15-00701	6	Flat Washer, M8	
15	15-00702	6	Lock Washer, M8	
16	012111025	4	Stud M10 x 1.25 x 25	} Coupling
17	14-00814	4	Nut M10 x 1.25	
18	15-00802	4	Lock Washer, M10	
Items #12 - #19: Generator coupling not shown.				-

Base Frame

Marine Units with TF276K & TF276M Generators



P673: A-8559/C-4355

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	39-88001	1	Base Frame	-
2	23-88001	1	Bracket, Right hand	-
3	23-88002	1	Bracket, Left hand	-
4	12-09832	4	Capscrew, Hex Head M10 x 1.5 x 30 mm, 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 M12 x 1.75 x 65 mm, S/S	-
8	15-88001	**	Snubbing Washer	-
9	33-83105	2	Platform Mount, 120 lb.	-
10	33-83105	2	Platform Mount, 120 lb.*	-
11	15-09007	4	Flat Washer, M12, S/S	-
12	14-09830	4	Hex Nut, Nylock M12 x 1.75, S/S	-
13	12-09751	16	Capscrew, Hex Head M8 x 1.25 x 16 mm, S/S	-
14	15-00705	16	Lock Washer, Helical M8, S/S	-
15	12-09753	6	Capscrew, Hex Head M8 x 1.25 x 30 mm, S/S	-
16	15-00705	6	Lock Washer, Helical M8 S/S	-
17	15-00706	6	Flat Washer, M8 S/S	-
18	012110025	4	Stud M10 x 1.25 x 25 mm	-
19	14-00814	4	Hex Nut M10 x 1.25	-
20	15-00802	4	Lock Washer, Helical M10	-

GENERATOR
TO FLYWHEEL
HOUSING

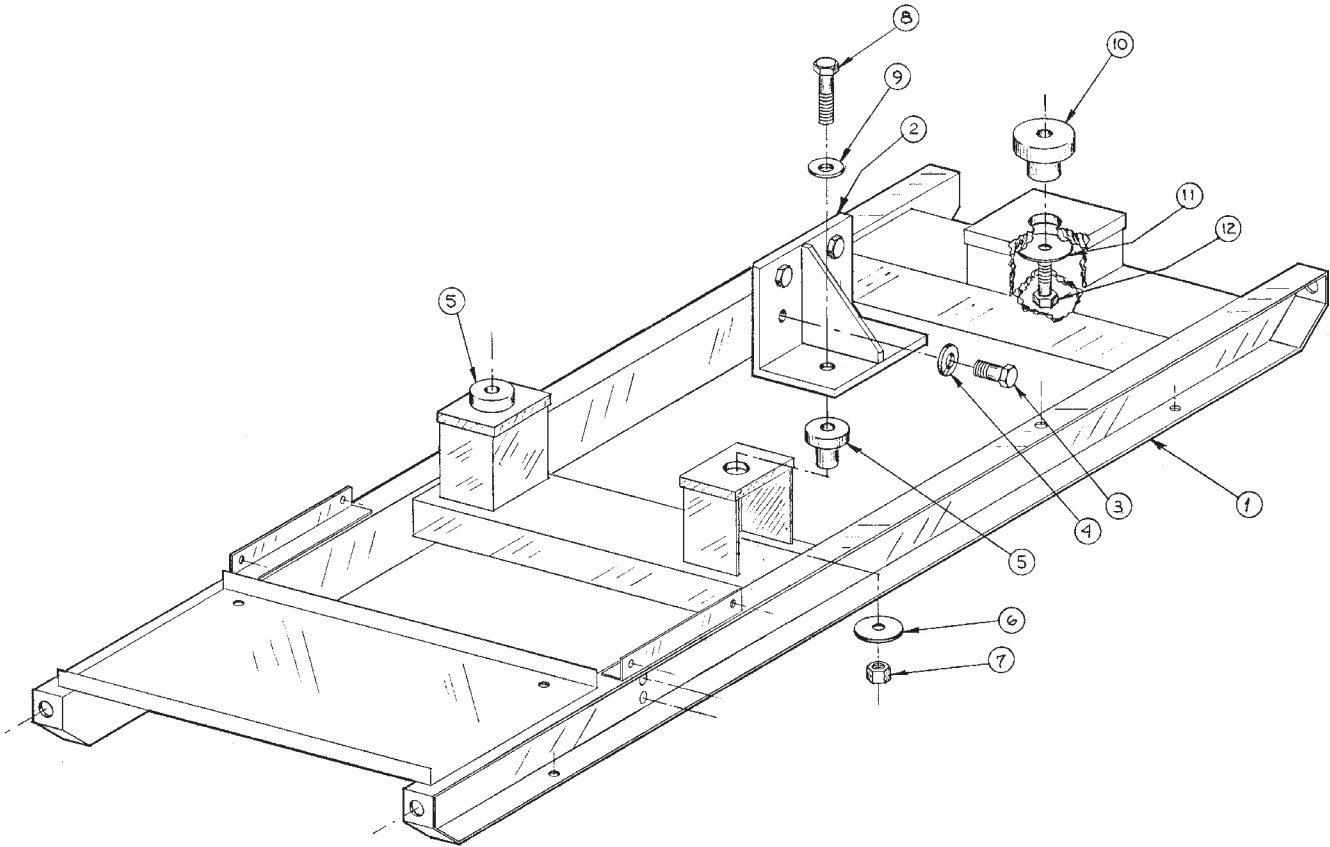
COUPLING

*Note: Replace earlier 33-88001 in pairs.

**As required.

Base Frame Assembly

Industrial Units with TFII-18B & TFIII-18B Generators

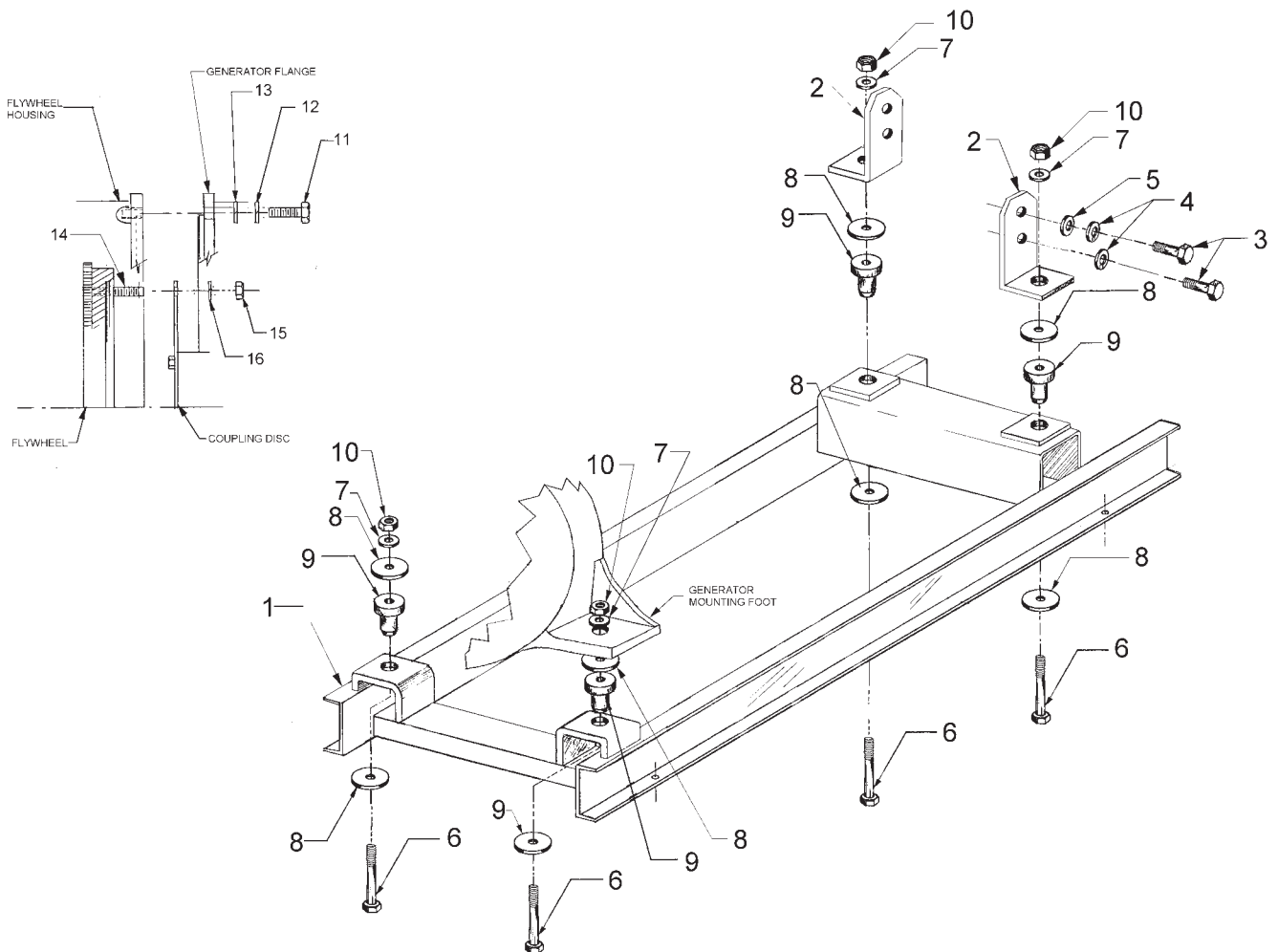


A-3202, A-6670/C-1927

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	39-88301	1	Base Frame	up to S/N xxxx-12696
	39-88304	1	Base Frame	from S/N xxxx-12697
2	23-88301	2	Engine Mounting Bracket	up to S/N xxxx-12696
	23-88302	2	Engine Mounting Bracket	from S/N xxxx-12697
3	12-00831	8	Cap Screw, Hex Head M10 x 1.5 x 25 mm	-
4	15-00802	8	Lock Washer M10	-
5	33-83100	2	Shock Mount, Front	-
6	15-00014	2	Snubbing Washer	-
7	14-00812	2	Nut, Nylock M10 x 1.5 x 45 mm	-
9	15-00805	2	Flat Washer, M10	-
10	33-82254	1	Shock Mount, Rear	-
11	15-00016	1	Snubbing Washer	-
12	12-04401	1	Cap Screw, Hex Head M12 x 1.75 x 55 mm	-

Base Frame Assembly

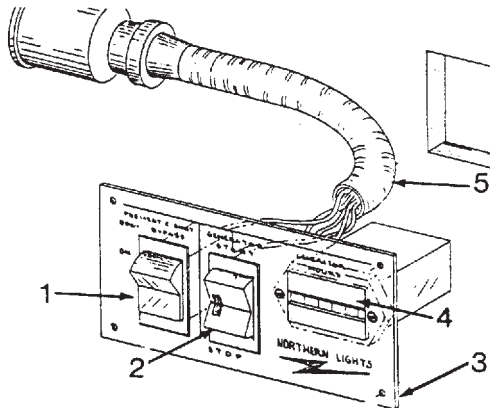
Industrial Units with TF276K & M Generators



P673: A-8649/ D-4322

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	39-88002	1	Base Frame	-
2	23-88003	2	Bracket	-
3	12-00832	4	Capscrew, Hex Head M10 x 1.5 x 30 mm	-
4	15-00802	4	Lock Washer, Helical M10	-
5	15-00805	4	Flat Washer, M10	-
6	12-00048	4	Capscrew, Hex Head M10 x 1.5 x 60 mm	-
7	15-00805	4	Flat Washer, M10	-
8	15-00014	8	Head/ Tail Washer	-
9	33-83100	4	Centerbonded Mount, 100 lb.	-
10	14-00812	4	Hex Nut, Nylock M10 x 1.5	-
11	12-00753	6	Capscrew, Hex Head M8 x 1.25 x 30 mm	-
12	12-04401	1	Cap Screw, Hex Head M12 x 1.75 x 55 mm	-
13	15-00701	6	Flat Washer, M8	-
14	012110025	4	Stud, M10 x 1.25 x 25 mm	-
15	14-00814	4	Hex Nut, M10 x 1.25	-
16	15-00802	4	Lock Washer, Helical M10	-

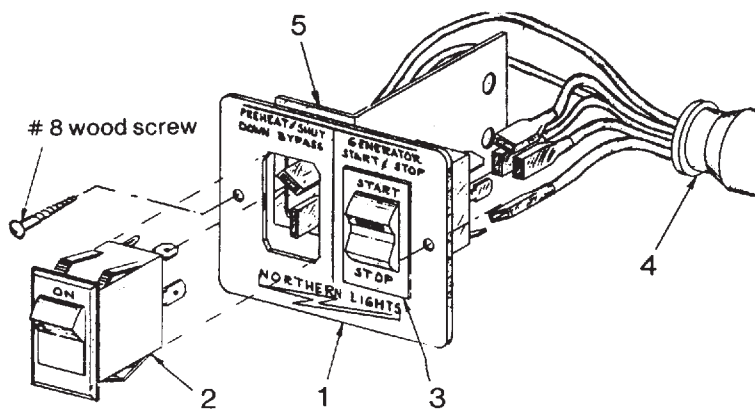
Series 1-B Control Panel



A-3171/ B-2986

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	22-90006	*	Series 1-B Control Panel (includes all keys)	-
1	22-90007	**	Switch, Preheat/Shutdown-bypass	-
2	22-90008	**	Switch, Engine Control	-
3	28-90003	1	Plate	-
4	22-90009	1	Hourmeter	-
5	22-40019	1	Wire Harness	-
*No longer available. Replaced by #22-92120.				
**Replaced by service kit #22-90195.				

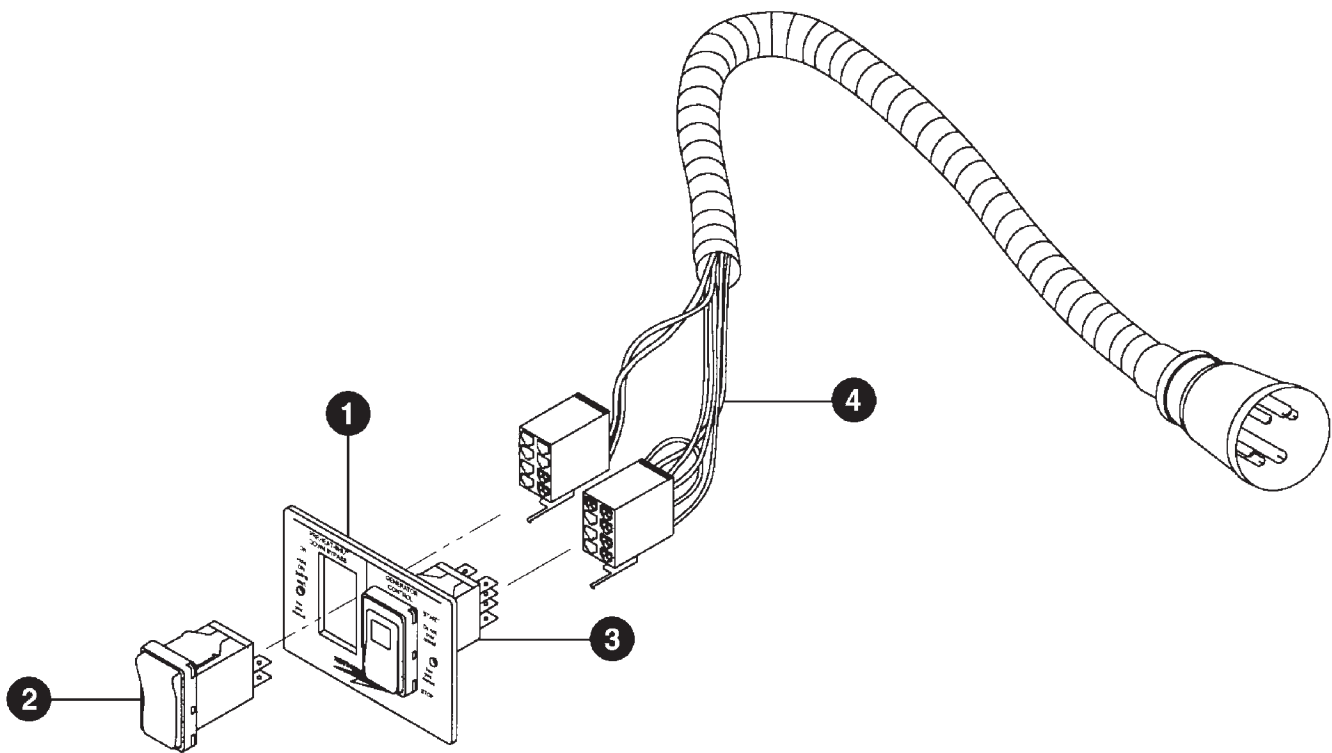
SERIES 1 CONTROL PANEL



A-2863/ B-2873

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	22-90005	*	Series 1 Control Panel (includes all Keys)	-
1	00-40013	1	Plate	-
2	22-90007	**	Switch, Preheat/Shutdown-Bypass	-
3	22-90008	1	Engine Control Switch	-
4	22-90009	1	Wire Harness	-
NOTES:				
*No longer available. Replaced by 22-92110.				
**Replaced by Service Kit #22-90195.				

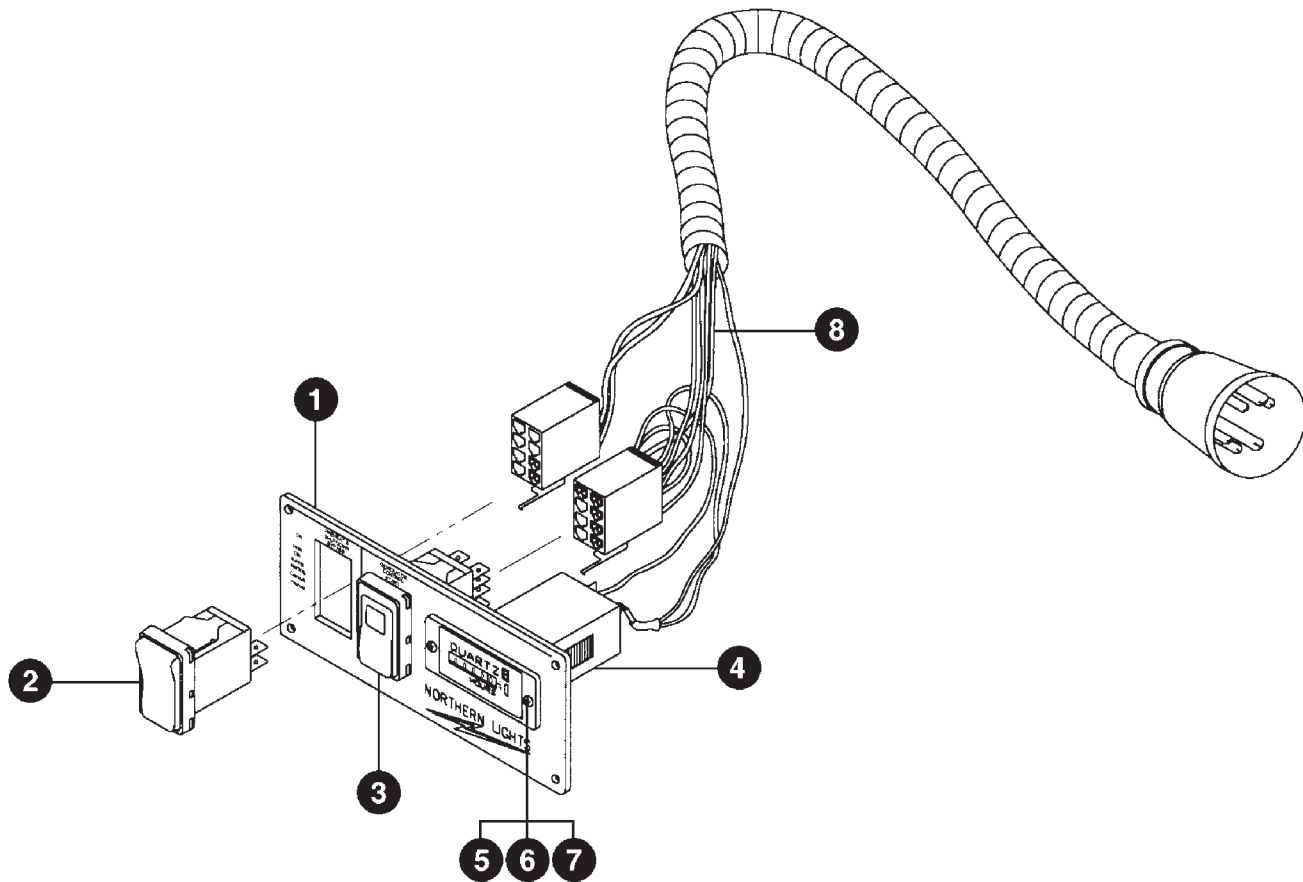
Series 1 Start/Stop Control Panel



P643: A-8551/B-5970

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	22-92110	1	Complete Series 1 Start/Stop Control Panel	-
1	00-40013	1	Plate	-
2	22-90167	1	Rocker Switch	-
3	22-90168	1	Rocker Switch	-
4	22-42066	1	Wire Harness	-

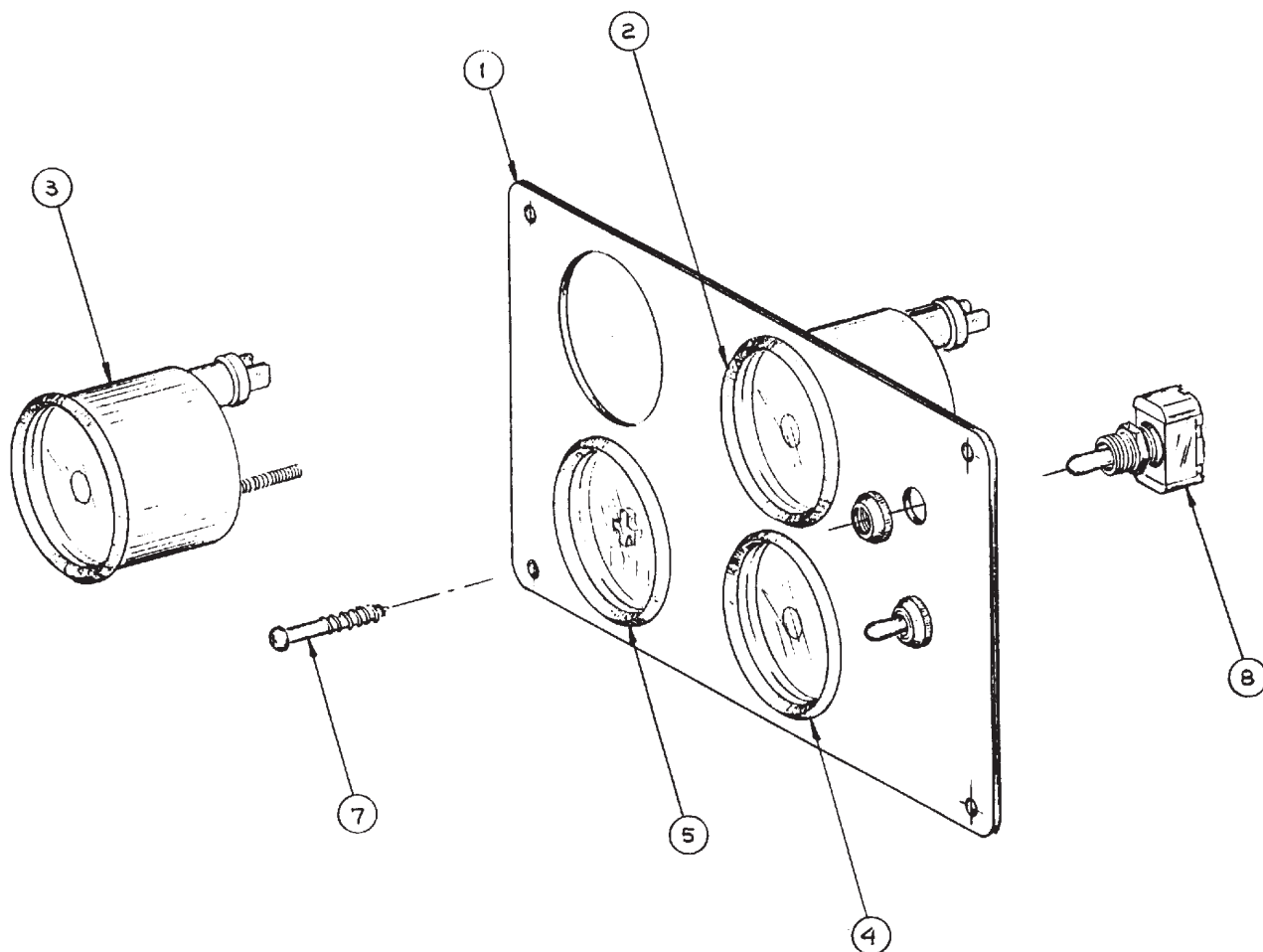
Series 1-B Start/Stop Control Panel



P643: A-8553/B-5971

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	22-92120	1	Complete Series 1-B Start/Stop Control Panel (includes all keys)	-
1	28-90003	1	Plate	-
2	22-90167	1	Rocker Switch	-
3	22-90168	1	Rocker Switch	-
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	22-42063	1	Wire Harness	-

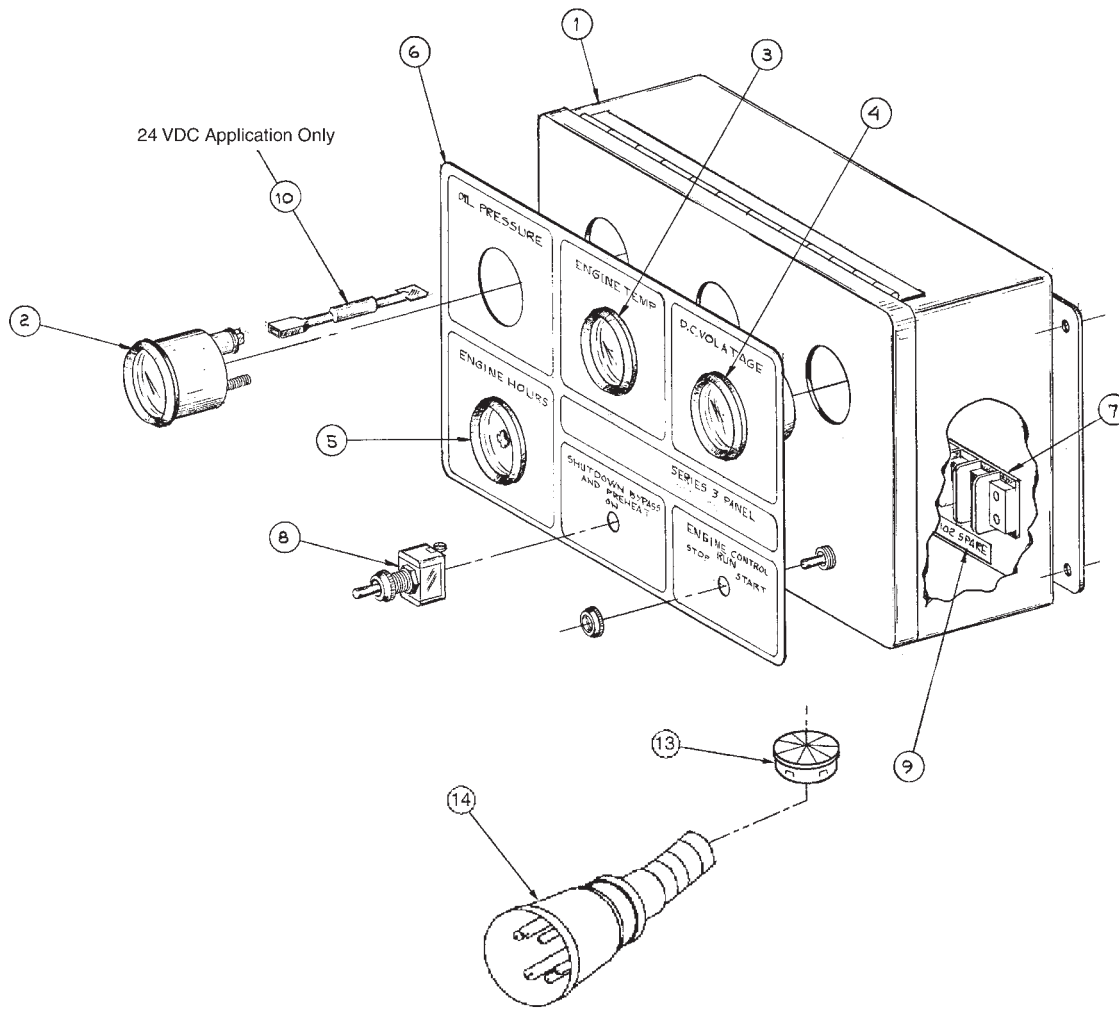
Standard Line, Flush Mount Compact Control Panel - 12 Volt



A-4596/C-2465

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	22-92015	1	S-3C Control Panel 12 Volt (includes all keys)	-
1	28-90010	1	Plate	-
2	37-40010	1	Oil Pressure Gauge, Standard Line	-
3	37-40011	1	Engine Temperature Gauge, Standard Line	-
4	37-40012	1	D.C. Voltmeter, Standard Line	-
5	27-40013	1	Hourmeter, Standard Line	-
6	22-40062	1	Panel Wire Harness (not shown)	-
7	12-90001	4	#6 x 1" type AB Phillips Round Head, Black	-
8	22-41051	2	Toggle Switch SPDT Momentary	-
9	22-44852	**	12 Volt Bulb (not shown)	-
**As required.				

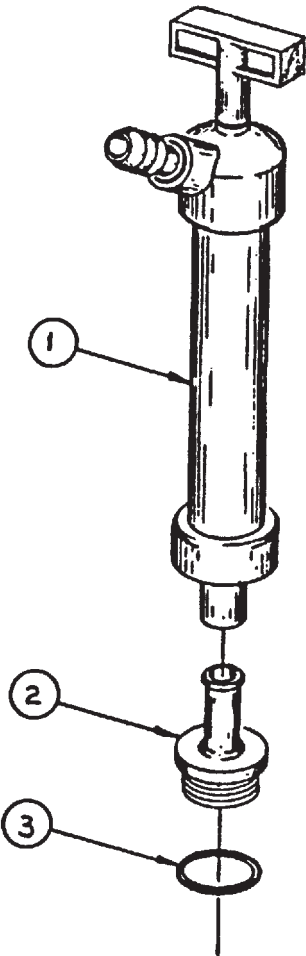
S-3B Control Panel - 12 Volt & 24 Volt



A-4721, A-4695, A-4722, A-4723/ C-2470

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	22-92031	1	S-3B Control Panel - 12 Volt (Includes all keys)	-
••	22-95420	1	S-3B Control Panel - 24 Volt (Includes all keys)	-
1	39-42008	1	Enclosure	-
2	37-40010	1	Oil Pressure Gauge, 0 - 80 PSI	-
3	37-40011	1	Engine Temperature Gauge, 0 - 250°F	-
4	37-40012	1	DC Voltmeter, 12 Volt, Standard Line	-
	37-40014	1	DC Voltmeter, 24 Volt, Standard Line	-
5	37-40013	1	Hourmeter, Standard Line	-
6	00-91018	1	Series 3 Control Panel Decal	-
7	22-41077	1	Terminal Board	-
8	22-41051	2	Toggle Switch, Momentary SPDT	-
9	22-00052	1	Number Strip	-
10	22-40004	2	Resistor Kit (24 Volt panel only)	-
11	22-44852	**	Clear Bulb, 12 Volt (not shown)	-
	22-44853	**	Clear Bulb, 24 Volt (not shown)	-
12	22-40257	1	Wire Harness (not shown)	-
13	00-41015	1	Plastic Bushing	-
14	22-40062	1	Connection Harness	-
**As required.				

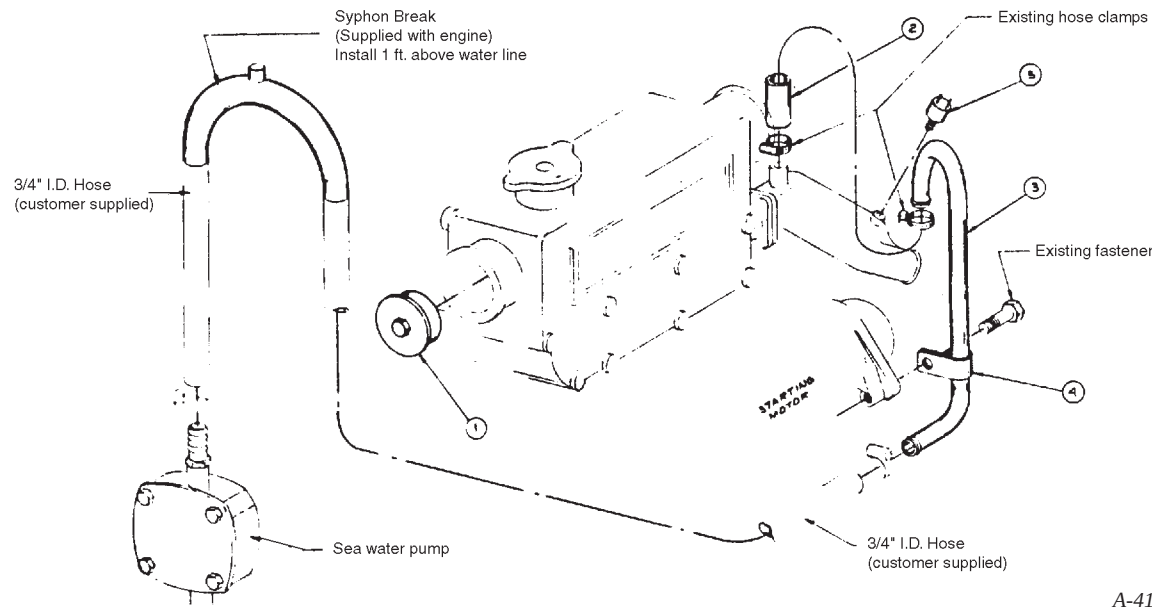
Oil Drain Kit



A-5024/B-3990

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	36-70010	1	Oil Drain Kit Complete (includes all keys)	-
1	36-72002	1	Hand Pump	-
2	31-70001	1	Adapter, Oil Drain	-
3	16-70001	1	O-ring	-

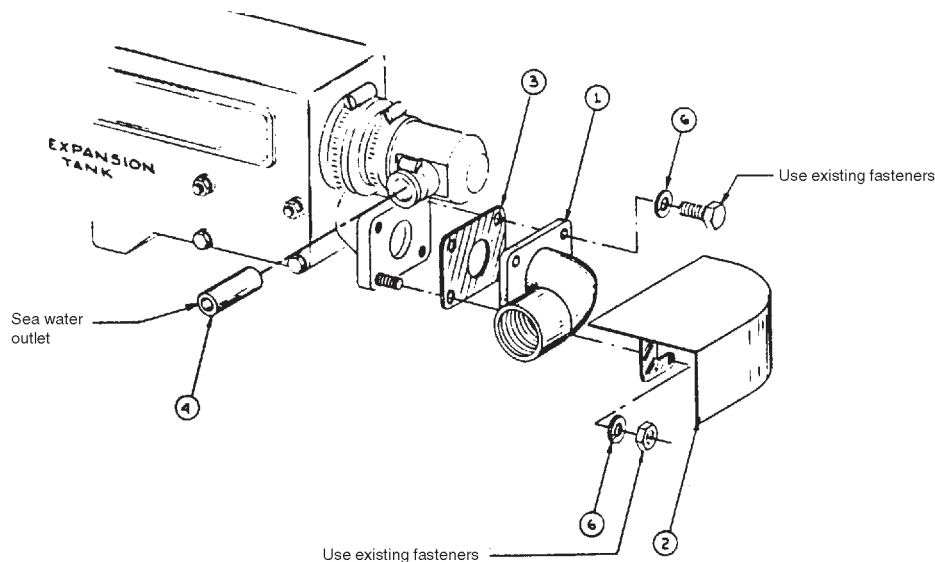
Heat Exchanger to Keel Cooled with Wet Exhaust Conversion



A-4170/C-2319

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	10-18301	2	Expansion Tank End Cap	-
2	18-00753	1	Hose, 3/4" ID x 2-1/4"	-
3	27-78301	1	Tube, Raw Water Pump to Wet Exhaust Elbow	-
4	19-00000	1	Adelle Clamp	-
5	22-42013	1	High Exhaust Temperature Switch	-

Dry Exhaust Elbow with Heat Exchanger



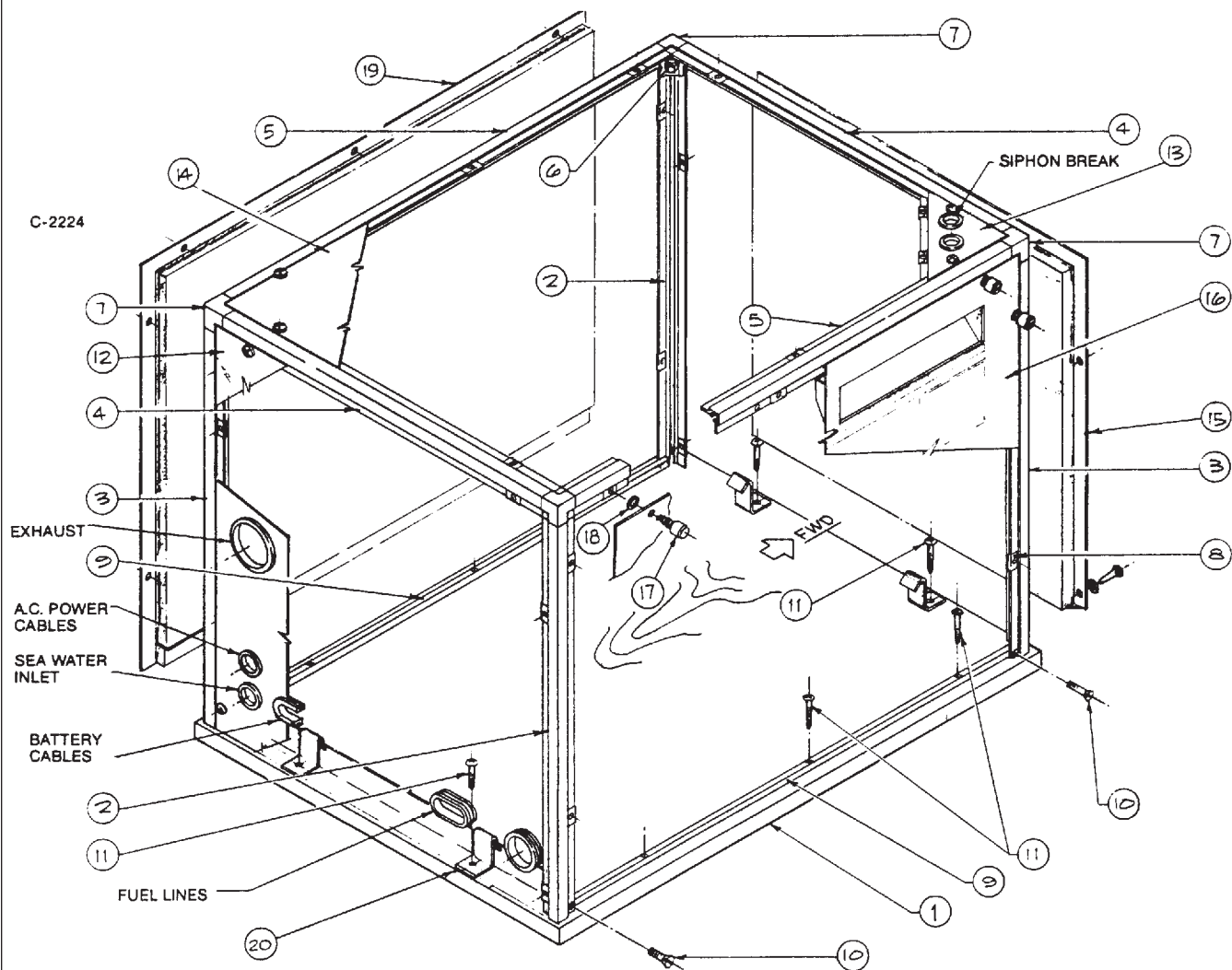
A-4177/C-2326

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	27-38300	1	Dry Exhaust Elbow, 1-1/4" NPT	-
2	00-38301	1	Heat Shield	-
3	135996550	1	Gasket	-
4	145986170	1	Pipe	-
5	15-01132	4	Lock Washer, Helical M6	-



9 - 7

Aluminum Sound Enclosure Assembly



KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
••	39-78303	1	Sound Enclosure Assembly	-
1	39-78312	1	Plywood Base	-
2	39-78313	2	Extrusion, Corner Upright, LF/RR	-
3	39-78315	2	Extrusion, Corner Upright, RF/LR	-
4	39-78317	2	Extrusion, Upper Corner, Front/Rear	-
5	39-78318	2	Extrusion, Upper Corner, Left/Right	-
6	00-78212	12	Bolting Assembly	-
7	00-78210	4	Corner Casting	-
8	00-78216	26	Spring Receptacle	-
9	39-78314	2	Base Runner, Enclosure Frame Mounting	-
10	12-70006	4	Machine Screw, #6-32 x 1/2" 82 CS	-
11	12-00074	10	Sheet Metal Screw #10 x 1" Pan Head	-

Aluminum Sound Enclosure Assembly

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
12	39-78310	1	Rear Panel Assembly (includes "•" up to Key 13)	-
•	39-78323	1	Rear Panel (not shown)	-
•	00-78324	1	Sound Foam, Lower (not shown)	-
•	00-78325	1	Sound Foam, Upper (not shown)	-
•	00-78301	1	Exhaust Grommet (not shown)	-
•	00-78215	4	Grommet, Water, Fuel, AC, Battery (not shown)	-
•	00-71614	1	Grommet, DC Power (not shown)	-
13	39-78326	1	Penetration Plate Assembly (includes "•" up to Key #14)	-
•	39-78325	1	Penetration Plate (not shown)	-
•	00-78329	1	Sound Foam (not shown)	-
•	00-78215	2	Grommet, 1-1/8" ID x 1-3/4" OD	-
•	00-78216	2	Spring Receptacle	-
14	39-78311	1	Top Panel Assembly (includes "•" up to Key #15)	-
•	39-78324	1	Enclosure Panel, Top (not shown)	-
•	00-78328	1	Sound Foam, Top Panel (not shown)	-
•	00-70100	1	Sound Foam, Access Hatch (not shown)	-
•	28-75402	1	Deck Plate, Water Access (not shown)	-
15	39-78309	1	Front Panel Assembly (includes "•" up to Key #16)	-
•	39-78322	1	Enclosure Panel, Front (not shown)	-
•	00-78323	1	Sound Foam, Front Panel (not shown)	-
16	39-78305	1	Right Side Panel Assembly (includes "•" up to Key #19)	-
•	39-78306	1	Enclosure Panel, Right Side (not shown)	-
•	00-78317	1	Sound Foam, Right Side Panel (not shown)	-
•	00-78318	1	Sound Foam, Upper Vent (not shown)	-
•	00-78319	1	Sound Foam, Vent Box (not shown)	-
•	00-78320	1	Sound Foam, Vent Box, Left Hand Side (not shown)	-
•	00-78321	1	Sound Foam, Vent Box, Right Hand Side (not shown)	-
•	00-70100	1	Sound Foam, Access Hatch (not shown)	-
•	00-78326	1	Sound Foam, Lower Side Panel (not shown)	-
•	28-75402	1	Deck Plate, Oil Dipstick Access (not shown)	-
17	00-78213	7	Thumb Screw (not shown)	-
18	00-78229	7	Retainer for Thumb Screw	-
19	39-78307	1	Left Side Panel Assembly (includes "•" up to Key #20)	-
•	39-78308	1	Enclosure Panel, Left Side (not shown)	-
•	00-78322	1	Sound Foam, Left Side Panel (not shown)	-
•	00-78318	1	Sound Foam, Upper Vent (not shown)	-
•	00-78319	1	Sound Foam, Vent Box (not shown)	-
•	00-78320	1	Sound Foam, Vent Box Left Hand Side (not shown)	-
•	00-78321	1	Sound Foam, Vent Box, Right Hand Side (not shown)	-
•	00-78326	1	Sound Foam, Lower Side Panel (not shown)	-
20	33-78300	4	Hold Down Clips	-
			MISCELLANEOUS HARDWARE NOT SHOWN:	
	12-72000	27	Sheet Metal Screw, #14 x 3/4"	-
	15-70001	27	Nylon Washer	-
	12-72003	12	Sheet Metal Screw, #8 x 3/8"	-
	44-78201	1	10 Feet, Adhesive Foam Strip, gray, 1/8" x 1/4"	-
	44-78204	1	10 Feet, Adhesive Foam Strip, black 3/8" x 7/16"	-
	53-72001	1	Tool for Installing Captive Thumb Screws	-



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.

© 2000 All rights reserved. Litho USA.