



# P488

For Models: NL488K2 & NL488W2

# 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 ©2004 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.: P448-2 10/04



# PARTS CATALOG

for Models

NL488K2 and NL488W2

*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 .....	0 - 1
Flywheel Housing and Oil Sump .....	2 - 3
Crankshaft and Piston .....	4 - 5
Camshaft and Driving Gear .....	6 - 7
Timing Gear Housing .....	8 - 9
Lubricating System .....	10 - 11
Cylinder Head and Rocker Arm Cover ...	12 - 13

### GROUP 2 - INTAKE & EXHAUST

Intake Manifold and Air Cleaner .....	0 - 1
Exhaust Manifold and Muffler .....	2 - 3

### GROUP 3 - COOLING SYSTEM

General Arrangement .....	0 - 1
Radiator and Modular Guard .....	2 - 3

### GROUP 4 - FUEL SYSTEM

Injection Pump .....	0
General Arrangement .....	2 - 3
Fuel Lines and Filter Mounting .....	4 - 5

### GROUP 5 - ELECTRICAL SYSTEM

Engine Electrical, 12 Volt .....	0 - 1
Starting Motor .....	2 - 3
Alternator and Mounting .....	4 - 5
Control Panel .....	6 - 7

### GROUP 6 - GASKETS

Gasket Set .....	0 - 1
------------------	-------

### GROUP 8 - FRAME & MOUNTING

PX-320K2 Frame Generator .....	0 - 1
--------------------------------	-------

#### Proprietary Information

This publication is the property of Northern Lights, Inc.

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

© Northern Lights, Inc. All rights reserved. Litho U.S.A. Publication number P488-2 10/04

## INTRODUCTION

### MODEL DESIGNATION

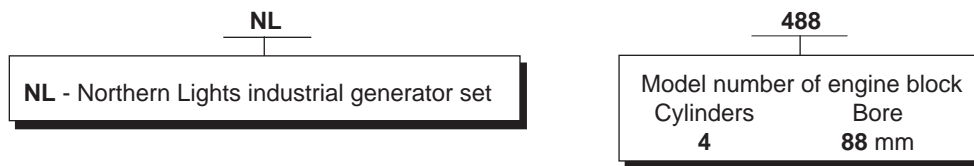
#### MODELS INCLUDED

This manual covers the operating instructions for:

**NL488K2 and NL488W2**, which uses the Yanmar model 4TNV88-GGE.

### MODEL NUMBERS

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



**NL488K2** Northern Lights industrial diesel generator set with a 488 engine, Tier II.

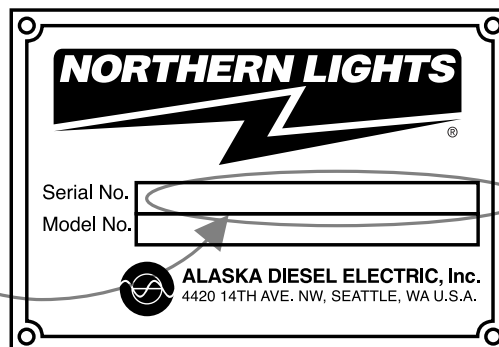
**NL488W2** Northern Lights industrial diesel generator set with a 488 engine and a new winding generator end, Tier II.

### 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  
for units with PXX generators*



**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 - NL488**

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	-

P488 06/96

5-2

**REFERENCES:**

- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1. Grouping section title.</li> <li>2. Model designation of equipment that uses parts listed on this page.</li> <li>3. Title and description of assembly.</li> <li>4. Drawing numbers that correspond to key column numbers for parts identification.</li> <li>5. Key column for locating parts shown on drawing.</li> <li>6. Part number.</li> </ol> | <ol style="list-style-type: none"> <li>7. Quantity of parts used.</li> <li>8. Description of each component part.</li> <li>9. Serial number of unit the part fits.</li> <li>10. Assembly or kit designated by Key 0 or ••/•.</li> <li>11. Grouping index number.</li> <li>12. Page number within the grouping index.</li> <li>13. Manual title.</li> <li>14. Page publication date.</li> </ol> |
|--|--|

**NOTE:** ▶ Arrows always point toward the front of the engine.

# Cylinder Block

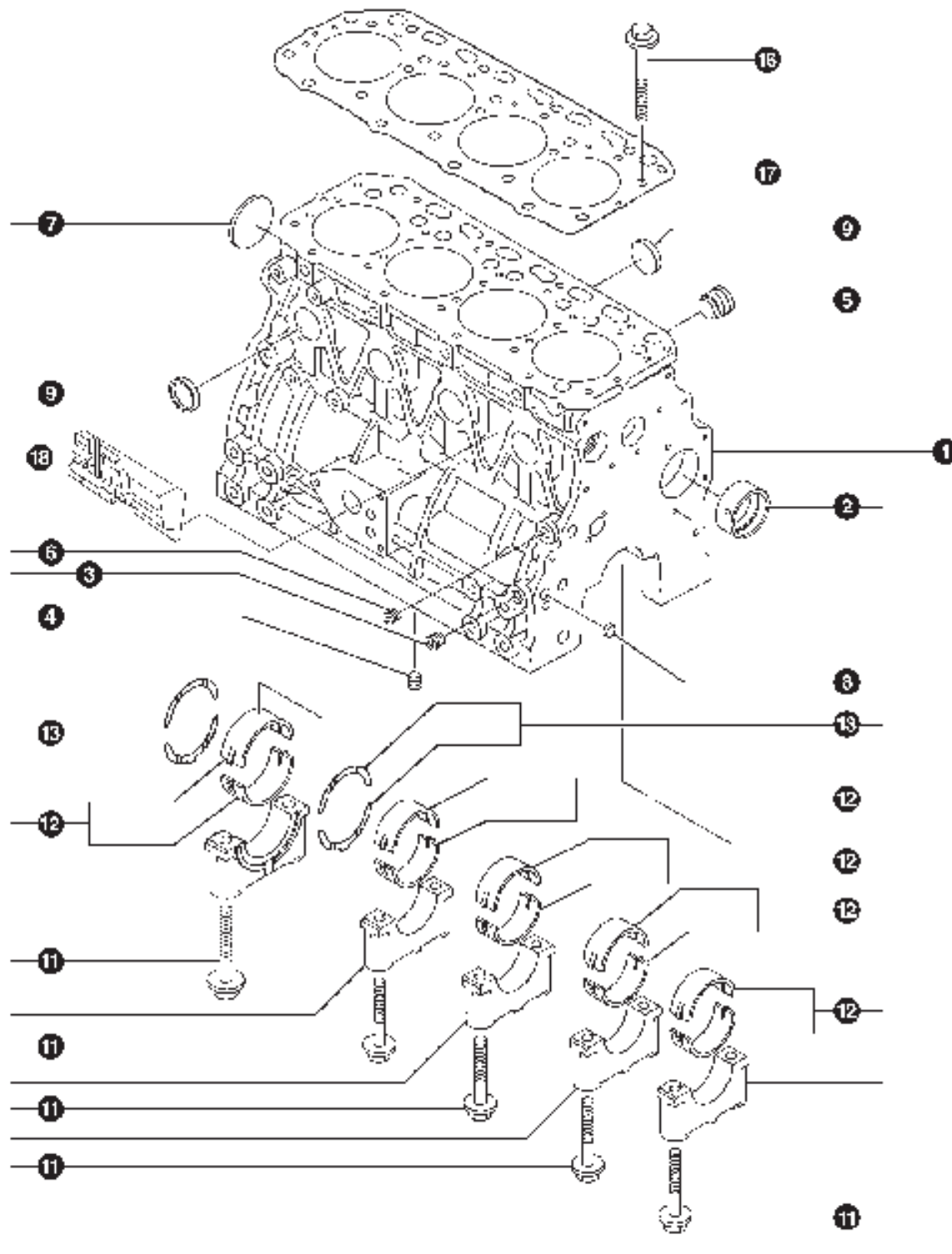


Figure 1

## Cylinder Block

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	729602-01560	1	Cylinder Block Assembly	-
2	129795-02411	1	Camshaft Bush	-
3	124160-01910	2	Plug, 1/4 BSPT	-
4	124160-01910	1	Plug, 1/4 BSPT	-
5	171051-01921	1	Plug	-
6	124060-01050	1	Plug, 1/8	-
7	129001-01250	1	Plug 50 mm	-
8	27241-120000	2	Plug 12 mm	-
9	27241-300000	8	Plug 30 mm	-
11	129150-02020	10	Bearing Cap Bolt	-
12	129001-02930	5	Main Bearing, Standard	-
	129150-02870	5	Main Bearing, Under-sized 0.25 mm	-
13	129150-02930	2	Thrust Bearing, Standard	-
	129150-02940	2	Thrust Bearing, Over-sized 0.25 mm	-
16	129150-01200	18	Cylinder Head Bolt	-
17	129407-01340	1	Cylinder Head Gasket	-
18	129004-01190	1	Spacer	-

# Flywheel Housing and Oil Sump

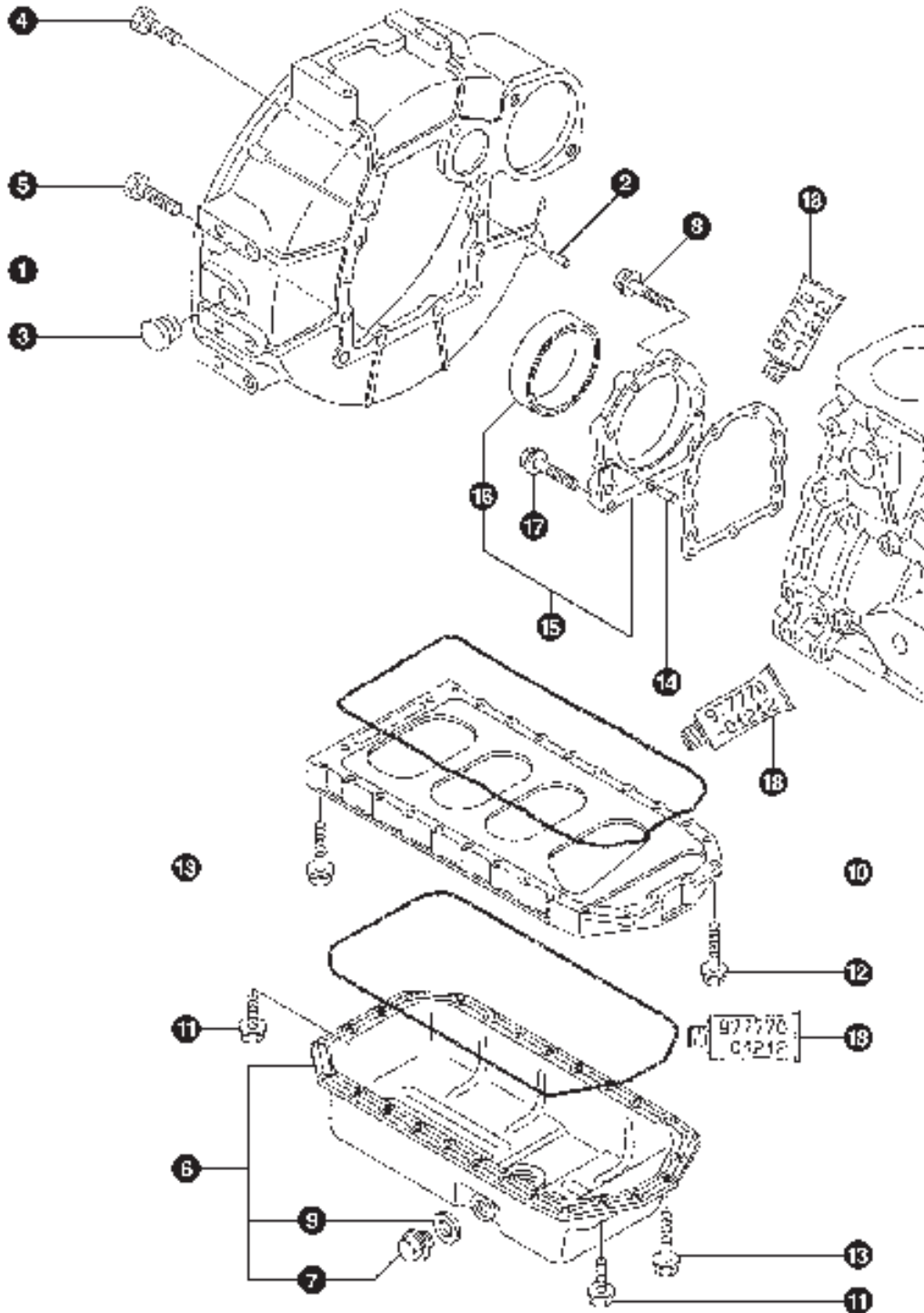


Figure 2



## Flywheel Housing and Oil Sump

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	171420-01600	1	Flywheel Housing	-
2	129100-01580	2	Parallel Pin	-
3	119620-01750	1	Plug	-
4	26206-100252	6	Bolt, M10 x 25	-
5	26206-100302	4	Bolt, M10 x 30	-
6	129400-01770	1	Oil Sump Assembly (Includes keys #7 & 9)	-
7	119640-01640	1	Drain Plug M22 x 1.5	-
	36-77300	1	Oil Drain Valve with 5/8" Hose Barb (Optional - not shown)	-
8	129486-01670	1	Bolt, M8 x 30	-
9	29190-220002	1	Seal Washer	-
10	129400-01730	1	Oil Sump Spacer	-
11	26106-080162	4	Bolt, M8 x 16 Plated	-
12	26106-080252	2	Bolt, M8 x 25 Plated	-
13	26106-080452	24	Bolt, M8 x 45 Plated	-
14	129100-01580	2	Parallel Pin 8 x 16	-
15	129100-01640	1	Rear Main Seal Retainer (Includes keys #16 & 17)	-
16	129795-01780	1	Rear Main Seal	-
17	26106-080352	3	Bolt, M8 x 35 Plated	-
18	927770-01212	**	Liquid Gasket	-

\*\*As required.

# Crankshaft and Piston

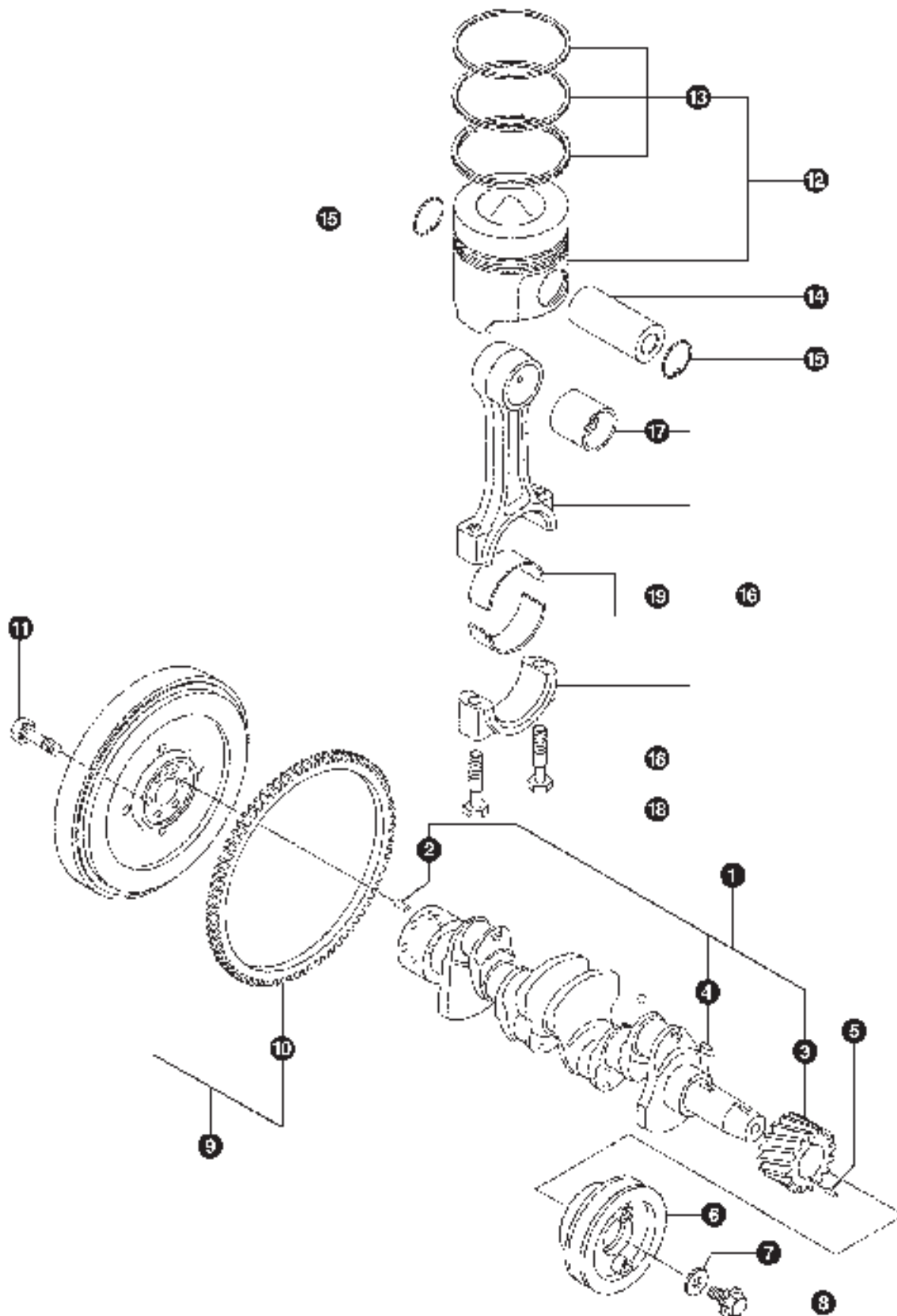


Figure 3

## Crankshaft and Piston

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	129601-21002	1	Crankshaft Assembly	-
2	129100-01580	1	Pin	-
3	119802-21202	1	Crankshaft Gear	-
4	22512-070140	1	Key	-
5	22351-030010	1	Spring Pin	-
6	119802-21660	1	Crankshaft Pulley	-
7	129795-21661	1	Washer	-
8	121850-21680	1	Bolt	-
9	171420-21590	1	Flywheel Assembly (Includes key #10)	-
10	124550-21600	1	Ring Gear (127 Teeth)	-
11	121111-21501	6	Bolt	-
12	129005-22080	4	Piston with Rings, Standard	-
	129005-22900	4	Piston with Rings, Over-sized 0.25 mm	-
13	129005-22500	4	Piston Ring Set, Standard	-
	129005-22950	4	Piston Ring Set, Over-sized 0.25 mm	-
14	129202-22300	4	Piston Pin	-
15	22252-000260	8	Snap Ring	-
16	729402-23100	4	Connecting Rod Assembly (Includes keys #17 - #19)	-
17	129100-23910	4	Piston Pin Bush	-
18	121550-23200	8	Connecting Rod Bolt	-
19	129150-23600	4	Bearing, Standard	-
	129150-23610	4	Bearing, Under-sized 0.25 mm	-

### Camshaft and Driving Gear

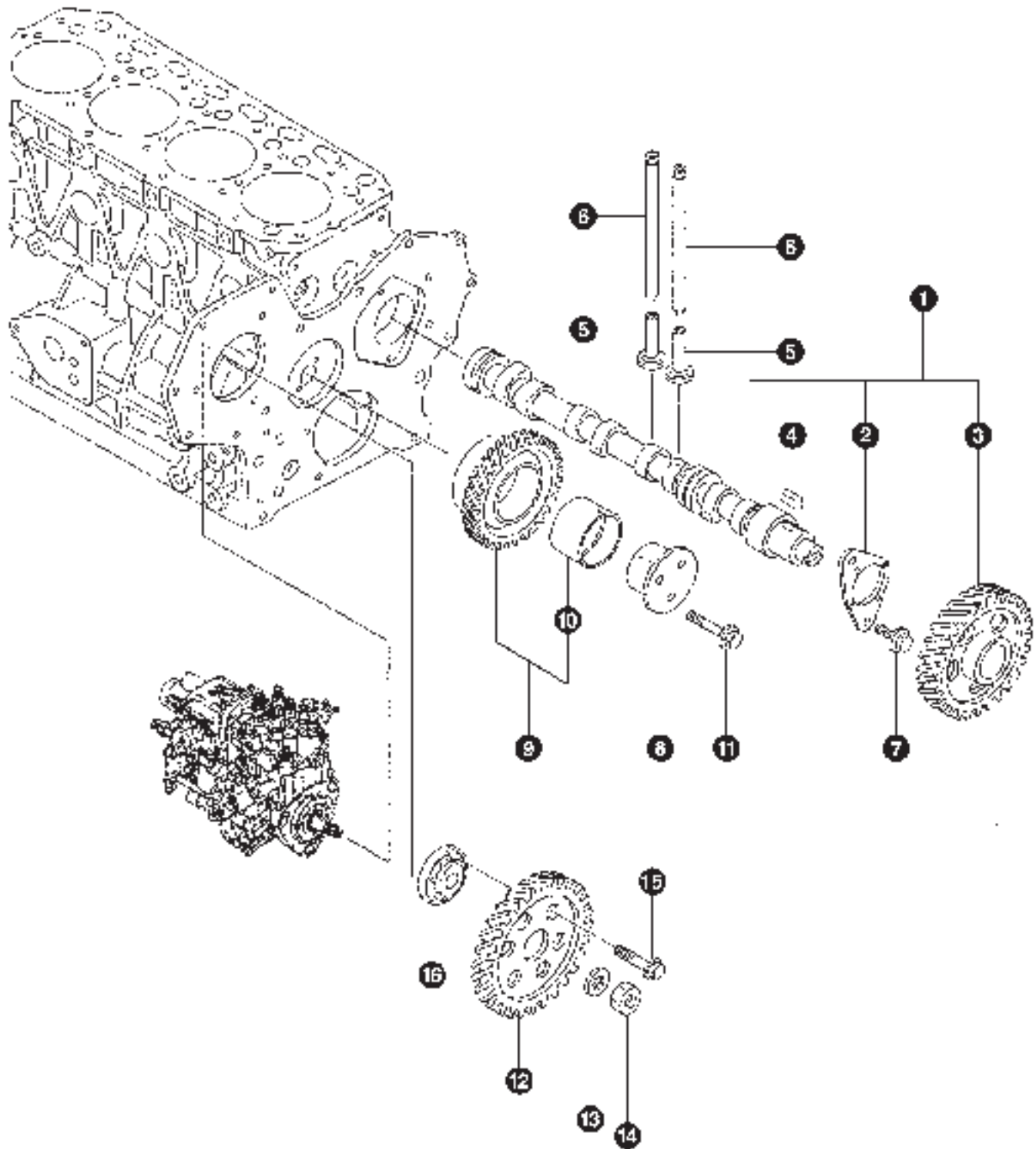
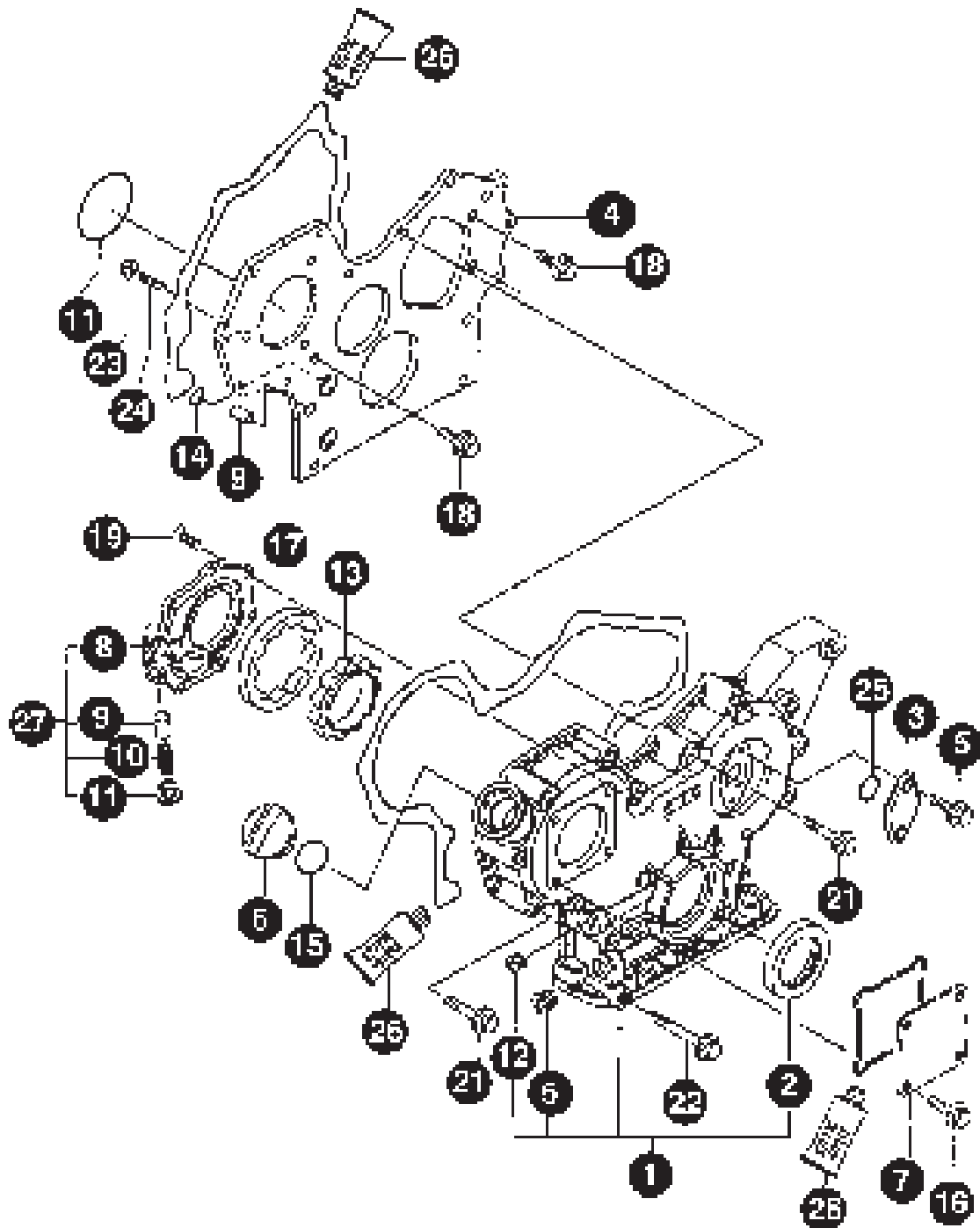


Figure 4

## Camshaft and Driving Gear

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	729601-14580	1	Camshaft Assembly (Includes keys #2 - 4)	-
2	129150-02450	1	Thrust Bearing	-
3	129150-14101	1	Camshaft Gear	-
4	22512-070140	1	Key, 7 x 14	-
5	129150-14200	8	Tappet	-
6	129150-14400	8	Push Rod	-
7	26106-080142	2	Bolt, M8 x 14 Plated	-
8	119802-25051	1	Idle Gear Shaft	-
9	119802-25100	1	Idle Gear (Includes key #10)	-
10	119802-25070	1	Bushing	-
11	26106-080402	3	Bolt, M8 x 40 Plated	-
12	119802-25901	1	Gear, Injection Pump Drive	-
13	22217-140000	1	Spring Washer, M14	-
14	26776-140002	1	Lock Nut, M14 Plated	-
15	129150-25301	4	Bolt	-
16	158552-51151	1	Flange	-

# Timing Gear Housing



## Timing Gear Housing

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	719802-01500	1	Timing Cover Assembly (Includes key #2, 5, 12, & 22)	-
2	129795-01800	1	Oil Seal	-
3	121023-01550	1	Cover	-
4	119802-01520	1	Housing Flange	-
5	23876-040000	1	Plug, 1/2 Pt.	-
6	124160-01751	1	Cover	-
7	124240-01871	1	Cover	-
8	119802-32070	1	Oil Pump Cover	-
9	129900-32130	1	Relief Valve	-
10	129418-32320	1	Spring	-
11	129001-32330	1	Plug	-
12	23876-030000	1	Plug	-
13	119802-32111	1	Inner Rotor	-
14	119609-32040	4	O-ring	-
15	24311-000320	1	O-ring	-
16	26106-080162	4	Bolt, M8 x 16 Plated	-
17	119802-32120	1	Outer Rotor	-
18	26106-080162	3	Bolt, M8 x 16 Plated	-
19	119802-32130	7	Screw, M6 x 16	-
21	26106-080552	12	Bolt, M8 x 55 Plated	-
22	129001-91841	3	Bolt, M8 x 85	-
23	26306-080002	3	Nut	-
24	119802-01560	3	Stud, M8 x 25	-
25	24341-000240	1	O-ring	-
26	977770-01212	**	Liquid Gasket	-
27	119802-32100	1	Cover Assembly	-

\*\*As required.

# Lubricating System

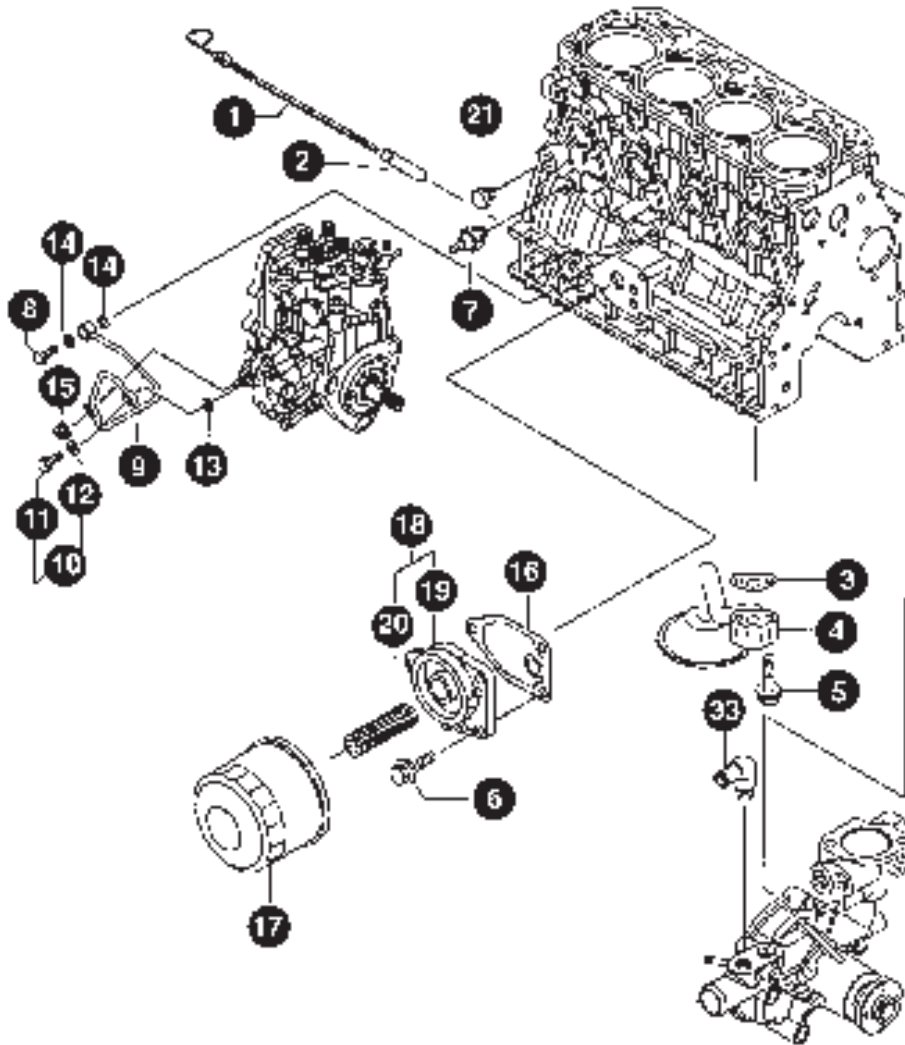


Figure 6



## Lubricating System

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	129004-34801	1	Dipstick	-
2	121520-34810	1	Dipstick Guide	-
3	129150-35041	1	Gasket	-
4	129436-35091	1	Oil Pipe	-
5	26106-080352	2	Bolt M8 x 35 Plated	-
6	26106-080202	3	Bolt, M8 x 20 Plated	-
7	22-40233	1	Low Oil Switch (see electrical system)	-
8	124160-39140	1	Bolt, Pipe Joint	-
9	119802-39450	1	Oil Pipe	-
10	129005-59830	1	Bolt	-
11	23857-030000	1	Joint Bolt	-
12	22190-080002	1	Seal Washer	-
13	22190-080002	1	Seal Washer	-
14	22190-100002	2	Seal Washer	-
15	26366-060002	1	Nut M6	-
16	129150-35111	1	Gasket	-
17	24-07301	1	Filter	-
18	119802-35100	1	Bracket	-
19	119802-35110	1	Bracket	-
20	129100-35140	1	Stud	-
21	171056-49120	1	Drain Plug	-

### Cylinder Head and Rocker Arm Cover

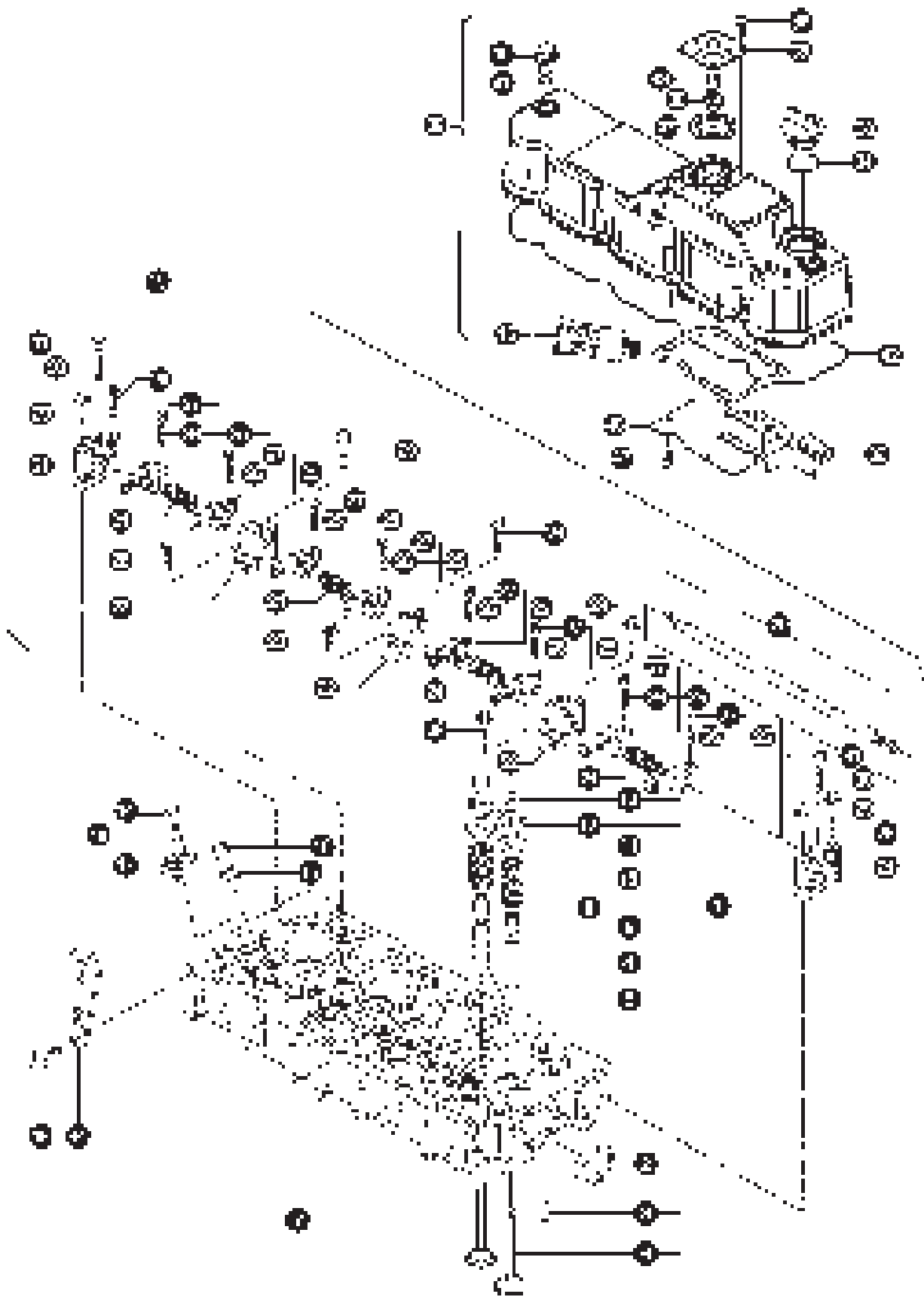
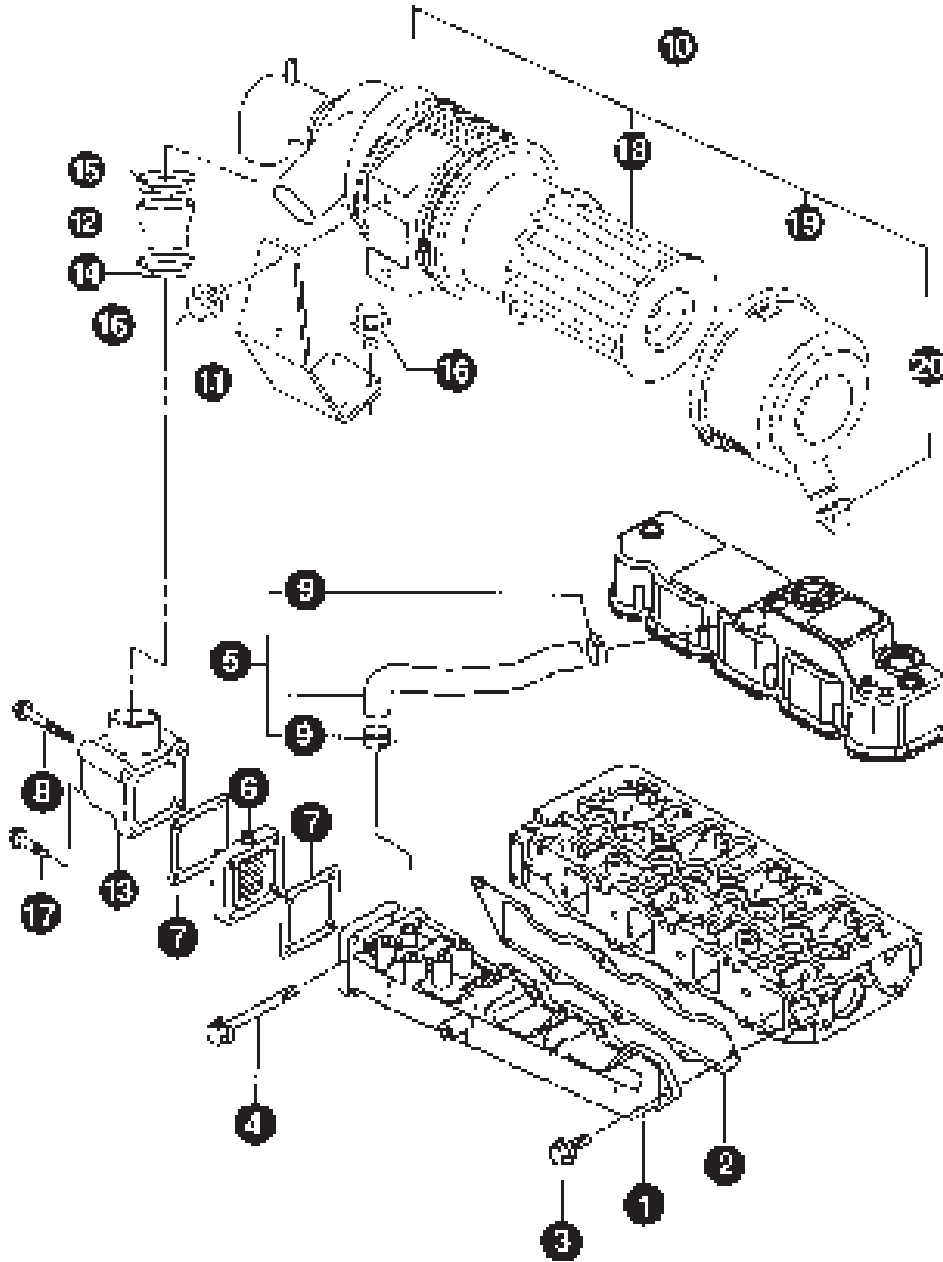


Figure 7

## Cylinder Head and Rocker Arm Cover

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	129601-11700	1	Cylinder Head Assembly (Includes keys #1 - 13)	-
2	27241-400000	2	Plug 40 mm	-
3	22351-060012	2	Spring Pin, 6 x 12	-
4	124460-11340	4	Valve Guide, Intake	-
5	129150-11810	4	Valve Guide, Exhaust	-
6	129004-11100	4	Intake Valve	-
7	129100-11110	4	Exhaust Valve	-
8	121400-11340	4	Valve Stem Seal	-
9	124460-11340	4	Valve Stem Seal	-
10	129795-11120	8	Valve Spring	-
11	129795-11180	8	Spring Retainer	-
12	27310-080001	8	Cotter Pin	-
13	129150-11370	8	Valve Cap	-
14	26106-080352	4	Bolt, M8 x 35 Plated	-
15	119625-11880	4	Nozzle Seat	-
16	119802-11870	4	Nozzle Protector	-
17	129004-11900	4	Retainer	-
18	120270-54410	4	Washer	-
19	129601-11241	1	Rocker Arm Shaft Assembly (Includes keys #20 - 30)	-
20	129601-11251	1	Rocker Arm Shaft	-
21	119802-11260	2	Rocker Arm Support	-
22	119802-11270	3	Rocker Arm Support	-
24	129150-11280	4	Spring	-
25	129004-11650	8	Rocker Arm Assembly (Includes keys #26 - 27)	-
26	129150-11230	8	Valve Screw	-
27	129150-11750	8	Nut, M8 x 1.0	-
28	26106-080252	3	Bolt, M8 x 25 Plated	-
29	26106-080502	7	Bolt, M8 x 50 Plated	-
30	26226-080182	3	Stud, M8 x 18 Plated	-
32	129601-11350	1	Rocker Arm Cover Assembly (Includes keys #33 - 43 & #46 - 48)	-
33	124160-01751	1	Lubricating Oil Supply Cap	-
34	24311-000320	1	O-ring	-
35	119802-03121	1	Breather Cover	-
36	119802-03110	1	Breather Plate	-
37	119802-03130	1	Diaphragm	-
38	22857-500100	4	Screw, 5 x 10, Self-tapping	-
39	129150-03070	1	Breather Baffle	-
40	124160-11360	3	Knob	-
41	24311-000120	3	O-ring	-
42	129601-11310	1	Gasket	-
43	119802-03141	1	Breather Spring	-
44	129900-07900	2	Lifting Eye	-
45	26106-080142	4	Bolt, M8 x 14 Plated	-
46	977770-01212	1	Liquid Gasket	-
47	22857-500100	4	Screw, 5 x 10 Self-tapping	-
48	129004-03010	1	Baffle Plate	-

# Intake Manifold and Air Filter

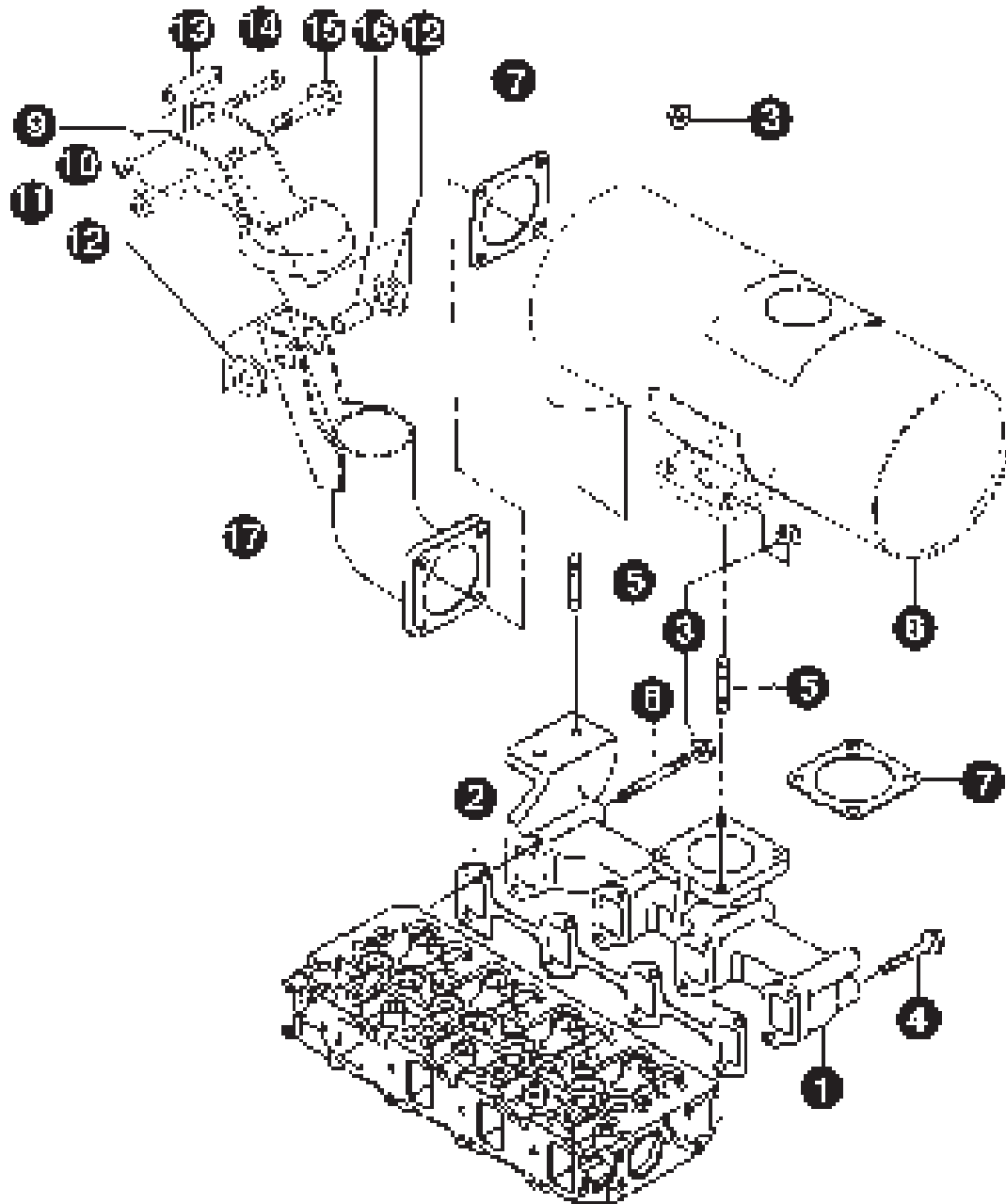


488 intakemanifold

## Intake Manifold and Air Filter

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	129601-12100	1	Intake Manifold	-
2	129407-12110	1	Gasket	-
3	26106-080202	6	Bolt, M8 x 20 Plated	-
4	26106-080802	1	Bolt, M8 x 80 Plated	-
5	129601-03080	1	Hose (includes key #13)	-
6	129120-77501	1	Air Heater	-
7	129150-77511	1	Gasket	-
8	26106-080802	2	Bolt M8 x 80 Plated	-
9	124410-03990	2	Clamp	-
10	129601-12510	1	Air Cleaner	-
11	129508-12560	1	Bracket	-
12	129642-12550	1	Intake Hose	-
13	171340-77520	1	Intake Joint	-
14	23000-060000	1	Hose Clamp	-
15	23000-080000	1	Hose Clamp	-
16	26013-080222	6	Bolt, 8 x 22	-
17	26106-080402	2	Bolt, 8 x 40	-
18	24-28501	1	Element (outer - standard)	-
18	24-28502	1	Element (inner - optional)	-
19	119808-12530	1	Cover Assembly	-
20	119808-12540	1	Valve	-

### Exhaust Manifold and Muffler

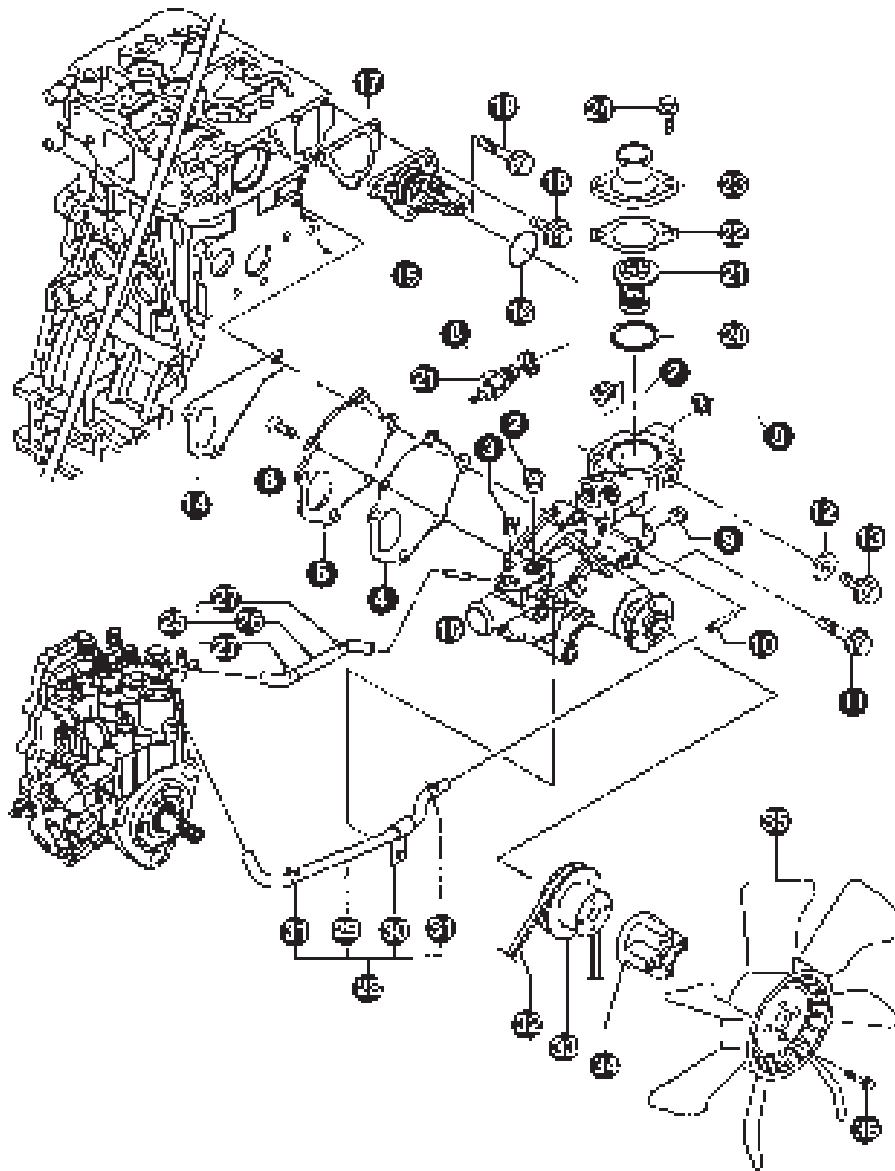


488exhaustmanifold

## Exhaust Manifold and Muffler

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	129601-13109	1	Exhaust Manifold	-
2	129550-13110	1	Gasket	-
3	26306-080002	10	Nut	-
4	123900-13630	6	Bolt, M8 x 80	-
5	119131-18320	4	Stud, M8 x 22	-
6	123900-13610	2	Stud, M8 x 80	-
7	129930-13200	1	Gasket	-
8	129601-13550	1	Silencer (includes keys 9 - 17)	-
9	128300-13640	1	Rain Cap	-
10	26347-040002	1	U-nut, M4	-
11	26347-060002	1	U-nut, 6	-
12	121855-13830	2	Spacer	-
13	123500-13840	1	Spacer	-
14	26557-040352	1	Screw, M4 x 35	-
15	26106-060402	1	Bolt, M6 x 40 Plated	-
16	121855-13821	1	Spacer	-
17	123925-13600	1	Tail Pipe	-

### Cooling System - General Arrangement





## Cooling System - General Arrangement

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	129004-42001	1	Coolant Pump (includes keys #2-10, and 21)	-
2	129916-49740	2	Drain Plug	-
3	23876-020000	2	Screw Plug, 1/4 Pt.	-
4	129100-42051	1	Gasket	-
5	129100-42121	1	Plate	-
6	121850-42410	3	Screw	-
8	124465-44950	2	Gasket	-
9	23876-010000	1	Screw Plug 1/8 Pt.	-
10	119802-49113	2	Joint	-
11	26106-080602	3	Bolt, M8 x 60 Plated	-
12	23414-080000	1	Gasket	-
13	26106-080122	1	Bolt, M8 x 12 Plated	-
14	129486-42021	1	Gasket	-
15	129004-42040	1	Joint	-
16	129486-42140	1	O-ring	-
17	124395-49840	1	Gasket	-
18	26106-080162	1	Bolt, M8 x 16 Plated	-
19	26106-080452	1	Bolt, M8 x 45 Plated	-
20	129150-49811	1	Gasket	-
21	129155-49801	1	Thermostat 71°C/ 160°C	-
22	129795-49551	1	Gasket	-
23	129350-49530	1	Thermostat Cover	-
24	26106-080222	2	Bolt, M8 x 22 Plated	-
25	129004-49620	1	Pipe Assembly	-
26	129004-49721	1	Water Pipe	-
27	124722-59050	2	Clamp	-
28	129004-49610	1	Pipe Assembly (includes keys #29 -31)	-
29	129004-49711	1	Pipe Assembly	-
30	119802-49730	1	Clamp	-
31	124722-59050	2	Clamp	-
32	119831-42290	1	Drive Belt	-
33	129155-42350	1	Pulley	-
34	121267-44760	1	Spacer	-
35	129612-44700	1	Cooling Fan	-
36	26106-060302	4	Bolt, M6 x 30 Plated	-

## Radiator and Modular Guard

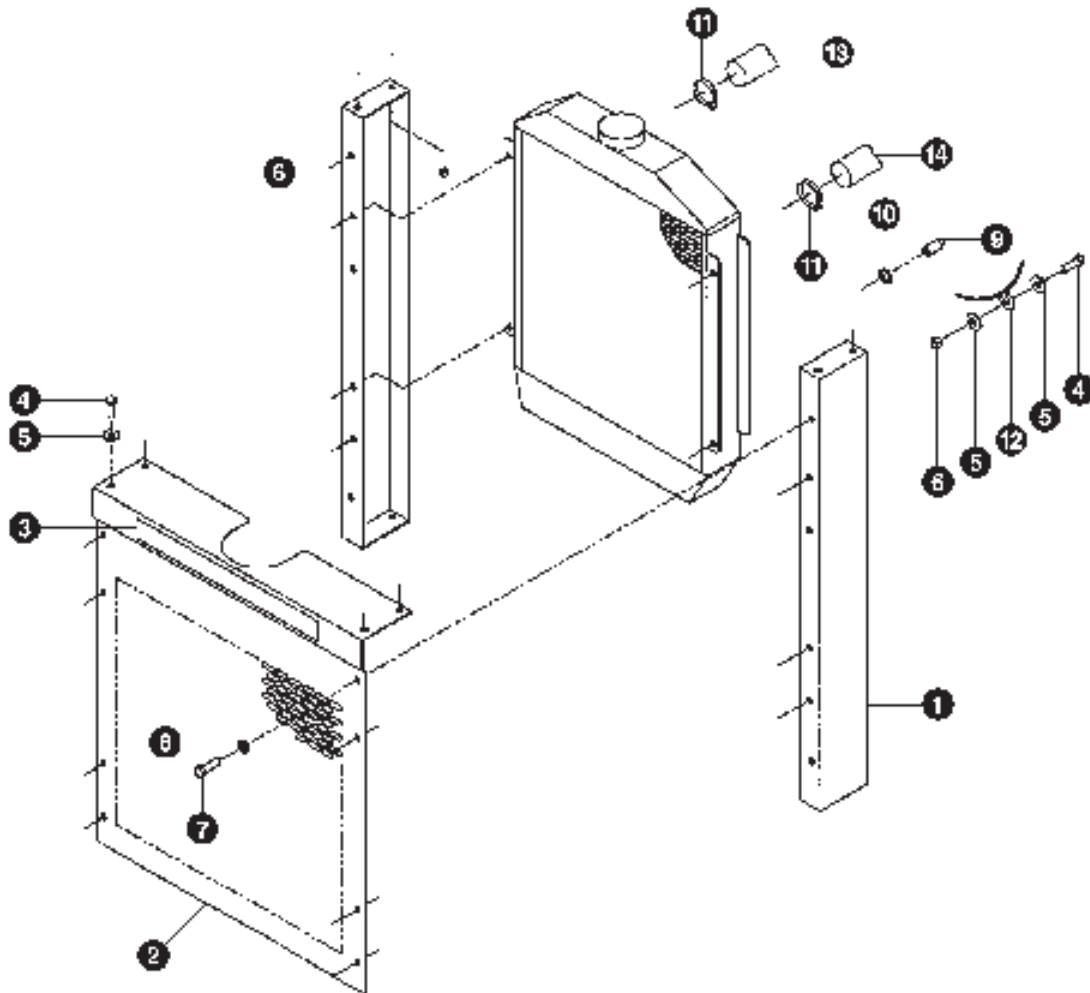


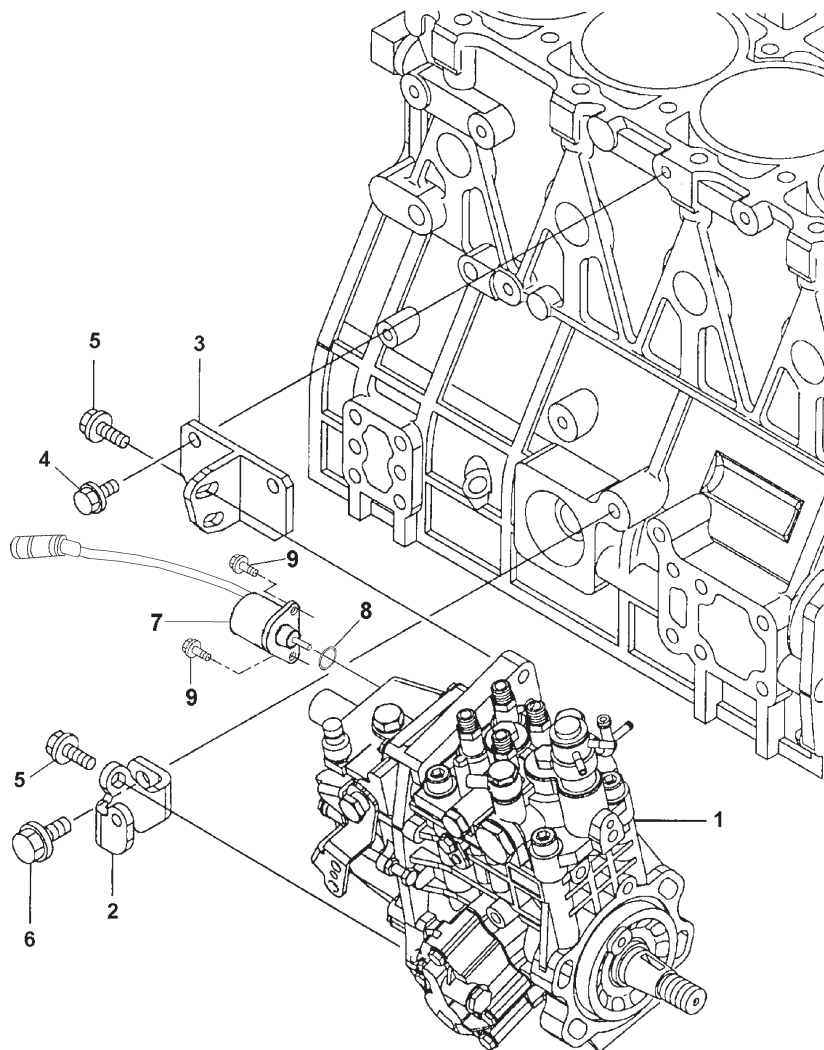
Figure 11: C-3086

## Radiator and Modular Guard

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	39-17307	2	Side Panel	-
2	39-17311	1	Grill	-
3	00-70075	1	Label, "Northern Lights"	-
4	12-00711	16	Capscrew, Hex Head M8 x 1.25 x 20 mm	-
5	15-00701	32	Flat Washer M8	-
6	14-04802	16	Hex Nut, Nylock M8 x 1.25	-
7	12-00751	4	Capscrew, Hex Head M8 x 1.25 x 16 mm	-
8	15-00702	4	Lock Washer, Helical M8	-
9	20-17301	1	Radiator Drain Cap, 1/4" ID	-
10	19-50001	1	Speedy Clamp, Size C	-
11	19-00016	4	Hose Clamp #16	-
12	129420-44560	1	Fan Guard	-
13	171420-49010	1	Hose, Radiator Inlet	-
14	171420-49020	1	Hose, Radiator Outlet	-

GROUP 4 – FUEL SYSTEM

**Injection Pump**

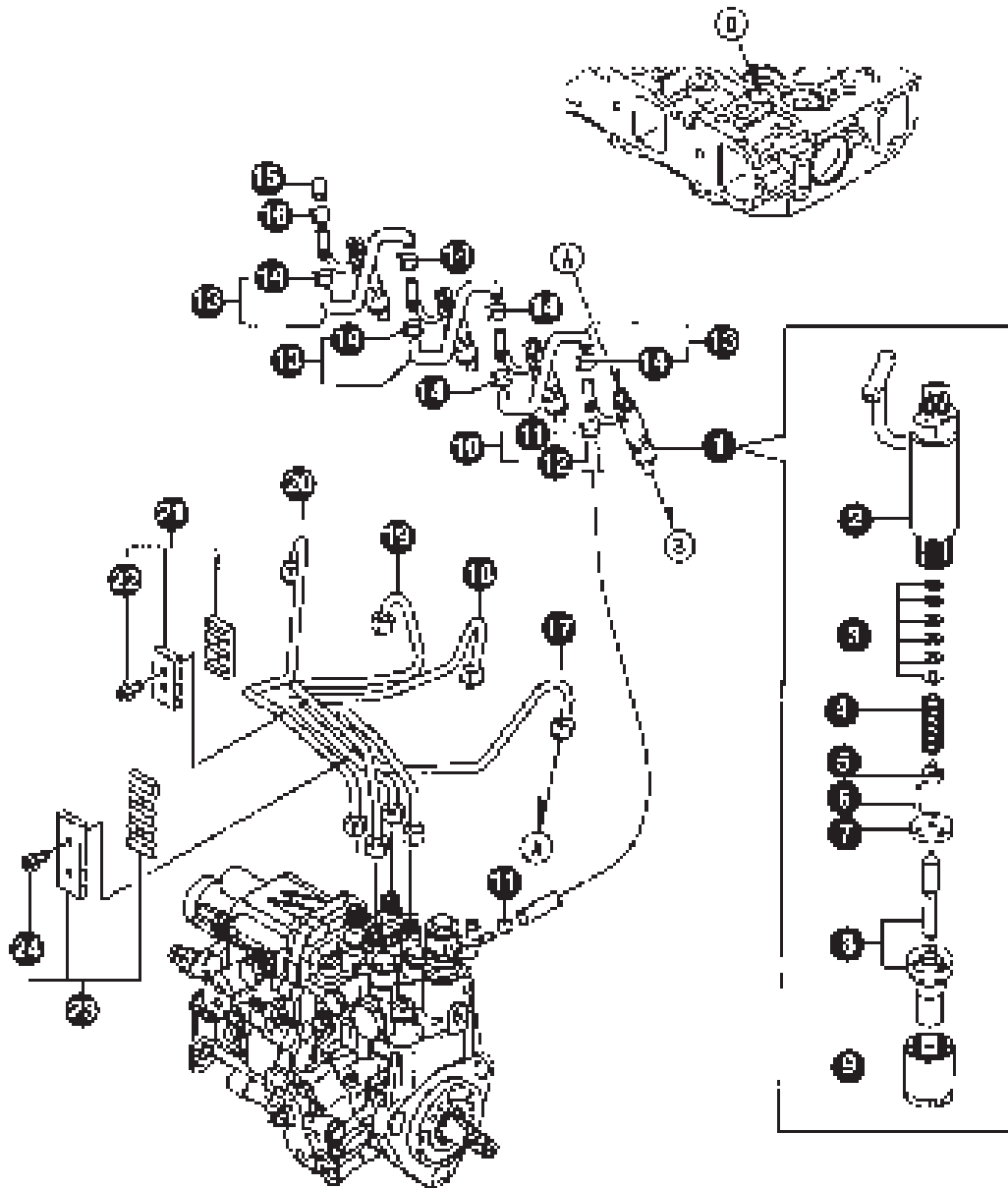


Yinj pump

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	729647-51390	1	Injection Pump Assembly with 12 volt soleniod	-
2	129907-01960	1	Bracket	-
3	129907-01950	1	Bracket	-
4	26106-080162	2	Bolt, M8 x 16 Plated	-
5	26106-080222	3	Bolt, M8 x 22 Plated	-
6	26106-100202	1	Bolt, M10 x 20 Plated	-
7	119653-77950	1	Stop Solenoid 12 volt	-
8	24341-000280	1	O-ring	-
9	26106-060142	2	Bolt	-

Notes

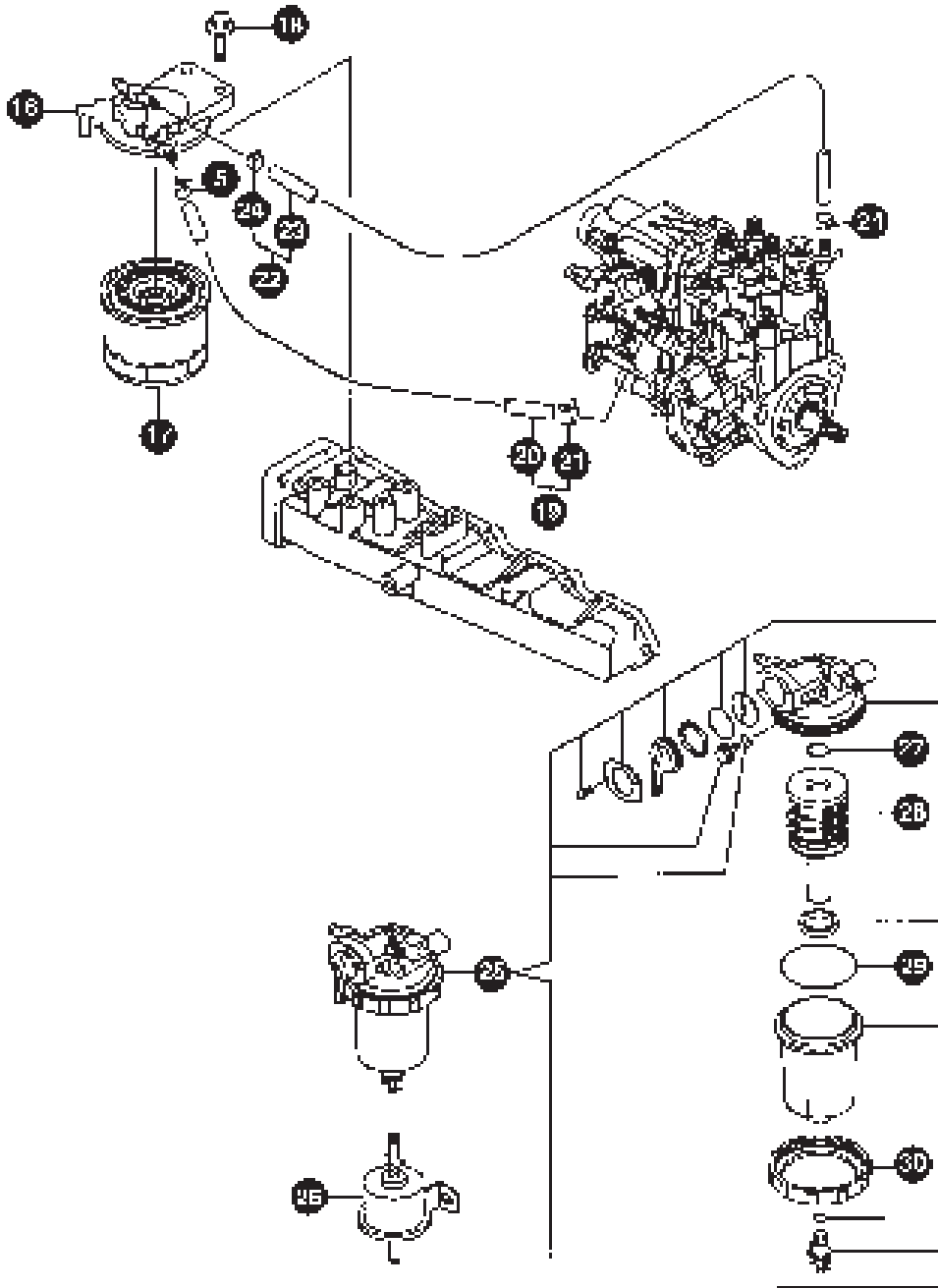
### Fuel System - General Arrangement



### Fuel System - General Arrangement

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	729246-53101	1	Fuel Injector (includes keys 2-9)	-
2	119802-53100	1	Nozzle	-
3	114250-53400	4	Shim Pack	-
4	114250-53120	4	Nozzle Spring	-
5	114250-53130	4	Nozzle Spring Seat	-
6	114250-53210	8	Pin	-
7	114250-53140	4	Stop Plate	-
8	129246-53001	4	Nozzle	-
9	114250-53080	4	Nozzle Case Nut	-
10	119802-59550	1	Return Pipe Assembly	-
11	124722-59050	2	Clamp	-
12	119802-59560	1	Fuel Return Pipe	-
13	129486-59551	3	Fuel Return Pipe	-
14	124722-59050	6	Clamp	-
15	119593-59580	1	Cap	-
16	124060-77680	1	Clamp	-
17	129601-59840	1	Injection Pipe Assembly	-
18	129601-59830	1	Injection Pipe Assembly	-
19	129601-59820	1	Injection Pipe Assembly	-
20	129601-59810	1	Injection Pipe Assembly	-
21	129150-59120	1	Injection Pipe Retainer	-
22	129150-59131	2	Hex Socket Bolt, M4 x 14	-
23	129550-59120	1	Retainer	-
24	129150-59131	2	Hex Socket Bolt, M4 x 14	-

# Filter and Mounting



488fuelfilter



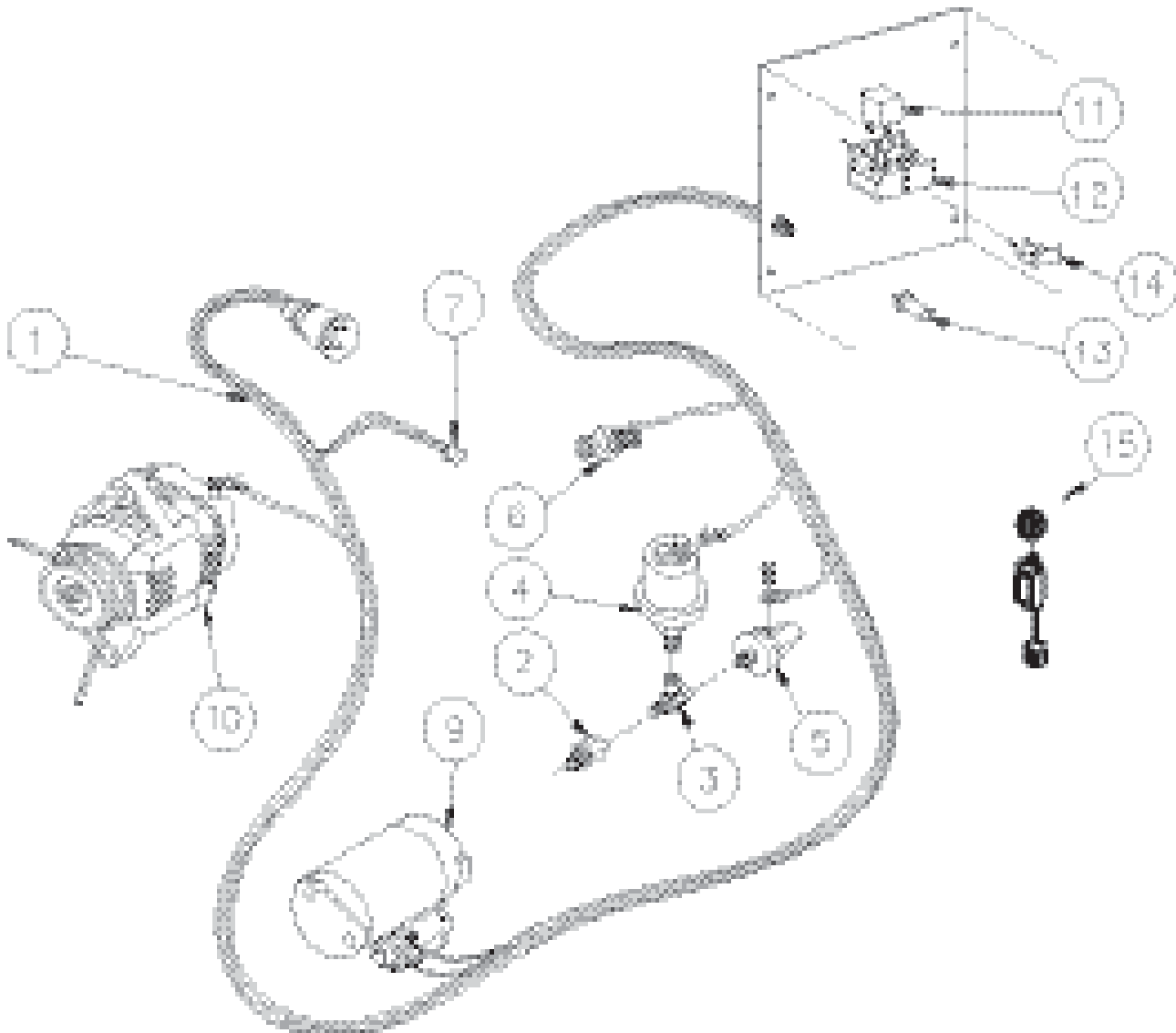
## Filter and Mounting

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	10-51099	1	Manifold*	-
2	12-01131	2	Capscrew, Hex Head M6 x 1.0 x 20 mm*	-
3	15-01132	2	Lock Washer, Helical M6*	-
4	14-04803	1	Hex Nut, Nylock M6 x 1.0*	-
5	21-51098	2	St. El. 90, Brs. 1/4 NPT x 1/4 NPT*	-
6	21-52016	2	M. Conn. Brs. 1/4 NPT x 5/16 NPT*	-
7	41-01012	74"	Hose 5/16" ID*	-
11	19-50002	8	Speedy Clamp, Size D*	-
12	12-00717	1	Capscrew, Hex Head M8 x 1.25 x 60 mm*	-
13	15-00701	1	Flat Washer M8*	-
14	15-00702	1	Lock Washer, Helical M8*	-
15	21-00046	2	Plug, Plastic 1/4 NPT*	-
16	129004-55610	1	Fuel Filter Bracket	-
17	24-57304	1	Fuel Filter	-
18	26106-080302	2	Bolt, M8 x 30 Plated	-
19	129210-59090	1	Pipe Assembly	-
20	105325-59570	1	Fuel Oil Pipe	-
21	124766-59050	2	Clamp	-
22	129210-59150	1	Pipe Assembly	-
23	105025-59530	1	Fuel Pipe	-
24	124766-59050	2	Clamp	-
25	119802-55700	1	Separator Assembly	-
26	119225-52102	1	Pump Assembly	-
27	24311-000160	1	O-ring	-
28	119802-55710	1	Element	-

\*Not shown

**Engine Electrical, 12 Volt**

*PX-320K Generator*



A-6994/ C-5514

## Engine Electrical, 12 Volt

*PX-320K Generator*

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	22-47901	1	Wire Harness Assembly (Includes Key #11)	-
2	21-00139	1	Adapter, 1/8 BSPT x 1/8 NPT	-
3	21-05400	1	Street Tee, 1/8 NPT	-
4	22-41016	1	Pressure Sender 0 - 80 PSI Standard Ground	-
5	121460-39450	1	Pressure Switch	-
6	22-45201	1	Temperature Sender 250°F Standard Ground	-
7	121250-44901	1	Temperature Switch 110°C	-
8	15-01001	2	Sealing Washer	-
9	129407-77010	1	Starter (See parts detail)	-
10	129423-77200	1	Alternator (See parts detail)	-
11	22-40391	5	Relay Base	-
12	22-42047	5	Relay 12 Volt	-
13	22-42043	1	Circuit Breaker 15 Amp	-
14	22-40393	5	Retainer	-
15	129211-77920	1	Timer, 1 Second (Fuel Solenoid)	-

# Starting Motor

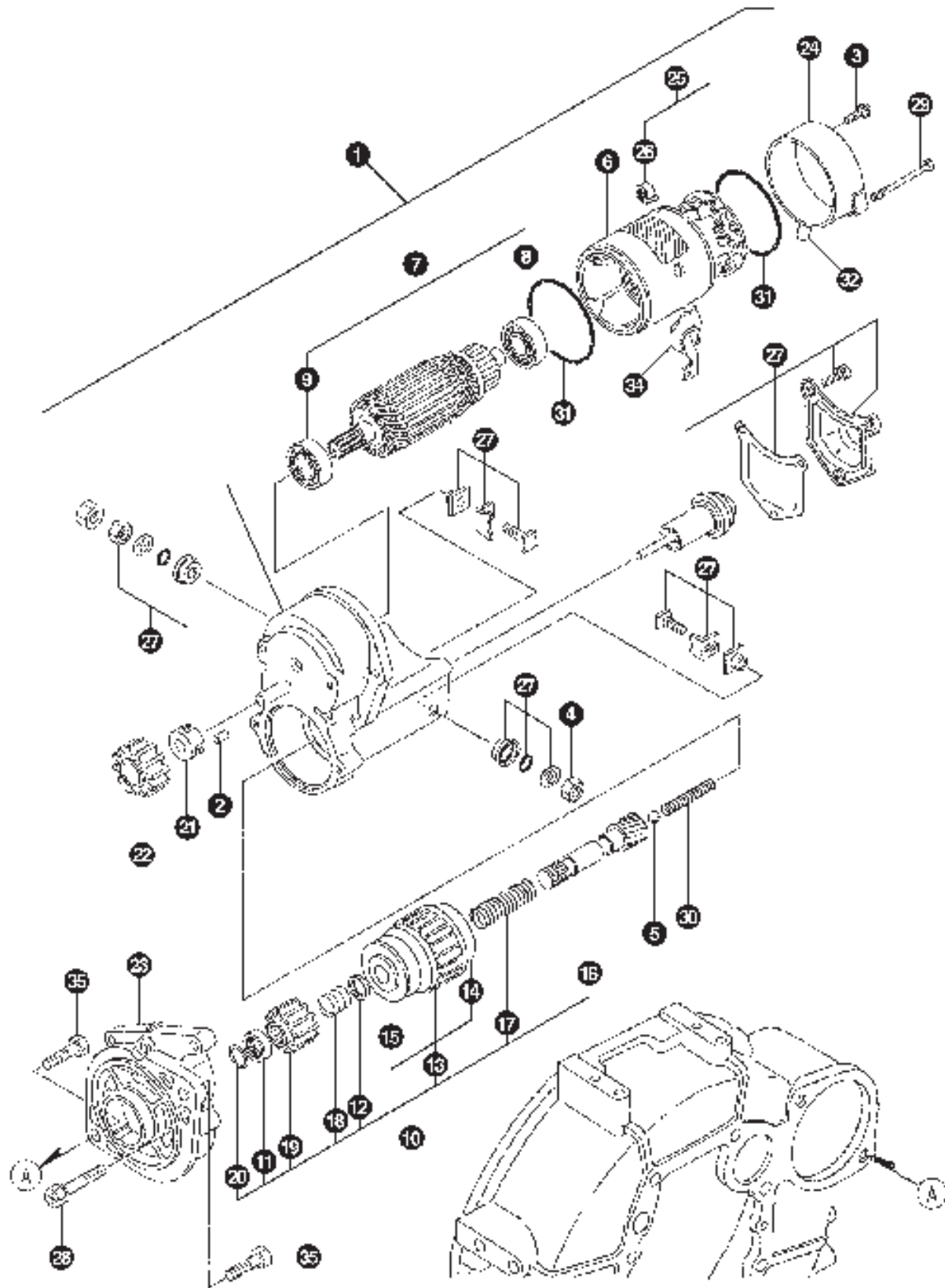
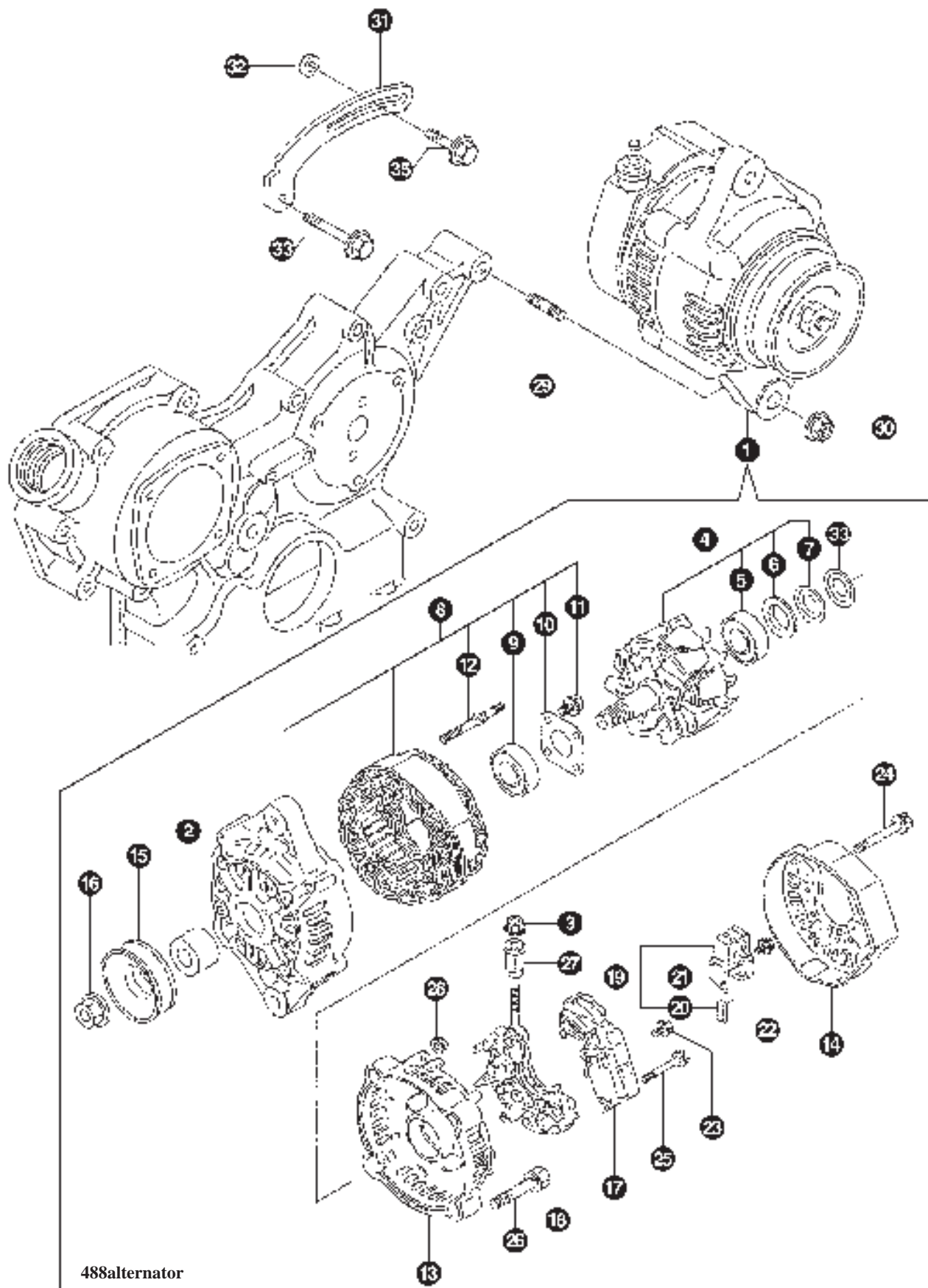


Figure 15

## Starting Motor

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	129407-77010	1	Starter (Includes all keys)	-
2	X0283060061	5	Roller	-
3	129129-77460	2	Screw	-
4	X9490561370	1	Nut	-
5	X9491200240	1	Ball	-
6	129407-77210	1	Yoke	-
7	129407-77220	1	Armature Assembly	-
8	129129-77230	1	Bearing	-
9	129129-77240	1	Bearing	-
10	129407-77250	1	Starter Kit	-
11	X0280210230	1	Nut	-
12	X0283270140	1	Retainer	-
13	129407-77390	1	Starter Clutch	-
14	129129-77440	1	Bearing	-
15	129129-77450	1	Bearing	-
16	129129-77400	1	Shaft	-
17	129129-77410	1	Coil Spring	-
18	X9491703371	1	Spring	-
19	129129-77420	1	Pinion	-
20	129129-77430	1	Ring	-
21	129129-77260	1	Retainer	-
22	129129-77270	1	Pinion	-
23	129407-77280	1	Housing	-
24	129129-77290	1	Frame	-
25	129407-77300	1	Holder Assembly	-
26	X9491730461	4	Spring	-
27	129407-77310	1	Switch Assembly	-
28	129129-77320	2	Bolt	-
29	129407-77330	2	Bolt with Washer	-
30	129129-77340	1	Spring	-
31	129129-77350	2	O-Ring	-
32	129129-77362	1	Cover	-
34	129129-77380	1	Cap	-
35	26116-120252	2	Bolt, M12 x 25 Plated	-

### Alternator and Mounting

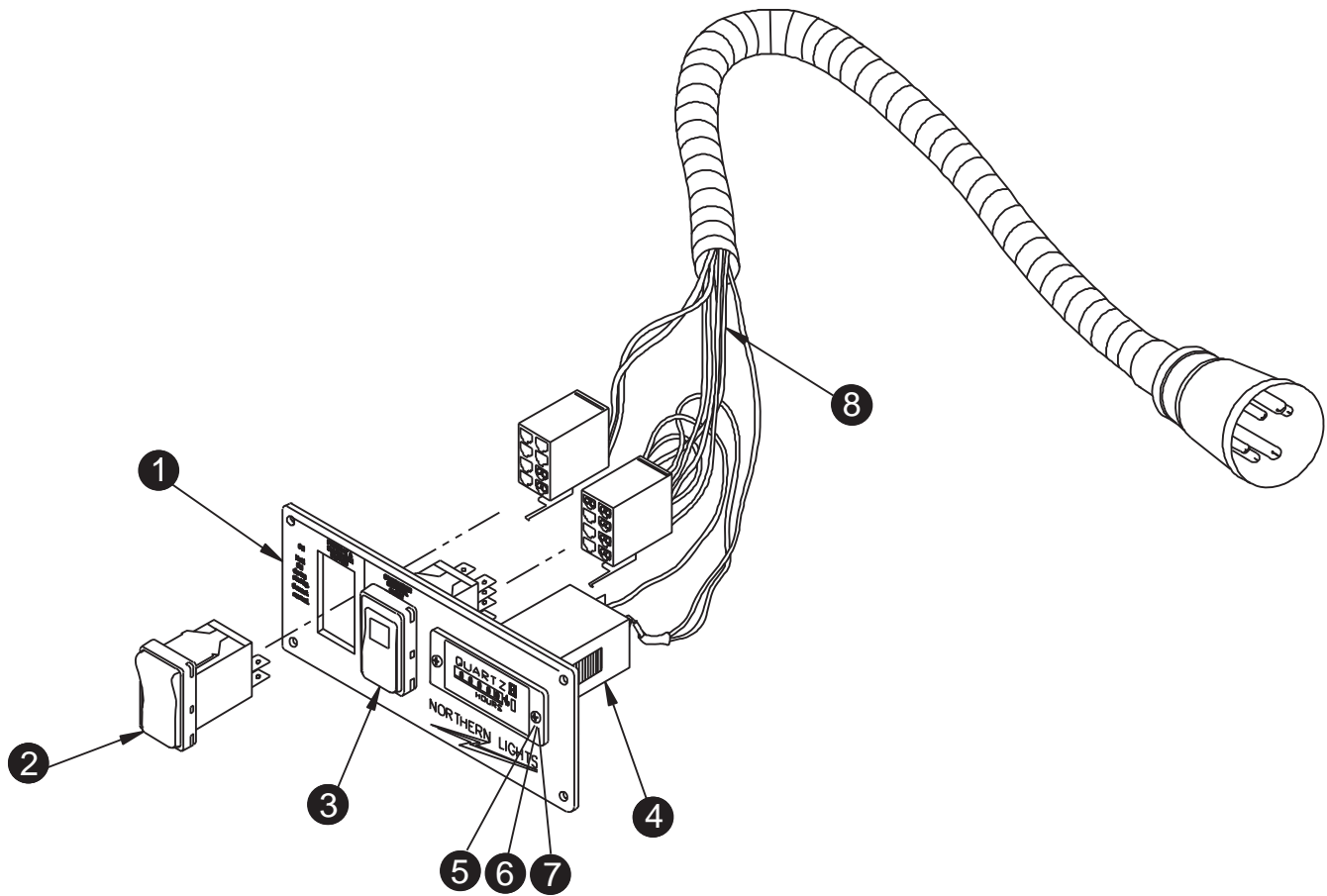


488alternator

## Alternator and Mounting

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	129423-77200	1	Alternator, 12 Volt 40 Amp (includes keys #2-29)	-
2	119620-77490	1	Collar	-
3	X9490561001	1	Nut	-
4	119620-77380	1	Rotor Assembly	-
5	119620-79240	1	Ball Bearing	-
6	119620-79250	1	Bearing Cover	-
7	119620-79360	1	Thrust Washer	-
8	119620-77421	1	Drive Flame Assembly	-
9	119620-79200	1	Ball Bearing	-
10	119620-79210	1	Plate	-
11	119620-79220	4	Screw	-
12	119620-79230	2	Stud Bolt	-
13	119620-77440	1	Rear Flame Assembly	-
14	129423-77450	1	Cover	-
15	119620-77461	1	Pulley	-
16	119620-77471	1	Nut	-
17	129423-77710	1	Regulator Assembly	-
18	119620-79260	1	Holder	-
19	119620-79270	1	Brush Holder	-
20	119620-77480	2	Brush Assembly	-
21	119620-79280	2	Spring	-
22	119620-79290	1	Screw	-
23	119620-79300	1	Screw	-
24	119620-79310	3	Bolt	-
25	119620-79320	2	Screw with Washer	-
26	119620-79330	2	Bolt	-
27	119620-79340	1	Insulation Bush	-
28	119620-79350	2	Nut	-
29	129795-01900	1	Stud	-
30	26306-100002	1	Nut	-
31	119940-77330	1	Tensioning Arm	-
32	119940-77270	1	Spacer	-
33	26106-080452	1	Bolt, M8 x 45 Plated	-
34	119620-79360	1	Thrust Washer	-
35	119802-77340	1	Adjuster Bolt	-

### Series 1-B Start-Stop Control Panel



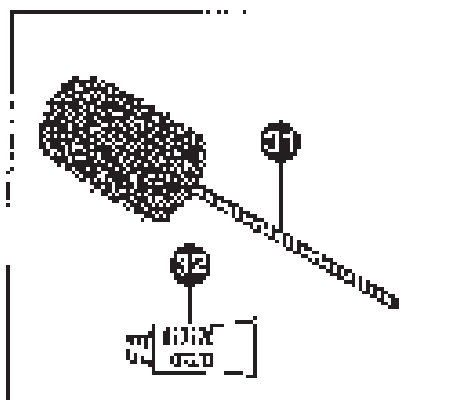
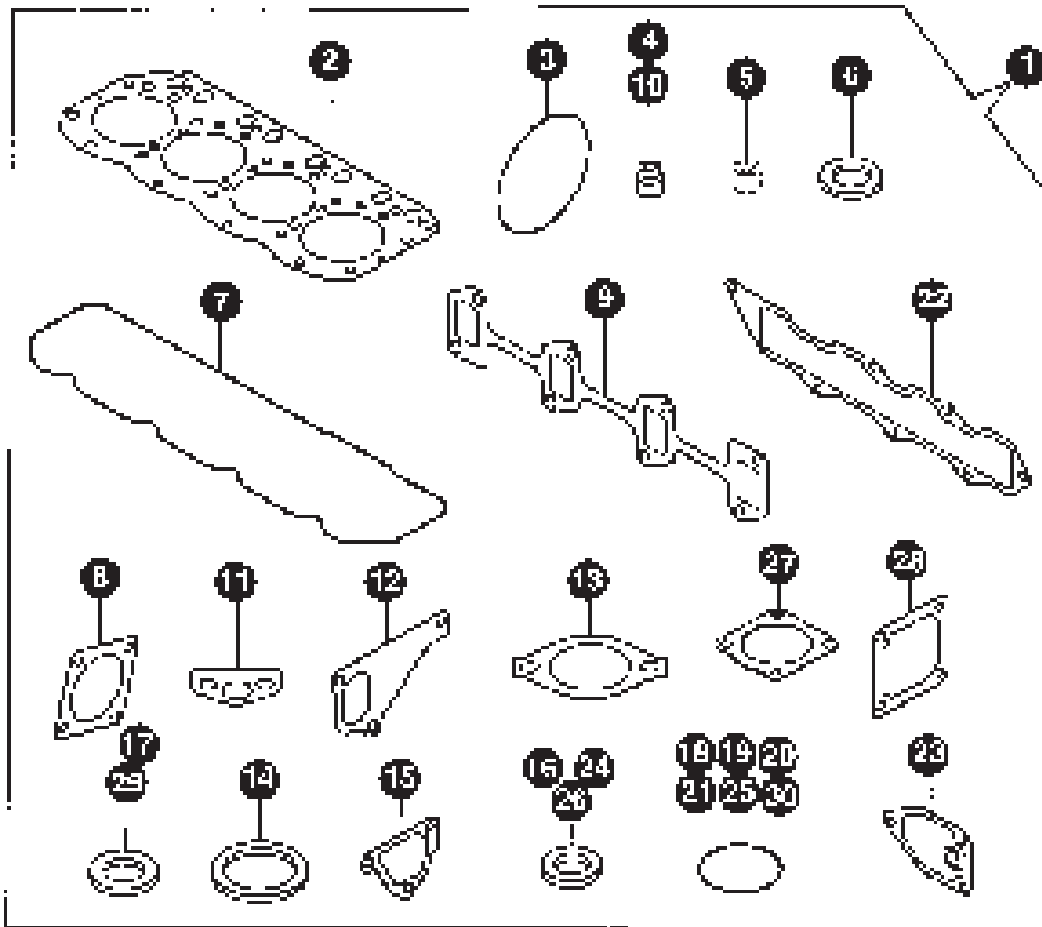
A-8553/ B-5971



### Series 1-B Start-Stop Control Panel

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	-

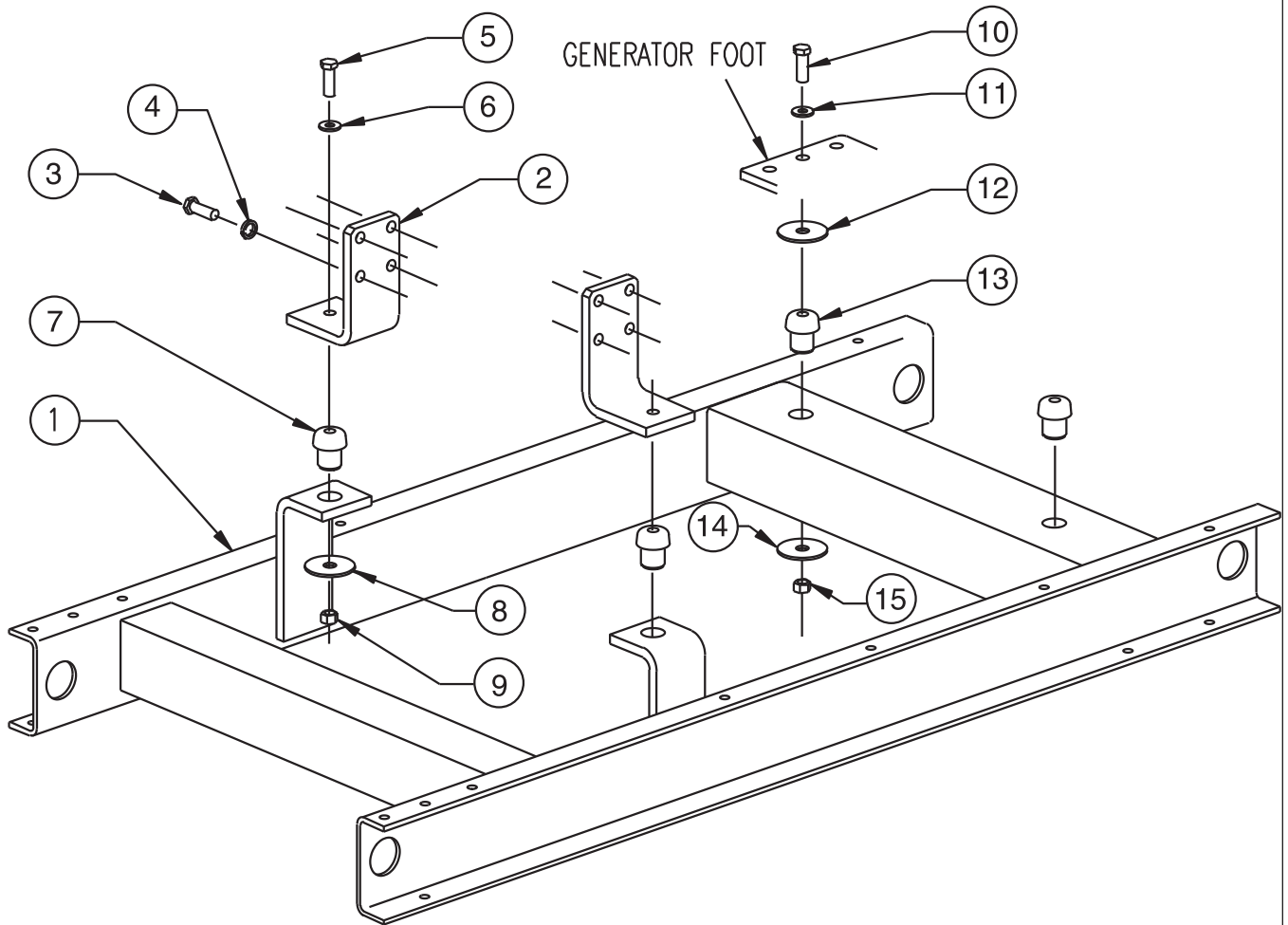
Gasket Set



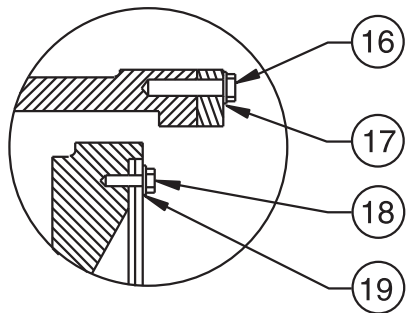
## Gasket Set

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	729601-92780	1	Gasket Set	-
2	129407-01340	1	Cylinder Head Gasket	-
3	121850-51960	1	O-ring	-
4	124460-11340	4	Valve Stem Seal	-
5	119802-11870	4	Nozzle Protector	-
6	119625-11880	4	Nozzle Seat	-
7	129601-11310	1	Gasket	-
8	124240-01883	1	Gasket	-
9	129550-13110	1	Exhaust Manifold Gasket	-
10	121400-11340	1	Valve Stem Seal	-
11	129150-35041	1	Gasket	-
12	129486-42021	1	Gasket	-
13	129795-49551	1	Gasket	-
14	129150-49811	1	Gasket	-
15	124395-49840	1	Gasket	-
16	22190-080002	2	Seal Washer	-
17	124465-44950	2	Gasket	-
18	24311-000120	3	O-ring	-
19	24311-000320	2	O-ring	-
20	24341-000240	1	O-ring	-
21	129486-42140	1	O-ring	-
22	129407-12110	1	Intake Manifold Gasket	-
23	129150-35111	1	Gasket	-
24	22190-220002	1	Seal Washer	-
25	119609-32040	4	O-ring	-
26	22190-100002	2	Seal Washer	-
27	129930-13200	1	Gasket	-
28	129150-77511	1	Gasket	-
29	23414-080000	1	Gasket	-
30	24321-000800	1	O-ring	-
31	129400-92430	1	Flex Horn	-
32	977770-01212	1	Liquid Gasket	-

Base Frame - PX-320K2 Generator



ENG/GEN COUPLING



A-7911/ B-8265

## Base Frame - PX-320K2 Generator

KEY	PART NUMBER	QTY	DESCRIPTION	SERIAL NUMBER
1	39-87901	1	Base Frame	-
2	23-87306	2	Bracket, Upper Engine Mounting	-
3	12-00831	8	Capscrew, Hex Head M10 x 1.5 x 25 mm	-
4	15-00802	8	Lock Washer, Helical M10	-
5	12-00817	2	Capscrew, Hex Head M10 x 1.5 x 55 mm	-
6	15-00805	2	Flat Washer M10	-
7	33-83151	2	Centerbonded Mount 200 lbs.	-
8	15-00014	2	Head/Tail Washer	-
9	14-00812	2	Hex Nut, Nylock M10 x 1.5	-
10	12-00965	2	Capscrew, Hex Head M12 x 1.75 x 70 mm	-
11	15-00007	2	Flat Washer M12	-
12	15-00016	2	Head Washer	-
13	33-82254	2	Centerbonded Mount 300 lbs.	-
14	15-00026	2	Tail Washer	-
15	14-00830	2	Hex Nut, Nylock M12 x 1.75	-
16	12-00831	12	Capscrew, Hex Head M10 x 1.5 x 25 mm	-
17	15-00802	12	Lock Washer, Helical M10	-
18	12-00753	8	Capscrew, Hex Head M8 x 1.25 x 30 mm	-
19	15-00702	8	Lock Washer, Helical M8	-



[www.northern-lights.com](http://www.northern-lights.com)

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.

© 2004 All rights reserved. Litho USA.