

OCR10-M85700EN

# Introduction

1. This parts catalog is a first edition of the 4BY3-150, 4BY3-150Z, 4BY3-180, 4BY3-180Z Diesel engine.

	Parts catalog No.	Date of issue	Remarks
First edition	OCR10-G85700	June, 2012	

2. This parts catalog does not contain the technical data needed for maintenance service.

3. The illustrations used in this parts catalog have been simplified for clarity.

4. The contents of this parts catalog are subject to change without notice.

5. Be sure to use only Yanmar genuine parts for repairs. If imitation parts are used, it may cause engine defects.

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Fig. No. Fig. Name

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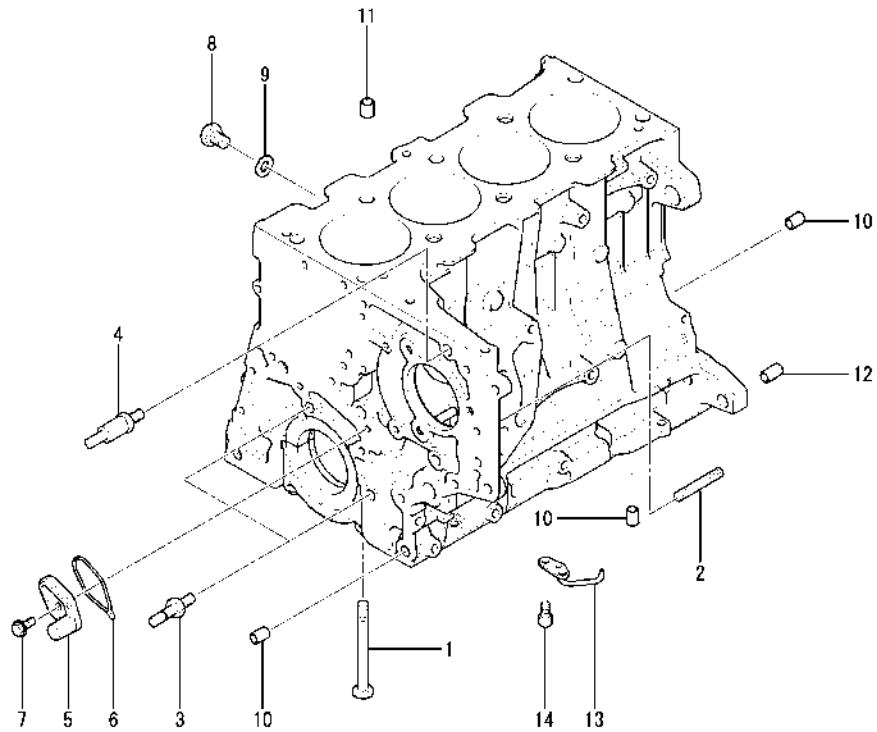
52. TOOL

Fig. No. Fig. Name

Fig.1. CYLINDER BLOCK

(A)=4BY3-150  
 (B)=4BY3-180  
 (C)=4BY3-150Z

(D)=4BY3-180Z  
 (E)=  
 (F)=

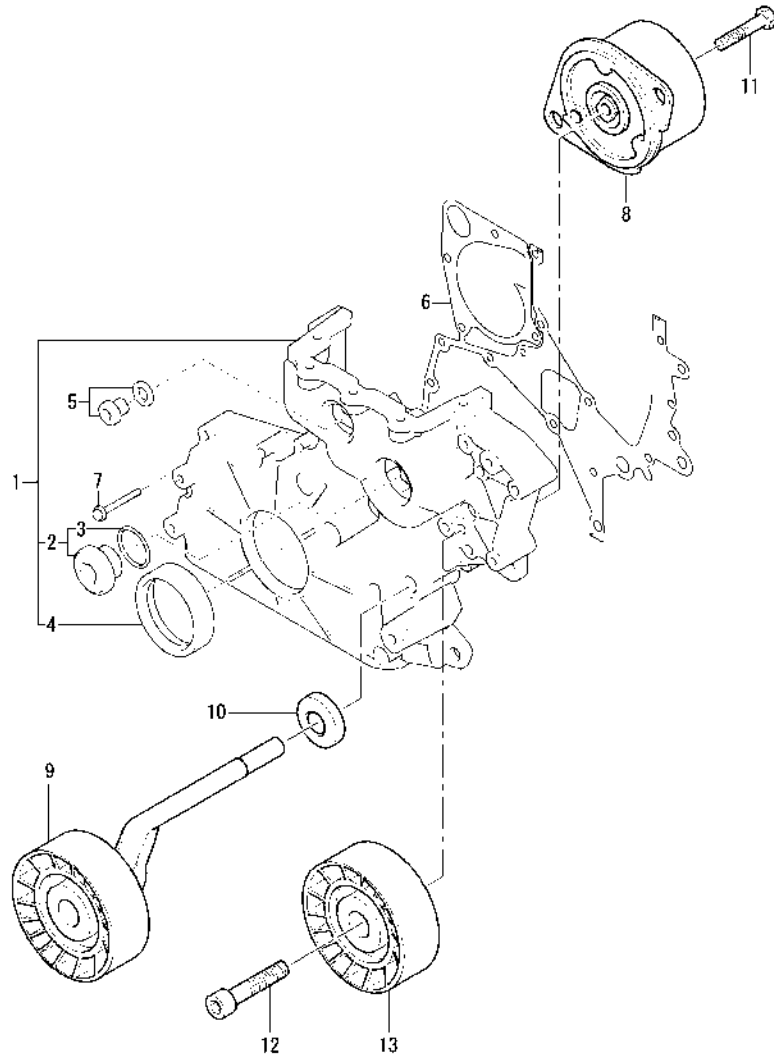


No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165000-67770	BOLT, HEX M10X80	10	10	10	10				
2	1	165000-67790	STUD, M8X42	3	3	3	3				
3	1	165000-67730	BOLT, BEARING	3	3	3	3				
4	1	165000-67760	BOLT, BEARING	1	1	1	1				
5	1	165000-67780	NOZZLE, OIL SPRAYING	1	1	1	1				
6	1	165000-67750	GASKET, PROFILE	1	1	1	1				
7	1	165000-67400	SCREW, HEAD M6X16	1	1	1	1				
8	1	165000-67290	PLUG, SCREW M14X1.5	1	1	1	1				
9	1	165000-67470	RING, GASKET 14X20	1	1	1	1				
10	1	165000-67880	DOWEL, D=10.5MM	6	6	6	6				
11	1	165000-67720	DOWEL, D=14.5MM	2	2	2	2				
12	1	165000-67740	DOWEL, D=14.5MM	2	2	2	2				
13	1	165000-69480	NOZZLE, OIL SPRAYING	4	4	4	4				
14	1	165000-67410	SCREW, HEAD M6X10	8	8	8	8				

Fig.2. LOWER TIMING CASE

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

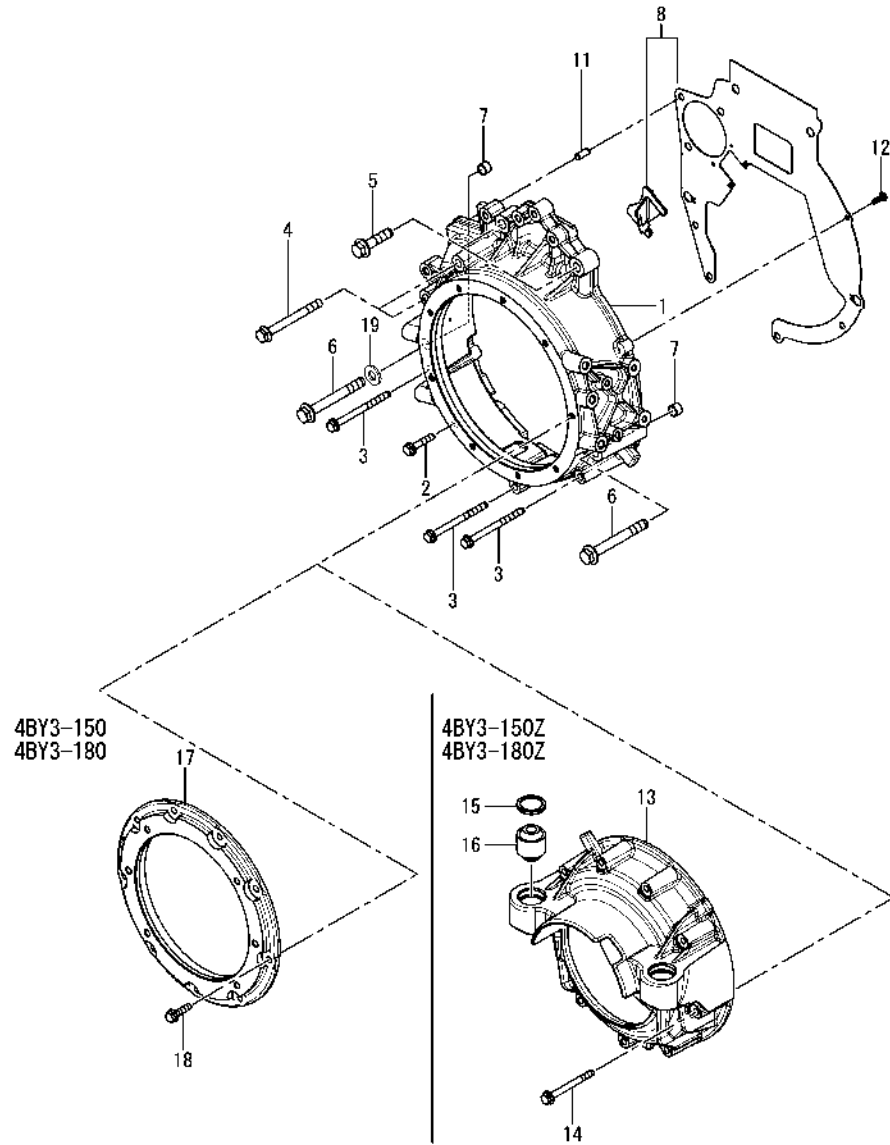


No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165001-44430	COVER, TIMING CASE	1	1	1	1				
2	2	165000-68390	PLUG, SCREW M40X1.5	1	1	1	1				
3	2	165000-68400	O-RING, 35 2.0	1	1	1	1				
4	2	165000-68420	SEAL, SHAFT 55 68 8	1	1	1	1				
5	1	165000-68410	PLUG, SCREW M30X1	1	1	1	1				
6	1	165001-44420	GASKET, STEEL	1	1	1	1				
7	1	165000-69690	SCREW, TORX M7X38	14	14	14	14				
8	1	165000-69130	TENSIONER, BELT	1	1	1	1				
9	1	165001-35850	TENSIONER, BELT	1	1	1	1				
10	1	165000-69120	SEALING	1	1	1	1				
11	1	165000-67230	BOLT, HEX M6 30	1	1	1	1				
12	1	165000-67330	SCREW, HEAD M8X35	1	1	1	1				
13	1	165000-69170	PULLEY, DEFLECTION	1	1	1	1				

Fig.3. FLYWHEEL HOUSING

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

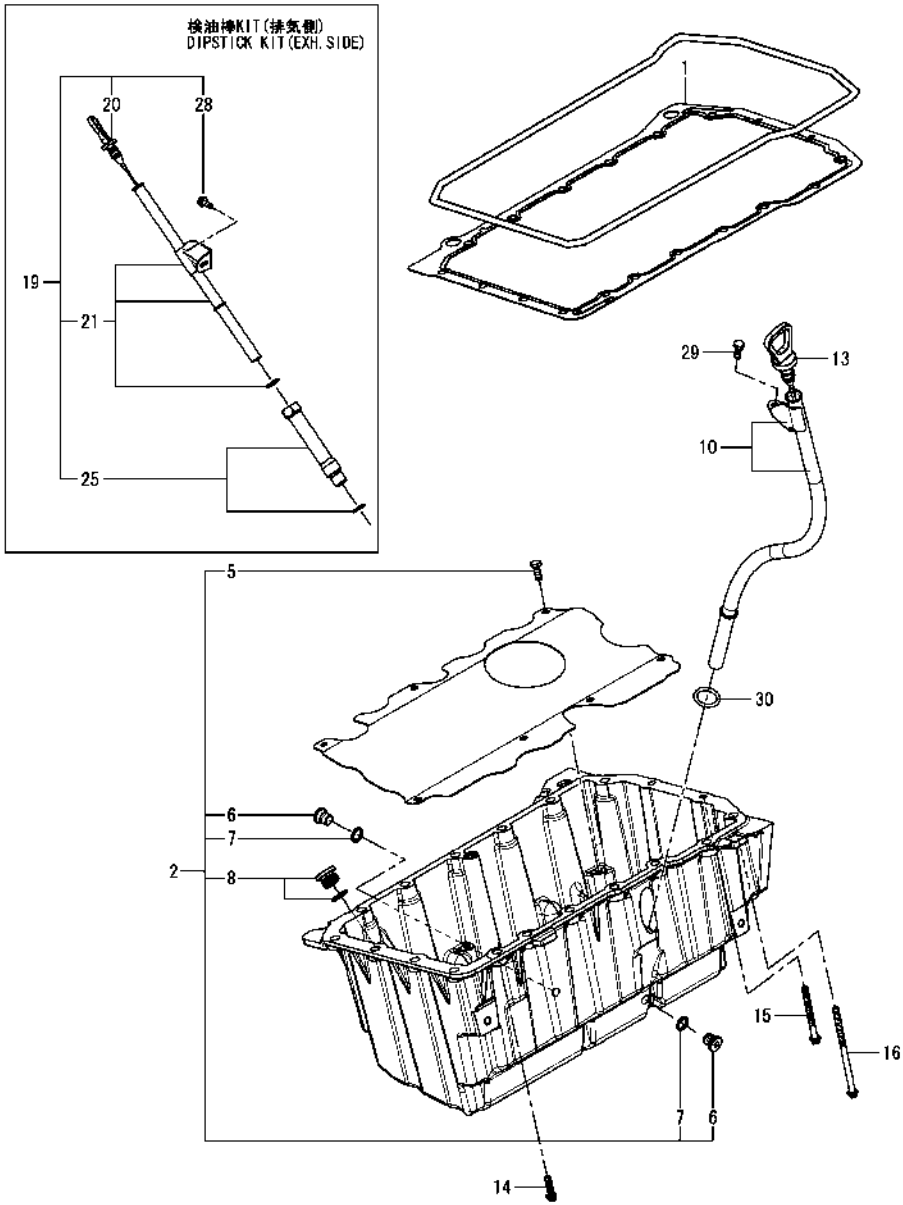


No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-01800	HOUSING, FLYWHEEL	1	1	1	1				
2	1	120640-01870	BOLT, M8X40-8.8	1	1	1	1				
3	1	120640-01940	BOLT, M8X100-8.8	3	3	3	3				
4	1	120640-02010	BOLT, M10X100-8.8	2	2	2	2				
5	1	120640-02050	BOLT,M12X130-8.8	2	2	2	2				
6	1	120640-02040	BOLT, M12X100-8.8	2	2	2	2				
7	1	120640-00100	DOWEL PIN, 14.5	2	2	2	2				
8	1	120650-01900	PLATE ASSY, COVER	1	1	1	1				
11	1	120640-00220	PIN, PARALLEL 8X20	1	1	1	1				
12	1	120640-01460	SCREW, M6X12	1	1	1	1				
13	1	120651-01710	COVER, FWH DRIVE					1	1		
14	1	120640-01930	BOLT, M8X80-8.8					9	9		
15	1	119778-08350	SPACER					2	2		
16	1	120650-01760	MOUNT, RUBBER REAR					2	2		
17	1	120653-01710	COVER, FWH DRIVE	1	1						
18	1	120640-02130	FLANGE BOLT, 8X30	9	9						
19	1	120640-02250	WASHER	2	2	2	2				

Fig.4. OIL PAN/LUB. OIL SUMP

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=



No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165000-68300	GASKET	1	1	1	1				
2	1	165000-93250	SUMPLUB.OIL	1	1	1	1				
5	2	120650-51620	SCREW, M6X16	7	7	7	7				
6	2	120640-00190	PLUG	2	2	2	2				
7	2	120640-01230	RING, SEALING A12X16	2	2	2	2				
8	2	165000-93270	PLUG ASSY (O-RING)	1	1	1	1				
10	1	120650-34840	GUIDE ASSY, DIPSTICK	1	1	1	1				
13	1	120650-34800	DIPSTICK, OIL	1	1	1	1				
14	1	165001-25170	BOLT, TORX	15	15	15	15				
15	1	165001-35810	BOLT, TORX M6X60	2	2	2	2				
16	1	165001-22370	BOLT, TORX M8X110	2	2	2	2				
17	1	165000-93230	PLUG,SCREW M10X1	1	1	1	1				1
18	1	165000-93240	RING,GASKET	1	1	1	1				1
19	1	120650-34700	DIPSTICK KIT, STBD	1	1	1	1				
20	2	120650-34810	DIPSTICK	1	1	1	1				
21	2	120650-34850	GUIDE ASY, DIPSTICK	1	1	1	1				
25	2	120650-34910	ADAPTOR ASY, GUIDE D	1	1	1	1				
28	2	26106-060122	BOLT, M6X 12 PLATED	1	1	1	1				
29	1	120640-02080	BOLT, M6X16-8.8	1	1	1	1				
30	1	120650-34890	O-RING, 14X3	2	2	2	2				

Remarks

(1)Not illustrated.



Fig.5. ENGINE BRACKET

(A)=4BY3-150  
 (B)=4BY3-180  
 (C)=4BY3-150Z

(D)=4BY3-180Z  
 (E)=  
 (F)=

No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-08100	BRACKET, ENGINE INT	1	1	1	1				
2	1	120640-01880	BOLT, M8X50-10.9	4	4	4	4				
3	1	120640-01860	BOLT, M8X30-10.9	2	2	2	2				
4	1	120650-08110	BRACKET, ENGINE EXH	1	1	1	1				
5	1	120640-01920	BOLT, M8X70-10.9	4	4	4	4				
6	1	120640-01880	BOLT, M8X50-10.9	2	2	2	2				
7	1	120650-08401	MOUNT, ENGINE HS55	2	2	2	2				
8	1	120650-08410	MOUNT, ENGINE HS45	2	2						

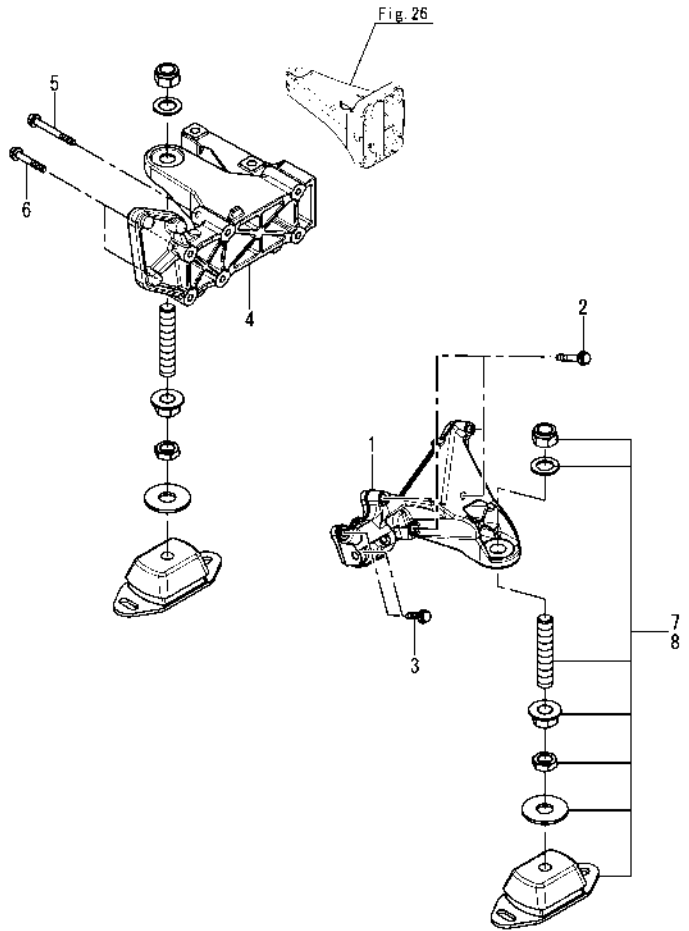


Fig.6. LABEL

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-07030	LABEL, LIFTER	2	2	2	2				
2	1	120650-07040	LABEL, PRESSURE CAP	1	1	1	1				
3	1	120650-07050	LABEL, OIL DANGER	1	1	1	1				
4	1	120650-07060	LABEL, HOT SURFACE	1	1	1	1				
5	1	120650-07070	LABEL, INTERVAL	1	1	1	1				
6	1	120650-07080	LABEL, ROTATION ENG.	1	1	1	1				
7	1	120650-07090	LABEL, CAUTION DRAIN	1	1	1	1				
8	1	120650-07100	LABEL, MANUAL	1	1	1	1				
9	1	120651-07120	LABEL, CAUTION NO ST	1	1	1	1				
10	1	129672-07100	LABEL,RECREATIONAL	1	1	1	1				
11	1	120650-07161	LABEL,RCD	1	1	1	1				
12	1	120650-07171	LABEL,RCD-CE	1	1	1	1				

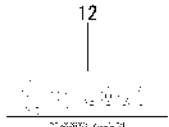
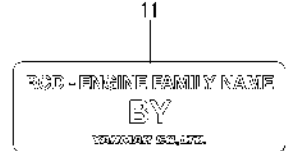
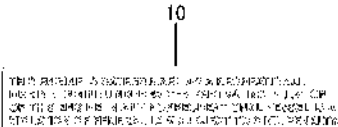
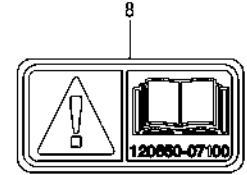
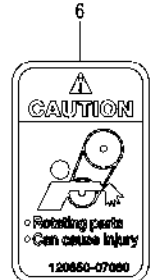
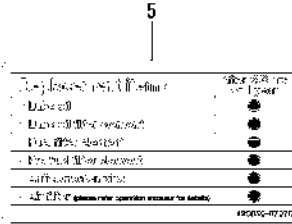
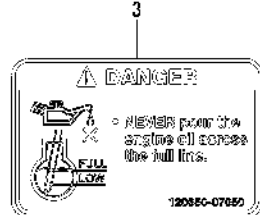
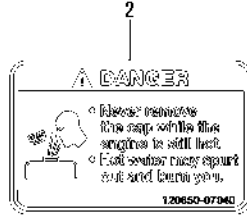
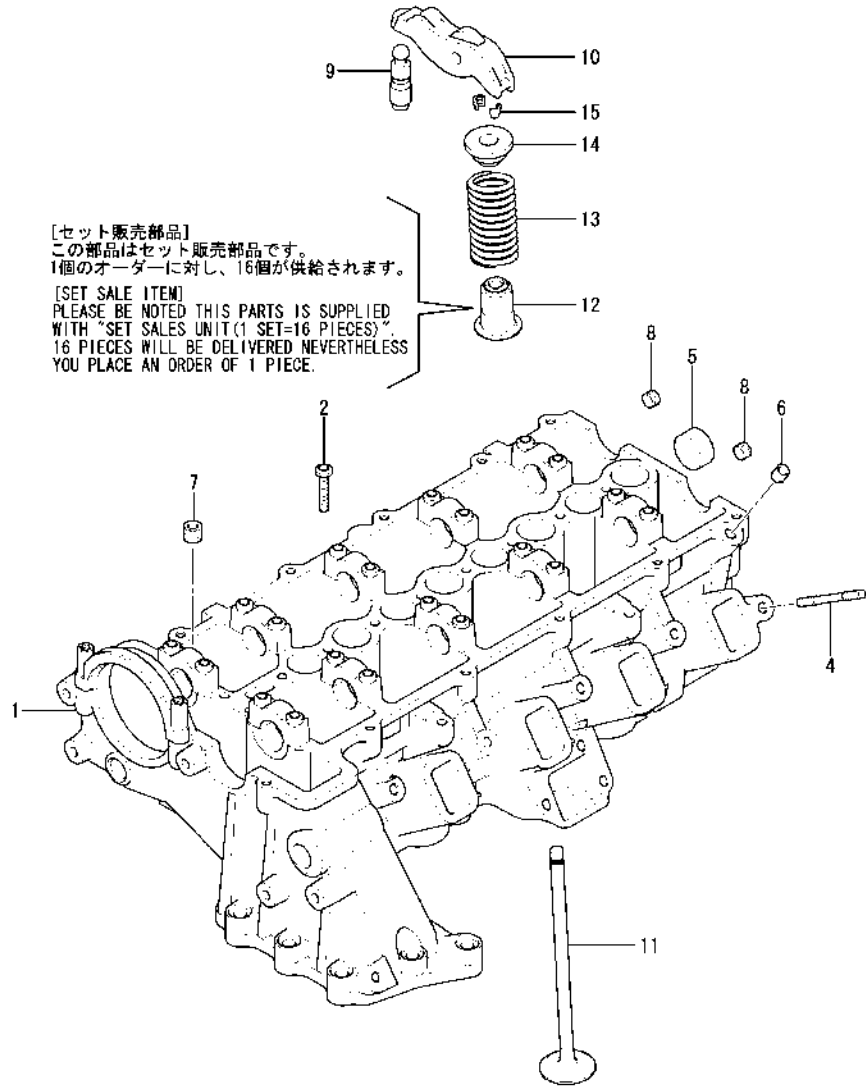


Fig.7. CYLINDER HEAD/VALVE TRAIN-CAMSHAFT

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=



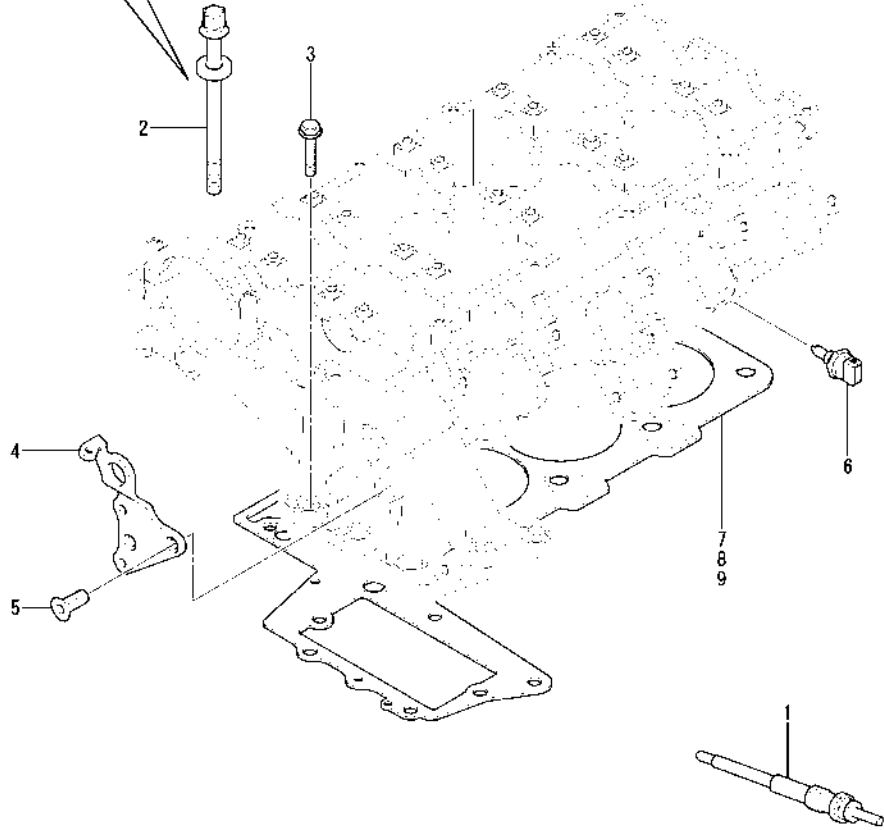
No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165001-35860	HEAD, CYLINDER	1	1	1	1				
2	1	165001-66900	BOLT, TORX M6X30	20	20	20	20				
4	1	165001-39240	STUD, M7X65	5	5	5	5				
5	1	165001-66880	COVER, D=24MM	2	2	2	2				
6	1	165001-59970	PLUG, SCREW M8X1	2	2	2	2				
7	1	165001-71670	PLUG, SCREW M12X1.5	1	1	1	1				
8	1	165001-35970	PLUG, SCREW M14X1.5	2	2	2	2				
9	1	165000-69290	ROD, VALVE PUSH	16	16	16	16				
10	1	165000-69280	LEVER, DRAG	16	16	16	16				
11	1	165000-69320	VALVE, 25.9/5.92MM	16	16	16	16				
12	1	165000-69340	SEAL RING SET, VALVE	1	1	1	1				
13	1	165000-69330	SPRING, VALVE	16	16	16	16				
14	1	165000-69310	PLATE, SPRING UPPER	16	16	16	16				
15	1	165000-69300	COLLET, VALVE D=6	32	32	32	32				

Fig.8. CYLINDER HEAD ATTACHED/GLOW PLUG

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

[セット販売部品]  
この部品はセット販売部品です。  
1個のオーダーに対し、10個が供給されます。  
[SET SALE ITEM]  
PLEASE BE NOTED THIS PARTS IS SUPPLIED  
WITH "SET SALES UNIT (1 SET=10 PIECES)".  
10 PIECES WILL BE DELIVERED NEVERTHELESS  
YOU PLACE AN ORDER OF 1 PIECE.

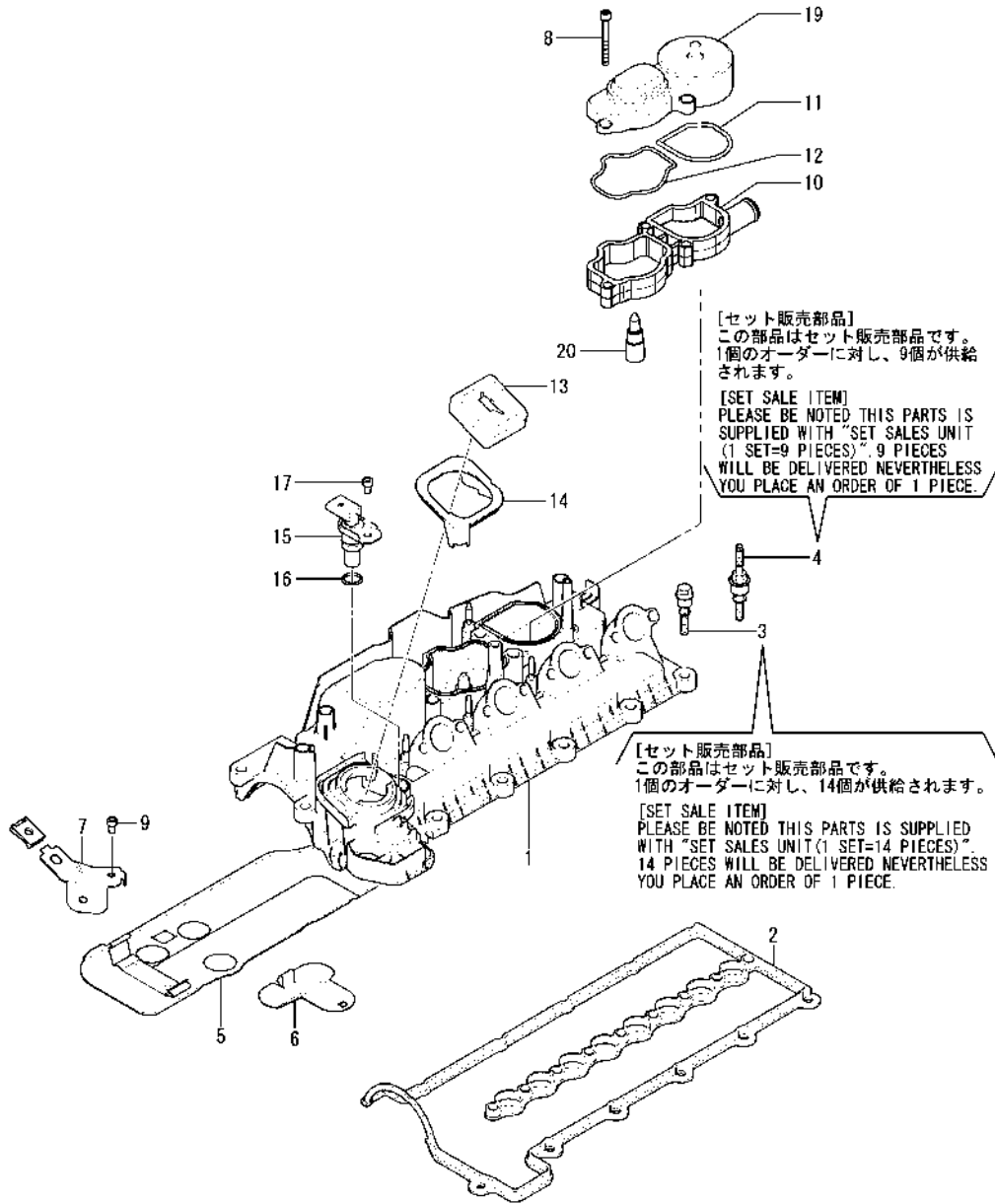


No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165000-70000	PLUG, GLOW	4	4	4	4				
2	1	165000-68290	BOLT, M12X1.5X147	1	1	1	1				
3	1	165001-35680	SCREW, M8X35	7	7	7	7				
4	1	165000-67990	LOOP	1	1	1	1				
5	1	165001-66910	SCREW, COUNTERSUNK	2	2	2	2				
6	1	165000-70660	SENSOR, TEMPERATURE	1	1	1	1				
7	1	165000-68080	GASKET, HEAD 1-HOLE	1	1	1	1				
8	1	165000-68090	GASKET, HEAD 2-HOLE	1	1	1	1				
9	1	165000-68100	GASKET, HEAD 3-HOLE	1	1	1	1				

Fig.9. CYLINDER HEAD COVER

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=



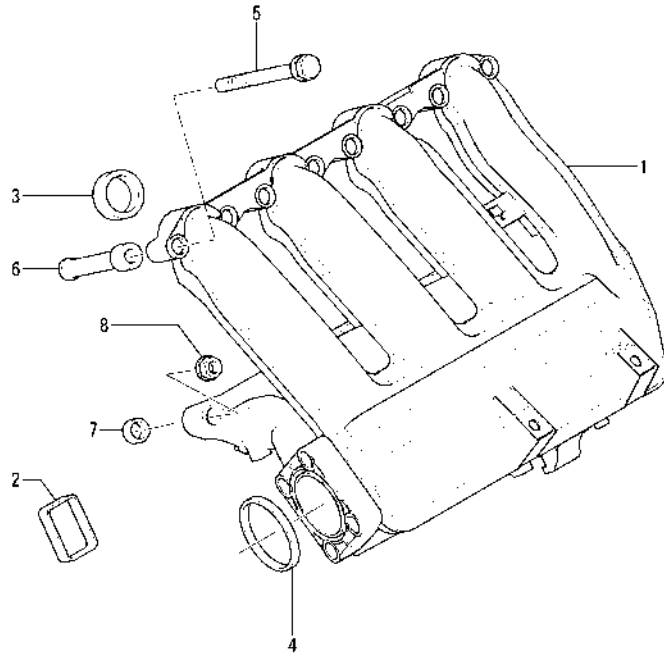
No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-11510	COVER, CYLINDER HEAD	1	1	1	1				
2	1	165000-68190	GASKET, PROFILE	1	1	1	1				
3	1	165001-59960	ELEMENT, OUTER	1	1	1	1				
4	1	165001-39230	ELEMENT, INNER	1	1	1	1				
5	1	165000-68140	SHIELD, HEAT PROTECT	1	1	1	1				
6	1	165000-67970	COVER	1	1	1	1				
7	1	165000-68030	HOLDER, COVER	1	1	1	1				
8	1	120640-01500	SCREW, M6X45	4	4	4	4				
9	1	165001-66870	SCREW, M6X12	1	1	1	1				
10	1	120650-11410	SPACER, ELEMENT	1	1	1	1				
11	1	165000-68160	GASKET, PROFILE	1	1	1	1				
12	1	165000-68170	GASKET, PROFILE	1	1	1	1				
13	1	165000-71020	COVER	1	1	1	1				
14	1	165000-68020	GASKET, PROFILE	1	1	1	1				
15	1	165000-70700	GENERATOR, PULSE	1	1	1	1				
16	1	165000-70730	O-RING, 17X2.8	1	1	1	1				
17	1	165001-66920	BOLT, PLASTIC M5X19.5	1	1	1	1				
19	2	120650-11410	SPACER, ELEMENT	1	1	1	1				
20	2	120650-11420	PIN, REFERENCE	1	1	1	1				

Fig.10. INTAKE MANIFOLD

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165000-69880	MANIFOLD ASSY, INT.	1	1	1	1				
2	1	165000-69860	GASKET, PROFILE	4	4	4	4				
3	1	165000-69810	GASKET, PROFILE	4	4	4	4				
4	1	165000-69800	SEALING, RUBBER	1	1	1	1				
5	1	165000-69830	FASTEN, ELEMENT 6X42	8	8	8	8				
6	1	165000-69820	MOUNTING, RUBBER	5	5	5	5				
7	1	165000-69840	RING, BACKUP	5	5	5	5				
8	1	165001-35790	NUT, FLANGE M7	5	5	5	5				
9	1	165000-69850	BOX, VACUMM	1	1	1	1				1

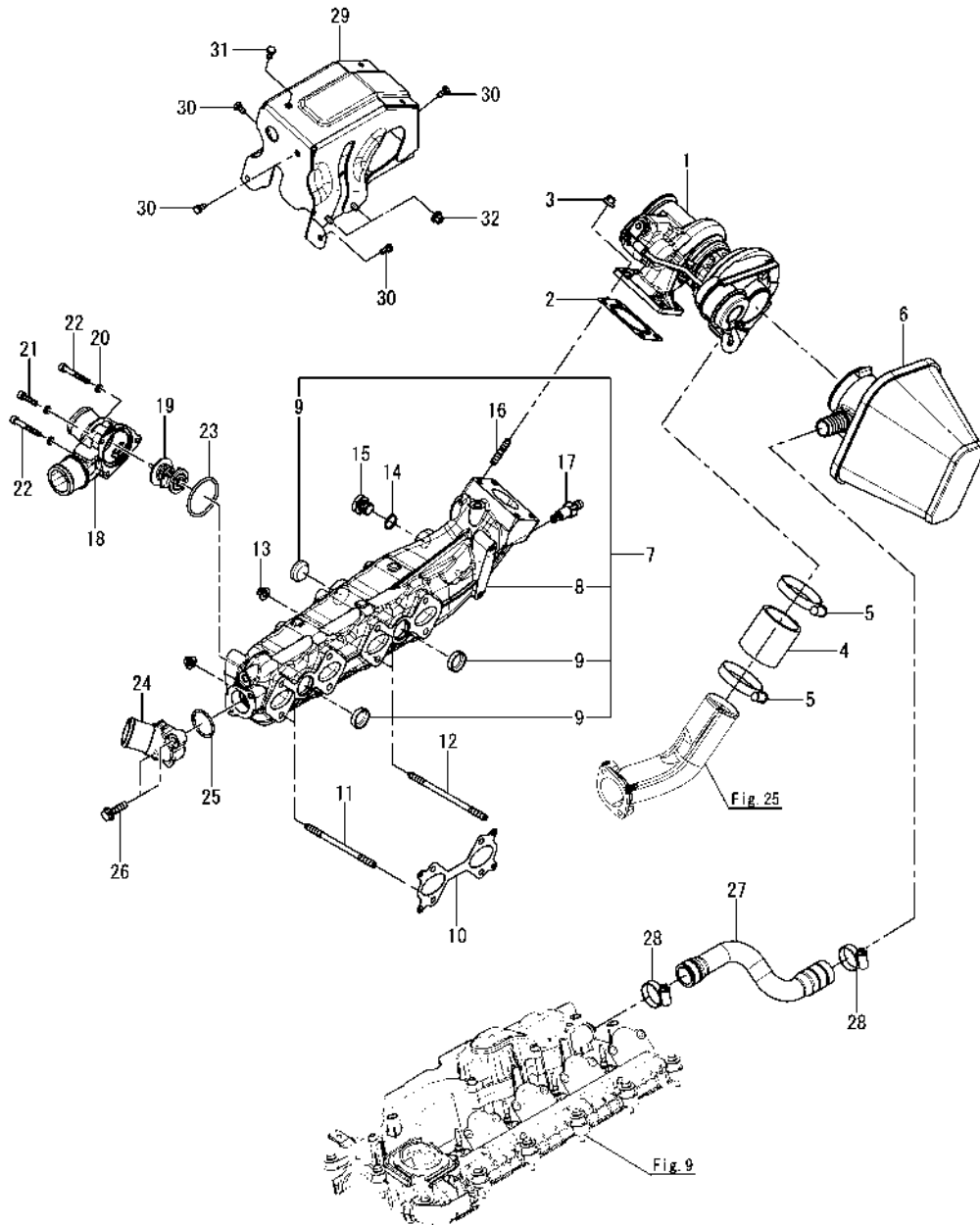


Remarks  
(1)Not illustrated.

Fig.11. TURBOCHARGER & AIR FILTER

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=



No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120651-18010	TURBOCHARGER,MHI	1	1	1	1				
2	1	120660-18200	GASKET, TURBO IN	1	1	1	1				
3	1	120650-13070	NUT, M8	4	4	4	4				
4	1	120650-18900	HOSE, COMPRESSOR OUT	1	1	1	1				
5	1	120650-49720	CLAMP, HOSE	2	2	2	2				
6	1	120650-12510	FILTER, AIR	1	1	1	1				
7	1	120650-13160	MANIFOLD ASSY, EXH.	1	1	1	1				
8	2	120650-13040	MANIFOLD, EXHAUST	1	1	1	1				
9	2	120650-13170	PLUG ASSY, MANIFOLD	3	3	3	3				
10	1	120640-00040	GASKET, EXH.MANIFOLD	2	2	2	2				
11	1	120650-13130	STUD,BOLT 8 X 129	4	4	4	4				
12	1	120650-13140	STUD,BOLT 8 X 144	4	4	4	4				
13	1	120650-13070	NUT, M8	8	8	8	8				
14	1	120640-01260	RING, SEALING A17X21	1	1	1	1				
15	1	23894-030002	PLUG, G3/8	1	1	1	1				
16	1	120650-13090	STUD,BOLT 8 TURBO	4	4	4	4				
17	1	120650-49610	PLUG, DRAIN	1	1	1	1				
18	1	120650-44560	COVER,THERMOSTAT	1	1	1	1				
19	1	120650-44570	THERMOSTAT	1	1	1	1				
20	1	120640-02220	WASHER	3	3	3	3				
21	1	120640-01590	SCREW, M6X25	1	1	1	1				
22	1	120640-01500	SCREW, M6X45	2	2	2	2				
23	1	120650-44580	O-RING, THERMOSTAT	1	1	1	1				
24	1	120650-44540	ELBOW, EXHAUST MANIF	1	1	1	1				
25	1	120650-44590	O-RING, ELBOW EXHAUS	1	1	1	1				
26	1	120640-02130	FLANGE BOLT, 8X30	2	2	2	2				
27	1	120650-11430	HOSE, BLOWBY	1	1	1	1				
28	1	120640-01030	CLAMP, HOSE 40X13	2	2	2	2				
29	1	120651-18300	PROTECTOR, HEAT TURB	1	1	1	1				
30	1	120640-01460	SCREW, M6X12	4	4	4	4				
31	1	120640-02080	BOLT, M6X16-8.8	1	1	1	1				
32	1	120640-00320	NUT, FLANGE M6	2	2	2	2				

Fig.12. AIR FILTER(OPTION)

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-12550	FILTER ASSY, AIR	1	1	1	1				
2	2	120650-12560	FILTER, AIR	1	1	1	1				
3	2	120650-12570	HOSE, AIR	1	1	1	1				
4	2	120650-12580	CLAMP, HOSE	1	1	1	1				
5	1	120650-12590	CLAMP, HOSE	1	1	1	1				

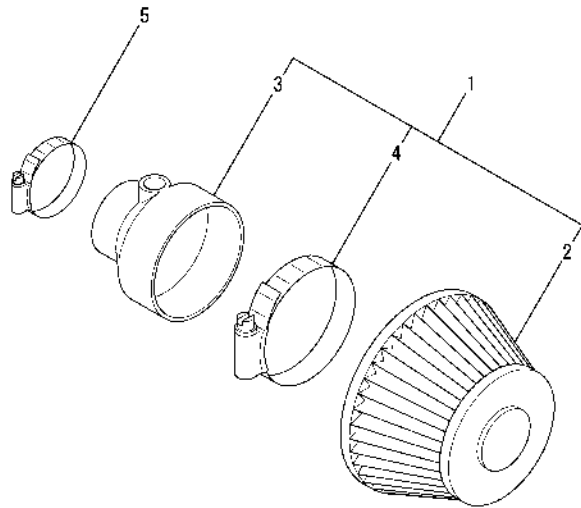


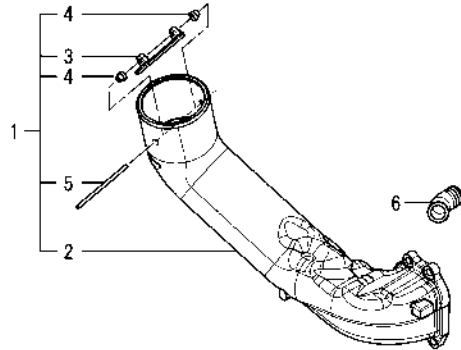


Fig.13. COOLING SEA WATER PIPE & EXHAUST BEND(OPTION)

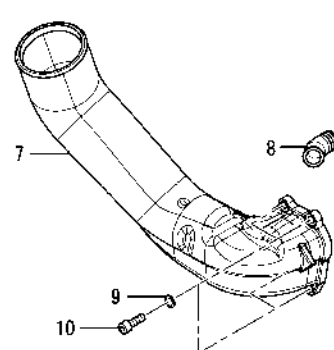
(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

ブラボー仕様  
BRAVO SPEC



ZT仕様  
ZT SPEC

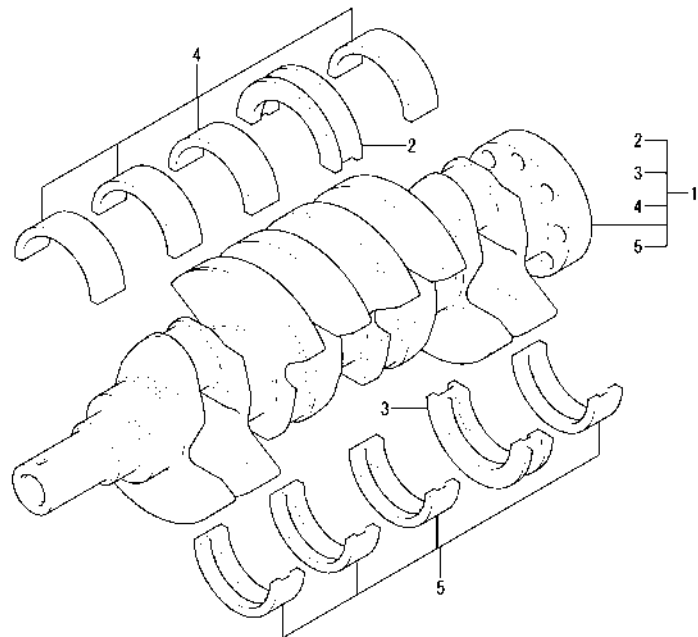


No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-13601	PIPE, EXHAUST CMP			1	1				
2	2	120650-13610	PIPE, EXHAUST			1	1				
3	2	120650-13660	FLAP, EXHAUST PIPE			1	1				
4	2	120650-13670	BUSH, EXHAUST PIPE			2	2				
5	2	120650-13680	PIN, EXHAUST PIPE			1	1				
6	1	119175-49550	JOINT			1	1				
7	1	120651-13600	PIPE, EXHAUST				1				
8	1	119779-49550	JOINT				1				
9	1	22113-100000	WASHER, 10				4				
10	1	26453-100302	BOLT, M10X 30				4				

Fig.14. CRANKSHAFT WITH BEARING SHELLS

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=



No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165000-68830	CRANKSHAFT ASSY	1	1	1	1				
2AG	1	165000-68650	GUIDE, SHILL 60.00MM	1	1	1	1				2
2AW	1	165000-68660	GUIDE, SHILL 60.00MM	1	1	1	1				3
2AY	1	165000-68640	GUIDE, SHILL 60.00MM	1	1	1	1				1
2BG	1	165000-68680	GUIDE, 59.75MM +0.25	1	1	1	1				2
2BW	1	165000-68690	GUIDE, 59.75MM +0.25	1	1	1	1				3
2BY	1	165000-68670	GUIDE, 59.75MM +0.25	1	1	1	1				1
2CG	1	165000-68710	GUIDE, 59.50MM +0.50	1	1	1	1				2
2CW	1	165000-68720	GUIDE, 59.50MM +0.50	1	1	1	1				3
2CY	1	165000-68700	GUIDE, 59.50MM +0.50	1	1	1	1				1
3AG	1	165000-68740	GUIDE, SHILL 60.00MM	1	1	1	1				2
3AW	1	165000-68750	GUIDE, SHILL 60.00MM	1	1	1	1				3
3AY	1	165000-68730	GUIDE, SHILL 60.00MM	1	1	1	1				1
3BG	1	165000-68770	GUIDE, 59.75MM +0.25	1	1	1	1				2
3BW	1	165000-68780	GUIDE, 59.75MM +0.25	1	1	1	1				3
3BY	1	165000-68760	GUIDE, 59.75MM +0.25	1	1	1	1				1
3CG	1	165000-68800	GUIDE, 59.50MM +0.50	1	1	1	1				2
3CW	1	165000-68810	GUIDE, 59.50MM +0.50	1	1	1	1				3
3CY	1	165000-68790	GUIDE, 59.50MM +0.50	1	1	1	1				1
4AG	1	165000-68560	SHELL, BEARING 60.00	4	4	4	4				2
4AW	1	165000-68570	SHELL, BEARING 60.00	4	4	4	4				3
4AY	1	165000-68550	SHELL, BEARING 60.00	4	4	4	4				1
4BG	1	165000-68590	SHELL, 59.75MM +0.25	4	4	4	4				2
4BW	1	165000-68600	SHELL, 59.75MM +0.25	4	4	4	4				3
4BY	1	165000-68580	SHELL, 59.75MM +0.25	4	4	4	4				1
4CG	1	165000-68620	SHELL, 59.50MM +0.50	4	4	4	4				2
4CW	1	165000-68630	SHELL, 59.50MM +0.50	4	4	4	4				3
4CY	1	165000-68610	SHELL, 59.50MM +0.50	4	4	4	4				1
5AG	1	165000-68470	SHELL, BEARING 60.00	4	4	4	4				2
5AW	1	165000-68480	SHELL, BEARING 60.00	4	4	4	4				3
5AY	1	165000-68460	SHELL, BEARING 60.00	4	4	4	4				1
5BG	1	165000-68500	SHELL, 59.75MM +0.25	4	4	4	4				2
5BW	1	165000-68510	SHELL, 59.75MM +0.25	4	4	4	4				3
5BY	1	165000-68490	SHELL, 59.75MM +0.25	4	4	4	4				1
5CG	1	165000-68530	SHELL, 59.50MM +0.50	4	4	4	4				2
5CW	1	165000-68540	SHELL, 59.50MM +0.50	4	4	4	4				3
5CY	1	165000-68520	SHELL, 59.50MM +0.50	4	4	4	4				1

Remarks  
(1)Yellow  
(2)Green  
(3)White

Fig.15. FLYWHEEL & CYLINDER MOUNTING PARTS

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120640-00240	SCREW, FLYWHEEL	8	8	8	8				
2	1	120651-21400	FLYWHEEL ASSY	1	1	1	1				
3	2	120651-21410	FLYWHEEL	1	1	1	1				
4	2	120650-21420	GEAR, RING	1	1	1	1				
5	1	120640-02210	WASHER			6	6				
6	1	120651-21470	FLYWHEEL ADAPTER			1	1				
7	1	120640-01920	BOLT, M8X70-10.9			8	8				
8	1	119778-85500	COUPLING ASSY			1	1				
9	1	120640-01560	SCREW, M10X25			6	6				
10	1	120640-01540	SCREW, M8X35	6	6						
11	1	120652-21603	COUPLING, DAMPER DS22	1	1						
12	1	165001-66870	SCREW, M6X12	1	1	1	1				
13	1	165000-68440	CAP, W/SEAL	1	1	1	1				
14	1	165001-43540	BOLT, HEX M6 25	4	4	4	4				
15	1	165001-66850	BOLT, HEX M8X28	2	2	2	2				
16	1	165000-93310	WHEEL, GENERATOR	1	1	1	1				
17	1	165001-35910	SENSOR, CRANKSHAFT	1	1	1	1				
18	1	165001-71750	TERMINAL, PLUG	1	1	1	1				

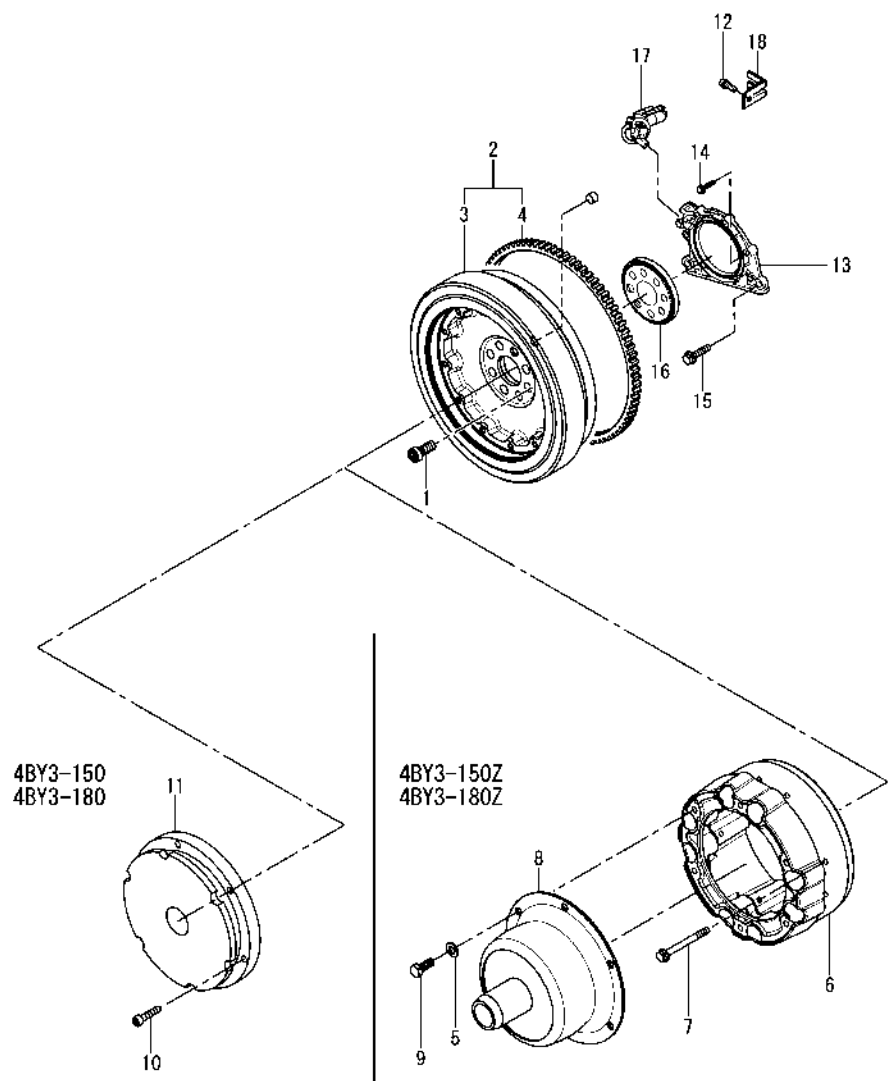
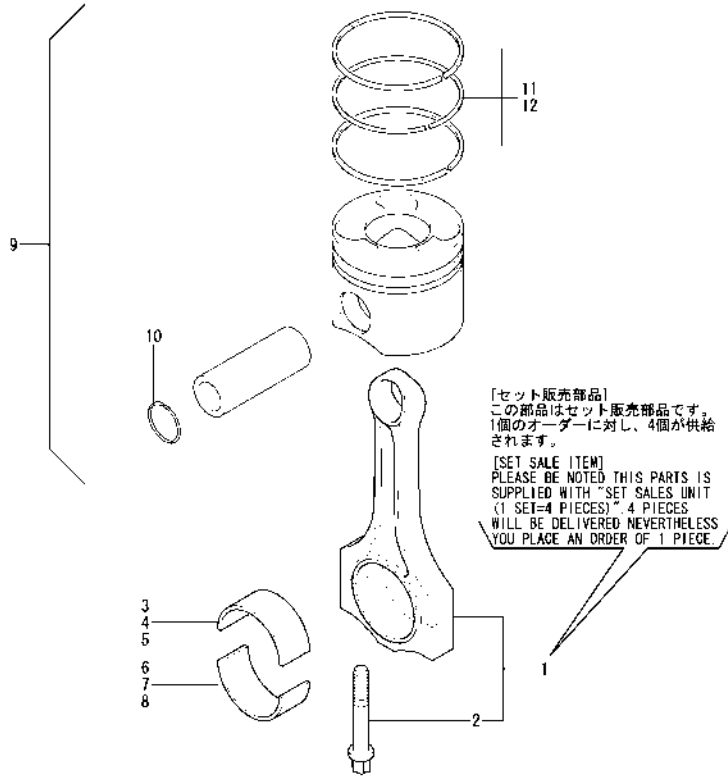


Fig.16. PISTON & CONNECTING ROD

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=



No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165000-68920	ROD, RMFD CONNECTING	1	1	1	1				
2	2	165001-43550	BOLT, CONNECTING ROD	8	8	8	8				
3	1	165001-71680	SHELL, BEARING 45.00	4	4	4	4				1
4	1	165001-71690	SHELL, 44.75MM +0.25	4	4	4	4				2
5	1	165001-71700	SHELL, 44.50MM +0.50	4	4	4	4				3
6	1	165001-71710	SHELL, BEARING 45.00	4	4	4	4				4
7	1	165001-71720	SHELL, 44.75MM +0.25	4	4	4	4				5
8	1	165001-71730	SHELL, 44.50MM +0.50	4	4	4	4				6
9	1	165000-69100	PISTON, MAHLE	4	4	4	4				
10	2	165000-69070	RING, LOCK	8	8	8	8				
11	2	165000-69080	RING SET, PISTON	4	4	4	4				
12	1	165000-69090	RING SET, PISTON .25	4	4	4	4				

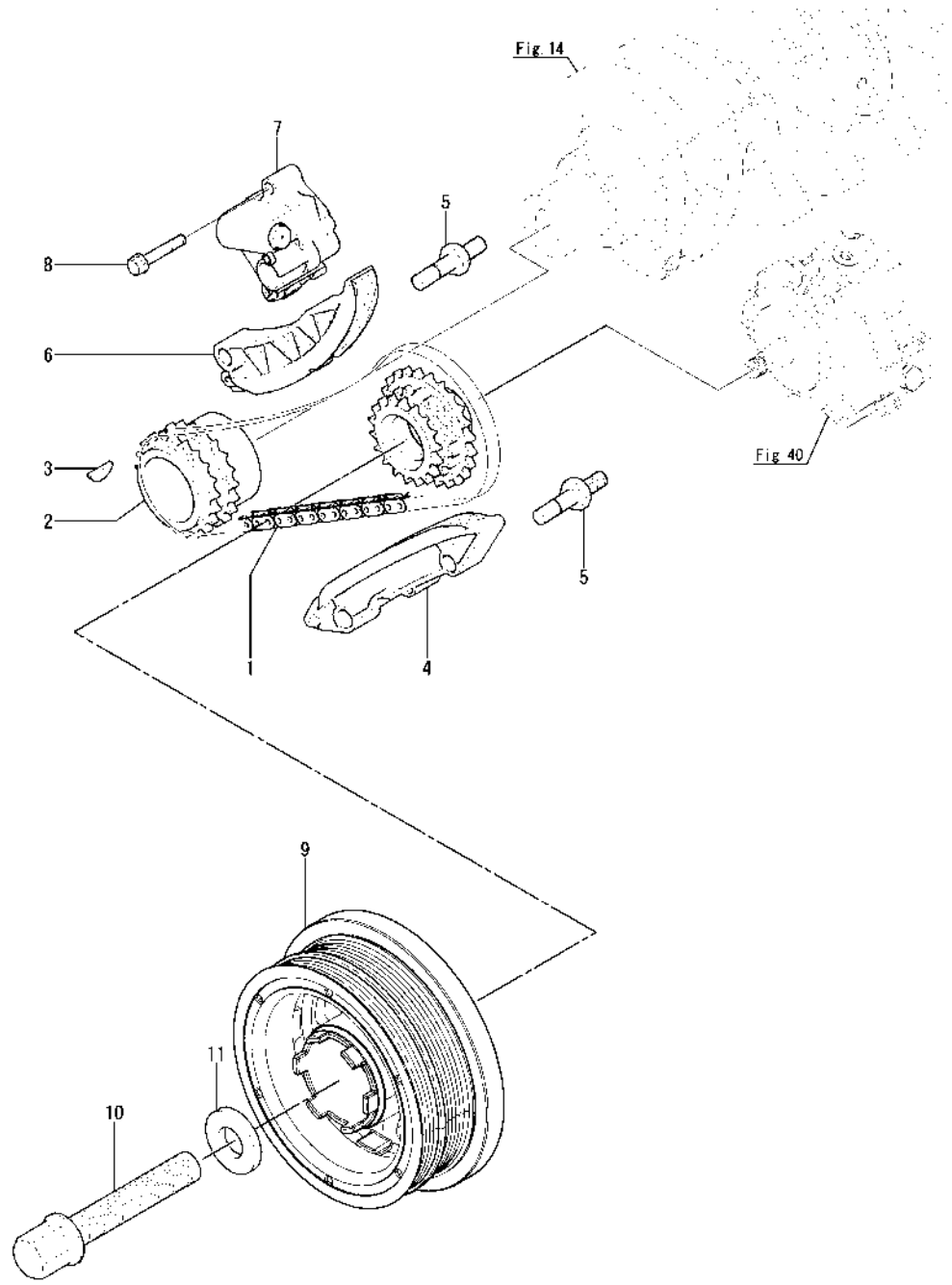
Remarks

- (1) Can be paired with No6 only.
- (2) Can be paired with No7 only.
- (3) Can be paired with No8 only.
- (4) Can be paired with No3 only.
- (5) Can be paired with No4 only.
- (6) Can be paired with No5 only.

Fig.17. TIMING CHAIN LOWER P/DAMPER

(A)=4BY3-150  
 (B)=4BY3-180  
 (C)=4BY3-150Z

(D)=4BY3-180Z  
 (E)=  
 (F)=

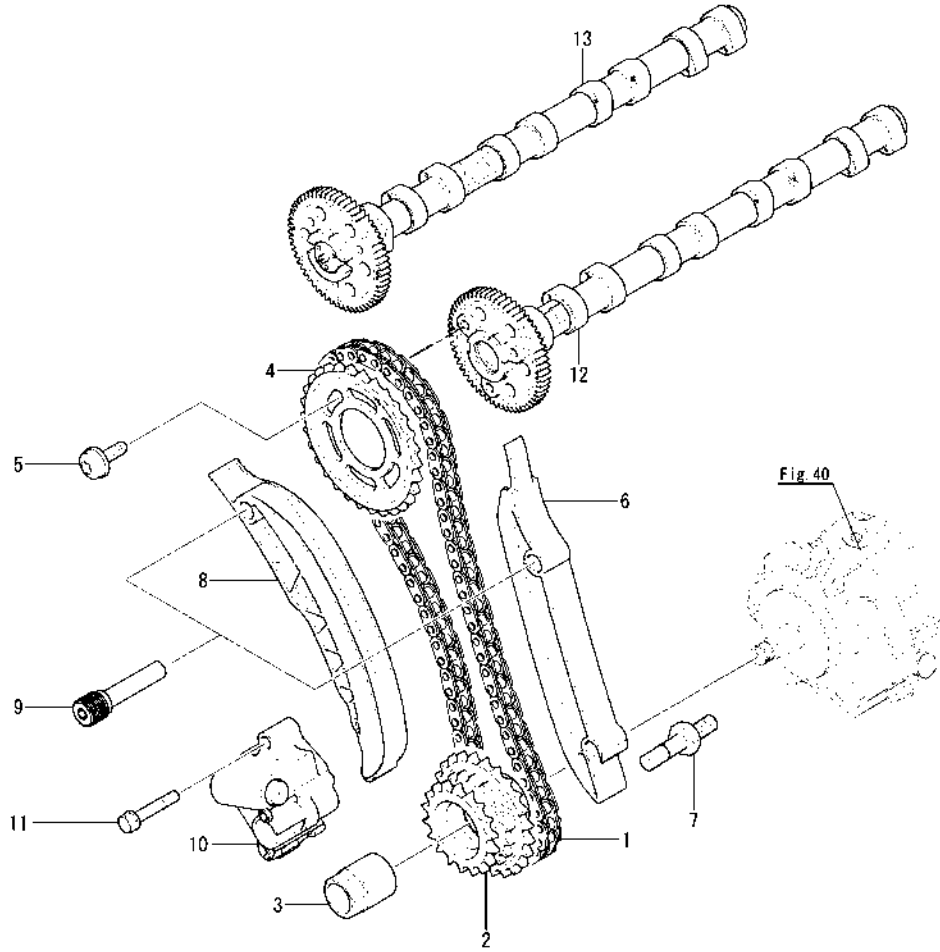


No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165001-60000	CHAIN, TIMING	1	1	1	1				
2	1	165001-35990	SPROCKET, CRANKSHAFT	1	1	1	1				
3	1	165000-67430	KEY, WOODRUFF 5X6.5	1	1	1	1				
4	1	165000-70230	RAIL, GUIDE	1	1	1	1				
5	1	165000-67730	BOLT, BEARING	3	3	3	3				
6	1	165000-70220	TENSIONER, CHAIN	1	1	1	1				
7	1	165000-70250	TENSIONER, CHAIN	1	1	1	1				
8	1	165000-67110	BOLT, HEX M6 30	3	3	3	3				
9	1	165001-35660	VIBRATION DAMPER	1	1	1	1				
10	1	165000-68890	BOLT, M18X1.5X85.5	1	1	1	1				
11	1	165000-68880	WASHER, FLAT	1	1	1	1				

Fig.18. CAMSHAFT & TIMING GEAR CHAIN

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=



No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165001-59990	CHAIN, TIMING	1	1	1	1				
2	1	165000-70240	SPROCKET, PUMP	1	1	1	1				
3	1	165000-70210	NUT, HEXAGON M14X1.5	1	1	1	1				
4	1	165000-69240	SPROCKET, CAMSHAFT	1	1	1	1				
5	1	165000-69270	SCREW, ISA M7X18	3	3	3	3				
6	1	165000-69200	RAIL, GUIDE	1	1	1	1				
7	1	165000-67760	BOLT, BEARING	1	1	1	1				
8	1	165000-69190	TENSIONER, CHAIN	1	1	1	1				
9	1	165001-35830	BOLT, BEARING	2	2	2	2				
10	1	165000-70250	TENSIONER, CHAIN	1	1	1	1				
11	1	165000-67110	BOLT, HEX M6 30	3	3	3	3				
12	1	165000-69220	CAMSHAFT, INLET	1	1	1	1				
13	1	165000-69230	CAMSHAFT, OUTLET	1	1	1	1				

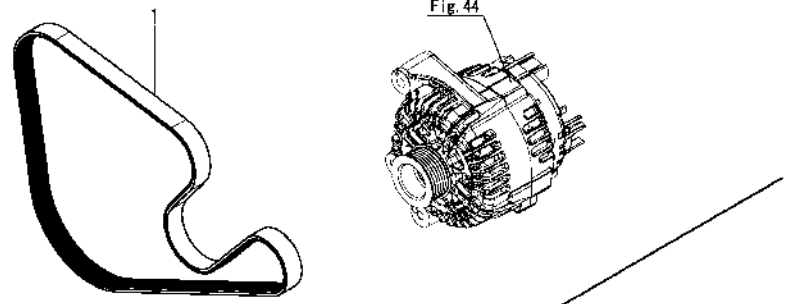
Fig.19. V-BELT

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120640-00010	V-BELT, 6PK1230	1	1						
2	1	120640-00020	V-BELT, 6PK 2080			1	1				

4BY3-150  
4BY3-180



4BY3-150Z  
4BY3-180Z

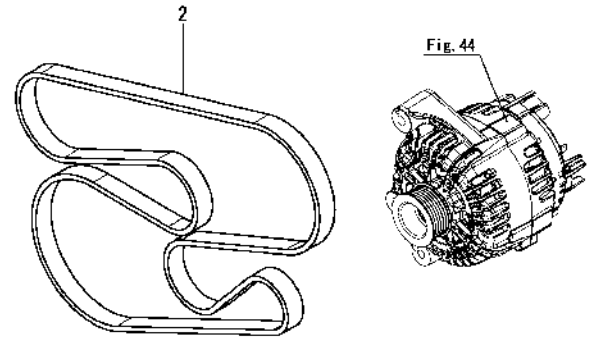
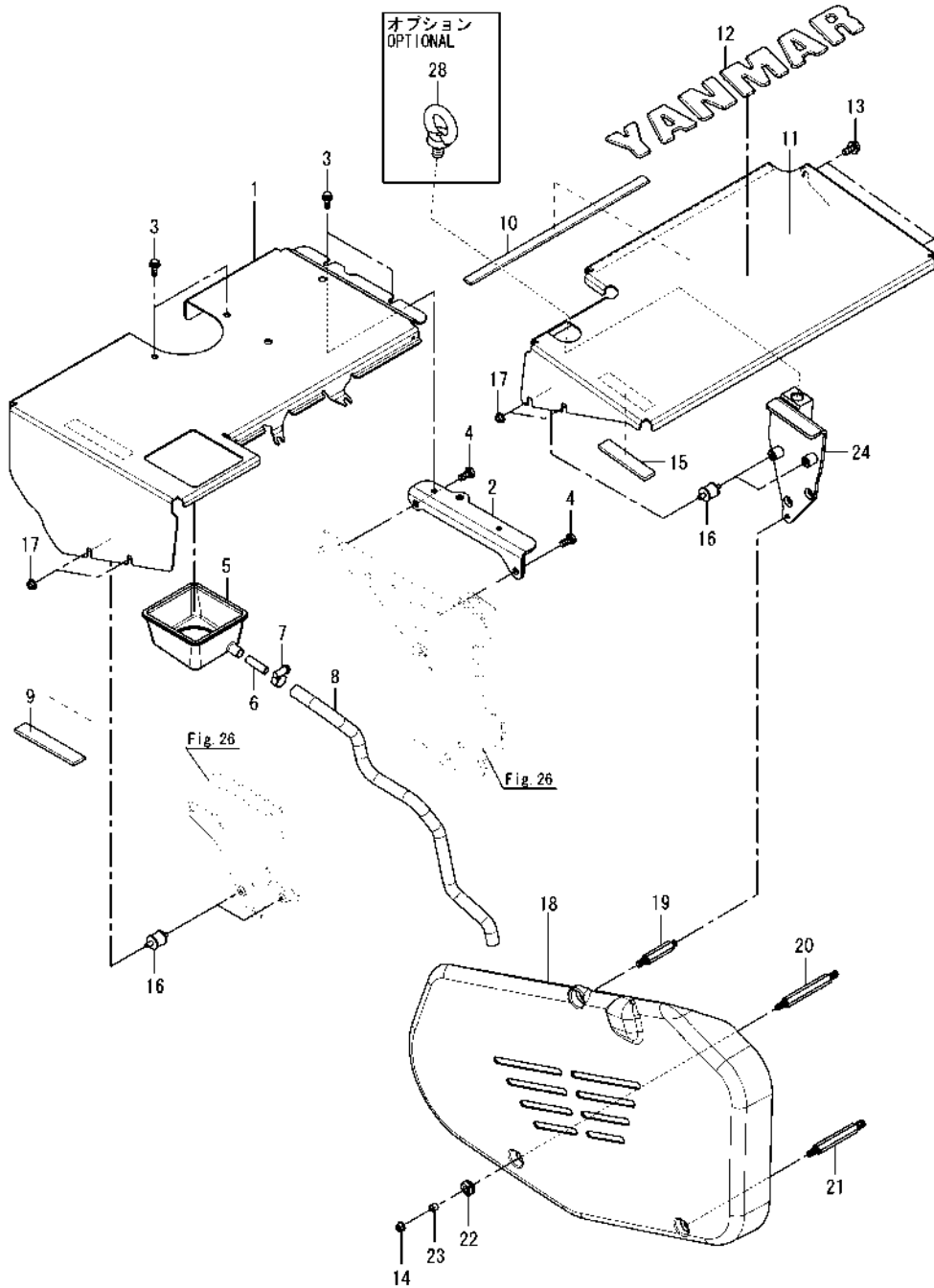


Fig.20. TOP COVER & V-BELT COVER

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=



No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120651-17000	TOP COVER, A	1	1	1	1				
2	1	120650-44270	BRACKET, TOP COVER R	1	1	1	1				
3	1	120640-02080	BOLT, M6X16-8.8	4	4	4	4				
4	1	120640-01510	SCREW, M8X16	2	2	2	2				
5	1	120651-17020	BOOT, OIL FILLER	1	1	1	1				
6	1	120650-11660	PIPE, FILLER DRAIN	1	1	1	1				
7	1	120640-01020	CLAMP, HOSE 27X9	1	1	1	1				
8	1	120650-11670	HOSE, FILLER DRAIN	1	1	1	1				
9	1	120650-17380	RUBBER SHEET A	1	1	1	1				
10	1	120650-17360	GROMMET, TOP COVER	1	1	1	1				
11	1	120651-17010	TOP COVER, B	1	1	1	1				
12	1	120650-07130	LABEL, YANMAR LOGO	1	1	1	1				
13	1	120640-01850	FLANGE BOLT, 8X16	1	1	1	1				
14	1	120640-00330	NUT, FLANGE M8	3	3	3	3				
15	1	120650-17390	RUBBER SHEET B	1	1	1	1				
16	1	120650-17410	INSULATOR, TOP COVER	4	4	4	4				
17	1	120640-00320	NUT, FLANGE M6	4	4	4	4				
18	1	120650-17170	COVER ASSY, BELT	1	1	1	1				
19	1	120650-17200	BOLT, FIXING 1	1	1	1	1				
20	1	120650-17220	BOLT, FIXING 3	1	1	1	1				
21	1	120650-17210	BOLT, FIXING 2	1	1	1	1				
22	1	128990-77610	GROMMET	3	3	3	3				
23	1	128990-77430	COLLAR	3	3	3	3				
24	1	120650-17320	BRACKET, TOP COVER F	1	1	1	1				
28	1	120650-07350	LIFTER	2	2	2	2				

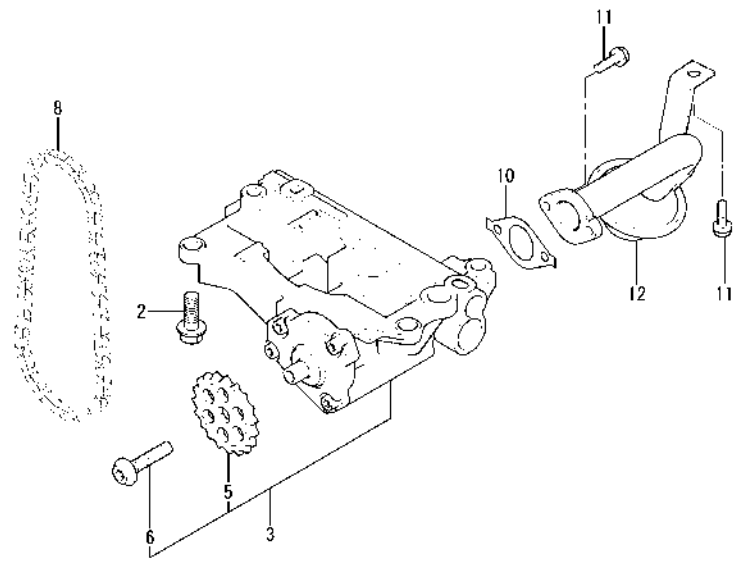
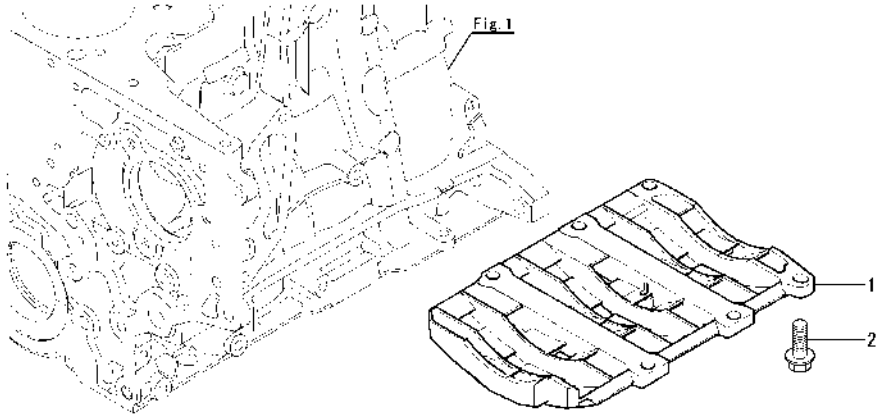


Fig.21. LUB. OIL PUMP

(A)=4BY3-150  
 (B)=4BY3-180  
 (C)=4BY3-150Z

(D)=4BY3-180Z  
 (E)=  
 (F)=

No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165000-67800	REINFORCEMENT, BOWL	1	1	1	1				
2	1	165000-67280	BOLT, HEX M8 28	10	10	10	10				
3	1	165001-36010	PUMP, OIL	1	1	1	1				
4	2	165000-69360	SCREW, COLLAR M6X18	2	2	2	2				1
5	2	165000-69370	SPROCKET, OIL PUMP	1	1	1	1				
6	2	165000-69390	BOLT, TORX M8X35	1	1	1	1				
8	1	165000-69400	CHAIN	1	1	1	1				
10	1	165000-69380	GASKET	1	1	1	1				
11	1	165000-68320	SCREW, COLLAR M6X20	3	3	3	3				
12	1	120650-32620	STRAINER, OIL	1	1	1	1				

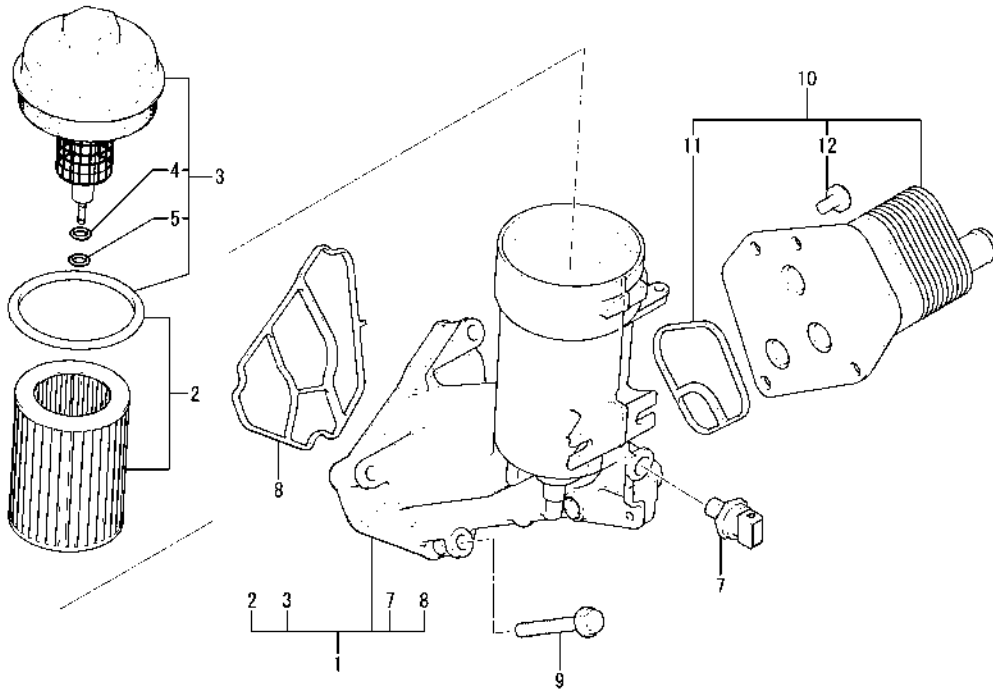


Remarks  
 (1)Not illustrated.

Fig.22. LUB. OIL FILTER

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=



No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165001-43560	FILTER ASSY, OIL	1	1	1	1				
2	2	165000-69520	ELEMENT, OIL FILTER	1	1	1	1				
3	2	165000-69510	COVER, OIL FILTER	1	1	1	1				
4	3	165000-69440	O-RING, 18.64 3.53MM	1	1	1	1				
5	3	165000-69460	O-RING, 7.0 2.5MM	1	1	1	1				
7	2	165001-35740	SWITCH, OIL PRESSURE	1	1	1	1				
8	2	165000-69500	GASKET, PROFILE	1	1	1	1				
9	1	165001-46290	BOLT, HEX M8X45	3	3	3	3				
10	1	165000-69530	EXCHANGER, HEAT	1	1	1	1				
11	2	165000-69540	GASKET, PROFILE	1	1	1	1				
12	2	165000-69470	SCREW	3	3	3	3				

Fig.23. ROTARY PUMP(OPTION)

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	124413-39100	PUMP ASSY, WASTE	1	1	1	1				
2	1	120130-39990	HOSE,OIL DRAIN 3M	1	1	1	1				

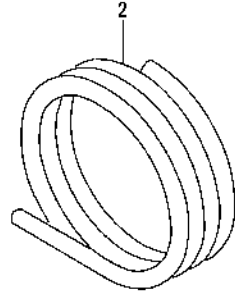
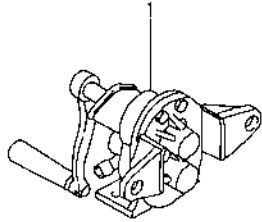
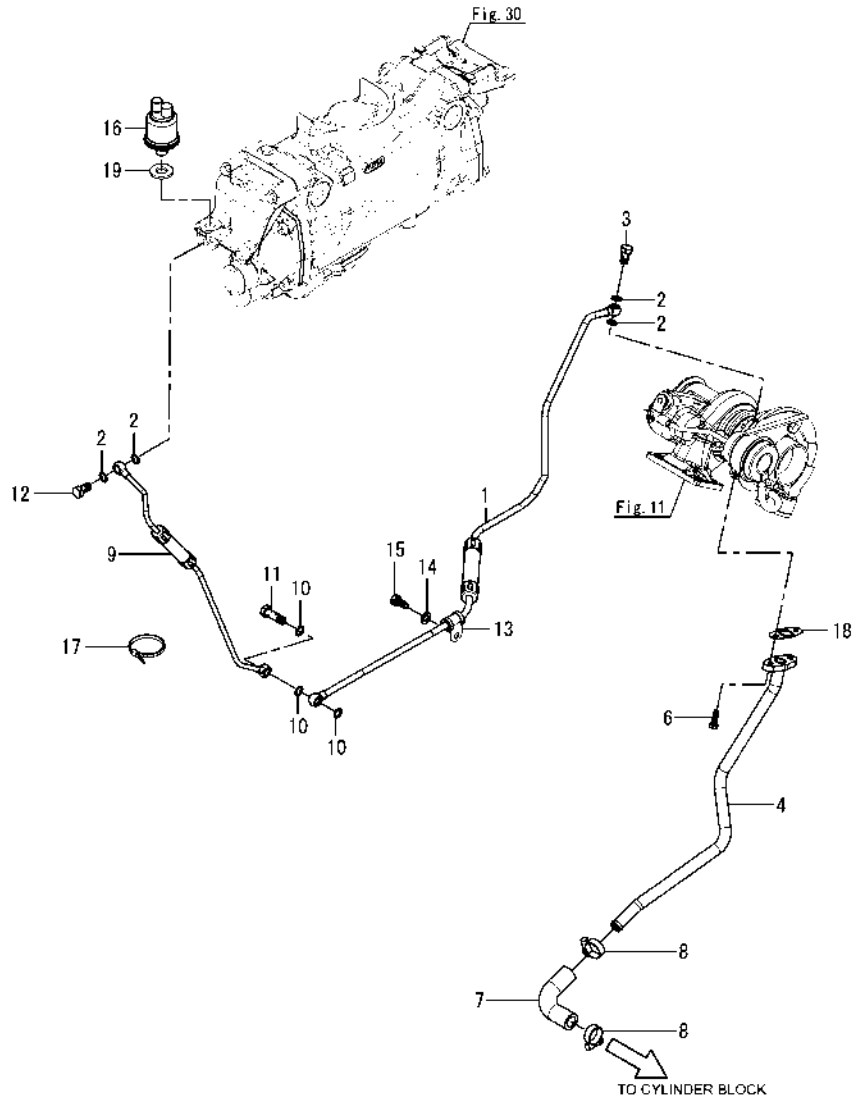


Fig.24. LUB. OIL PIPE(TURBINE)

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

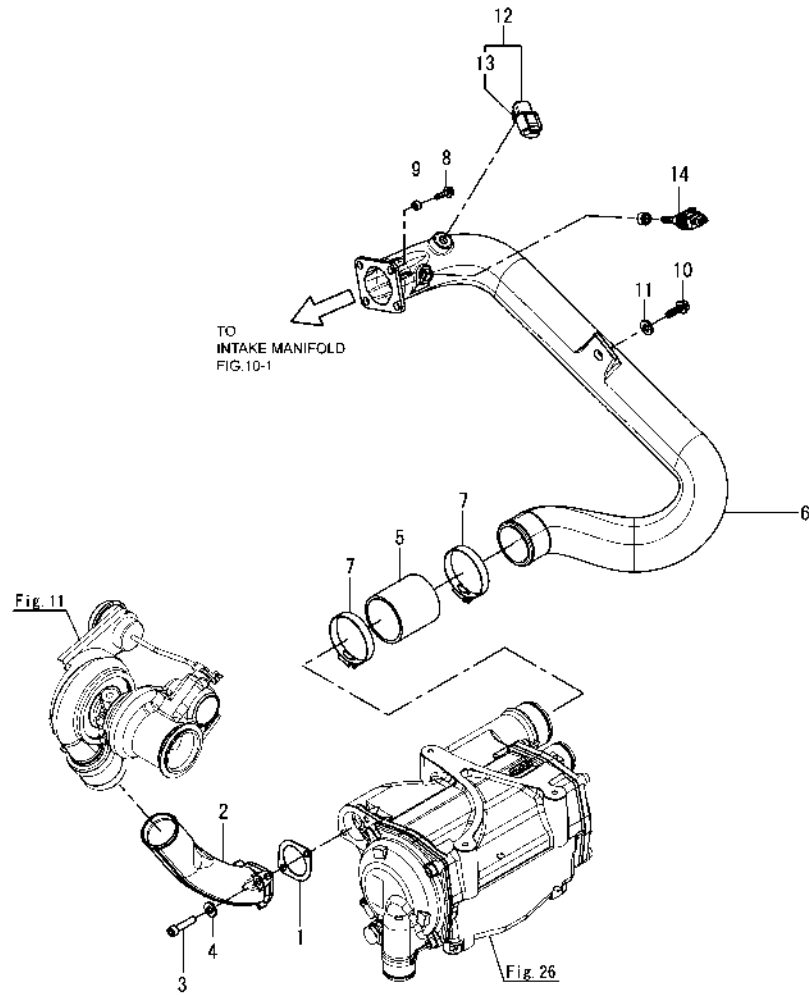


No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120651-39610	PIPE, OIL TURBO IN	1	1	1	1				
2	1	120640-01210	RING, SEALING	4	4	4	4				
3	1	120640-01410	SCREW, HOLLOW	1	1	1	1				
4	1	120651-39620	PIPE, OIL TURBO OUT	1	1	1	1				
6	1	120640-01470	SCREW, M6X16	2	2	2	2				
7	1	120650-39250	HOSE, TURBO RETURN	1	1	1	1				
8	1	120640-01020	CLAMP, HOSE 27X9	2	2	2	2				
9	1	120651-39370	HOSE CMP,OIL SENSOR	1	1	1	1				
10	1	120640-01210	RING, SEALING	3	3	3	3				
11	1	120650-39290	SCREW, HOLLOW	1	1	1	1				
12	1	120640-01410	SCREW, HOLLOW	1	1	1	1				
13	1	120650-85410	CLAMP, PIPE	1	1	1	1				
14	1	120640-02230	WASHER	1	1	1	1				
15	1	120640-01510	SCREW, M8X16	1	1	1	1				
16	1	120650-39270	SENSOR, OIL PRESSURE	1	1	1	1				
17	1	29621-300000	BAND, TR300	1	1	1	1				
18	1	120650-39630	GASKET, OIL RETURN	1	1	1	1				
19	1	120640-01240	RING, SEALING A14X18	1	1	1	1				

Fig.25. AIR COOLER

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

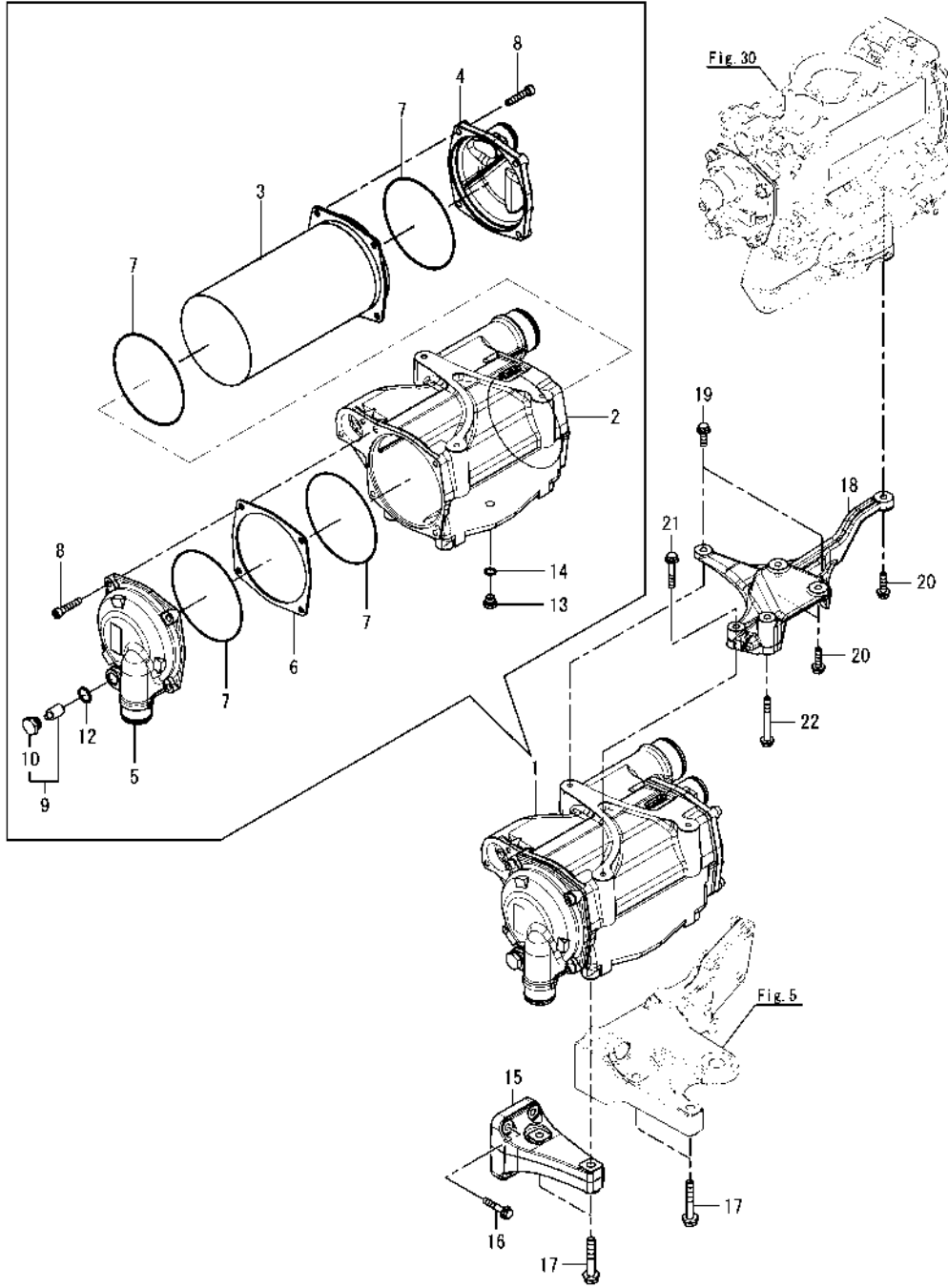


No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-18850	GASKET, AIR CAC IN	1	1	1	1				
2	1	120650-18820	DUCT, AIR	1	1	1	1				
3	1	120640-01540	SCREW, M8X35	2	2	2	2				
4	1	120640-02230	WASHER	2	2	2	2				
5	1	120650-18910	HOSE, CAC OUT	1	1	1	1				
6	1	120650-18830	AIR DUCT, CAC OUT	1	1	1	1				
7	1	120640-01050	CLAMP, HOSE 80X13	2	2	2	2				
8	1	120640-01590	SCREW, M6X25	4	4	4	4				
9	1	120640-02220	WASHER	4	4	4	4				
10	1	120640-01540	SCREW, M8X35	1	1	1	1				
11	1	120640-02230	WASHER	1	1	1	1				
12	1	120640-00140	SENSOR, BOOST P	1	1	1	1				
13	2	120640-00450	GROMMET,BOOST SENSOR	1	1	1	1				
14	1	120640-00130	SENSOR, AIR TEMP	1	1	1	1				

Fig.26. AIR COOLER(INNER PARTS)

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

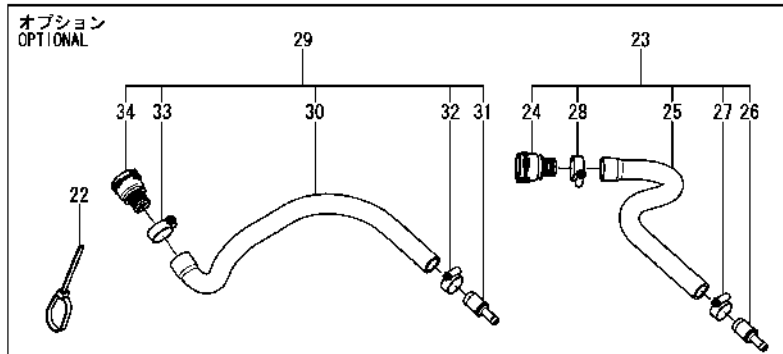
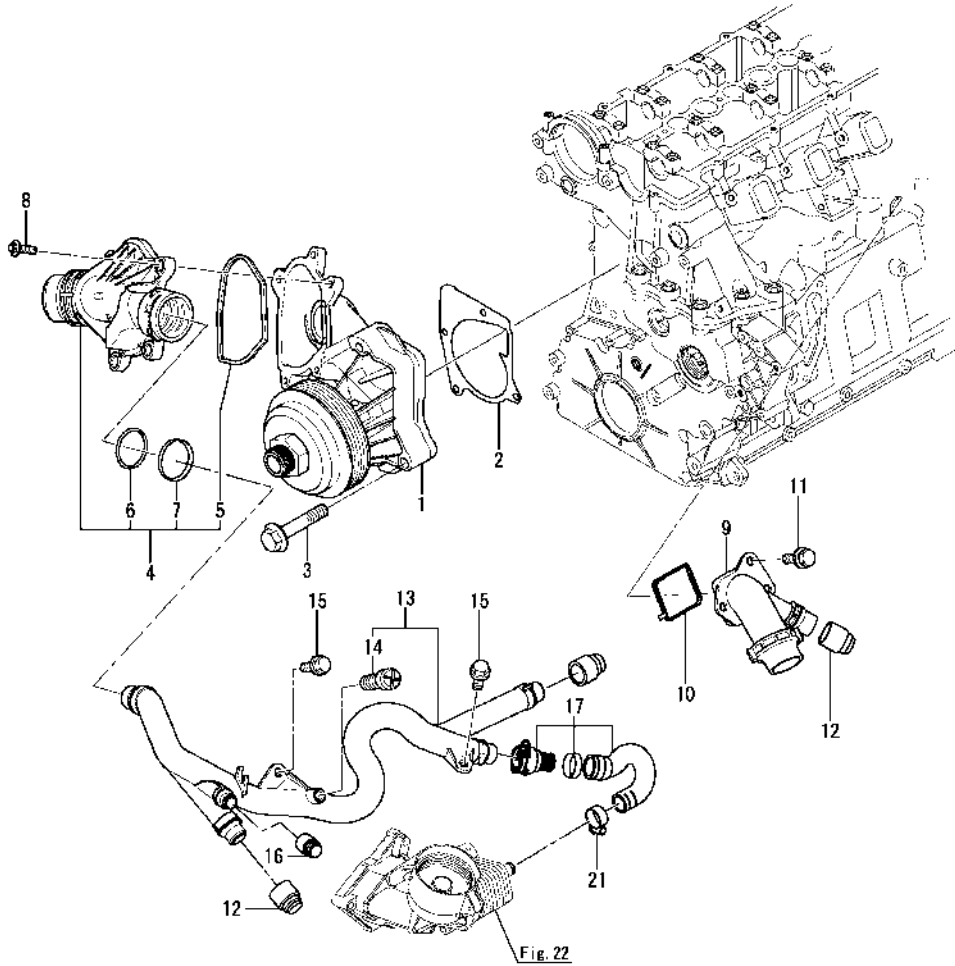


No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120651-18400	COOLER ASSY, AIR	1	1	1	1				
2	2	120651-18410	HOUSING, CAC 4BY	1	1	1	1				
3	2	120650-18420	TUBE STACK, 4BY	1	1	1	1				
4	2	120650-18430	COVER, CAC REAR	1	1	1	1				
5	2	120650-18440	COVER, CAC FRONT	8	8	8	8				
6	2	120650-18450	SPACER, CAC	1	1	1	1				
7	2	120650-18470	O-RING, CAC	4	4	4	4				
8	2	120650-18480	BOLT, M8X40	8	8	8	8				
9	2	120650-18490	ZINC	1	1	1	1				
10	3	120650-18530	PLUG(ZINC ANODE	1	1	1	1				
12	2	120650-18500	GASKET, CUPPER	1	1	1	1				
13	2	120650-18510	PLUG, DRAIN	1	1	1	1				
14	2	120650-18520	GASKET, CUPPER	1	1	1	1				
15	1	120650-18460	BRACKET,AIR CHARGE R	1	1	1	1				
16	1	120640-01870	BOLT, M8X40-8.8	4	4	4	4				
17	1	120640-01990	BOLT, M10X60-8.8	4	4	4	4				
18	1	120650-44400	BRACKET, HEAT EXCHAN	1	1	1	1				
19	1	120640-02150	FLANGE BOLT, 8X25	2	2	2	2				
20	1	120640-02130	FLANGE BOLT, 8X30	3	3	3	3				
21	1	120640-02160	FLANGE BOLT, 8X45	1	1	1	1				
22	1	120640-01920	BOLT, M8X70-10.9	1	1	1	1				

Fig.27. WATER PUMP

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

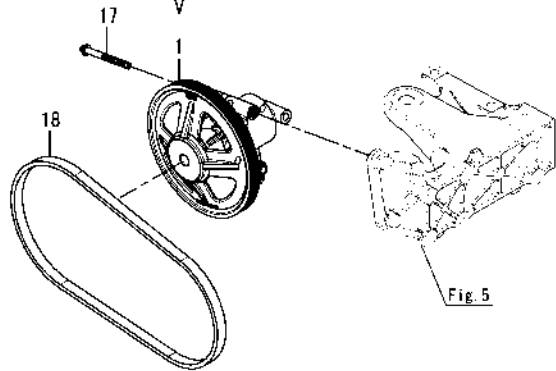
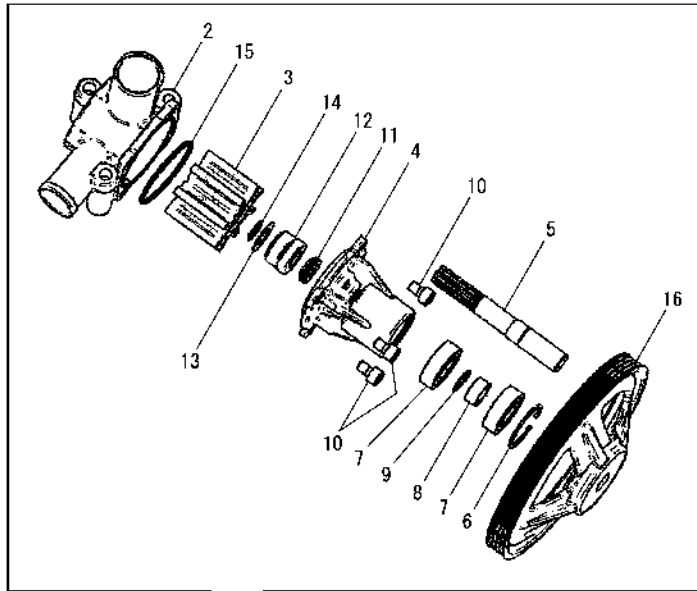


No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165001-35720	PUMP, RMFD WATER	1	1	1	1				
2	1	165001-44450	GASKET, STEEL	1	1	1	1				
3	1	165000-69690	SCREW, TORX M7X38	4	4	4	4				
4	1	165001-44440	THERMOSTAT ASSY	1	1	1	1				
5	2	165000-69650	GASKET, PROFILE	1	1	1	1				
6	2	165000-69660	O-RING	1	1	1	1				
7	2	165000-69670	RING, BACKUP	1	1	1	1				
8	1	165000-69640	SCREW, TORX M6X20	4	4	4	4				
9	1	165001-35800	CONNECTOR	1	1	1	1				
10	1	165000-67960	GASKET, PROFILE	1	1	1	1				
11	1	165001-43540	BOLT, HEX M6 25	3	3	3	3				
12	1	120650-49390	COUPLING, QUICK	2	2	2	2				
13	1	165000-93330	PIPE, RETURN	1	1	1	1				
14	2	165000-69780	SCREW, VENT	1	1	1	1				
15	1	165001-59980	SCREW, COLLAR M6X18	2	2	2	2				
16	1	120650-49380	COUPLING, QUICK	1	1	1	1				
17	1	120650-49400	HOSE, OIL COOLER	1	1	1	1				
21	1	120640-01020	CLAMP, HOSE 27X9	1	1	1	1				
22	1	120640-09130	TIE, STRAP 550	1	1	1	1				
23	1	120650-49851	HOSE ASSY, HEATER SU	1	1	1	1				
24	2	120650-49310	COUPLING, RAPID	1	1	1	1				
25	2	120650-49811	HOSE, HOT WATER OUT	1	1	1	1				
26	2	120650-49830	HOSE, RESTRICTOR	1	1	1	1				
27	2	23000-028000	CLAMP, 28	1	1	1	1				
28	2	129670-49500	CLIP, HOSE 38	1	1	1	1				
29	1	120650-49861	HOSE ASSY, HEATER RE	1	1	1	1				
30	2	120650-49821	HOSE, HOT WATER RETU	1	1	1	1				
31	2	120650-49830	HOSE, RESTRICTOR	1	1	1	1				
32	2	23000-028000	CLAMP, 28	1	1	1	1				
33	2	129670-49500	CLIP, HOSE 38	1	1	1	1				
34	2	120650-49310	COUPLING, RAPID	1	1	1	1				

Fig.28. COOLING SEA WATER PUMP

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=



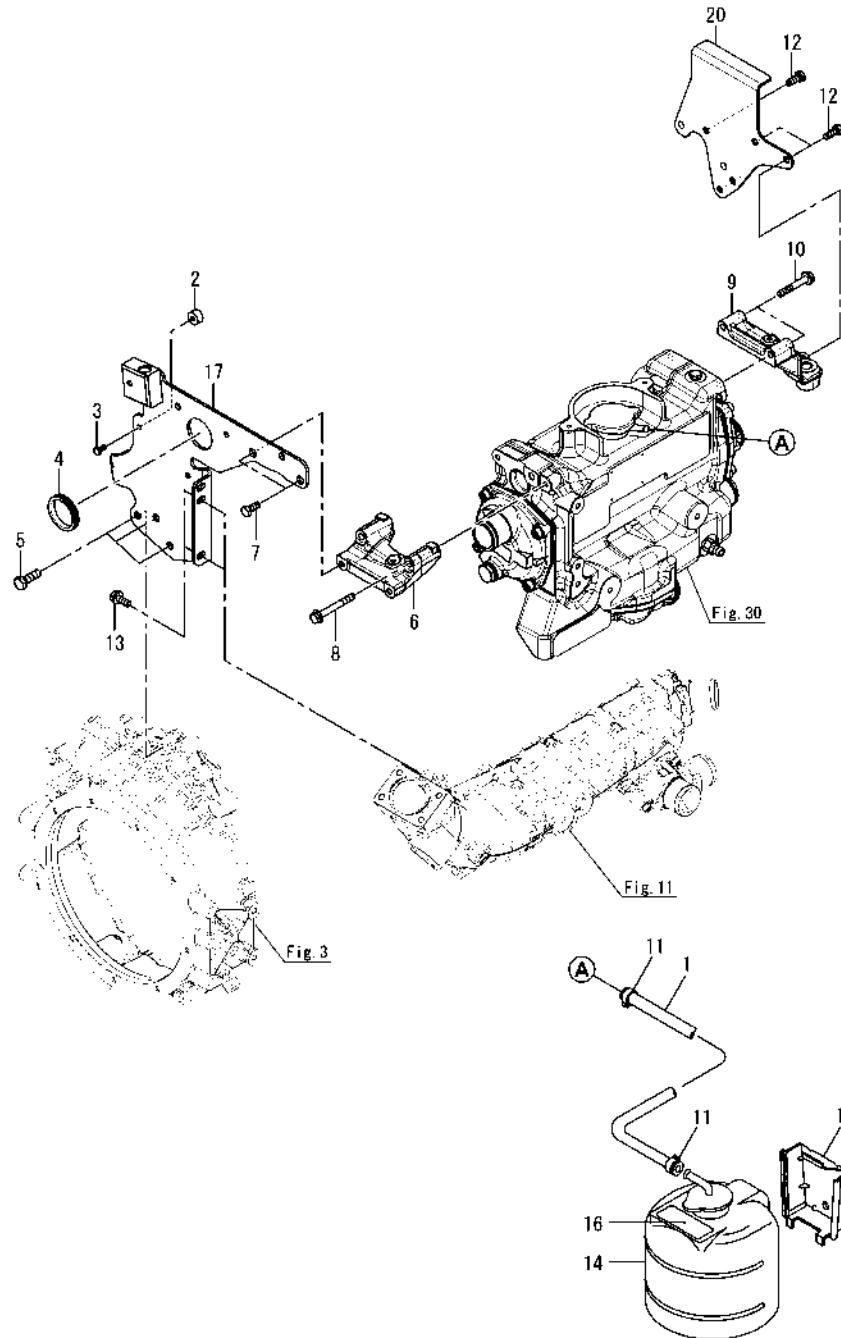
No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-42300	PUMP ASSY,SEAWATER	1	1	1	1				
2	2	120650-42320	PUMP BODY	1	1	1	1				
3	2	120650-42310	IMPELLER	1	1	1	1				
4	2	120650-42330	BEARING HOUSING	3	3	3	3				
5	2	120650-42340	SHAFT PUMP	1	1	1	1				
6	2	120650-42350	CIRCLIP	1	1	1	1				
7	2	120650-42450	BALL BEARING	2	2	2	2				
8	2	120650-42370	SPACER	1	1	1	1				
9	2	120650-42380	CIRCLIP	1	1	1	1				
10	2	120650-42390	ALLEN SCREW	4	4	4	4				
11	2	120650-42420	V-RING	1	1	1	1				
12	2	120650-42430	MECH.SEAL CPL	1	1	1	1				
13	2	120650-42550	WASHER F5B/F6B/F7B	1	1	1	1				
14	2	120650-42570	RETAINING RING	1	1	1	1				
15	2	120650-42440	O-RING	1	1	1	1				
16	2	120650-42410	PULLEY	1	1	1	1				
17	1	120640-01550	SCREW, M8X80	3	3	3	3				
18	1	120650-42360	V-BELT, 4PK 964	1	1	1	1				



Fig.29. HEAT EXCHANGER

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

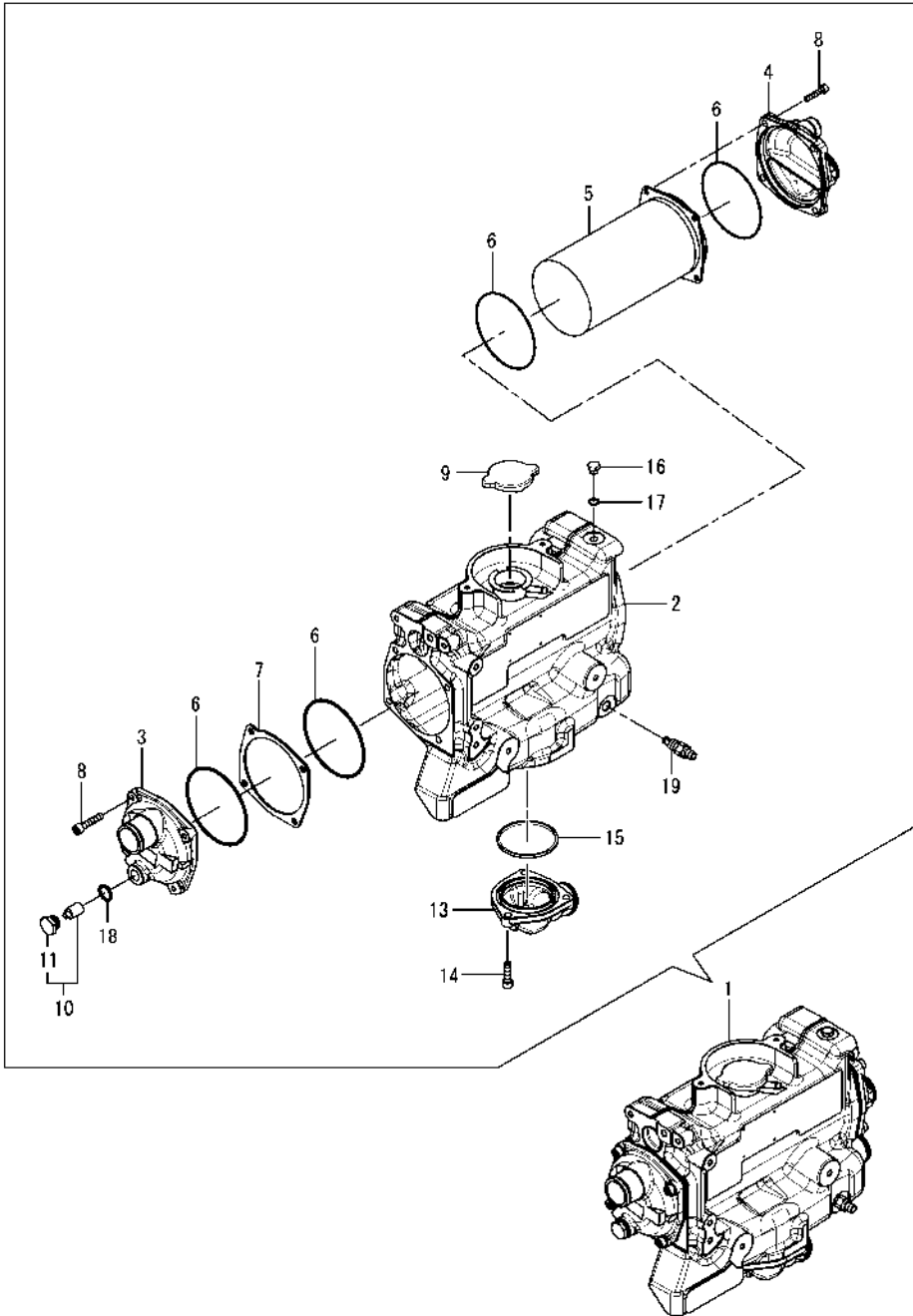


No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	129270-44501	PIPE	1	1	1	1				
2	1	120650-11440	SPACER, BRACKET REAR	1	1	1	1				
3	1	120640-01460	SCREW, M6X12	1	1	1	1				
4	1	120650-44220	SLEEVE, PROTECTING	1	1	1	1				
5	1	120640-01960	BOLT, M10X30-8.8	3	3	3	3				
6	1	120650-44180	SPACER, ELEMENT REAR	1	1	1	1				
7	1	120640-01520	SCREW, M8X20	2	2	2	2				
8	1	120640-01910	BOLT, M8X65-8.8	2	2	2	2				
9	1	120650-44210	SCREW, ELEMENT FRONT	1	1	1	1				
10	1	120640-01890	BOLT, M8X50-8.8	2	2	2	2				
11	1	23010-013000	CLAMP 13	2	2	2	2				
12	1	120640-01520	SCREW, M8X20	5	5	5	5				
13	1	120640-01880	BOLT, M8X50-10.9	2	2	2	2				
14	1	128397-44500	TANK ASSY, SUB	1	1	1	1				
15	1	128397-44510	BRACKET	1	1	1	1				
16	1	129670-44570	LABEL, SUB-TANK	1	1	1	1				
17	1	120650-44150	BRACKET, H/E REAR	1	1	1	1				
20	1	120651-44190	BRACKET, H/E FRO	1	1	1	1				

Fig.30. HEAT EXCHANGER(INNER PARTS)

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

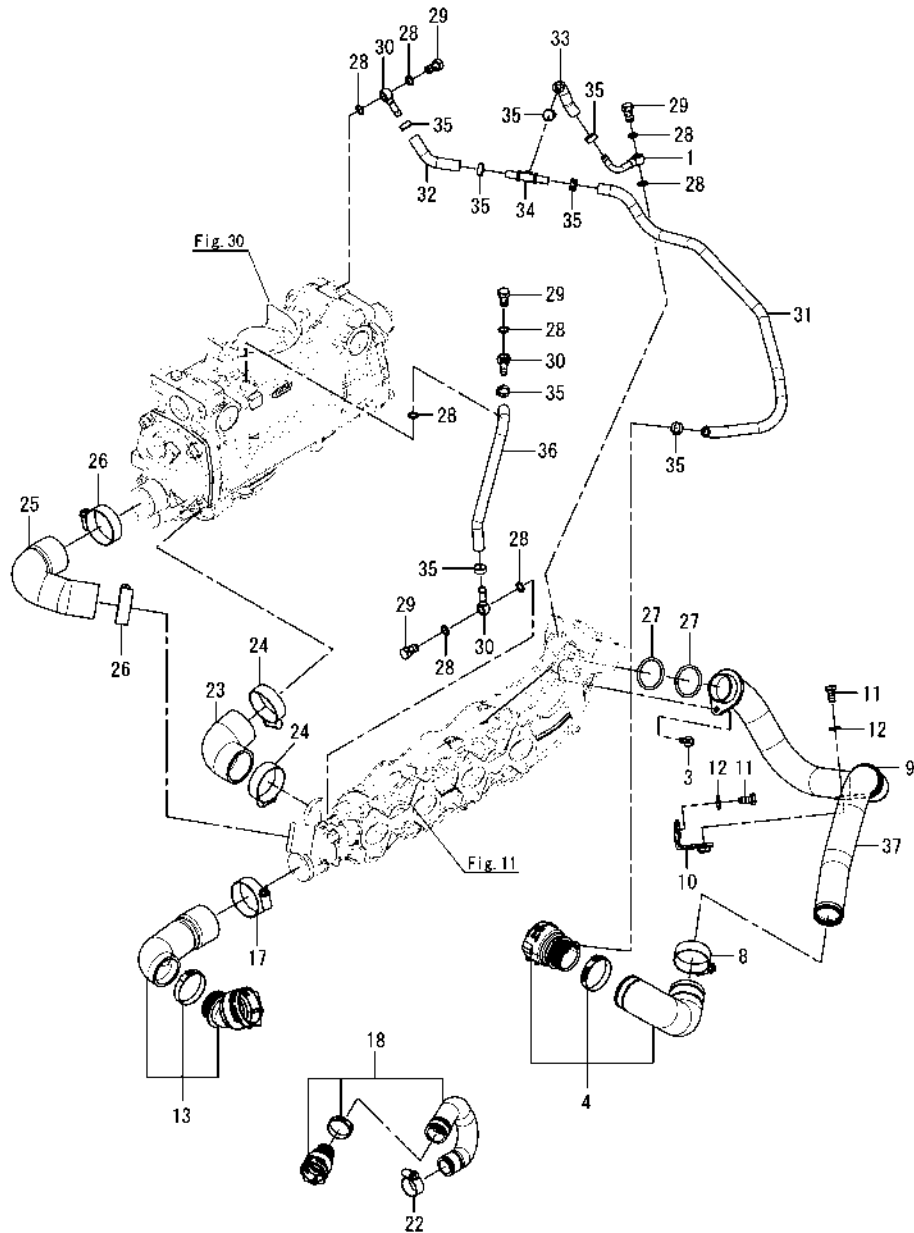


No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120651-44000	HEAT EXCHANGER ASSY	1	1	1	1				
2	2	120651-44010	HOUSING, H/E	1	1	1	1				
3	2	120650-44040	COVER, HEX FRONT	1	1	1	1				
4	2	120650-44030	COVER, HEX REAR	1	1	1	1				
5	2	120650-44020	CORE, HEX 4BY	1	1	1	1				
6	2	120650-44070	O-RING, HEX	4	4	4	4				
7	2	120650-44050	SPACER, HEX	1	1	1	1				
8	2	120650-18480	BOLT, M8X40	8	8	8	8				
9	2	120650-44090	CAP, FILLER	1	1	1	1				
10	2	120650-18490	ZINC	1	1	1	1				
11	3	120650-18530	PLIG(ZINC ANODE	1	1	1	1				
13	2	120651-44500	BEND, H/E	1	1	1	1				
14	2	120651-44510	BOLT, 8X30	3	3	3	3				
15	2	120651-44520	O-RING, THERMOSTAT	1	1	1	1				
16	2	120651-44100	PLUG, H/E	1	1	1	1				
17	2	120651-44110	GASKET, CUPPER	1	1	1	1				
18	2	120650-18500	GASKET, CUPPER	1	1	1	1				
19	2	120650-49610	PLUG, DRAIN	1	1	1	1				

Fig.31. HOSE, FW PUMP

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

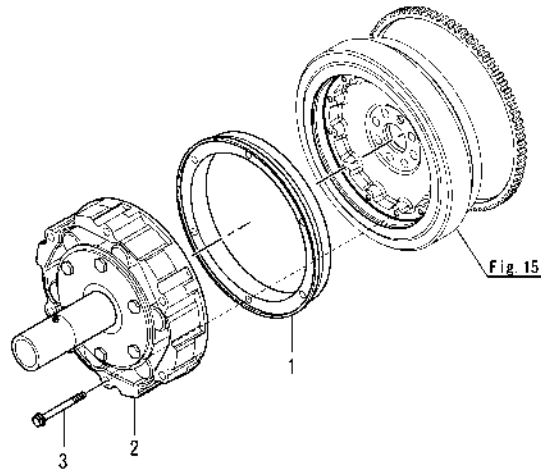


No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120651-49420	PIPE, AIR BLEEDING	1	1	1	1				
3	1	120640-02080	BOLT, M6X16-8.8	1	1	1	1				
4	1	120650-49200	HOSE ASSY, HEAD OUT	1	1	1	1				
8	1	120650-49710	CLAMP, HOSE	1	1	1	1				
9	1	120650-49650	CLAMP, PIPE	1	1	1	1				
10	1	120650-49270	SUPPORT, PIPE WATER	1	1	1	1				
11	1	120640-01510	SCREW, M8X16	2	2	2	2				
12	1	120640-02230	WASHER	2	2	2	2				
13	1	120661-49100	HOSE ASSY, ENGINE IN	1	1	1	1				
17	1	120650-49710	CLAMP, HOSE	1	1	1	1				
18	1	120650-49400	HOSE, OIL COOLER	1	1	1	1				
22	1	120640-01020	CLAMP, HOSE 27X9	1	1	1	1				
23	1	120651-44350	HOSE, H/E-THERMO	1	1	1	1				
24	1	120650-49710	CLAMP, HOSE	2	2	2	2				
25	1	120650-44530	HOSE, MANIFOLD-H/E	1	1	1	1				
26	1	120650-49710	CLAMP, HOSE	2	2	2	2				
27	1	120650-49260	O-RING, 36X3.53	2	2	2	2				
28	1	120640-01210	RING, SEALING	8	8	8	8				
29	1	120640-01410	SCREW, HOLLOW	4	4	4	4				
30	1	120650-49350	NIPPLE, HOSE	3	3	3	3				
31	1	120661-49330	HOSE, AIR BLEEDING	1	1	1	1				
32	1	120650-49430	HOSE,AIR BLEEDING	1	1	1	1				
33	1	120660-49430	HOSE,AIR BLEEDING RE	1	1	1	1				
34	1	120650-49460	JOINT,AIR BLEEDING T	1	1	1	1				
35	1	120650-55850	CLAMP, HOSE1EAR14.0	8	8	8	8				
36	1	120650-49440	HOSE,AIR BLEEDING	1	1	1	1				
37	1	120651-49250	PIPE ASSY, HEAD OUT	1	1	1	1				

Fig.32. COOLING SEA WATER PIPE&COUPLING(ZT SPEC)

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=



No.	Lev.	Parts No.	Description	Q'ty						I	R	
				(A)	(B)	(C)	(D)	(E)	(F)			
1	1	120651-21560	SPACER, CF-RSD106				1					
2	1	120661-81050	COUPLING CF-RSD-106				1					
3	1	26106-080852	BOLT, M8X 85 PLATED				6					
4	1	120650-42630	JOINT				1					
5	1	119779-49190	HOSE, DRIVE				1					
6	1	119779-49200	PIPE, WATER				1					
7	1	119779-49210	RETAINER				1					
8	1	120650-49710	CLAMP, HOSE				1					
9	1	120651-49710	BRACKET(CW-T				1					
10	1	120650-49720	CLAMP, HOSE				3					
11	1	119779-49900	HOSE,SEA WATER 2M				1					
12	1	26106-100652	BOLT, M10X 65 PLATED				1					
13	1	26106-100162	BOLT, M10X 16 PLATED				1					

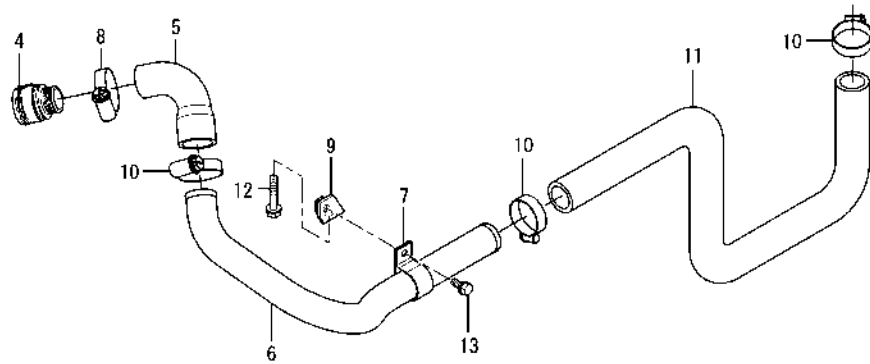
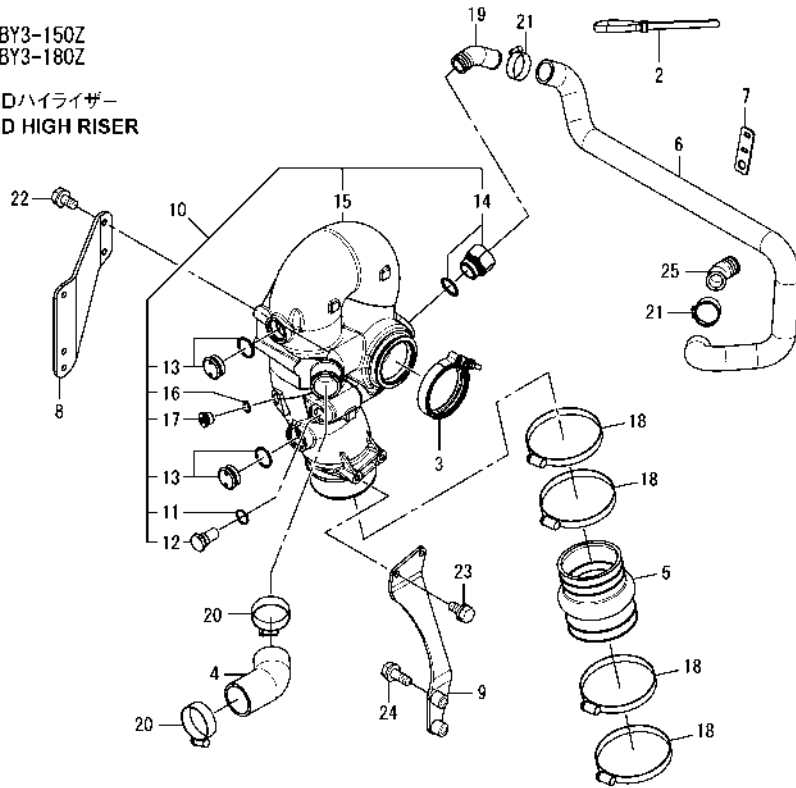


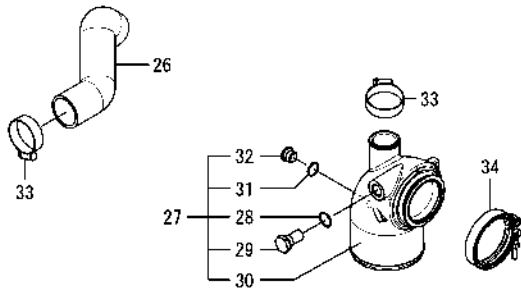
Fig.33. MIXING ELBOW

4BY3-150Z  
4BY3-180Z  
SDハイライザー  
SD HIGH RISER



4BY3-150  
4BY3-180

Lタイプ  
L TYPE



(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

No.	Lev.	Parts No.	Description	Qty						I	R	
				(A)	(B)	(C)	(D)	(E)	(F)			
1	1	120640-00390	NUT, ISO7/16			1	1					1
2	1	120640-09130	TIE, STRAP 550			1	1					
3	1	120650-13450	V-CLAMP, TURBINE OUT			1	1					
4	1	120650-13510	HOSE, MIXING IN			1	1					
5	1	120650-13520	JOINT, RUBBER			1	1					
6	1	120660-13810	HOSE, BYPASS			1	1					
7	1	120660-13820	SHEET, RETAINING			1	1					
8	1	120650-13881	BRACKET A, MIXING			1	1					
9	1	120650-13891	BRACKET B, MIXING DR			1	1					
10	1	120650-13901	ELBOW ASY, MIXING DR			1	1					
11	2	120640-01270	RING, SEALING A18X22			1	1					
12	2	120650-13420	ZINC, ANTI-CORROSIVE			1	1					
13	2	120650-13430	PLUG, M30X1.5			2	2					
14	2	120660-13470	ADAPTOR, BYPASS			1	1					
15	2	120650-13911	ELBOW, MIXING DRIVE			1	1					
16	2	23414-130000	GASKET, 13X1.0			1	1					
17	2	23893-020002	PLUG, G1/4			1	1					
18	1	119172-48010	CLIP, HOSE 127			4	4					
19	1	119175-49550	JOINT			1	1					
20	1	120650-49720	CLAMP, HOSE			2	2					
21	1	120650-49750	CLAMP, HOSE			2	2					
22	1	26106-080202	BOLT, M8X 20 PLATED			5	5					
23	1	26106-080202	BOLT, M8X 20 PLATED			2	2					
24	1	26106-100252	BOLT, M10X 25 PLATED			2	2					
25	1	119175-49550	JOINT			1	1					
26	1	120650-13870	HOSE		1	1						
27	1	120650-13930	MIXING ELBOW		1	1						
28	2	120640-01270	RING, SEALING A18X22		1	1						
29	2	120650-13420	ZINC, ANTI-CORROSIVE		1	1						
30	2	120650-13940	ELBOW, MIXING L TYPE		1	1						
31	2	23414-130000	GASKET, 13X1.0		1	1						
32	2	23893-020002	PLUG, G1/4		1	1						
33	1	120650-49720	CLAMP, HOSE		2	2						
34	1	120650-13450	V-CLAMP, TURBINE OUT		1	1						

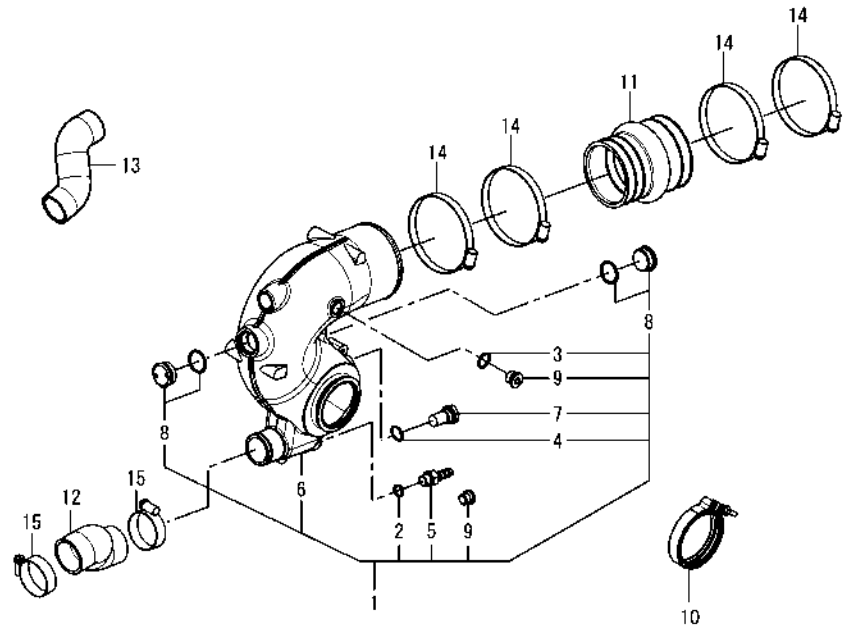
Remarks

(1)Not illustrated.

Fig.34. MIXING ELBOW HIGH RISER(OPTION)

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

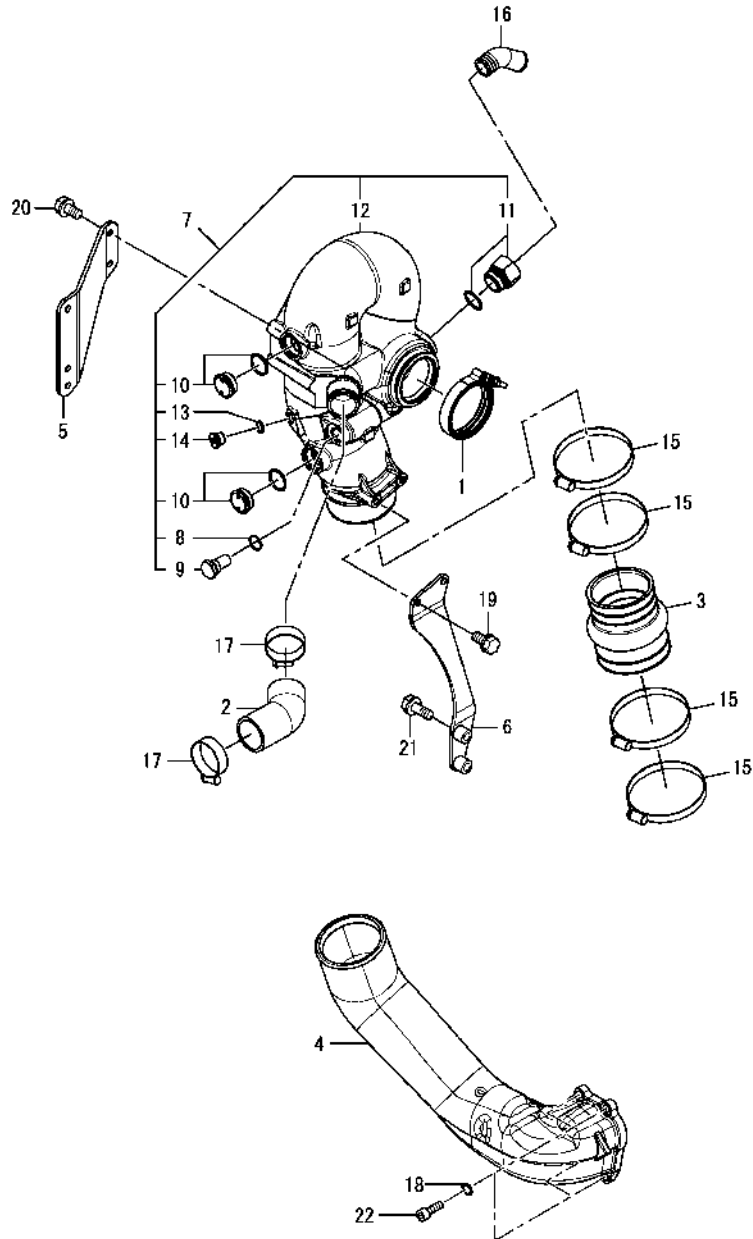


No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120652-13400	ELBOW ASSY, MIXING	1	1	1	1				
2	2	120640-01250	RING, SEALING A14X18	1	1	1	1				
3	2	120640-01260	RING, SEALING A17X21	1	1	1	1				
4	2	120640-01270	RING, SEALING A18X22	1	1	1	1				
5	2	120650-13390	JOINT, DRAIN HIGHRIS	1	1	1	1				
6	2	120652-13410	ELBOW, MIXING HIGHRI	1	1	1	1				
7	2	120650-13420	ZINC, ANTI-CORROSIVE	1	1	1	1				
8	2	120650-13430	PLUG, M30X1.5	2	2	2	2				
9	2	120650-13490	PLUG	1	1	1	1				
10	1	120650-13450	V-CLAMP, TURBINE OUT	1	1	1	1				
11	1	120650-13520	JOINT, RUBBER	1	1	1	1				
12	1	120650-13750	HOSE, MIXING IN 10 R	1	1	1	1				
13	1	120650-13760	HOSE, MIXING IN 40 R	1	1	1	1				
14	1	119172-48010	CLIP, HOSE 127	4	4	4	4				
15	1	120650-49720	CLAMP, HOSE	2	2	2	2				

Fig.53. (34A)MIXING ELBOW(ZT370 SPEC.)

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=



No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-13450	V-CLAMP, TURBINE OUT			1	1				
2	1	120650-13510	HOSE, MIXING IN			1	1				
3	1	120650-13520	JOINT, RUBBER			1	1				
4	1	120651-13600	PIPE, EXHAUST			1	1				
5	1	120650-13881	BRACKET A, MIXING			1	1				
6	1	120650-13891	BRACKET B, MIXING DR			1	1				
7	1	120650-13901	ELBOW ASY, MIXING DR			1	1				
8	2	120640-01270	RING, SEALING A18X22			1	1				
9	2	120650-13420	ZINC, ANTI-CORROSIVE			1	1				
10	2	120650-13430	PLUG, M30X1.5			2	2				
11	2	120660-13470	ADAPTOR, BYPASS			1	1				
12	2	120650-13911	ELBOW, MIXING DRIVE			1	1				
13	2	23414-130000	GASKET, 13X1.0			1	1				
14	2	23893-020002	PLUG, G1/4			1	1				
15	1	119172-48010	CLIP, HOSE 127			4	4				
16	1	119175-49550	JOINT			1	1				
17	1	120650-49720	CLAMP, HOSE			2	2				
18	1	22113-100000	WASHER, 10			4	4				
19	1	26106-080202	BOLT, M8X 20 PLATED			2	2				
20	1	26106-080202	BOLT, M8X 20 PLATED			5	5				
21	1	26106-100352	BOLT, M10X 35 PLATED			2	2				
22	1	26453-100302	BOLT, M10X 30			4	4				

Fig.35. BILGE PUMP(OPTION)

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	977780-01211	PUMP ASSY, BILGE	1	1	1	1				
2	2	X0318101004	MOTOR ASSY, BILGE	1	1	1	1				
3	2	X158606410X	SWITH	1	1	1	1				
4	3	X8636015001	FUSE	1	1	1	1				
5	2	X179100022X	STRAINER	1	1	1	1				
6	2	X179100100X	PIPE ASSY	1	1	1	1				
7	2	X0044021509	HOSE A	1	1	1	1				
8	2	X199906101X	SCREW SET	1	1	1	1				
9	2	977780-03000	INPELLER	1	1	1	1				

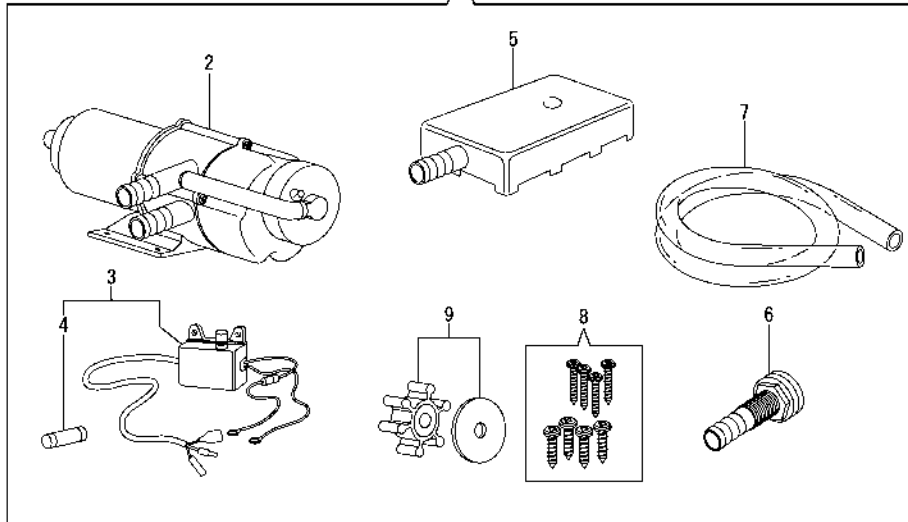
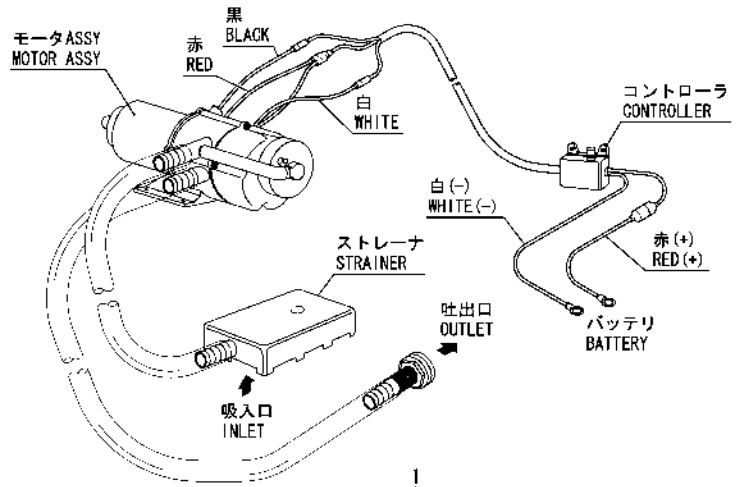
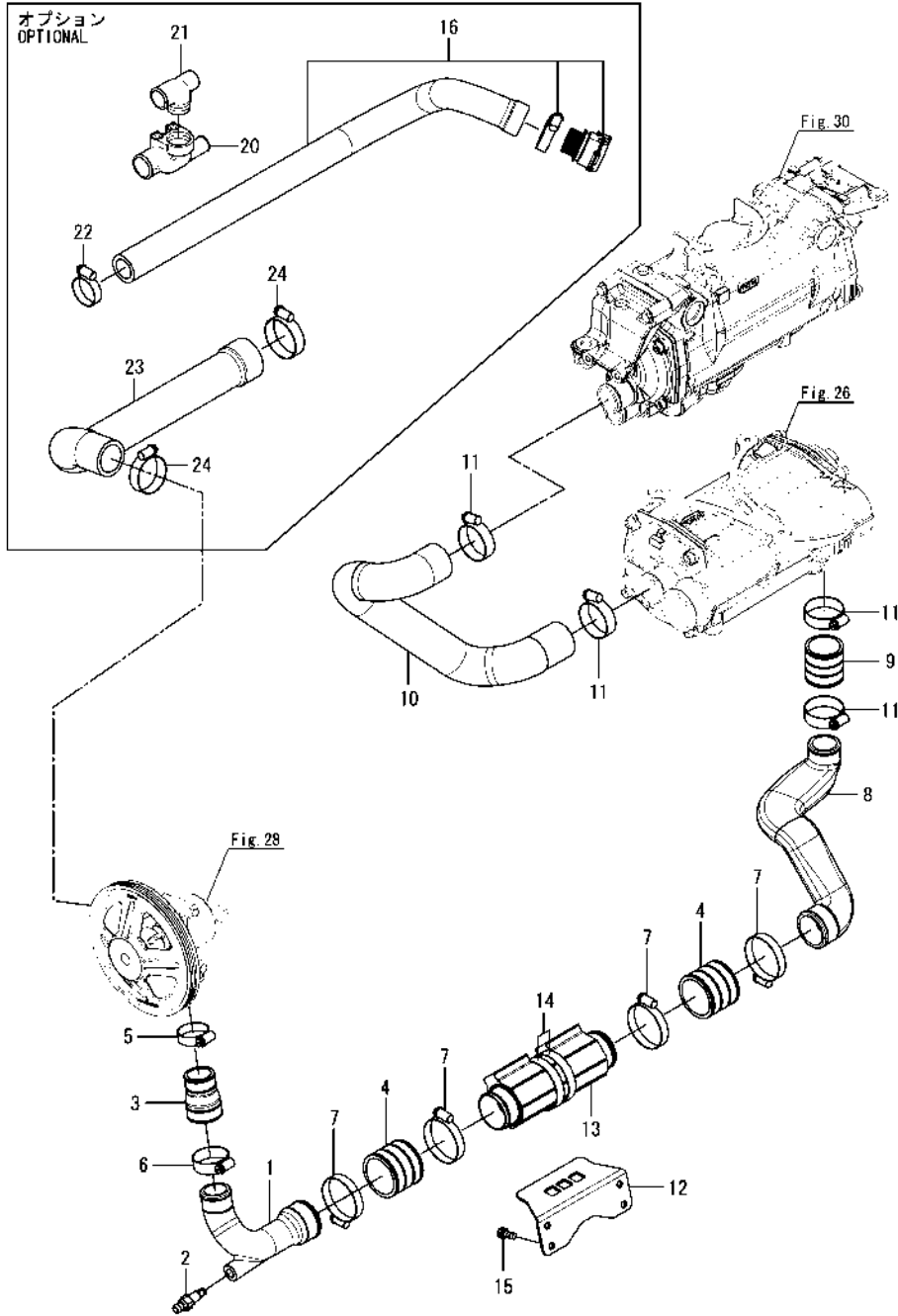




Fig.36. STEERING OIL COOLER

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

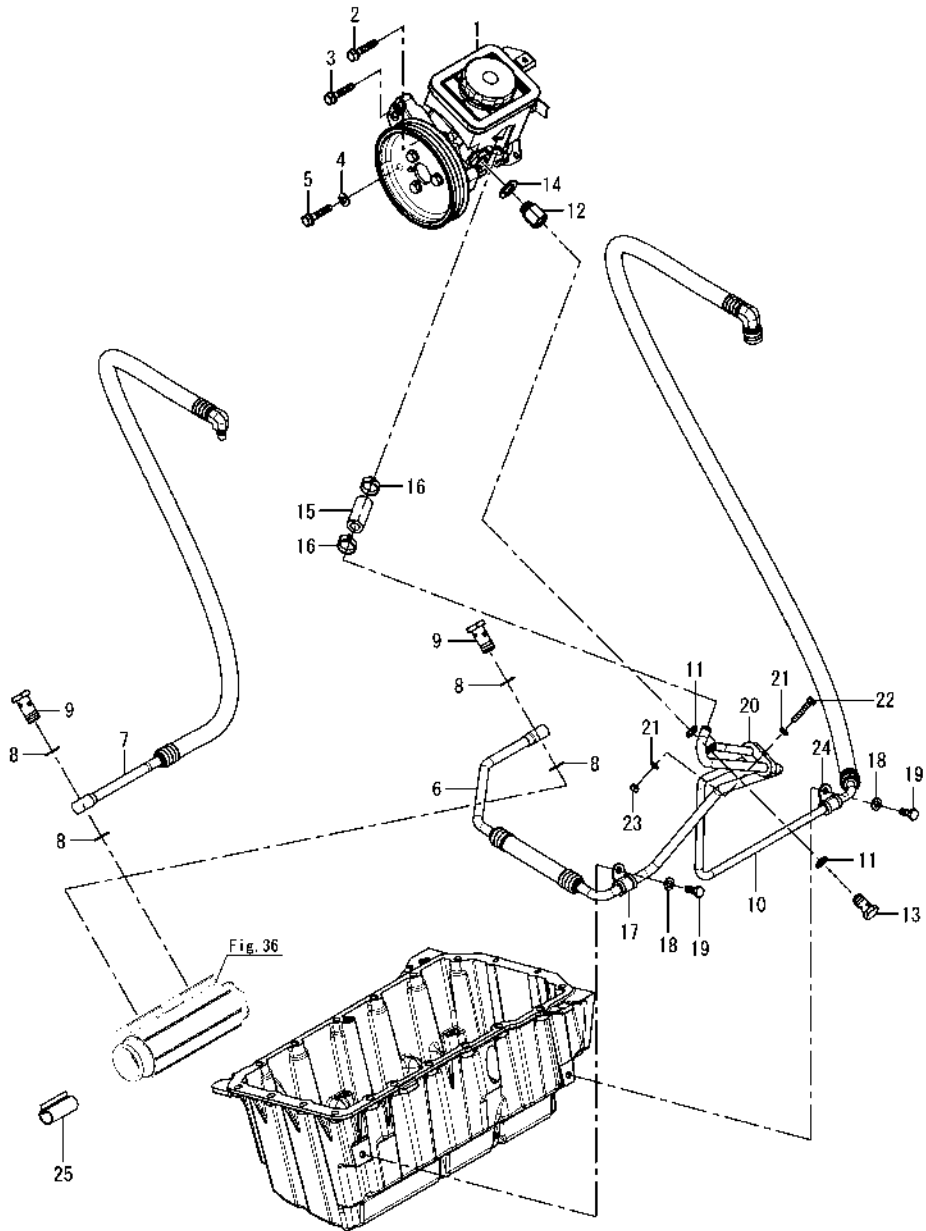


No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-49540	PIPE, WATER PUMP OUT	1	1	1	1				
2	1	120650-49610	PLUG, DRAIN	1	1	1	1				
3	1	120650-49520	HOSE, PUMP JOINT	1	1	1	1				
4	1	120650-49550	HOSE, COOLER JOINT	2	2	2	2				
5	1	120650-49710	CLAMP, HOSE	1	1	1	1				
6	1	120650-49710	CLAMP, HOSE	1	1	1	1				
7	1	120650-49720	CLAMP, HOSE	4	4	4	4				
8	1	120650-49580	PIPE, CAC IN	1	1	1	1				
9	1	120650-49590	HOSE, CAC IN	1	1	1	1				
10	1	120651-49560	HOSE, CAC-HE	1	1	1	1				
11	1	120650-49710	CLAMP, HOSE	4	4	4	4				
12	1	120650-33300	BRACKET, OIL COOLER	1	1	1	1				
13	1	120650-57010	COOLER,ATF GEAR OIL	1	1	1	1				
14	1	120640-01050	CLAMP, HOSE 80X13	2	2	2	2				
15	1	120640-01520	SCREW, M8X20	4	4	4	4				
16	1	120650-42620	HOSE ASSY, DRIVE OUT				1				
20	1	119775-48640	JOINT				1				
21	1	119779-49050	JOINT, 3-WAY				1				
22	1	120650-49710	CLAMP, HOSE				1				
23	1	120650-42650	HOSE ASSY, PUMP IN	1	1	1	1				
24	1	120650-49720	CLAMP, HOSE	2	2	2	2				

Fig.37. STEERING PUMP/PIPE

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

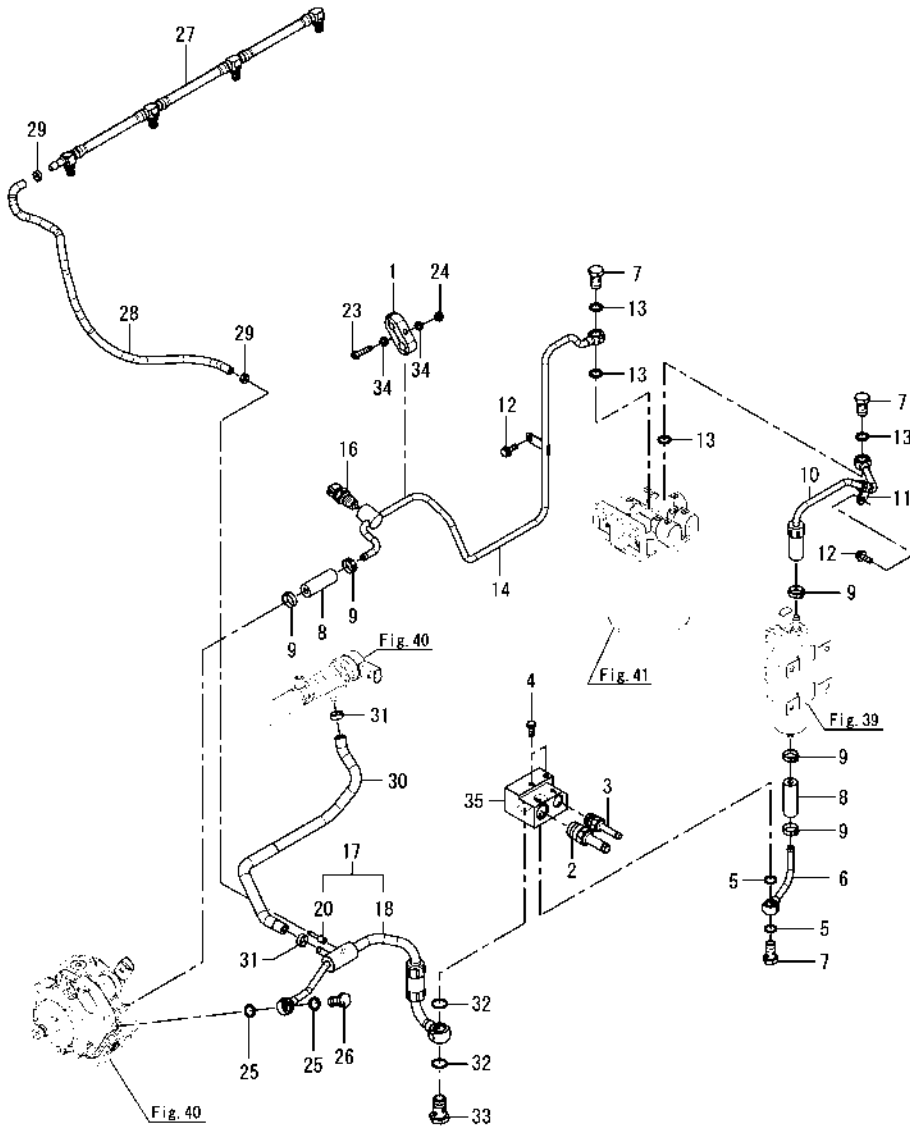


No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120640-00150	PUMP ASSY,STEERING			1	1				
2	1	120640-01930	BOLT, M8X80-8.8			1	1				
3	1	120640-01870	BOLT, M8X40-8.8			1	1				
4	1	120640-02220	WASHER			1	1				
5	1	120640-01570	BOLT, M6X80-8.8			1	1				
6	1	120650-85320	PIPE, STEERING OIL			1	1				
7	1	120650-85360	PIPE, STEERING OIL			1	1				
8	1	120640-01260	RING, SEALING A17X21			4	4				
9	1	120650-85370	SCREW, HOLLOW			2	2				
10	1	120650-85330	PIPE, STEERING OIL			1	1				
11	1	120640-01240	RING, SEALING A14X18			2	2				
12	1	120650-57410	ADAPTER,ATF PUMP			1	1				
13	1	120640-01420	SCREW, HOLLOW			1	1				
14	1	120640-00300	RING, SEALING A30X36			1	1				
15	1	120650-57440	HOSE, ATF PUMP INLET			1	1				
16	1	120640-01020	CLAMP, HOSE 27X9			2	2				
17	1	120650-85390	CLAMP, PIPE			1	1				
18	1	120640-02230	WASHER			2	2				
19	1	120640-01520	SCREW, M8X20			2	2				
20	1	120650-85430	CLAMP, PIPE			1	1				
21	1	120640-02220	WASHER			2	2				
22	1	120640-01830	BOLT, M6X35-8.8			1	1				
23	1	120640-00200	NUT,M6			1	1				
24	1	120650-85410	CLAMP, PIPE			1	1				
25	1	120650-85450	PROTECTOR, HEAT POWE			2	2				

Fig.38. FUEL OIL FILTER

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=



No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-85430	CLAMP, PIPE	1	1	1	1				
2	1	120650-55730	NIPPLE, FUEL RETURN	1	1	1	1				
3	1	120650-55720	NIPPLE, FUEL SUPPLY	1	1	1	1				
4	1	120640-01470	SCREW, M6X16	2	2	2	2				
5	1	120640-01230	RING, SEALING A12X16	2	2	2	2				
6	1	120651-55310	PIPE, FUEL BLOCK-PUM	1	1	1	1				
7	1	120640-01430	SCREW, HOLLOW	3	3	3	3				
8	1	120650-55320	HOSE, PUMP-FILTER	2	2	2	2				
9	1	120650-55840	CLAMP,HOSE1EAR19.2	5	5	5	5				
10	1	120651-55340	PIPE, FUEL FILTER IN	1	1	1	1				
11	1	120650-39190	CLAMP, PIPE	1	1	1	1				
12	1	120640-02080	BOLT, M6X16-8.8	2	2	2	2				
13	1	120640-01300	GASKET, 12X1.5	4	4	4	4				
14	1	120650-55300	PIPE,FUEL FILTER OUT	1	1	1	1				
16	1	120650-55710	FUEL TEMPERATURE SEN	1	1	1	1				
17	1	120651-55330	PIPE, FO LINE RETURN	1	1	1	1				
18	2	120650-55290	PIPE,FO LINE RETURN	1	1	1	1				
20	2	120650-55660	VALVE,FUEL RETURN	1	1	1	1				
23	1	120640-01830	BOLT, M6X35-8.8	1	1	1	1				
24	1	120640-00200	NUT,M6	1	1	1	1				
25	1	120640-01300	GASKET, 12X1.5	2	2	2	2				
26	1	120640-01430	SCREW, HOLLOW	1	1	1	1				
27	1	120650-55810	FUEL RETURN LINE 4BY	1	1	1	1				
28	1	120650-55820	HOSE,INJECTOR RETURN	1	1	1	1				
29	1	120650-55830	CLAMP,HOSE1EAR 11.9	2	2	2	2				
30	1	120650-55630	HOSE,FO RAIL RETURN	1	1	1	1				
31	1	120650-55850	CLAMP, HOSE1EAR14.0	2	2	2	2				
32	1	120640-01310	GASKET, 16X1.5	2	2	2	2				
33	1	120640-01400	BANJO BOLT, 16	1	1	1	1				
34	1	120640-02220	WASHER	2	2	2	2				
35	1	120650-55220	BLOCK ASSY, FO JOINT	1	1	1	1				

Fig.39. PUMP, FUEL LOW

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-51500	PUMP ASSY, PRESSURE	1	1	1	1				
2	1	120650-51630	CLAMP, DN61	2	2	2	2				
3	1	120650-55540	SPACER, FUEL PUMP CL	2	2	2	2				
4	1	120640-02220	WASHER	4	4	4	4				
5	1	120640-01450	SCREW, M6X10	4	4	4	4				

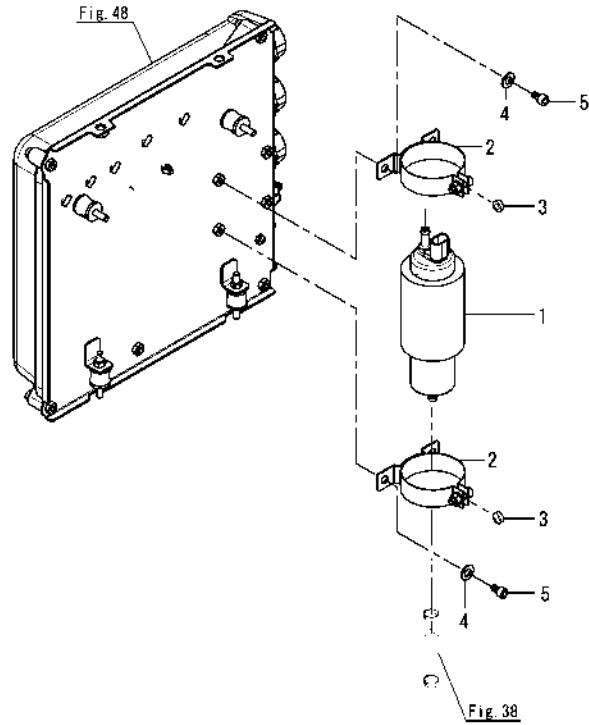
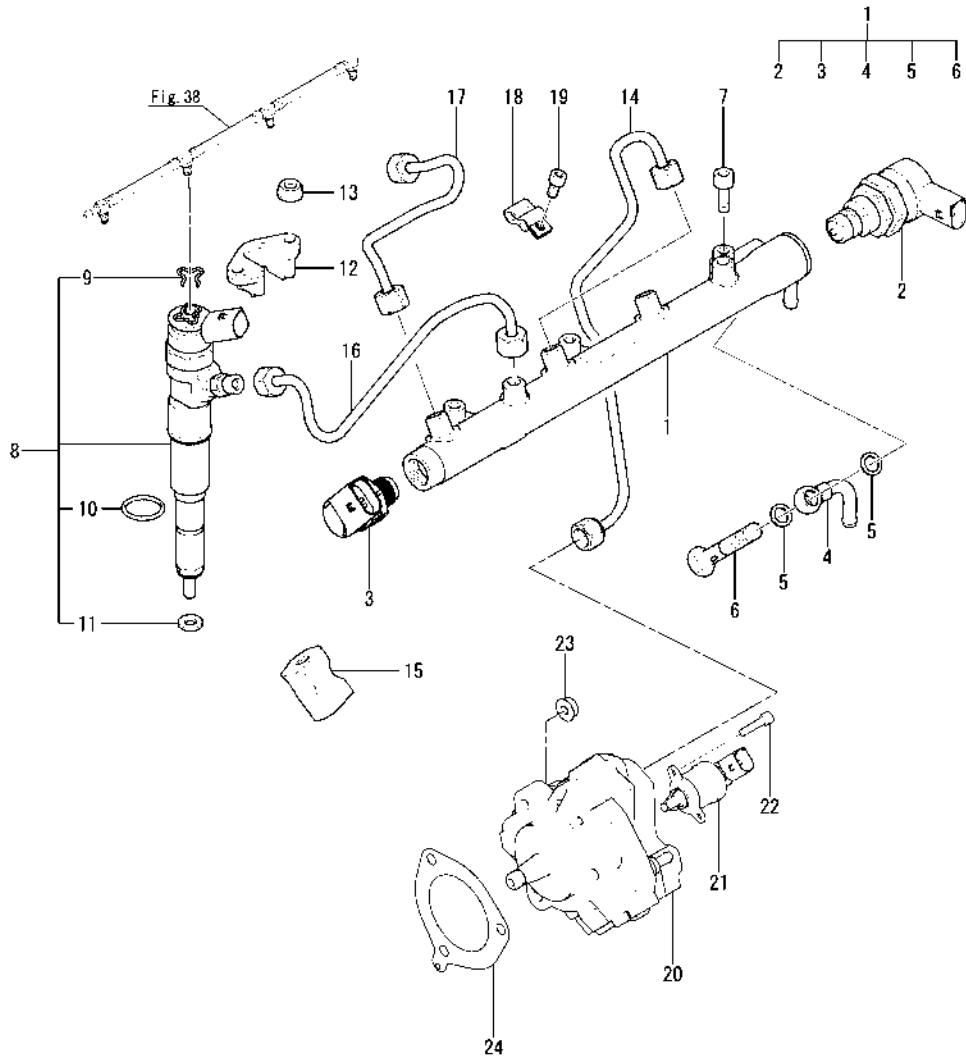


Fig.40. HIGH-PRESSURE PUMP/INJECTOR

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=



No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165001-35750	ACCUMULATOR,PRESSURE	1	1	1	1				
2	2	165001-35650	VALVE, REGULATING	1	1	1	1				
3	2	165000-70390	SENSOR, PRESSURE	1	1	1	1				
4	2	165001-46280	CONNECTOR	1	1	1	1				
5	2	165000-70160	RING, GASKET	2	2	2	2				
6	2	165001-60010	BOLT, HOLLOW	1	1	1	1				
7	1	165001-35540	SCREW, HEAD M8X25	3	3	3	3				
8	1	165000-70560	INJECTOR, RMFD	4	4	4	4				
9	2	165000-70290	CLAMP	4	4	4	4				
10	2	165000-70430	O-RING, 22 2	4	4	4	4				
11	2	165000-70270	RING, GASKET	4	4	4	4				
12	1	165000-70420	FLANGE	4	4	4	4				
13	1	165000-70640	NUT, FLANGE M6	8	8	8	8				
14	1	165000-70450	HOSE ASSY, PRESSURE	1	1	1	1				
15	1	165000-70300	MOUNTING, RUBBER	1	1	1	1				
16	1	165000-70460	HOSE ASSY, PRESSURE	2	2	2	2				
17	1	165000-70470	HOSE ASSY, PRESSURE	2	2	2	2				
18	1	165000-70410	CLAMP	2	2	2	2				
19	1	165001-46270	SCREW, HEAD M5X12	2	2	2	2				
20	1	165001-71740	RMFD HIGH PRES PUMP	1	1	1	1				
21	1	165000-70180	MEASURING, UNIT	1	1	1	1				
22	1	165001-66930	SCREW	2	2	2	2				
23	1	165001-66890	NUT, HEX AM8	3	3	3	3				
24	1	165000-70150	GASKET, STEEL	1	1	1	1				

Fig.41. FUEL FILTER

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120651-55010	FILTER ASSY,FO FINE	1	1	1	1				
2	2	120651-55020	ELEMENT, FUEL FILTER	1	1	1	1				
3	2	120651-55050	HEAD, FUEL FILTER	1	1	1	1				
4	1	120640-01970	BOLT, M10X35-10.9	2	2	2	2				

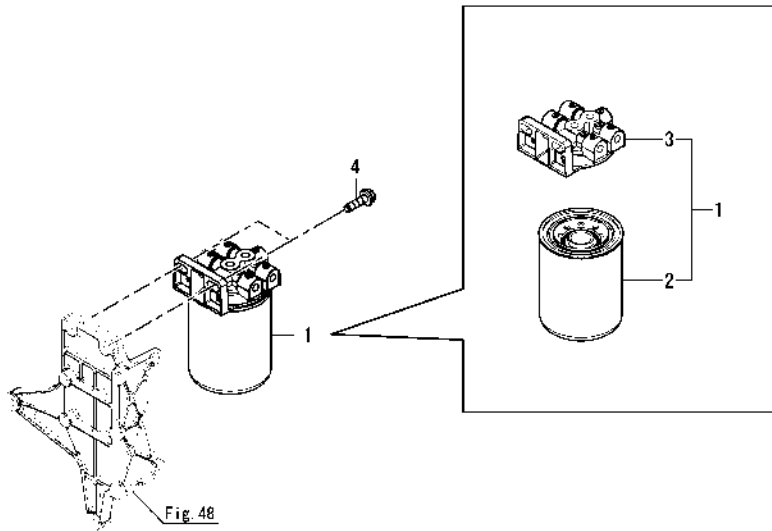


Fig.42. FUEL FILTER(OPTION)

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120651-55440	JOINT, FO FILTER IN	1	1	1	1				
2	1	120650-55010	FILTER ASSY, FUEL	1	1	1	1				
3	2	120650-55020	ELEMENT, FUEL	1	1	1	1				
4	2	120650-55050	HEAD, FUEL FILTER	1	1	1	1				
5	2	120650-55060	BOWL, FUEL FILTER	1	1	1	1				
6	2	120650-55070	PROBE, FUEL FILTER	1	1	1	1				

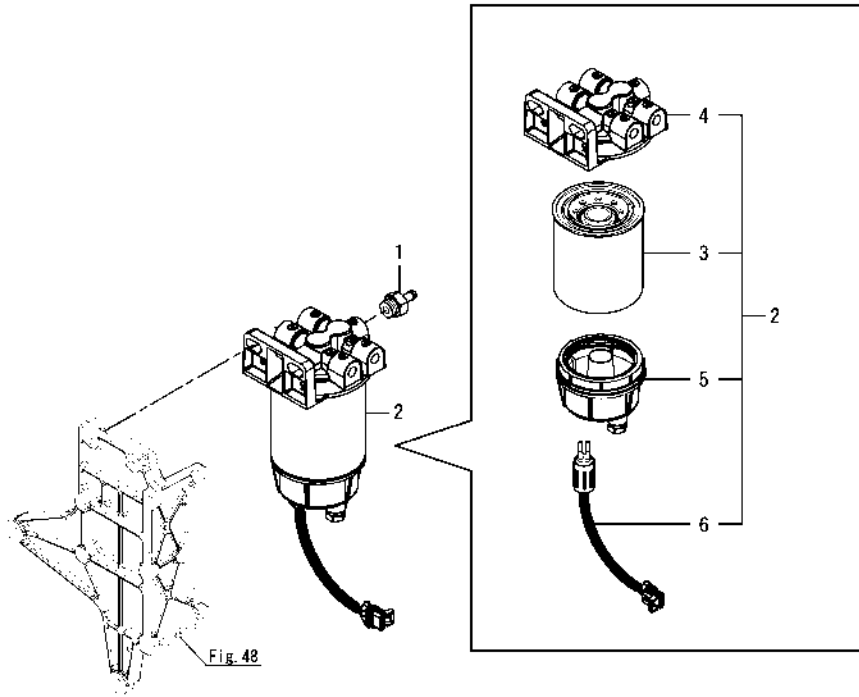
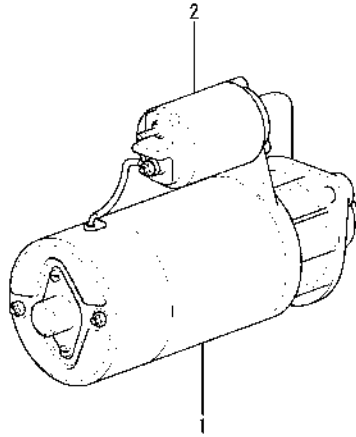


Fig.43. STARTING MOTOR

(A)=4BY3-150  
 (B)=4BY3-180  
 (C)=4BY3-150Z

(D)=4BY3-180Z  
 (E)=  
 (F)=



No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165001-35760	MOTOR, STARTER 2.0KW	1	1	1	1				
2	1	165001-35770	SWITCH, SOLENOID	1	1	1	1				



# Fig.44. ALTERNATOR

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165001-25180	ALTERNATOR	1	1	1	1				
2	1	165001-60020	ALTERNATOR, RMFD	1	1	1	1				
3	1	165001-66860	BOLT, HEX M10X125	1	1	1	1				
4	1	165000-67180	BOLT, HEX M10X70	1	1	1	1				

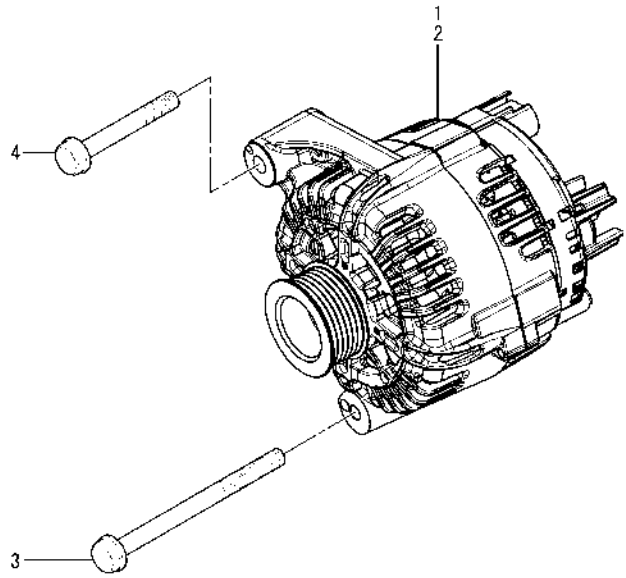


Fig.45. WIRE HARNESS(ECU)

(A)=4BY3-150  
 (B)=4BY3-180  
 (C)=4BY3-150Z

(D)=4BY3-180Z  
 (E)=  
 (F)=

No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-78051	HARNES.WIRE ECU BOX	1	1	1	1				
2	1	120650-75500	LINK, FUSE	3	3	3	3				
3	1	120650-75510	LINK, FUSE	2	2	2	2				
4	1	120650-75520	LINK, FUSE	1	1	1	1				
5	1	120650-75530	LINK, FUSE	1	1	1	1				
6	1	120650-75540	FUSE(15A)	1	1	1	1				
7	1	120650-07250	LABEL,FUSE BOX LEFT	1	1	1	1				
8	1	120650-07260	LABEL,FUSE BOX RIGHT	1	1	1	1				
9	1	120650-07270	LABEL,JUMPER	1	1	1	1				

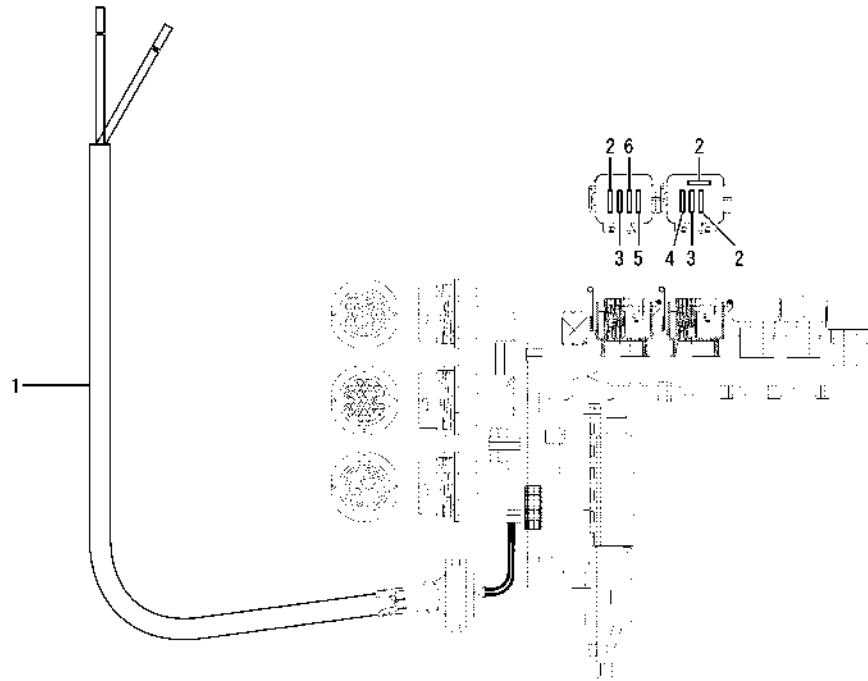
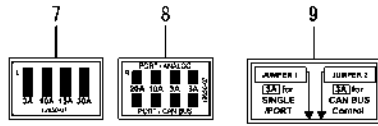


Fig.46. WIRE HARNESS

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-78002	HARNESS, WIRE ENGINE	1	1	1	1				
2	1	120650-78211	HARNESS, WIRE CHARGE	1	1	1	1				
3	1	120640-00330	NUT, FLANGE M8	2	2	2	2				
4	1	120660-78600	CLAMP, PIPE	1	1	1	1				
5	1	120640-01560	SCREW, M10X25	1	1	1	1				
6	1	120650-77530	HARNESS,OIL PRESSURE	1	1	1	1				

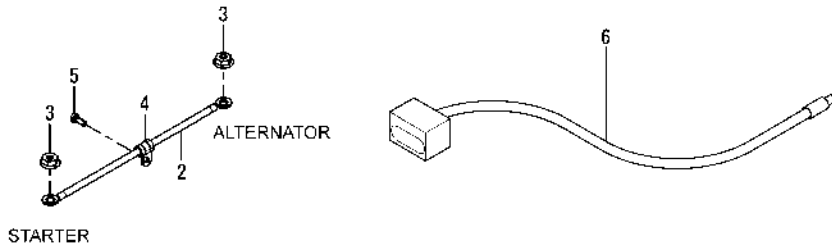
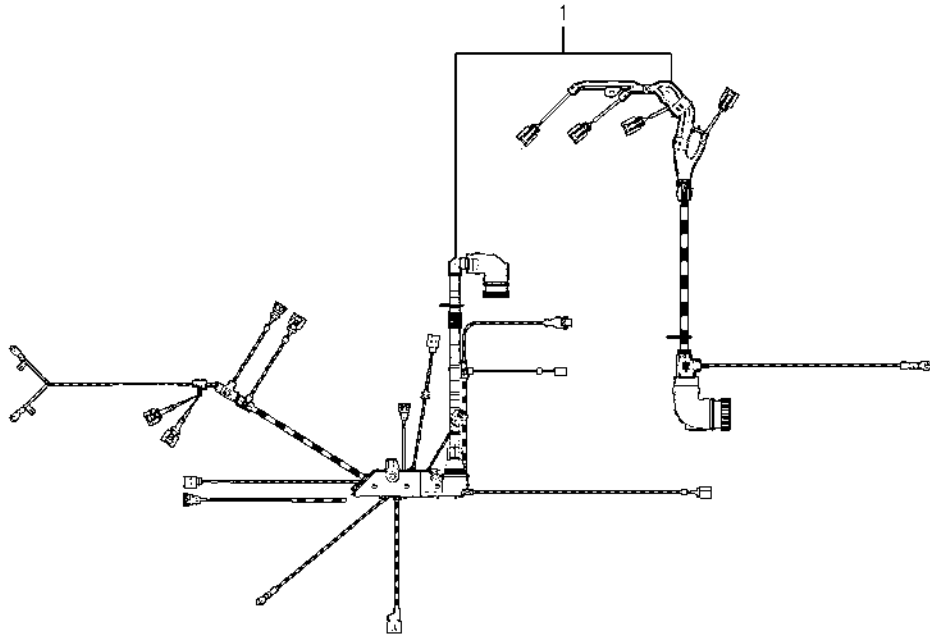


Fig.47. AIR HEATER

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120651-75871	BRACKET,HEATER UNIT	1	1	1	1				
2	1	120650-78240	CONTROLLER, HEATER 4	1	1	1	1				
3	1	120640-02080	BOLT, M6X16-8.8	2	2	2	2				
4	1	120640-00200	NUT,M6	2	2	2	2				
5	1	120650-78260	CABLE, POSITIVE	1	1	1	1				
6	1	120650-75890	BATTERY TERMINAL			1	1				
7	1	120650-78280	CABLE, TERMINAL PLUS			1	1				
8	1	120650-78290	CABLE TERMINAL MINUS			1	1				
9	1	26455-050102	BOLT, 5 X 10			2	2				

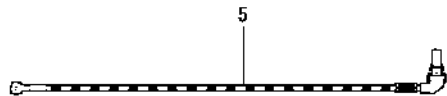
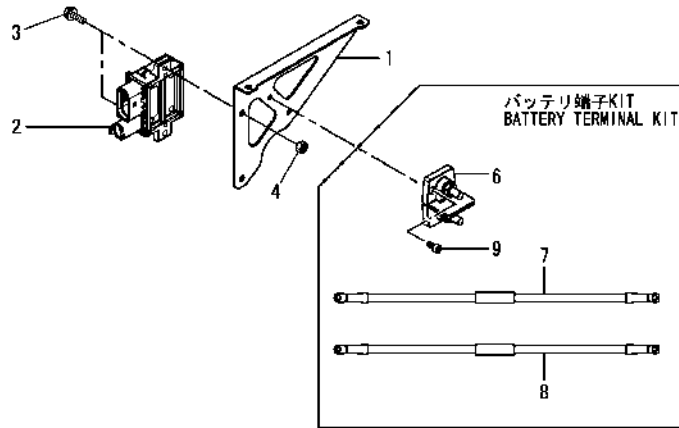
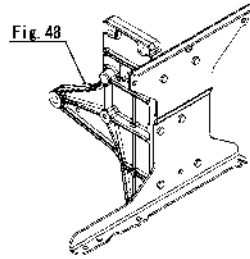


Fig.48. ECU

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120651-75410	SUPPORT, ECU BOX	1	1	1	1				
2	1	120640-01980	BOLT, M10X45-8.8	2	2	2	2				
3	1	120651-75290	BRACKET, ECU BOX	1	1	1	1				
4	1	120640-01470	SCREW, M6X16	6	6	6	6				
5	1	120640-00180	RELAY	2	2	2	2				
6	1	120640-00170	RELAY	1	1	1	1				
7	1	120650-75450	MOUNT, RUBBER	4	4	4	4				
8	1	120640-02220	WASHER	2	2	2	2				
9	1	120640-00200	NUT, M6	8	8	8	8				
10	1	120650-75940	ISOLATOR, ECU UPPER	1	1	1	1				
11	1	120650-75380	SILICON SEAL	3	3	3	3				
12	1	120650-75360	NUT, PANEL	3	3	3	3				
13	1	120651-75830	RUBBER SHEET, ECU	2	2	2	2				
14	1	120650-75320	CLIP, FUSE	5	5	5	5				
15	1	120650-75930	ISOLATOR, ECU LOWER	1	1	1	1				
16	1	120640-01490	SCREW, M6X30	4	4	4	4				
17	1	120640-02220	WASHER	4	4	4	4				
18	1	120650-75350	BRACKET, ECU A	1	1	1	1				
19	1	120640-01450	SCREW, M6X10	2	2	2	2				
20	1	120650-75810	CLIP, WIRE	3	3	3	3				
21	1	120650-75820	GROMMET, HOLDER	3	3	3	3				
22	1	120650-75250	PLATE ASSY, BASE ECU	1	1	1	1				
27	1	120650-75700	COVER ASSY, E-BOX	1	1	1	1				

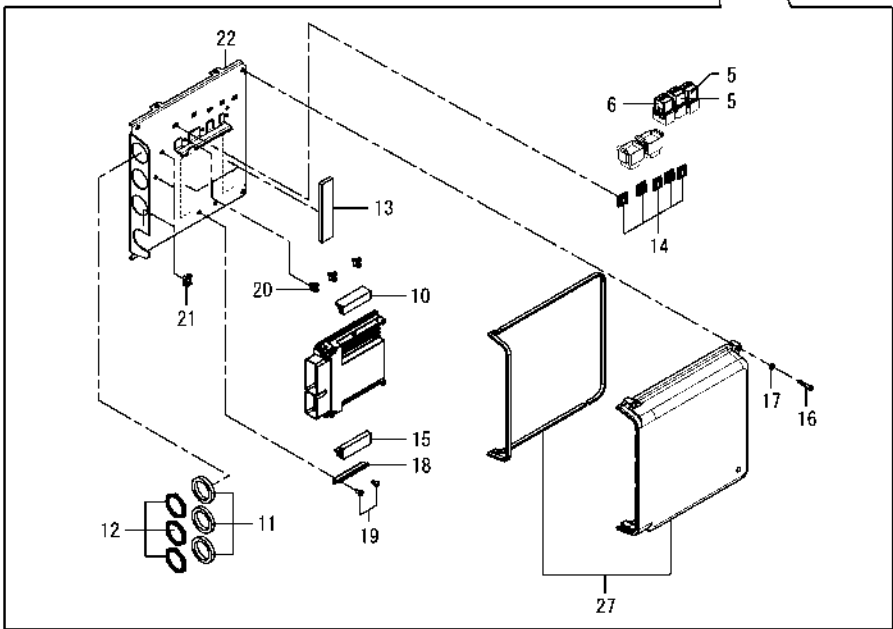
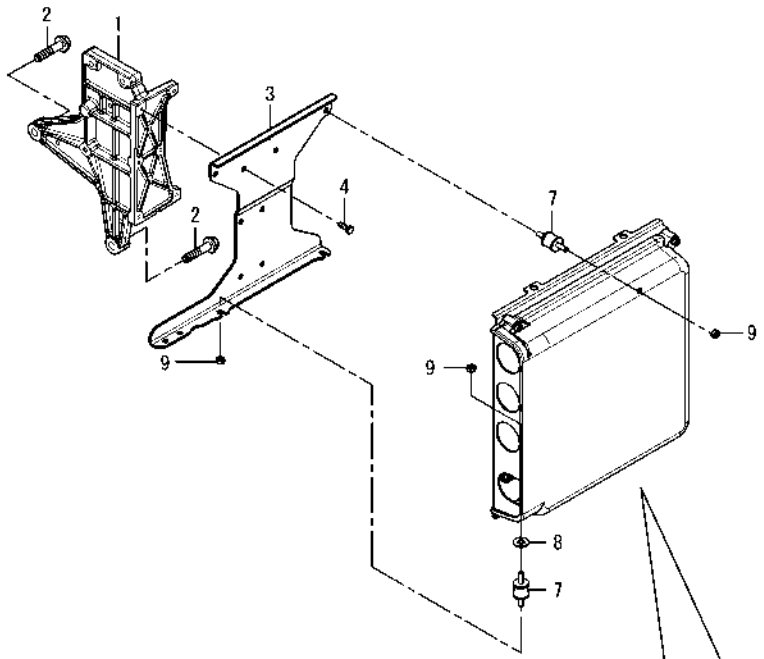
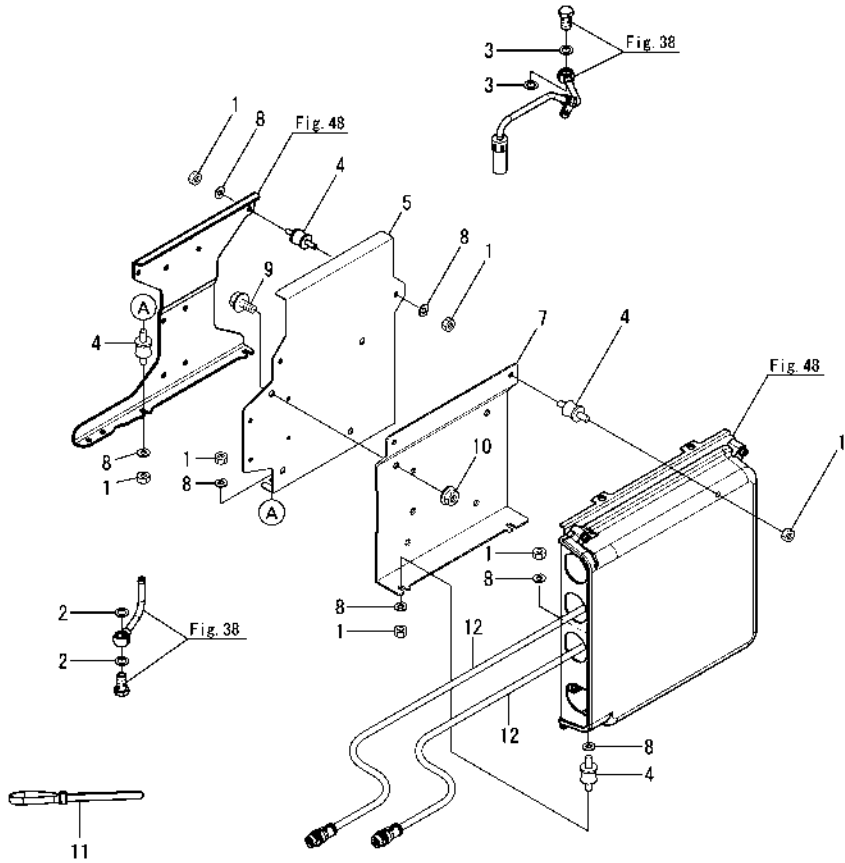


Fig.49. ECU EXTENSION HARNES KIT(OPTION)

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

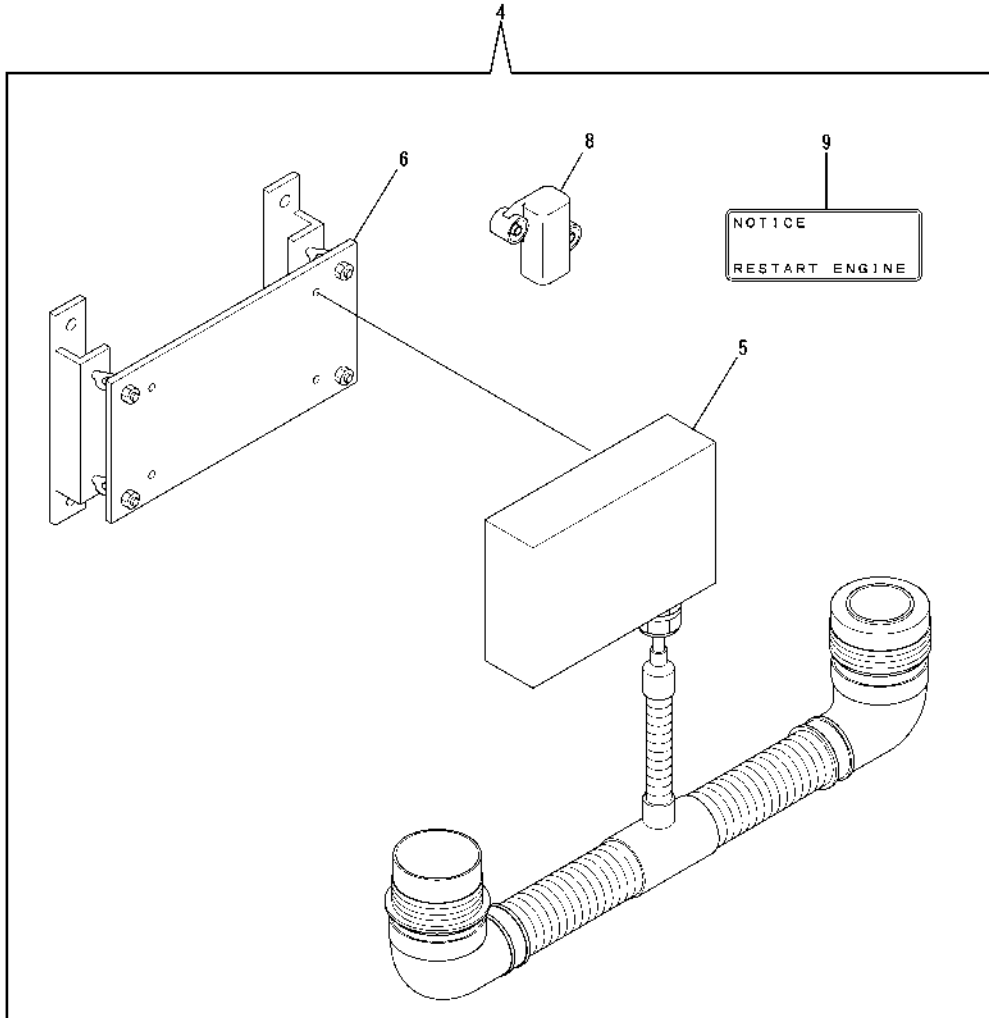
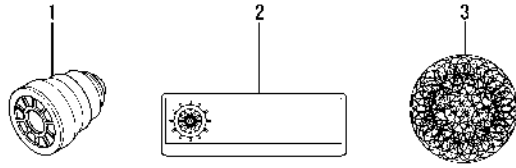


No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120640-00200	NUT,M6	8	8	8	8				
2	1	120640-01230	RING, SEALING A12X16	2	2	2	2				
3	1	120640-01300	GASKET, 12X1.5	2	2	2	2				
4	1	120650-75450	MOUNT, RUBBER	4	4	4	4				
5	1	120650-75910	FUEL PUMP BRACKET	1	1	1	1				
7	1	120650-75920	ECU RELOCATION BRACK	1	1	1	1				
8	1	22213-060000	WASHER, SPRING 6	16	16	16	16				
9	1	26106-080142	BOLT, M8X 14 PLATED	4	4	4	4				
10	1	26366-080002	NUT, M8	4	4	4	4				
11	1	121750-59890	BAND, 140	2	2	2	2				
12	1	120650-78300	ECU EXTENSION HARNES	1	1	1	1				

Fig.50. VALVE(OIL STOP)(OPTION)

(A)=4BY3-150  
 (B)=4BY3-180  
 (C)=4BY3-150Z

(D)=4BY3-180Z  
 (E)=  
 (F)=



No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-03200	VALVE,OIL STOP	1	1						
2	1	120662-07210	LABEL, CE MARK MED	1	1						
3	1	120650-03250	FILTER,MIST SEPARATO	1	1						
4	1	720662-77500	BOX ASSY,SOLAS SWITC	1	1						
5	2	120662-77500	HARNESS,ADAPTER	1	1						
6	2	120662-77530	BRACKET,SWITCH BOX	1	1						
8	2	119175-91510	SWITCH	1	1						
9	2	120662-07260	LABEL,CAUTION	1	1						

Fig.51. VDO GAUGE(OPTION)

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=

No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-91900	TACHOMETER,(V 5000	1	1	1	1				
2	1	120650-91960	HARNES, V TACHO	1	1	1	1				
3	1	120650-91910	GAUGE,(V WATER TEMP	1	1	1	1				
4	1	120650-91920	GAUGE,(V OIL PRESS	1	1	1	1				
5	1	120650-91930	GAUGE,(V BOOST	1	1	1	1				
6	1	120650-91940	GAUGE,(V VOLT 12	1	1	1	1				
7	1	120650-91950	GAUGE,(V FUEL	1	1	1	1				
8	1	120650-91970	GAUGE, V TRIM	1	1	1	1				

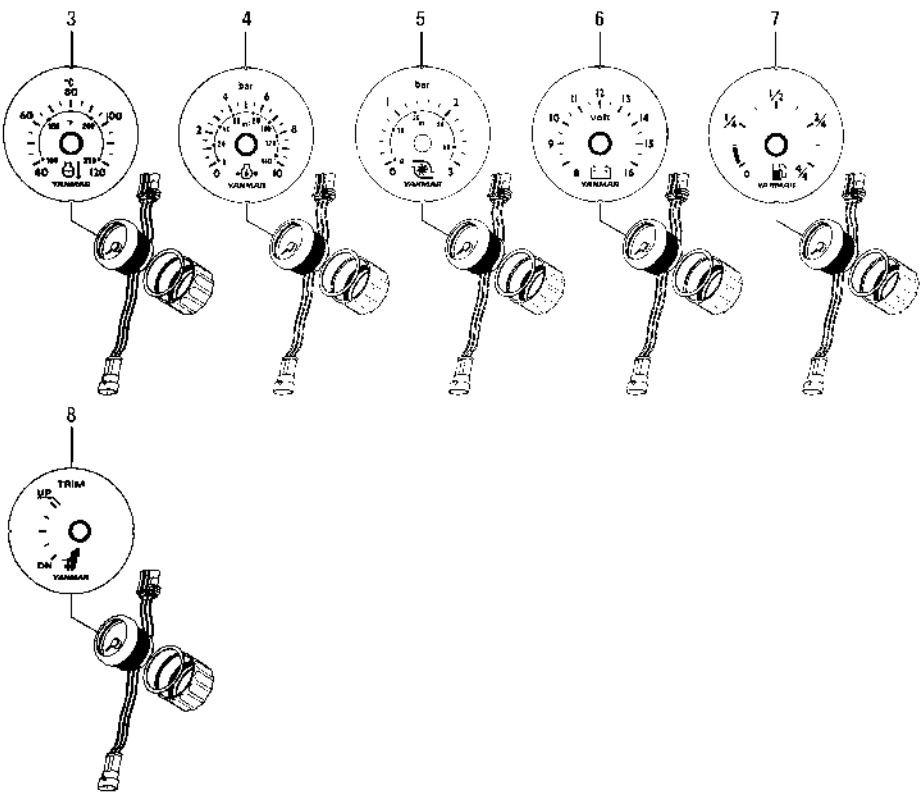
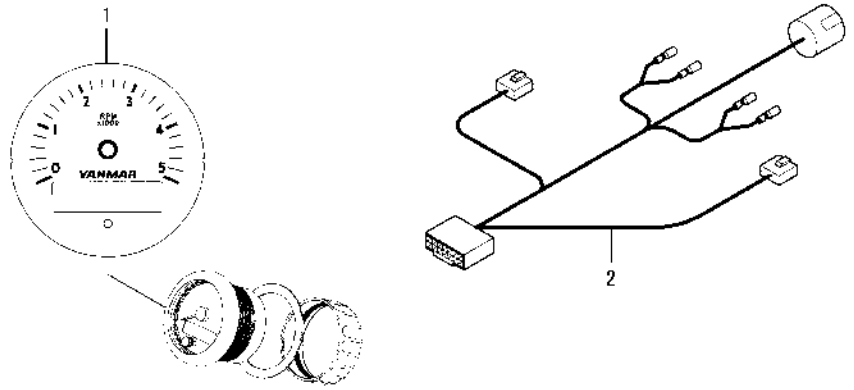
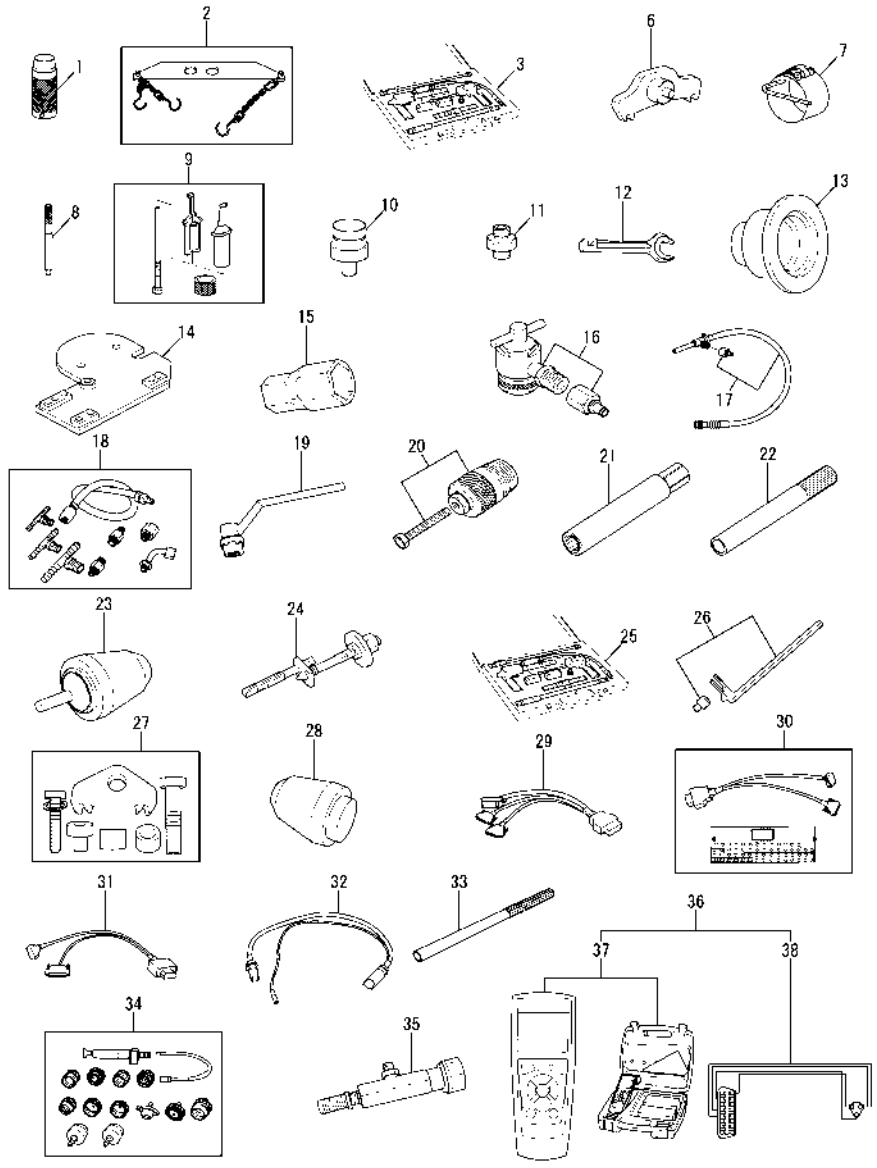




Fig.52. TOOL

(A)=4BY3-150  
(B)=4BY3-180  
(C)=4BY3-150Z

(D)=4BY3-180Z  
(E)=  
(F)=



No.	Lev.	Parts No.	Description	Qty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165001-84870	CONNECTOR	1	1	1	1				
2	1	165001-84880	HEBER	1	1	1	1				
3	1	165001-84890	FOR COMPRESSION	1	1	1	1				
4	1	165001-84900	PROBE	1	1	1	1				1
5	1	165001-84910	SLEEVE	1	1	1	1				2
6	1	165001-84920	BRACKET	1	1	1	1				
7	1	165001-84930	P/RING CCOMPRESSOR	1	1	1	1				
8	1	165001-84940	DORN	1	1	1	1				
9	1	165001-84950	EXTRACTOR	1	1	1	1				
10	1	165001-84960	DORN	1	1	1	1				
11	1	165001-84970	ADAPTER	1	1	1	1				
12	1	165001-84980	OPEN-ENDED WRENCH	1	1	1	1				
13	1	165001-84990	BUSH	1	1	1	1				
14	1	165001-85000	PLATE	1	1	1	1				
15	1	165001-85010	SOCKET WRENCH	1	1	1	1				
16	1	165001-85020	ADAPTER	1	1	1	1				
17	1	165001-85030	ADAPTER	1	1	1	1				
18	1	165001-85040	ADAPTER	1	1	1	1				
19	1	165001-85050	BRACKET	1	1	1	1				
20	1	165001-85060	EXTRACTOR	1	1	1	1				
21	1	165001-85070	TOOLS	1	1	1	1				
22	1	165001-85080	BUSH	1	1	1	1				
23	1	165001-85090	BUSH	1	1	1	1				
24	1	165001-85100	FIXTURE	1	1	1	1				
25	1	165001-85110	PROBE	1	1	1	1				
26	1	165001-85120	LEVER	1	1	1	1				
27	1	165001-85130	BRACKET	1	1	1	1				
28	1	165001-85140	BUSH	1	1	1	1				
29	1	165001-85150	ADAPTER LEAD	1	1	1	1				
30	1	165001-85160	ADAPTER LEAD	1	1	1	1				
31	1	165001-85170	ADAPTER LEAD	1	1	1	1				
32	1	165001-85180	ADAPTER LEAD	1	1	1	1				
33	1	165001-85190	ROD	1	1	1	1				
34	1	165001-85200	TESTER	1	1	1	1				
35	1	165001-85210	ADAPTER	1	1	1	1				
36	1	120650-90800	OBD TOOL CMP	1	1	1	1				
37	2	120650-90810	OBD DIAGNOSTIC TOOL	1	1	1	1				
38	2	120650-90820	ADAPTER CABLE(OBD)	1	1	1	1				

Remarks  
 (1)Test probe For compression recorder.  
 recorder.  
 Not illustrated.  
 (2)Sleeve for valve stem installation  
 Not illustrated.

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119175-49550	13	6
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	53	16
119175-91510	50	8
119775-48640	36	20
119778-08350	3	15
119778-85500	15	8
119779-49050	36	21
119779-49190	32	5
119779-49200	32	6
119779-49210	32	7
119779-49550	13	8
119779-49900	32	11
120130-39990	23	2
120640-00010	19	1
120640-00020	19	2
120640-00040	11	10
120640-00100	3	7
120640-00130	25	14
120640-00140	25	12
120640-00150	37	1
120640-00170	48	6
120640-00180	48	5
120640-00190	4	6
120640-00200	37	23
	38	24
	47	4
	48	9
	49	1
120640-00220	3	11
120640-00240	15	1
120640-00300	37	14
120640-00320	11	32
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120640-00330	20	14
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120640-00390	33	1
120640-00450	25	13
120640-01020	20	7
	24	8
	27	21
	31	22
	37	16
120640-01030	11	28
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120640-01230	4	7	
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120640-01240	24	19	
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120640-01250	34	2	
120640-01260	11	14	
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120640-01270	33	11	
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120640-01300	38	13	
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120640-01310	38	32	
120640-01400	38	33	
120640-01410	24	3	
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120640-01420	37	13	
120640-01430	38	7	
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120640-01450	39	5	
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	24	6	
120640-01470	38	4	
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120640-01490	48	16	
120640-01500	9	8	
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120640-01510	20	4	
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120640-01550	28	17	
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120640-01570	11	21	
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120640-01860	3	2	
120640-01870	26	16	
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120640-01970	41	4	
120640-01980	48	2	
120640-01990	26	17	
120640-02010	3	4	
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120640-02130	3	18	
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	26	20	
120640-02150	26	19	
120640-02160	26	21	
120640-02210	15	5	
120640-02220	11	20	
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	31	12
	37	18
120640-02250	3	19
120640-09130	27	22
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120650-01760	3	16
120650-01800	3	1
120650-01900	3	8
120650-03200	50	1
120650-03250	50	3
120650-07030	6	1
120650-07040	6	2
120650-07050	6	3
120650-07060	6	4
120650-07070	6	5
120650-07080	6	6
120650-07090	6	7
120650-07100	6	8
120650-07130	20	12
120650-07161	6	11
120650-07171	6	12
120650-07250	45	7
120650-07260	45	8
120650-07270	45	9
120650-07350	20	28
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120650-08110	5	4
120650-08401	5	7
120650-08410	5	8
120650-11410	9	10
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120650-13881	33	8
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120650-13891	33	9
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120650-13940	33	30
120650-17170	20	18
120650-17200	20	19
120650-17210	20	21
120650-17220	20	20
120650-17320	20	24
120650-17360	20	10
120650-17380	20	9
120650-17390	20	15
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120650-18480	26	8
	30	8
120650-18490	26	9
	30	10
120650-18500	26	12
	30	18
120650-18510	26	13
120650-18520	26	14
120650-18530	26	10
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120650-18820	25	2
120650-18830	25	6
120650-18850	25	1
120650-18900	11	4
120650-18910	25	5
120650-21420	15	4
120650-32620	21	12
120650-33300	36	12
120650-34700	4	19
120650-34800	4	13
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120650-34840	4	10
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120650-34890	4	30
120650-34910	4	25
120650-39190	38	11
120650-39250	24	7
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120650-39630	24	18
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120650-44540	11	24
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120650-49350	31	30
120650-49380	27	16
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120650-49440	31	36
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120650-49750	33	21
120650-49811	27	25
120650-49821	27	30
120650-49830	27	26
		31
120650-49851	27	23
120650-49861	27	29
120650-51500	39	1
120650-51620	4	5
120650-51630	39	2
120650-55010	42	2
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165000-67280	21	2
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165000-67400	1	7
165000-67410	1	14
165000-67430	17	3
165000-67470	1	9
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165000-67750	1	6
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165000-67780	1	5
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165000-68420	2	4
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165000-68470	14	5 AG
165000-68480	14	5 AW
165000-68490	14	5 BY
165000-68500	14	5 BG
165000-68510	14	5 BW
165000-68520	14	5 CY
165000-68530	14	5 CG
165000-68540	14	5 CW
165000-68550	14	4 AY
165000-68560	14	4 AG
165000-68570	14	4 AW
165000-68580	14	4 BY
165000-68590	14	4 BG
165000-68600	14	4 BW
165000-68610	14	4 CY
165000-68620	14	4 CG
165000-68630	14	4 CW
165000-68640	14	2 AY
165000-68650	14	2 AG
165000-68660	14	2 AW
165000-68670	14	2 BY
165000-68680	14	2 BG
165000-68690	14	2 BW
165000-68700	14	2 CY
165000-68710	14	2 CG
165000-68720	14	2 CW
165000-68730	14	3 AY
165000-68740	14	3 AG
165000-68750	14	3 AW
165000-68760	14	3 BY
165000-68770	14	3 BG
165000-68780	14	3 BW
165000-68790	14	3 CY
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165000-69200	18	6
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165000-69230	18	13
165000-69240	18	4
165000-69270	18	5
165000-69280	7	10
165000-69290	7	9
165000-69300	7	15
165000-69310	7	14
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165000-70410	40	18
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165000-93250	4	2
165000-93270	4	8
165000-93310	15	16
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165001-25170	4	14
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165001-35540	40	7
165001-35650	40	2
165001-35660	17	9
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165001-35760	43	1
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165001-43550	16	2
165001-43560	22	1
165001-44420	2	6
165001-44430	2	1
165001-44440	27	4
165001-44450	27	2
165001-46270	40	19
165001-46280	40	4
165001-46290	22	9
165001-59960	9	3
165001-59970	7	6
165001-59980	27	15
165001-59990	18	1
165001-60000	17	1
165001-60010	40	6
165001-60020	44	2
165001-66850	15	15
165001-66860	44	3
165001-66870	9	9
	15	12
165001-66880	7	5
165001-66890	40	23
165001-66900	7	2
165001-66910	8	5
165001-66920	9	17
165001-66930	40	22
165001-71670	7	7
165001-71680	16	3
165001-71690	16	4
165001-71700	16	5
165001-71710	16	6
165001-71720	16	7
165001-71730	16	8
165001-71740	40	20
165001-71750	15	18
165001-84870	52	1
165001-84880	52	2
165001-84890	52	3
165001-84900	52	4
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165001-85050	52	19
165001-85060	52	20
165001-85070	52	21
165001-85080	52	22
165001-85090	52	23
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977780-03000	35	9
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