

OCR10-M63801EN

P R E F A C E

1. This parts catalog for 4BYseries is published as a revised edition of the Diesel engine.

	Parts catalog No.	Date of issue	Remarks
First edition	000Y00R6380	March,2006	No need
1st revised edition	000Y00R6381	March,2007	

2.This parts catalog dose 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.1. CYLINDER BLOCK

(A)=4BY150
(B)=4BY180
(C)=4BY150Z

(D)=4BY180Z
(E)=
(F)=

No.	Lev.	Parts No.	Description	Q'ty						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				

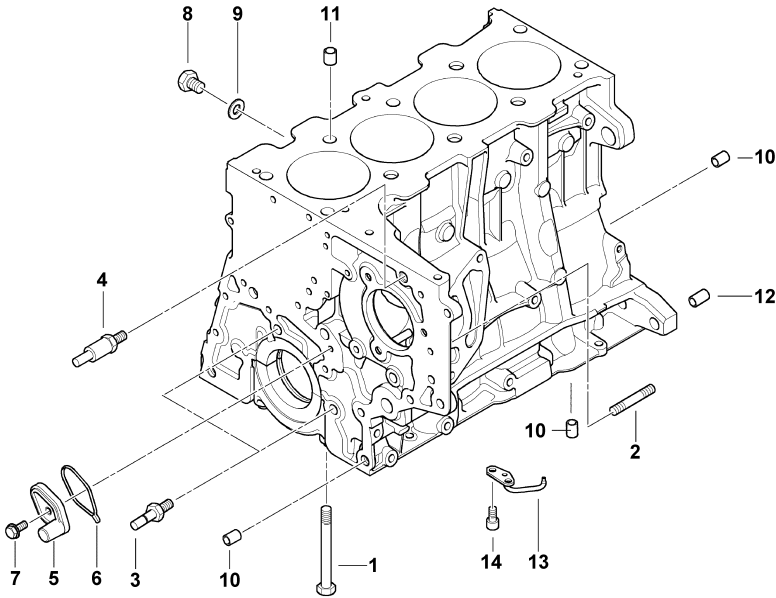
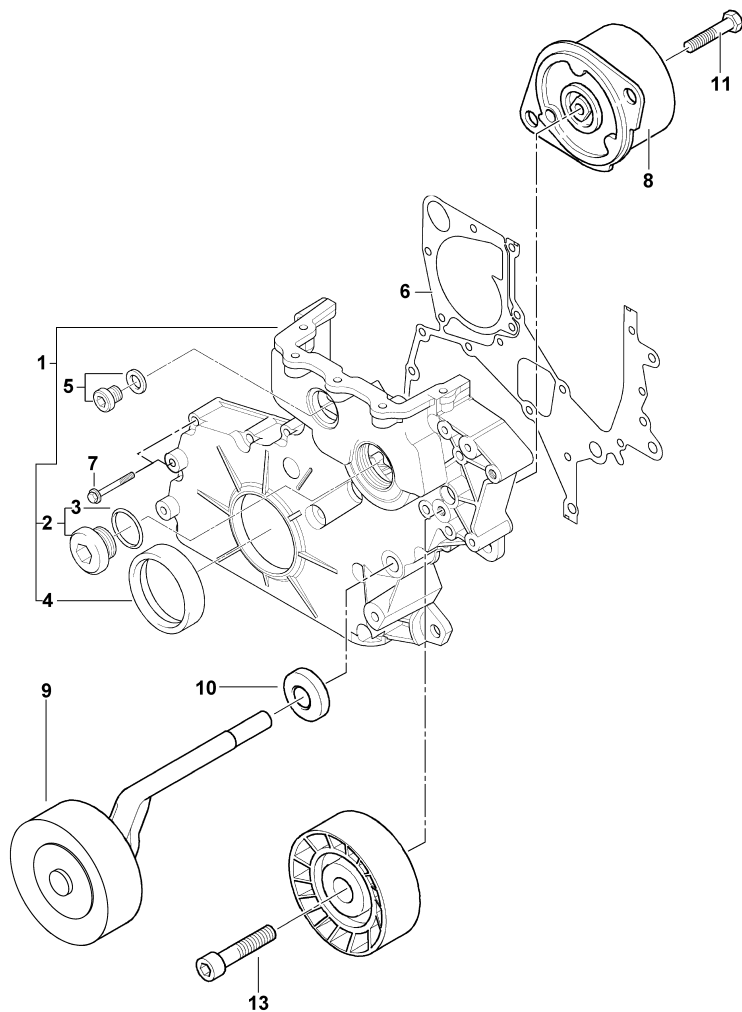
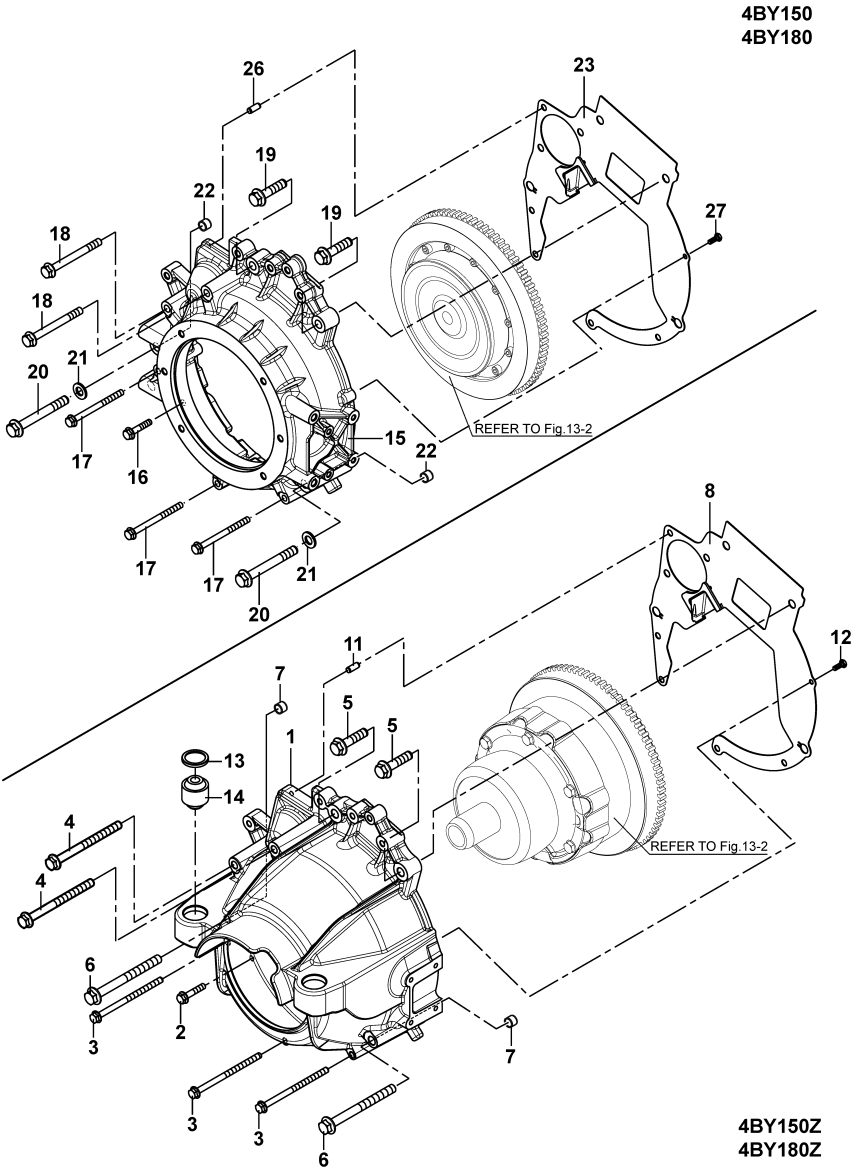


Fig.2. LOWER TIMING CASE/BELT W PUMP



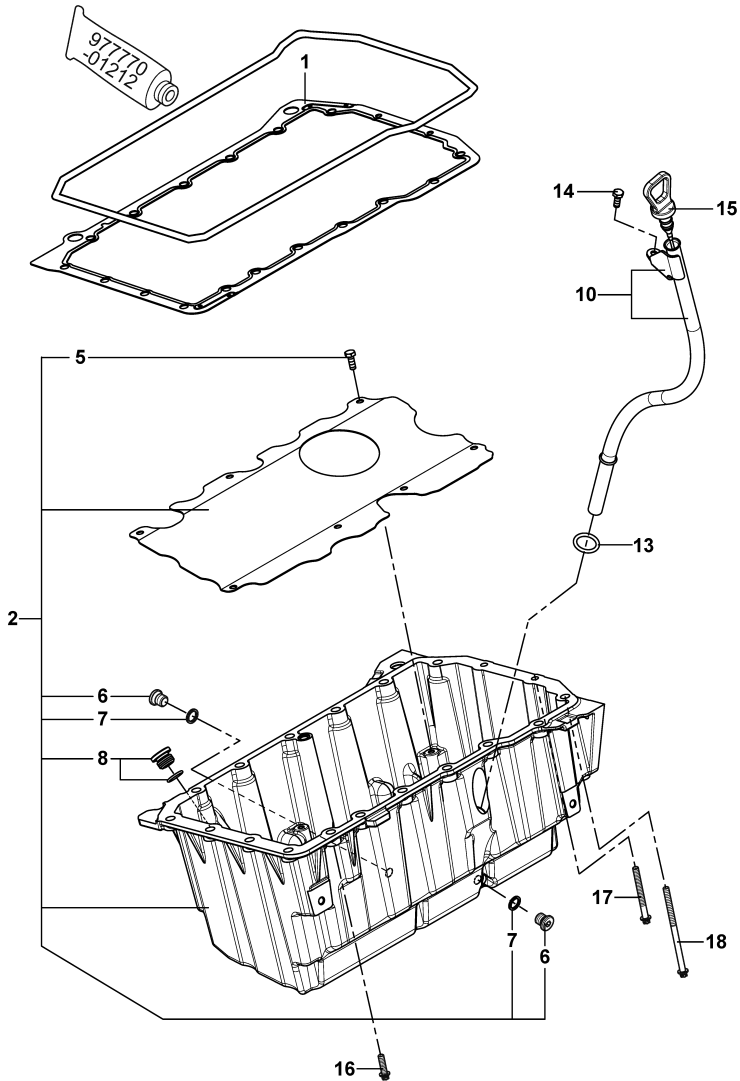
No.	Lev.	Parts No.	Description	Q'ty				(E)	(F)	I	R
				(A)	(B)	(C)	(D)				
1	1	165000-68430	COVER, TIMING CASE	1	1	1	1				
2	2	165000-68390	PLUG, SCREW M40X1.5	1	1	1	1				
3	2	165000-68400	O-RING, 35 2.0	1	1	1	1				
4	2	165000-68420	SEAL, SHAFT 55 68 8	1	1	1	1				
5	1	165000-68410	PLUG, SCREW M30X1	1	1	1	1				
6	1	165000-68450	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	165000-69140	TENSIONER, BELT	1	1	1	1				
9-1	1	165001-35850	TENSIONER, BELT	1	1	1	1				R
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)							
10	1	165000-69120	SEALING	1	1	1	1				
11	1	165000-67230	BOLT, HEX M6 30	1	1	1	1				
13	1	165000-67330	SCREW, HEAD M8X35	1	1	1	1				

Fig.3. FLYWHEEL HOUSING

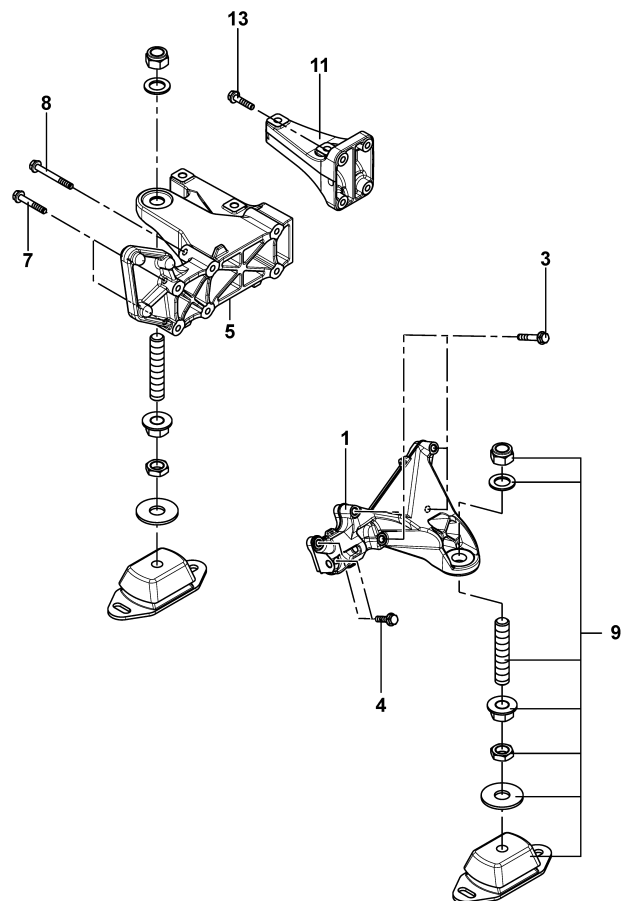


										OCR10-M63801 Fig.3	
										(A)=4BY150 (B)=4BY180 (C)=4BY150Z	
										(D)=4BY180Z (E)= (F)=	
No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-01710	HOUSING, FLYWHEEL DR (C=E*****) (D=E*****)			1	1				
2	1	120640-01870	FLANGE BOLT, 8X40			1	1				
3	1	120640-01950	FLANGE BOLT, 8X130			3	3				
4	1	120640-02020	FLANGE BOLT, 10X130			2	2				
5	1	120640-02050	FLANGE BOLT, 12X50			2	2				
6	1	120640-02060	FLANGE BOLT, 12X130			2	2				
7	1	120640-00100	DOWEL PIN, 14.5			2	2				
8	1	120650-01900	PLATE ASSY, FWH			1	1				
11	1	120640-00220	PIN, PARALLEL			1	1				
12	1	120640-01460	BOLT, 6X12			1	1				
13	1	119778-08350	SPACER			2	2				
14	1	120650-01760	MOUNT,RUBBER			2	2				
15	1	120652-01810	HOUSING, FLYWHEEL (A=E*****) (B=E*****)	1	1						
16	1	120640-01870	FLANGE BOLT, 8X40	1	1						
17	1	120640-01940	FLANGE BOLT, 8X100	3	3						
18	1	120640-02010	FLANGE BOLT, 10X100	2	2						
19	1	120640-02050	FLANGE BOLT, 12X50	2	2						
20	1	120640-02040	BOLT, 12X100	2	2						
21	1	120640-02250	WASHER, 12	2	2						
22	1	120640-00100	DOWEL PIN, 14.5	2	2						
23	1	120650-01900	PLATE ASSY, FWH	1	1						
26	1	120640-00220	PIN, PARALLEL	1	1						
27	1	120640-01460	BOLT, 6X12	1	1						

Fig.4. OIL PAN/LUB. OIL SUMP

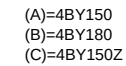


OCR10-M63801 Fig.4									
(A)=4BY150 (B)=4BY180 (C)=4BY150Z									
(D)=4BY180Z (E)= (F)=									
No.	Lev.	Parts No.	Description	Q'ty				I	R
				(A)	(B)	(C)	(D)	(E)	(F)
1	1	165000-68300	GASKET	1	1	1	1		
2	1	165000-93250	SUMP ASSY, OIL	1	1	1	1		
5	2	120650-51620	TAPPING BOLT, 6X16	7	7	7	7		
6	2	120640-00190	PLUG, M12	2	2	2	2		
7	2	120640-01230	GASKET, 12X1.5	2	2	2	1		
8	2	165000-93270	PLUG,SCREW	1	1	1	1		
10	1	120650-34840	GUIDE ASSY, DIPSTICK	1	1	1	1		
13	1	120650-34890	O-RING, 14X3	2	2	2	2		
14	1	120640-02080	FLANGE BOLT, 6X16	1	1	1	1		
15	1	120640-00060	DIPSTICK, OIL	1	1	1	1		
15-1	1	120650-34800	DIPSTICK, OIL	1	1	1	1		N
16	1	165000-68360	BOLT, TORX M8X30	15	15	15	15		
16-1	1	165001-25170	BOLT, TORX	15	15	15	15		R
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)					
17	1	165000-68340	BOLT, TORX M6X60	2	2	2	2		
17-1	1	165001-35810	BOLT, TORX M6X60	2	2	2	2		R
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)					
18	1	165000-71010	BOLT,M8X110	2	2	2	2		W
	(A=1390 046)	(B=1390 046)	(C=1390 046)	(D=1390 046)					
18-1	1	165001-22370	BOLT, TORX M8X110	2	2	2	2		R
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)					
19	1	165000-93230	PLUG,SCREW M10X1	1	1	1	1		W
	(A=*03.04.06)	(B=*03.04.06)	(C=*03.04.06)	(D=*03.04.06)					
20	1	165000-93240	RING,GASKET	1	1	1	1		W
	(A=*03.04.06)	(B=*03.04.06)	(C=*03.04.06)	(D=*03.04.06)					
21	1	165000-93270	PLUG,SCREW	1	1	1	1		W
	(A=*03.04.06)	(B=*03.04.06)	(C=*03.04.06)	(D=*03.04.06)					



				(A)=4BY150 (B)=4BY180 (C)=4BY150Z	(D)=4BY180Z (E)= (F)=				
No.	Lev.	Parts No.	Description	Q'ty					
				(A)	(B)	(C)	(D)	(E)	(F)
1	1	120650-08100	FOOT, MOUNTING FL	1	1	1	1		
3	1	120640-01880	FLANGE BOLT, 8X50	4	4	4	4		
4	1	120640-01860	FLANGE BOLT, 8X30	2	2	2	2		
5	1	120650-08110	FOOT, MOUNTING FR	1	1	1	1		
7	1	120640-01880	FLANGE BOLT, 8X50	2	2	2	2		
8	1	120640-01920	FLANGE BOLT, 8X70	4	4	4	4		
9	1	120650-08401	MOUNT, ENGINE HS55	2	2	2	2		
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)					
11	1	120650-18460	BRACKET,AIR CHARGE R	1	1	1	1		
13	1	120640-01870	BOLT, M8X40-8.8	4	4	4	4		

Fig.6. LABEL



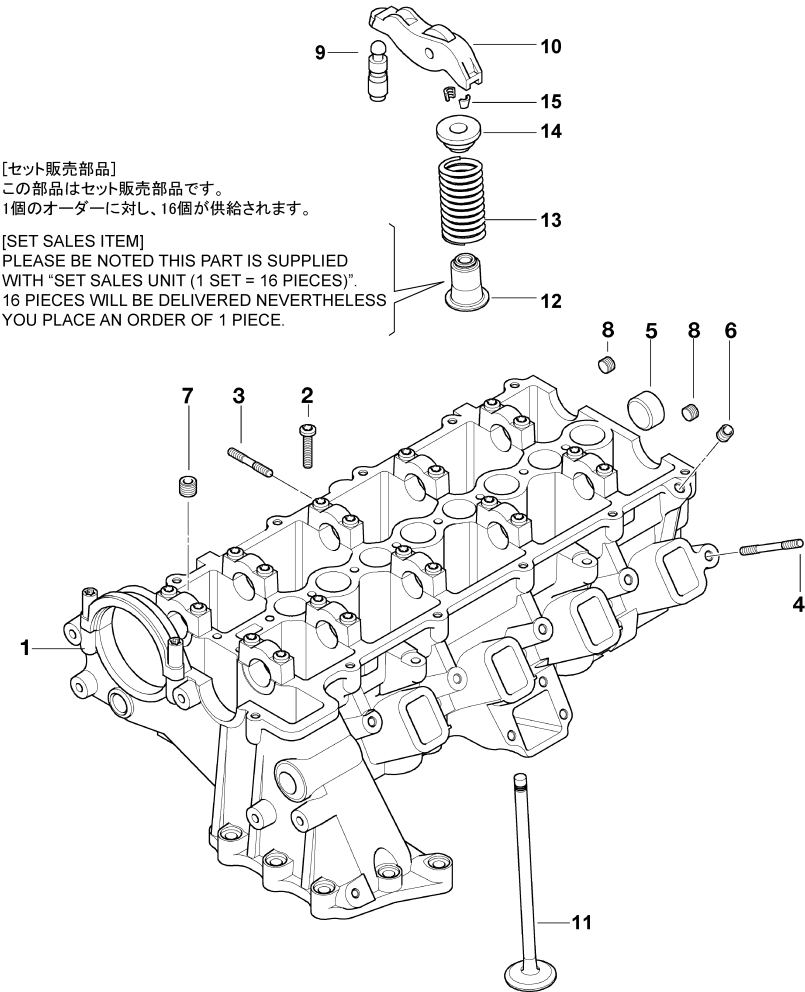
(D)=4BY180Z
(E)=
(F)=

No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
3	1	120650-07030	LABEL, LIFTER	1	1	1	1				
4	1	120650-07040	LABEL, PRESSURE CAP	1	1	1	1				
5	1	120650-07050	LABEL, OIL DANGER	1	1	1	1				
6	1	120650-07060	LABEL, HOT SURFACE	1	1	1	1				
7	1	120650-07070	LABEL, INTERVAL	1	1	1	1				
8	1	120650-07080	LABEL, ROTATION ENG.	1	1	1	1				
9	1	120650-07090	LABEL, DRAIN COCK	1	1	1	1				
10	1	120650-07100	LABEL, MANUAL	1	1	1	1				
12	1	120650-07120	LABEL, DONT STEP	1	1	1	1				
13	1	120650-07130	LABEL, YANMAR LOGO	1	1	1	1				
14	1	120650-07150	LABEL, BSO		1		1				
14-1	1	120651-07150	LABEL, BSO		1		1				N
15	1	120650-07160	LABEL, RCD FAMILY NA		1		1				
15-1	1	120650-07161	LABEL, RCD		1		1				N
16	1	120650-07170	LABEL, CE MARK		1		1				
16-1	1	120650-07171	LABEL, RCD-CE		1		1				N
17	1	120650-07190	LABEL, RECREATIONAL		1		1				
17-1	1	120650-07191	LABEL, RECREATIONAL		1		1				N
20	1	120650-07160	LABEL, RCD FAMILY NA	1		1					
20-1	1	120650-07161	LABEL, RCD	1		1					N
21	1	120650-07170	LABEL, CE MARK	1		1					
21-1	1	120650-07171	LABEL, RCD-CE	1		1					N
22	1	120650-07190	LABEL, RECREATIONAL	1		1					
22-1	1	120650-07191	LABEL, RECREATIONAL	1		1					N

Fig.7. CYL.HEAD/VALVE TRAIN-CAMSHAFT

(A)=4BY150
(B)=4BY180
(C)=4BY150Z

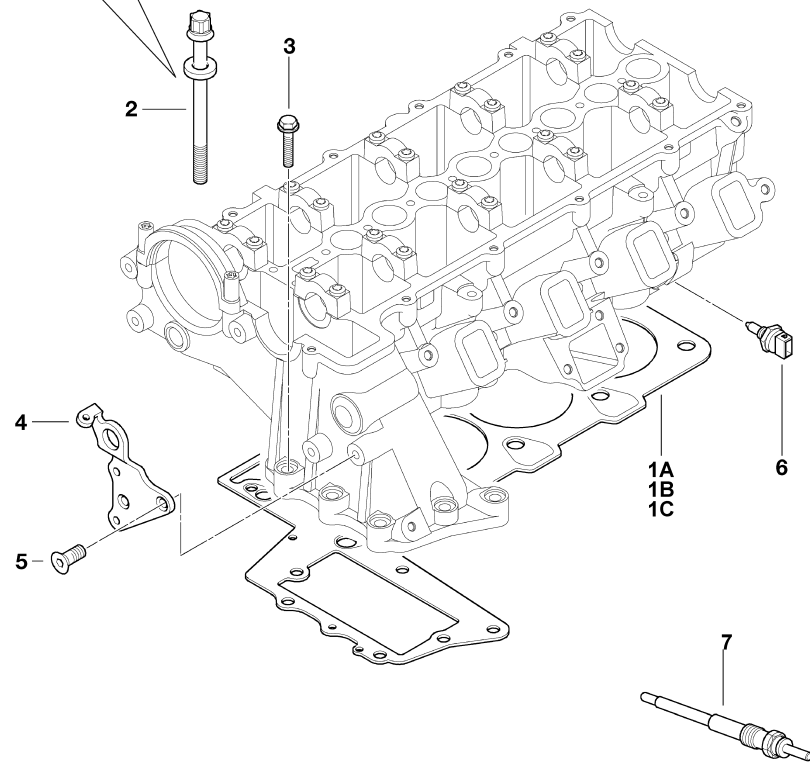
(D)=4BY180Z
(E)=
(F)=



No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165000-68220	HEAD, CYLINDER	1	1	1	1				
1-1	1	165001-35860	HEAD, CYLINDER	1	1	1	1				R
(A=E*****) (B=E*****) (C=E*****) (D=E*****)											
2	1	165000-67920	BOLT, TORX M6X30	20	20	20	20				
3	1	165000-68130	STUD, M8X55	8	8	8	8				
4	1	165000-67930	STUD, M7X65	5	5	5	5				
4-1	1	165001-39240	STUD, M7X65	5	5	5	5				R
(A=E*****) (B=E*****) (C=E*****) (D=E*****)											
5	1	165000-67420	COVER, D=24MM	2	2	2	2				
6	1	165000-67870	PLUG, SCREW M8X1	2	2	2	2				
7	1	165000-67910	PLUG, SCREW M12X1.5	1	1	1	1				
8	1	165000-67900	PLUG, SCREW M14X1.5	2	2	2	2				
8-1	1	165001-35970	PLUG, SCREW M14X1.5	2	2	2	2				R
(A=E*****) (B=E*****) (C=E*****) (D=E*****)											
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. CYL.HEAD ATTACHED/GLOW PLUG

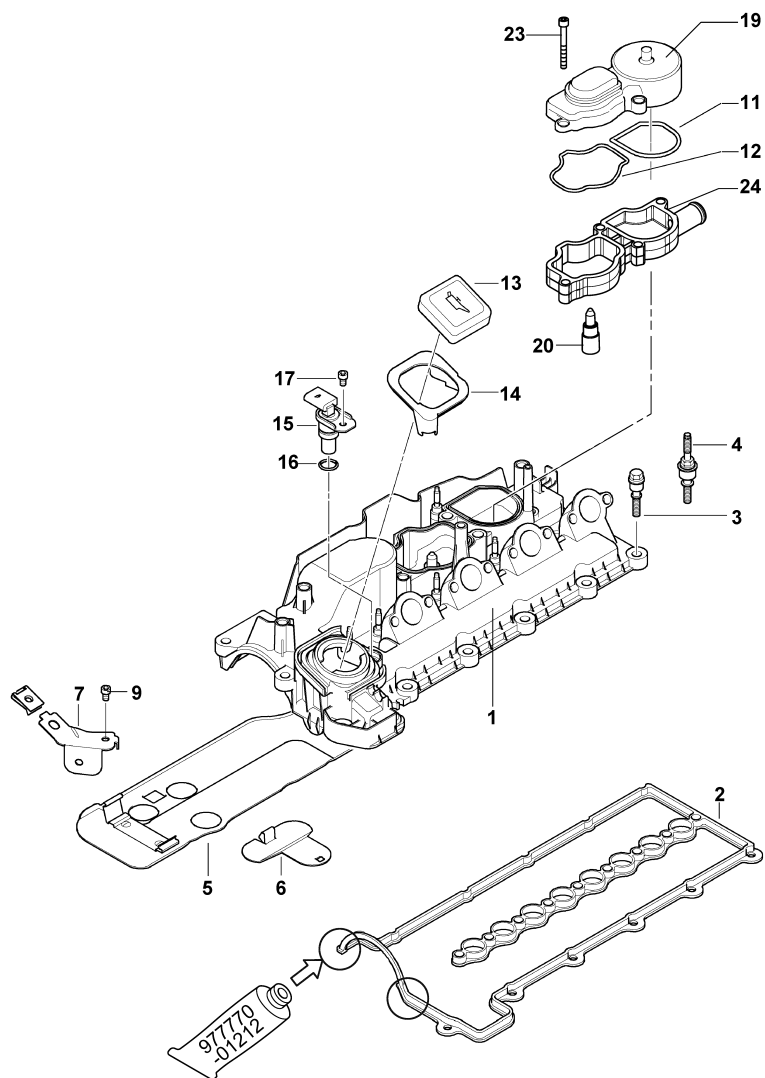
[SET SALES ITEM]
PLEASE BE NOTED THIS PART IS SUPPLIED
WITH "SET SALES UNIT (1 SET = 10 PIECES)".
10 PIECES WILL BE DELIVERED NEVERTHELESS
YOU PLACE AN ORDER OF 1 PIECE.



(D)=4BY180Z
(E)=
(F)=

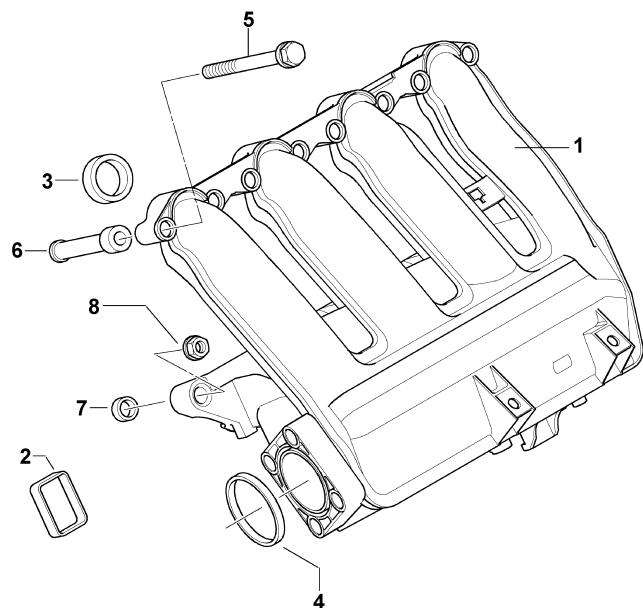
No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1A	1	165000-68080	GASKET, HEAD 1-HOLE	1	1	1	1				
1B	1	165000-68090	GASKET, HEAD 2-HOLE	1	1	1	1				
1C	1	165000-68100	GASKET, HEAD 3-HOLE	1	1	1	1				
2	1	165000-68290	BOLT, M12X1.5X147	1	1	1	1				
3	1	165000-67090	SCREW, M8X35	7	7	7	7				
3-1	1	165001-35680	SCREW, M8X35	7	7	7	7				R
	(A=E****)	(B=E****)	(C=E****)	(D=E****)							
4	1	165000-68200	LOOP	1	1	1	1				
4-1	1	165000-67990	LOOP	1	1	1	1				R
	(A=1390 046)	(B=1390 046)	(C=1390 046)	(D=1390 046)							
5	1	165000-68000	SCREW, COUNTERSUNK	2	2	2	2				
6	1	165000-70660	SENSOR, TEMPERATURE	1	1	1	1				
7	1	165000-70000	PLUG, GLOW	4	4	4	4				

Fig.9. CYLINDER HEAD COVER



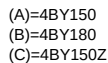
No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-11510	COVER, CYLINDER HEAD	1	1	1	1				
2	1	165000-68190	GASKET, PROFILE	1	1	1	1				
3	1	165000-67820	ELEMENT, OUTER	1	1	1	1				
4	1	165000-67850	ELEMENT, INNER	1	1	1	1				
4-1	1	165001-39230	ELEMENT, INNER	1	1	1	1				R
		(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)						
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				
9	1	165000-67360	SCREW, M6X12	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	165000-67980	COVER	1	1	1	1				
13-1	1	165000-71020	COVER	1	1	1	1				R
		(A=0443 046)	(B=0443 046)	(C=0443 046)	(D=0443 046)						
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	165000-68120	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				
23	1	120640-01500	CAP BOLT, 6X45	4	4	4	4				
24	1	120650-11410	SPACER, ELEMENT	1	1	1	1				

Fig.10. INTAKE MANIFOLD



				(A)=4BY150 (B)=4BY180 (C)=4BY150Z					(D)=4BY180Z (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	165000-67890	NUT, FLANGE M7	5	5	5	5		
8-1	1	165001-35790	NUT, FLANGE M7	5	5	5	5		R
	(A=E****)	(B=E****)	(C=E****)	(D=E****)					
9	1	165000-69850	BOX, VACUMM	1	1	1	1		

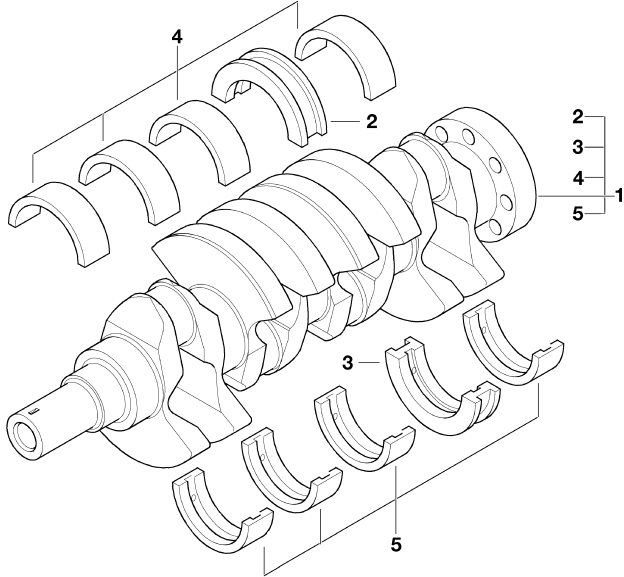
Fig.11. TURBOCHARGER & AIR FILTER



(D)=4BY180Z
(E)=
(F)=

No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-18040	TURBINE, TD04HL13T-5		1		1				
3	1	120650-12510	FILTER, AIR	1	1	1	1				
10	1	120650-13050	MANIFOLD, EXHAUST	1	1	1	1				
12	1	120650-13330	PLUG, SCREW	1	1	1	1				
13	1	120660-18200	GASKET, TURBO IN	1	1	1	1				
14	1	120660-18110	FLANGE BOLT, 8X25 HE	4	4	4	4				
15	1	120640-00040	GASKET, EXH.MANIFOLD	2	2	2	2				
16	1	120650-13070	NUT, M8	8	8	8	8				
17	1	120650-11430	HOSE, BLOWBY	1	1	1	1				
18	1	120640-01030	CLAMP, HOSE 25-40	2	2	2	2				
21	1	120650-18300	PROTECTOR, HEAT	1	1	1	1				Z
21-1	1	120650-18301	PROTECTOR, HEAT	1	1	1	1				N
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)							
22	1	120650-18310	PROTECTOR, HEAT MANI	1	1	1	1				Z
22-1	1	120650-18311	PROTECTOR, HEAT MANI	1	1	1	1				N
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)							
23	1	120650-13800	PROTECTOR, HEAT HOSE	1	1	1	1				

Fig.12. CRANKSHAFT WITH BEARING SHELLS



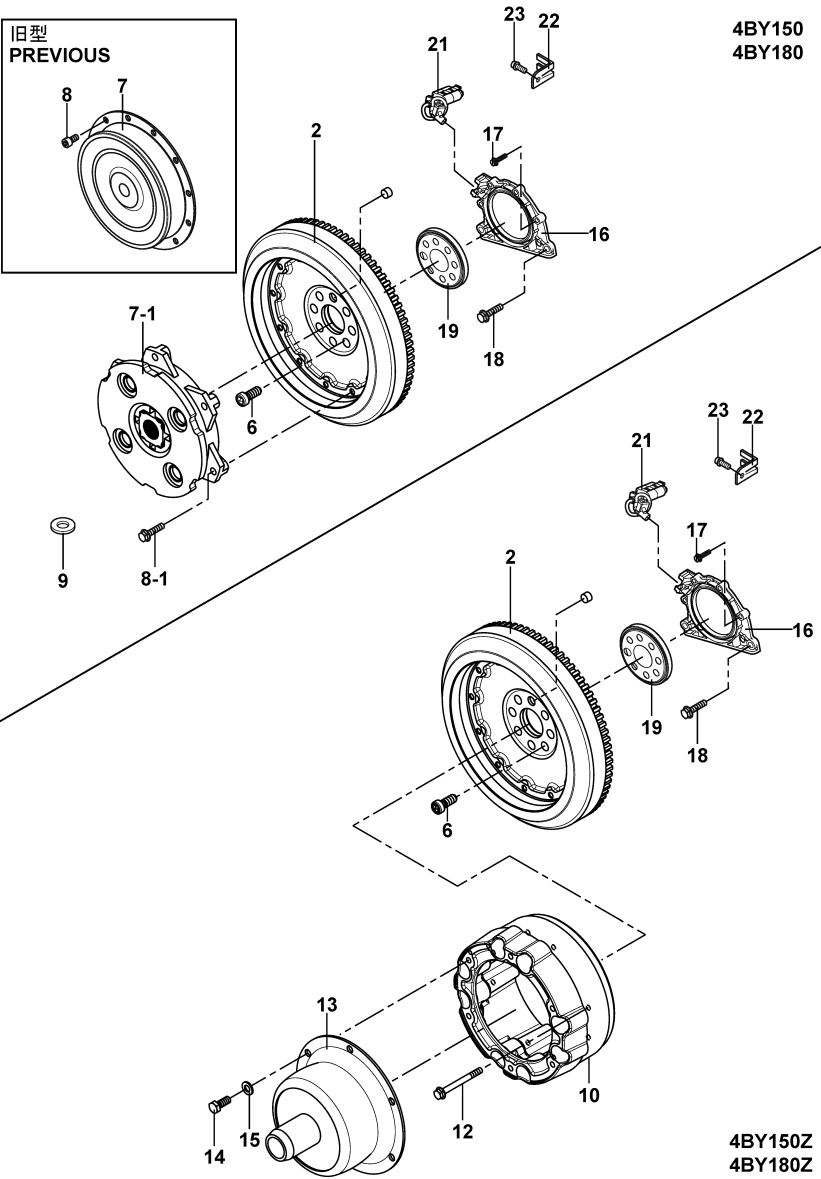
Remarks
(1)YELLOW
(2)GREEN
(3)WHITE

										OCR10-M63801 Fig.12	
										(A)=4BY150 (B)=4BY180 (C)=4BY150Z	
										(D)=4BY180Z (E)= (F)=	
										Q'ty	
										(D) (E) (F)	
No.	Lev.	Parts No.	Description	(A)	(B)	(C)	(D)	(E)	(F)	I	R
1	1	165000-68830	CRANKSHAFT ASSY	1	1	1	1				
1A	1	165000-68840	CRANKSHAFT ASSY	1	1	1	1				
1A-1	1	165000-68830	CRANKSHAFT ASSY	1	1	1	1				R
(A=E*****) (B=E*****) (C=E*****) (D=E*****)											
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

Fig.13. FLYWHEEL & CYL.MOUNTING PARTS

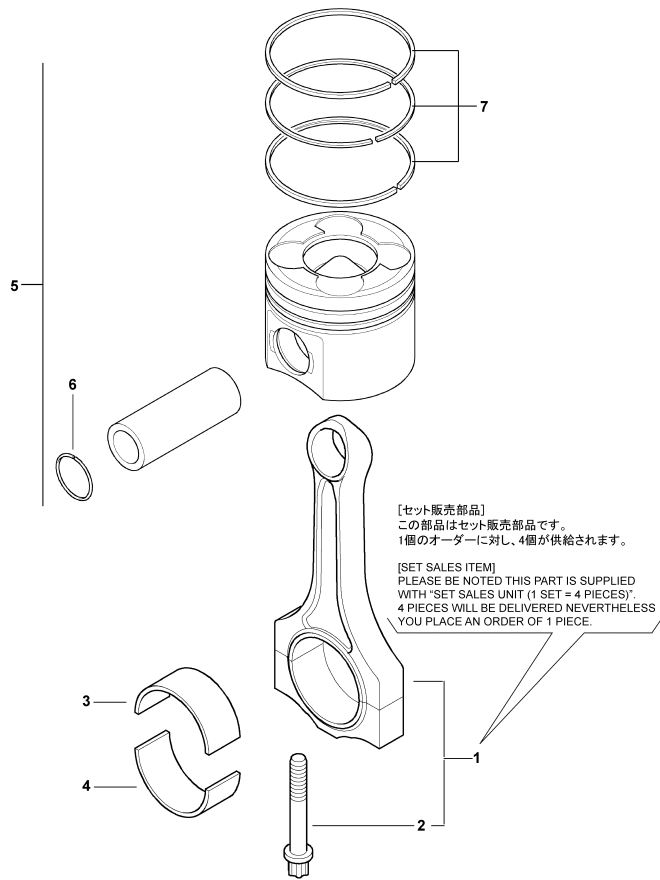
(A)=4BY150
(B)=4BY180
(C)=4BY150Z

(D)=4BY180Z
(E)=
(F)=



No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
2	1	120650-21400	FLYWHEEL ASSY	1	1	1	1				
6	1	120640-00240	CAP BOLT, FLYWHEEL	8	8	8	8				
7	1	120652-21600	COUPLER, GEAR BOX	1	1						Z
7-1	1	120652-21601	COUPLING, DAMPER DS2	1	1						N
8	1	120640-00380	SCREW, M8X16	12	12						Z
8-1	1	120640-01600	BOLT,M8X22 CAP HEX	6	6						N
9	1	120640-02230	WASHER, 8	15	15						N
10	1	120650-21470	ADAPTER, FLYWHEEL				1	1			
12	1	120640-01930	BOLT, M8X80-8.8				8	8			
13	1	120650-21500	COUPLER, STERN-DRIVE				1	1			
14	1	120640-01560	BOLT, 10X25				6	6			
15	1	120640-02210	WASHER, 10				6	6			
16	1	165000-68440	CAP, W/SEAL	1	1	1	1				
17	1	165000-66930	BOLT, HEX M6 25	4	4	4	4				
18	1	165000-67120	BOLT, HEX M8 28	2	2	2	2				
19	1	165000-93310	WHEEL,GENERATOR	1	1	1	1				W
21	1	165000-70680	SENSOR, CRANKSHAFT	1	1	1	1				
21-1	1	165001-35910	SENSOR, CRANKSHAFT	1	1	1	1				R
22	1	165000-70690	TERMINAL, PLUG	1	1	1	1				
23	1	165000-67360	SCREW, M6X12	1	1	1	1				

Fig.14. PISTON & CONNECTING ROD



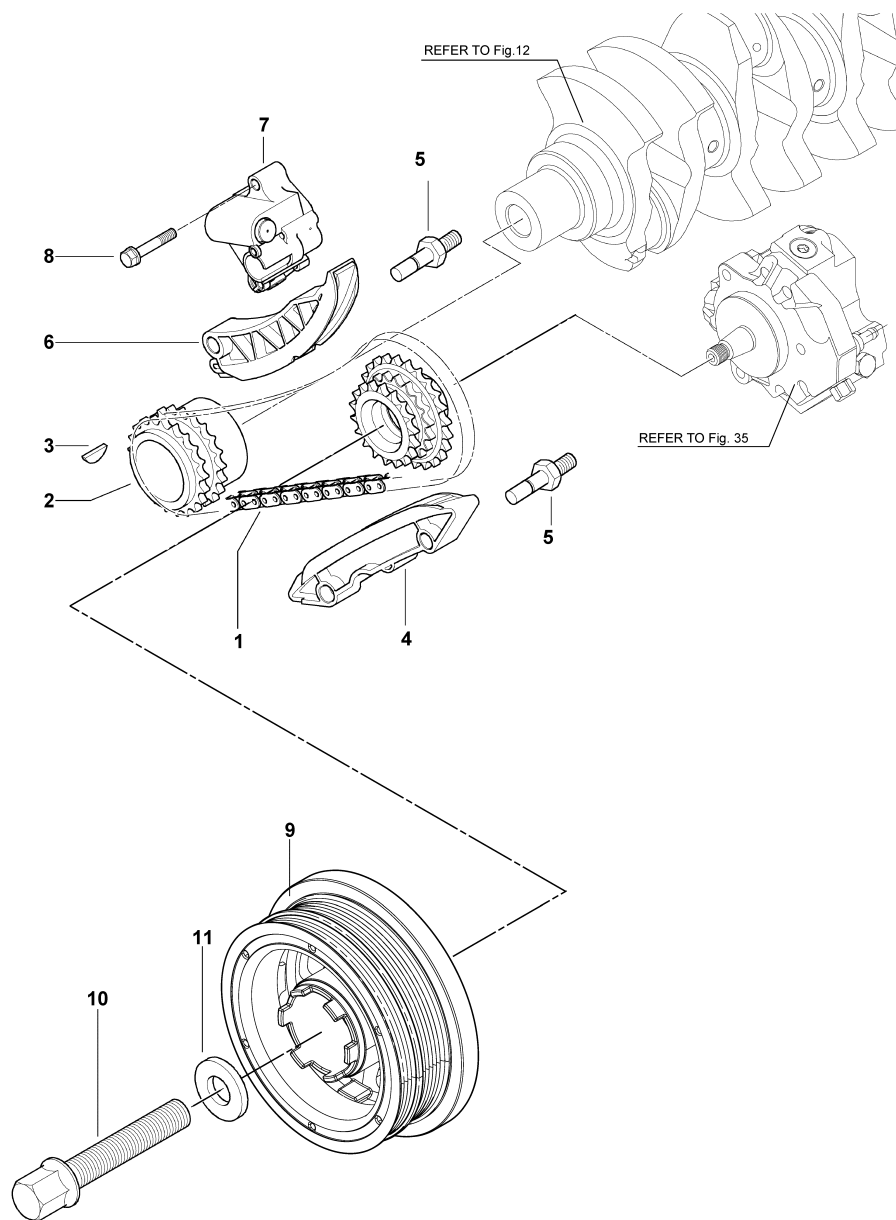
Remarks
(1)COLOR BLUE S MARK
ONLY IN CONJUNCTION WITH
P/N 165000-69000
(2)COLOR RED S MARK
ONLY IN CONJUNCTION WITH
P/N 165000-69010
(3)COLOR BLUE S MARK
ONLY IN CONJUNCTION WITH
P/N 165000-69020
(4)COLOR RED S MARK
ONLY IN CONJUNCTION WITH

(A)=4BY150
(B)=4BY180
(C)=4BY150Z

(D)=4BY180Z
(E)=
(F)=

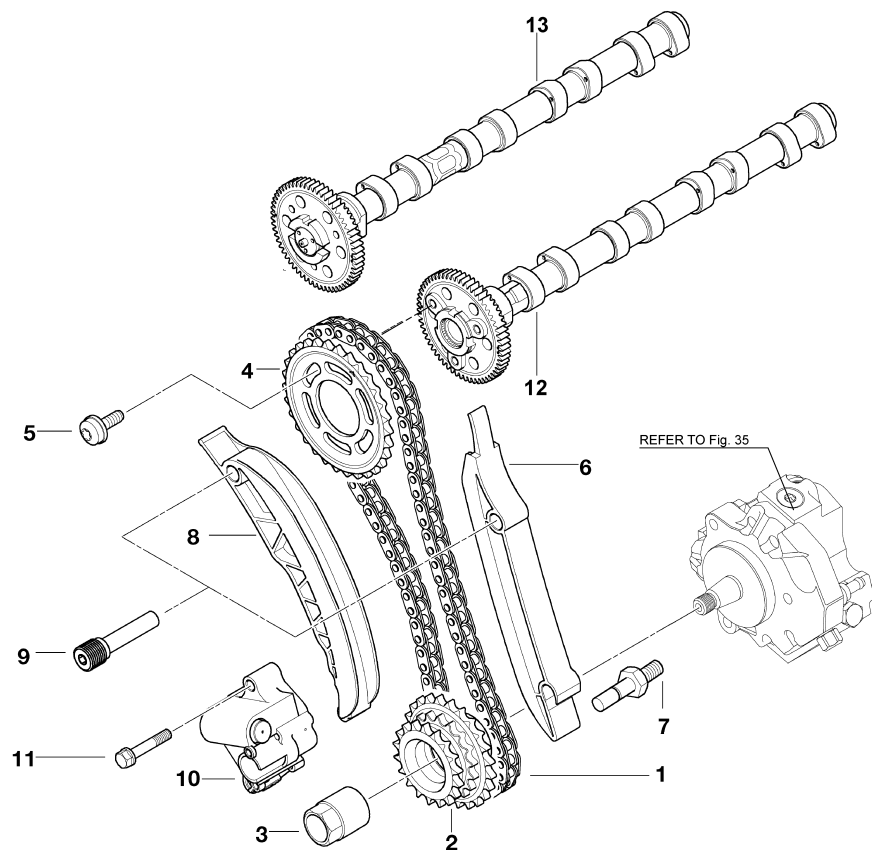
No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165000-68920	ROD, RMFD CONNECTING	1	1	1	1				
2	2	165000-68930	BOLT, CONNECTING ROD	8	8	8	8				
3A	1	165000-68950	SHELL, BEARING 45.00	4	4	4	4				1
3B	1	165000-68940	SHELL, BEARING 45.00	4	4	4	4				2
3C	1	165000-68970	SHELL, 44.75MM +0.25	4	4	4	4				3
3D	1	165000-68960	SHELL, 44.75MM +0.25	4	4	4	4				4
3E	1	165000-68990	SHELL, 44.50MM +0.50	4	4	4	4				5
3F	1	165000-68980	SHELL, 44.50MM +0.50	4	4	4	4				6
4A	1	165000-69000	SHELL, BEARING 45.00	4	4	4	4				7
4B	1	165000-69010	SHELL, BEARING 45.00	4	4	4	4				8
4C	1	165000-69020	SHELL, 44.75MM +0.25	4	4	4	4				9
4D	1	165000-69030	SHELL, 44.75MM +0.25	4	4	4	4				A
4E	1	165000-69040	SHELL, 44.50MM +0.50	4	4	4	4				B
4F	1	165000-69050	SHELL, 44.50MM +0.50	4	4	4	4				C
5	1	165000-69100	PISTON, MAHLE	4	4	4	4				
6	2	165000-69070	RING, LOCK	8	8	8	8				
7	2	165000-69080	RING SET, PISTON	4	4	4	4				
7A	1	165000-69090	RING SET, PISTON .25	4	4	4	4				

Fig.15. TIMING CHAIN LOWER P/DAMPER



No.	Lev.	Parts No.	Description	Q'ty						I R
				(A)	(B)	(C)	(D)	(E)	(F)	
1	1	165000-70260	CHAIN, TIMING	1	1	1	1			
2	1	165000-68820	SPROCKET, CRANKSHAFT	1	1	1	1			
2-1	1	165001-35990	SPROCKET, CRANKSHAFT	1	1	1	1			S
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)						
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	165000-68910	DAMPER, VIBRATION	1	1	1	1			
9-1	1	165000-93600	VIBRATION DAMPER	1	1	1	1			N
	(A=1037 016)	(B=1037 016)	(C=1037 016)	(D=1037 016)						
9-2	1	165001-35660	VIBRATION DAMPER	1	1	1	1			R
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)						
10	1	165000-68890	BOLT, M18X1.5X85.5	1	1	1	1			
11	1	165000-68880	WASHER, FLAT	1	1	1	1			

Fig.16. TIMING GEAR TIMING CHAIN TOP



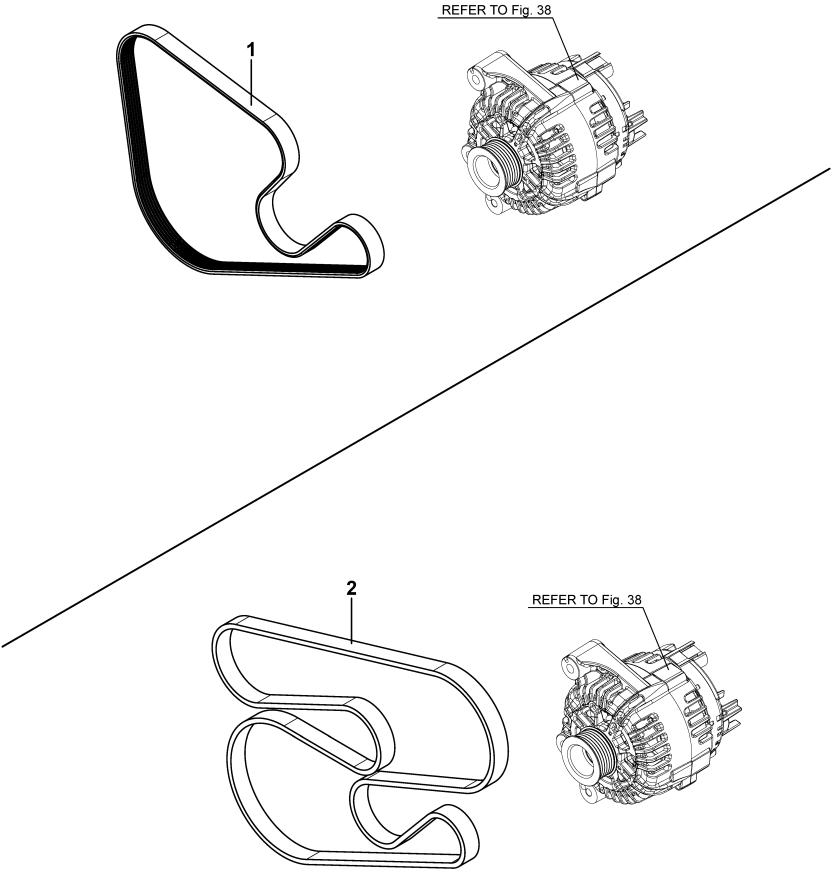
				(A)=4BY150 (B)=4BY180 (C)=4BY150Z					(D)=4BY180Z (E)= (F)=		
No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165000-69210	CHAIN, TIMING	1	1	1	1				
2	1	165000-70240	SPROCKET, PUMP	1	1	1	1				
3	1	165000-70210	NUT, HEXAGON M14X1.5	1	1	1	1				
4	1	165000-69240	SPROCKET, 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	165000-69180	BOLT, BEARING	2	2	2	2				
9-1	1	165001-35830	BOLT, BEARING	2	2	2	2				R
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)							
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				

(A)=4BY150
(B)=4BY180
(C)=4BY150Z

(D)=4BY180Z
(E)=
(F)=

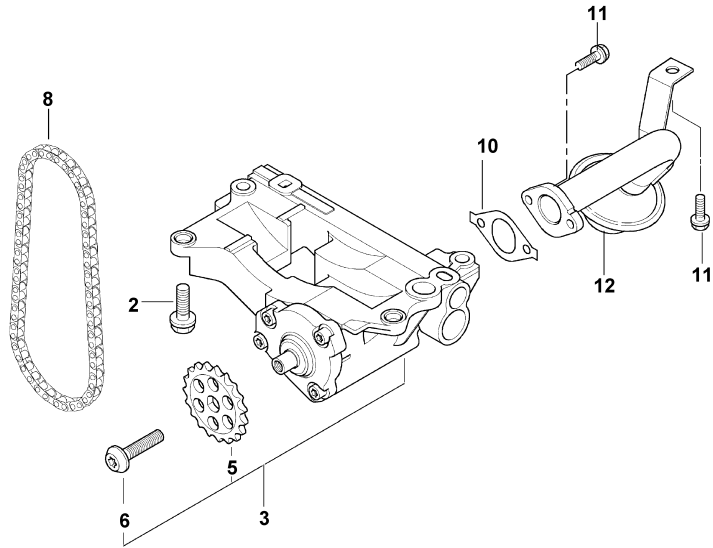
No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120640-00010	V-BELT, 6PK1230	1	1						
2	1	120640-00020	V-BELT, 6PK 2080			1	1				

4BY150
4BY180



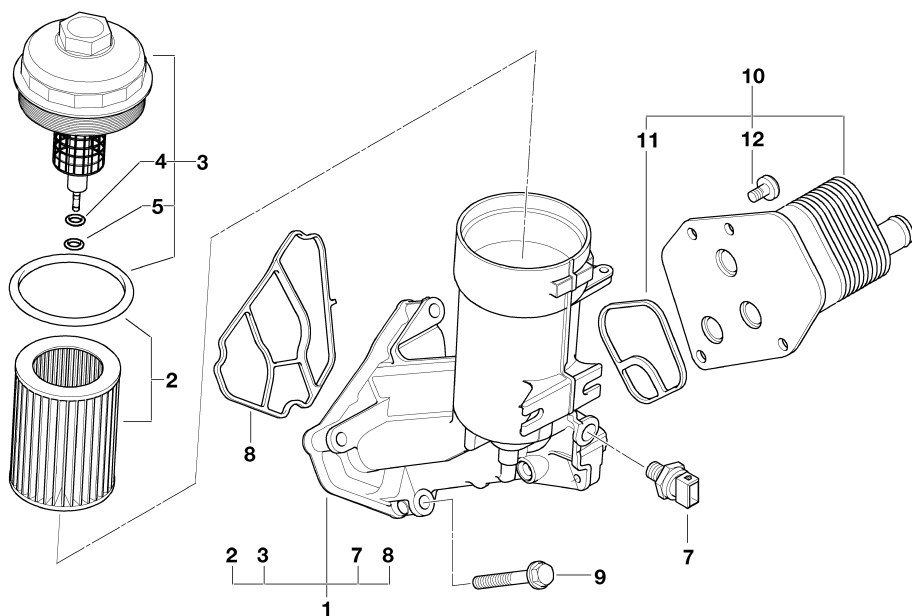
4BY150Z
4BY180Z

Fig.18. LUB.OIL PUMP



				(A)=4BY150 (B)=4BY180 (C)=4BY150Z	(D)=4BY180Z (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	165000-69420	PUMP, OIL	1	1	1	1		
3-1	1	165001-36010	PUMP, OIL	1	1	1	1		R
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)					
4	2	165000-69360	SCREW, COLLAR M6X18	2	2	2	2		
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	120650-32600	STRAINER ASSY, OIL	1	1	1	1		
12-1	1	165000-93290	TUBE,INTAKE	1	1	1	1		R
	(A='03.04.06)	(B='03.04.06)	(C='03.04.06)	(D='03.04.06)					

Fig.19. LUB.OIL FILTER



				(A)=4BY150 (B)=4BY180 (C)=4BY150Z	(D)=4BY180Z (E)= (F)=						
No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165000-69490	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	165000-70120	SWITCH, OIL PRESSURE	1	1	1	1				
7-1	2	165001-35740	SWITCH, OIL PRESSURE	1	1	1	1				R
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)							
8	2	165000-69500	GASKET, PROFILE	1	1	1	1				
9	1	165000-66950	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.20. ROTARY PUMP(OPTION)

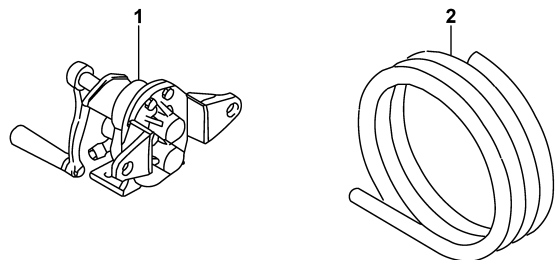
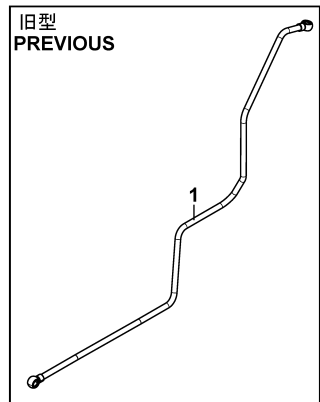
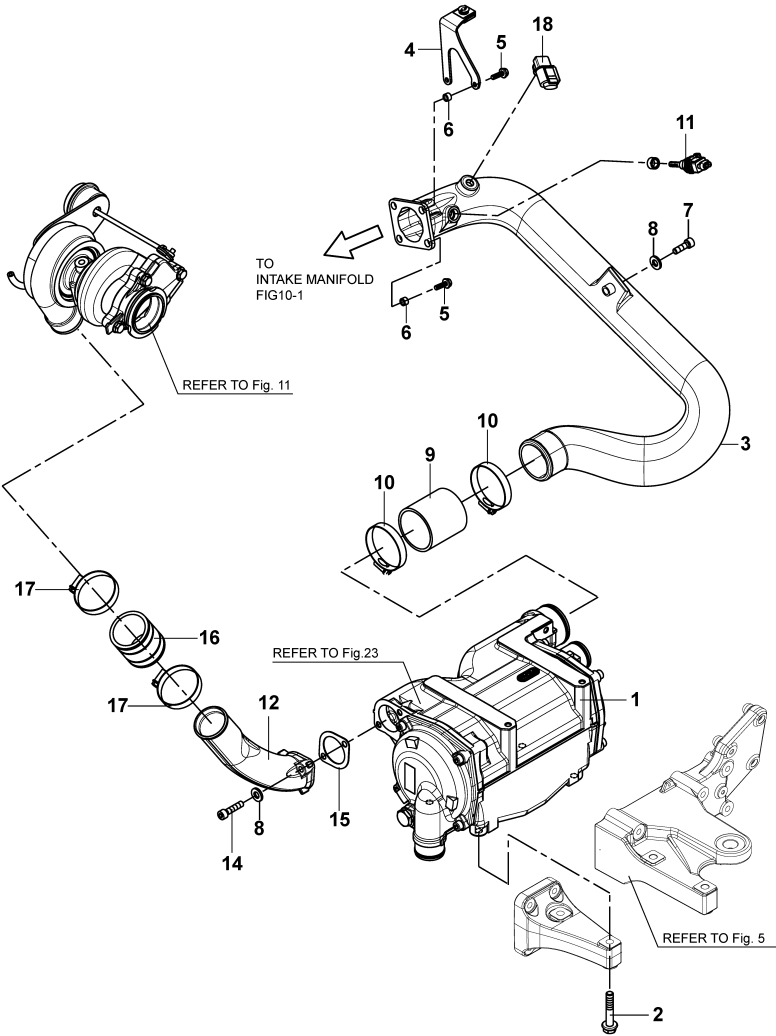
[illegible]

Fig.21. LUB.OILPIPE(TURBOCHARGER)



				(A)=4BY150 (B)=4BY180 (C)=4BY150Z					(D)=4BY180Z (E)= (F)=		
No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-39610	PIPE, OIL TURBO IN	1	1	1	1			Z	
1-1		120650-39611	PIPE, OIL TURBO IN	1	1	1	1			N	
	(A=E****)	(B=E****)	(C=E****)	(D=E****)							
4	1	120640-01210	GASKET, 10X1	7	7	7	7				
5	1	120650-85410	CLAMP, PIPE 10	1	1	1	1				
6	1	120640-01510	BOLT, 8X16	1	1	1	1				
7	1	120640-02230	WASHER, 8	1	1	1	1				
8	1	120650-39350	PIPE, OIL SENSOR	1	1	1	1				
9	1	120650-39290	BANJO BOLT, 10 DOUBL	1	1	1	1				
10	1	120640-01410	SCREW, HOLLOW	1	1	1	1				
12	1	120650-39620	PIPE, OIL TURBO OUT	1	1	1	1				
14	1	120650-39630	GASKET, OIL RETURN	1	1	1	1				
15	1	120640-01470	BOLT, 6X16	2	2	2	2				
16	1	120650-39250	HOSE, TURBO RETURN	1	1	1	1				
17	1	120640-01020	CLAMP, HOSE 16-27	2	2	2	2				
18	1	120640-00260	SUPPORT, HOSE 2512	1	1	1	1				
19	1	120640-00250	SUPPORT, HOSE 1412	2	2	2	2				

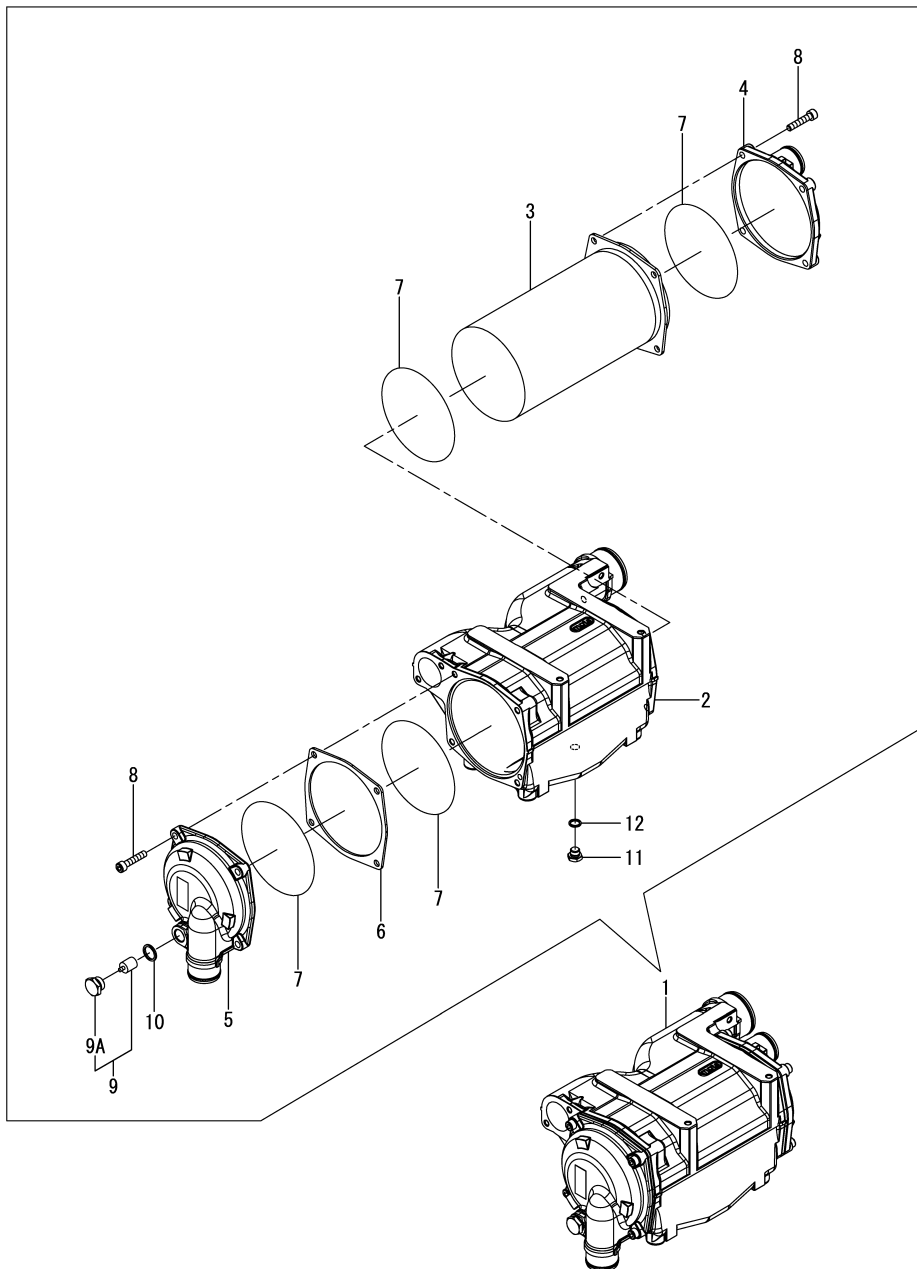
Fig.22. AIR COOLER



(A)=4BY150
(B)=4BY180
(C)=4BY150Z

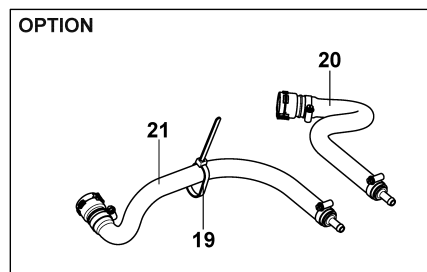
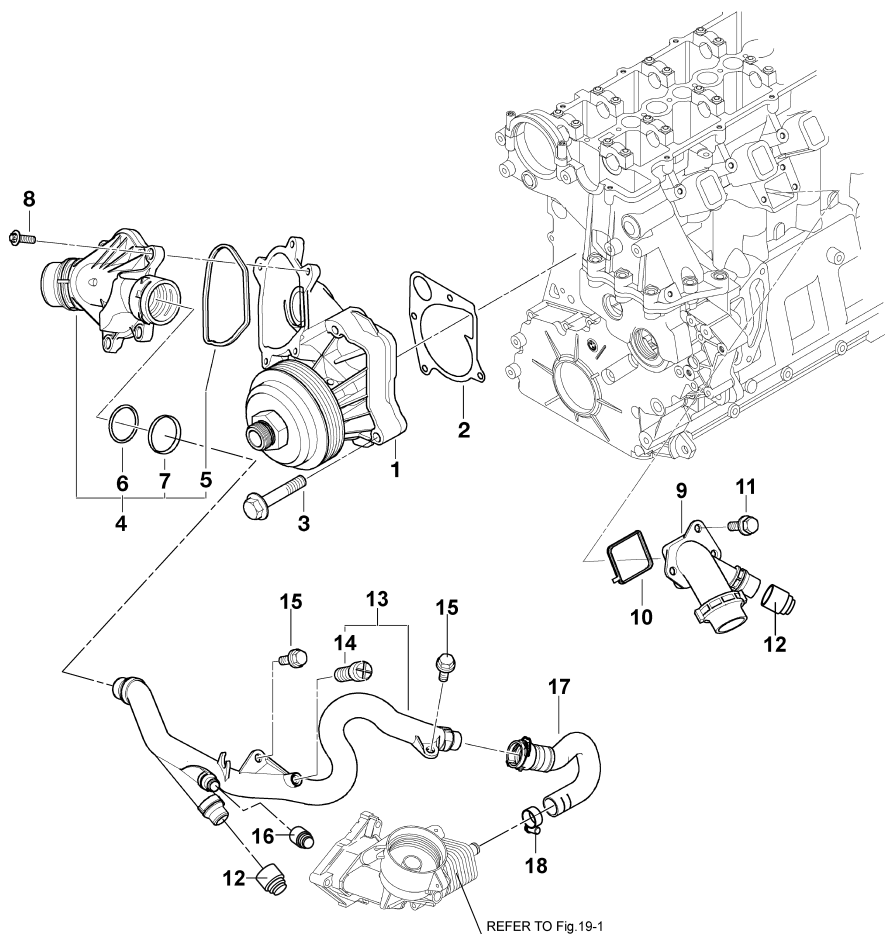
(D)=4BY180Z
(E)=
(F)=

No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-18400	COOLER ASSY, AIR	1	1	1	1				
2	1	120640-01990	BOLT, M10X60-8.8	4	4	4	4				
3	1	120650-18810	AIR DUCT, CAC OUT	1	1	1	1				
4	1	120650-17110	SUPPORT, COVER SUC	1	1	1	1				
5	1	120640-01590	CAP BOLT, 6X25	4	4	4	4				
6	1	120640-02220	WASHER, 6	4	4	4	4				
7	1	120640-01540	CAP BOLT, 8X35	1	1	1	1				
8	1	120640-02230	WASHER, 8	2	2	2	2				
9	1	120650-18910	HOSE, CAC OUT	1	1	1	1				
10	1	120640-01050	CLAMP, HOSE 50-70	2	2	2	2				
11	1	120640-00130	SENSOR, AIR TEMP	1	1	1	1				
12	1	120650-18820	DUCT, AIR	1	1	1	1				
14	1	120640-01540	CAP BOLT, 8X35	2	2	2	2				
15	1	120650-18850	GASKET, AIR CAC IN	1	1	1	1				
16	1	120650-18900	HOSE, COMPRESSOR OUT	1	1	1	1				
17	1	120650-49720	CLAMP, HOSE 40-60 C	2	2	2	2				
18	1	120640-00140	SENSOR, BOOST P	1	1	1	1				



No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-18400	COOLER ASSY, AIR	1	1	1	1				
2	2	120650-18410	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	1	1	1	1				
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				
9A	3	120650-18530	PLIG(ZINC ANODE	1	1	1	1				W
	(A=EXXXXX)	(B=EXXXXX)	(C=EXXXXX)	(D=EXXXXX)							
10	2	120650-18500	GASKET, CUPPER	1	1	1	1				
11	2	120650-18510	PLUG, DRAIN	1	1	1	1				
12	2	120650-18520	GASKET, CUPPER	1	1	1	1				

Fig.24. WATER PUMP

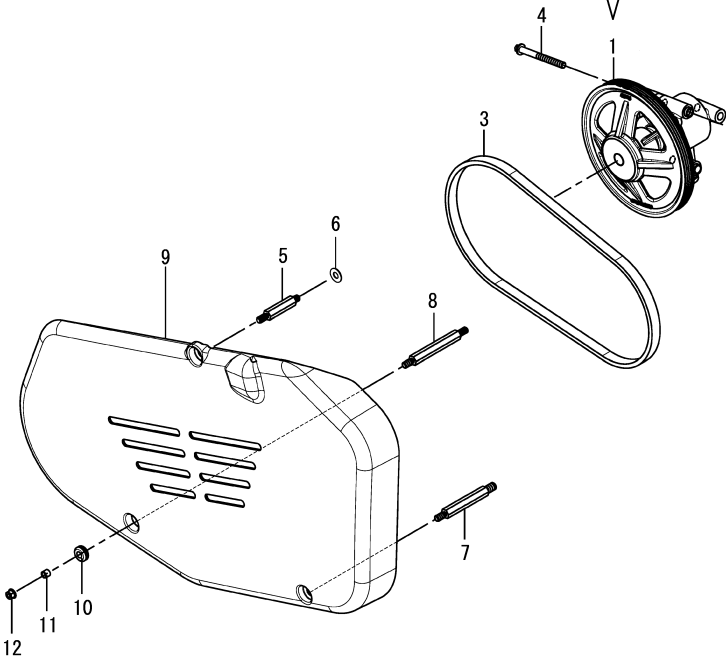
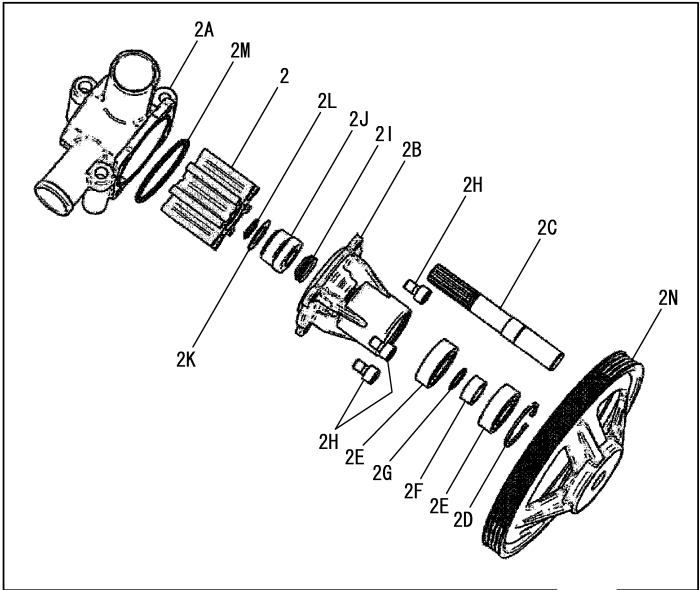


				(A)=4BY150 (B)=4BY180 (C)=4BY150Z	(D)=4BY180Z (E)= (F)=				
No.	Lev.	Parts No.	Description	Q'ty				I	R
				(A)	(B)	(C)	(D)	(E)	(F)
1	1	165000-69700	PUMP, RMFD WATER	1	1	1	1		
1-1	1	165001-35720	PUMP, RMFD WATER	1	1	1	1		R
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)					
2	1	165000-69720	GASKET, STEEL	1	1	1	1		
3	1	165000-69690	SCREW, TORX M7X38	4	4	4	4		
4	1	165000-69680	THERMOSTAT ASSY	1	1	1	1		
4-1	1	165001-35710	THERMOSTAT ASSY	1	1	1	1		R
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)					
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	165000-67950	CONNECTOR	1	1	1	1		
9-1	1	165001-35800	CONNECTOR	1	1	1	1		R
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)					
10	1	165000-67960	GASKET, PROFILE	1	1	1	1		
11	1	165000-66930	BOLT, HEX M6 25	3	3	3	3		
12	1	120650-49390	COUPLING, QUICK	2	2	2	2		
13	1	165000-69790	PIPE, RETURN	1	1	1	1		
13-1	1	165000-93330	PIPE,RETURN	1	1	1	1		R
	(A=16650 066)	(B=16650 066)	(C=16650 066)	(D=16650 066)					
14	2	165000-69780	SCREW, VENT	1	1	1	1		
15	1	165000-69360	SCREW, COLLAR M6X18	2	2	2	2		
16	1	120650-49380	COUPLING, QUICK	1	1	1	1		
17	1	165000-69770	HOSE, WATER	1	1	1	1		
18	1	120640-01020	CLAMP, HOSE 16-27	1	1	1	1		
19	1	120640-09130	TIE,STRAP 550	1	1	1	1		
20	1	120650-49850	HOSE ASSY, HEATER SU	1	1	1	1		N
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)					
21	1	120650-49860	HOSE ASSY, HEATER RE	1	1	1	1		N
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)					

Fig.25. COOLING SEA WATER PUMP

(A)=4BY150
(B)=4BY180
(C)=4BY150Z

(D)=4BY180Z
(E)=
(F)=



No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-42300	PUMP ASSY,SEAWATER	1	1	1	1				
2	2	120650-42310	IMPELLER	1	1	1	1				
2A	2	120650-42320	PUMP BODY	1	1	1	1				
2B	2	120650-42330	BEARING HOUSING	3	3	3	3				
2C	2	120650-42340	SHAFT PUMP	1	1	1	1				
2D	2	120650-42350	CIRCLIP	1	1	1	1				
2E	2	120650-42450	BALL BEARING	2	2	2	2				
2F	2	120650-42370	SPACER	1	1	1	1				
2G	2	120650-42380	CIRCLIP	1	1	1	1				
2H	2	120650-42390	ALLEN SCREW	4	4	4	4				
2I	2	120650-42420	V-RING	1	1	1	1				
2J	2	120650-42430	MECH.SEAL CPL	1	1	1	1				
2K	2	120650-42550	WASHER F5B/F6B/F7B	1	1	1	1				
2L	2	120650-42570	RETAINING RING	1	1	1	1				
2M	2	120650-42440	O-RING	1	1	1	1				
2N	2	120650-42410	PULLEY	1	1	1	1				
3	1	120650-42360	V-BELT, 4PK 964	1	1	1	1				
4	1	120640-01550	TORX BOLT E10X80	3	3	3	3				
5	1	120650-17200	BOLT, FIXING 1	1	1	1	1				
6	1	120640-02230	WASHER, 8	1	1	1	1				
7	1	120650-17210	BOLT, FIXING 2	1	1	1	1				
8	1	120650-17220	BOLT, FIXING 3	1	1	1	1				
9	1	120650-17170	COVER ASSY, BELT	1	1	1	1				
10	1	120640-00280	GROMMET	3	3	3	3				
11	1	120640-00270	COLLAR,BRACKET	3	3	3	3				
12	1	120640-00330	NUT, FLANGE M8	3	3	3	3				

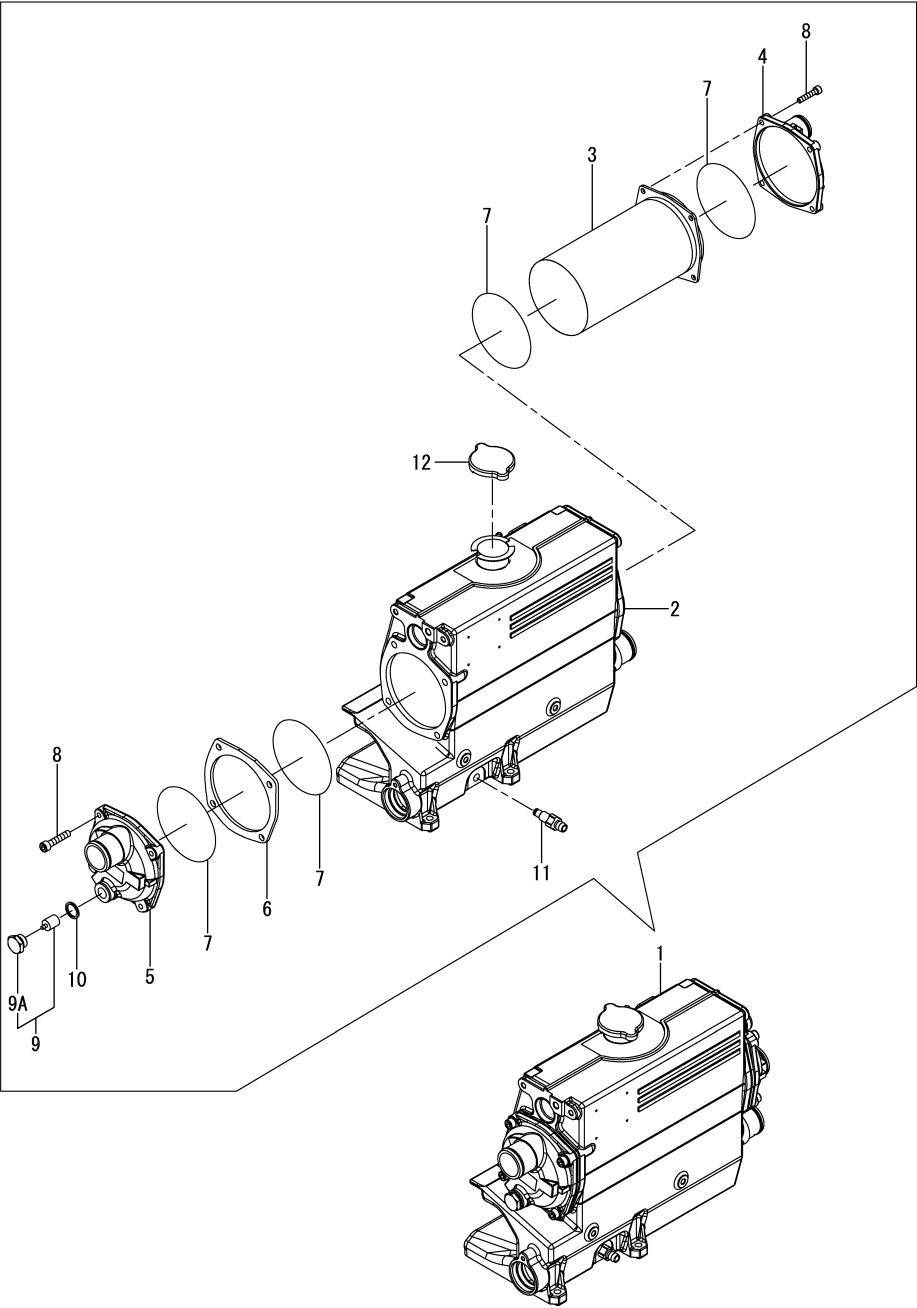
Fig.26. HEAT EXCHANGER



N:Old $\xleftrightarrow[\text{No}]{\text{Yes}}$ New, Q:Old $\xleftrightarrow[\text{Yes}]{\text{No}}$ New, R:Old $\xleftrightarrow[\text{Yes}]{\text{Yes}}$ New, S:Old $\xleftrightarrow[\text{No}]{\text{No}}$ New, W:Add, Z:Discontinued, F:Interchangeable by set, K:Q'ty Change

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Fig.27. HEAT EXCHANGER(INNER PARTS)

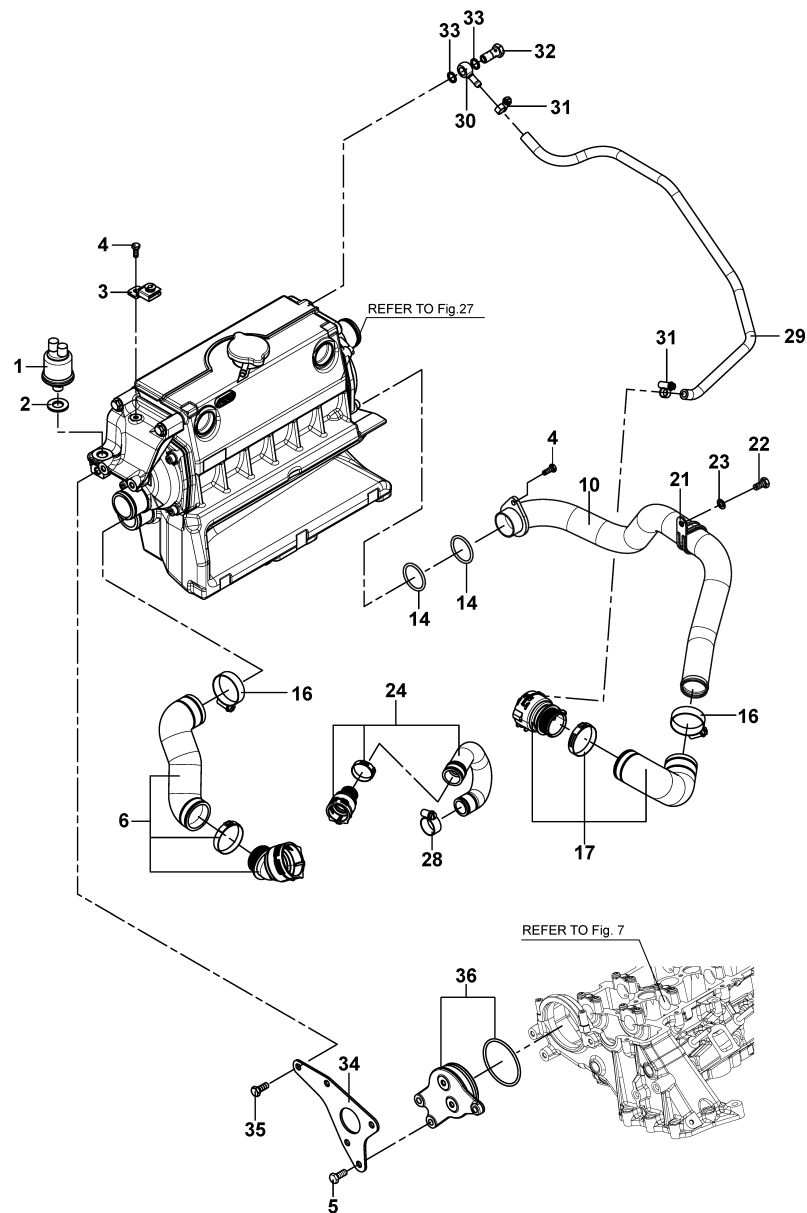


(A)=4BY150
(B)=4BY180
(C)=4BY150Z

(D)=4BY180Z
(E)=
(F)=

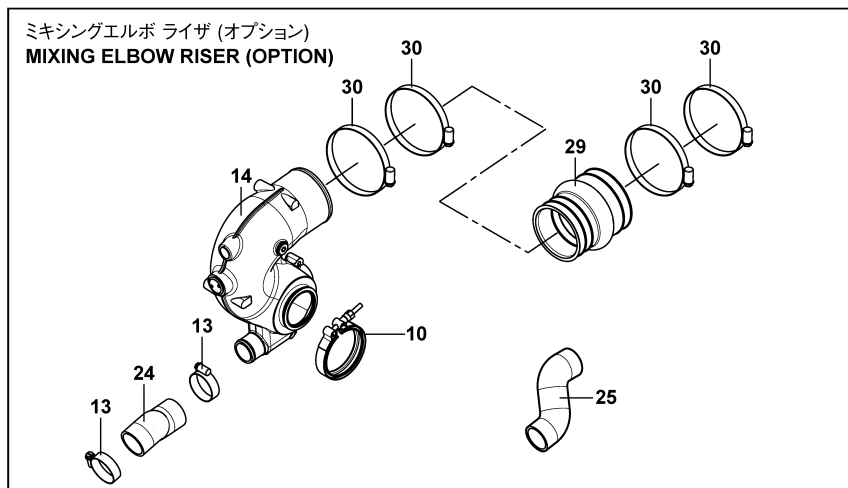
No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-44000	HEAT EXCHANGER ASSY	1	1	1	1				
2	2	120650-44010	HOUSING, HEX 4BY	1	1	1	1				
3	2	120650-44020	CORE, HEX 4BY	1	1	1	1				
4	2	120650-44030	COVER, HEX REAR	1	1	1	1				
5	2	120650-44040	COVER, HEX FRONT	1	1	1	1				
6	2	120650-44050	SPACER, HEX	1	1	1	1				
7	2	120650-44070	O-RING, HEX	4	4	4	4				
8	2	120650-18480	BOLT, M8X40	8	8	8	8				
9	2	120650-18490	ZINC	1	1	1	1				
9A	3	120650-18530	PLIG(ZINC ANODE	1	1	1	1				W
		(A=EXXXXX) (B=EXXXXX) (C=EXXXXX) (D=EXXXXX)									
10	2	120650-18500	GASKET, CUPPER	1	1	1	1				
11	2	120650-44080	COCK,DRAIN	1	1	1	1				
12	2	120650-44090	CAP, FILLER	1	1	1	1				

Fig.28. HOSE, FW PUMP



No.	Lev.	Parts No.	Description	(A)=4BY150 (B)=4BY180 (C)=4BY150Z		(D)=4BY180Z (E)= (F)=			
				(A)	(B)	(C)	(D)	(E)	(F)
1	1	120650-39270	SENSOR, OIL PRESSURE	1	1	1	1		
2	1	120640-01240	GASKET, 14X1.5	1	1	1	1		
3	1	120650-17120	SUPPORT, COVER EXH	1	1	1	1		
4	1	120640-02080	BOLT, M6X16-8.8	2	2	2	2		
5	1	120640-01530	CAP BOLT, 8X30	3	3	3	3		
6	1	120650-49100	HOSE ASSY, ENGINE IN	1	1	1	1		
10	1	120650-49250	PIPE ASSY, HEAD OUT	1	1	1	1		
14	1	120650-49260	O-RING, 36X3.53	2	2	2	2		
16	1	120650-49710	CLAMP, HOSE 35-50 C	2	2	2	2		
17	1	120650-49200	HOSE ASSY, HEAD OUT	1	1	1	1		
21	1	120650-49650	CLAMP, PIPE	1	1	1	1		
22	1	120640-01510	BOLT, 8X16	1	1	1	1		
23	1	120640-02230	WASHER, 8	1	1	1	1		
24	1	120650-49400	HOSE, OIL COOLER	1	1	1	1		
28	1	120640-01020	CLAMP, HOSE 16-27	1	1	1	1		
29	1	120650-49330	HOSE, VENTILATION	1	1	1	1		
30	1	120650-49350	NIPPLE, HOSE	1	1	1	1		
31	1	120640-01010	CLAMP, HOSE 8-16	2	2	2	2		
32	1	120640-01410	BANJO BOLT, 10	1	1	1	1		
33	1	120640-01210	GASKET, 10X1	2	2	2	2		
34	1	120650-44190	BRACKET, FRONT TOP	1	1	1	1		
35	1	120640-01520	BOLT, 8X20	5	5	5	5		
36	1	165000-93280	COVER	1	1	1	1		

Fig.29. MIXING ELBOW



No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-13400	ELBOW ASSY, MIXING	1	1	1	1				
6	3	120650-13420	PLUG, M18X1.5	1	1	1	1				
7	3	120640-01270	RING, SEALING A18X22	1	1	1	1				
8	3	120650-13490	PLUG	1	1	1	1				
9	3	120640-01260	GASKET, 17X1.5	1	1	1	1				
10	1	120650-13450	V-CLAMP, TURBINE OUT	1	1	1	1				
11	1	120650-13850	HOSE, MIXING IN 25	1	1						
12	1	120650-13510	HOSE, MIXING IN			1	1				
13	1	120650-49720	CLAMP, HOSE 40-60 C	2	2	2	2				
14	1	120652-13400	ELBOW ASSY, MIXING	1	1	1	1				
24	1	120650-13750	HOSE, MIXING IN 10 R	1	1	1	1				
25	1	120650-13760	HOSE, MIXING IN 40 R	1	1	1	1				
27	1	120650-44100	HOSE, MIXING DRAIN	1	1	1	1				
28	1	120640-01010	CLAMP, HOSE 8-16	2	2	2	2				
29	1	120650-13520	JOINT, RUBBER	1	1	1	1				
30	1	119172-48010	CLIP, HOSE 127	4	4	4	4				
31	1	120650-13600	PIPE, EXHAUST CMP (C=E*****)			1	1				Z
31-1	1	120650-13601	PIPE, EXHAUST CMP (C=E*****)			1	1				N
36	1	120650-13450	V-CLAMP, TURBINE OUT (D=E*****)	1	1						
37	1	120650-13870	HOSE, MIXING IN L45	1	1						
38	1	120650-13930	ELBOW ASSY, MIXING L	1	1						
39	2	120640-01270	RING, SEALING A18X22	1	1						
40	2	120650-13420	ZINC, ANTI-CORROSIVE	1	1						
41	2	120650-13940	ELBOW, MIXING L TYPE	1	1						
42	2	23414-130000	GASKET, 13X1.0	1	1						
43	2	23893-020002	PLUG, G1/4	1	1						
44	1	120650-49720	CLAMP, HOSE 40-60 C	2	2						

Fig.30. BILGE PUMP(OPTION)

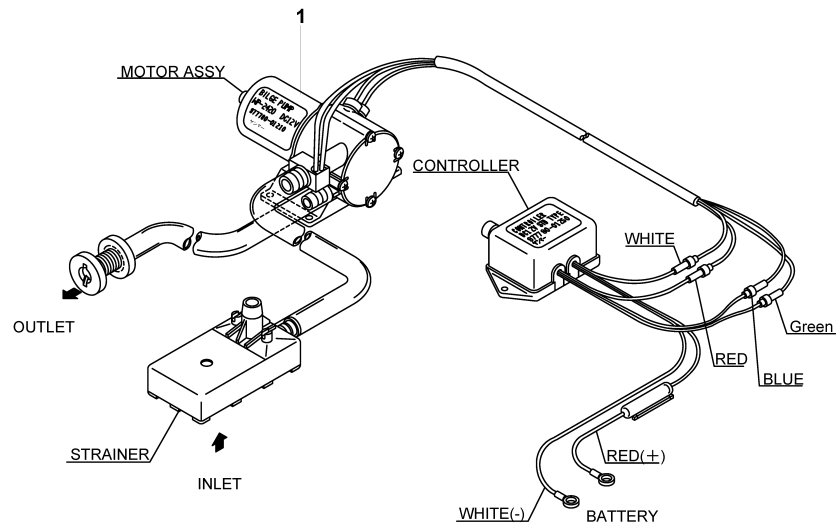
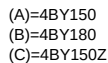
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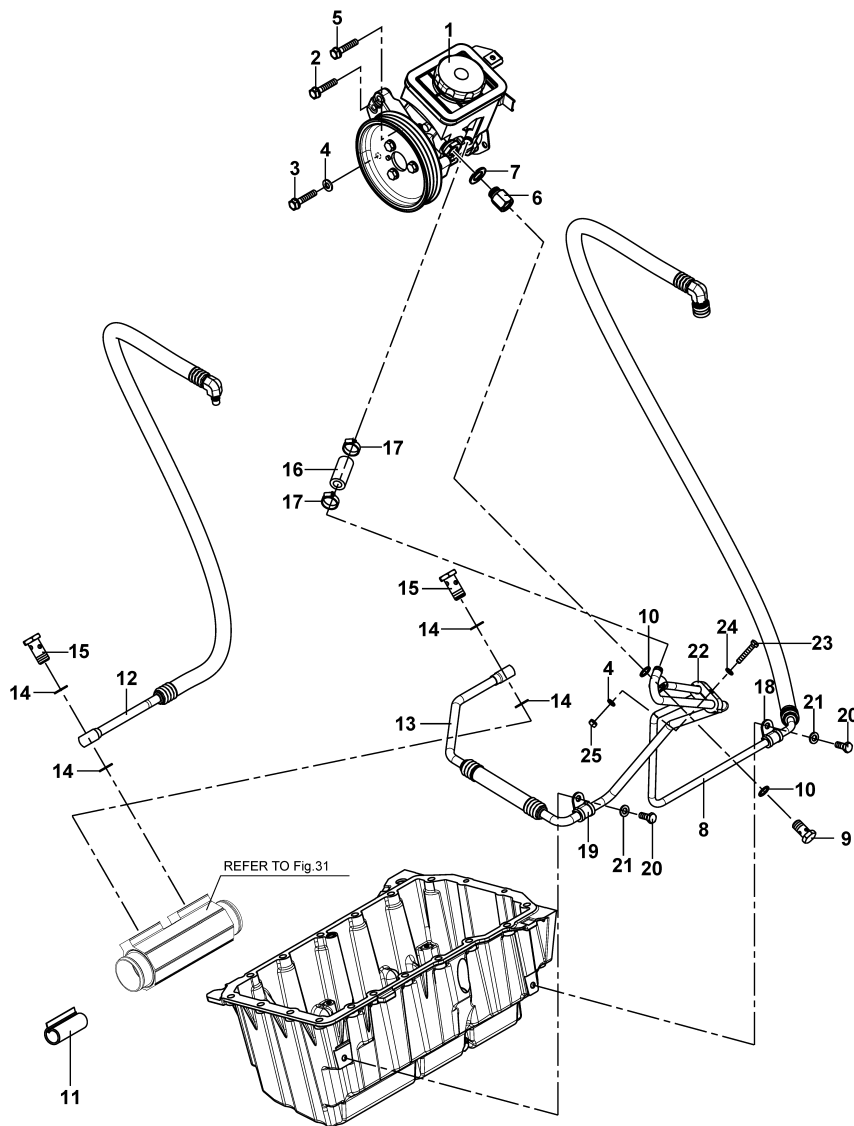
Fig.31. STEERING OIL COOLER



(D)=4BY180Z
(E)=
(F)=

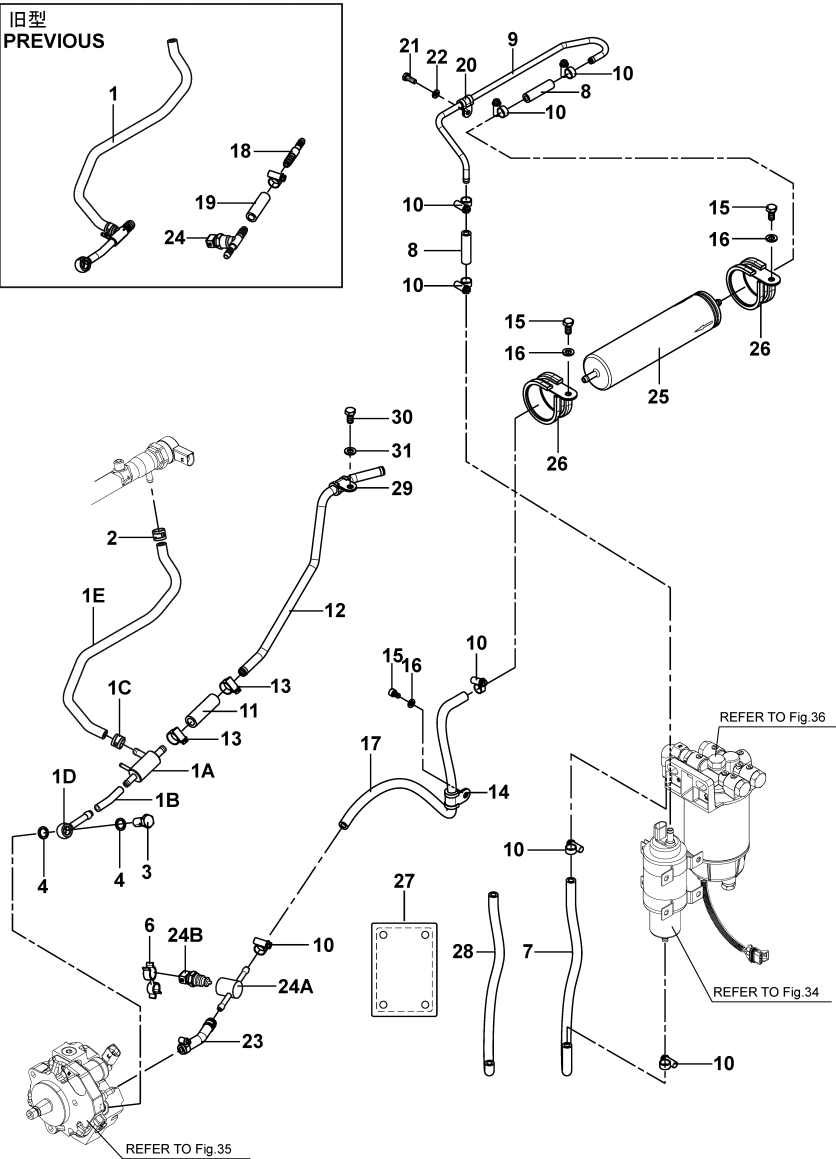
No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-49560	HOSE, CAC-HEAT EXCH.	1	1	1	1				
2	1	120650-49710	CLAMP, HOSE 35-50 C	6	6	6	6				
3	1	120650-49520	HOSE, PUMP JOINT	1	1	1	1				
4	1	120650-49540	PIPE, WATER PUMP OUT	1	1	1	1				
5	1	120650-49610	PLUG, DRAIN	1	1	1	1				
6	1	120650-49550	HOSE, COOLER JOINT	2	2	2	2				
7	1	120650-49580	PIPE, CAC IN	1	1	1	1				
8	1	120650-49590	HOSE, CAC IN	1	1	1	1				
9	1	120650-49720	CLAMP, HOSE 40-60 C	4	4	4	4				
11	1	120650-33300	BRACKET, OIL COOLER	1	1	1	1				
12	1	120640-01520	BOLT, 8X20	4	4	4	4				
13	1	120650-57010	COOLER,ATF GEAR OIL	1	1	1	1				
14	1	120640-01050	CLAMP, HOSE 50-70	2	2	2	2				
15	1	120650-42620	HOSE ASSY, PUMP IN			1	1				
19	1	119775-48640	JOINT			1	1				
20	1	119779-49050	JOINT, 3-WAY			1	1				
21	1	120650-49710	CLAMP, HOSE			1	1				
22	1	120650-42650	HOSE ASSY, PUMP IN	1	1	1	1				
23	1	120650-49720	CLAMP, HOSE	2	2	2	2				

Fig.32. STEERING PUMP/PIPE



No.	Lev.	Parts No.	Description	Q'ty					
				(A)	(B)	(C)	(D)	(E)	(F)
1	1	120640-00150	PUMP ASSY,STEERING			1	1		
2	1	120640-01930	FLANGE BOLT, 8X80			1	1		
3	1	120640-01570	BOLT, 6X80			1	1		
4	1	120640-02220	WASHER, 6			3	3		
5	1	120640-01870	FLANGE BOLT, 8X40			1	1		
6	1	120650-57410	ADAPTER, ATF PUMP			1	1		
7	1	120640-00300	GASKET, 16X1.5			1	1		
8	1	120650-85330	PIPE, STEERING OIL			1	1		
9	1	120640-01420	BANJO BOLT, 14			1	1		
10	1	120640-01240	GASKET, 14X1.5			2	2		
11	1	120650-85450	PROTECTOR, HEAT POWE			2	2		
12	1	120650-85360	ATF-T, DRIVE-COOLER			1	1		
13	1	120650-85320	ATF-T, COOLER-PUMP			1	1		
14	1	120640-01260	GASKET, 17X1.5			4	4		
15	1	120650-85370	BANJO BOLT, G3/8			2	2		
16	1	120650-57440	HOSE, ATF PUMP INLET			1	1		
17	1	120640-01020	CLAMP, HOSE 16-27			2	2		
18	1	120650-85410	CLAMP, PIPE 10			1	1		
19	1	120650-85390	CLAMP, PIPE 12			1	1		
20	1	120640-01520	BOLT, 8X20			2	2		
21	1	120640-02230	WASHER, 8			2	2		
22	1	120650-85430	CLAMP, PIPE DOUBLE			1	1		
23	1	120640-01830	BOLT, 6X35			1	1		
25	1	120640-00200	NUT, 6			1	1		

Fig.33. FUEL OIL FILTER/PIPE



(A)=4BY150
(B)=4BY180
(C)=4BY150Z

(D)=4BY180Z
(E)=
(F)=

No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165000-70620	PIPE, FUEL RETURN (A=E*****) (B=E*****) (C=E*****) (D=E*****)	1	1	1	1			Z	
1A	1	120650-55640	DOUBLE T CONNECTOR (A=E*****) (B=E*****) (C=E*****) (D=E*****)	1	1	1	1			F	
1B	1	120660-55390	HOSE, FO PUMP RETURN (A=E*****) (B=E*****) (C=E*****) (D=E*****)	1	1	1	1			F	
1C	1	120640-01010	CLAMP, HOSE 8-16 (A=E*****) (B=E*****) (C=E*****) (D=E*****)	3	3	3	3			F	
1D	1	120650-55520	JOINT, BANJO FUEL (A=E*****) (B=E*****) (C=E*****) (D=E*****)	1	1	1	1			F	
1E	1	120650-55630	HOSE, FO RAIL RETURN (A=E*****) (B=E*****) (C=E*****) (D=E*****)	1	1	1	1			F	
2	1	165000-67580	CLAMP, HOSE L12-15	1	1	1	1				N
2-1	1	120650-55850	CLAMP, HOSE 1EAR 14.	1	1	1	1				
3	1	165000-67340	BOLT, HOLLOW	1	1	1	1				
3-1	1	120640-01430	BANJO BOLT, 12	1	1	1	1				
4	1	165000-67460	RING, GASKET 12X18	2	2	2	2				
4-1	1	120640-01300	GASKET, 12X1.5	2	2	2	2				
6	1	165000-70740	CLAMP, HOSE	1	1	1	1				
7	1	120650-55310	HOSE, FILTER-PUMP	1	1	1	1				
8	1	120650-55320	HOSE, PUMP-FILTER	2	2	2	2				
9	1	120650-55340	PIPE, FUEL FILTER IN	1	1	1	1				
10	1	120640-01010	CLAMP, HOSE 8-16	10	10	10	10				
11	1	120650-55370	HOSE, FUEL LEACKAGE	1	1	1	1				
12	1	120650-55330	PIPE, FUEL RETURN	1	1	1	1				
13	1	120640-01020	CLAMP, HOSE 16-27	2	2	2	2				
14	1	120650-85390	CLAMP, PIPE 12	1	1	1	1				
15	1	120640-01510	BOLT, 8X16	2	2	2	2				
16	1	120640-02230	WASHER, 8	2	2	2	2				
17	1	120650-55350	HOSE, FILTER OUT	1	1	1	1				
18	1	120650-55380	FITTING, REDUCING (A=E*****) (B=E*****) (C=E*****) (D=E*****)	1	1	1	1			Z	
19	1	120650-55360	HOSE, FUEL (A=E*****) (B=E*****) (C=E*****) (D=E*****)	1	1	1	1			Z	
20	1	120650-39190	CLAMP, PIPE 8	1	1	1	1				
21	1	120640-01470	BOLT, 6X16	1	1	1	1				
22	1	120640-02220	WASHER, 6	5	5	5	5				
23	1	120650-55390	HOSE, FO PUMP RETURN	1	1	1	1				
24	1	120640-00120	SENSOR ASSY, TEMP.	1	1	1	1			Z	
24A	1	120650-55550	T CONNECTOR, SENSOR (A=E*****) (B=E*****) (C=E*****) (D=E*****)	1	1	1	1			F	
24B	1	120650-55710	SENSOR, FUEL TEMPERA (A=E*****) (B=E*****) (C=E*****) (D=E*****)	1	1	1	1			F	
25	1	120650-55040	FILTER, FUEL FINE	1	1	1	1				
26	1	120650-55210	CLAMP, PIPE 54	2	2	2	2				
27	1	120650-55490	PROTECTOR,(FUEL LINE (A=E*****) (B=E*****) (C=E*****) (D=E*****)	1	1	1	1			Z	
28	1	120650-55480	SLEEVE, FUEL HOSE	1	1	1	1				W
29	1	120650-85390	CLAMP, PIPE 12	1	1	1	1				
30	1	120640-01510	BOLT, 8X16	1	1	1	1				
31	1	120640-02230	WASHER, 8	1	1	1	1				

Fig.34. PUMP, FUEL LOW

No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-51500	PUMP ASSY, FUEL LOW	1	1	1	1				
2	1	120650-51630	CLAMP BRACKET 61	2	2	2	2				
3	1	120640-01450	CAP BOLT, 6X10	4	4	4	4				
4	1	120640-02220	WASHER, 6	5	5	5	5				

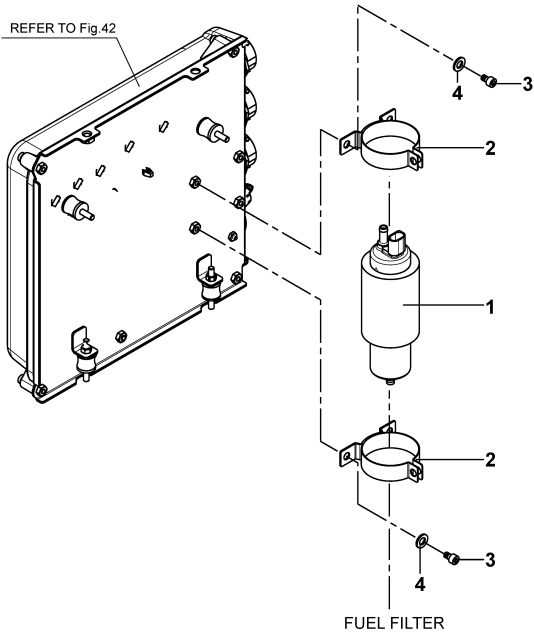


Fig.35. HIGH-PRESSURE PUMP/INJECTOR



				(A)=4BY150 (B)=4BY180 (C)=4BY150Z					(D)=4BY180Z (E)= (F)=			
No.	Lev.	Parts No.	Description		(A)	(B)	(C)	(D)	(E)	(F)	I	R
1	1	165000-70380	ACCUMULATOR,PRESSURE		1	1	1	1				
1-1	1	165001-35750	ACCUMULATOR,PRESSURE		1	1	1	1				R
		(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)							
2	2	165000-70480	VALVE, REGULATING		1	1	1	1				
2-1	2	165001-35650	VALVE, REGULATING		1	1	1	1				R
		(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)							
3	2	165000-70390	SENSOR, PRESSURE		1	1	1	1				
4	2	165000-70580	CONNECTOR		1	1	1	1				
5	2	165000-70160	RING, GASKET		2	2	2	2				
6	2	165000-70400	BOLT, HOLLOW		1	1	1	1				
7	1	165000-67020	SCREW, HEAD M8X25		3	3	3	3				
7-1	1	165001-35540	SCREW, HEAD M8X25		3	3	3	3				R
		(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)							
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	165000-70280	NUT, FLANGE M6		8	8	8	8				
13-1	1	165000-70640	NUT, FLANGE M6		8	8	8	8				R
		(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)							
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	165000-70570	SCREW, HEAD M5X12		2	2	2	2				
20	1	165000-70440	PIPE, OVERFLOW OIL		1	1	1	1				Z
		(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)							
20A	1	120650-55810	HOSE ASY, FO RETURN		1	1	1	1				F
20B	1	120650-55820	HOSE, INJECT. RETURN		1	1	1	1				F
20C	1	120650-55830	CLAMP,HOSE 1EAR 11.9		2	2	2	2				F
21	1	165000-70190	PUMP, HIGH PRESSURE		1	1	1	1				
22	1	165000-70180	MEASURING, UNIT		1	1	1	1				
23	1	165000-70170	SCREW		3	3	3	3				
24	1	165000-67490	NUT, HEX AM8		3	3	3	3				
25	1	165000-70150	GASKET, STEEL		1	1	1	1				

Fig.36. FUEL FILTER

(A)=4BY150
(B)=4BY180
(C)=4BY150Z

(D)=4BY180Z
(E)=
(F)=

No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-55440	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 FILTER	1	1	1	1				
4	2	120650-55050	HEAD, FO FILTER	1	1	1	1				
5	2	120650-55060	BOWL, FO FILTER	1	1	1	1				
6	2	120650-55070	PROBE, FO FILTER	1	1	1	1				
7	1	120640-01970	FLANGE BOLT, 10X35	2	2	2	2				
8	1	120650-75880	BRACKET, WIRE HARNES	1	1	1	1				
9	1	120650-55400	JOINT, FO FILTER OUT	1	1	1	1				
10	1	120650-55430	PIPE, FO FILTER OUT	1	1	1	1				

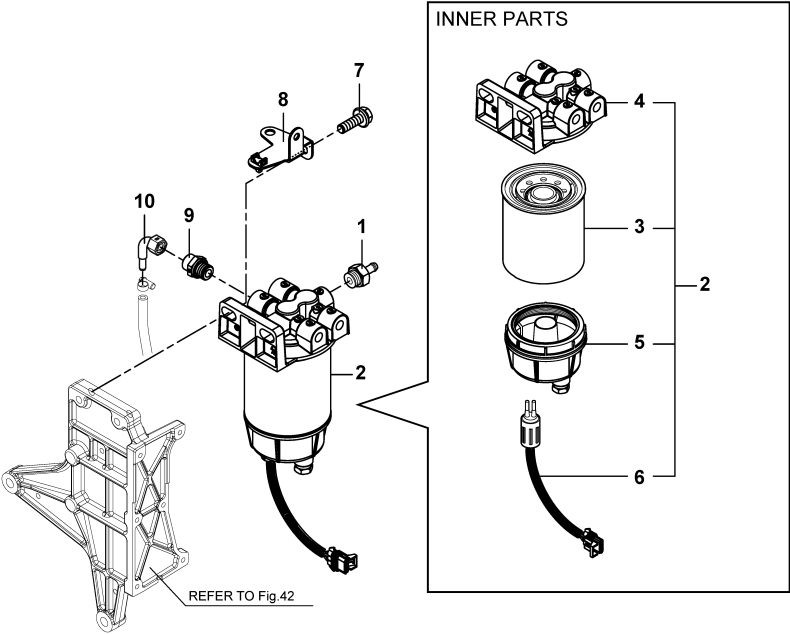
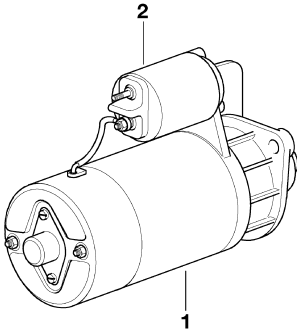


Fig.37. STARTER

(A)=4BY150
(B)=4BY180
(C)=4BY150Z

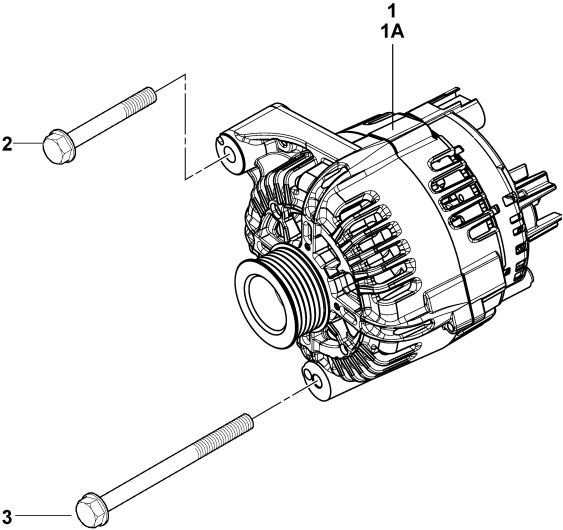
(D)=4BY180Z
(E)=
(F)=

No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165000-70090	MOTOR, STARTER 2.0KW	1	1	1	1				
1-1	1	165001-35760	MOTOR, STARTER 2.0KW	1	1	1	1			R	1
		(A=XXXXXX) (B=XXXXXX) (C=XXXXXX) (D=XXXXXX)									
2	1	165000-70080	SWITCH, SOLENOID	1	1	1	1				
2-1	1	165001-35770	SWITCH, SOLENOID	1	1	1	1			S	1
		(A=XXXXXX) (B=XXXXXX) (C=XXXXXX) (D=XXXXXX)									



Remarks
(1)MANUFACTURER CHANGE.
Mode fo VALEO made of BOSCH

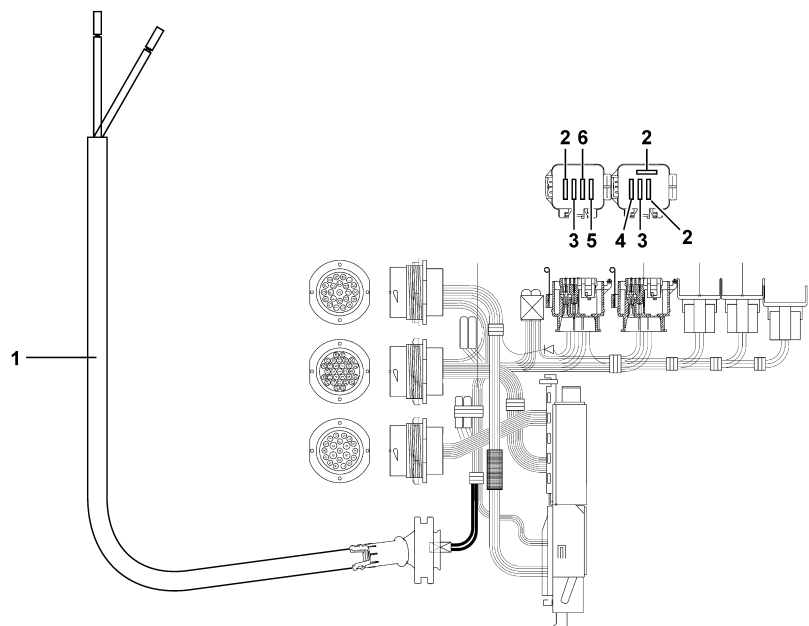
Fig.38. ALTERNATOR



(A)=4BY150
(B)=4BY180
(C)=4BY150Z
(D)=4BY180Z
(E)=
(F)=

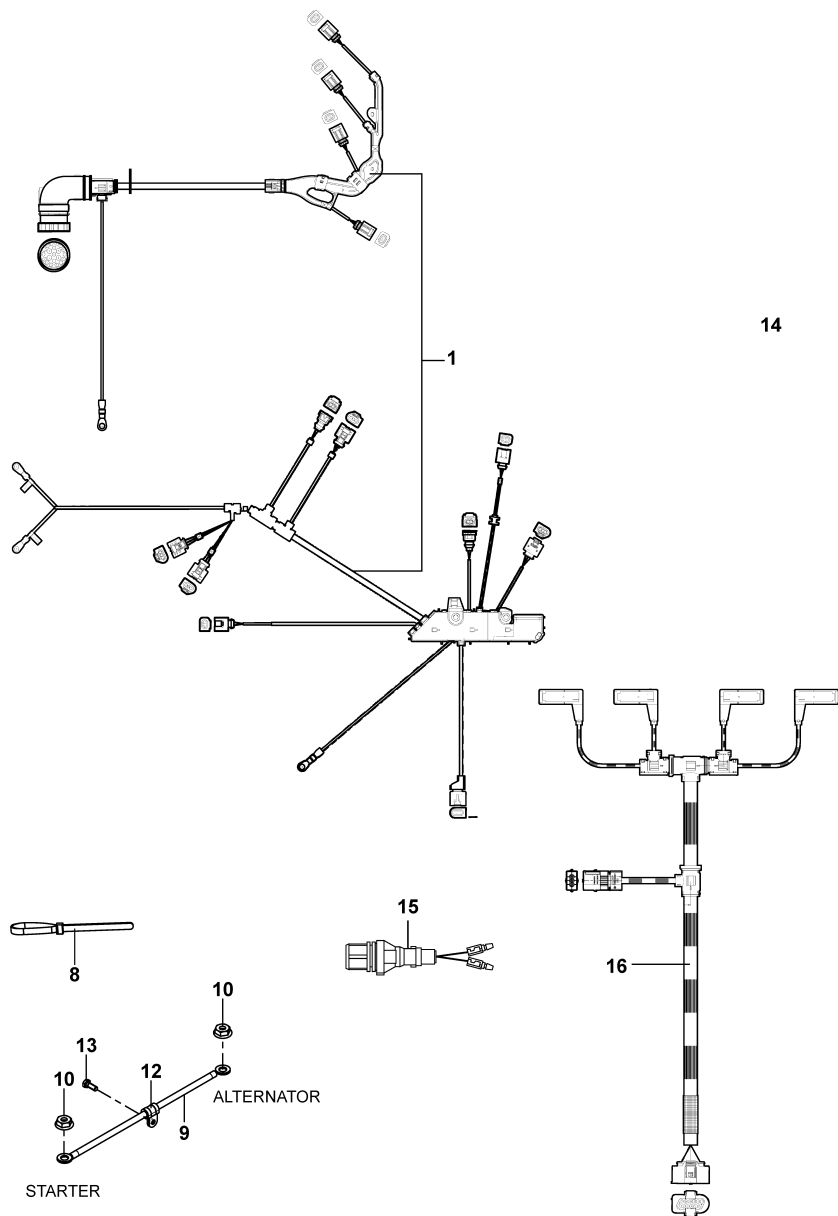
No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	165000-70040	ALTERNATOR, COMPACT	1	1	1	1				
1-1	1	165001-25180	ALTERNATOR	1	1	1	1				R
		(A=E*****) (B=E*****) (C=E*****) (D=E*****)									
1A	1	165000-70060	ALTERNATOR ASSY,150A	1	1	1	1				
1A-1	1	165001-25190	ALTERNATOR, RMFD	1	1	1	1				R
		(A=E*****) (B=E*****) (C=E*****) (D=E*****)									
2	1	165000-67180	BOLT,HEX M10X70	1	1	1	1				
3	1	165000-67300	BOLT, HEX M10X125	1	1	1	1				

Fig.39. WIRE HARNESS(ECU)



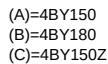
No.	Lev.	Parts No.	Description	(A)=4BY150 (B)=4BY180 (C)=4BY150Z		(D)=4BY180Z (E)= (F)=				I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-78050	HARNES, WIRE ECU BO	1	1	1	1				
2	1	120650-75500	FUSE, 3A	3	3	3	3				
3	1	120650-75510	FUSE, 10A	2	2	2	2				K
4	1	120650-75520	FUSE, 20A	1	1	1	1				
5	1	120650-75530	FUSE, 30A	1	1	1	1				
6	1	120650-75540	FUSE, 15A	1	1	1	1				W

Fig.40. WIRE HARNESS



				(A)=4BY150 (B)=4BY180 (C)=4BY150Z					(D)=4BY180Z (E)= (F)=		
No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-78000	HARNESS, WIRE 4CYL	1	1	1	1				
3	1	120650-78610	BOLT, 50X16S	2	2	2	2				
4	1	120640-01510	BOLT, 8X16	2	2	2	2				
5	1	120640-00340	CLIP,CORRUGATED 17	1	1	1	1				
6	1	120640-00350	CLIP,CORRUGATED 10	1	1	1	1				
7	1	120640-00360	CLIP,CORRUGATED 4.5	2	2	2	2				
8	1	120640-09050	TIE STRAP	8	8	8	8				
9	1	120650-78210	HARNESS, WIRE CHARGE	1	1	1	1				
10	1	120640-00330	FLANGE NUT, 8	2	2	2	2				
12	1	120650-78600	CLAMP, PIPE	1	1	1	1				
12-1	1	120660-78600	CLAMP, PIPE 15	1	1	1	1				N
	(A=E*****)	(B=E*****)	(C=E*****)	(D=E*****)							
13	1	120640-01560	BOLT, 10X25	1	1	1	1				
14	1	120650-78220	HARNESS, WIRE ACTIVA	1	1	1	1				W
15	1	120650-78180	HARNESS, WIRE NSP	1	1	1	1				W
16	1	120650-78250	HARNESS, WIRE GLOW	1	1	1	1				

Fig.41. AIR HEATER(OPTION)



(D)=4BY180Z
(E)=
(F)=

No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-75870	BRACKET, HEATER CONT	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				

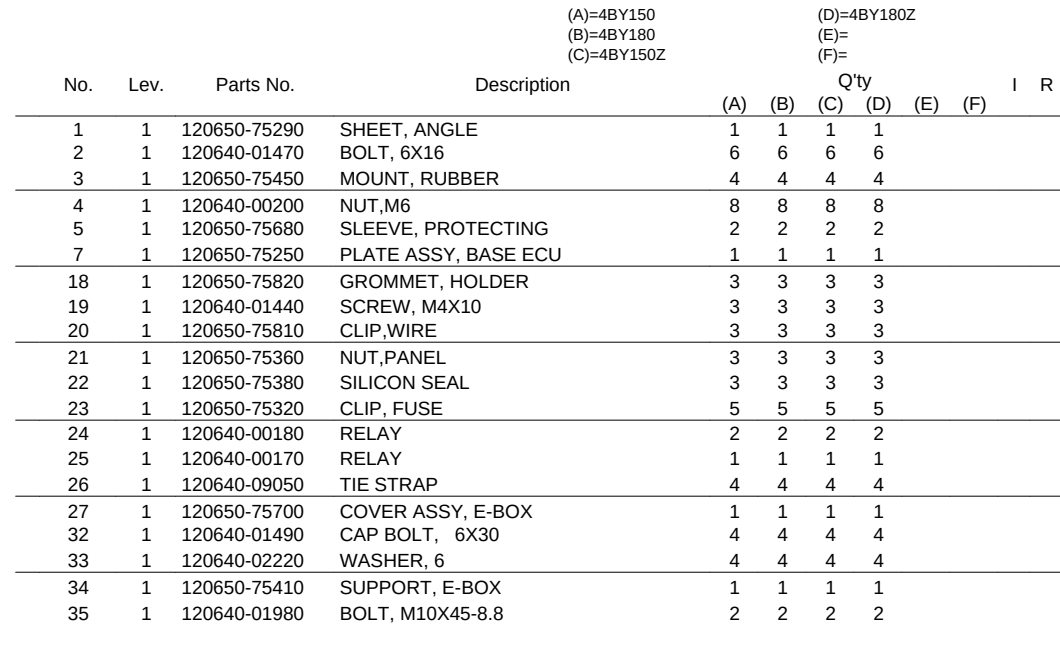
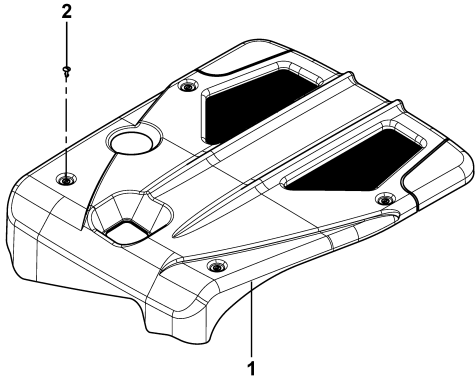


Fig.43. TOP COVER

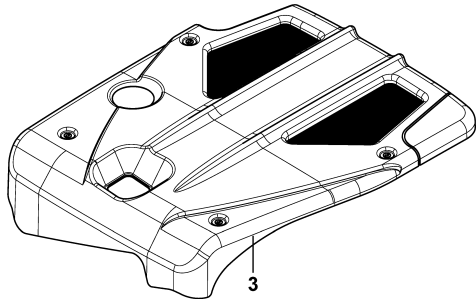
(A)=4BY150
(B)=4BY180
(C)=4BY150Z

(D)=4BY180Z
(E)=
(F)=

No.	Lev.	Parts No.	Description	Q'ty						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	120650-17000	COVER ASSY, DESIGN	1	1	1	1				
2	1	120650-17150	CAMLOCK	4	4	4	4				
3	1	120652-17000	TOP COVER CMP, 4 RIS	1	1	1	1				
		(A=E****)	(B=E****)	(C=E****)	(D=E****)						



TOP COVER RISER ELBOW (OPTION)



Parts No. Index

Parts No.	Fig. No.	Ref. No.
119172-48010	29	30
119775-48640	31	19
119778-08350	3	13
119779-49050	31	20
120130-39990	20	2
120640-00010	17	1
120640-00020	17	2
120640-00040	11	15
120640-00060	4	15
120640-00100	3	7
		22
120640-00120	33	24
120640-00130	22	11
120640-00140	22	18
120640-00150	32	1
120640-00170	42	25
120640-00180	42	24
120640-00190	4	6
120640-00200	32	25
	41	4
	42	4
120640-00220	3	11
		26
120640-00240	13	6
120640-00250	21	19
120640-00260	21	18
120640-00270	25	11
120640-00280	25	10
120640-00300	32	7
120640-00330	25	12
	26	26
	40	10
120640-00340	40	5
120640-00350	40	6
120640-00360	40	7
120640-00380	13	8
120640-01010	28	31
	29	28
	33	1 C
		10
120640-01020	21	17
	24	18
	28	28
	32	17
	33	13
120640-01030	11	18
120640-01050	22	10
	31	14
120640-01210	21	4
	28	33

Parts No.	Fig. No.	Ref. No.
120640-01230	4	7
120640-01240	28	2
	32	10
120640-01260	29	9
	32	14
120640-01270	29	7
		39
120640-01300	33	4 -1
120640-01410	21	10
	28	32
120640-01420	32	9
120640-01430	33	3 -1
120640-01440	42	19
120640-01450	34	3
120640-01460	3	12
		27
	26	15
120640-01470	21	15
	33	21
	42	2
120640-01490	42	32
120640-01500	9	23
120640-01510	21	6
	26	24
	28	22
	33	15
		30
	40	4
120640-01520	28	35
	31	12
	32	20
120640-01530	28	5
120640-01540	22	7
		14
120640-01550	25	4
120640-01560	13	14
	40	13
120640-01570	32	3
120640-01580	26	17
120640-01590	22	5
120640-01600	13	8 -1
120640-01830	32	23
120640-01860	5	4
120640-01870	3	2
		16
	5	13
	32	5
120640-01880	5	3
		7
120640-01890	26	8

Parts No.	Fig. No.	Ref. No.
120640-01910	26	5
120640-01920	5	8
120640-01930	13	12
	32	2
120640-01940	3	17
120640-01950	3	3
120640-01960	26	12
120640-01970	36	7
120640-01980	42	35
120640-01990	22	2
120640-02010	3	18
120640-02020	3	4
120640-02040	3	20
120640-02050	3	5
		19
120640-02060	3	6
120640-02080	4	14
	28	4
	41	3
120640-02210	13	15
120640-02220	22	6
	32	4
	33	22
	34	4
	42	33
120640-02230	13	9
	21	7
	22	8
	25	6
	26	11
	28	23
	32	21
	33	16
		31
120640-02250	3	21
120640-09050	40	8
	42	26
120640-09130	24	19
120650-01710	3	1
120650-01760	3	14
120650-01900	3	8
		23
120650-07030	6	3
120650-07040	6	4
120650-07050	6	5
120650-07060	6	6
120650-07070	6	7
120650-07080	6	8
120650-07090	6	9
120650-07100	6	10

Parts No.	Fig. No.	Ref. No.
120650-07120	6	12
120650-07130	6	13
120650-07150	6	14
120650-07160	6	15
		20
120650-07161	6	15 -1
		20 -1
120650-07170	6	16
		21
120650-07171	6	16 -1
		21 -1
120650-07190	6	17
		22
120650-07191	6	17 -1
		22 -1
120650-08100	5	1
120650-08110	5	5
120650-08401	5	9
120650-11410	9	19
		24
120650-11420	9	20
120650-11430	11	17
120650-11440	26	14
120650-11510	9	1
120650-12510	11	3
120650-13050	11	10
120650-13070	11	16
120650-13320	26	10
120650-13330	11	12
120650-13400	29	1
120650-13420	29	6
		40
120650-13450	29	10
		36
120650-13490	29	8
120650-13510	29	12
120650-13520	29	29
120650-13600	29	31
120650-13601	29	31 -1
120650-13750	29	24
120650-13760	29	25
120650-13800	11	23
120650-13850	29	11
120650-13870	29	37
120650-13930	29	38
120650-13940	29	41
120650-17000	43	1
120650-17110	22	4
120650-17120	28	3
120650-17130	26	16

Parts No. Index

Parts No.	Fig. No.	Ref. No.
120650-17150	43	2
120650-17170	25	9
120650-17200	25	5
120650-17210	25	7
120650-17220	25	8
120650-17400	26	25
120650-18040	11	1
120650-18300	11	21
120650-18301	11	21 -1
120650-18310	11	22
120650-18311	11	22 -1
120650-18400	22	1
	23	1
120650-18410	23	2
120650-18420	23	3
120650-18430	23	4
120650-18440	23	5
120650-18450	23	6
120650-18460	5	11
120650-18470	23	7
120650-18480	23	8
	27	8
120650-18490	23	9
	27	9
120650-18500	23	10
	27	10
120650-18510	23	11
120650-18520	23	12
120650-18530	23	9 A
	27	9 A
120650-18810	22	3
120650-18820	22	12
120650-18850	22	15
120650-18900	22	16
120650-18910	22	9
120650-21400	13	2
120650-21470	13	10
120650-21500	13	13
120650-32600	18	12
120650-33300	31	11
120650-34800	4	15 -1
120650-34840	4	10
120650-34890	4	13
120650-39190	33	20
120650-39250	21	16
120650-39270	28	1
120650-39290	21	9
120650-39350	21	8
120650-39610	21	1
120650-39611	21	1 -1

Parts No.	Fig. No.	Ref. No.
120650-39620	21	12
120650-39630	21	14
120650-42300	25	1
120650-42310	25	2
120650-42320	25	2 A
120650-42330	25	2 B
120650-42340	25	2 C
120650-42350	25	2 D
120650-42360	25	3
120650-42370	25	2 F
120650-42380	25	2 G
120650-42390	25	2 H
120650-42410	25	2 N
120650-42420	25	2 I
120650-42430	25	2 J
120650-42440	25	2 M
120650-42450	25	2 E
120650-42550	25	2 K
120650-42570	25	2 L
120650-42620	31	15
120650-42650	31	22
120650-44000	27	1
120650-44010	27	2
120650-44020	27	3
120650-44030	27	4
120650-44040	27	5
120650-44050	27	6
120650-44070	27	7
120650-44080	27	11
120650-44090	27	12
120650-44100	29	27
120650-44170	26	9
120650-44180	26	3
120650-44190	28	34
120650-44210	26	6
120650-44220	26	13
120650-49100	28	6
120650-49200	28	17
120650-49250	28	10
120650-49260	28	14
120650-49330	28	29
120650-49350	28	30
120650-49380	24	16
120650-49390	24	12
120650-49400	28	24
120650-49520	31	3
120650-49540	31	4
120650-49550	31	6
120650-49560	31	1
120650-49580	31	7

Parts No.	Fig. No.	Ref. No.
120650-49590	31	8
120650-49610	31	5
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120650-78250	40	16
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165000-67290	1	8
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165000-67400	1	7
165000-67410	1	14
165000-67420	7	5
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165000-67460	33	4
165000-67470	1	9
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165000-67580	33	2
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165000-67730	1	3
	15	5
165000-67740	1	12
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165000-67770	1	1
165000-67780	1	5
165000-67790	1	2
165000-67800	18	1
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165000-68390	2	2
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165000-68610	12	4 CY
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165000-69370	18	5
165000-69380	18	10
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165000-69480	1	13
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165000-69500	19	8
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165000-69780	24	14
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165000-69800	10	4
165000-69810	10	3
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165000-70230	15	4
165000-70240	16	2
165000-70250	15	7
	16	10
165000-70260	15	1
165000-70270	35	11
165000-70280	35	13
165000-70290	35	9
165000-70300	35	15
165000-70380	35	1
165000-70390	35	3
165000-70400	35	6
165000-70410	35	18
165000-70420	35	12
165000-70430	35	10
165000-70440	35	20
165000-70450	35	14
165000-70460	35	16
165000-70470	35	17
165000-70480	35	2
165000-70560	35	8
165000-70570	35	19
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165001-35740	19	7 -1
165001-35750	35	1 -1
165001-35760	37	1 -1
165001-35770	37	2 -1
165001-35790	10	8 -1
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