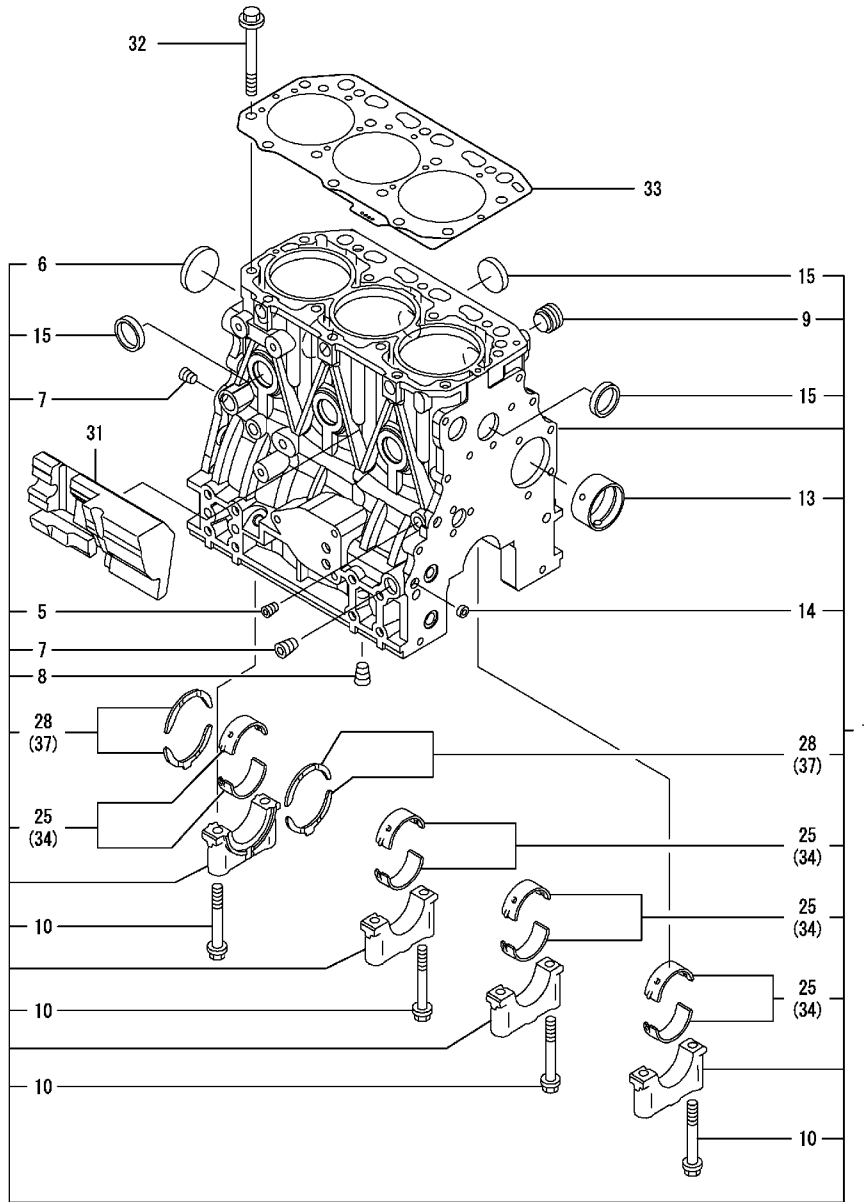


Fig.1.CYLINDER BLOCK

(A)=3TNV88-DSA (D)=3TNV88-GGE  
 (B)=3TNV88-DSA2 (E)=  
 (C)=3TNV88-DSA3 (F)=

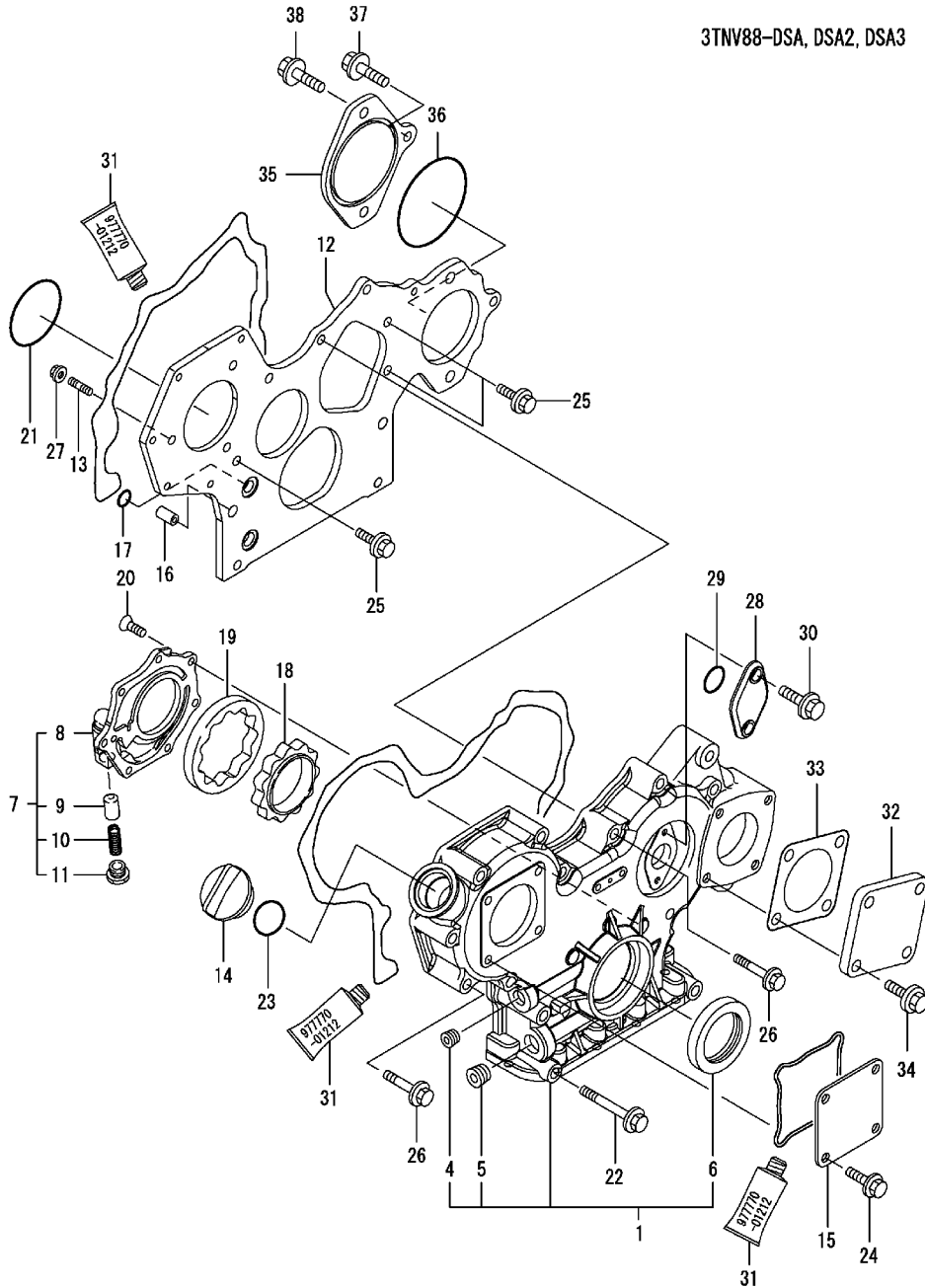


REF.	LEV.	PARTS NO.	DESCRIPTION	QTY						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	729005-01561	BLOCK ASSY, CYLINDER	1	1	1	1				
5	2	124060-01050	PLUG PT1/8	1	1	1	1				
6	2	129001-01250	PLUG 50	1	1	1	1				
7	2	124160-01910	PLUG PT1/4	2	2	2	2				
8	2	124160-01910	PLUG PT1/4	1	1	1	1				
9	2	171051-01921	PLUG	1	1	1	1				
10	2	129150-02020	BOLT, METAL CAP	8	8	8	8				
13	2	129795-02411	BUSH, CAMSHAFT	1	1	1	1				
14	2	27241-120000	PLUG 12	2	2	2	2				
15	2	27241-300000	PLUG, 30	6	6	6	6				
25	2	129001-02930	MAIN BEARING SET	4	4	4	4				3
28	2	129150-02930	METAL, THRUST	2	2	2	2				
31	1	129004-01190	SPACER	1	1	1	1				
32	1	129150-01200	STUD, CYL. HEAD	14	14	14	14				
33	1	129001-01340	GASKET, (NON-ASB.)	1	1	1	1				
34	1	129150-02870	MAIN METAL US=0.25	4	4	4	4				1
37	1	129150-02940	METAL, THRUST.25(2PIE	1	1	1	1				2

Remarks  
 (1) UNDER-SIZE(U.S=0.25)PART.  
 (2) OVER-SIZE(O.S=0.25)PART.  
 (3) REPAIR PART.

FIG.2.GEAR HOUSING

3TNV88-DSA, DSA2, DSA3



Remarks  
(1) OPTIONAL PART.

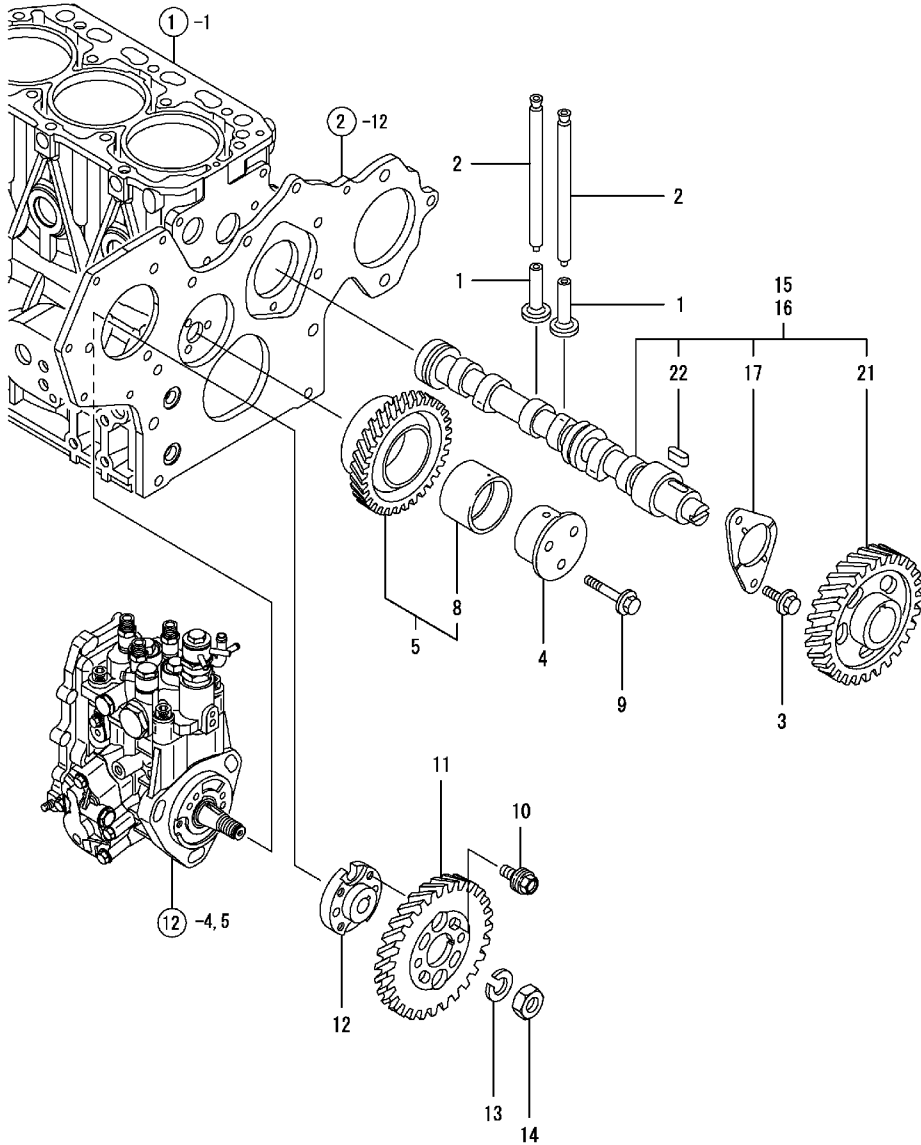
(A)=3TNV88-DSA (D)=3TNV88-GGE  
(B)=3TNV88-DSA2 (E)=  
(C)=3TNV88-DSA3 (F)=

REF.	LEV.	PARTS NO.	DESCRIPTION	QTY						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	729005-01500	GEAR CASE ASSY	1	1	1					
4	2	23876-030000	PLUG PT3/8,SCREW	1	1	1					
5	2	23876-040000	PLUG PT 1/2	1	1	1					
6	2	129795-01800	SEAL, OIL	1	1	1					
7	1	119802-32100	COVER ASSY, PUMP	1	1	1					
8	2	119802-32070	COVER, LUB.OIL PUMP	1	1	1					
9	2	129900-32130	VALVE, RELIEF	1	1	1					
10	2	129418-32320	SPRING	1	1	1					
11	2	129001-32330	PLUG	1	1	1					
12	1	129005-01520	FLANGE, GEAR CASE	1	1	1					
13	1	119802-01560	STUD, M8X25	3	3	3					
14	1	124160-01751	COVER,FILLER	1	1	1					
15	1	124240-01871	COVER, HO-P	1	1	1					
16	1	129795-01950	PIPE, KNOCK L=18	2	2	2					
17	1	119609-32040	O-RING P16	4	4	4					
18	1	119802-32111	ROTOR, INNER	1	1	1					
19	1	119802-32120	ROTOR, OUTER	1	1	1					
20	1	119802-32130	SCREW, M6X16	7	7	7					
21	1	121850-51960	O-RING, F.I.PUMP	1	1	1					
22	1	129001-91841	BOLT, M8X85	3	3	3					
23	1	24311-000320	O-RING 1A P-32.0	1	1	1					
24	1	26106-080162	BOLT M 8X 16 PLATED	4	4	4					
25	1	26106-080162	BOLT M 8X 16 PLATED	3	3	3					
26	1	26106-080552	BOLT M 8X 55 PLATED	11	11	11					
27	1	26306-080002	NUT	3	3	3					
28	1	121023-01550	COVER, BLIND	1	1	1					
29	1	24341-000240	O-RING 1A S-24.0	1	1	1					
30	1	26106-060162	BOLT M 6X 16 PLATED	2	2	2					
31	1	977770-01212	GASKET, LIQUID	1	1	1					1
32	1	124240-01871	COVER, HO-P	1	1	1					
33	1	124240-01883	GASKET, (NON-ASB.)	1	1	1					
34	1	26106-080162	BOLT M 8X 16 PLATED	4	4	4					
35	1	129430-26070	COVER	1	1	1					
36	1	24321-000800	O-RING 1A G-80.0	1	1	1					
37	1	26106-080252	BOLT M 8X 25 PLATED	1	1	1					
38	1	26106-100302	BOLT M10X 30 PLATED	2	2	2					

Fig.8.CAMSHAFT & DRIVING GEAR

Y00R5640 8.CAMSHAFT & DRIVING GEAR

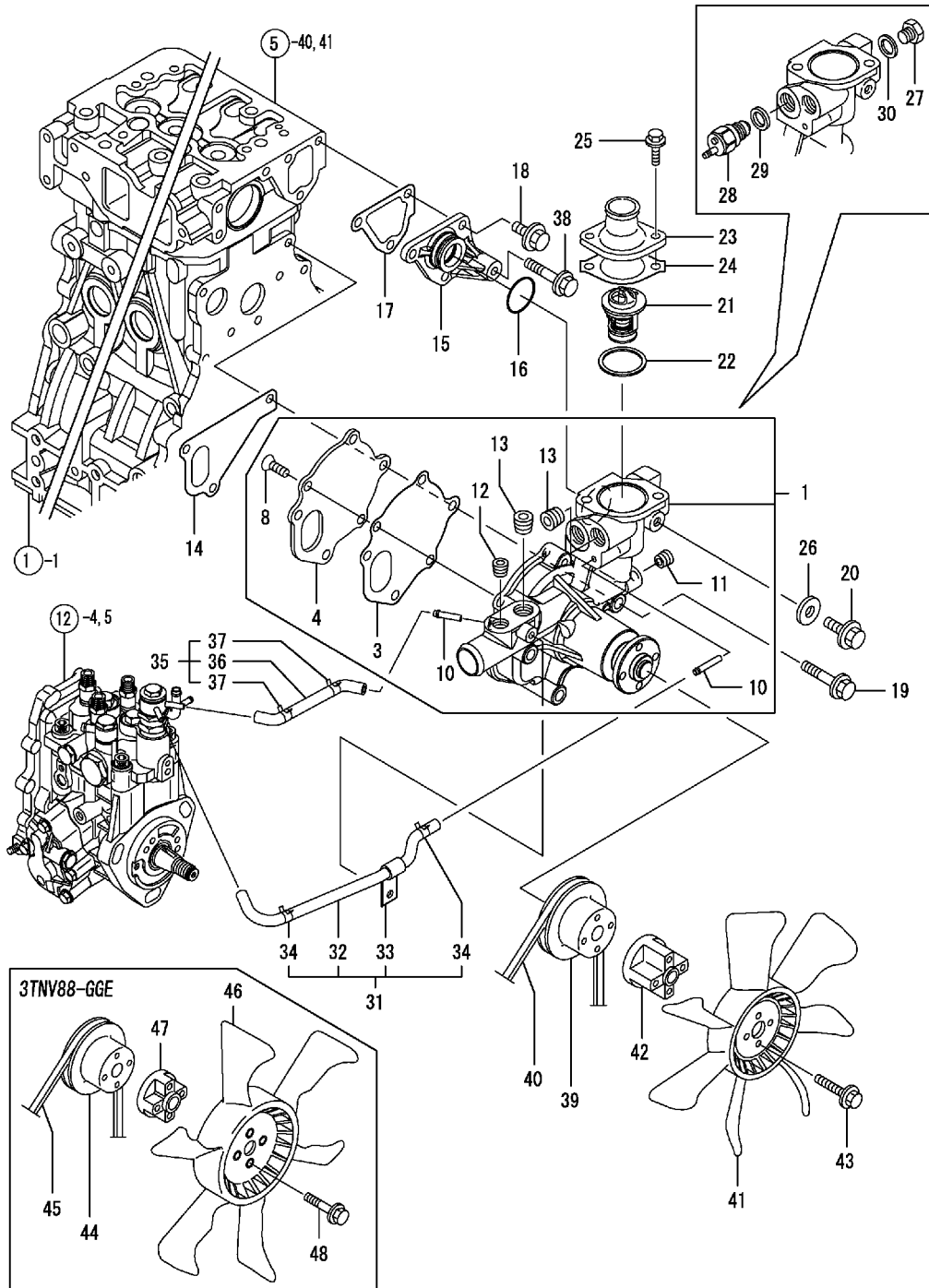
(A)=3TNV88-DSA (D)=3TNV88-GGE  
 (B)=3TNV88-DSA2 (E)=  
 (C)=3TNV88-DSA3 (F)=



REF.	LEV.	PARTS NO.	DESCRIPTION	QTY						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	129150-14200	TAPPET	6	6	6	6				
2	1	129150-14400	ROD, PUSH	6	6	6	6				
3	1	26106-080142	BOLT M 8X 14 PLATED	2	2	2	2				
4	1	119802-25051	SHAFT, IDLE GEAR	1	1	1	1				
5	1	119802-25100	GEAR ASSY, IDLE	1	1	1	1				
8	2	119802-25070	BUSH, IDLE GEAR	1	1	1	1				1
9	1	26106-080402	BOLT M 8X 40 PLATED	3	3	3	3				
10	1	129150-25301	BOLT,FI-P	4	4	4	4				
11	1	119802-25901	GEAR, PUMP	1	1	1	1				
12	1	158552-51151	FLANGE	1	1	1	1				
13	1	22217-140000	SPRING WASHER 14	1	1	1	1				
14	1	26776-140002	LOCK NUT M14 PLATED	1	1	1	1				
15	1	129129-14580	CAMSHAFT ASSY	1	1	1					
16	1	129004-14580	CAMSHAFT ASSY							1	
17	2	129150-02450	METAL,THRUST(CAM	1	1	1	1				
21	2	129150-14101	GEAR, CAMSHAFT	1	1	1	1				
22	2	22512-070140	KEY 7X 14	1	1	1	1				

Remarks  
 (1) REPAIR PART.

Fig.11.COOLING WATER SYSTEM



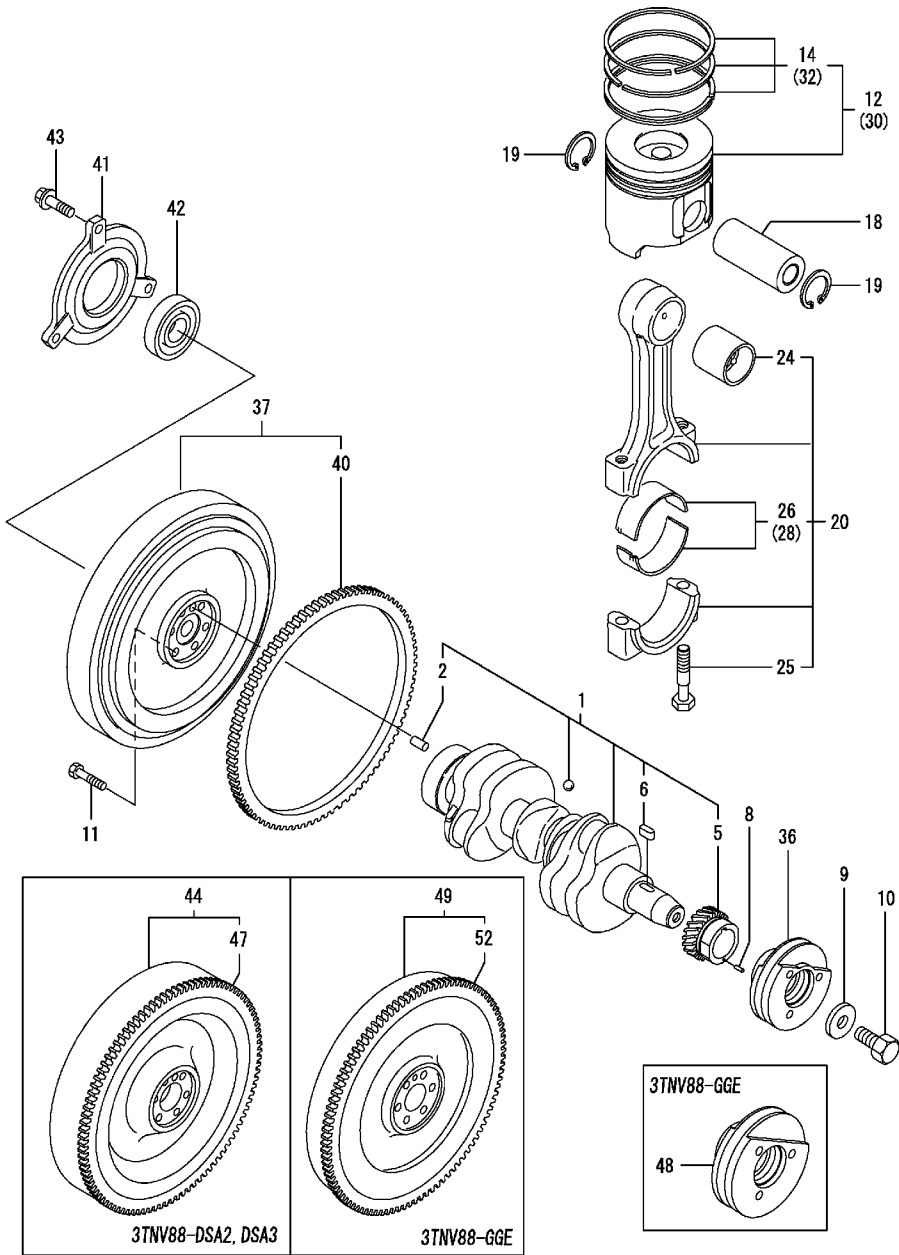
Y00R5640 11.COOLING WATER SYSTEM

(A)=3TNV88-DSA (D)=3TNV88-GGE  
 (B)=3TNV88-DSA2 (E)=  
 (C)=3TNV88-DSA3 (F)=

REF.	LEV.	PARTS NO.	DESCRIPTION	QTY						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	129004-42001	PUMP ASSY, WATER	1	1	1	1				
3	2	129100-42051	GASKET, (NON-ASB.)	1	1	1	1				
4	2	129100-42121	PLATE	1	1	1	1				
8	2	121850-42410	SCREW	3	3	3	3				
10	2	119802-49113	JOINT	2	2	2	2				
11	2	23876-010000	PLUG PT1/8,SCREW	1	1	1	1				
12	2	23876-020000	PLUG PT1/4,SCREW	1	1	1	1				
13	2	129916-49740	PLUG, DRAIN R03	2	2	2	2				
14	1	129486-42021	GASKET	1	1	1	1				
15	1	129004-42040	JOINT	1	1	1	1				
16	1	129486-42140	O-RING,CW-P	1	1	1	1				
17	1	124395-49840	GASKET, THERMO. CASE	1	1	1	1				
18	1	26106-080162	BOLT M 8X 16 PLATED	3	3	3	3				
19	1	26106-080602	BOLT M 8X 60 PLATED	3	3	3	3				
20	1	26106-080122	BOLT M 8X 12 PLATED	1	1	1	1				
21	1	129155-49801	THERMOSTAT (71)	1	1	1	1				
22	1	129150-49811	GASKET, (NON-ASB.)	1	1	1	1				
23	1	129350-49530	COVER, THERMOSTAT	1	1	1	1				
24	1	129795-49551	GASKET, (NON-ASB.)	1	1	1	1				
25	1	26106-080222	BOLT M 8X 22 PLATED	2	2	2	2				
26	1	23414-080000	GASKET 8, ROUND	1	1	1	1				
27	1	121450-42450	PLUG M16	1	1	1	1				
28	1	121250-44901	SWITCH, THERMO(110C	1	1	1	1				
29	1	124465-44950	GASKET 16	1	1	1	1				
30	1	124465-44950	GASKET 16	1	1	1	1				
31	1	129004-49610	PIPE ASSY, A MP2	1	1	1	1				
32	2	129004-49711	PIPE ASSY, A MP2	1	1	1	1				
33	2	119802-49730	CLAMP,CW-T	1	1	1	1				
34	2	124722-59050	CLAMP 9	2	2	2	2				
35	1	129004-49620	PIPE ASSY, B MP2	1	1	1	1				
36	2	129004-49721	PIPE, WATER B MP2	1	1	1	1				
37	2	124722-59050	CLAMP 9	2	2	2	2				
38	1	26106-080452	BOLT M 8X 45 PLATED	1	1	1	1				
39	1	129403-42380	V-PULLEY(D=110)	1	1	1					
40	1	119865-42290	V-BELT (A:36.5)	1	1	1					
41	1	121267-44741	FAN, COOLING (D=360)	1	1	1					
42	1	171353-44760	SPACER	1	1	1					
43	1	26106-060402	BOLT M 6X 40 PLATED	4	4	4					
44	1	129155-42350	V-PULLEY, C.W. PUMP							1	
45	1	119831-42290	V-BELT A37.5							1	
46	1	129030-44740	FAN (D360*UG							1	
47	1	121267-44760	SPACER							1	
48	1	26106-060302	BOLT M 6X 30 PLATED							4	

Fig.9.CRANKSHAFT & PISTON

(A)=3TNV88-DSA (D)=3TNV88-GGE  
 (B)=3TNV88-DSA2 (E)=  
 (C)=3TNV88-DSA3 (F)=

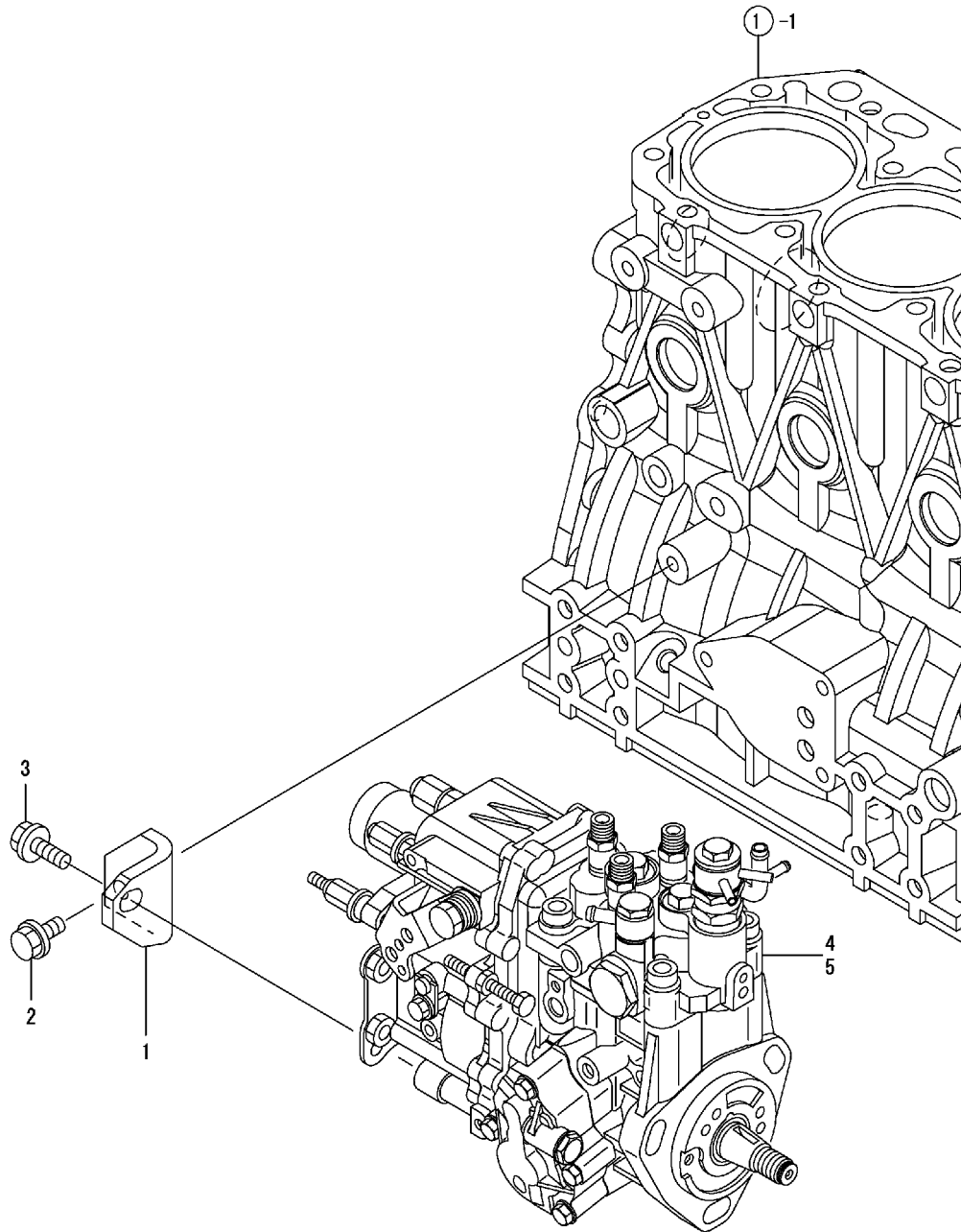


REF.	LEV.	PARTS NO.	DESCRIPTION	QTY						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	129004-21002	CRANKSHAFT ASSY	1	1	1	1				
2	2	129100-01580	PARALLEL PIN 8X16	1	1	1	1				
5	2	119802-21202	GEAR, CRANKSHAFT	1	1	1	1				
6	2	22512-070140	KEY 7X 14	1	1	1	1				
8	1	22351-030010	SPRING PIN 3X10	1	1	1	1				
9	1	129795-21661	WASHER	1	1	1	1				
10	1	121850-21680	BOLT, V-PULLEY	1	1	1	1				
11	1	121111-21501	BOLT, FLYWHEEL	6	6	6	6				
12	1	129005-22080	PISTON ASSY	3	3	3	3				
14	2	129005-22500	RING SET, PISTON	3	3	3	3				
18	1	129202-22300	PIN, PISTON(D26,L70)	3	3	3	3				
19	1	22252-000260	CIRCLIP 26	6	6	6	6				
20	1	729402-23100	ROD ASSY, CONNECTING	3	3	3	3				
24	2	129100-23910	BUSH, PISTON PIN	3	3	3	3				1
25	2	121550-23200	BOLT, CONNECTING ROD	6	6	6	6				
26	2	129150-23600	BEARING, CRANKPIN	3	3	3	3				
28	1	129150-23610	METAL.PIN US=0.25	3	3	3	3				2
30	1	129005-22900	PISTON W/RING OS=.25	3	3	3	3				3
32	2	129005-22950	RING SET O.S=0.25	3	3	3	3				3
36	1	129004-21650	V-PULLEY, CRANKSHAFT	1	1	1					
37	1	129188-21590	FLYWHEEL W/RING GEAR	1							
40	2	119865-21600	GEAR, RING	1							
41	1	119888-21450	RETAINER, BEARING	1							
42	1	24107-062054	BALL BEARING	1							
43	1	26106-080222	BOLT M 8X 22 PLATED	3							
44	1	171340-21580	FLYWHEEL W/RING GEAR		1	1					
47	2	119865-21600	GEAR, RING		1	1					
48	1	129005-21650	V-PULLEY, CRANKSHAFT								1
49	1	171340-21590	FLYWHEEL W/RING GEAR								1
52	2	124550-21600	RING GEAR								1

Remarks  
 (1) REPAIR PART.  
 (2) UNDER-SIZE(U.S=0.25)PART.  
 (3) OVER-SIZE(O.S=0.25)PART.

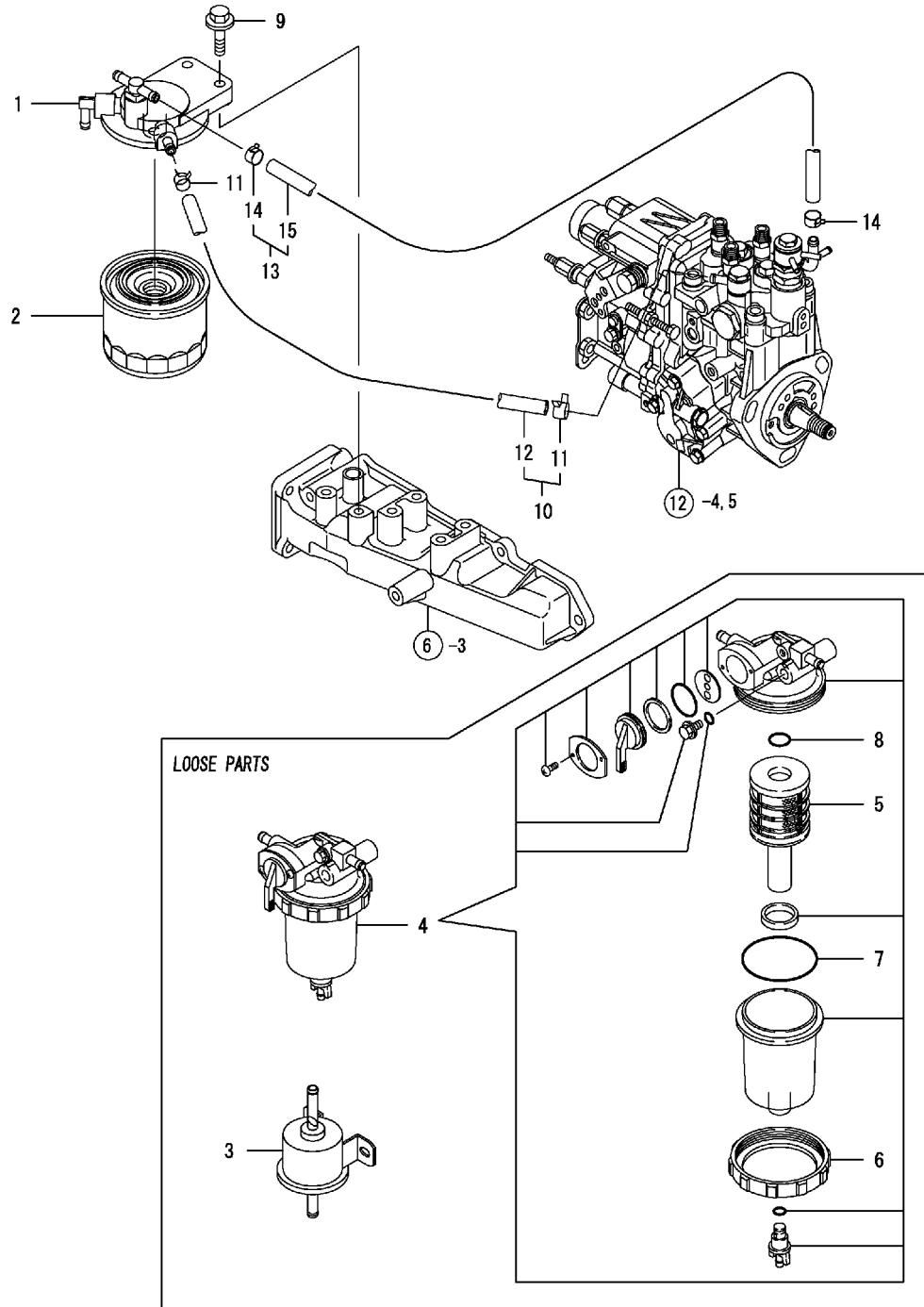
Fig. 12.FUEL INJECTION PUMP

(A)=3TNV88-DSA (D)=3TNV88-GGE  
 (B)=3TNV88-DSA2 (E)=  
 (C)=3TNV88-DSA3 (F)=



REF.	LEV.	PARTS NO.	DESCRIPTION	QTY						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	119802-51250	BRACKET, PUMP	1	1	1	1				
2	1	26106-080162	BOLT M 8X 16 PLATED	1	1	1	1				
3	1	26106-080202	BOLT M 8X 20 PLATED	1	1	1	1				
4	1	729005-51310	FUEL INJECTION ASSY	1	1	1					
5	1	729247-51390	INJECTION PUMP ASSY				1				

Fig. 14. FUEL LINE

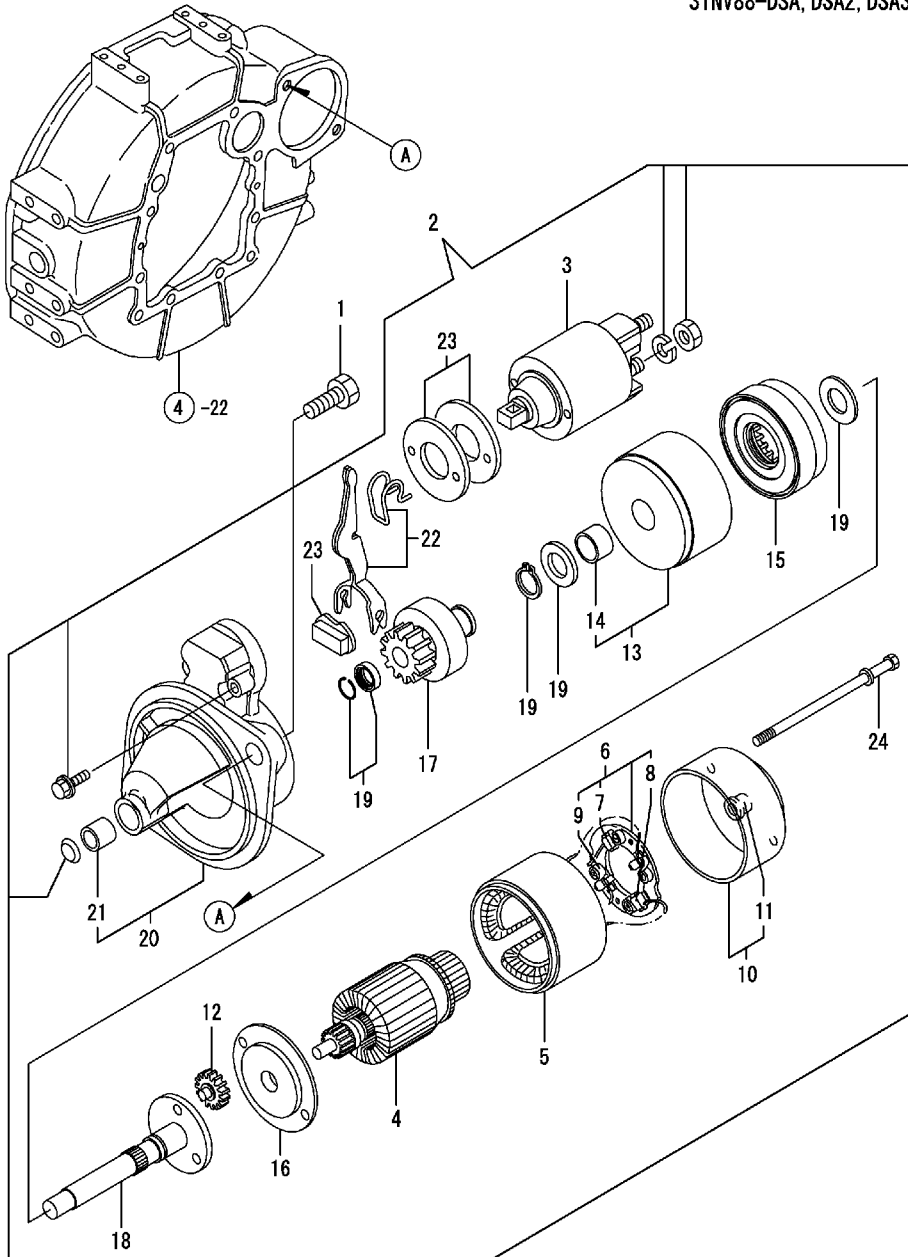


(A)=3TNV88-DSA (D)=3TNV88-GGE  
 (B)=3TNV88-DSA2 (E)=  
 (C)=3TNV88-DSA3 (F)=

REF.	LEV.	PARTS NO.	DESCRIPTION	QTY						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	129004-55610	BRACKET, FILTER	1	1	1	1				
2	1	119802-55800	FILTER, FUEL	1	1	1	1				
3	1	119225-52102	PUMP ASSY, FUEL FEED	1	1	1	1				
4	1	119802-55700	SEPARATOR ASSY	1	1	1	1				
5	2	119802-55710	ELEMENT	1	1	1	1				
6	2	129100-55690	RING, RETAINING	1	1	1	1				
7	2	24321-000650	O-RING 1A G-65.0	1	1	1	1				
8	2	24311-000160	O-RING 1A P-16.0	1	1	1	1				
9	1	26106-080302	BOLT M 8X 30 PLATED	2	2	2	2				
10	1	129210-59100	PIPE ASSY, FUEL	1	1	1	1				
11	2	124766-59050	CLAMP 12	2	2	2	2				
12	2	105025-59580	PIPE, FUEL OIL	1	1	1	1				
13	1	129210-59230	PIPE ASSY, FUEL OIL	1	1	1	1				
14	2	124766-59050	CLAMP 12	2	2	2	2				
15	2	129555-59511	PIPE, FUEL	1	1	1	1				

Fig. 15.STARTING MOTOR

3TNV88-DSA, DSA2, DSA3

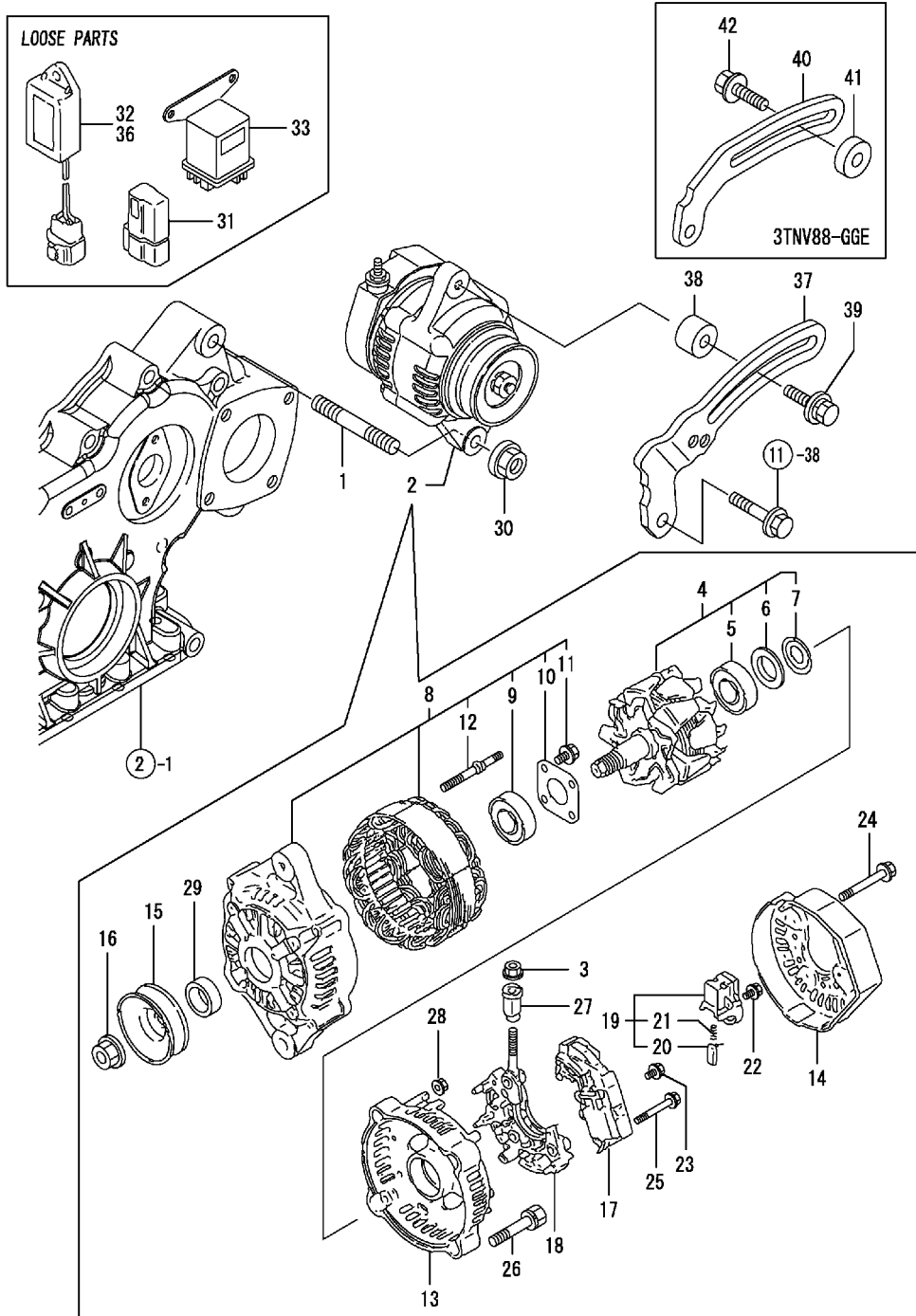


(A)=3TNV88-DSA (D)=3TNV88-GGE  
 (B)=3TNV88-DSA2 (E)=  
 (C)=3TNV88-DSA3 (F)=

REF.	LEV.	PARTS NO.	DESCRIPTION	QTY					
				(A)	(B)	(C)	(D)	(E)	(F)
1	1	26116-120202	BOLT M12X 20 PLATED	2	2	2			
2	1	129242-77010	STARTER	1	1	1			
3	2	129698-77020	MAGNETIC SWITCH ASSY	1	1	1			
4	2	129242-77100	ARMATURE ASSY	1	1	1			
5	2	129242-77110	YOKE ASSY	1	1	1			
6	2	129242-77120	BRUSH HOLDER ASSY	1	1	1			
7	3	129242-77130	BRUSH(-)	2	2	2			
8	3	129242-77140	BRUSH(+) SET	1	1	1			
9	3	129242-77150	BRUSH SPRING	4	4	4			
10	2	129242-77160	REAR COVER ASSY	1	1	1			
11	3	129242-77170	REAR COVER METAL	1	1	1			
12	2	118400-77170	PLANET GEAR	3	3	3			
13	2	129242-77180	CENTER BRACKET(P)	1	1	1			
14	3	129698-77190	BRACKET	1	1	1			
15	2	129698-77200	INTERNAL GEAR	1	1	1			
16	2	129242-77210	CENTER BRACKET(A)	1	1	1			
17	2	129698-77220	PINION ASSY	1	1	1			
18	2	129698-77230	SHAFT(PINION)	1	1	1			
19	2	129698-77250	WASHER SET	1	1	1			
20	2	129242-77260	GEAR CASE ASSY	1	1	1			
21	3	X2114535200	METAL, STARTER	1	1	1			
22	2	129242-77270	SHIFT LEVER SET	1	1	1			
23	2	129242-77280	DUST COVER KIT	1	1	1			
24	2	124195-77770	BOLT, THROUGH	2	2	2			



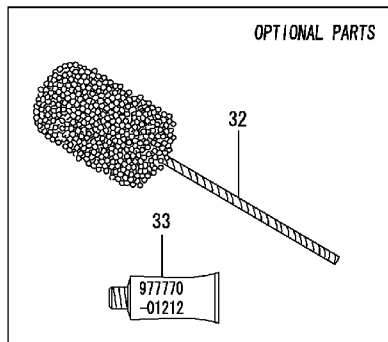
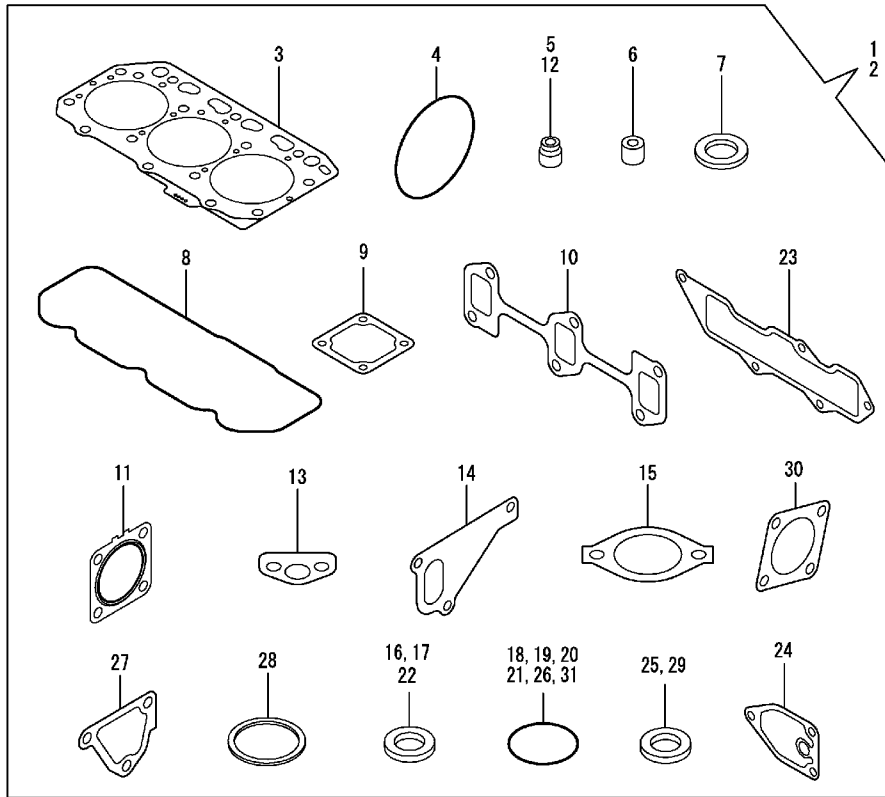
Fig.17.GENERATOR



(A)=3TNV88-DSA (D)=3TNV88-GGE  
 (B)=3TNV88-DSA2 (E)=  
 (C)=3TNV88-DSA3 (F)=

REF.	LEV.	PARTS NO.	DESCRIPTION	QTY						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	129795-01900	STUD	1	1	1	1				
2	1	129423-77200	GENERATOR	1	1	1	1				
3	2	X9490561001	NUT	1	1	1	1				
4	2	119620-77380	ROTOR ASSY	1	1	1	1				
5	3	123501-79240	BEARING, BALL	1	1	1	1				
6	3	119620-79250	COVER, BEARING	1	1	1	1				
7	3	119620-79360	THRUST WASHER	1	1	1	1				
8	2	119620-77421	FLAME ASSY, DRIVE	1	1	1	1				
9	3	119620-79200	BALL BEARING	1	1	1	1				
10	3	119620-79210	PLATE	1	1	1	1				
11	3	119620-79220	SCREW	4	4	4	4				
12	3	119620-79230	BOLT, STUD	2	2	2	2				
13	2	119620-77440	FLAME ASSY, REAR	1	1	1	1				
14	2	129423-77450	COVER	1	1	1	1				
15	2	119620-77461	PULLEY	1	1	1	1				
16	2	119620-77471	NUT	1	1	1	1				
17	2	129423-77710	REGULATOR ASSY	1	1	1	1				
18	2	119620-79260	HOLDER	1	1	1	1				
19	2	119620-79270	HOLDER, BRUSH	1	1	1	1				
20	3	119620-77480	BRUSH ASSY	2	2	2	2				
21	3	119620-79280	SPRING	2	2	2	2				
22	2	119620-79290	SCREW	6	6	6	6				
23	2	119620-79300	SCREW	1	1	1	1				
24	2	119620-79310	BOLT	3	3	3	3				
25	2	119620-79320	SCREW W/WASHER	2	2	2	2				
26	2	119620-79330	BOLT	2	2	2	2				
27	2	119620-79340	INSULATION BUSH	1	1	1	1				
28	2	119620-79350	NUT	2	2	2	2				
29	2	119620-77490	COLLAR	1	1	1	1				
30	1	26306-100002	NUT	1	1	1	1				
31	1	119643-66900	DIODE	1	1	1	1				
32	1	129211-77920	TIMER	1	1	1	1				
33	1	119650-77910	RELAY, GROW	1	1	1	1				
36	1	128300-77920	TIMER	1	1	1					
37	1	129064-77330	ADJUSTER,BELT	1	1	1					
38	1	129067-77340	SPACER	1	1	1					
39	1	26014-080452	BOLT M 8X 45	1	1	1					
40	1	119940-77330	ADJUSTER, BELT								1
41	1	119940-77270	ADJUSTER, BELT								1
42	1	119802-77340	BOLT, ADJUSTER								1

Fig. 18.GASKET SET



Remarks  
(1) OPTIONAL PART.

Y00R5640 18.GASKET SET

(A)=3TNV88-DSA (D)=3TNV88-GGE  
(B)=3TNV88-DSA2 (E)=  
(C)=3TNV88-DSA3 (F)=

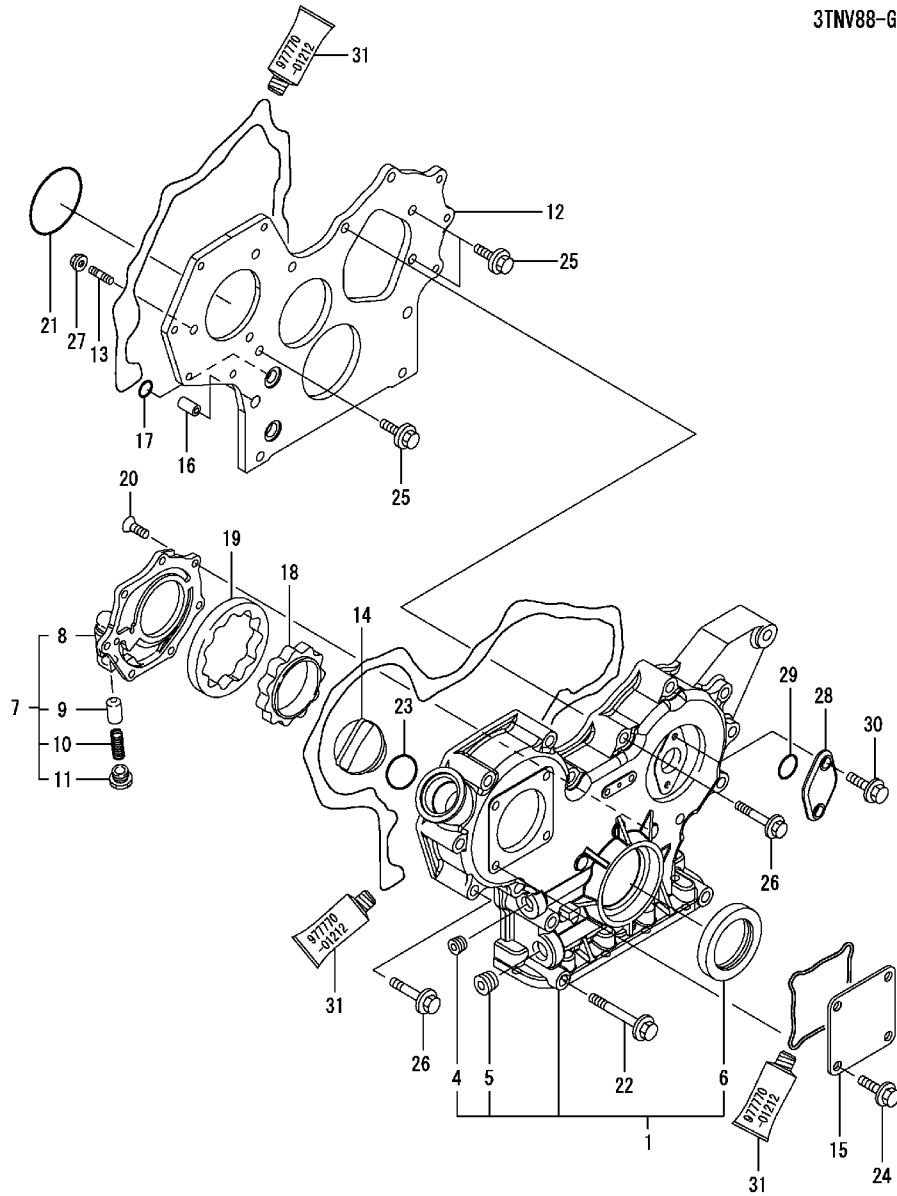
REF.	LEV.	PARTS NO.	DESCRIPTION	QTY						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	729001-92780	GASKET SET(NON-ASB.)	1	1	1					1
2	1	729001-92790	GASKET SET(NON-ASB.)					1			1
3	2	129001-01340	GASKET, (NON-ASB.)	1	1	1	1				
4	2	121850-51960	O-RING, F.I.PUMP	1	1	1	1				
5	2	124460-11340	SEAL, VALVE STEM	3	3	3	3				
6	2	119802-11870	PROTECTOR, NOZZLE	3	3	3	3				
7	2	119625-11880	SEAT, NOZZLE	3	3	3	3				
8	2	129004-11310	GASKET, BONNET	1	1	1	1				
9	2	129150-77511	GASKET, (NON-ASB.)	1	1	1	1				
10	2	129150-13110	GASKET, EXH.MANIFOLD	1	1	1	1				
11	2	129004-13200	GASKET, SILENCER	1	1	1	1				
12	2	121400-11340	SEAL, VALVE STEM	3	3	3	3				
13	2	129150-35041	GASKET, (NON-ASB.)	1	1	1	1				
14	2	129486-42021	GASKET	1	1	1	1				
15	2	129795-49551	GASKET, (NON-ASB.)	1	1	1	1				
16	2	22190-220002	SEAL WASHER 22S	1	1	1	1				
17	2	22190-080002	SEAL WASHER 8S	2	2	2	2				
18	2	119609-32040	O-RING P16	4	4	4	4				
19	2	24311-000120	O-RING 1A P 12.0	3	3	3	3				
20	2	24311-000320	O-RING 1A P-32.0	2	2	2	2				
21	2	24341-000240	O-RING 1A S-24.0	1	1	1	1				
22	2	22190-100002	SEAL WASHER 10S	2	2	2	2				
23	2	129001-12110	GASKET,INT. MANIFOLD	1	1	1	1				
24	2	129150-35111	GASKET, (NON-ASB.)	1	1	1	1				
25	2	23414-080000	GASKET 8, ROUND	1	1	1	1				
26	2	129486-42140	O-RING,CW-P	1	1	1	1				
27	2	124395-49840	GASKET, THERMO. CASE	1	1	1	1				
28	2	129150-49811	GASKET, (NON-ASB.)	1	1	1	1				
29	2	124465-44950	GASKET 16	2	2	2	2				
30	2	124240-01883	GASKET, (NON-ASB.)	1	1	1					
31	2	24321-000800	O-RING 1A G-80.0	1	1	1					
32	1	129400-92430	HORN, FLEX	1	1	1	1				1
33	1	977770-01212	GASKET, LIQUID	1	1	1	1				1

Fig.3.GEAR HOUSING

Y00R5640 3.GEAR HOUSING

(A)=3TNV88-DSA (D)=3TNV88-GGE  
 (B)=3TNV88-DSA2 (E)=  
 (C)=3TNV88-DSA3 (F)=

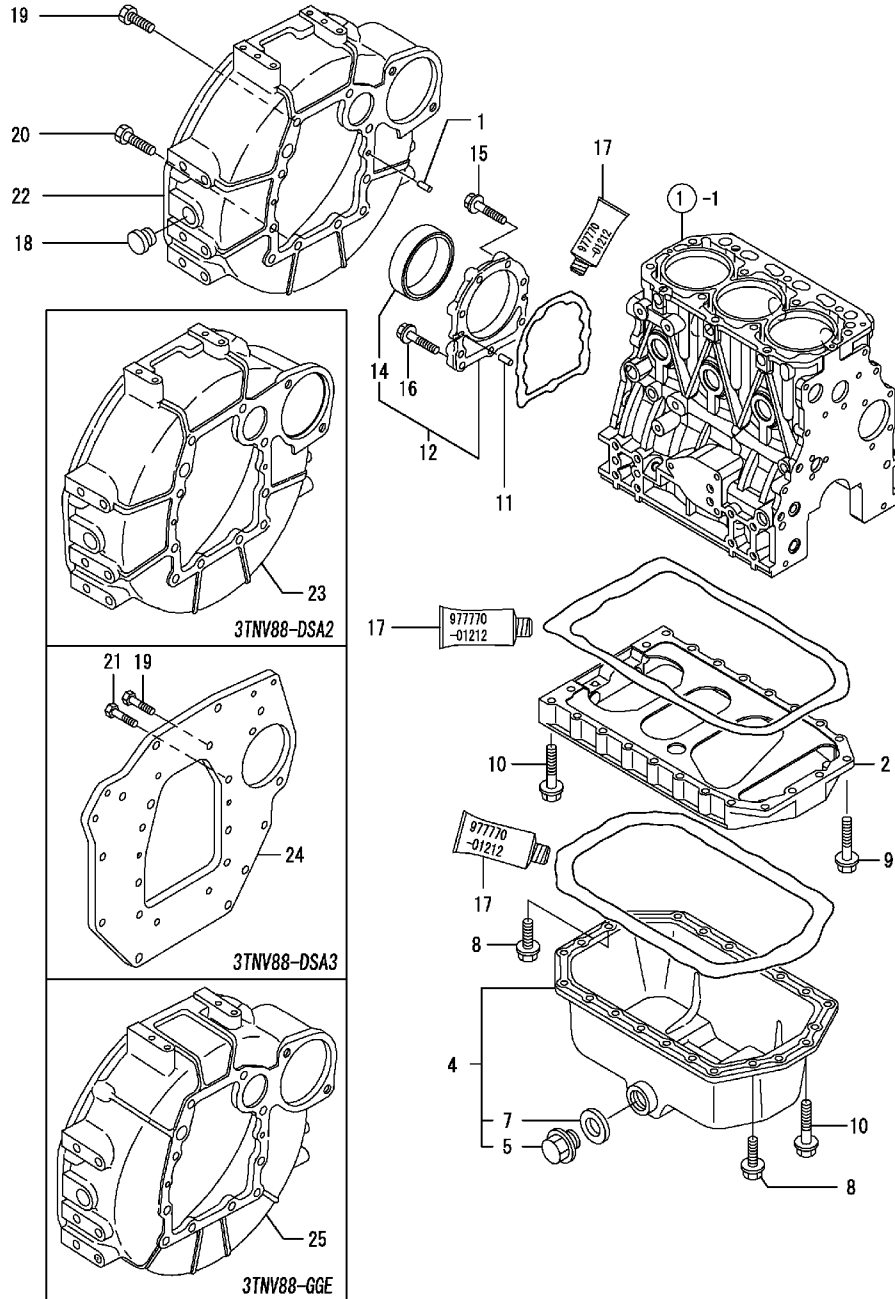
3TNV88-GGE



REF.	LEV.	PARTS NO.	DESCRIPTION	QTY						I	R	
				(A)	(B)	(C)	(D)	(E)	(F)			
1	1	719802-01500	HOUSING ASSY, GEAR				1					
4	2	23876-030000	PLUG PT3/8,SCREW				1					
5	2	23876-040000	PLUG PT 1/2				1					
6	2	129795-01800	SEAL, OIL				1					
7	1	119802-32100	COVER ASSY, PUMP				1					
8	2	119802-32070	COVER, LUB.OIL PUMP				1					
9	2	129900-32130	VALVE, RELIEF				1					
10	2	129418-32320	SPRING				1					
11	2	129001-32330	PLUG				1					
12	1	119802-01520	FRANGE, GEAR CASE				1					
13	1	119802-01560	STUD, M8X25				3					
14	1	124160-01751	COVER,FILLER				1					
15	1	124240-01871	COVER, HO-P				1					
16	1	129795-01950	PIPE, KNOCK L=18				2					
17	1	119609-32040	O-RING P16				4					
18	1	119802-32111	ROTOR, INNER				1					
19	1	119802-32120	ROTOR, OUTER				1					
20	1	119802-32130	SCREW, M6X16				7					
21	1	121850-51960	O-RING, F.I.PUMP				1					
22	1	129001-91841	BOLT, M8X85				3					
23	1	24311-000320	O-RING 1A P-32.0				1					
24	1	26106-080162	BOLT M 8X 16 PLATED				4					
25	1	26106-080162	BOLT M 8X 16 PLATED				3					
26	1	26106-080552	BOLT M 8X 55 PLATED				12					
27	1	26306-080002	NUT				3					
28	1	121023-01550	COVER, BLIND				1					
29	1	24341-000240	O-RING 1A S-24.0				1					
30	1	26106-060162	BOLT M 6X 16 PLATED				2					
31	1	977770-01212	GASKET, LIQUID				1					1

Remarks  
 (1) OPTIONAL PART.

Fig.4.FLYWHEEL HOUSING & OIL SUMP

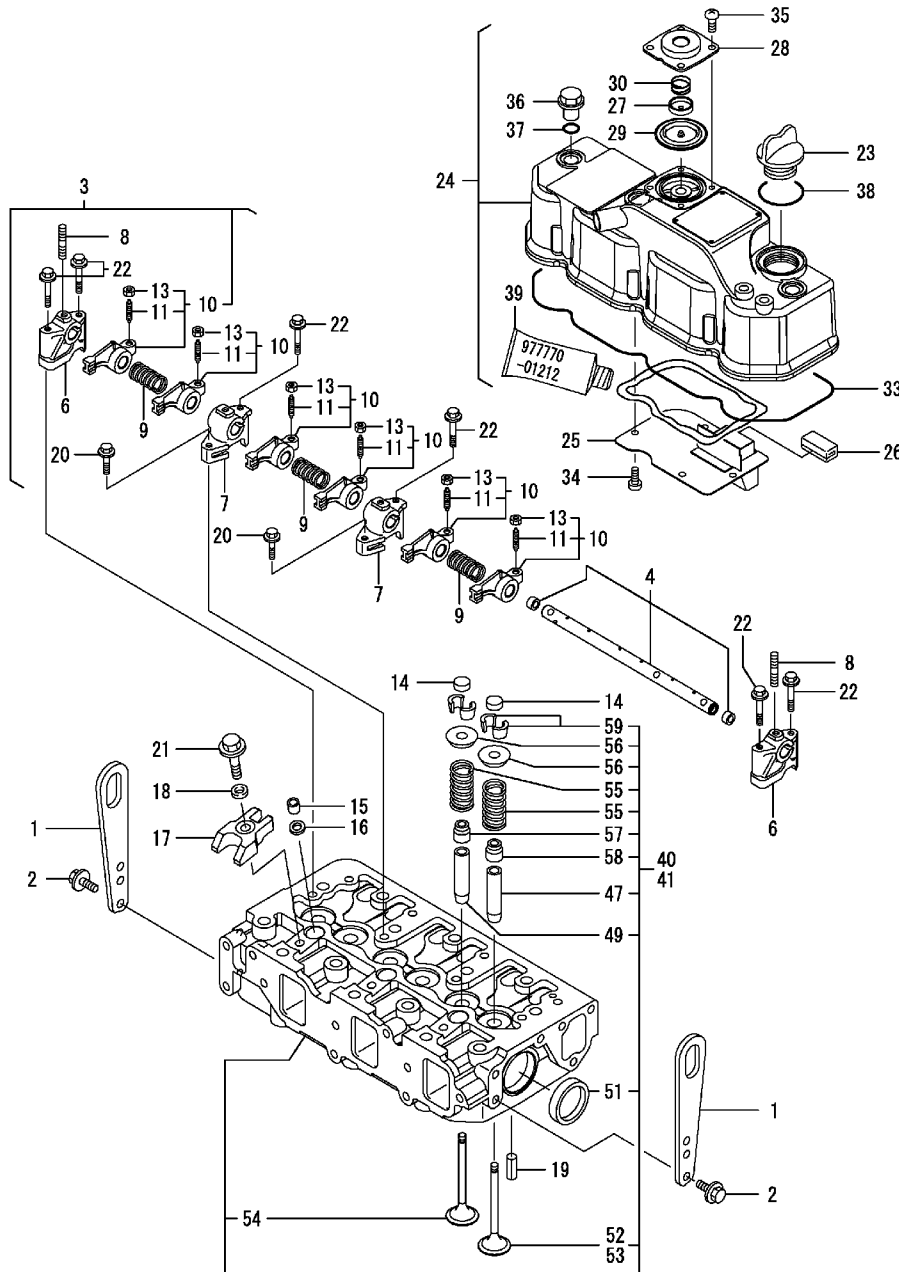


REF.	LEV.	PARTS NO.	DESCRIPTION	QTY						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	129100-01580	PARALLEL PIN 8X16	2	2	2	2				
2	1	129100-01730	SPACER, OIL SUMP	1	1	1	1				
4	1	129100-01760	SUMP ASSY, OIL	1	1	1	1				
5	2	119640-01640	DRAIN PLUG M22	1	1	1	1				
7	2	22190-220002	SEAL WASHER 22S	1	1	1	1				
8	1	26106-080162	BOLT M 8X 16 PLATED	4	4	4	4				
9	1	26106-080252	BOLT M 8X 25 PLATED	2	2	2	2				
10	1	26106-080452	BOLT M 8X 45 PLATED	20	20	20	20				
11	1	129100-01580	PARALLEL PIN 8X16	2	2	2	2				
12	1	129100-01640	CASE ASSY, OIL SEAL	1	1	1	1				
14	2	129795-01780	SEAL, OIL	1	1	1	1				
15	1	129486-01670	BOLT M8X30,COLLAR HD	6	6	6	6				
16	1	26106-080352	BOLT M 8X 35 PLATED	3	3	3	3				
17	1	977770-01212	GASKET, LIQUID	1	1	1	1				1
18	1	119620-01750	CAP, FLYWHEEL COVER	1	1		1				
19	1	26206-100252	BOLT M10X25	6	6	2	6				
20	1	26206-100302	BOLT M10X30	4	4		4				
21	1	26206-100202	BOLT M10X20			6					
22	1	119888-01600	HOUSING, FLYWHEEL	1							
23	1	129612-01600	HOUSING,FLYWHEEL		1						
24	1	129129-01600	FLANGE, MOUNTING			1					
25	1	171420-01600	HOUSING, FLYWHEEL						1		

Remarks  
 (1) OPTIONAL PART.

FIG.5.CYLINDER HEAD & BONNET

(A)=3TNV88-DSA (D)=3TNV88-GGE  
 (B)=3TNV88-DSA2 (E)=  
 (C)=3TNV88-DSA3 (F)=



REF.	LEV.	PARTS NO.	DESCRIPTION	QTY						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	129900-07900	LIFTER, ENGINE	2	2	2	2				
2	1	26106-080142	BOLT M 8X 14 PLATED	4	4	4	4				
3	1	129004-11241	SHAFT ASSY, ROCKER	1	1	1	1				
4	2	129004-11251	SHAFT, ROCKER ARM	1	1	1	1				
6	2	119802-11260	SUPPORT, ROCKER ARM	2	2	2	2				
7	2	119802-11270	SUPPORT, ROCKER ARM	2	2	2	2				
8	2	119802-11280	STUD	3	3	3	3				
9	2	129150-11280	SPRING	3	3	3	3				
10	2	129004-11650	ARM ASSY, ROCKER	6	6	6	6				
11	3	129150-11230	SCREW, VALVE	6	6	6	6				
13	3	129150-11750	NUT M8XP1.0	6	6	6	6				
14	1	129150-11370	CAP, VALVE	6	6	6	6				
15	1	119802-11870	PROTECTOR, NOZZLE	3	3	3	3				
16	1	119625-11880	SEAT, NOZZLE	3	3	3	3				
17	1	129004-11900	RETAINER, NOZZLE	3	3	3	3				
18	1	120270-54410	WASHER	3	3	3	3				
19	1	22351-060012	SPRING PIN 6X12	2	2	2	2				
20	1	26106-080252	BOLT M 8X 25 PLATED	2	2	2	2				
21	1	26106-080352	BOLT M 8X 35 PLATED	3	3	3	3				
22	1	26106-080502	BOLT M 8X 50 PLATED	6	6	6	6				
23	1	124160-01751	COVER,FILLER	1	1	1	1				
24	1	129004-11350	BONNET ASSY, HEAD	1	1	1	1				
25	2	129004-03010	PLATE, BAFFLE	1	1	1	1				
26	2	129150-03070	BAFFLE, BREATHER	1	1	1	1				
27	2	119802-03110	PLATE, DIAPHRAGM	1	1	1	1				
28	2	119802-03121	COVER, DIAPHRAGM	1	1	1	1				
29	2	119802-03130	DIAPHRAGM	1	1	1	1				
30	2	119802-03141	SPRING, DIAPHRAGM	1	1	1	1				
33	2	129004-11310	GASKET, BONNET	1	1	1	1				
34	2	22857-500100	SCREW 5X10,TAPPING	4	4	4	4				
35	2	22857-500100	SCREW 5X10,TAPPING	4	4	4	4				
36	1	124160-11360	KNOB	3	3	3	3				
37	1	24311-000120	O-RING 1A P 12.0	3	3	3	3				
38	1	24311-000320	O-RING 1A P-32.0	1	1	1	1				
39	1	977770-01212	GASKET, LIQUID	1	1	1	1				2
40	1	129005-11700	HEAD ASSY, CYLINDER	1	1	1					
41	1	129004-11700	HEAD ASSY, CYLINDER								1
47	2	120130-11860	GUIDE, VALVE	3	3	3	3				
49	2	129150-11810	GUIDE, VALVE	3	3	3	3				
51	2	27241-400000	PLUG 40	2	2	2	2				
52	2	129005-11100	VALVE, INTAKE	3	3	3					
53	2	129004-11100	VALVE, INTAKE					3			
54	2	129100-11110	VALVE, EXHAUST	3	3	3	3				
55	2	129795-11120	SPRING, VALVE	6	6	6	6				
56	2	129795-11180	RETAINER, SPRING	6	6	6	6				
57	2	121400-11340	SEAL, VALVE STEM	3	3	3	3				
58	2	124460-11340	SEAL, VALVE STEM	3	3	3	3				
59	2	27310-080001	COTTER 8	6	6	6	6				

Remarks  
 (1) REPAIR PART.

Fig.6.SUCTION MANIFOLD

Y00R5640 6.SUCTION MANIFOLD

(A)=3TNV88-DSA (D)=3TNV88-GGE  
 (B)=3TNV88-DSA2 (E)=  
 (C)=3TNV88-DSA3 (F)=

REF.	LEV.	PARTS NO.	DESCRIPTION	QTY						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	129004-03080	PIPE, BREATHER	1	1	1	1				
2	2	129410-03990	CLAMP 24	2	2	2	2				
3	1	129004-12100	MANIFOLD, INTAKE	1	1	1	1				
4	1	129001-12110	GASKET,INT. MANIFOLD	1	1	1	1				
5	1	26106-080202	BOLT M 8X 20 PLATED	4	4	4	4				
6	1	26106-080802	BOLT M 8X 80 PLATED	1	1	1	1				
7	1	129120-77501	HEATER, AIR	1	1	1	1				
8	1	129150-77511	GASKET, (NON-ASB.)	1	1	1	1				
9	1	26106-080352	BOLT M 8X 35 PLATED	4	4	4	4				

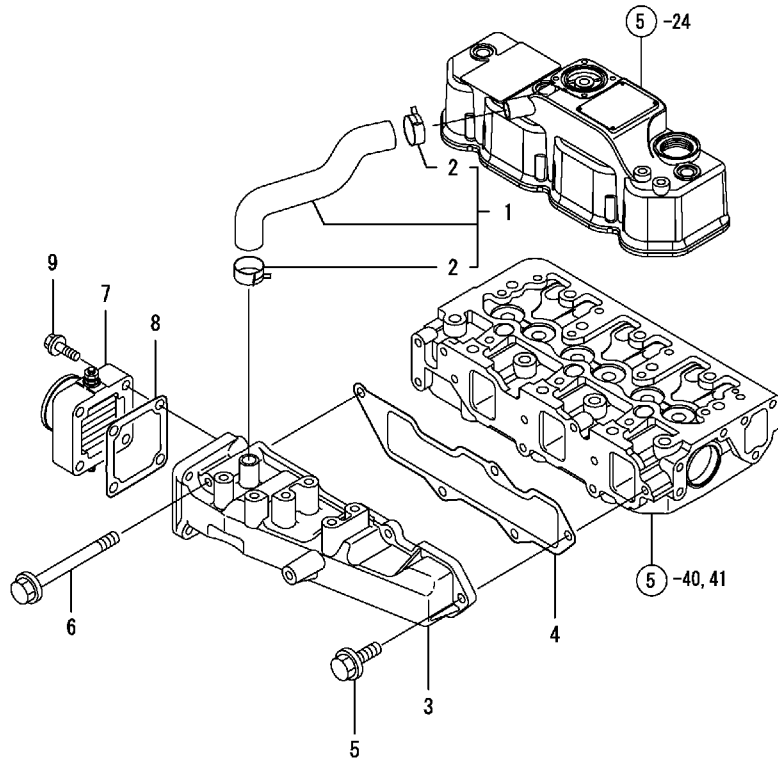


Fig.7.EXHAUST MANIFOLD

Y00R5640 7.EXHAUST MANIFOLD

(A)=3TNV88-DSA (D)=3TNV88-GGE  
 (B)=3TNV88-DSA2 (E)=  
 (C)=3TNV88-DSA3 (F)=

REF.	LEV.	PARTS NO.	DESCRIPTION	QTY						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	129004-13109	MANIFOLD, EXHAUST	1	1	1	1				
2	1	129150-13110	GASKET, EXH.MANIFOLD	1	1	1	1				
3	1	119131-18320	BOLT M 8X 22	4	4	4	4				
4	1	123900-13630	BOLT 8X80	4	4	4	4				
5	1	123900-13610	STUD BOLT M 8X 80	2	2	2	2				
6	1	26306-080002	NUT	2	2	2	2				
7	1	129004-13200	GASKET, SILENCER	1	1	1	1				

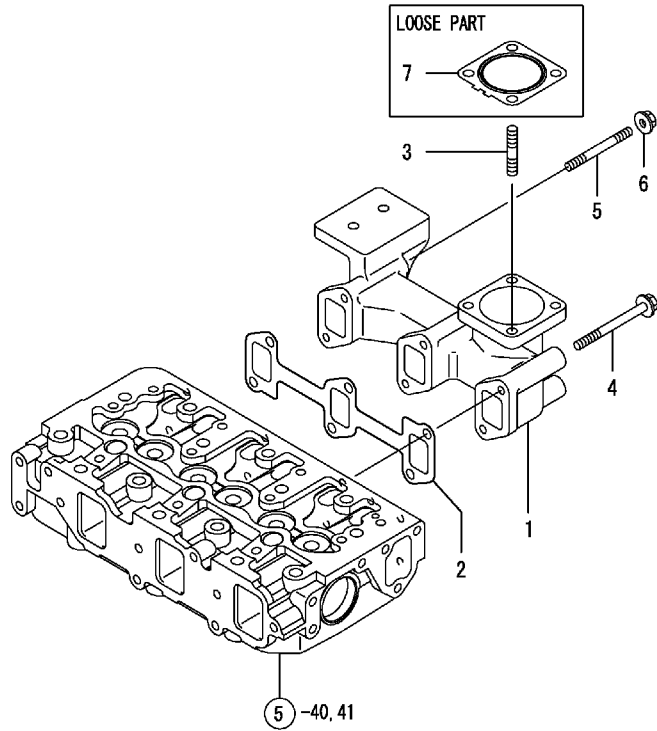
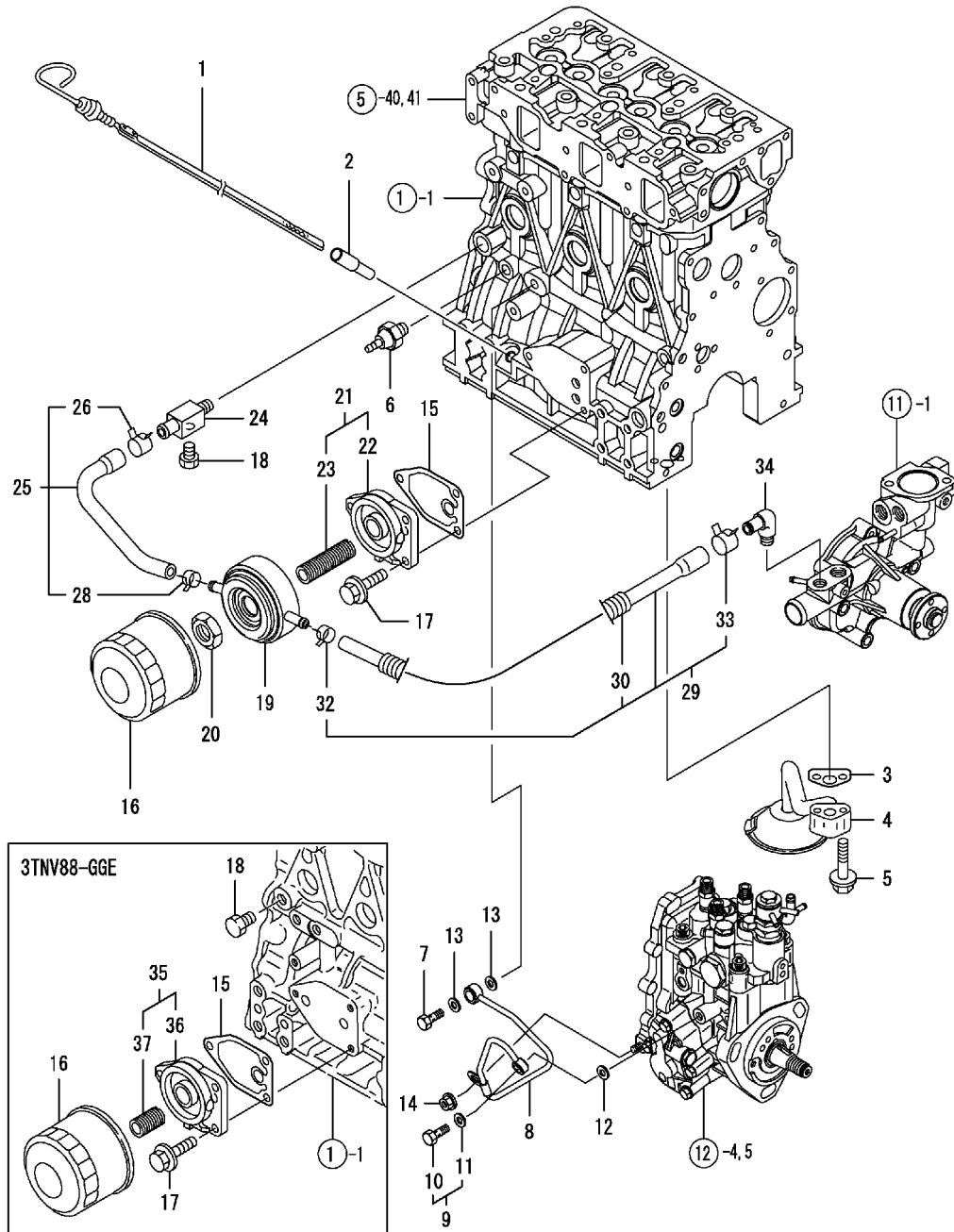


Fig. 10.LUB.OIL SYSTEM



(A)=3TNV88-DSA (D)=3TNV88-GGE

(B)=3TNV88-DSA2 (E)=

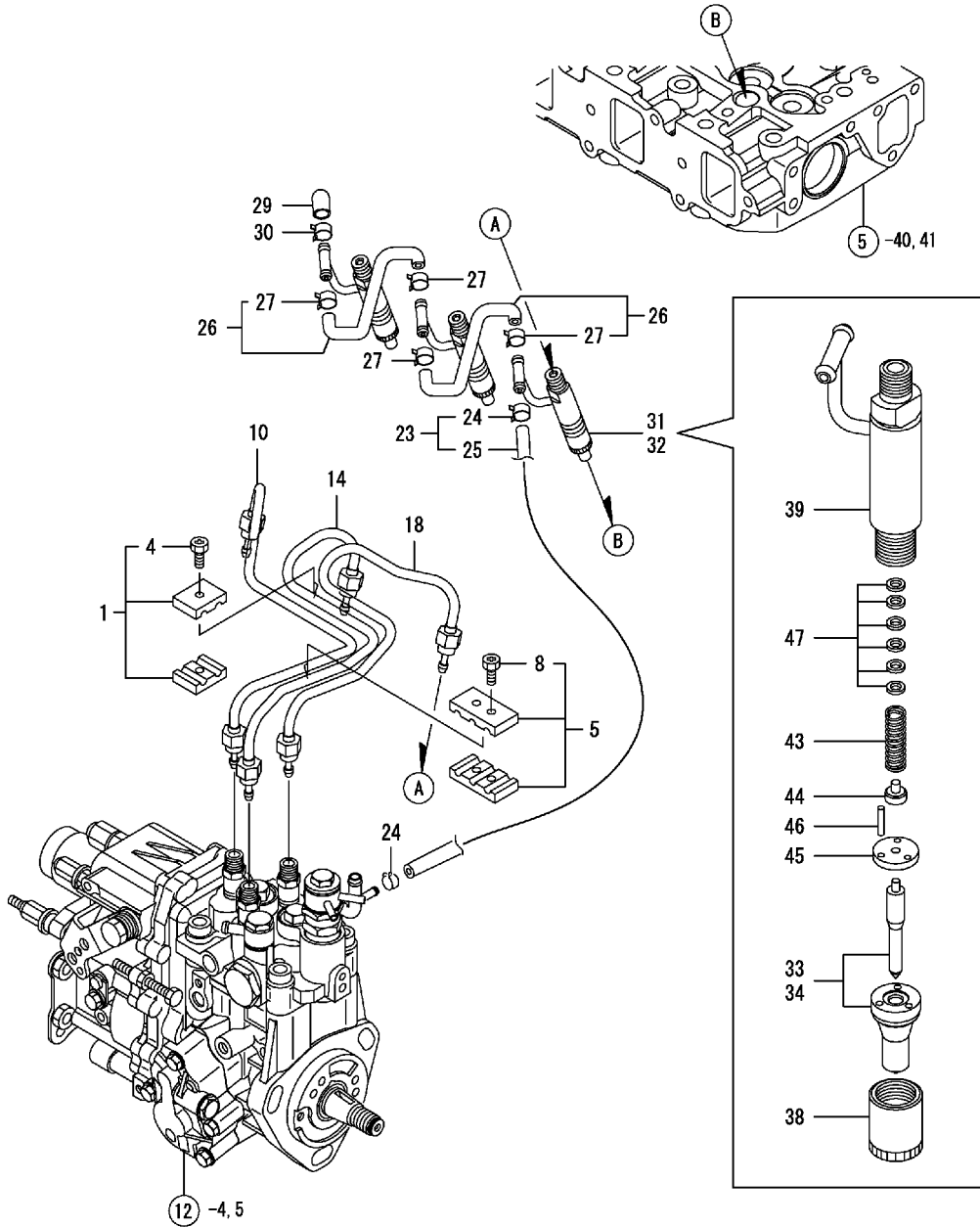
(C)=3TNV88-DSA3 (F)=

REF.	LEV.	PARTS NO.	DESCRIPTION	QTY						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	129004-34801	DIPSTICK, LUB.OIL	1	1	1	1				
2	1	121520-34810	GUIDE, DIPSTICK	1	1	1	1				
3	1	129150-35041	GASKET, (NON-ASB.)	1	1	1	1				
4	1	129100-35301	PIPE ASSY, OIL INLET	1	1	1	1				
5	1	26106-080352	BOLT M 8X 35 PLATED	2	2	2	2				
6	1	114250-39450	SWITCH,(0.5KG)L.O.	1	1	1	1				
7	1	124160-39140	BOLT 10, PIPE JOINT	1	1	1	1				
8	1	119802-39450	PIPE ASSY, LUB. OIL	1	1	1	1				
9	1	129005-59830	BOLT ASSY, JOINT	1	1	1	1				
10	2	23857-030000	JOINT BOLT 3	1	1	1	1				
11	2	22190-080002	SEAL WASHER 8S	1	1	1	1				
12	1	22190-080002	SEAL WASHER 8S	1	1	1	1				
13	1	22190-100002	SEAL WASHER 10S	2	2	2	2				
14	1	26366-060002	NUT M 6	1	1	1	1				
15	1	129150-35111	GASKET, (NON-ASB.)	1	1	1	1				
16	1	129150-35152	FILTER 80X80L	1	1	1	1				
17	1	26106-080202	BOLT M 8X 20 PLATED	3	3	3	3				
18	1	171056-49120	PLUG, DRAIN	1	1	1	1				
19	1	129508-33010	COOLER ASSY, OIL	1	1	1	1				
20	1	129417-33110	NUT OIL COOLER	1	1	1	1				
21	1	129006-35100	BRACKET ASSY, FILTER	1	1	1	1				
22	2	119802-35110	BRACKET, FILTER	1	1	1	1				
23	2	129417-35150	STUD	1	1	1	1				
24	1	129006-44480	JOINT	1	1	1	1				
25	1	129508-49030	PIPE,COOLER IN	1	1	1	1				
26	2	171008-03990	CLAMP 18.5	1	1	1	1				
28	2	23080-015000	CLAMP	1	1	1	1				
29	1	129006-49040	PIPE,COOLER OUT	1	1	1	1				
30	2	123951-03330	PROTECTOR, PIPE 19	1	1	1	1				
32	2	23080-015000	CLAMP	1	1	1	1				
33	2	23080-018000	CLAMP 18	1	1	1	1				
34	1	129103-49301	ELBOW PT 1/4	1	1	1	1				
35	1	119802-35100	BRACKET ASSY, FILTER								1
36	2	119802-35110	BRACKET, FILTER								1
37	2	129100-35140	STUD								1



Fig. 13.FUEL INJECTION VALVE

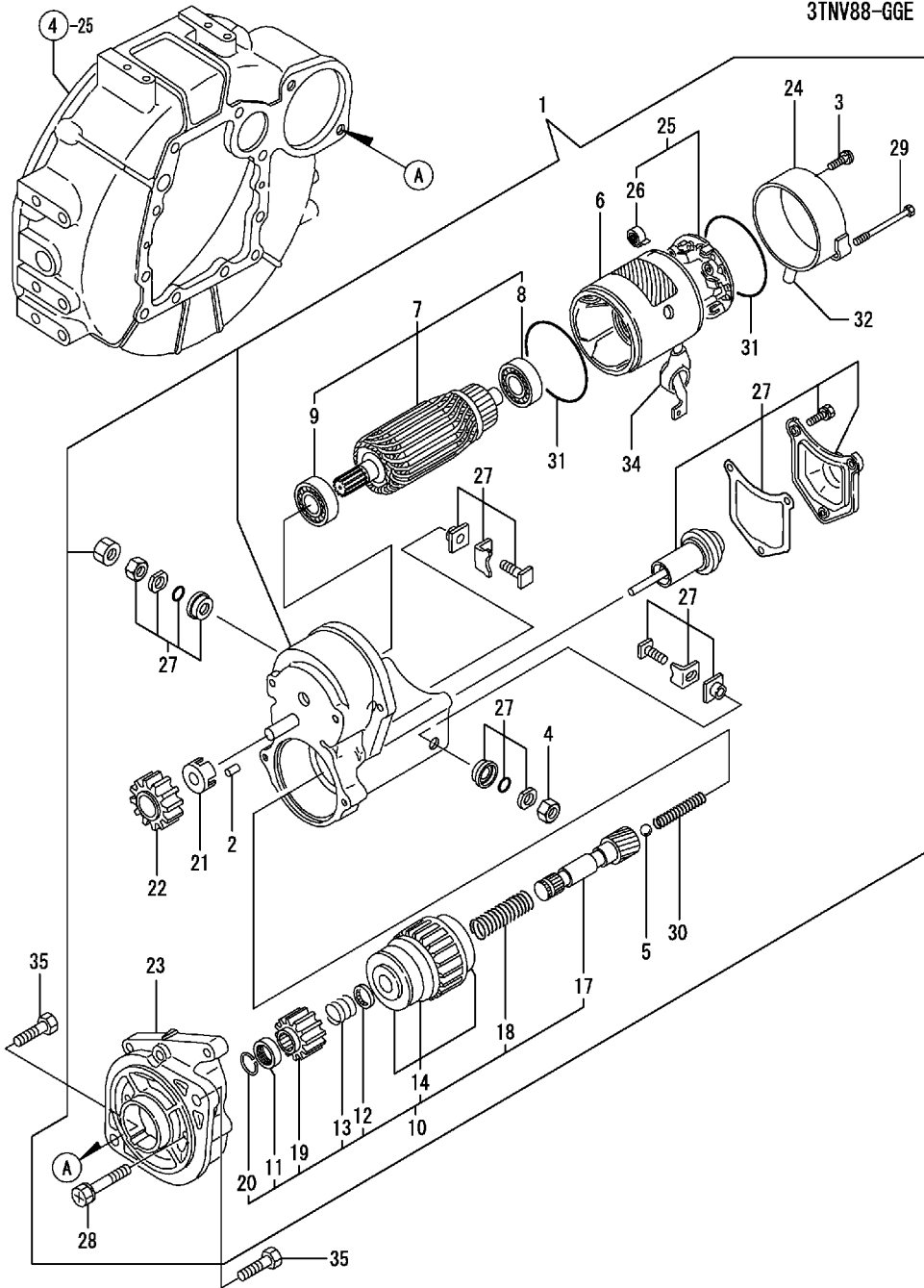
(A)=3TNV88-DSA (D)=3TNV88-GGE  
 (B)=3TNV88-DSA2 (E)=  
 (C)=3TNV88-DSA3 (F)=



REF.	LEV.	PARTS NO.	DESCRIPTION	QTY						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	119305-59120	RETAINER	1	1	1	1				
4	2	129150-59131	BOLT M4X14,HEX.SCKT.	1	1	1	1				
5	1	129150-59120	RETAINER, INJ. PIPE	1	1	1	1				
8	2	129150-59131	BOLT M4X14,HEX.SCKT.	2	2	2	2				
10	1	129004-59810	PIPE ASSY, INJECTION	1	1	1	1				
14	1	129004-59820	PIPE ASSY, INJECTION	1	1	1	1				
18	1	129004-59830	PIPE ASSY, INJECTION	1	1	1	1				
23	1	119802-59550	PIPE ASSY, RETURN	1	1	1	1				
24	2	124722-59050	CLAMP 9	2	2	2	2				
25	2	119802-59560	PIPE, FUEL RETURN	1	1	1	1				
26	1	129486-59551	PIPE, FUEL RETURN	2	2	2	2				
27	2	124722-59050	CLAMP 9	4	4	4	4				
29	1	119593-59580	CAP	1	1	1	1				
30	1	124060-77680	CLAMP 10	1	1	1	1				
31	1	729004-53101	VALVE ASSY, F.INJECT	3	3	3					
32	1	729246-53101	VALVE ASSY, F.INJECT							3	
33	2	129004-53001	NOZZLE CMP	3	3	3					
34	2	129246-53001	NOZZLE CMP							3	
38	2	114250-53080	NUT, NOZZLE CASE	3	3	3	3				
39	2	119802-53100	HOLDER ASSY, NOZZLE	3	3	3	3				
43	2	114250-53120	SPRING, NOZZLE	3	3	3	3				
44	2	114250-53130	SEAT, NOZZLE SPRING	3	3	3	3				
45	2	114250-53140	PLATE, STOP	3	3	3	3				
46	2	114250-53210	PIN	6	6	6	6				
47	2	114250-53400	SHIM PACK	3	3	3	3				

Fig. 16.STARTING MOTOR

3TNV88-GGE



(A)=3TNV88-DSA (D)=3TNV88-GGE  
 (B)=3TNV88-DSA2 (E)=  
 (C)=3TNV88-DSA3 (F)=

REF.	LEV.	PARTS NO.	DESCRIPTION	QTY						I	R
				(A)	(B)	(C)	(D)	(E)	(F)		
1	1	129129-77010	STARTER ASSY				1				
2	2	X0283060061	ROLLER				5				
3	2	129129-77460	SCREW				2				
4	2	X9490561370	NUT				1				
5	2	X9491200240	BALL				1				
6	2	129129-77210	YOKE ASSY				1				
7	2	129129-77220	ARMATURE ASSY				1				
8	3	129129-77230	BEARING				1				
9	3	129129-77240	BEARING				1				
10	2	129129-77250	STARTER ASSY				1				
11	3	X0280210230	NUT				1				
12	3	X0283270140	RETAINER				1				
13	3	X9491703371	SPRING, COIL				1				
14	3	129129-77390	CLUTCH ASSY, STARTER				1				
17	3	129129-77400	SHAFT				1				
18	3	129129-77410	SPRING, COIL				1				
19	3	129129-77420	PINION				1				
20	3	129129-77430	RING				1				
21	2	129129-77260	RETAINER				1				
22	2	129129-77270	PINION				1				
23	2	129129-77280	HOUSING				1				
24	2	129129-77290	FRAME				1				
25	2	129129-77300	HOLDER ASSY				1				
26	3	X9491730461	SPRING				4				
27	2	129129-77310	SWITCH ASSY				1				
28	2	129129-77320	BOLT				2				
29	2	129129-77330	BOLT				2				
30	2	129129-77340	SPRING				1				
31	2	129129-77350	O-RING				2				
32	2	129129-77362	COVER				1				
34	2	129129-77380	CAP				1				
35	1	26116-120252	BOLT M12X 25 PLATED				2				