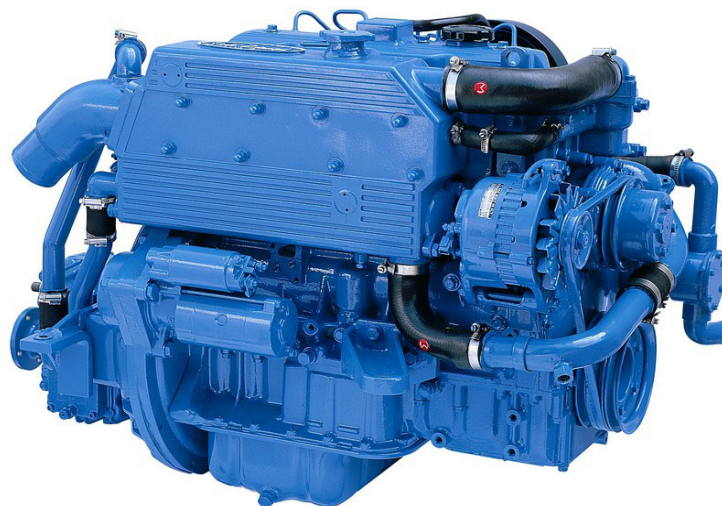




Engine SM-90  
VERSION 2017-8  
SPARE PARTS MANUAL



## PARTS LIST CATALOGUE

### NORMS TO PLACE AN ORDER:

For fast and more efficient service, please specify the following information on spare parts orders that must be preferably done by FAX or e-mail as specified below:

- 1- Engine model: As shown in identification plate
- 2- Engine serial number: As shown in identification plate and stamped on crankcase
- 3- Item description + part number + quantity required

---

### Spare parts requests must be addressed to:

[recambios@solediesel.com](mailto:recambios@solediesel.com)

Tel.: +34 93 775 44 05

Fax: +34 93 775 30 13

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The components shown in the catalog have:

- Figure: Number by which they are represented in scheme
  - Description: Trade name of the component
  - Quantity: Total number of parts used in the assembly of the part represented (may differ from the total minimum quantities)
- Hoses, indicates the total length in meters

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*The diagrams shown in this catalog of spare parts, have only the purpose to identify the piece in question, its representation is not meaningful and may differ from the actual piece.*

*In case of doubt, contact Solé Diesel, or your authorized dealer.*

*The parts i / or references in this catalog are subject to change without notice.*

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[SOLE, S.A.](#)

C-243b, Km, 2 - P.O. BOX 15  
08760 Martorell (Barcelona) Spain

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## Engine Body

Cylinder Head  
Timing Parts  
Crankcase  
Piston & Crankshaft & Flywheel  
Oil System  
Oil Pan  
Engine Brackets  
Bracket, Engine Control & Pump, oil Sucti

## Inlet & Exhaust

Inlet

## Cooling System

Water Pump  
Cooler Pipes  
Wet Exhaust

## Fuel System

Fuel Pipe  
Injection Nozzle  
Fuel Injection Pump 1  
Fuel Injection Pump 2  
Fuel Filter

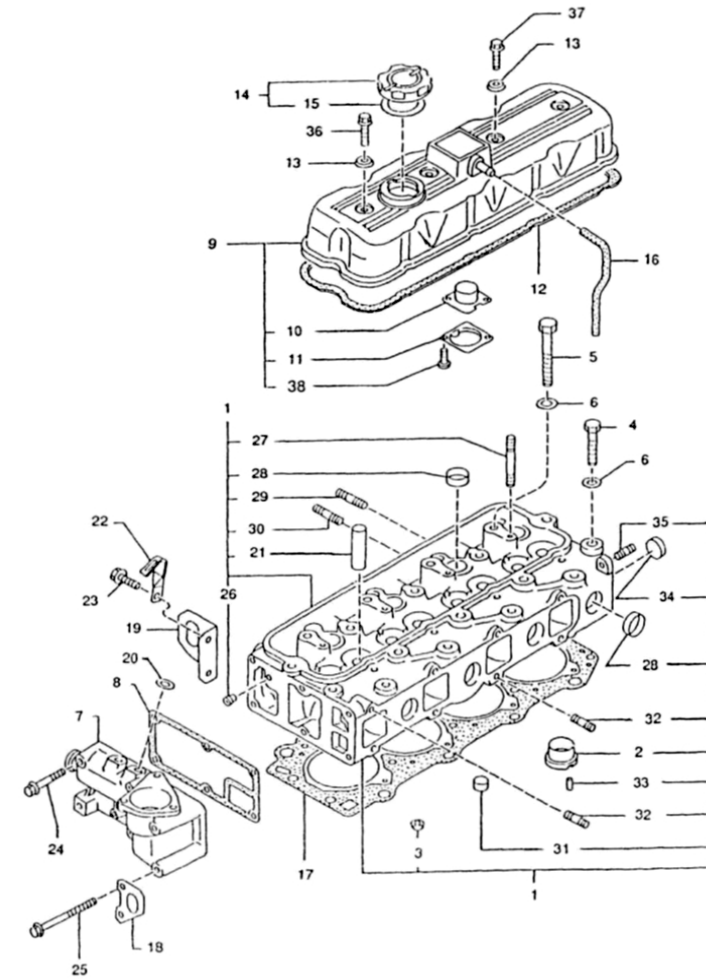
## 12V Electrical System

12V Electrical Wiring  
Deluxe Instrument Panel

## Maintenance Kit

Gasket Kit

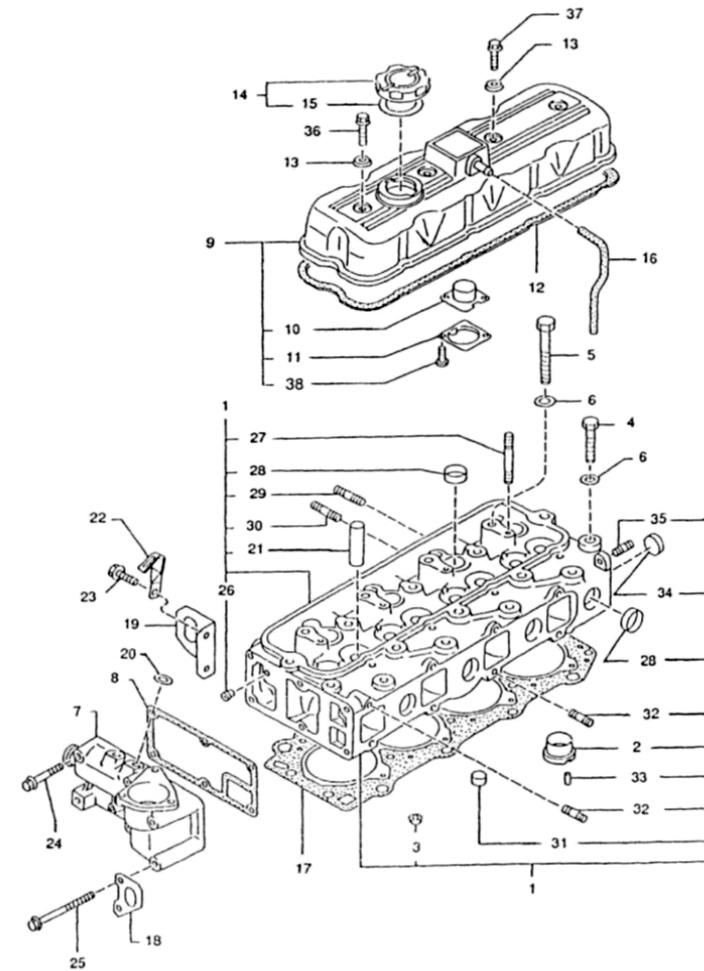
D_SM90_1_1		Cylinder Head			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
1	18021001	1	Head,cylinder		
2	18021016	4	Insert		
3	18021017	4	Washer,welch		
4	18021005	11	Bolt,cylinder head		
5	18021013	7	Bolt,cylinder head		
6	18021007	18	Washer,plain		
7	18021037	1	CASING,thermostat		
8	18021033	1	Gasket,thermostat		
9	18021009	1	Cover,cylinder head		
10	18021015	1	Plate,baffle		
11	18021012	1	Plate,oil baffle		
12	18021010	1	Gasket,head cover		
13	18021008	4	Washer,sealing head cover		
14	18021003	1	Cap Oil Filler		
15	18021022	1	Gasket		
16	18021026	1	Hose,BREATHER [NP]		
17	18021004	1	Gasket,cylinder head		
18	18021011	1	Hanger,engine		
19	18021019	1	Hanger,engine front		
20	18021070	1	O-Ring		
21	18021002	8	Guide,valve		
22	18021038	1	Clip		
23	18021063	2	Bolt		
24	18021062	4	Bolt		
25	18021061	2	Bolt		
26	18021064	1	Plug-Hex.Socket		
27	18021080	4	Stud		
28	18021060	1	Cap, Sealing [NP]		
29	18021065	4	Stud		
30	18021066	4	Stud		
31	18021059	1	Cap Sealing [NP]		
32	18021058	8	Stud		
33	18021081	1	Pin		
34	18021057	1	Plug [NP]		
35	18021082	1	Stud		



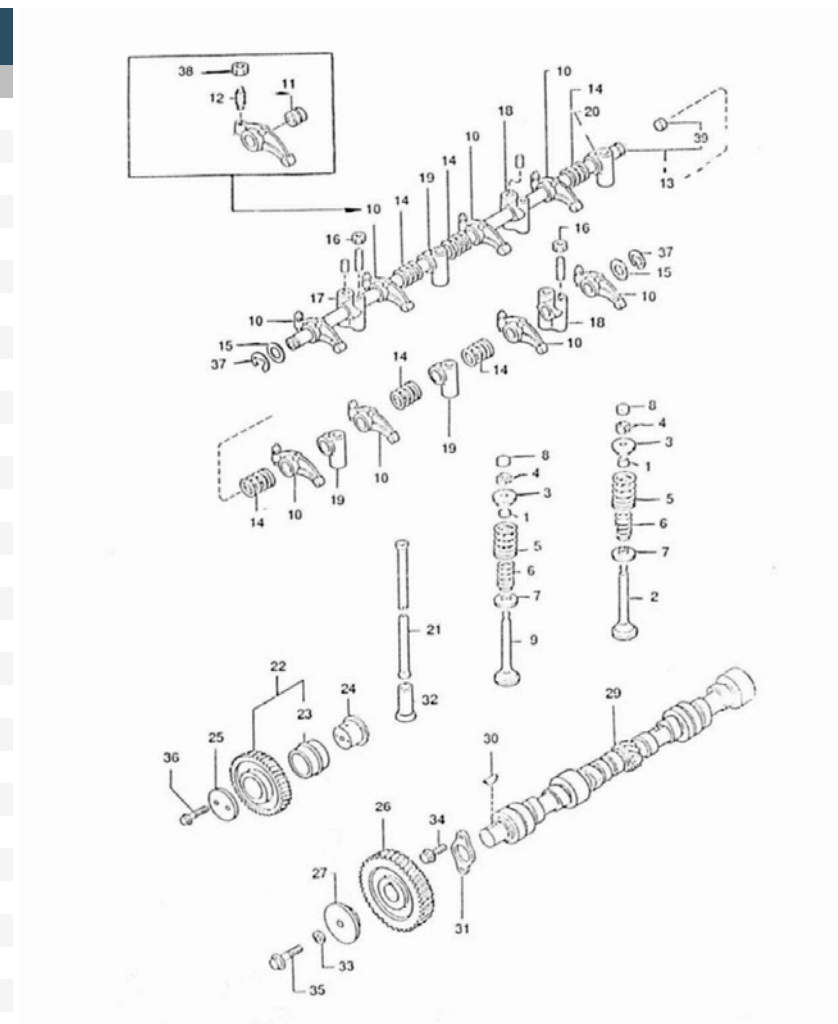
[NP] Not provided



D_SM90_1_1		Cylinder Head			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
36	18021069	2	Bolt		
37	18021068	2	Bolt		
38	18021067	2	Bolt		



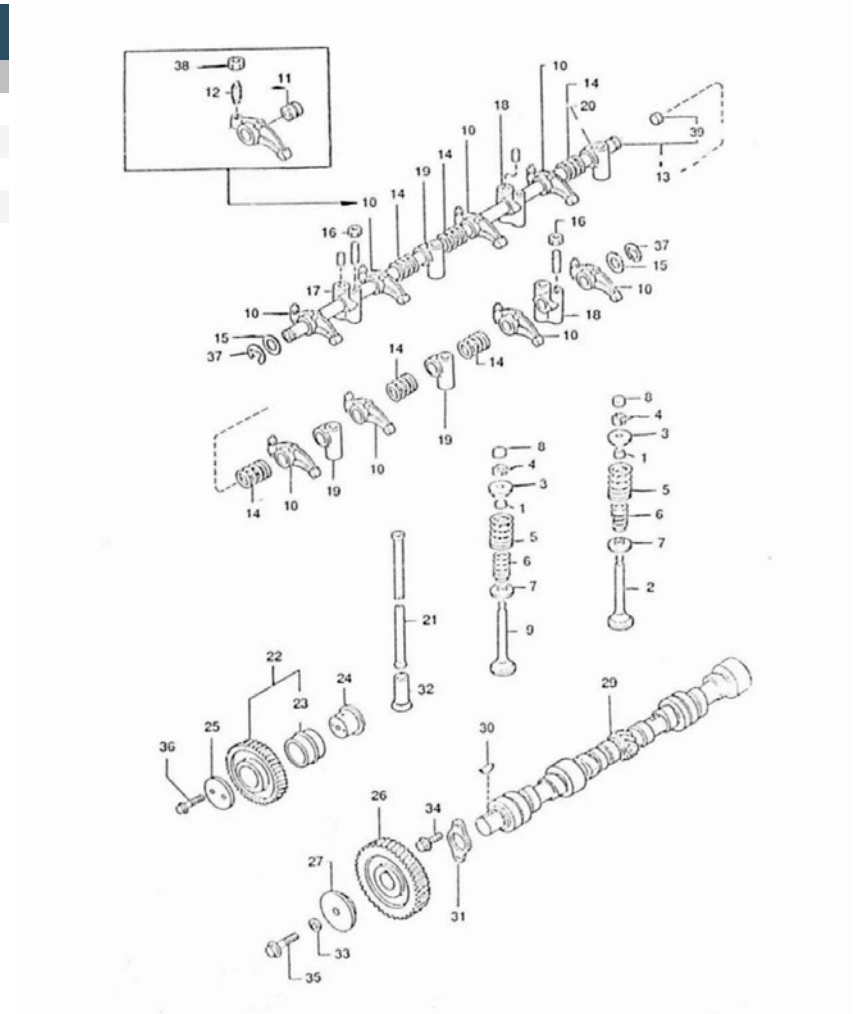
D_SM90_1_4		Timing Parts				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1A	18122054	4	Seal, valve			
1B	18122068	4	Seal, valve			
2	18022055	4	Intake Valve			
3	18022058	8	Seat, valve spg-up			
4	18022059	16	COTTER, valve			
5	18022057	8	Spring, out-valve			
6	18022157	8	Spring, valve-in			
7	18022158	8	Seat, valve spg-lwr			
8	18022159	8	Valve Plug			
9	18022056	4	Exhaust Valve			
10	18022054	8	ARM, rocker			
11	18022070	8	Bush, rocker arm			
12	18022044	8	Screw, tapped adjust [NP]			
13	18022046	1	Shaft, rocker arm-in			
14	18022047	6	Spring, rocker arm			
15	18022010	2	Washer			
16	18022045	2	Nut			
17	18022053	1	Bracket, rocker			
18	18022052	2	Bracket, rocker			
19	18022050	3	Bracket, rocker			
20	18022051	1	Bracket, rocker			
21	18022041	8	Rod, push			
22	18022043	1	Gear, idle			
23	18022071	1	Bush, idle Gear			
24	18022072	1	Spindle, idle Gear			
25	18022074	1	Plate, thrust			
26	18022037	1	Gear, cam			
27	18022076	1	Washer, lock			
29	18022035	1	CamShaft			
30	18022120	1	KEY, woodruff			
31	18022075	1	Plate, thrust			
32	18022078	8	Tappet			
33	18022092	1	Washer, plain [NP]			
34	18021069	1	Bolt			
35	18022090	1	Bolt			



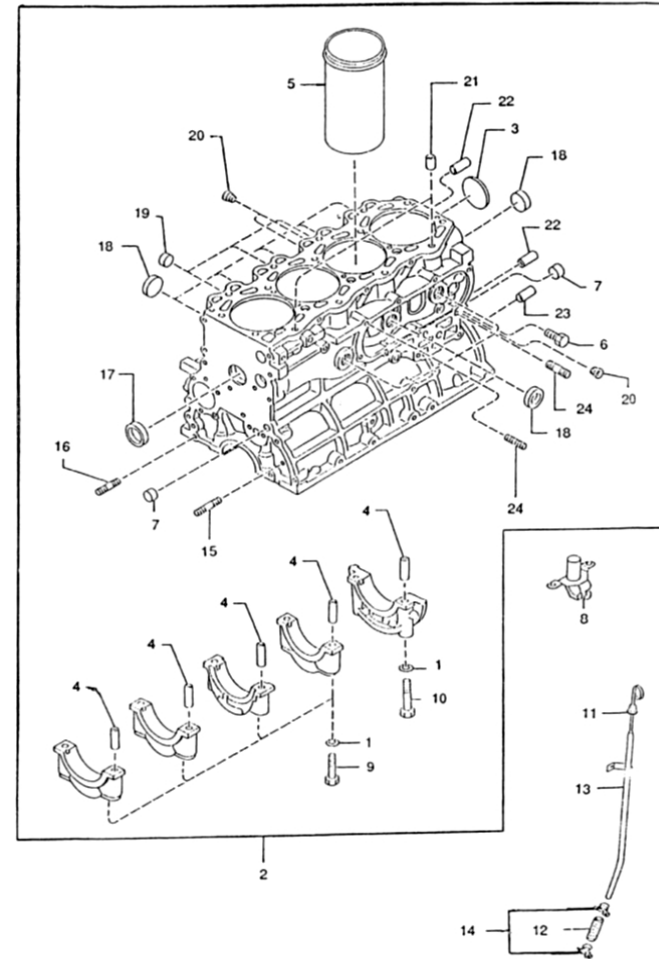
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D_SM90_1_4		Timing Parts			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
36	18020090	1	Bolt		
37	18022084	2	Circlip		
38	18022082	8	Nut		
39	18020059	1	Plug		



D_SM90_1_6		Cranckcase				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1	18020007	10	Pipe,oil gauge			
2	18020001	1	Block,cylinder			
3	18020013	1	Plug,camShaft [NP]			
4	18020002	10	Pin,tubular			
5	18020050	4	Liner,cylinder			
6	18020012	1	Plug			
7	18020023	2	Plug,blind [NP]			
8	18020021	1	Pipe,seal [NP]			
9	18020009	8	Bolt Bearing Cap			
10	18020019	2	Bolt [NP]			
11	18020029	1	Gauge Oil Level			
12	18020027	1	Holder,gauge pipe [NP]			
13	18020007	1	Pipe,oil gauge			
14	18020068	2	Clam			
15	18020056	1	Stud			
16	18020070	1	Stud			
17	18020053	1	Cap,SeallNG [NP]			
18	18021060	3	Cap, SeallNG [NP]			
19	18021059	1	Cap Sealing [NP]			
20	18021064	2	Plug-Hex.Socket			
21	18020062	1	Pin,tubular			
22	18020057	2	Knock Pin			
23	18020061	1	Knock Pin			
24	18020060	2	Stud			

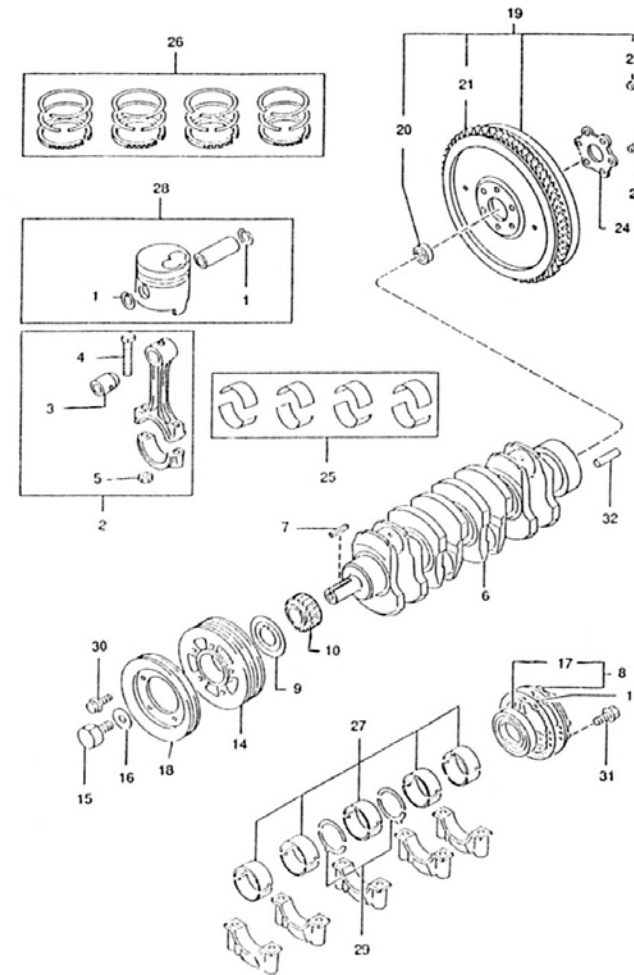


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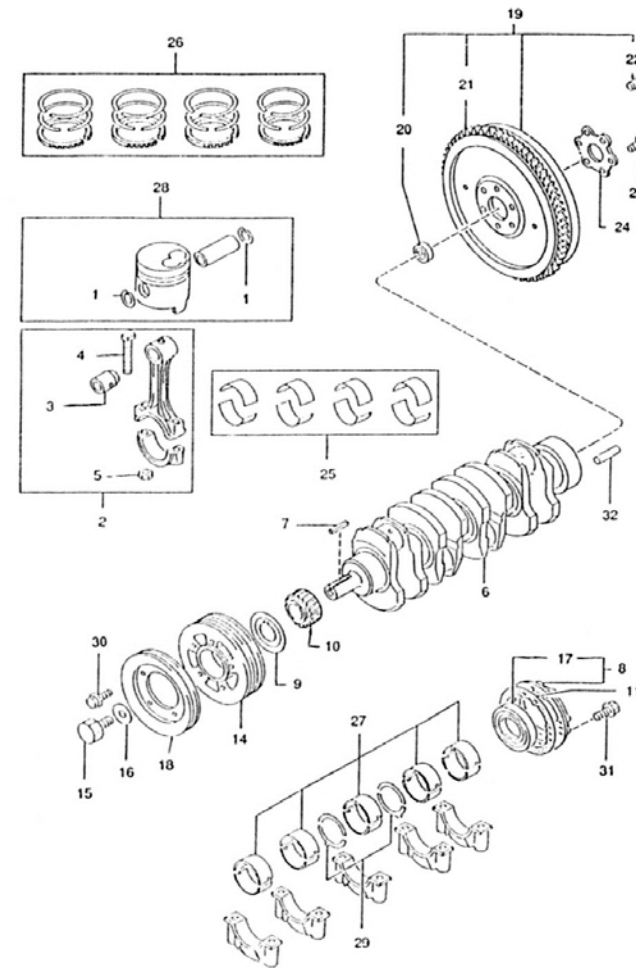
D_SM90_1_9		Pishton & Crankshaft & Flywheel				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1	18122032	8	Ring,retaining			
2	18022012	4	Rod,connecting			
3	18022033	4	Bush,connecting rod			
4	18022013	8	Bolt,connecting rod			
5	18022011	8	Nut,connecting rod			
6	18022018	1	CrankShaft			
7	18022020	1	Key [NP]			
8	18020045	1	Cap,oil seal			
9	18022034	1	Plate,baffle			
10	18022021	1	Gear,crankShaft			
11	18020046	1	Gasket,oil seal cap			
14	18022024	1	Pulley CrankShaft			
15	18022026	1	Bolt,pulley			
16	18022025	1	Washer,plain			
17	18020008	1	Seal,oil			
18	18022019	1	Pulley			
19	18022027	1	Flywheel Assy			
20	18022042	1	Ball Bearing 6202-Z			
21	18022029	1	Gear,ring flywheel			
22	18022065	2	Pin,knok			
23	18022031	6	Bolt,lock flywheel			
24	18022028	1	Washer,plain			
25A	18022014	1	Metal Set Conrod STD			
25B	18022016	1	Metal Set Conrod 0,50			
25C	18022017	1	Metal Set Conrod 0,75			
25D	18022015	1	Metal Set Conrod 0,25			
26	18022006	1	Ring Set,piston STD			
27A	18020003	1	Bearing Set Crank STD			
27B	18020004	1	Bearing Set Crank 0,254			
27C	18020005	1	Bearing Set Crank 0,508			
27D	18020006	1	Bearing Set Crank 0,762			
28	18022001	4	Piston Set STD			
29A	18020025	1	Metal Set,thrust STD			
29B	18020026	1	Metal Set,thrust O.S.			
30	18022049	1	Bolt			



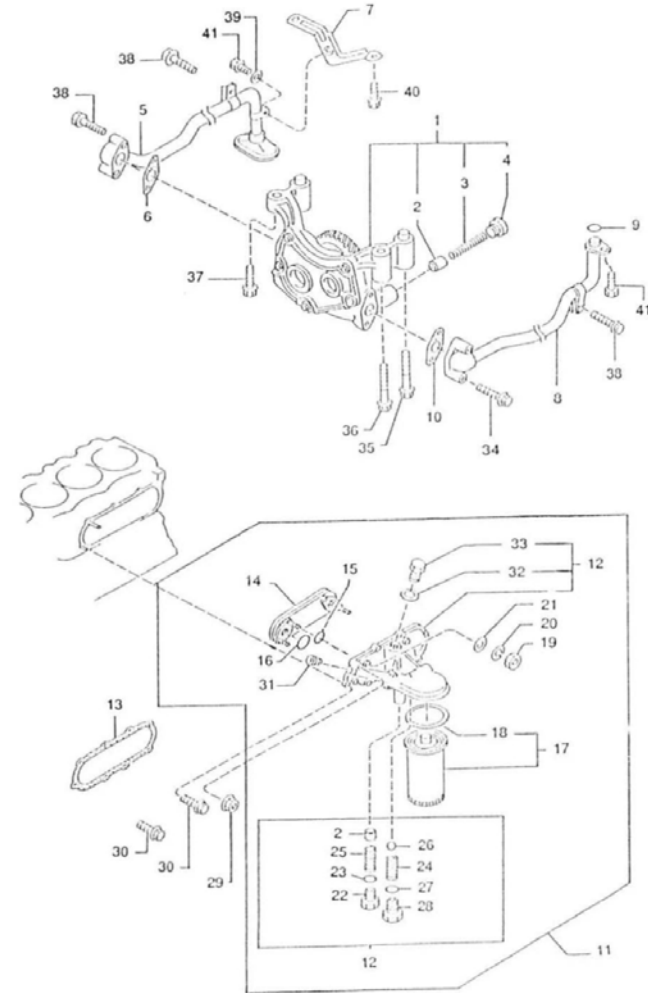
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D_SM90_1_9		Pisnton & Crankshaft & Flywheel			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
31	18020080	1	Bolt		
32	18020103	1	Pin,dowel		



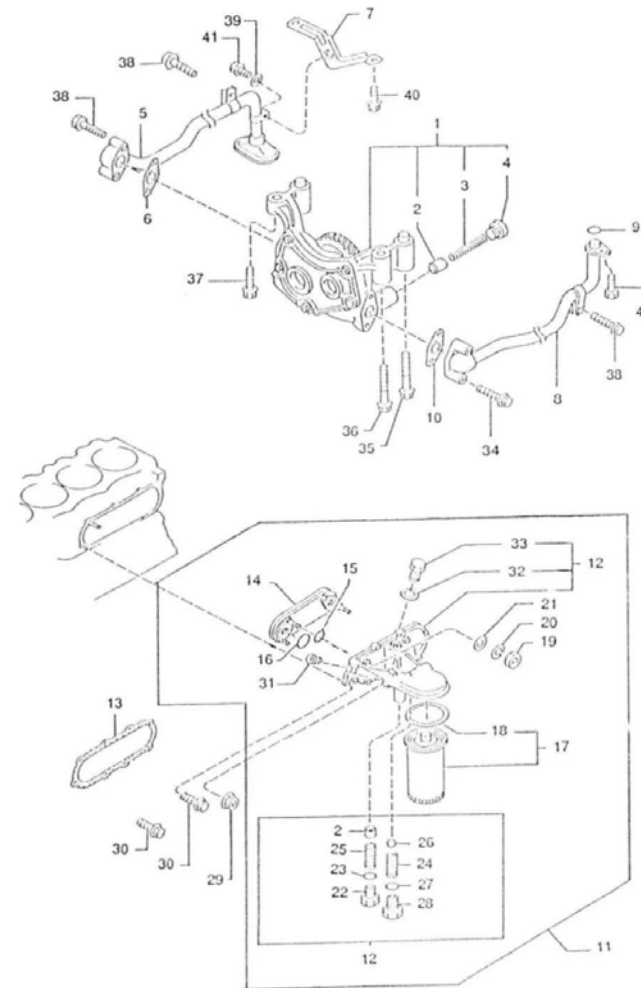
D_SM90_1_10		Oil Sysem				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1	18024040	1	Pump,oil			
2	18024065	2	Plunger,control [NP]			
3	18024064	1	Spring,pressure			
4	18024063	1	Plug			
5	18024062	1	Strainer,oil			
6	18024067	1	Gasket,oil strainer asbestos			
7	18024068	1	Bracket,oil strainer			
8	18024069	1	Pipe,oil			
9	18024059	1	O-Ring D. 17x2,5			
10	18024001	1	Gasket,oil pipe asbestos [NP]			
11	18024057	1	Filter,oil			
12	18024056	1	Filter,oil [NP]			
13	18024033	1	Gasket			
14	18024070	1	Cooler,oil			
15	18024071	4	O-Ring D. 11X2			
16	18024072	2	O-Ring D. 26X3,5			
17	18024051	1	Oil Filter Element [NP]			
18	18024073	1	Gasket			
19	18024153	4	Nut DIN 934 M10-1,25 EXA.14			
20	18024008	4	Washer GROWER DIN 127-10			
21	18024074	4	Washer DIN 433 10			
22	18024075	1	Plug			
23	18024076	1	O-Ring D. 14X2,4			
24	18024077	1	Spring			
25	18024078	1	Spring,valve			
26	18024143	1	Ball,steel 1/2"			
27	18024100	1	O-Ring D. 16X2,5			
28	18024103	1	Plug			
29	18020082	1	Nut DIN 934 M8 8.8			
30	18020087	2	Bolt			
31	18024111	1	Plug			
32	18024113	1	Washer,plain			
33	18024112	1	Screw			
34	18024106	1	Bolt [NP]			
35	18024109	1	Bolt [NP]			



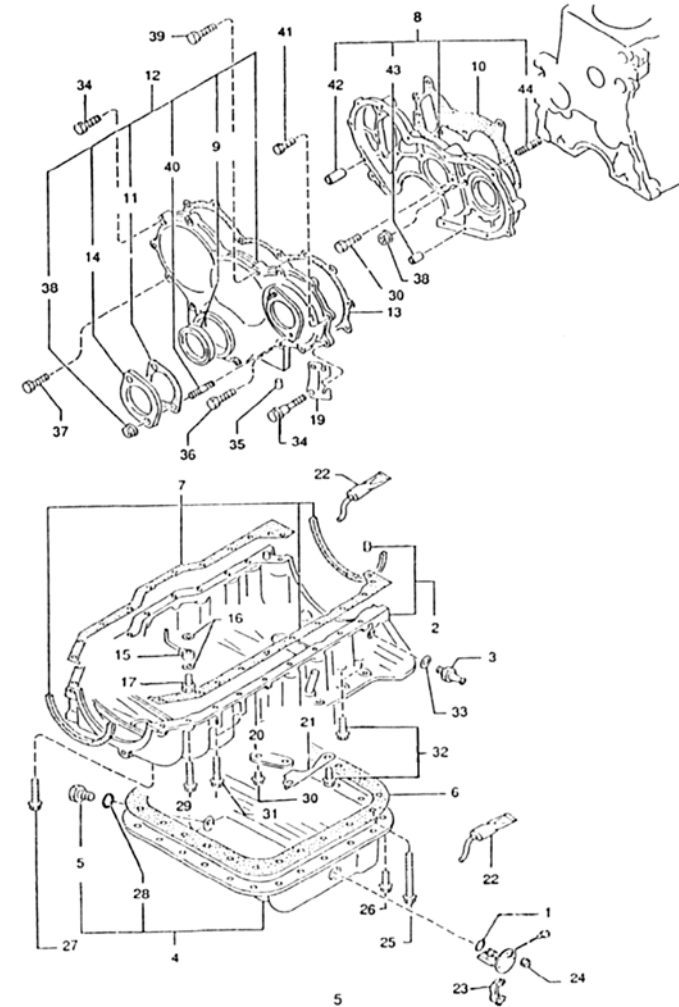
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D_SM90_1_10		Oil Sysem			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
36	18024108	1	Bolt [NP]		
37	18024107	1	Bolt [NP]		
38	18024105	3	Bolt [NP]		
39	18024110	1	Washer		
40	18024104	1	Bolt [NP]		
41	18024077	1	Spring		



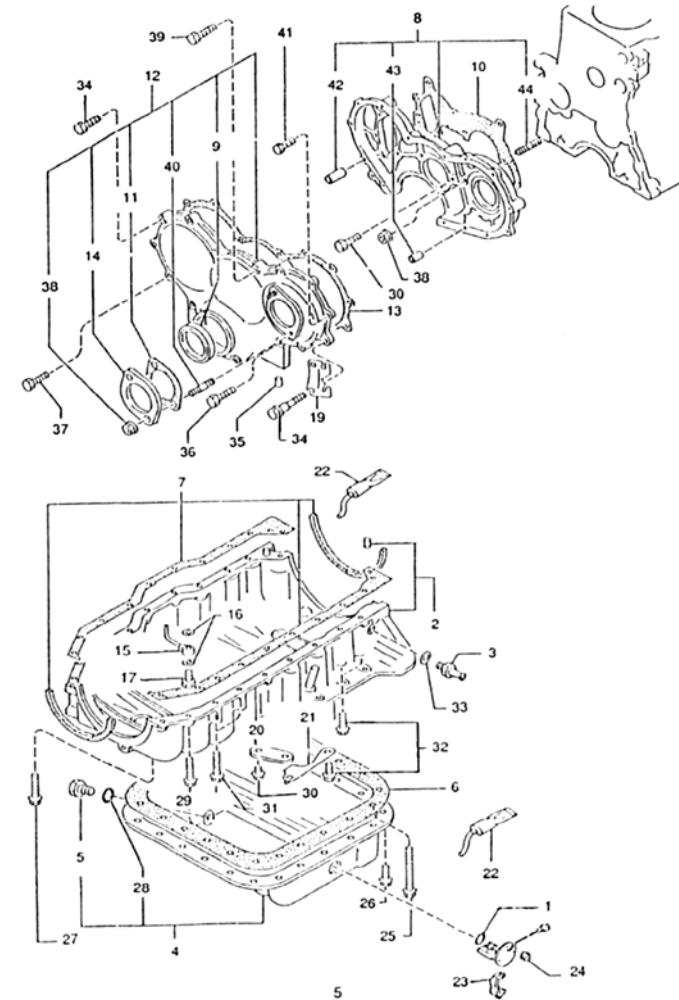
D_SM90_1_11		Oil Pan			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
2	18020031	1	Block,oil pan up. [NP]		
3	18020032	1	Pipe,connector		
4	18020030	1	Pan,oil		
5	18020034	1	Plug [NP]		
6	18020135	1	Gasket,oil pan [NP]		
7	18020133	1	Gasket Set,oil pan [NP]		
8	18020035	1	Case,timing Gear		
9	18020039	1	Seal,oil		
10	18020018	1	Gasket,timing case		
11	18020047	1	Gasket,Gear cover		
12	18020048	1	Case Gear		
13	18020040	1	Gasket,timing cover		
14	18020015	1	Cover,injection pump		
15	18020049	4	JET,oil		
16	18020052	8	Gasket,oil jet [NP]		
17	18020051	4	Valve,oil jet		
19	18020071	1	Bracket,accel cable		
20	18020073	1	Bracket,strainer		
21	18020074	1	Bracket,oil pipe		
22	18020075	1	Tube, silicon		
23	18120070	2	Clip		
24	18020076	1	Nut DIN 934 M6 8.8		
25	18020096	1	Bolt		
26	18020089	1	Bolt		
27	18020097	1	Bolt		
28	18020086	1	Washer 14,3-22-1 [NP]		
29	18020087	1	Bolt		
30	18020077	2	Bolt		
31	18020090	1	Bolt		
32	18020088	2	Bolt		
33	18020092	1	Washer		
34	18020080	2	Bolt		
35	18020098	1	Pin,dowl		
36	18020099	1	Bolt		
37	18020081	1	Bolt		



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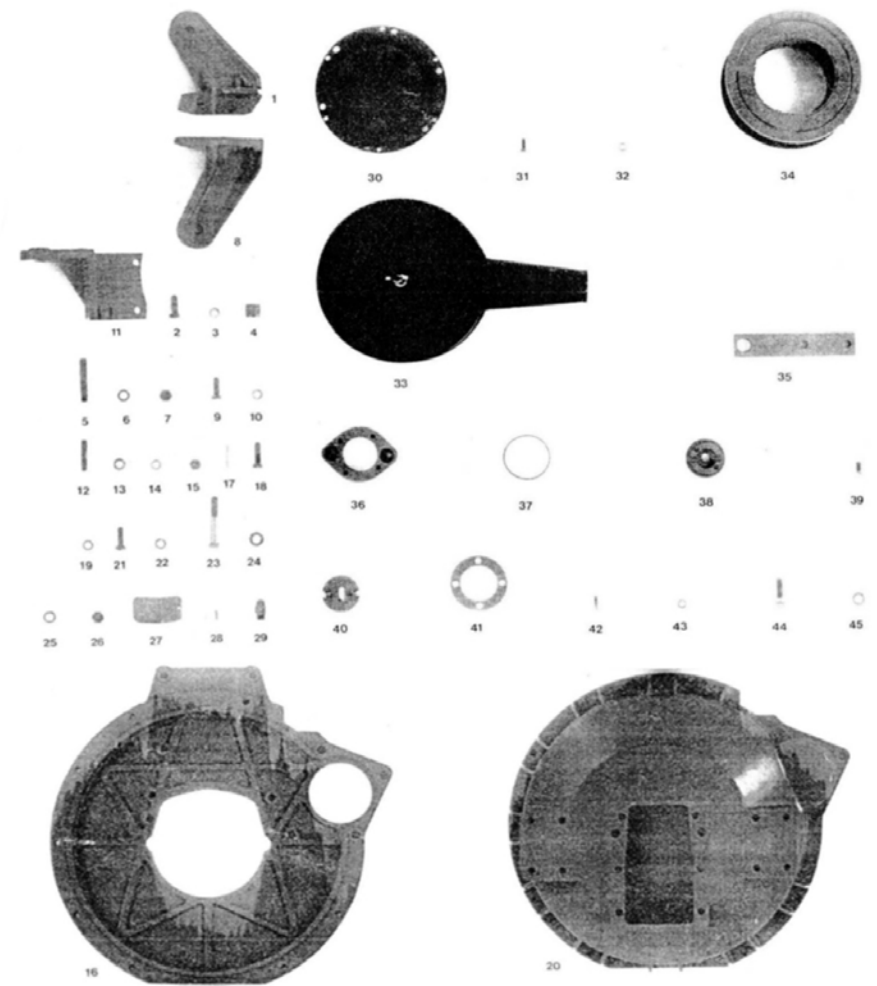


D_SM90_1_11		Oil Pan				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
38	18020082	2	Nut DIN 934 M8 8.8			
39	18021053	1	Bolt			
40	18020085	1	Stud [NP]			
41	18020083	1	Bolt			
42	18020078	1	Pin,tubular			
43	18020054	1	Pin,tubular			
44	18020095	1	Stud			





D_SM90_1_12		Engine Brackets			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
1	18010005	1	Bracket Front, LEFT		
2	52202309	2	Bolt DIN 933 M10-1,25-30 8.8		
3	53033010	2	Washer GROWER DIN 127-10		
4	18010015	1	Spacer 12,5X25X21,5		
5	18010016	1	Stud		
6	53033012	1	Washer GROWER DIN 127-12		
7	52120012	1	Nut DIN 934 M12 8.8		
8	18010006	1	Bracket RIGHT, front		
9	52202309	3	Bolt DIN 933 M10-1,25-30 8.8		
10	53033010	3	Washer GROWER DIN 127-10		
11	18010007	2	REAR Bracket		
12	15211002	8	Stud		
13	51030010	8	Washer DIN 125-10		
14	53033010	8	Washer GROWER DIN 127-10		
15	52120010	8	Nut DIN 934 M10 8.8		
16	18010001	1	Plate,rear		
17	18010002	1	Pin		
18	52202310	8	Bolt DIN 933 M10-1,25-35 8.8		
19	53033010	8	Washer GROWER DIN 127-10		
20	18010012	1	Bell Housing,Gear box		
21	52102309	8	Bolt DIN 933 M10-30 8.8		
22	53038010	8	Washer DIN 6798-A 10		
23	52101368	3	Bolt DIN 931 M12-75 8.8		
24	51030012	6	Washer DIN 125-12		
25	53033012	3	Washer GROWER DIN 127-12		
26	52120012	3	Nut DIN 934 M12 8.8		
27	18010014	1	Cover		
28	55307104	2	Bolt DIN 86 W3/16-10		
29	13111039	1	Plug,taper		
30	14710070	1	Flexible Coupling Type A D. 185		
31	52102156	6	Bolt DIN 933 M6-16 8.8		
32	53033006	6	Washer GROWER DIN 127-6		
33	18010033	1	Air Filter Assy [NP]		
34	18010031	1	Filter,element		
35	18010008	1	HANGER,engine		

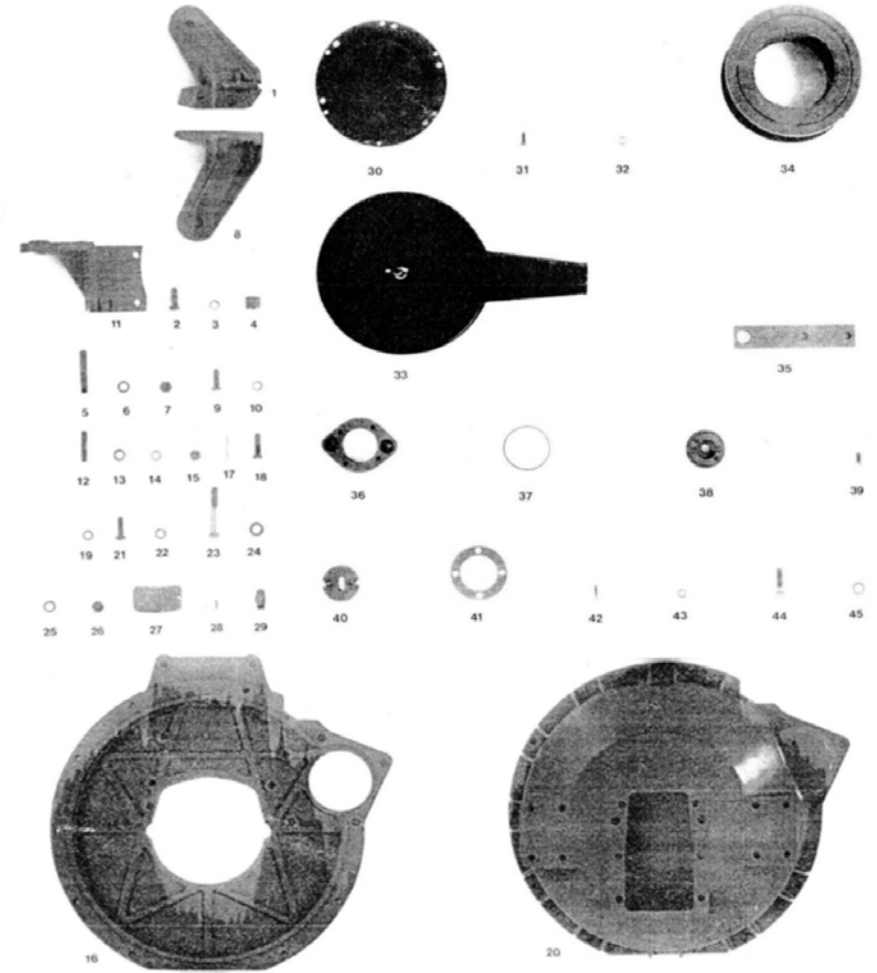


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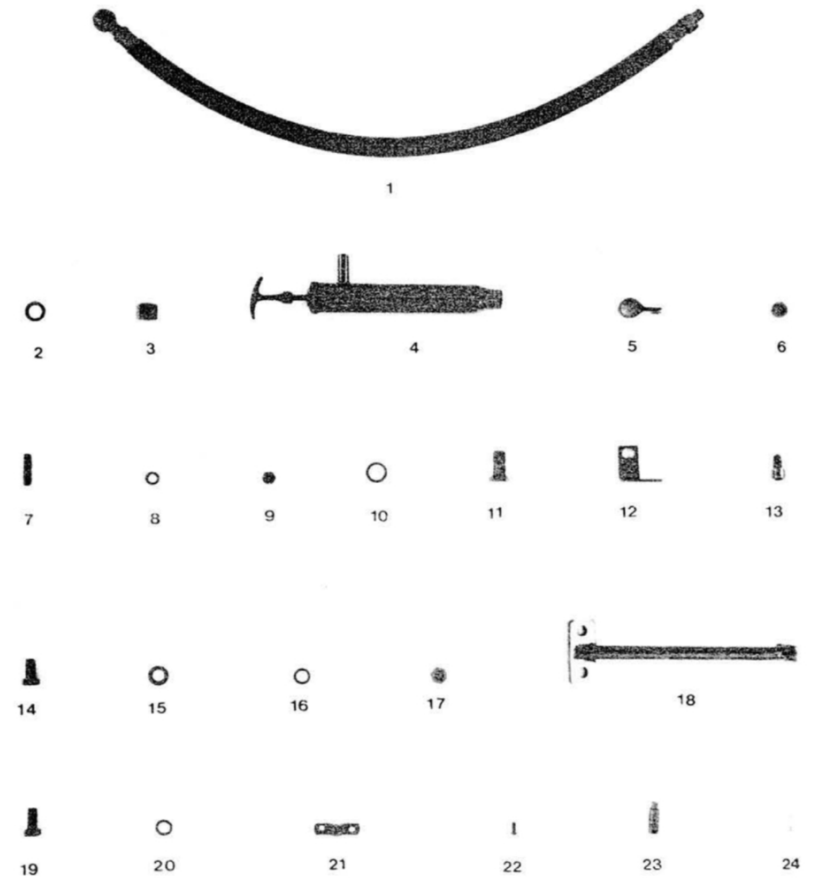
D_SM90_1_12		Engine Brackets			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
36	18010010	1	Block,water pump		
37	18010011	1	O-Ring D. 60X2		
38	18010071	1	Coupling,drive		
39	18010072	2	Shaft,drive		
40	15310072	1	CrossHead		
41	13310013	1	Gasket,water pump		
42	52103156	4	Bolt DIN 912 M6-16 8.8		
43	51030006	4	Washer DIN 125-6		
44	52101310	6	Bolt DIN 931 M10-35 8.8		
45	53038010	6	Washer DIN 6798-A 10		



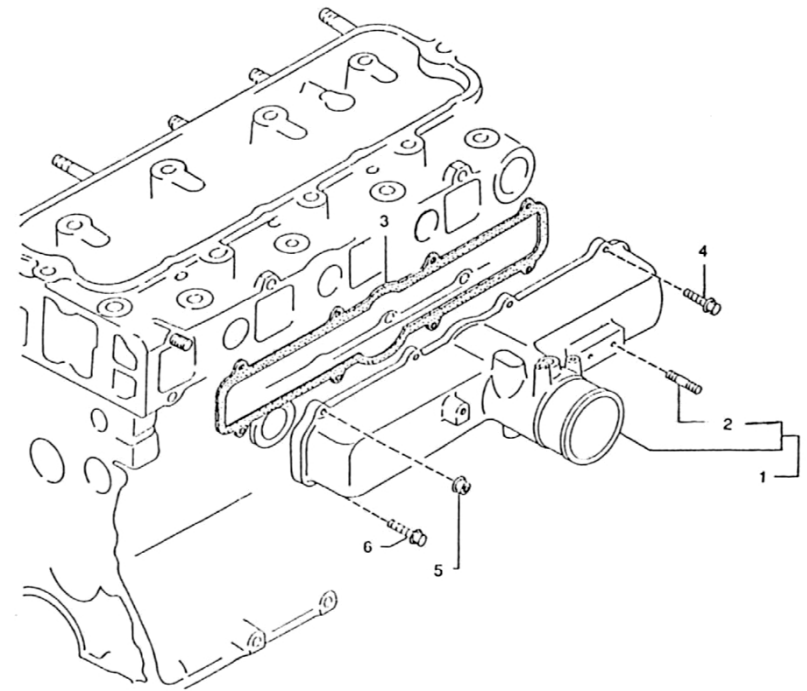




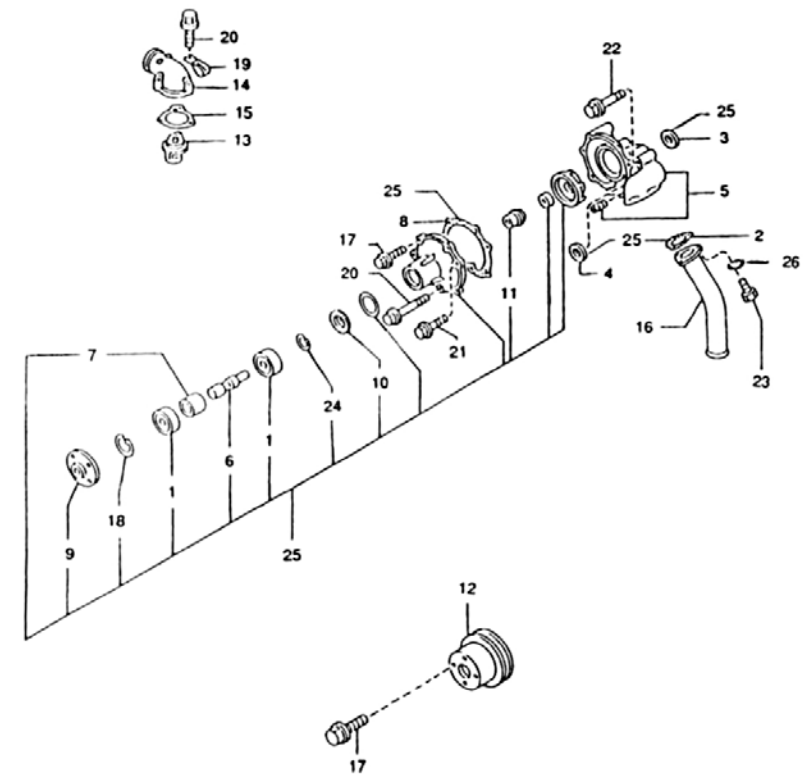
D_SM90_1_13		Bracket, Engine Control & Pump,oil Sucti			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
1	18014021	1	Extraction Hose		
2	56000067	1	Washer 13-20-1,5		
3	16514020	1	Plug		
4	14714001	1	Pump,oil Suction		
5	18014022	1	Bracket,pipe		
6	12117044	1	Spacer		
7	12120018	1	Stud		
8	53033008	1	Washer GROWER DIN 127-8		
9	52120008	1	Nut DIN 934 M8 8.8		
10	56000020	2	Washer 14,3-22-1		
11	12814051	1	Screw,eye		
12	18014001	1	Bracket,pump		
13	52103306	1	Bolt DIN 912 M10-15 8.8		
14	52102307	1	Bolt DIN 933 M10-20 8.8		
15	51030010	1	Washer DIN 125-10		
16	53033010	1	Washer GROWER DIN 127-10		
17	52120010	1	Nut DIN 934 M10 8.8		
18	18019001	1	Bracket,engine control		
19	52202307	2	Bolt DIN 933 M10-1,25-20 8.8		
20	53033010	2	Washer GROWER DIN 127-10		
21	14719013	1	Clamp,cable		
22	55307104	2	Bolt DIN 86 W3/16-10		
23	18019015	1	Coupling,cable		
24	54051155	1	Pin DIN-94 1,6-16		



D_SM90_2_1		Inlet				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1	18021030	1	Manifold Intake			
2	18021071	2	Stud			
3	18021032	1	Gasket,in. manifold			
4	18020087	1	Bolt			
5	18020082	1	Nut DIN 934 M8 8.8			
6	18020077	1	Bolt			



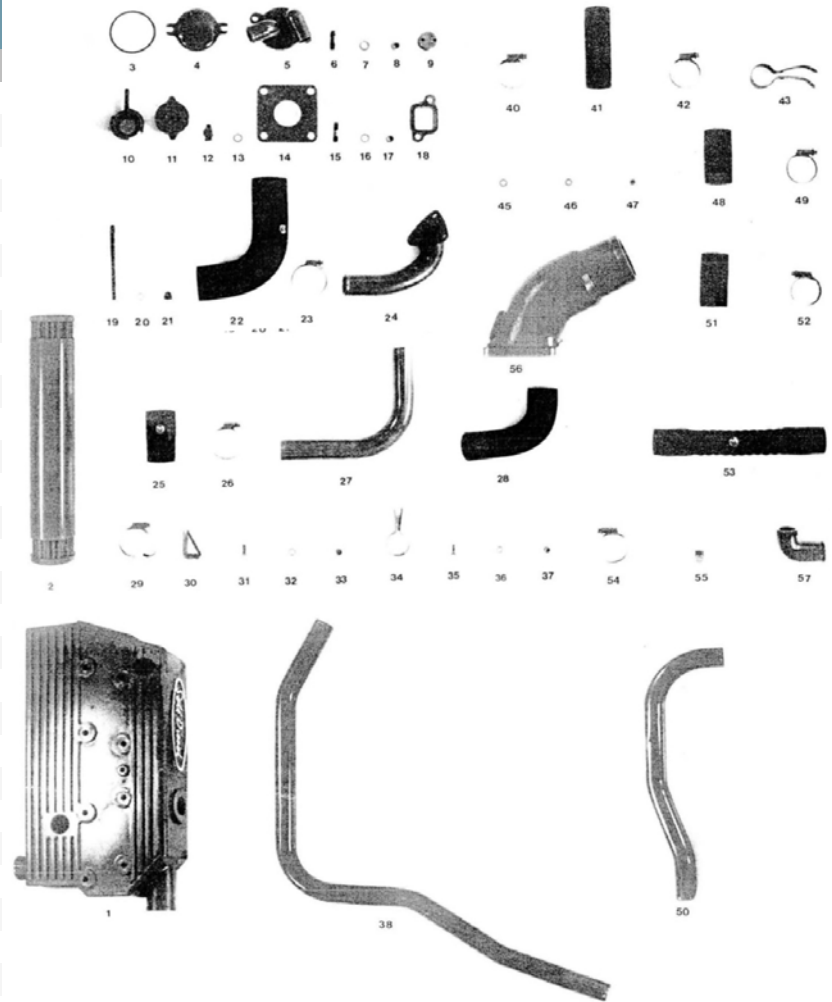
D_SM90_3_1 Water Pump						
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1	18021014	2	Ball Bearing 6204-2RSH			
2	18021043	1	Gasket,water pipe asbestos			
3	18021041	1	Gasket			
4	18021042	1	Gasket			
5	18021121	1	Body,water pump [NP]			
6	18021044	1	Shaft,water pump			
7	18021024	1	Spacer,bearing			
8	18021054	1	Gasket Water Pump			
9	18021045	1	Boss,w. pump pulley			
10	18021046	1	Plate,dust seal			
11	18021048	1	Seal,water pump			
12	18021021	1	Pulley,Water Pump [NP]			
13	18021027	1	Thermostat			
14	18021047	1	Cover,thermostat			
15	18021049	1	Gasket,thermostat cover			
16	18011011	1	Pipe,cooler to engine			
17	18021055	4	Bolt			
18	18021076	1	CIRClip DIN 472 I-47			
19	18021052	1	Clip			
20	18020080	3	Bolt			
21	18020087	1	Bolt			
22	18021053	1	Bolt			
23	52103256	3	Bolt DIN 912 M8-15 8.8			
24	18021075	1	CIRClip DIN 471 E-19 [NP]			
25	18021020	1	Fresh Water Pump			
26	53038008	3	Washer DIN 6798-A 8			



[NP] Not provided



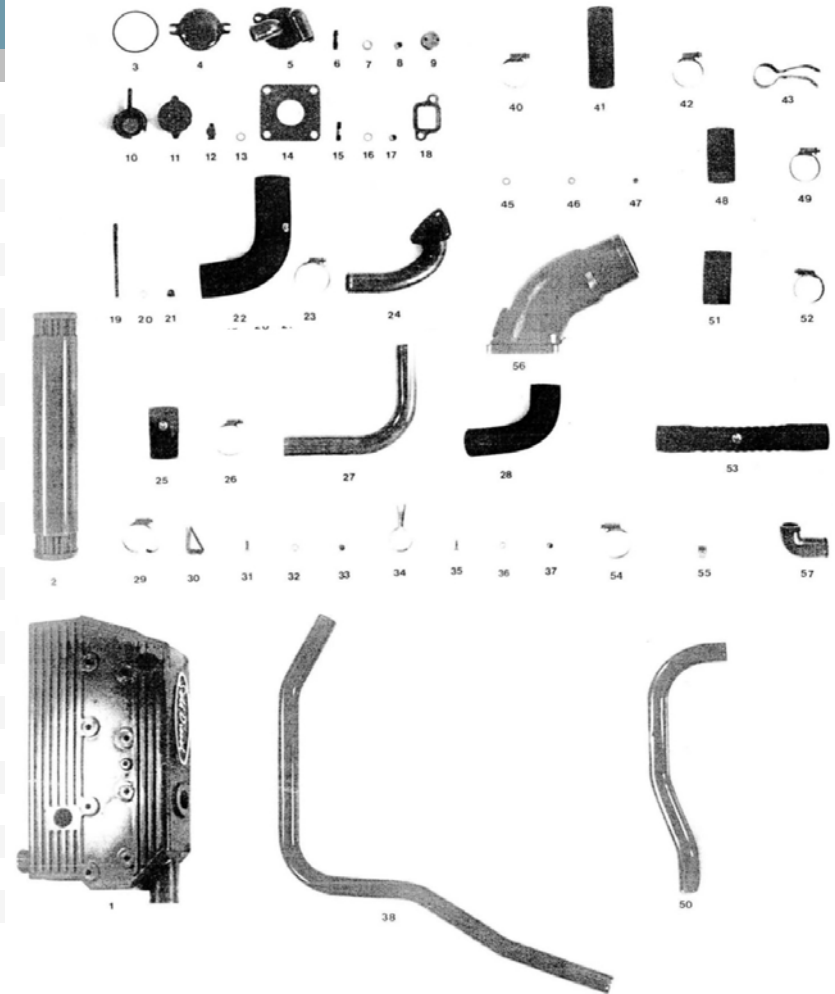
D_SM90_3_2		Cooler Pipes			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
1	18011001	1	Body,water cooler [NP]		
1-17	18011000	1	Water Cooler		
2	18011004	1	Element,water cooler		
3	18011008	2	O-Ring D. 72X3		
4A	18011002	1	Cover Front,water cooler		
4B	18011009	1	Anode Plug		
4C	18011031	1	Engine Anode		
4D	56000073	1	Copper Washer 16-23-1,5		
5	18011003	1	Cover REAR,water cooler		
6	16511007	4	Stud		
7	51030010	4	Washer DIN 125-10		
8	54120010	4	Nut DIN 934 M10		
9	14711010	3	Plug 1"		
10	15111002	1	Cap Mouth		
11	14711003	1	Cap [NP]		18/01/2017
11	14711003.1	1	Cap	19/01/2017	
12	13111038	1	Bolt DIN 933 M10-15 8.8		
13	56000061	1	Washer 10-16-1,5		
14	16513002	1	Exhaust Elbow Gasket		
15	16511007	4	Stud		
16	53033010	4	Washer GROWER DIN 127-10		
17	55120110	4	Nut DIN 934 M10		
18	18021035	4	Gasket Exhaust Manifold		
19	18011010	8	Stud		
20	56000057	8	Washer 8-13-1,5		
21	13211016	8	Nut DIN 1587 M8		
22	18011013	1	Elbow,engine water exhaust		
23	54082040	2	Clamp DIN 3017 40-60/12 W4		
24	18011011	1	Pipe,cooler to engine		
25	18011018	1	BUBBER Pipe		
26	54082032	2	Clamp DIN 3017 32-50/12 W4		
27	18011012	1	Pipe,engine to cooler		
28	18011017	1	Elbow		
29	54082032	2	Clamp DIN 3017 32-50/12 W4		
30	17011026	1	Bracket,pipe		



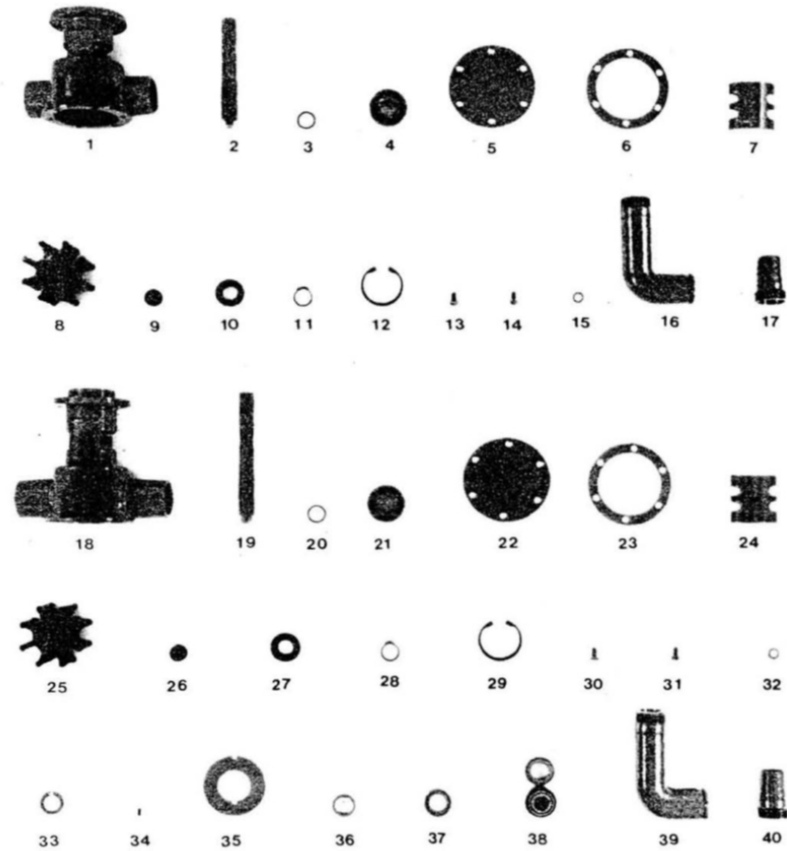
[NP] Not provided



D_SM90_3_2		Cooler Pipes				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
31	52102256	1	Bolt DIN 933 M8-15 8.8			
32	53033008	1	Washer GROWER DIN 127-8			
33	52120008	1	Nut DIN 934 M8 8.8			
34	18011014	1	Bracket,pipe			
35	52102156	1	Bolt DIN 933 M6-16 8.8			
36	53033006	1	Washer GROWER DIN 127-6			
37	52120006	1	Nut DIN 934 M6 8.8			
38	18011015	1	Pipe,water pump			
39	13211036	1	Pipe 30-40-100			
40	54082025	2	Clamp DIN 3017 25-40/12 W4			
41	13411036	1	Pipe 30-40-120			
42	54082025	2	Clamp DIN 3017 25-40/12 W4			
43	18011016	1	Bracket,pipe			
44	52102156	1	Bolt DIN 933 M6-16 8.8			
45	51030006	1	Washer DIN 125-6			
46	53033006	1	Washer GROWER DIN 127-6			
47	52120006	1	Nut DIN 934 M6 8.8			
48	15111028	1	Pipe 30-40-80			
49	54082025	2	Clamp DIN 3017 25-40/12 W4			
50	18011021	1	Pipe			
51	15111028	1	Pipe 30-40-80			
52	54082025	2	Clamp DIN 3017 25-40/12 W4			
53	18011020	1	Pipe			
54	54082025	2	Clamp DIN 3017 25-40/12 W4			
55	18011024	1	Plug			
56	16613015	1	Elbow, wet exhaust			
57	14711021	1	Hose N° 1			



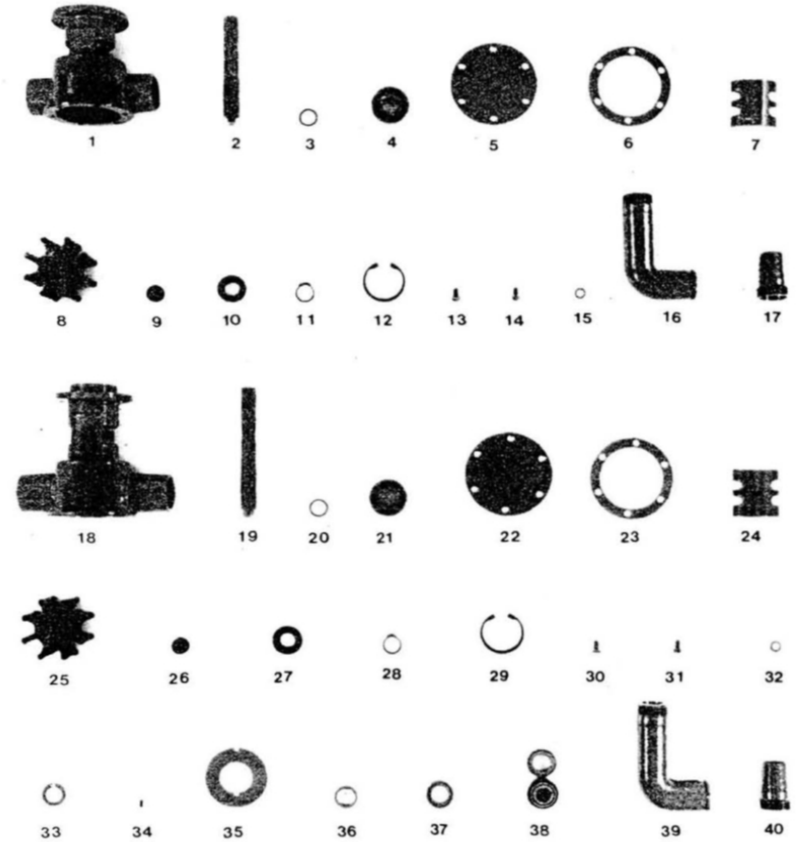
D_SM90_3_3		Wet Exhaust				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1	33311001	1	Body Water Pump			
1-15	33311000	1	1" Water Pump, Set [NP]			
2	33311010	1	Shaft Pump			
3	33311013	1	O-Ring D. 15X2			
4	33311014	2	Ball Bearing 6203			
5	34711002	1	Cover Pump			
6	34711003	1	Gasket Cover			
7	34711005	1	Cam 6,5 mm [NP]			
8	34711008	1	1" Impeller			
9	34711041	1	Impeller Plug			
10	35111020	2	Seal 15,87-28,57-7,93			
11	53040017	1	CIRClip DIN 471 E-17			
12	53041040	1	CIRClip DIN 472 I-40			
13	54108154	1	Bolt DIN 84 M6-10			
14	54108154	6	Bolt DIN 84 M6-10			
15	56000053	1	Washer 6-10-1,5			
16	14711028	1	Hose N° 4			
18	36511001	1	Body,water pump			
18-38	36511000	1	1" Water Pump, Set			
19	36511010	1	Shaft,pump			
20	33311013	1	O-Ring D. 15X2			
21	33311014	2	Ball Bearing 6203			
22	34711002	1	Cover Pump			
23	34711003	1	Gasket Cover			
24	34711005	1	Cam 6,5 mm [NP]		23/05/2017	
24	37811005	1	Cam 6,5 mm	23/05/2017		
25	34711008	1	1" Impeller			
26	34711041	1	Impeller Plug			
27	36511020	1	Seal 16-30-7			
28	53040017	1	CIRClip DIN 471 E-17			
29	53041040	1	CIRClip DIN 472 I-40			
30	54108154	1	Bolt DIN 84 M6-10			
31	54102154	6	Bolt DIN 933 M6-10 INOX			
32	56000053	1	Washer 6-10-1,5			
33	34711011	1	CIRClip E-16			



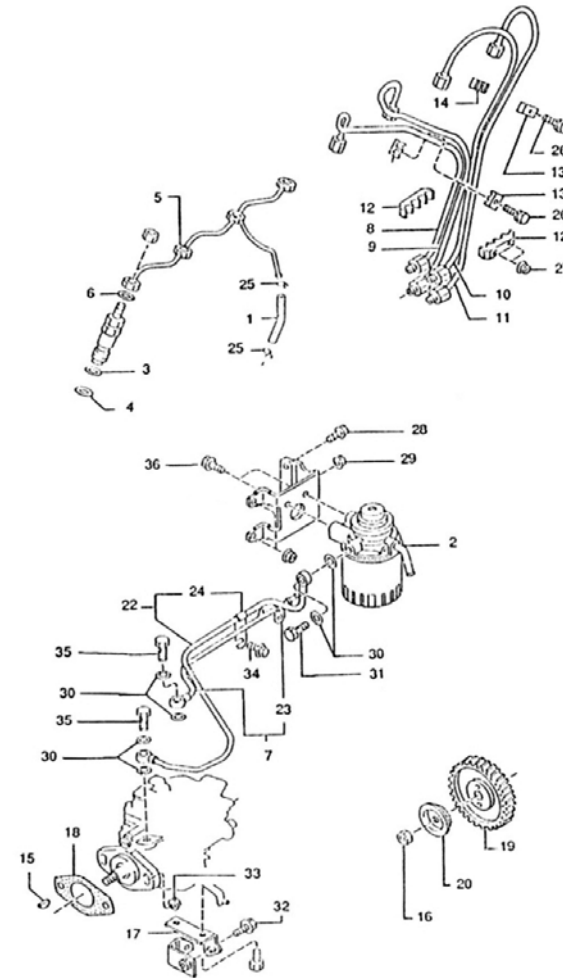
[NP] Not provided



D_SM90_3_3		Wet Exhaust			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
34	34711017	1	Pin,Dowel		23/05/2017
34	36511017	1	Pin,Dowel	23/05/2017	
35	34711026	1	Plate,Friction		
36	36511015	1	Spacer 17X24X7		
37	36511018	1	Washer,seal		
38	36511019	1	Seal		
39	14711028	1	Hose N° 4		
40	60151007	1	Hose Connection 1" x 27 [NP]		02/08/2017
40	60371058	1	Hose Connection 1" x 27	02/08/2017	



D_SM90_4_1		Fuel Pipe				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
2	18024020	1	Filter,Assy fuel			
3	18024013	4	Washer,nozzle			
4	18024029	4	Gasket,non asbestos			
5	18024031	1	Pipe,fuel leak [NP]			
6	18024032	4	Gasket,leak pipe			
7	18024034	1	Pipe,fuel pump feed			
8	18024015	1	Pipe Injection N.1			
9	18024016	1	Pipe Injection N.2			
10	18024019	1	Pipe Injection N.3			
11	18024022	1	Pipe Injection N.4			
12	18024038	2	Clip,injection pipe			
13	18024039	2	Clip,pipe			
14	18024041	2	Clip,injection pipe			
15	18024037	1	Key,woodruff			
16	18024042	1	Nut DIN 934 M12 8.8			
17	18024043	1	Stay,injection pump			
18	18024044	1	Gasket,inj.pump asbestos			
19	18024045	1	Gear,inj. pump			
20	18024046	1	Washer,plain			
22	18024047	1	Pipe,fuel			
23	18024049	1	Clip			
24	18024048	1	Clip			
25	18024050	1	Clip,fuel pipe			
26	18024052	2	Bolt [NP]			
27	18024053	1	Nut			
28	18024054	1	Bolt [NP]			
29	18024055	1	Nut			
30	18020092	3	Washer			
31	18024058	1	Bolt			
32	18024066	1	Bolt			
33	18020082	1	Nut DIN 934 M8 8.8			
34	18024060	1	Bolt			
35	18024061	2	Screw, Racord [NP]			

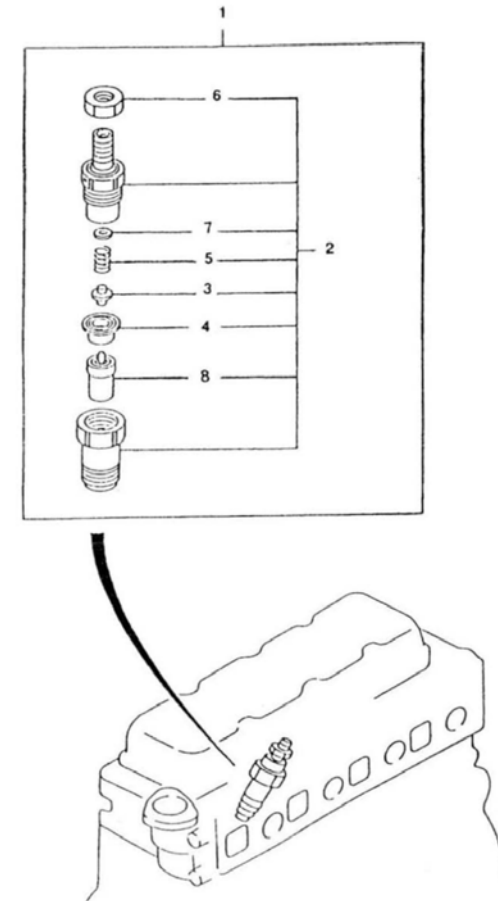


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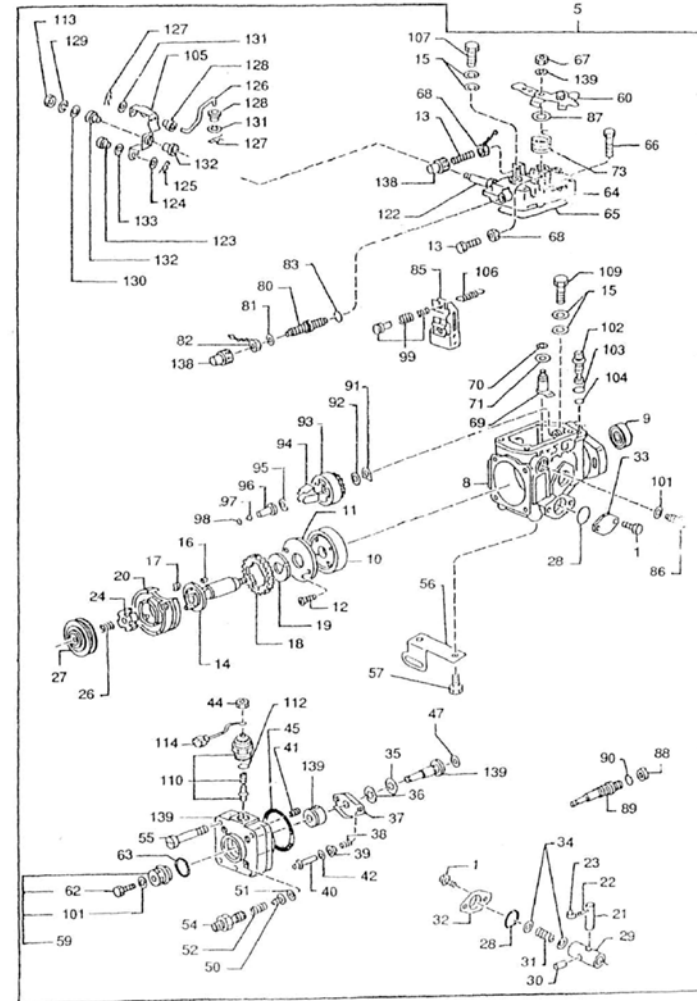
D_SM90_4_2		Injection Nozzle				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1	18026001	4	Holder, nozzle			
2	18026002	4	Holder, nozzle			
3	18026003	4	ROD, push-nozzle holder [NP]			
4	18026007	4	Sheet, nozzle spring			
5	18026004	4	Spring			
6	18026006	4	Nut, screw cap			
7N	18026119	4	Shim Adjusting T=1,06mm.			
7A	18026043	4	Shim Adjusting T=0,5mm. [NP]			
7B	18026044	4	Shim Adjusting T=0,54mm.			
7C	18026045	4	Shim Adjusting T=0,58mm.			
7D	18026046	4	Shim T=0,62mm [NP]			
7E	18026109	4	Shim Adjusting T=0,66mm. [NP]			
7F	18026110	4	Shim Adjusting T=0,7mm.			
7G	18026111	4	Shim Adjusting T=0,74mm.			
7H	18026112	4	Shim ADJUSTING T=0,78mm.			
7I	18026113	4	Shim Adjusting T=0,82mm.			
7J	18026114	4	Shim Adjusting T=0,86mm.			
7K	18026115	4	Shim Adjusting T=0,9mm.			
7L	18026116	4	Shim Adjusting T=0,94mm.			
7M	18026117	4	Shim Adjusting T=0,98mm.			
7N	18026118	4	Shim Adjusting T=1,02mm. [NP]			
7O	18026120	4	Shim Adjusting T=1,1mm.			
7P	18026121	4	Shim Adjusting T=1,14mm.			
7Q	18026122	4	Shim Adjusting T=1,18mm.			
7R	18026123	4	Shim Adjusting T=1,22mm.			
7S	18026124	4	Shim Adjusting T=1,26mm.			
7T	18026125	4	Shim Adjusting T=1,3mm.			
7U	18026126	4	Shim Adjusting T=1,34mm.			
7V	18026127	4	Shim Adjusting T=1,38mm.			
7W	18026128	4	Shim Adjusting T=1,42mm.			
7X	18026130	4	Shim Adjusting T=1,46mm.			
7Y	18026131	4	Shim Adjusting T=1,5mm.			
7Z	18026132	4	Shim Adjusting T=1,54mm.			
8	18026018	4	Nozzle Assy SM-90			



[NP] Not provided



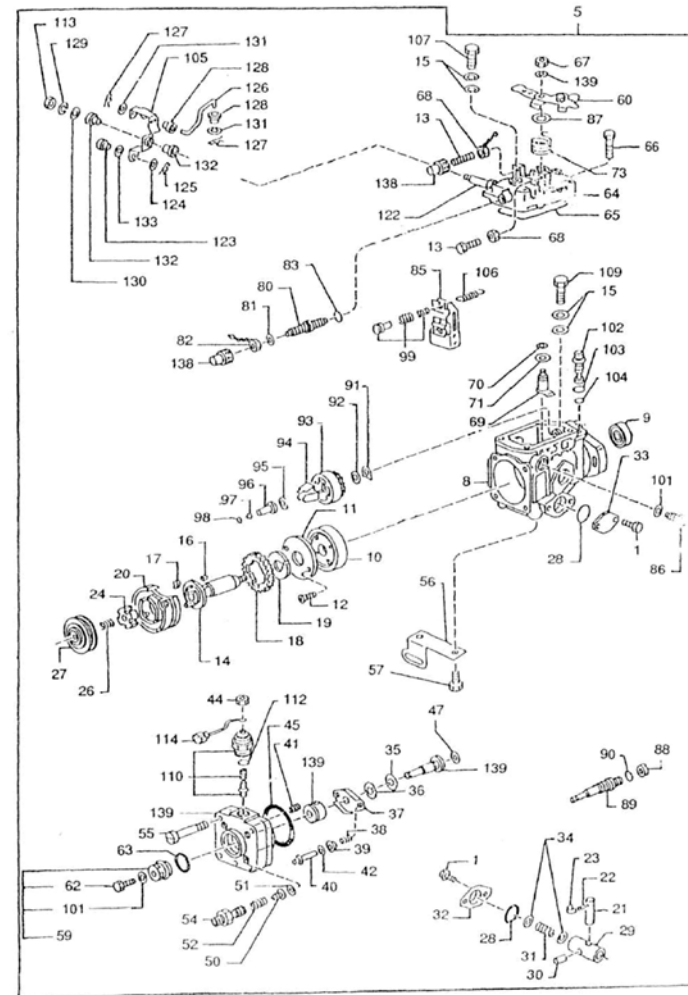
D_SM90_4_3_1		Fuel Injection Pump 1			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
1	18025020	4	Bolt		
5	18025001	1	Pump Assy,Fuel Injection		
8	18025025	1	Housing [NP]		
9	18025026	1	Seal,oil		
10	18025027	1	Pump,feed		
11	18025028	1	Cover		
12	18025029	2	Screw		
13	18025030	2	Bolt		
14	18025031	1	Shaft,drive		
15	18025032	5	Gasket		
16	18025033	1	KEY		
17	18025034	2	Damper		
18	18025035	1	Gear		
19	18025036	1	Washer		
20	18025040	1	Roller		
21	18025041	1	Pin		
22	18025045	1	Pin		
23	18025046	1	Clip		
24	18025047	1	Disk		
26	18025049	1	Spring		
27	18025050	1	Cam Disk		
28	18025051	3	O-Ring D. 30X3		
29	18025052	1	Piston		
30	18025053	1	SLIDER		
31	18025054	1	Spring,timer K=2,5Kg		
32	18025057	1	Cover		
33	18025059	1	Cover		
34A	18025065	2	Shim Adjusting T=0,6mm.		
34B	18025066	1	Shim Adjusting T=0,7mm. [NP]		
34C	18025067	1	Shim Adjusting T=0,9mm. [NP]		
34D	18025068	1	Shim Adjusting T=1mm.		
34E	18025069	1	Shim Adjusting T=1,2mm.		
35	18025071	1	Shim [NP]		
36	18025073	1	SHEET,spring		
38	18025074	1	Spring,plunger		



[NP] Not provided

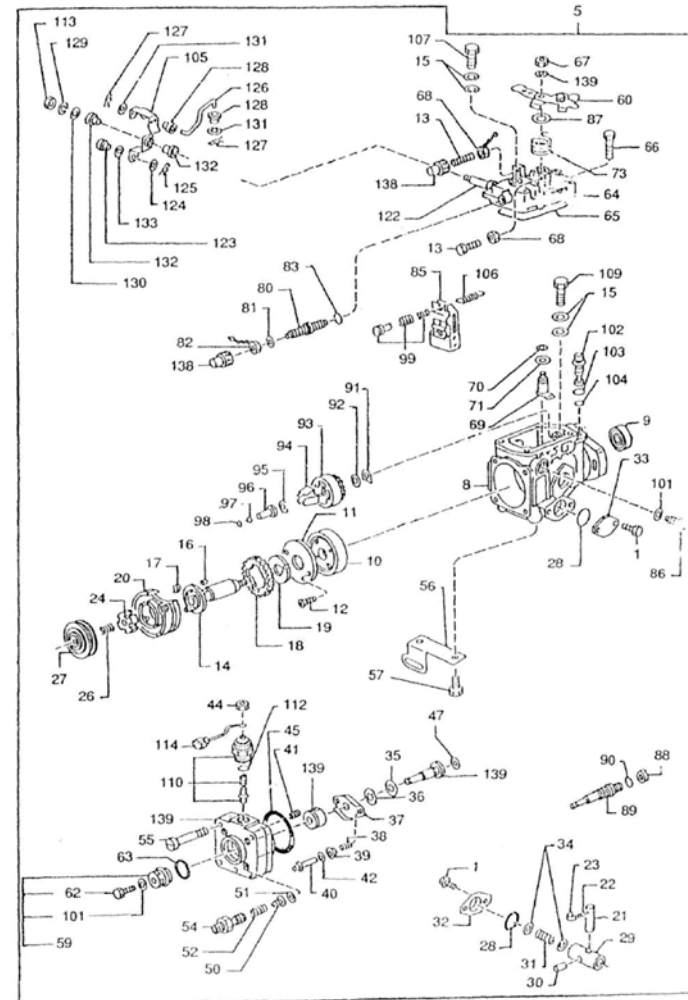


D_SM90_4_3_1		Fuel Injection Pump 1			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
39	18025075	2	Sheet, spring		
40	18025076	2	Pin, guide		
41	18025078	1	Spring		
42A	18025081	2	Shim Adjusting T=0,5mm		
42B	18025082	2	Shim Adjusting T=0,8mm.		
42C	18025083	2	Shim Adjusting T=1mm.		
42D	18025084	2	Shim Adjusting T=1,2mm.		
42E	18025085	2	Shim Adjusting T=1,5mm. [NP]		
42F	18025086	2	Shim Adjusting T=1,8mm. [NP]		
42G	18025087	2	Shim T=2mm [NP]		
44	18025093	1	Nut		
45	18025105	1	O-Ring D. 62X2,5		
47A	18025111	1	Shim Adjusting T=1,92mm.		
47B	18025112	1	Shim Adjusting T=2mm.		
47C	18025113	1	Shim T=2,08mm		
47D	18025114	1	Shim T=2,16mm		
47E	18025115	1	Shim T=2,24mm		
47F	18025116	1	Shim T=2,32mm		
47G	18025117	1	Shim T=2,4mm		
47H	18025118	1	Shim T=2,48mm		
47I	18025119	1	Shim T=2,56mm		
47J	18025121	1	Shim T=2,64mm		
47K	18025122	1	Shim T=2,72mm		
47L	18025123	1	Shim T=2,8mm		
47M	18025124	1	Shim T=2,88mm		
50	18025140	4	Valve, delivery		
51	18025141	6	Gasket		
52	18025142	4	Spring, d.v.		
54	18025144	4	Holder, d.v.		
55	18025145	4	Screw		
56	18025147	1	Bracket		
57	18025148	2	Bolt		
59	18025150	1	Plug		
60A	18025157	1	Lever, control		
60B	18025158	1	Lever, control		
62	18025152	1	Bolt		
63	18025153	1	O-Ring D. 30X2,5		



**D\_SM90\_4\_3\_2 Fuel Injection Pump 2**

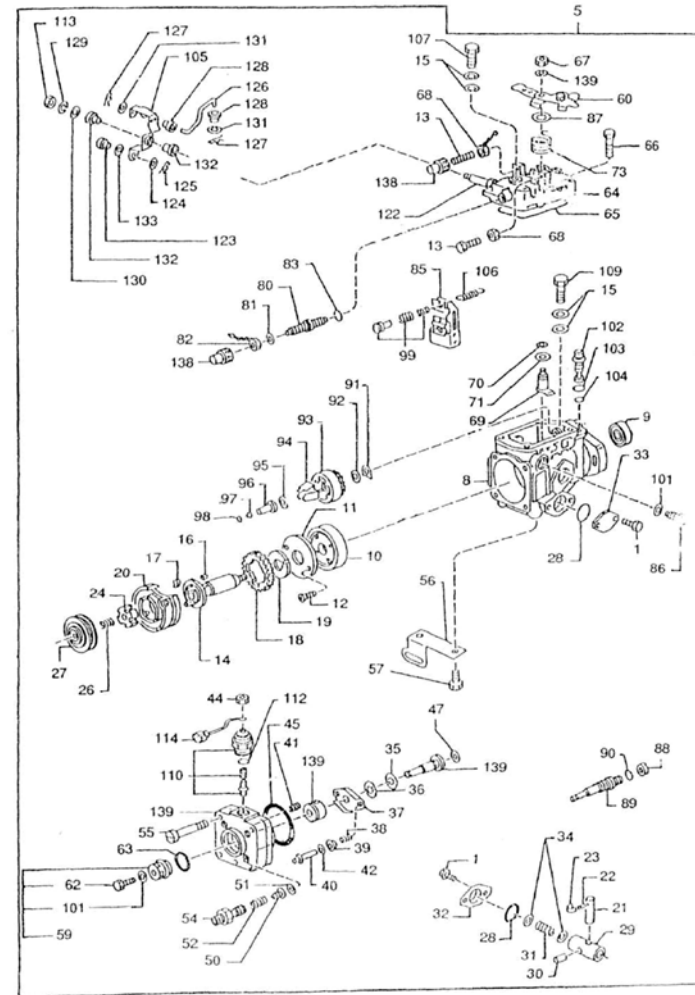
FIG.	REF.	QTY	DESCR.	FROM	UPTO
101	18025269	3	Gasket,injection		
102	18025270	1	Valve,regulating		
103	18025271	1	O-Ring D. 10X2		
104	18025272	1	O-Ring D. 9X1,8		
105	18025273	1	Lever		
106	18025275	1	Spring,governor		
107	18025280	1	Valve,over flow		
109	18025292	1	Bolt,eye		
110	18025300	1	Valve,magnet		
112	18025303	1	O-Ring D. 10X2,5 [NP]		
113	18025304	1	Nut		
114	18025306	1	Wire		
122	18025321	1	Shaft		
123	18025322	1	Pin [NP]		
124	18025323	1	Washer		
125	18025324	1	Pin		
126	18025325	1	Rod		
127	18025326	2	Pin		
128	18025327	2	Bush		
129	18025328	1	Washer,spring		
130	18025329	1	Washer		
131	18025332	2	Washer		
132	18025333	2	Bush		
133	18025334	1	Washer		
138	18025339	1	Plug		
138	18025340	1	Plug		
139	18025094	1	Head,distributor		
64	18025155	1	Cover,governor		
65	18025162	1	Ring,seal		
66	18025163	4	Screw		
67	18025164	1	Nut		
68	18025169	2	Nut		
69	18025170	1	Shaft,control		
70	18025171	1	O-Ring D. 8X1,8		
71	18025172	1	Washer		



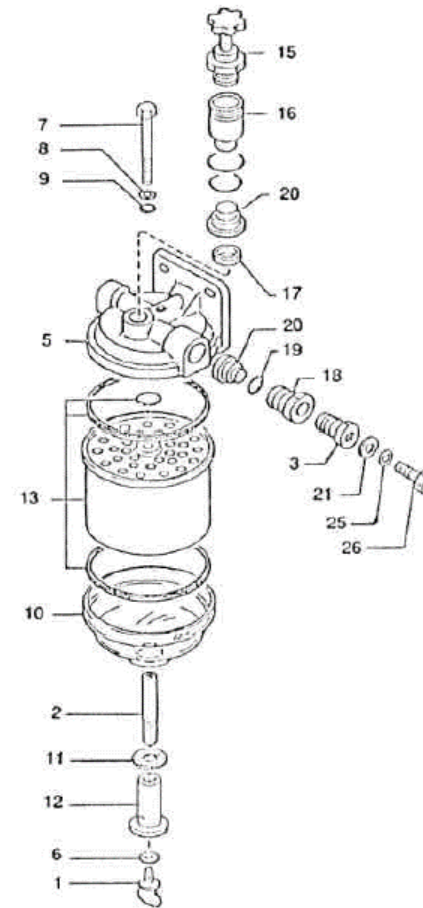
[NP] Not provided  
[NS] Not shown



D_SM90_4_3_2		Fuel Injection Pump 2			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
73	18025177	1	Spring [NP]		
80A	18025191	1	Screw,load L=53mm		
80B	18025192	1	Screw,load L=55mm		
80C	18025193	1	Screw,load L=57mm		
81	18025194	1	Washer		
82	18025195	1	Nut		
83	18025196	1	O-Ring D. 7X2		
85	18025200	1	Lever,governor		
86	18025201	2	Bolt,pivot		
87	18025210	1	Washer [NP]		
88	18025221	1	Nut		
89	18025222	1	Shaft,governor		
90	18025223	1	O-Ring D. 9X2		
91A	18025224	1	Shim Adjusting T=1,05mm.		
91B	18025225	1	Shim Adjusting T=1,25mm.		
91C	18025226	1	Shim Adjusting T=1,45mm.		
91D	18025227	1	Shim Adjusting T=1,65mm.		
91E	18025228	1	Shim Adjusting T=1,85mm.		
92	18025229	1	Washer		
93	18025231	1	Holder FLYWEIGHT		
94	18025232	1	Flyweight		
95	18025233	1	Washer		
96	18025234	1	SLEEVE,governor		
97	18025235	1	Plug		
98A	18025236	1	Plug,closing L=8,6mm		
98B	18025237	1	Plug,closing L=8,8mm		
98C	18025238	1	Plug,closing L=9mm		
98D	18025239	1	Plug,closing L=9,2mm		
98E	18025241	1	Plug,closing L=9,4mm		
98F	18025242	1	Plug,closing L=9,6mm		
98G	18025243	1	Plug,closing L=9,8mm		
98H	18025244	1	Plug,closing L=10mm		
99	18025260	1	Pin,retaining		
NS	18025600	1	Repair Kit,f.i.p. [NS]		



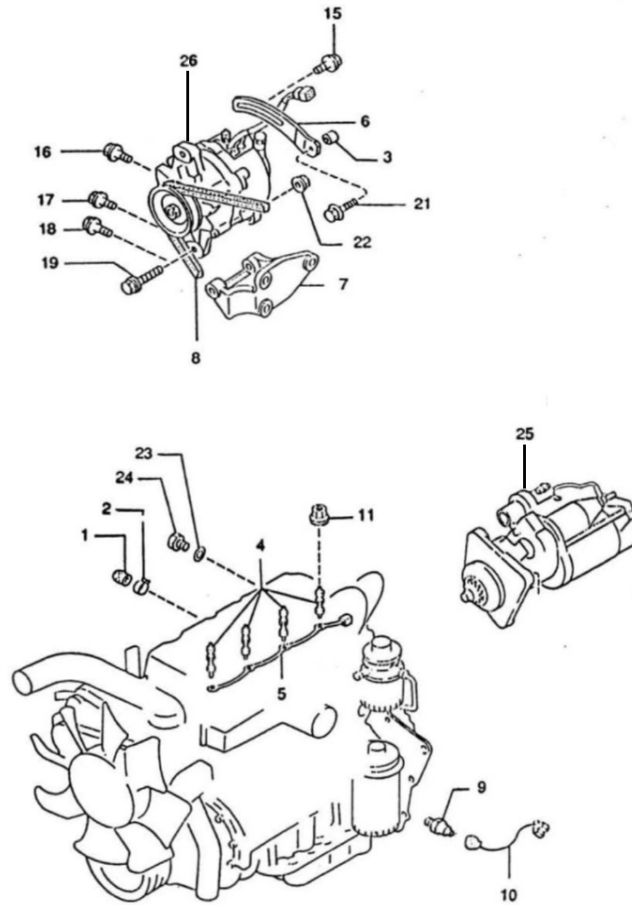
D_SM90_4_5		Fuel Filter				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1	18024080	1	Bolt			
2	18024081	1	Stud			
3	18024082	1	Screw, Racord			
5	18024083	1	Body,filter			
6	18024084	1	Washer			
7	18024085	1	Bolt,center			
8	18024086	1	Washer			
9	18024087	1	Screw TOP O-Ring			
10	60300103I	1	Body Glass			
11	18024089	1	Ring,seal			
12	18024090	1	Stud			
13	12814028	1	Fuel Filter DELPHI HDF296			
15	18024091	1	Pump,priming			
16	18024092	1	Piece,distance			
17	18024093	1	Seal,washer			
18	18024094	1	Union,vent			
19	18024095	1	O-Ring D. 18X2			
20	18024096	2	Valve			
21	18024097	1	Gasket [NP]			
25	18024101	1	Washer			
26	18024061	1	Screw, Racord [NP]			



[NP] Not provided



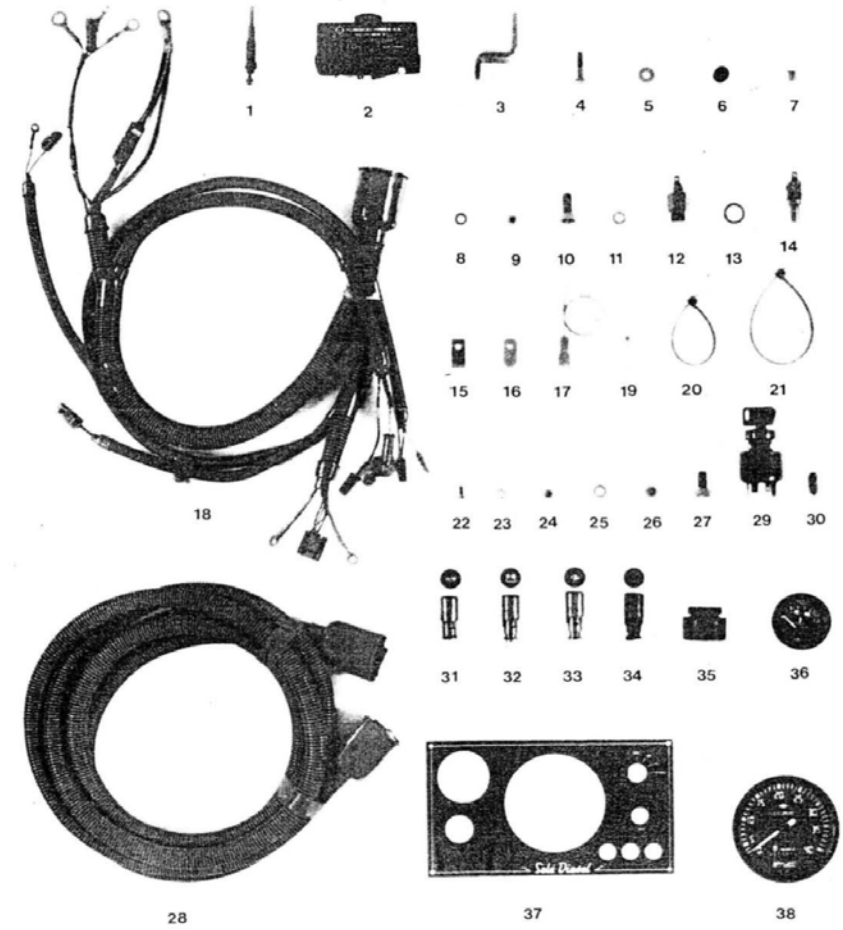
D_SM90_5_1		12V Electrical Wiring				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1	18027023	1	Plug			
2	18027024	1	Clip,hose			
3	18027015	1	Spacer			
4	18027017	4	Plug Glow			
5	18027018	1	Cord,glow			
6	18027007	1	Strap,alternator			
7	18027154	1	Bracket,alternator			
8	18021028	1	Belt Type A 42 1067			
9	18027027	1	SWITCH, oil pressure [NP]			
10	18027028	1	Cord,pressure switch			
11	18027008	4	Nut,flange-glow plug			
15	18027063	1	Bolt			
16	18024107	1	Bolt [NP]			
17	18027085	1	Bolt			
18	18027087	1	Bolt			
19	18027068	1	Bolt			
21	18020081	1	Bolt			
22	18027069	1	Nut			
23	18027070	1	Washer			
24	18027071	1	Screw			
25	18027001	1	Starter Assy 12 V			
26	18017010.1	1	Alternator 14/70A			



[NP] Not provided



D_SM90_5_4		Deluxe Instrument Panel			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
1	18027017	4	Plug Glow		
2	18027001	1	Starter Assy 12 V		
3	18017002	1	Support,relay		
4	52101159	1	Bolt DIN 931 M6-30 8.8		
5	51031006	1	Washer DIN 9021 6		
6	13217007	1	REGULATOR SILENTBlock		
7	13217008	1	SILENTBlock Bush		
8	51030006	1	Washer DIN 125-6		
9	52120006	2	Nut DIN 934 M6 8.8		
10	52202308	1	Bolt DIN 933 M10-1,25-25 8.8		
11	53033008	1	Washer GROWER DIN 127-8		
12	60900070	1	Thermo-Switch 97°C		
13	56000073	1	Copper Washer 16-23-1,5		
14	60900780	1	Temperature SENDER 12 V		
15	60900100	1	Clamp		
16	60900105	1	Clamp		
17	60900201	1	CABLE, tachometer sender		
18	60980200	1	Wire,electrical		
19	58088221	1	Pastic Cable Zip Tie [NP]		
20	58088271	2	Pastic Cable Zip Tie [NP]		
21	58088272	1	Pastic Cable Zip Tie [NP]		
22	55107104	1	Bolt DIN 86 M5-10		
23	53033005	1	Washer GROWER DIN 127-5		
24	52120005	1	Nut DIN 934 M5 8.8		
25	53033008	1	Washer GROWER DIN 127-8		
26	52120008	1	Nut DIN 934 M8 8.8		
27	52202307	1	Bolt DIN 933 M10-1,25-20 8.8		
28	60980210	1	Engine Wiring Ext. 4 M.		
29	60900031	1	Key-Locking Switch		
29-38	60980000	1	Panel SM-75/90		
30	60900045	4	Bulb 12V 3W Connector B		
31	60900050	1	LAMP, oil press.		
32	60900051	1	LAMP, charge		
33	60900052	1	LAMP, water temp.		
34	60900053	1	LAMP, control		



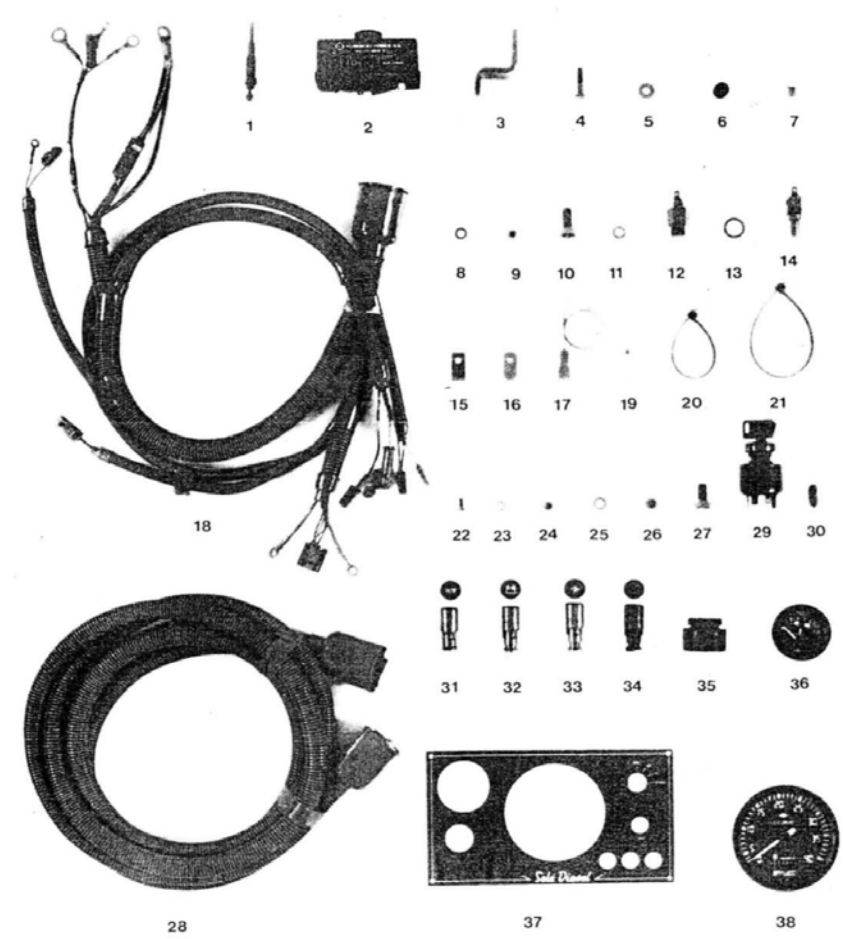
[NP] Not provided  
 [NS] Not shown





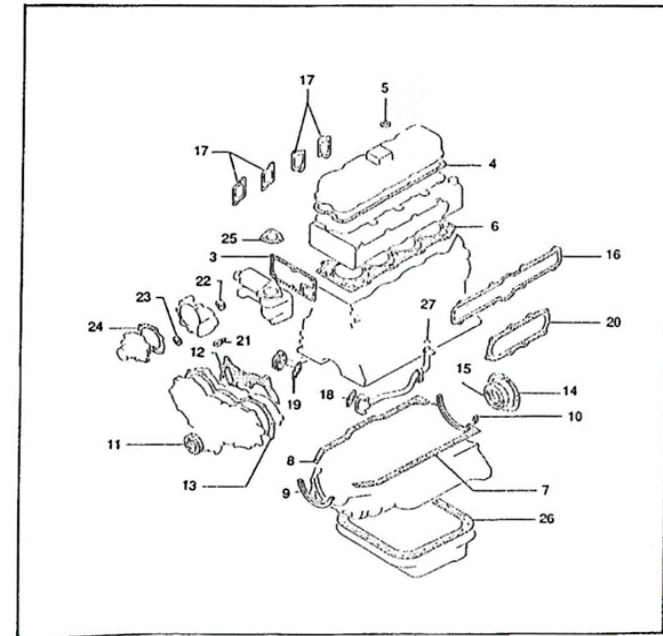
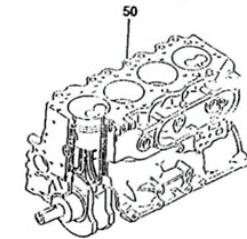


D_SM90_5_4		Deluxe Instrument Panel			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
35	60900060	1	Alarm, SWITCH		
36	60900815	1	Water Gauge 12 V		
37	60980001	1	Panel		
38	60980710	1	TACHOMETER SM-75 and 90		
NS	60934117	1	Fuse 60A. [NS]		
NS	60900035	1	Cover,key [NS]		
NS	60900111	1	DIODE 6 A. [NS]		
NS	60900110	2	DIODE 3 A. [NS]		





D_18020101		Gasket Kit			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
1-27	18020101	1	Gasket Set,engine		
3	18021033	1	Gasket,thermostat		
4	18021010	1	Gasket,head cover		
5	18021008	4	Washer,sealing head cover		
6	18021004	1	Gasket,cylinder head		
7	18020133	1	Gasket Set,oil pan [NP]		
8	18020133	1	Gasket Set,oil pan [NP]		
9	18020133	1	Gasket Set,oil pan [NP]		
10	18020133	1	Gasket Set,oil pan [NP]		
11	18020039	1	Seal,oil		
12	18020018	1	Gasket,timing case		
13	18020040	1	Gasket,timing cover		
14	18020046	1	Gasket,oil seal cap		
15	18020008	1	Seal,oil		
16	18021032	1	Gasket,in. manifold		
17	18021035	4	Gasket Exhaust Manifold		
18	18024001	1	Gasket,oil pipe asbestos [NP]		
19	18024067	1	Gasket,oil strainer asbestos		
20	18024033	1	Gasket		
21	18021043	1	Gasket,water pipe asbestos		
22	18021041	1	Gasket		
23	18021042	1	Gasket		
24	18021054	1	Gasket Water Pump		
25	18021049	1	Gasket,thermostat cover		
26	18020135	1	Gasket,oil pan [NP]		
27	18024059	1	O-Ring D. 17x2,5		
50	18020100	1	Engine,short		



[NP] Not provided

