



Engine MINI-48
VERSION 2017-12
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

Tel.: +34 93 775 44 05

Fax: +34 93 775 30 13

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

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.

[SOLE, S.A.](#)

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

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Engine body, MINI-48

Cylinder Head
Oil Pan & Gear Case
Timing Parts
Crankcase
Crankshaft, Piston & Connecting Rod
Oil System
Engine Brackets & Inlet

Cooling System, MINI-48

Water Pump
Cooling System 1
Cooling System 2

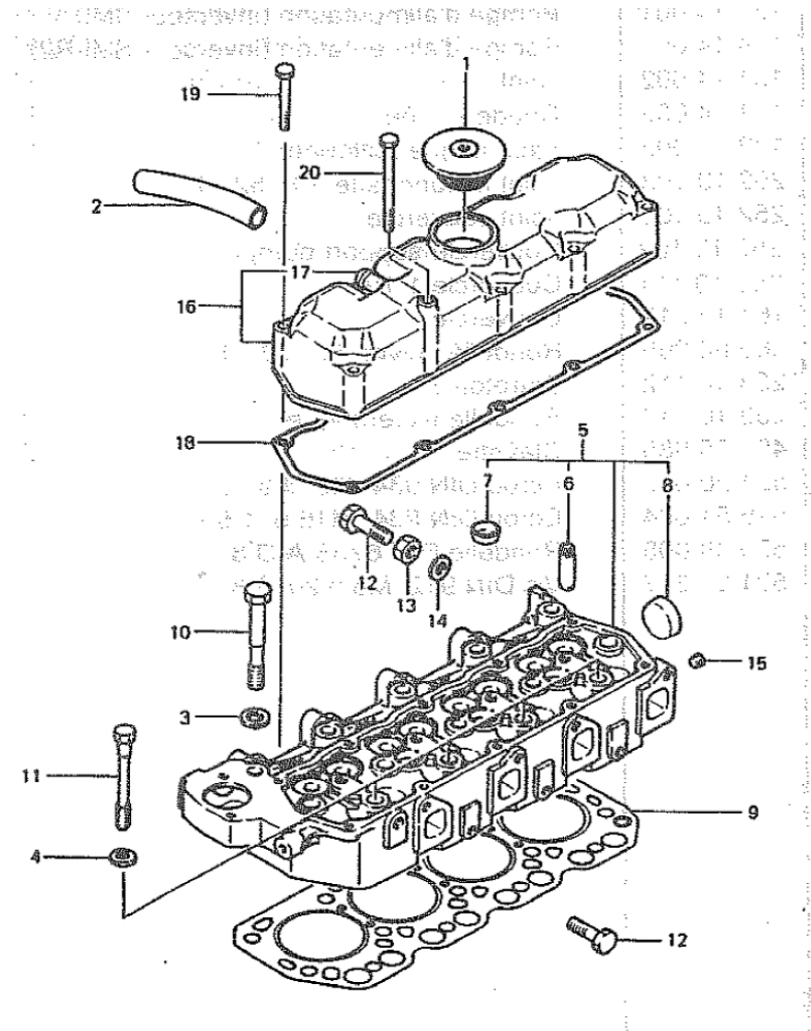
Fuel System, MINI-48

Fuel Pipe
Fuel Injection Pump
Nozzle (Up to N°5786)
Nozzle (From N°5787)
Governor Parts
Fuel Filter
Feed Pump

Electrical System, MINI-48

Electrical System 1
Electrical System 2
Electrical Wiring & Panel

D_MI48_1_1		Cylinder Head			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
1	13321023	1	Cap Oil FILLER		
2	17021006	1	Hose Breather		
3	13121005	10	Washer FINISHED P		
4	13221007	4	Washer		
5	17021001	1	Head Assy CYLINDE		
6	17021002	8	Guide Valve		
7	13520013	3	Cap,SeallNG		
8	(*)	1	Not available [NP]		
9A	17021003	0	Gasket Head Cylinder [VAR]		
9B	17021004	0	Gasket Head Cylinder [VAR]		
10	17021005	10	Bolt Head (14X104		
11	17021013	4	Bolt Cylinder HEA (12X104)		
12	17021014	2	Bolt		
13	13124053	1	Nut		
14	51030012	1	Washer DIN 125-12		
15	13820041	1	Plug, Tapered [NP]		
16	17021009	1	Cover Assy Rocker		
17	17021017	1	NIPPLE		
18	17021010	1	Gasket,rocker cover		
19	13224062	9	Bolt		
20	52101273	1	Bolt DIN 931 M8-100 8.8		

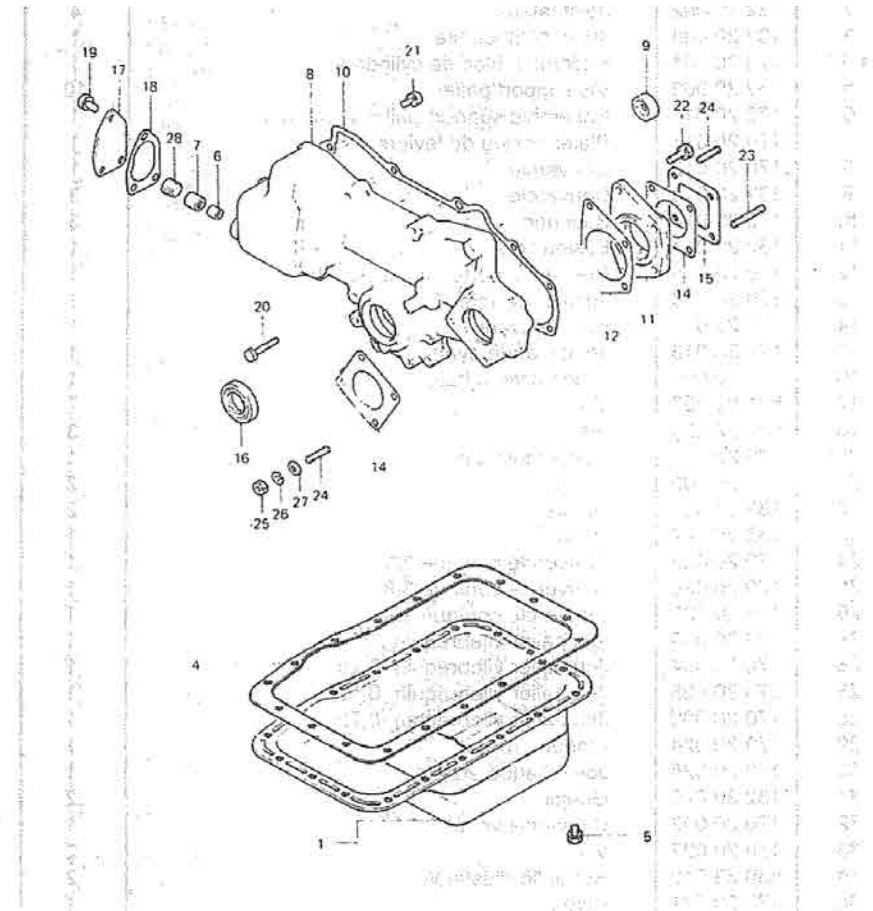


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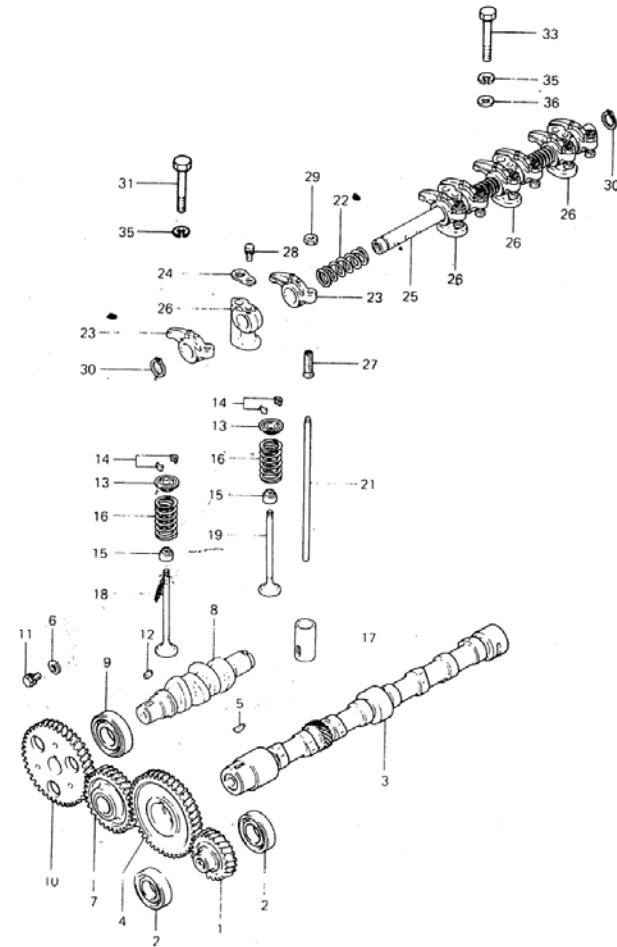
[VAR] Variable according to repair



D_MI48_1_2		Oil Pan & Gear Case			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
1	17020030	1	PAN Assy Oil		
4	17020033	1	Gasket Oil PAN		
5	52102256	18	Bolt DIN 933 M8-15 8.8		
6	13220034	1	Roller Bearings		
7	13220036	1	Roller Bearings		
8	17020035	1	Case Gear		
9	13420051	1	Plug THRUST		
10	17020040	1	Gasket Gear Case		
11	17020037	1	Housing Pump Gear		
12	17020038	1	Gasket Housing		
14	13120047	2	Gasket Water Pump		
15	17020051	1	Cover Oil Pump		
16	13220039	1	Seal Oil		
17	13423009	1	Cover GOverNOR		
18	17020056	1	Gasket GOverNOR C		
19	52102256	3	Bolt DIN 933 M8-15 8.8		
20	52101262	10	Bolt DIN 931 M8-45 8.8		
21	52102256	2	Bolt DIN 933 M8-15 8.8		
22	52102258	2	Bolt DIN 933 M8-25 8.8		
23	13220042	2	Stud L 54		
24	13220043	6	Stud L 34		
25	52120008	8	Nut DIN 934 M8 8.8		
26	53033008	8	Washer GROWER DIN 127-8		
27	51030008	8	Washer DIN 125-8		
28	13120037	1	Plug TAPER 1/2		



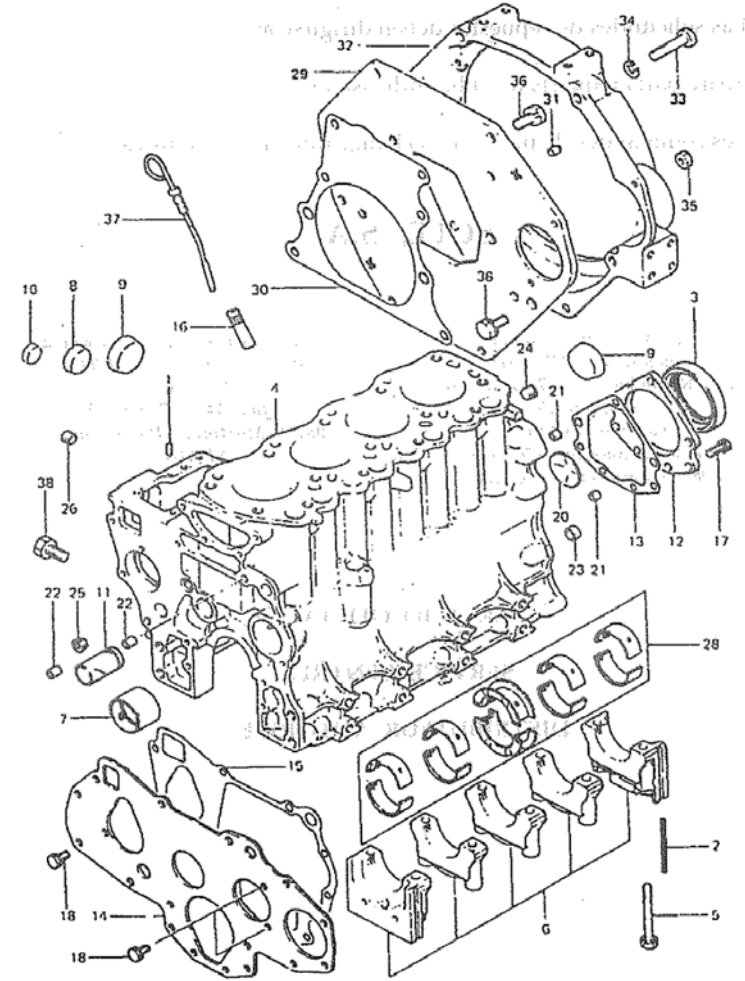
D_MI48_1_4		Timing Parts				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1	17022066	1	Gear, Pressure Water Pump			
2	17022067	2	Ball Bearing 6205-C3			
3	17022035	1	CamShaft			
4	13222037	1	Gear CamShaft			
5	13222020	1	KEY			
6	51030008	1	Washer DIN 125-8			
7	17022038	1	Gear IDLER			
8	17022040	1	Shaft,fuel injection pump cam			
9	13222062	1	Ball Bearing 6228			
10	13222043	1	Gear Fuel I/P Cam			
11	52102256	1	Bolt DIN 933 M8-15 8.8			
12	13222060	1	Key, Sunk [NP]			
13	13122058	8	Retainer			
14	13122059	16	Lock Retainer			
15	17022054	8	Seal Valve ST			
16	17022057	8	Spring Rocker			
17	13222061	8	Tappet			
18	17022055	4	Intake Valve			
19	17022056	4	Exhaust Valve			
21	17022041	8	ROD PUSH			
22	13122047	3	Spring			
23	13222042	8	ARM Rocker			
24	13222063	2	Washer Seat			
25	17022046	1	Shaft			
26	17022048	4	STAY Rocker			
27	13122044	8	Screw Adjusting			
28	52102156	2	Bolt DIN 933 M6-16 8.8			
29	13122045	8	Nut			
30	53040019	2	CIRClip DIN 471 E-19 [NP]			
31	17022053	2	Bolt			
33	17022053	2	Bolt			
35	53033010	4	Washer GROWER DIN 127-10			
36	51030010	2	Washer DIN 125-10			



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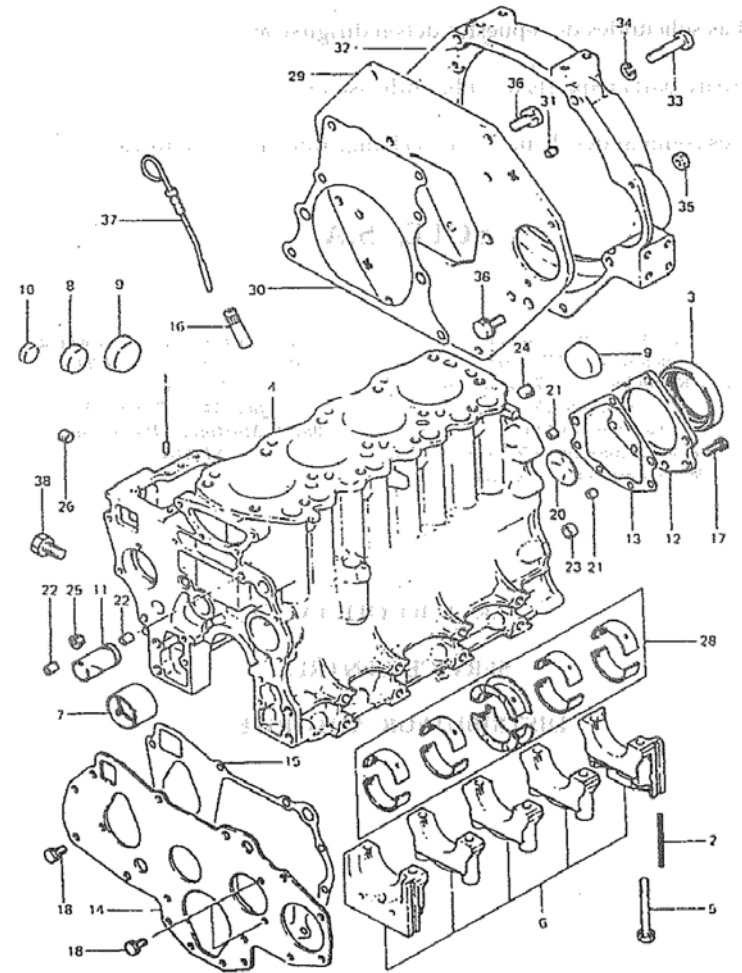
D_MI48_1_6		Crankcase		
FIG.	REF.	QTY	DESCR.	FROM UPTO
1	13120036	2	Pin Dowel [NP]	02/08/2017 02/08/2017
1	17620036.4	2	Pin Dowel	02/08/2017
2	13220002	4	Seal Side	
3	13220008	1	Seal Oil	
4-9	17020001	1	Block SUB Assy CYLIN	
5	13220009	10	Bolt Bearing Cap	
6	17020010	1	Cap Assy,bearing [NP]	
7	17120011	1	Bushing, CamShaft fr.	
8	17020012	1	Cap	
9	13220013	3	Cap	
10	17020014	3	Cap	
11	13220014	1	Shaft IDLER	
12	17020015	1	Case Oil Seal	
13	17020016	1	Gasket Oil Seal	
14	17020017	1	Plate, Front	
15	17020018	1	Gasket Front PLAT	
16	13220007	1	Guide	
17	52102257	7	Bolt DIN 933 M8-20 8.8	
18	52102256	3	Bolt DIN 933 M8-15 8.8	
20	17020013	1	Plug	
21	13120009	2	Bushing	
22	13220021	2	Bushing KNOCK	
23	13220022	1	BUSHING,KNOCK	
24	17020023	1	Plug TAPER 3/8	
25	17020026	1	Plug TAPER 3/8	
26	13820023	1	Plug TAPER [NP]	
28A	17020003	1	Bearing Set CRANK STD.	
28B	17020004	1	Bearing Set CRANK	
28C	17020005	1	Bearing Set CRANK	
28D	17020006	1	Bearing Set CRANK	
29	17020024	1	Plate REAR	
30	17020025	1	Gasket REAR Plate	
31	13220026	2	Pin KNOCK (10X12)	
32	17020002	1	FLYWEEL Housing	
33	17020027	2	Bolt	



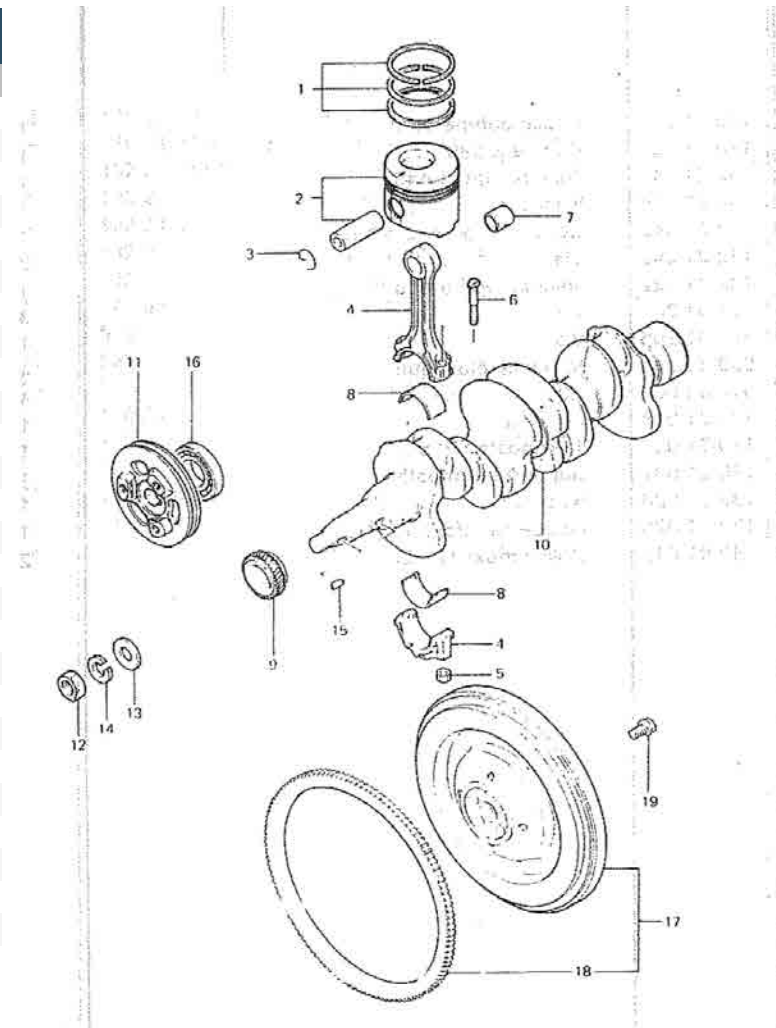
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D_MI48_1_6 Cranckcase						
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
34	53033012	2	Washer GROWER DIN 127-12			
35	17020031	1	Nut [NP]			
36	52202359	11	Bolt DIN 933 M12-1,25-30 8.8			
37	13820029	1	Gauge Oil Level			
38	13220028	4	Bolt			



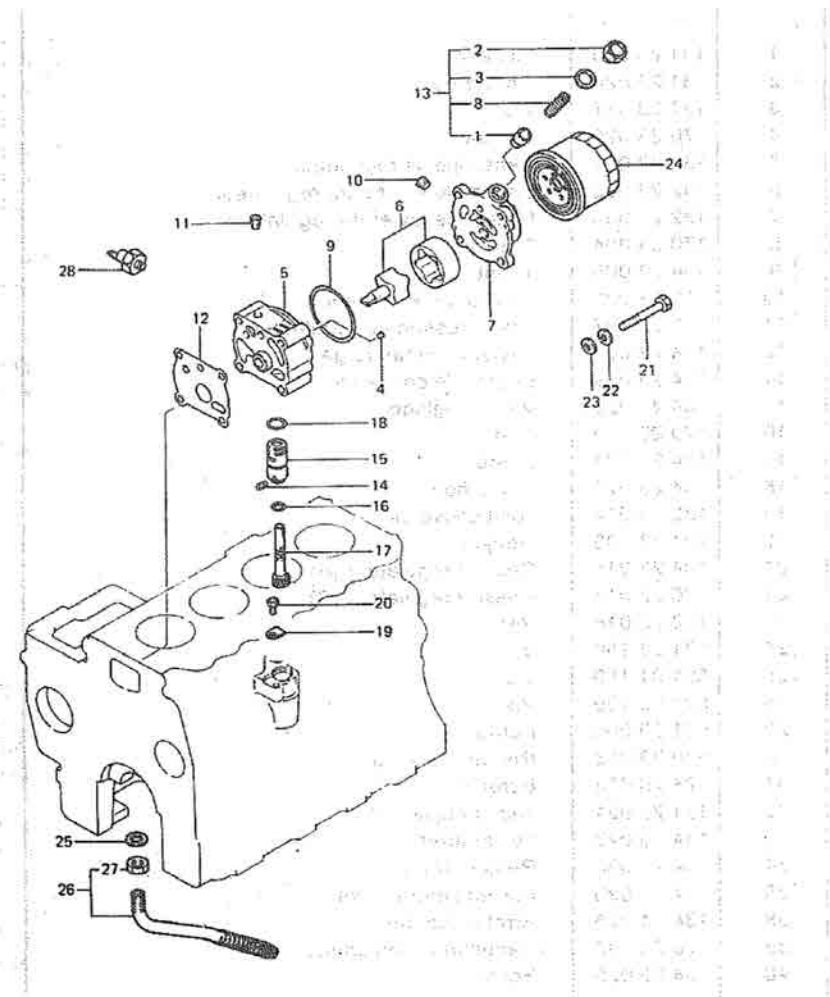
D_MI48_1_8		Crankshaft, Piston & Connecting Rod			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
1A	17022006	4	Ring Set Piston S		
1B	17022007	4	Ring Set Piston O		
1C	17022008	4	Ring Set Piston O		
1D	17022009	4	Ring Set,piston 0,75 OS		
2A	17022001	4	Piston & Pin Set [NP]		
2B	17022002	4	Piston & Pin Set		
2C	17122003.1	4	Piston +0.50		
3	17122032	8	Plate, thrust		
4-7	17022012	4	ROD CONNECTING		
5	17122011	8	Nut,connecting rod		
6	17122013	8	Bolt,connecting rod		
7	17022033	4	Bearing Small END		
8A	13122014	4	Bearing Set CON R		
8B	13122015	4	Bearing Set CON R		
8C	13122016	4	Bearing Set CON R		
8D	13122017	4	Bearing Set CON R		
9	13222021	1	Gear CrankShaft		
10	17022018	1	Shaft CRANK		
11	17122024	1	Pulley CrankShaft		
12	17122026	1	Nut, jam		
13	17022025	1	Washer		
14	17022023	1	Washer Spring		
15	13222020	2	KEY		
16	17022034	1	Ball Bearing 6207		
17	17022027	1	Flywheel Assy		
18	13222029	1	Gear		
19	17022031	5	Bolt Drive		



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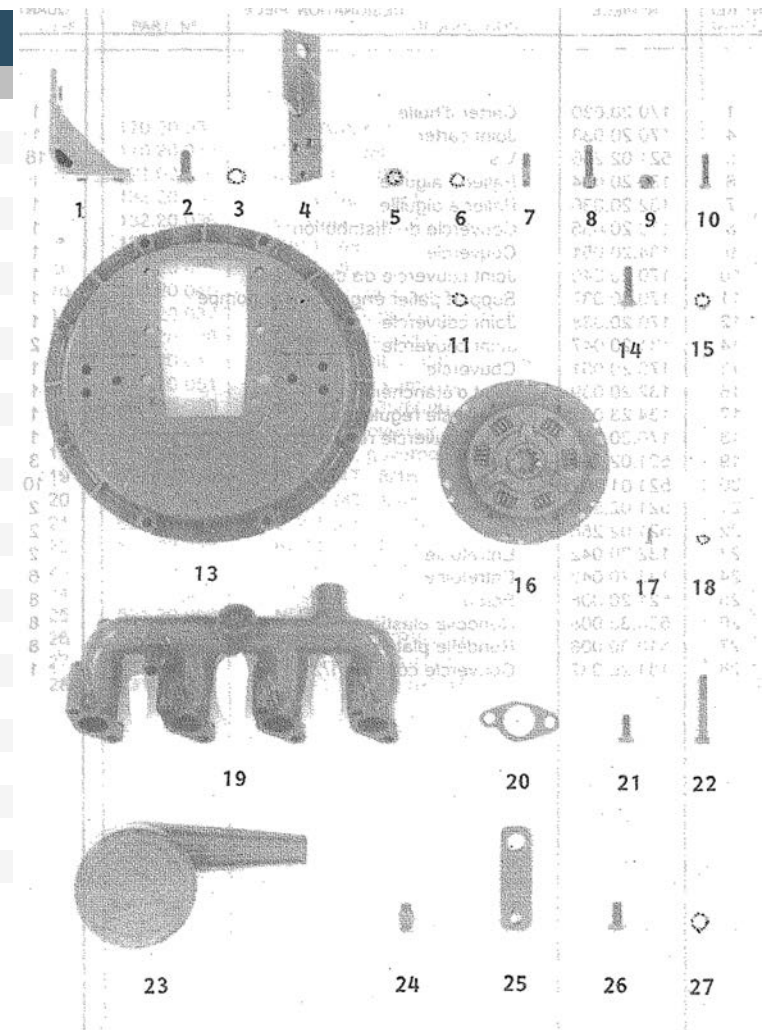
D_MI48_1_10		Oil System				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1	13224043	1	Plunger			
1-11	17024040	1	Pump Assy Oil			
2	13224045	1	Plug			
3	13120032	1	Washer 18-23-1,5 [NP]			
4	13220044	2	Pin			
5	17024046	1	Body Oil Pump			
6	17024042	1	Rotor Assy Oil PU			
7	13224061	1	Cover Oil Pump			
8	13224044	1	Spring RELIEF			
9	13224049	1	O-Ring			
10	13220023	1	Plug TAPER			
11	13120011	1	Plug, Tapered [NP]		12/07/2017	
11	17820011	1	Plug, Tapered [NP]	12/07/2017		
12	13224041	1	Gasket Oil Pump B			
13	13224070	1	SERVICE Kit RELIE			
14	17024055	1	Pin			
14-18	13224054	1	DriveN UNIT SPEED			
15	13224056	1	SLEEVE SPEEDO			
16	13224057	1	O-Ring D. 11X2,5			
17	13224054	1	DriveN UNIT SPEED			
18	13224059	1	O-Ring D. 19X2,4			
19	13224063	1	Plate			
20	52102156	1	Bolt DIN 933 M6-16 8.8			
21	17024062	4	Bolt			
22	53033008	4	Washer GROWER DIN 127-8			
23	51030008	4	Washer DIN 125-8			
24	17024051	1	Oil Filter Element			
25	17024001	1	Gasket			
26	17024052	1	SCREEN Assy Oil			
27	17024053	1	Nut			
28	13124060	1	Switch			



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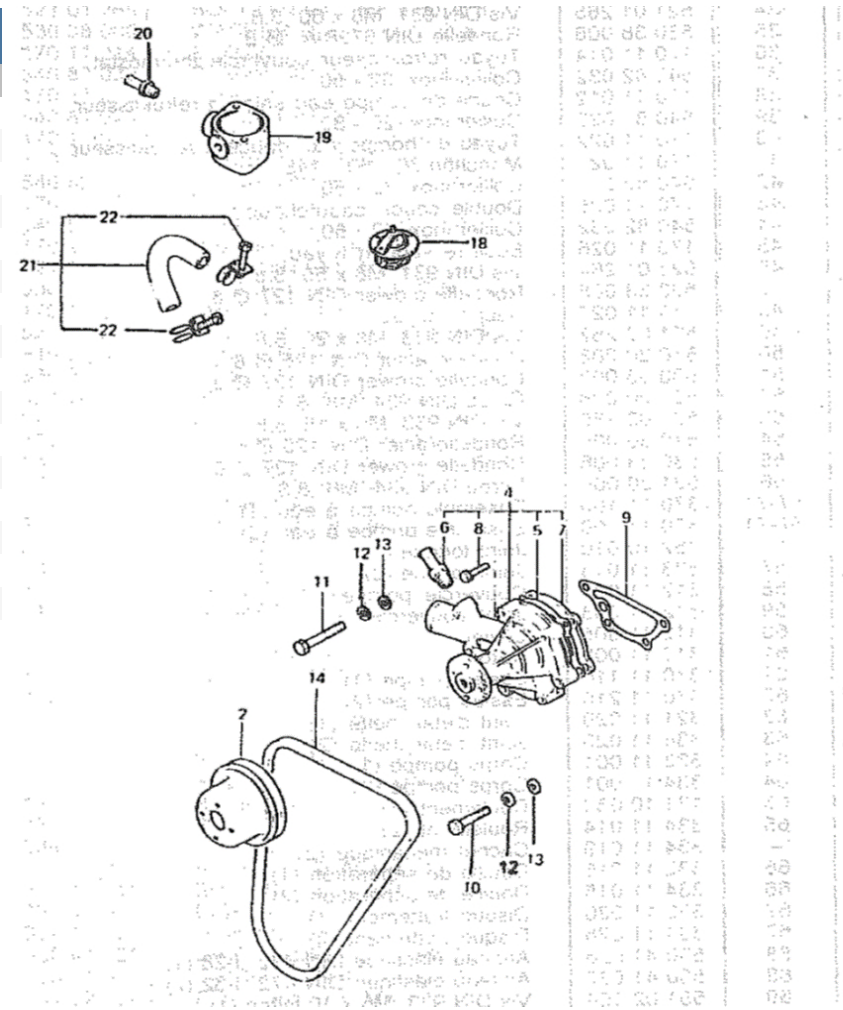
D_MI48_1_12		Engine Brackets & Inlet				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1	17010001	2	Bracket,front			
2	52202359	4	Bolt DIN 933 M12-1,25-30 8.8			
3	53033012	4	Washer GROWER DIN 127-12			
4	17010002	2	Bracket,rear			
5	52030010	4	Washer DIN 125			
6	51035010	2	Washer DIN 433 10			
7	13110011	2	Stud			
8	52101311	4	Bolt DIN 931 M10-40 8.8			
9	51123010	2	Nut DIN 985 M10 5.6			
10	52102310	2	Bolt DIN 933 M10-35 8.8			
11	53038010	2	Washer DIN 6798-A 10			
13	17010012	1	Block,reverser connection			
14	52202311	8	Bolt DIN 933 M10-1,25-40 8.8			
16	17010070	1	Flexible Coupling Type A D. 185			
17	52102156	6	Bolt DIN 933 M6-16 8.8			
18	53033006	6	Washer GROWER DIN 127-6			
19	17010009	1	MANIFOld Intake			
20	17021032	4	Gasket Intake MAN			
21	52202308	4	Bolt DIN 933 M10-1,25-25 8.8			
22	13522053	4	Bolt			
23	17010030	1	Air Filter Assy			
24	(*)	1	Not available [NP]			
25	17010008	1	HANGER,engine			
26	52202358	1	Bolt DIN 933 M12-1,25-25 8.8			
27	53033012	1	Washer GROWER DIN 127-12			



[NP] Not provided



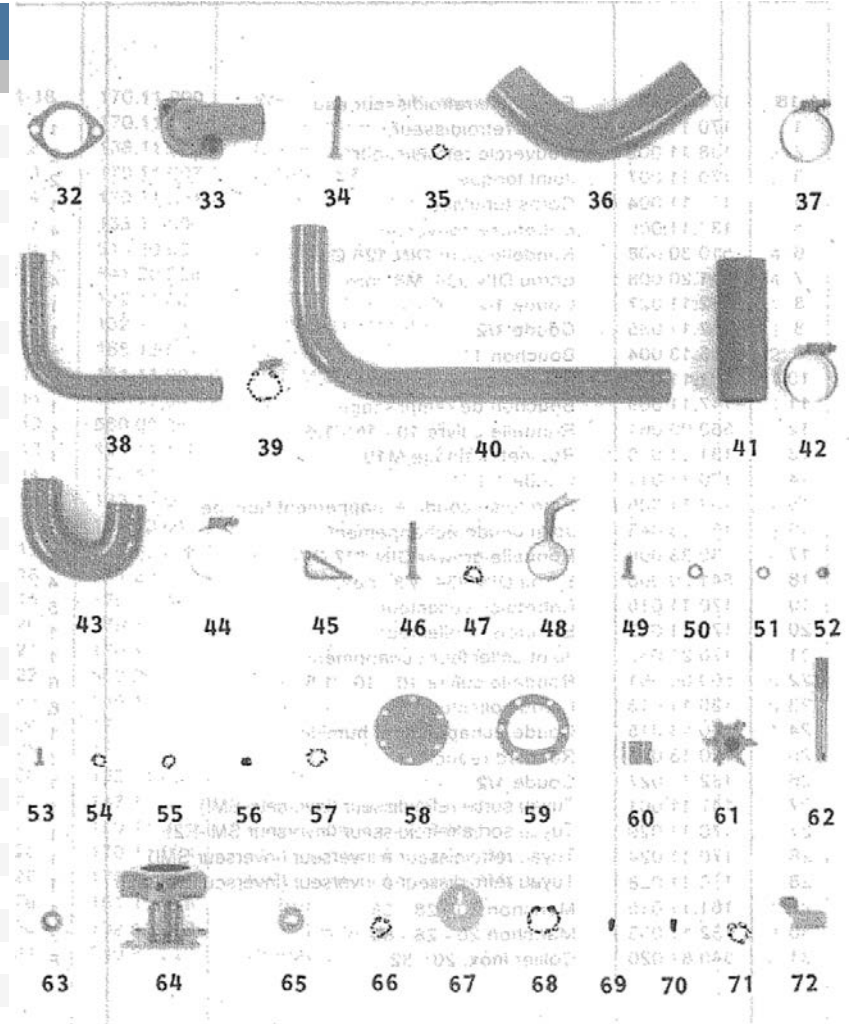
D_MI48_3_1 Water Pump						
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
2	17021021	1	Pulley,Water Pump			
4	17021020	1	Pump Assy Water			
5	13221041	1	Gasket Water Pump			
6	13221026	1	NIPPLE Hose			
7	13221042	1	Plate Water Pump			
8	13221043	2	Bolt DIN 931 M6-30 8.8 [NP]			
9	13221022	1	Gasket Water Pump			
10	52101262	3	Bolt DIN 931 M8-45 8.8			
11	52101265	1	Bolt DIN 931 M8-60 8.8			
12	53033008	4	Washer GROWER DIN 127-8			
13	51030008	4	Washer DIN 125-8			
14	17021028	1	Belt Type SPZX 987			
18	17021027	1	Thermostat			
19	17021037	1	Fitting Thermostat			
20	13221026	1	NIPPLE Hose			
21	13221025	1	Hose Assy Water			
22	54081012	2	Clamp DIN 3017 12-22/9 W4			



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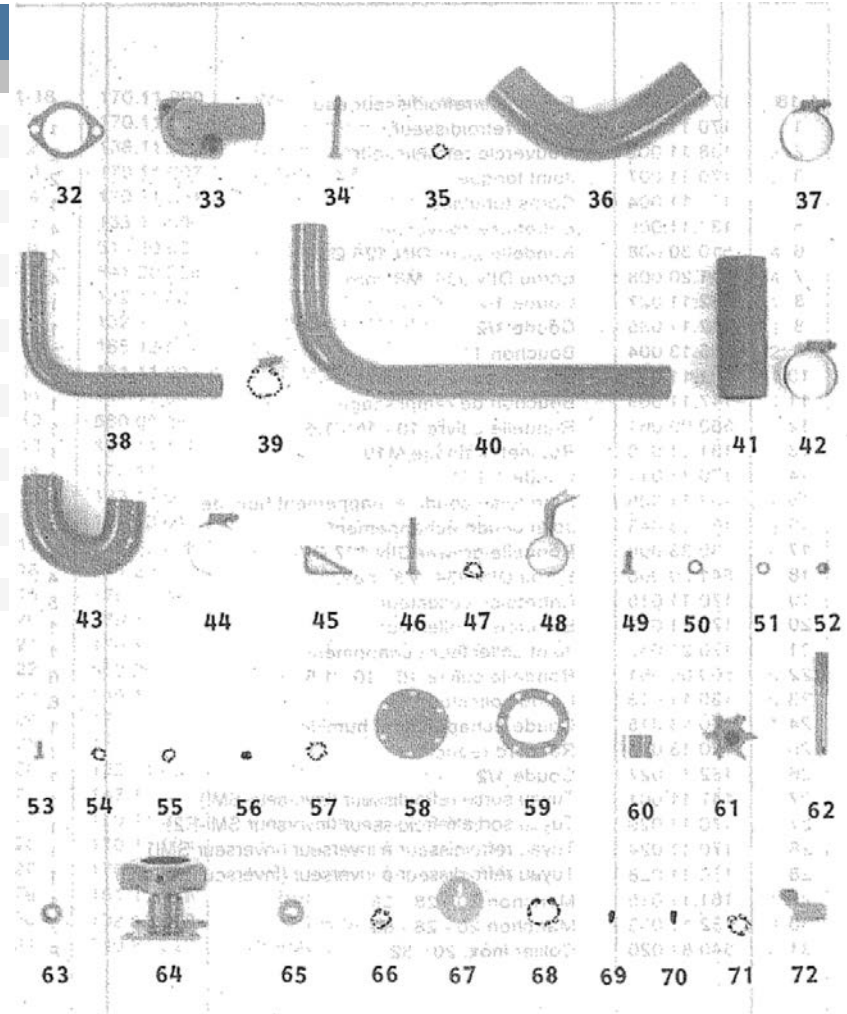
D_MI48_3_2		Cooling System 1			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
32	13211054	2	Engine Water OutLER Gasket		
33	17011020	1	FITTING,water outlet		
34	52101265	2	Bolt DIN 931 M8-60 8.8		
36	17011014	1	Elbow		
37	54082032	2	Clamp DIN 3017 32-50/12 W4		
38	17011012	1	Elbow		
39	54081020	2	Clamp DIN 3017 20-32/9 W4		
40	17011022	1	Pipe,from cooler to engine		
41	17011023	1	Pipe 38-50-145		
42	54082032	2	Clamp DIN 3017 32-50/12 W4		
43	17011025	1	Pipe,rubber		
44	54082032	2	Clamp DIN 3017 32-50/12 W4		
45	17011026	1	Bracket,pipe		
46	52101264	1	Bolt DIN 931 M8-55 8.8		
47	53033008	1	Washer GROWER DIN 127-8		
48	17011027	1	Bracket,Pipe		
49	52102257	1	Bolt DIN 933 M8-20 8.8		
50	51030008	1	Washer DIN 125-8		
52	52120008	1	Nut DIN 934 M8 8.8		
53	52102156	1	Bolt DIN 933 M6-16 8.8		
54	51030006	1	Washer DIN 125-6		
55	53033006	1	Washer GROWER DIN 127-6		
56	52120006	1	Nut DIN 934 M6 8.8		
57-71	37011200	1	Pump,water Assy		
57-71	37011100	1	Pump,water Assy		
57A	25210010	1	O-Ring D. 10,77X2,62		
57B	33311013	1	O-Ring D. 15X2		
58	31211002	1	Cover Pump		
59	31211003	1	Gasket Cover		
60	31211005	1	Cam		
61	31211008	1	1/2" Impeller		
62A	37011110	1	Shaft Pump		
62B	37011210	1	Shaft,water pump		
63A	32111020	2	Seal Shaft 12-22-7		
63B	33411020	1	Seal		



[NS] Not shown

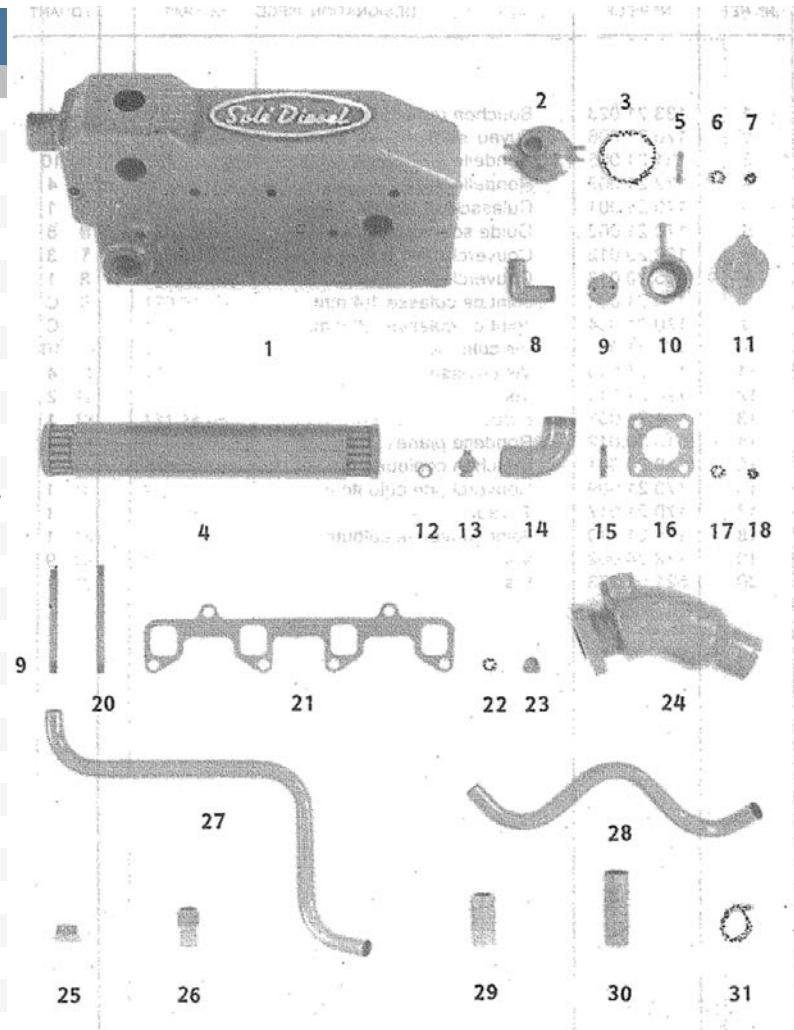


D_MI48_3_2		Cooling System 1			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
64A	33211001	1	Body Water Pump		
64B	33411001	1	Body,Water Pump		
65A	12110030	2	Ball Bearing 6001-C3		
65B	33411014	2	Ball Bearing 6002-C3		
66A	33211015	1	Bushing Spacer		
66B	33411015	1	Spacer 32X26X8		
67A	33211026	1	Disk		
67B	33411026	1	Wearplate		
68A	53041028	1	CIRClip DIN 472 I-28		
68B	53041032	1	CIRClip DIN 472 I-32		
69A	55102104	6	Bolt DIN 933 M5-10 INOX.		
69B	54102104	6	Bolt DIN 933 M5-10 INOX.		
70	55307105	1	Bolt DIN 86 W3/16-13		
71	57000301	1	Washer 5-7,5-1		
72	13211035	1	Exhaust Manifold Outlet Bend		
72	13211027	1	Water Inlet Bend		
NS	33411019	1	Seal [NS]		





D_MI48_3_3		Cooling System 2			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
1	17011001	1	Body,water cooler [NP]		
1-18	17011000	1	Water Cooler Assy MINI-48		
2	13811002	2	Water Cooler Cover		
3	17011007	2	O-Ring D. 57X3		
4	17011004	1	Tubular Bundle		
5	13311006	4	Stud,cover		
6	51030008	4	Washer DIN 125-8		
7	54120008	4	Nut DIN 934 M8		
8A	13211035	1	Exhaust Manifold Outlet Bend		
8B	13211027	1	Water Inlet Bend		
9	16513004	2	Plug 1"		
10	15111002	1	Cap Mouth		
11	14711003	1	Cap [NP]		18/01/2017
11	14711003.1	1	Cap	19/01/2017	
12	56000061	1	Washer 10-16-1,5		
13	13111038	1	Bolt DIN 933 M10-15 8.8		
14	17011011	1	Elbow 1 1/8"		
15	13311006	4	Stud,cover		
16	15113043	1	Exhaust Elbow Gasket		
17	53033008	4	Washer GROWER DIN 127-8		
18	54120008	4	Nut DIN 934 M8		
19	17011015	5	Stud		
20	17011016	1	Stud		
21	17021035	1	Gasket Exhaust Manifold		
22	56000061	6	Washer 10-16-1,5		
23	13511013	6	Nut DIN 1587 M10		
24	17013015	1	Elbow,wet exhaust		
25	17013016	1	Racord		
26	13211027	1	Water Inlet Bend		
27	14711061	1	Pipe [NP]		
27	17011029	1	Pipe		
28A	17011024	1	Pipe,cooler		
28B	17011028	1	Pipe		
29	16111015	1	Pipe 20-28-55		
30	13211033	3	Pipe 20-28-80		

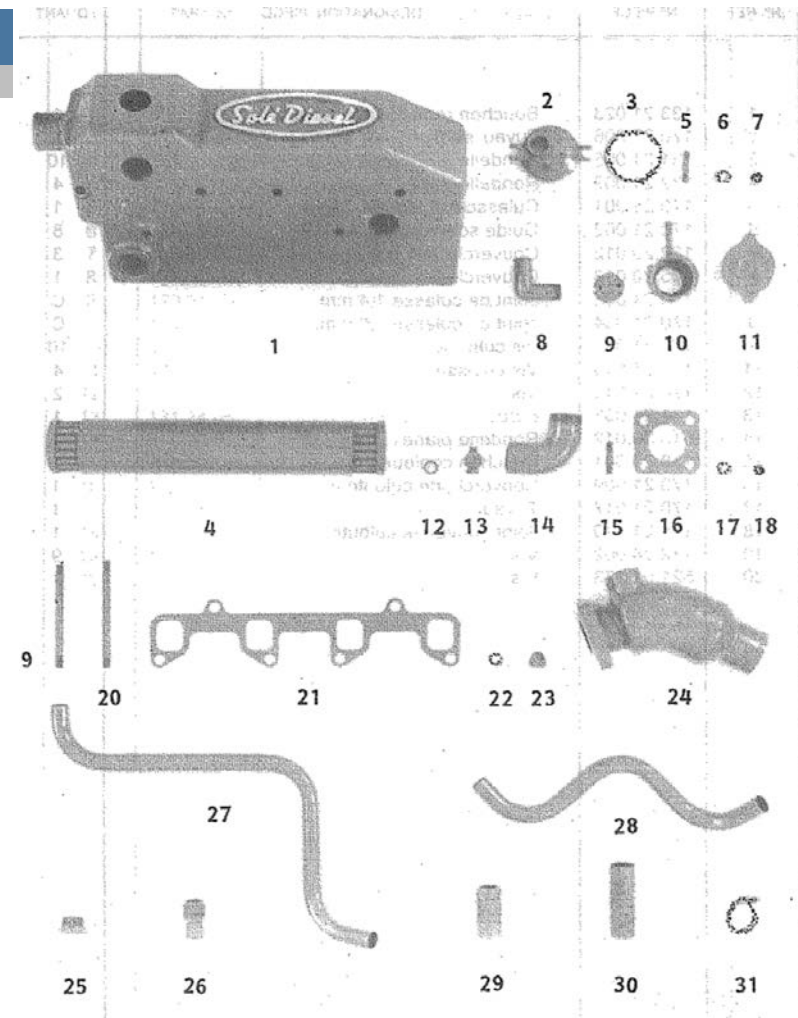


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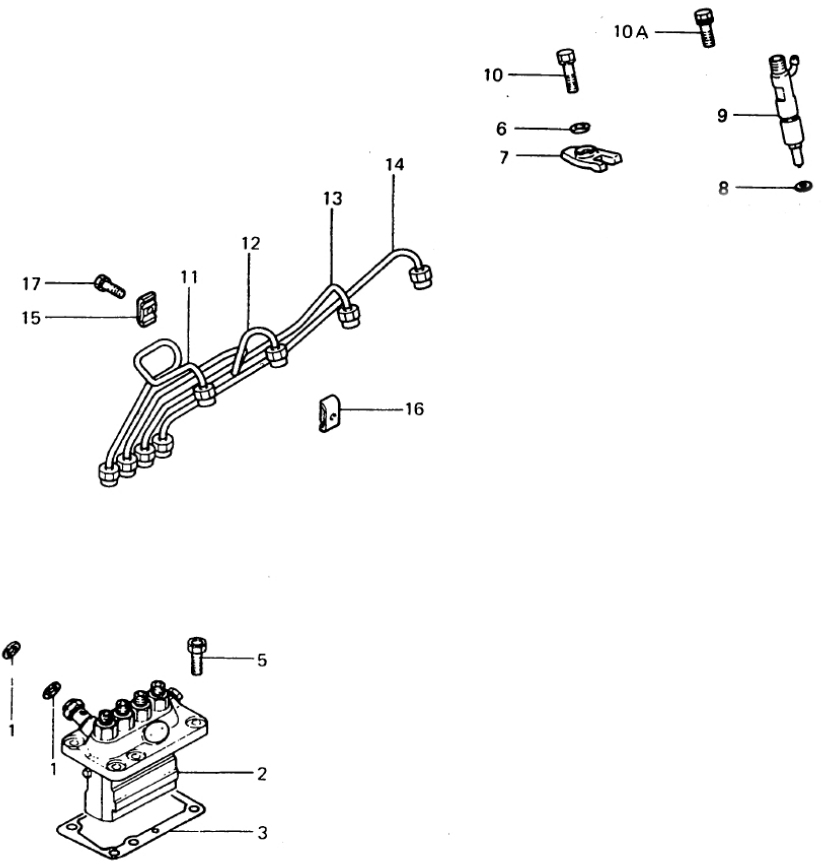


D_MI48_3_3		Cooling System 2		FROM	UPTO
FIG.	REF.	QTY	DESCR.		
31	54081020	8	Clamp DIN 3017 20-32/9 W4		





D_MI48_4_1		Fuel Pipe				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1	13224001	2	Washer			
2A	17025001	1	Pump Assy,Fuel Injection [NP]			
2B	17025101	1	Pump Assy,Fuel Injection			
3	13224103	0	Shim Adjusting [VAR]			
5	52102257	6	Bolt DIN 933 M8-20 8.8			
6	17024028	4	Washer SPECIAL			
7	17024029	4	Support, Nozzle			
8	17024013	4	Gasket Nozzle			
9	17026101	4	Nozzle & Holder Assy			
9	17026001	4	Nozzle & Holder Assy [NP]			
10	13520042	4	Bolt DIN 931 M8-35 8.8 [NP]			
11	17024015	1	Pipe Injection N.1			
12	17024016	1	Pipe Injection N.2			
13	17024019	1	Pipe Injection N.3			
14	17024022	1	Pipe Injection N.4			
15	13124018	3	Clamp (A)			
16	13124017	3	Clamp (B)			
17	13124019	3	Bolt			

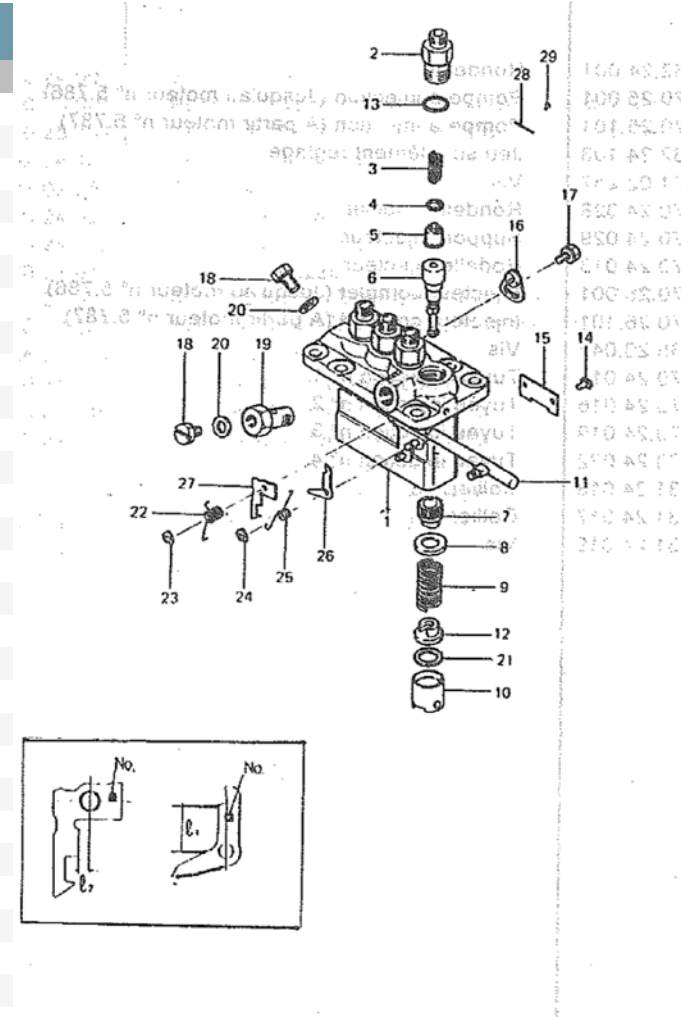


[NP] Not provided

[VAR] Variable according to repair



D_MI48_4_2		Fuel Injection Pump			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
1	17025005	1	Housing SUB Assy		
1-29	17025101	1	Pump Assy,Fuel Injection		
1-29	17025001	1	Pump Assy,Fuel Injection [NP]		
2	17025004	4	Holder Delivery		
3A	17025002	4	Spring,delivery valve		
3B	13225002	4	Spring DELIVERY Valve		
4	13125007	4	Gasket DELIVERY V		
5A	17025008	4	Valve SUB Assy DE		
5B	17025108	4	Valve SUB Assy		
6	17025009	4	Element SUB Assy		
7	13125010	4	SLEEVE		
8	13125011	4	Seat Spring Upper		
9	13125012	4	Spring Plunger		
10	13125021	4	Tappet SUB Assy		
11	17025006	1	RACK Control		
12	13125013	4	Seat Spring LOWER		
13	13125033	4	O-Ring D. 15X2,5		
14	13125022	4	Pin Tappet Guide		
15	13125023	2	Plate		
16	13125030	3	Plate Assy Pressure		
17	13125028	3	Bolt Washer ASSEM		
18	13125026	2	Screw Air BRETATH		
19	17025027	1	Washer Plate [NP]		
20	13125025	2	Washer		
21A	13125014	0	Shim Adjusting T=0,60 [VAR]		
21B	13125015	0	Shim Adjusting T=0,2 [VAR]		
21C	13125016	0	Shim Adjusting T=0,3 [VAR]		
21D	13125017	0	Shim Adjusting T=0,4 [VAR]		
21E	13125018	0	Shim Adjusting T=0,5 [VAR]		
21F	13125019	0	Shim Adjusting T=0,25 [VAR]		
21G	13125020	0	Shim Adjusting T=0,35 [VAR]		
21H	13725021	0	Shim Adjusting T=0,45MM. [VAR]		
21I	13725022	0	Shim Adjusting T=0,55MM. [VAR]		
21J	13725023	0	Shim Adjusting T=0,65MM. [VAR]		
22	17025031	1	Spring SMOKE Set		

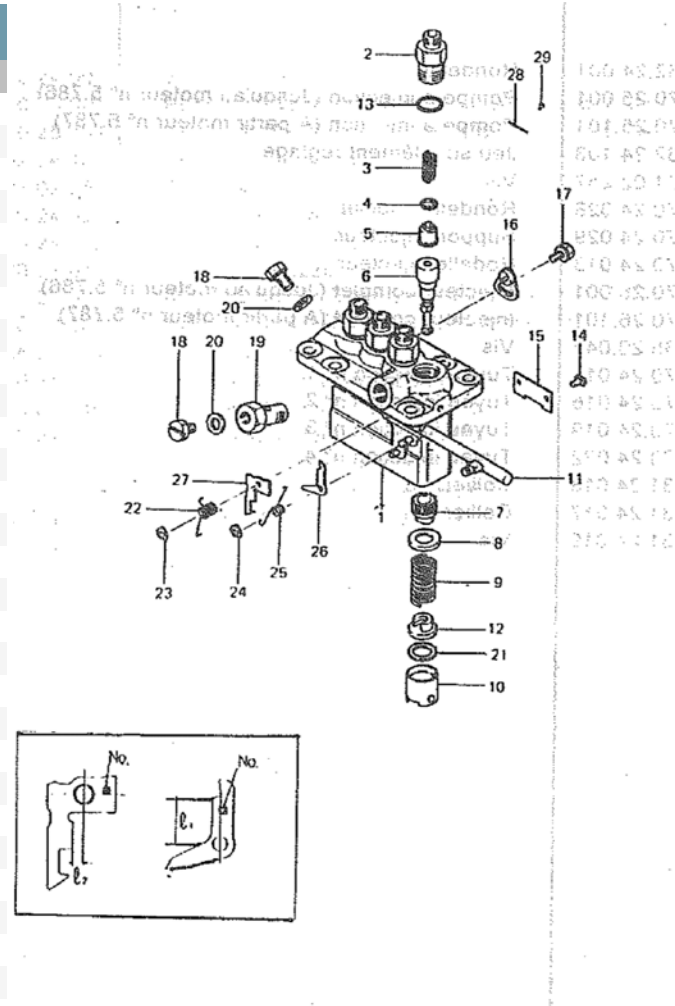


[NP] Not provided

[VAR] Variable according to repair

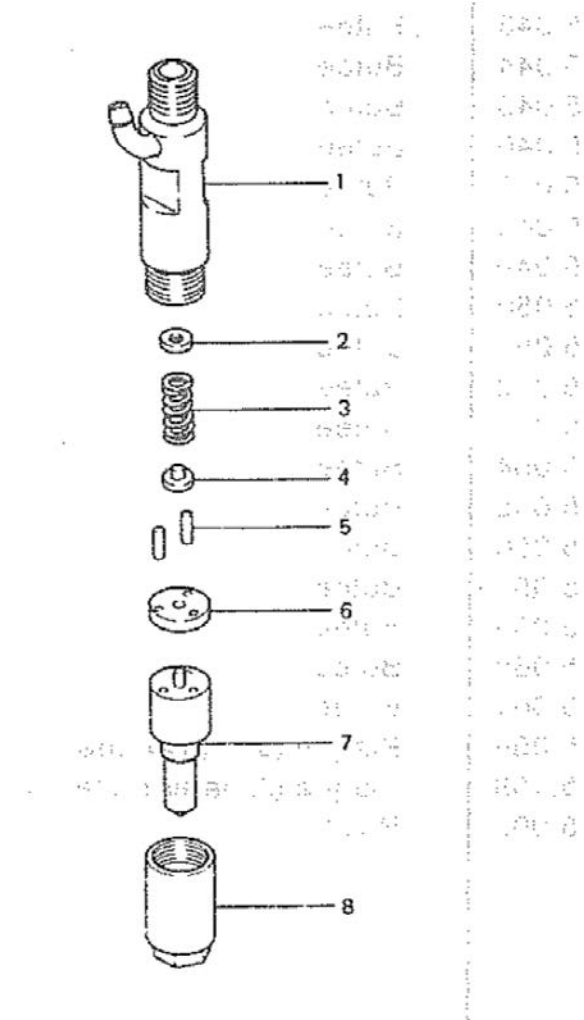


D_MI48_4_2		Fuel Injection Pump			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
23	17025032	1	Washer		
24	17025033	1	Washer		
25	17025035	1	Spring ANGLEICH S		
26A	17025040	0	Plate ANGLEICH SE [VAR]		
26B	17025036	0	Plate ANGLEICH SE [VAR]		
26C	17025037	0	Plate ANGLEICH SE [VAR]		
26D	17025039	0	Plate ANGLEICH SE [VAR]		
26E	17025038	0	Plate ANGLEICH SE [VAR]		
27A	17025042	0	Plate SMOKE Set [VAR]		
27B	17025043	0	Plate SMOKE Set [VAR]		
27C	17025044	0	Plate SMOKE Set [VAR]		
27D	17025045	0	Plate SMOKE Set [VAR]		
27E	17025047	0	Plate SMOKE Set [VAR]		
27F	17025048	0	Plate SMOKE Set [VAR]		
27G	17025049	0	Plate SMOKE Set [VAR]		
27H	17025050	0	Plate SMOKE Set [VAR]		
27I	17025051	0	Plate SMOKE Set [VAR]		
27J	17025052	0	Plate SMOKE Set [VAR]		
27K	17025053	0	Stopper [VAR]		
27L	17025054	0	Stopper [VAR]		
27M	17025055	0	Stopper [VAR]		
27N	17025056	0	Stopper [VAR]		
27O	17025057	0	Stopper [VAR]		
27P	17025059	0	Stopper [VAR]		
27Q	17025060	0	Stopper [VAR]		
27R	17025061	0	Stopper [VAR]		
28	17025058	1	Plate,name [NP]		
28	17025158	1	Plate,name [NP]		
29	13125003	2	RIVET		





D_MI48_4_3A		Nozzle (Up to N°5786)				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1	17026002	4	Body SUB Assy			
1-8	17026001	4	Nozzle & Holder Assy [NP]			
2A	17026023	0	Washer 1,80 [VAR]			
2B	17026021	0	Washer 1,70 [VAR]			
2C	17026015	0	Washer 1,45 [VAR]			
2D	17026017	0	Washer 1,55 [VAR]			
2E	17026016	0	Washer 1,50 [VAR]			
2F	17026019	0	Washer 1,60 [VAR]			
2G	17026011	0	Washer 1,25 [VAR]			
2H	17026022	0	Washer 1,75 [VAR]			
2I	17026020	0	Washer 1,65 [VAR]			
2J	17026014	0	Washer 1,40 [VAR]			
2K	17026012	0	Washer 1,30 [VAR]			
2L	17026010	0	Washer 1,20 [VAR]			
2M	17026013	0	Washer 1,35 [VAR]			
3	17026004	4	Spring Pressure			
4	17026003	4	Pin Pressure			
5	17026008	8	Pin Straight			
6	17026007	4	Packing TIP			
7	17026018	4	Nozzle Assy			
8	17026006	4	Nut RETAINING			



[NP] Not provided

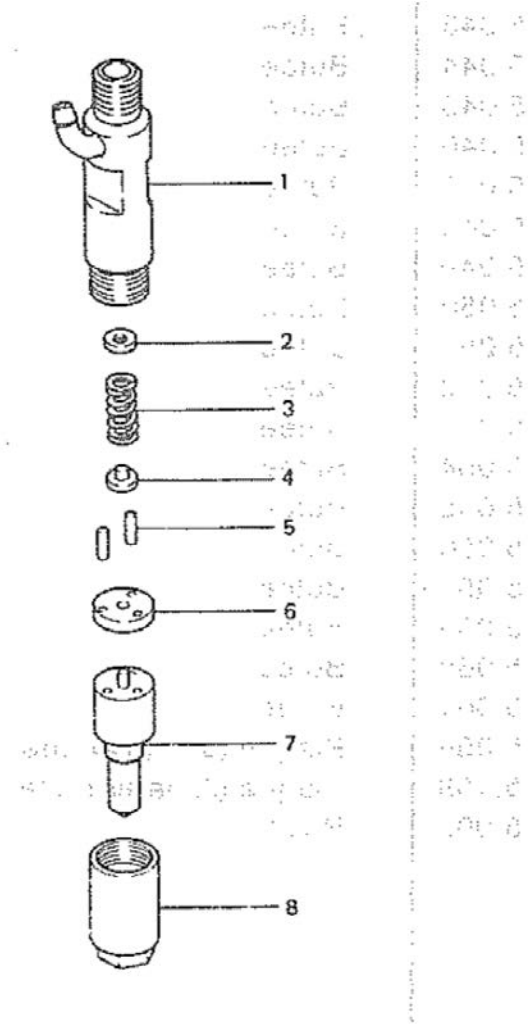
[VAR] Variable according to repair



D_MI48_4_3B		Nozzle (From N°5787)			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
1	17026102	4	Body SUB Assy [NP]		
1-8	17026101	4	Nozzle & Holder Assy		
2A	17026010	0	Washer 1,20 [VAR]		
2AA	17026137	0	Washer 1,575 [VAR]		
2AB	17026138	0	Washer 1,625 [VAR]		
2AC	17026139	0	Washer 1,675 [VAR]		
2AD	17026140	0	Washer 1,725 [VAR]		
2AF	17026141	0	Washer 1,775 [VAR]		
2AG	17026142	0	Washer 0,950 [VAR]		
2AH	17026143	0	Washer 1,000 [VAR]		
2AI	17026144	0	Washer 1,050 [VAR]		
2AJ	17026145	0	Washer 1,100 [VAR]		
2AK	17026146	0	Washer 1,150 [VAR]		
2B	17026011	0	Washer 1,25 [VAR]		
2C	17026012	0	Washer 1,30 [VAR]		
2D	17026013	0	Washer 1,35 [VAR]		
2E	17026014	0	Washer 1,40 [VAR]		
2F	17026015	0	Washer 1,45 [VAR]		
2G	17026016	0	Washer 1,50 [VAR]		
2H	17026017	0	Washer 1,55 [VAR]		
2I	17026019	0	Washer 1,60 [VAR]		
2J	17026020	0	Washer 1,65 [VAR]		
2K	17026021	0	Washer 1,70 [VAR]		
2L	17026022	0	Washer 1,75 [VAR]		
2M	17026023	0	Washer 1,80 [VAR]		
2N	17026124	0	Washer 1,85 [VAR]		
2O	17026125	0	Washer 1,90 [VAR]		
2P	17026126	0	Washer 1,95 [VAR]		
2Q	17026127	0	Washer 2,00 [VAR]		
2R	17026128	0	Washer 2,05 [VAR]		
2S	17026129	0	Washer 2,10 [VAR]		
2T	17026130	0	Washer 2,15 [VAR]		
2U	17026131	0	Washer 1,275 [VAR]		
2V	17026132	0	Washer 1,325 [VAR]		
2W	17026133	0	Washer 1,375 [VAR]		

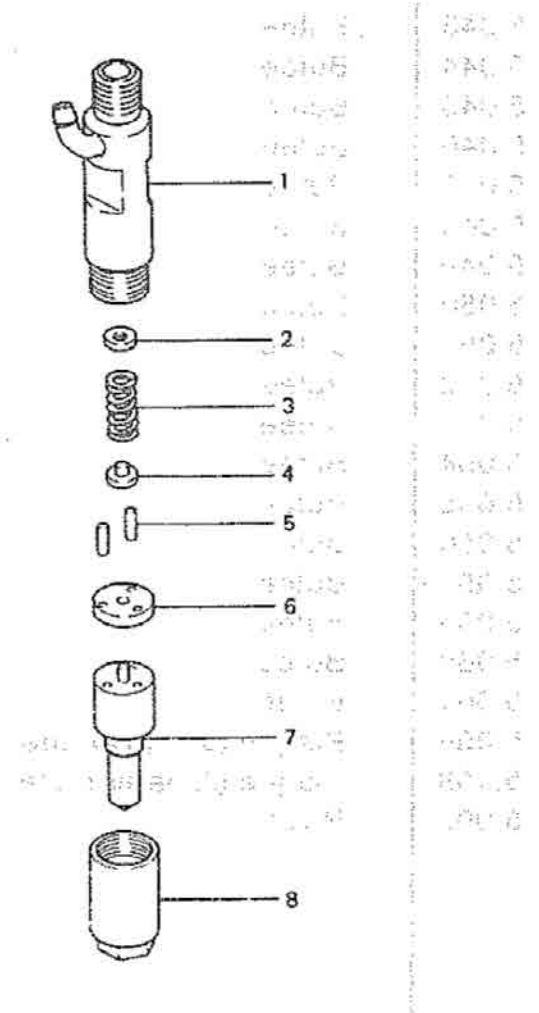
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[VAR] Variable according to repair

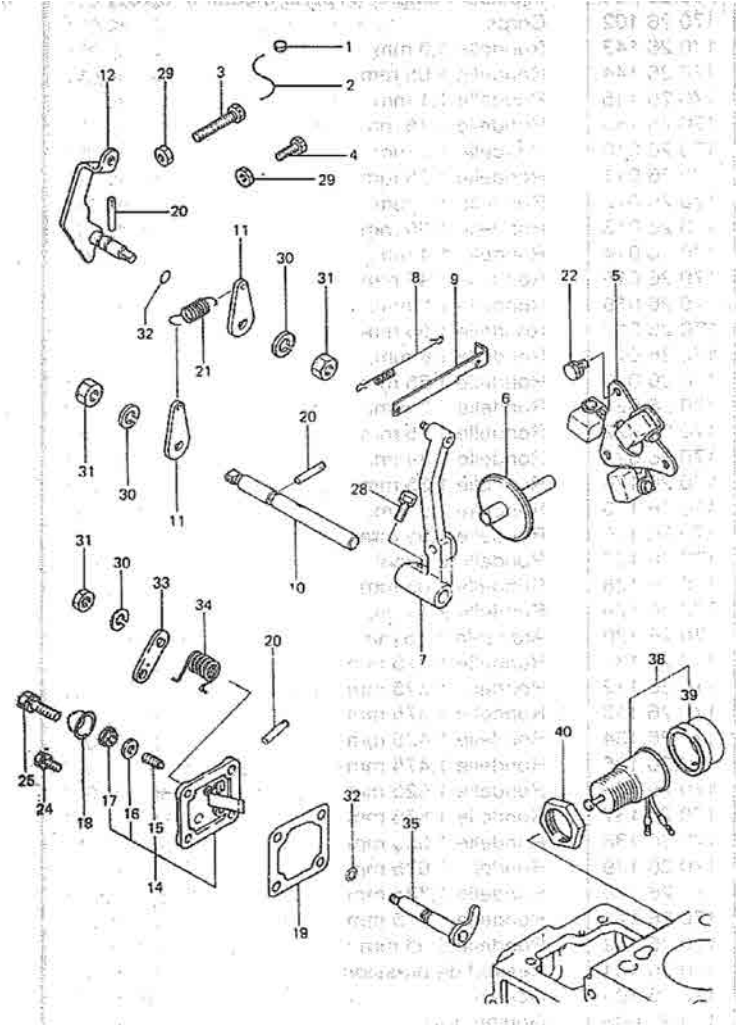




D_MI48_4_3B		Nozzle (From N°5787)				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
2X	17026134	0	Washer 1,425 [VAR]			
2Y	17026135	0	Washer 1,475 [VAR]			
2Z	17026136	0	Washer 1,525 [VAR]			
3	17026104	4	Spring,pressure			
4	17026103	4	Pin,pressure			
5	17026008	8	Pin Straight			
6	17026107	4	Packing,tip			
7	17026118	4	Nozzle Assy			
8	17026006	4	Nut RETAINING			



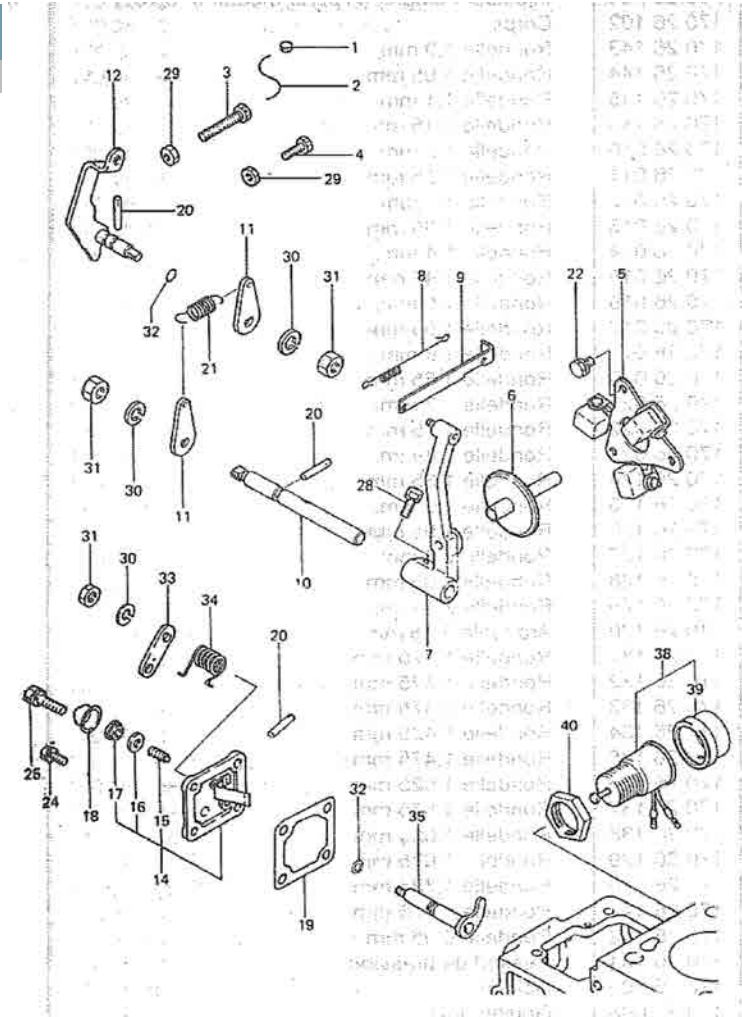
D_MI48_4_4		Governor Parts			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
1	13123019	1	Metal Sealing		
2	17623020.4	1	Metal,Fuel	02/08/2017	
2	13123020	1	Metal,Fuel [NP]		02/08/2017
3	13123017	1	Bolt High Speed		
4	17023025	1	Bolt LOW IDLE Set		
5	13223001	1	WEIGHT Assy,GOverNOR		
6	13223002	1	Shaft Assy		
7	13223003	1	Lever Assy GOverN		
8	17023004	1	Spring Tie Rod		
9	13423005	1	ROD TIE		
10	13223006	1	Shaft Governor		
11	13223007	2	Lever Governor		
12	13423008	1	Lever Assy SPEED		
14	13423019	1	Cover Assy TIE RO		
15	13423022	1	Screw Adjusting		
16	17023020	1	Gasket		
17	13423021	1	Nut SPECIAL (6)		
18	13423023	1	Cap Sealling		
19	13223014	1	Gasket Cover		
20	13123009	3	Pin GROOVED		
21A	13423015	1	Spring Governor (A)		
21B	17023015	1	Spring Governor (B)		
22	13223016	3	Bolt		
24	52102156	3	Bolt DIN 933 M6-16 8.8		
25	52101159	1	Bolt DIN 931 M6-30 8.8		
28	52102156	1	Bolt DIN 933 M6-16 8.8		
29	52120006	2	Nut DIN 934 M6 8.8		
30	53033008	3	Washer GROWER DIN 127-8		
31	52120008	3	Nut DIN 934 M8 8.8		
32	13123021	2	O-Ring D. 7X1.8		
33	13425027	1	Lever Stop		
34	13425030	1	Spring Return		
35	13425026	1	Lever Assy Stop		
38	13424025	1	Solenoid		
39	17023030	1	Cap GUM		



[NP] Not provided

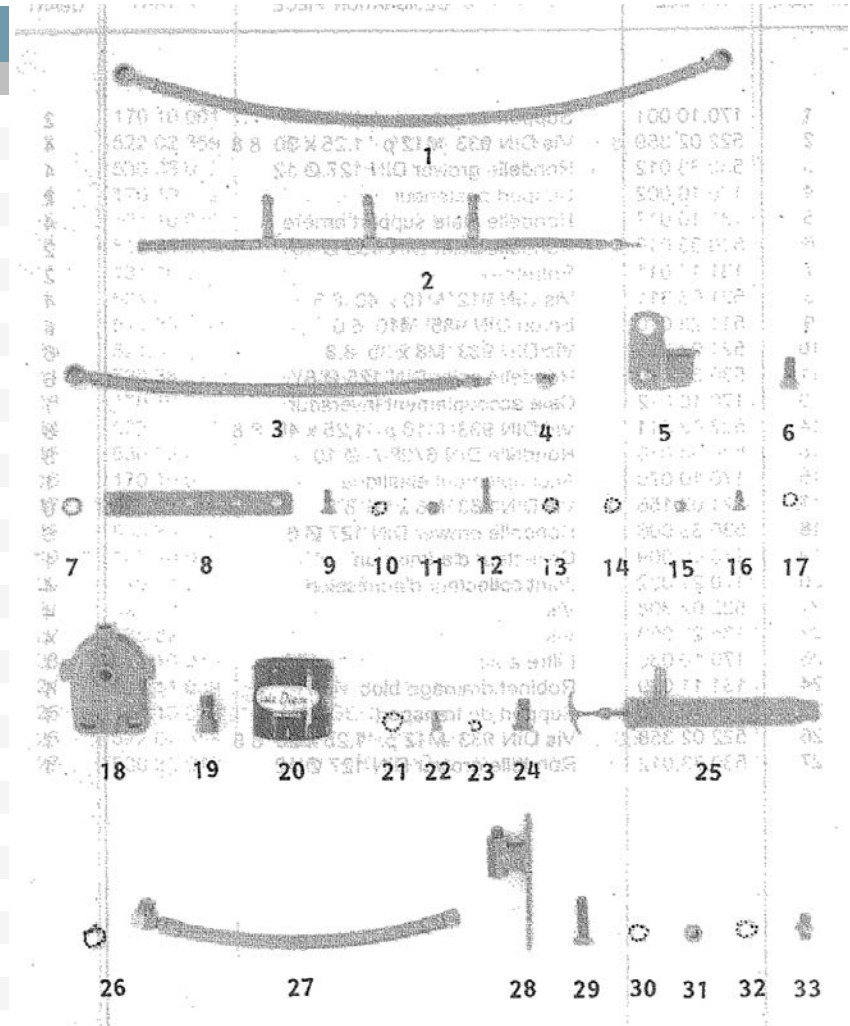


D_MI48_4_4		Governor Parts			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
40	13425029	1	Nut (old)		





D_MI48_4_5		Fuel Filter				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1	17014017	1	Pipe, filter to inj. pump			
2	17014019	1	Assy,Fuel Return			
3	17014016	1	Pipe, pump to filter			
3	13414016	4	Pipe, Pump TO Filter [NP]			
4	51080095	4	Clamp 9,5-10			
5	17010006	1	Support CANIAGE and Filter			
6	52202358	1	Bolt DIN 933 M12-1,25-25 8.8			
7	53033012	1	Washer GROWER DIN 127-12			
8	17014001	1	Bracket,gas-oil filter			
9	52102257	2	Bolt DIN 933 M8-20 8.8			
10	53033008	2	Washer GROWER DIN 127-8			
11	52120008	1	Nut DIN 934 M8 8.8			
12	52102259	2	Bolt DIN 933 M8-30 8.8			
13	51030008	2	Washer DIN 125-8			
14	53033008	2	Washer GROWER DIN 127-8			
15	52120008	2	Nut DIN 934 M8 8.8			
16	13114007	1	Screw SHORT Connector			
17	57000357	2	Washer 8,2-12-1,5			
18	13114020	1	Cover,filter			
19	13114021	1	Coupling,cover filter			
20	13114022	1	Gas-Oil Filter Element			
21	57000369	4	Washer 14,2-20-1,5			
22	13114023	1	Screw, air breather			
23	57000353	1	Washer 6,2-11-1,5			
24	12814051	1	Screw,eye			
25	14714001	1	Pump,oil Suction			
26	56000077	2	Washer 18-23-1,5			
27	13214021	1	ExtraCTION Hose			
28	17014002	1	Bracket,oil extraction pump			
29	52202361	1	Bolt DIN 933 M12-1,25-40 8.8			
30	53033012	1	Washer GROWER DIN 127-12			
31	52220012	1	Nut DIN 934 M12-1,25 8.8			
32	56000067	2	Washer 13-20-1,5			
33	13214024	1	NIPPLE,oil pump bracket			

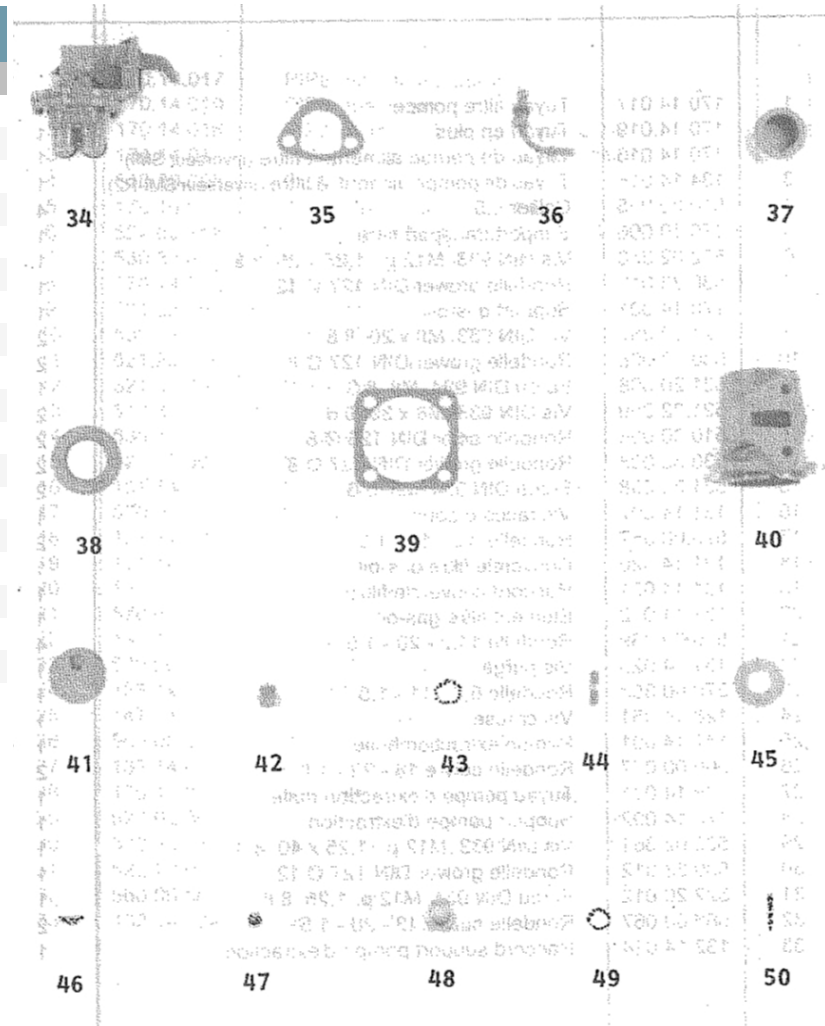


[NP] Not provided





D_MI48_4_6		Feed Pump				
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
34	13114001	1	Pump Fuel Supply (SMI)			
34-50	25310100	1	Pump Assy,fuel supply			
35	13114002	2	Gasket			
36	13114003	1	Pipe Inlet			
37	13214002	1	Cam,fuel pump			
38	25210103	1	Seal,oil 30-52-7			
39	25210105	1	Gasket			
40-43	25215102	1	Cover,fuel supply pump			
41	25310111	1	Plug 1 1/4" [NP]			
42	16112012	1	Pin			
43	56000069	1	Washer 14-20-1,5			
44	25310112	2	Stud [NP]			
45	25310113	1	Washer [NP]			
46	40025085	1	KEY DIN 6888 22-9-5 INOX			
47	52120008	2	Nut DIN 934 M8 8.8			
48	61651004	1	Nut			
49	53038008	2	Washer DIN 6798-A 8			
50	52103257	2	Bolt DIN 912 M8-20 8.8			

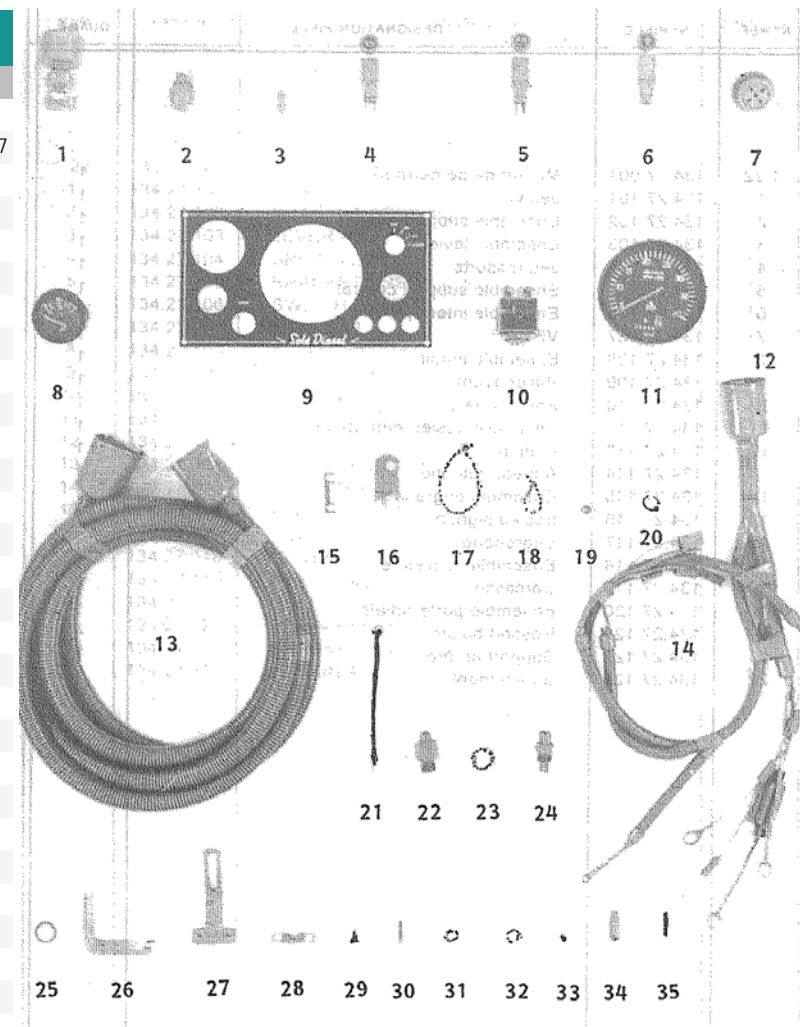


[NP] Not provided





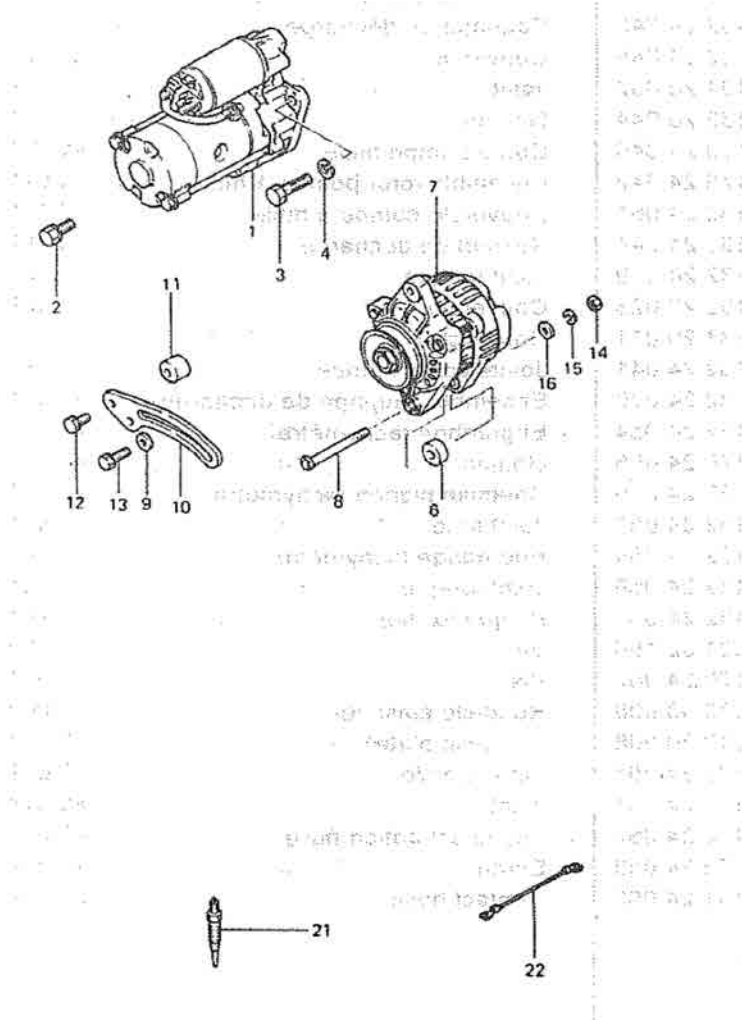
D_MI48_5_1 Electrical System 1						
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1	60900031	1	Key-Locking Switch			
2	60900040	1	Pushbutton Stop [NP]		13/07/2017	
2	60900049	1	Pushbutton Stop [NP]	13/07/2017		
3	60900045	3	Bulb 12V 3W Connector B			
4	60900050	1	LAMP, oil press.			
5	60900051	1	LAMP, charge			
6	60900052	1	LAMP, water temp.			
7	60900060	1	Alarm, SWITCH			
8	60900815	1	Water Gauge 12 V			
10	60970095	1	SIGNAL Glow			
11	60970710	1	TACHOMETER MINI-48			
12	60900110	2	DIODE 3 A.			
13	60952210	1	Engine Wiring Ext. 4 M. [NP]			
15	60934117	1	Fuse 60A.			
16	15217010	1	Bracket,wirings			
17	58088282	1	Pastic Cable Zip Tie			
18	58088284	1	Pastic Cable Zip Tie			
19	52120005	1	Nut DIN 934 M5 8.8			
20	53033005	1	Washer GROWER DIN 127-5			
21	60934040	1	Wirine			
22	60900070	1	Thermo-Switch 97°C			
23	56000073	1	Copper Washer 16-23-1,5			
24	60900780	1	Temperature SENDER 12 V			
26	13419002	1	Bracket,engine control			
27	12119021	1	SUPORT Clamp			
28	14719013	1	Clamp,cable			
29	55307104	2	Bolt DIN 86 W3/16-10			
30	52102157	2	Bolt DIN 933 M6-20 8.8			
31	51030006	4	Washer DIN 125-6			
32	53033006	2	Washer GROWER DIN 127-6			
33	52120006	2	Nut DIN 934 M6 8.8			
34	13419003	1	GAS,control yoke			
35	51051107	1	Pin DIN-94 1,6-16			
NS	60900035	1	Cover,key [NS]			



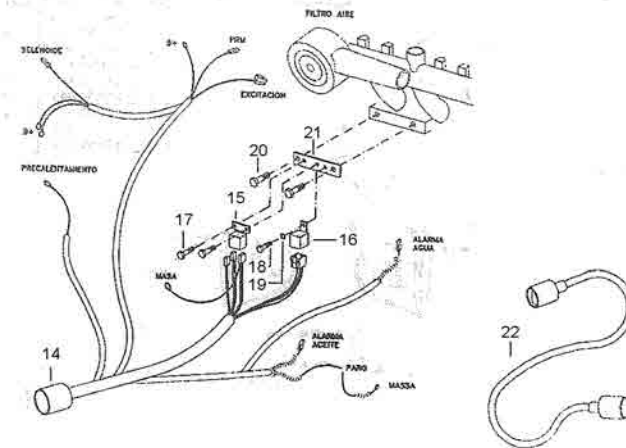
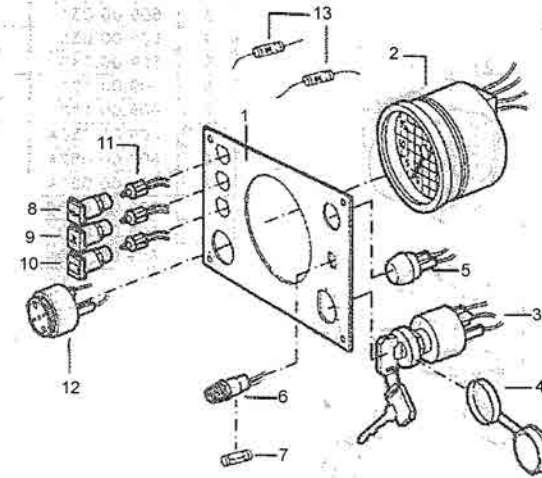
[NP] Not provided
 [NS] Not shown



D_MI48_5_2 Electrical System 2						
FIG.	REF.	QTY	DESCR.	FROM	UPTO	
1	13427001	1	Starter Assy 12 V			
2	52202308	1	Bolt DIN 933 M10-1,25-25 8.8			
3	52202311	1	Bolt DIN 933 M10-1,25-40 8.8			
4	53033010	1	Washer GROWER DIN 127-10			
6	17027006	1	Spacer			
7	13827010	1	Alternator 12V/40A			
8	13727008	1	Bolt ALT.			
9	51031008	1	Washer DIN 9021 8			
10	17027007	1	BRACE GENERAT			
11	17027015	1	DISTANCE			
12	52101259	1	Bolt DIN 931 M8-30 8.8			
13	13827012	1	Bolt			
14	52120008	1	Nut DIN 934 M8 8.8			
15	53033008	1	Washer GROWER DIN 127-8			
16	51030008	1	Washer DIN 125-8			
21	17027017	4	Plug Glow			
22	17027018	3	Plate Glow Plug			



D_MI48_5_5		Electrical Wiring & Panel			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
1-13	60970000R	1	Panel MINI-48		
1-21	17020101	1	Kit Gasket		
1A	56000077	1	Washer 18-23-1,5		
1B	60938001	1	Panel		
2	13211054	2	Engine Water OutLER Gasket		
3A	60900031	1	Key-Locking Switch		
3B	17022054	8	Seal Valve ST		
4A	60900035	1	Cover,key		
4B	17021003	1	Gasket Head Cylinder		
5A	60900040	1	Pushbutton Stop [NP]		13/07/2017
5A	60900049	1	Pushbutton Stop [NP]	13/07/2017	
5B	17021010	1	Gasket,rocker cover		
6	60900121	1	FuseHolder, panel		
7A	60900118	1	Fuse 10 A.		
7B	17020033	1	Gasket Oil PAN		
8A	60900050A	1	LAMP, oil press.		
8B	17021032	4	Gasket Intake MAN		
9A	60900052A	1	LAMP, water temp.		
9B	17021035	1	Gasket Exhaust Manifold		
10A	60900051A	1	LAMP, charge		
10B	13220002	4	Seal Side		
11A	60900045A	3	Bulb 12V 3W Connector JKL		
11B	13223014	1	Gasket Cover		
12A	13224041	1	Gasket Oil Pump B		
12B	60900060	1	Alarm, SWITCH		
13A	13221041	1	Gasket Water Pump		
13B	60900110	2	DIODE 3 A.		
14A	60970200R	1	MINI-48 Electrical Wiring		
14B	13221022	1	Gasket Water Pump		
15A	17020016	1	Gasket Oil Seal		
15B	13827005	1	Glow Relay		
16A	17020018	1	Gasket Front PLAT		
16B	18517005	1	Relay Nagares 12V 40A		
17A	17024013	4	Gasket Nozzle		
17B	52102155	2	Bolt DIN 933 M6-12 8.8		



[NP] Not provided



D_MI48_5_5		Electrical Wiring & Panel			
FIG.	REF.	QTY	DESCR.	FROM	UPTO
18	54102104	1	Bolt DIN 933 M5-10 INOX.		
19	51030005	1	Washer DIN 125-5		
20A	52202310	2	Bolt DIN 933 M10-1,25-35 8.8		
20B	13120047	2	Gasket Water Pump		
21A	17017001	1	Support,relay		
21B	17020038	1	Gasket Housing		
22	60985210	1	Engine Wiring Ext. 4 M.		

