

Spare Part Catalogue

Document ID	DBAB793176 -
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Installation	Tunisian Navy
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Engine type	TBD234V6
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Engine number	1325401, 1325501, 1325601
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Project	Tunisian Navy
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Introduction

The Spare Parts Catalogue provides the necessary information for ordering parts.

Arrangement of Catalogue

The Spare Parts Catalogue is composed of:

- Drawings with item numbers (S/N)
- Parts lists showing the item number (S/N), part number, denomination and quantity per (sub-)assembly of each part.

Ordering Parts

When ordering parts please include the following information:

Installation Data:

- Engine Serial Number (see name plate of the engine)
- Engine Type
- Name of Ship or Installation

Parts Data:

- Part Number and Description
- Number of Illustration
- Serial (unique) Number of the Part (if available)
- Quantity of required parts

Shipment Data:

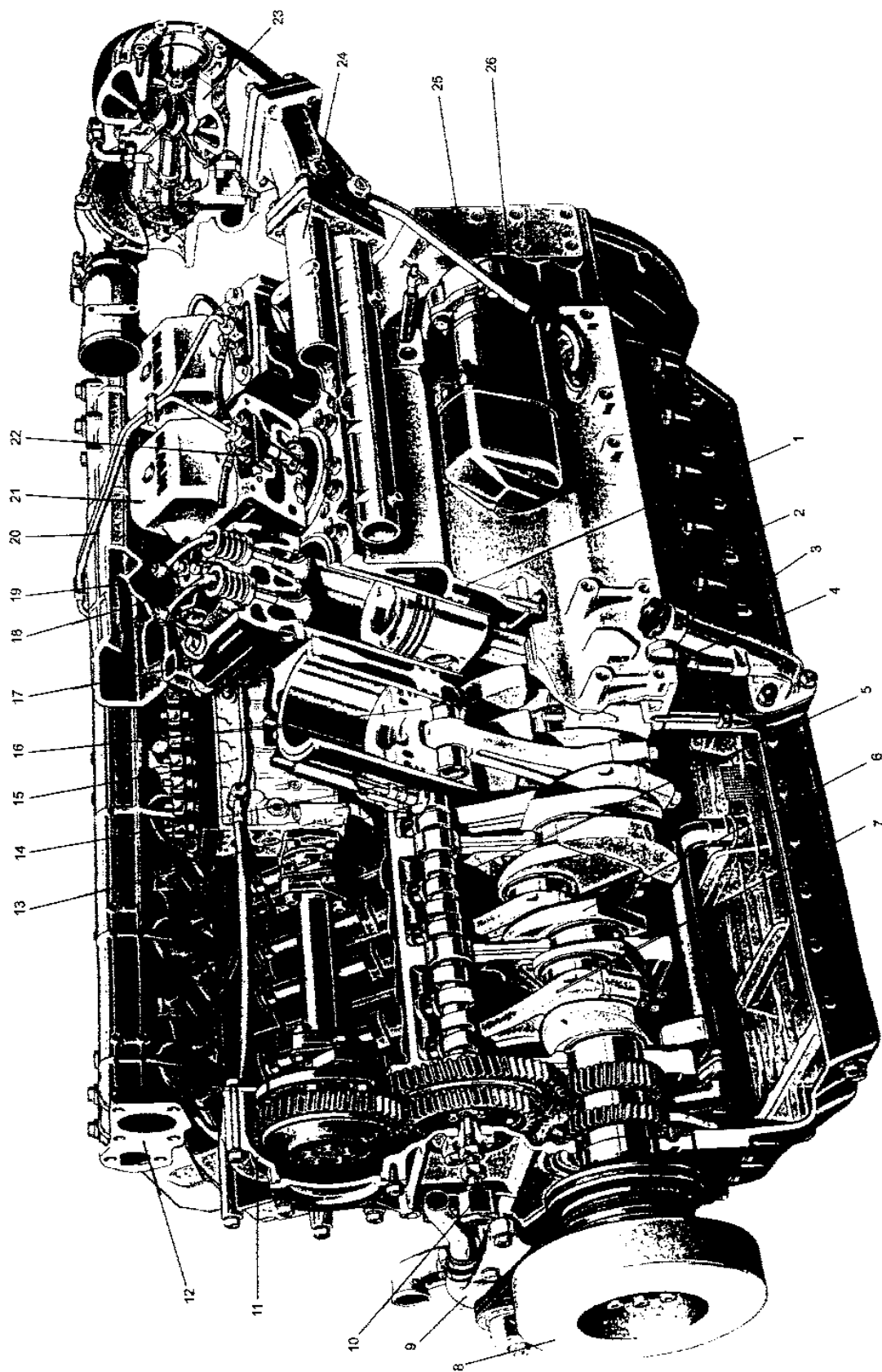
- Invoicing Address
- Forwarding Address
- Type of Shipment

The supply of spares is subject to our General Terms and Conditions for the sales of Spare Parts.

Ordering Address

The parts required should be ordered direct from Wärtsilä Netherlands B.V. or from one of the service stations, workshops and ship repair centres that form our service network in 70 countries worldwide.

Wärtsilä Netherlands B.V.
P.O. Box 10608, 8000 GB Zwolle
Office: Hanzelaan 95, 8017 JE Zwolle
The Netherlands
Tel. +31 38 425 32 53 (24 hrs)
Fax +31 38 422 35 64
service.sales.nl@wartsila.com



1. Crankcase 2. Oil pan 3. Oil filter 4. Diprod 5. Camshaft 6. Crankshaft 7. Connecting rod 8. Damper 9. Water pump 10. Speed transmitter 11. Front wall cover 12. Intake manifold 13. Tappet 14. Push rod 15. Injection pump 16. Piston 17. Cylinder head 18. Rocker arm 19. Support of rocker arm 20. Fuel pressure pipes 21. Cylinder head cover 22. Injector 23. Turbocharger 24. Exhaust pipe 25. Flywheel housing 26. Starter

Engine Type	TBD234V6				TBD234V8				TBD234V12			
Application	Marine Genset	Work Boat	High-speed Boat	Marine Genset	Work Boat	High-speed Boat	Stationary Main Engine	Stationary Engine	Marine Genset	Work Boat	High-speed Boat	
Cylinder Bore (mm)	128				128				128			
Stroke (mm)	140				140				140			
Piston Displacement	10.8				14.4				21.6			
Compression Ratio	15:1				15:1				15:1			
Rated Speed (r/min)	1500	2100	2200	1500	2100	2200	2100	1500	1500	2100	2200	
Rated Power (kW)	Continuous	186	242	302/2200	249	323	405/2200	333	281	373	485	605/2200
	2h/12h Power			332/2265			445/2265					665/2200
	0.5h/6h Power			347/2300			465/2300					695/2265
Mean Effective Pressure (Mpa)	1.38	1.28	1.53	1.38	1.28	1.53	1.32	1.56	1.38	1.38	1.53	
Mean Piston Speed (m/s)	7.0	9.8	10.2	7.0	9.8	10.2	9.8	7.0	7.0	9.8	10.2	
Specific Fuel Consumption at Continuous Power (g/kWh)	199	205	205	195	200	205	205	203	197	202	205	
Lube oil Consumption (g/kWh)	1.4				1.4				1.4			
Firing Order	A1-B2-A3-B1-A2-B3				A1-B2-A3-B1-A4-B3-A2-B4				A1-B5-A5-B3-A3-B6 A6-B2-A2-B4-A4-B1			
Crankshaft Rotation (Facing the Flywheel)	Anti-Clockwise				Anti-Clockwise				Anti-Clockwise			
Starting Method	By Electricity or Compressed Air				By Electricity or Compressed Air				By Electricity or Compressed Air			
Engine Net Weight (kg)	1275				1485				1310			
Outline Dimension LxWxH (mm)	1390x865x1135				1565x910x1130				2036x1130x1596			
Distance From Crankshaft Center to Lowest Point (mm)	370				365				382			

2.3 Engine type, design feature and main data (V6、V12)

Model	1257A	1257B	1252A	1252B	1258A	1258B	1258C	1260A	1261A	1263A	1271A	1273A	1273B	1557A	1560A	1561A	1563A	1563B	1568A	1571A	1571B	1573A	1590A								
Engine type	D234V6			TBD234V6																			TBD234V12						D234V12		
kW Engine output	87	87	186	191	186	186	186	222	242	347	227	250	250	373	444	485	695	695	444(IV)	455	455	580	194								
r/min Engine speed	1500	1500	1500	1500	1500	1500	1500	1800	2100	2300	1800	2100	2100	1500	1800	2100	2300	2300	1500	1800	2100	1500									
% Overload capacity	10	10	10	10	10	10	10	10			10			10	10					10	10		10								
Cooling method	Indirect cooling	Fan cooling			Indirect cooling						Fan cooling			Indirect cooling			Fan cooling														
Intake method	Natural admission			Supercharged heart cooling																			Natural admission								
Oil pan form	Wet	Dry	Wet		Dry	Double start		Wet														Double start									
Governor type	Mechanical	Electronic	Mechanical		Electronic	Mechanical																									
Main application	Marine main genset		Emer gency pump		Marine main genset		Marine main engine		Air compressor	Repair well engine		Marine main genset		Marine main engine		Emer gency pump		Lash-up pump		Emer gency pump		Marine gency genset									
Remark	Electronic and mechanical governor																														

Engine type, design feature and main data (V8)

Model	1353A	1353B	1353C	1354A	1354B	1356A	1356B	1356C	1356D	1356E	1356F	1358A	1358B	1363A	1365A	1371A	1371B	1373A	1373B	1373C	1373D	1359A	1390A	1391A
Engine type	TBD234V8																				D234V8			
^① kW Engine output	249	249	249	249	249	281	255	③281	267	249	281	296	296	323	②465	303	303	333	333	③367	③367	117	117	138
r/min Engine speed	1500	1500	1500	1500	1500	1500	1500	1500	1600	1500	1500	1800	1800	2100	2300	1800	1800	2100	2100	2100	2100	1500	1500	1800
% Overload capacity	10	10	10	10	10	10	10			10	10	10	10			10	10				10	10	10	
Cooling method	Indirect cooling				Fan cooling				Indirect cooling				Fan cooling				Indirect cooling				Fan cooling			
Intake method	Charge air cooling																							
Oil pan form	Wet	Dry	Double start		Wet																			
Governor type	Mechanical	Electronic	Mechanical																					
Main application	Marine main genset	Marine genset	Marine main engine	Fish main engine	Emergency pump	Emer gency pump	Cement vehicle	Marine genset	Emer gency pump	Marine main engine	Fish main engine	Marine main engine	Marine engine of high speed boat	Slurry pump	Cement vehicle	Slurry pump	Cement vehicle	Slurry pump	Cement vehicle	Cement vehicle	Marine genset	Marine genset		
Remark	Electronic and mechanical governor																							

- ① Ambient condition for normal power
 Marine engine: Atmospheric pressure 100kPa, Intake temperature 45℃, Sea water temperature before charge air cooler 32℃, relative humidity 60%
 Stationary engine: Atmospheric pressure 100kPa, Intake temperature 25℃, Air temperature before charge air cooler 25℃, relative humidity 30%
- ② Output is 15%of overload, half an hour within 6 hours
- ③ Output of one hour

Engine parts group content

Serial No.	Group No.	Denomination	Page
1	01-3421B	Crankcase	24
	01-3425A	Crankcase	28
	01-4421B	Crankcase	32
	01-4425A	Crankcase	35
	01-6421B	Crankcase	38
	01-6425A	Crankcase	41
	01-6426A	Crankcase	44
2	03-0420B	Front wall cover	47
	03-0422A	Front wall cover	49
3	03-9427B	Breathing pipes	51
	03-9436A	Breathing pipes	52
	03-9439A	Breathing pipes	53
4	05-0422A	Flywheel housing	54
	05-0427A	Flywheel housing	55
	05-0429A	Flywheel housing	56
5	11-3422A/F	Crankshaft	57
	11-4422A	Crankshaft	59
	11-4422F	Crankshaft	60
	11-6427A	Crankshaft	61
	11-6427F	Crankshaft	62
6	11-6435A	Damper	63
	11-7000	Power take-off device	64
7	15-0430C	Piston and con rod	65
	15-0433C	Piston and con rod	66
8	17-3421C	Camshaft	67
	17-3422A	Camshaft	68
	17-4421C	Camshaft	69
	17-4422A	Camshaft	70
	17-6421C	Camshaft	71
	17-6422A	Camshaft	72
	17-6422S	Camshaft	73
	17-6423A	Camshaft	74

Serial No.	Group No.	Denomination	Page
9	19-0420C	Valve driving gears	75
10	21-0420C	Cylinder head with cover	76
	21-0425C	Cylinder head with cover	78
11	23-0420D	Injection pump drive	80
	23-0424A	Injection pump drive	81
	23-6420D	Injection pump drive	83
	23-6422A	Injection pump drive	84
	23-6422S	Injection pump drive	86
12	25-3420B	Injection pump with governor	87
	25-3424F	Injection pump with governor	91
	25-3425A	Injection pump	94
	25-4420C	Injection pump with governor	99
	25-4424F	Injection pump with governor	103
	25-4425A	Injection pump	106
	25-6421B	Injection pump with governor	111
	25-6424F	Injection pump with governor	115
	25-6425B	Injection pump	118
13	27-0420B	Fuel delivery pump	123
	27-6400C	Fuel delivery pump	124
14	29-0400A	Fuel filter	125
	29-0412A	Fuel filter	126
	29-0441C	Fuel filter installation	128
	29-0452F	Fuel filter installation	129
15	31-0420A	Injector	130
	31-0423A	Injector	133
	31-0424A	Injector	136
16	31-3405B	Fuel pressure pipe	139
	31-3410B	Fuel pressure pipe	140
	31-4405B	Fuel pressure pipe	141
	31-4410B	Fuel pressure pipe	142
	31-6405B	Fuel pressure pipe	143
	31-6410B	Fuel pressure pipe	145
17	31-9402A	Flexible pipe	146
	31-9421A	Leakage – fuel pipe	148

Serial Number	Group number	Denomination	Page
18	31-9422A	Leakage fuel pipe	149
19	39-0410A	Speed fine adjusting device	150
	39-0411A	Speed fine adjusting device	151
	36-0416A	Electric fine speed fine adjusting device	152
20	39-0426B	Electric fine speed fine adjusting device	154
21	39-0465F	Electroinc governor	156
	39-0471F	Electroinc governor	158
	39-0477B	Electroinc governor	160
22	39-0491A	Speed adjusting device	162
	39-0498A	Speed adjusting device	163
23	41-0422B	Solenoid stopping device	164
	41-0429A	Solenoid stopping device	165
	41-0451F	Solenoid stopping device	166
24	41-0470A	Stopping device	168
25	45-3435F	Dry-type oil pan	169
	45-3440F	Oil pan	171
	45-4430A	Oil pan	173
	45-4431B	Oil pan	174
	45-4435F	Dry-type oil pan	176
	45-6430A	Oil pan	178
	45-6435A	Dry-type oil pan	179
26	45-9441B	Lubricating oil pump	181
	45-9442A	Suction pump	182
	45-9444F	Lubricating oil pump	183
	45-9445F	Suction pump	184
	45-9450A	Lubricating oil pump	185
	45-9451A	Suction pump	186
27	47-0425A	Lubricating oil filter	187
	47-0448A	Lubricating oil filter	188
	47-0449A	Lubricating oil filter	189
	47-0450A	Lubricating oil filter	190
28	49-3420A	Lubricating oil cooler	191
	49-3425C	Lubricating oil cooler	192
	49-3426A	Lubricating oil cooler	193

Serial Number	Group number	Denomination	Page
	49-5420A	Lubricating oil cooler	194
	49-6425A	Lubricating oil cooler	195
	49-6426B	Lubricating oil cooler	196
29	51-0403F	Manual Lub. oil priming pump	197
30	51-0501A	Lubricating oil pressure gauge	198
31	51-0501F	Lubricating oil pressure switch	199
	51-0501G	Lubricating oil pressure switch	201
32	57-0401F	Centrifugal pump	203
	57-0420F	Centrifugal pump	204
33	59-0410C	Self-suction raw water pump	206
	59-0411C	Self-suction raw water pump	208
	59-0412C	Self-suction raw water pump	210
34	59-0414A	Raw water cooling system	212
	59-0415A	Raw water cooling system	214
	59-0416A	Raw water cooling system	216
	59-0417A	Raw water cooling system	218
35	63-0400A	Heat exchanger	219
	63-0409A	Heat exchanger	221
	63-0410A	Heat exchanger	223
36	63-0423A	Indirect water cooling system	224
	63-0424A	Indirect water cooling system	226
	63-0425A	Indirect water cooling system	228
	63-0426A	Indirect water cooling system	230
37	65-0412F	Radiator cooling system	233
	65-0413F	Radiator cooling system	235
	65-0441A	Fastening parts of the radiator	236
	65-0441B	Fastening parts of the radiator	237
	65-0441C	Fastening parts of the radiator	238
38	65-0441F	Fastening parts of the radiator	239
39	65-0451F	Fan drive	240
	65-0451G	Fan drive	242
	65-0451H	Fan drive	244
40	67-0400A	Tension pulley	246
	67-0405A	Tension pulley	248

Serial Number	Group number	Denomination	Page
41	67-0430	V-belt protection parts	249
	67-0439B	V-belt protection parts	250
	67-0451A	V-belt protection parts	251
42	69-0415F	Cooling water pipes	252
	69-0416F	Cooling water pipes	253
	69-0417B	Cooling water pipes	254
	69-0418F	Cooling water pipes	255
	69-0419F	Cooling water pipes	256
	69-0420A	Cooling water pipes	257
	69-0420B	Cooling water pipes	257
43	73-3420A	Intake manifold	258
	73-4420A	Intake manifold	259
	73-6420B	Intake manifold	260
44	75-0470A	Outlet exhaust pipe	261
	75-0470B	Outlet exhaust pipe	262
	75-0470C	Outlet exhaust pipe	263
	75-0470D	Outlet exhaust pipe	264
	75-0471A	Outlet exhaust pipe	265
	75-0472F	Outlet exhaust pipe	266
	75-0473F	Outlet exhaust pipe	267
45	75-3415F	Exhaust pipe	268
	75-3420F	Exhaust pipe	269
	75-3420G	Exhaust pipe	271
	75-3476F	Exhaust pipe	272
	75-3476G	Exhaust pipe	273
	75-3476H	Exhaust pipe	274
	75-4420G	Exhaust pipe	275
46	75-4420F	Exhaust pipe	276
	75-6420C	Exhaust pipe	278
	75-6421C	Exhaust pipe	280
47	77-0405F	Turbocharger	281
	77-0406F	Turbocharger	282
48	77-0431A	Air cooler	283
	77-0432B	Air cooler	284
49	77-3420C	Assembly of turbocharger group	285
	77-4420B	Assembly of turbocharger group	288

Serial Number	Group number	Denomination	Page
	77-4423F	Assembly of turbocharger group	291
	77-4450F	Assembly of turbocharger group	294
	77-4450G	Assembly of turbocharger group	296
	77-6451B	Assembly of turbocharger group	298
50	79-0461A	Oil-bath air filter	301
	79-0490F	Dry-type air filter	302
	79-0510A	Wet-type air filter	303
	79-0511A	Wet-type air filter	304
	79-0513A	Wet-type air filter	305
	79-0526A	Wet-type air filter	306
	79-0527F	Wet-type air filter	307
51	83-0400A	Starter	308
	83-0411B	Starter	309
52	85-0402A	Hansa quick starting system	310
	85-0420C	Air starter	311
53	87-3405A	Compression air starting system	312
	87-4405A	Compression air starting system	314
	87-6405A	Compression air starting system	316
54	89-0400C	Lighting dynamo with fastening	318
	89-0405B	Lighting dynamo with fastening	319
	89-0405D	Lighting dynamo with fastening	321
	89-0405E	Lighting dynamo with fastening	323
55	89-0470A	Voltage regulator installation	325
56	89-0502F	Control device electrical equipment	326
57	89-0590F	Terminal box	327
	89-0591F	Terminal box	328
58	89-0592F	Engine control box	329
	89-0592G	Engine control box	330
	89-0592H	Engine control box	331
59	89-0620F	Tachometer drive	332
60	91-0410F	Engine support	333
61	93-0420C	Hydraulic pump	334
	94-0430C	Assembly of air compressor	335
62	96-0400A	Turning device	336
63	99-0400B	V-belt	337
	99-0401B	V-belt	338

List of engine parts

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List of engine parts

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List of engine parts

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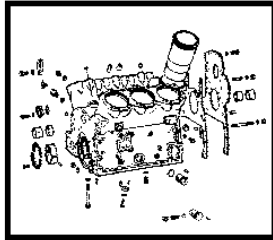
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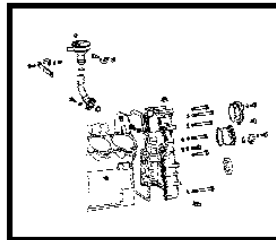
List of engine parts

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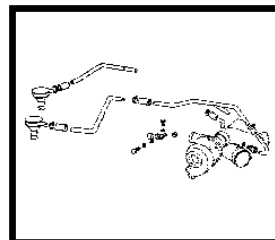
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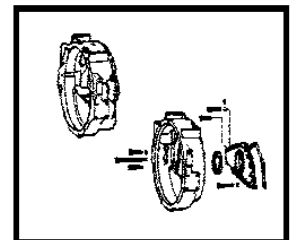
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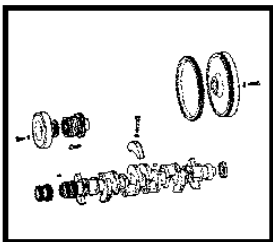
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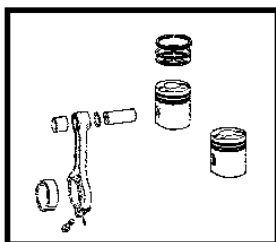
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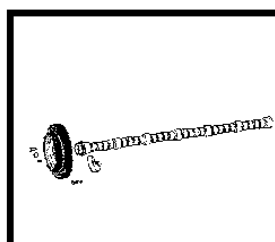
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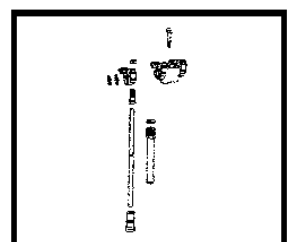
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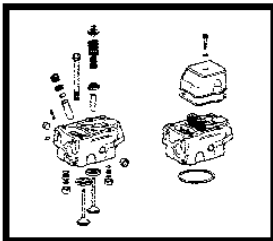
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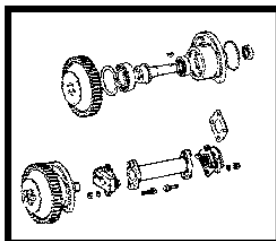
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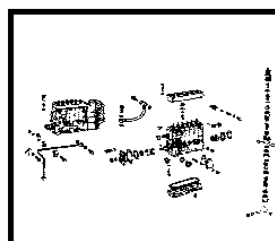
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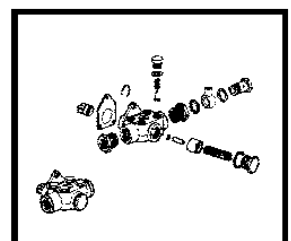
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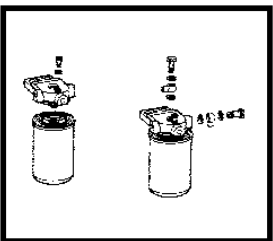
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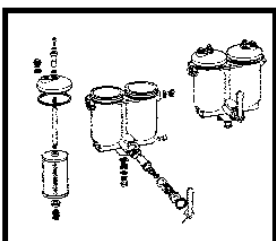
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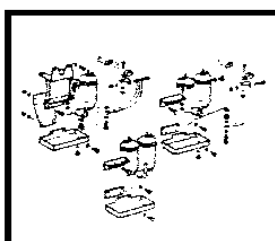
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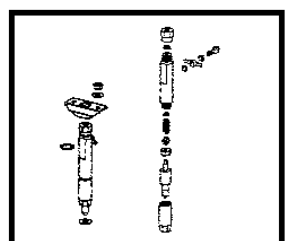
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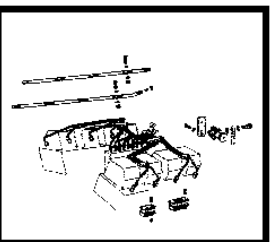
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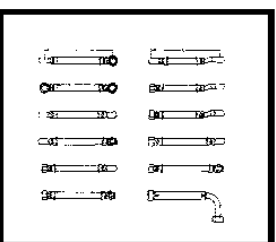
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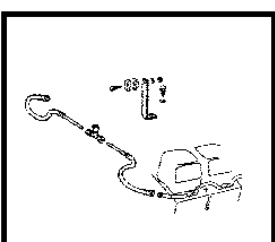
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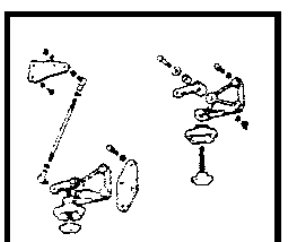
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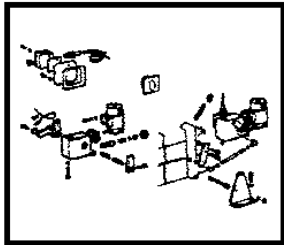
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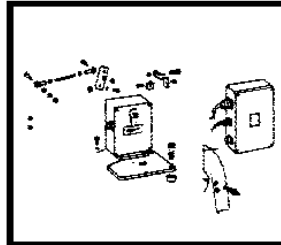
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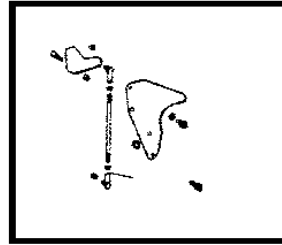
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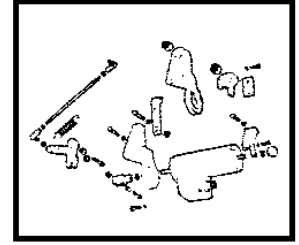
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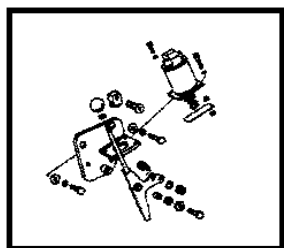
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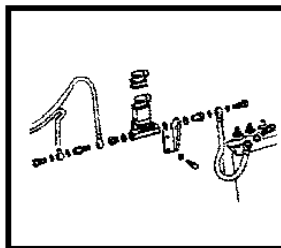
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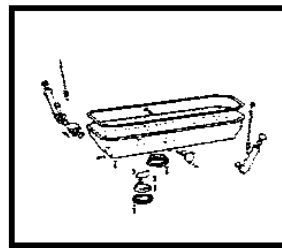
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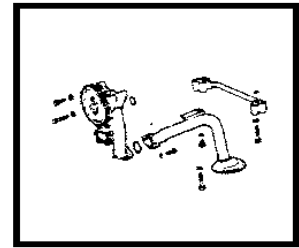
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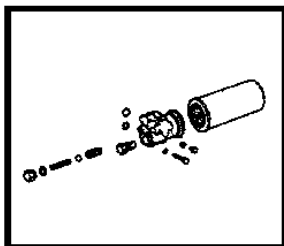
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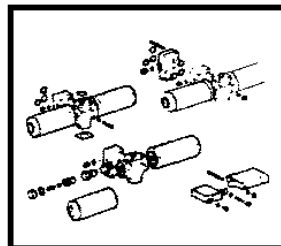
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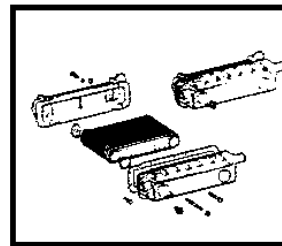
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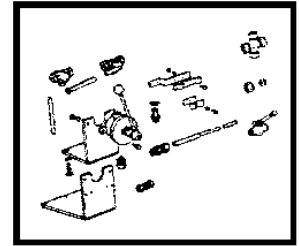
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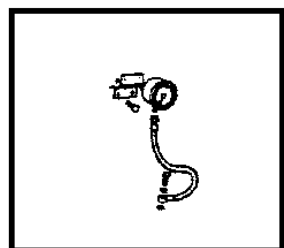
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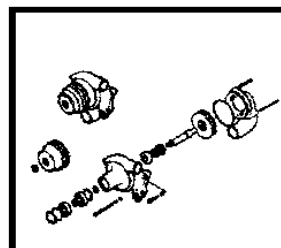
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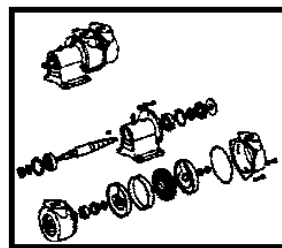
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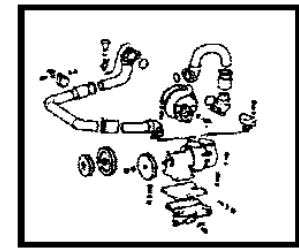
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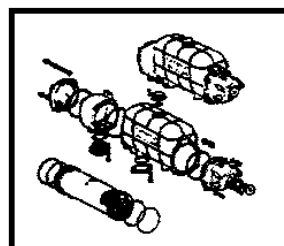
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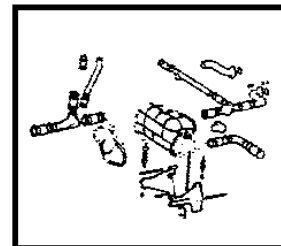
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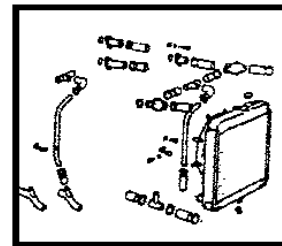
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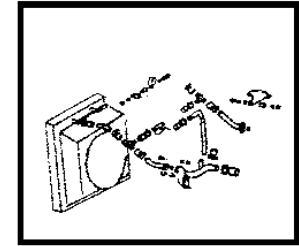
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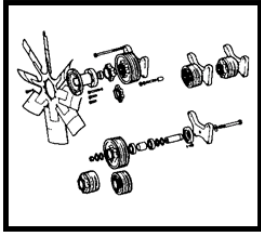
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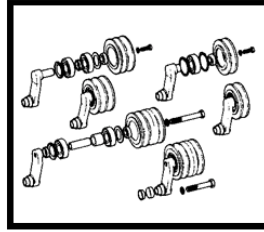
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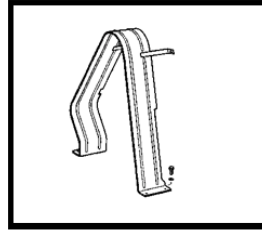
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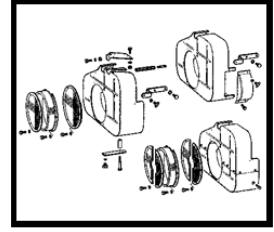
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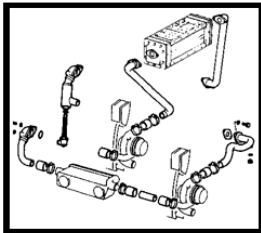
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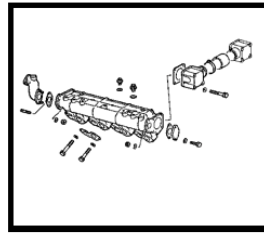
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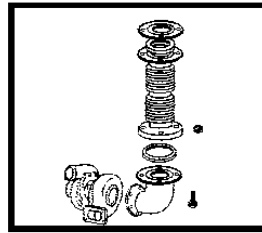
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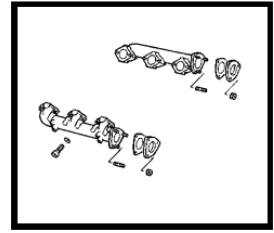
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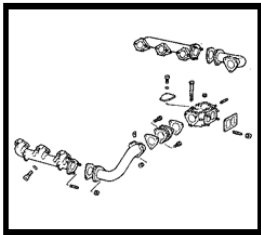
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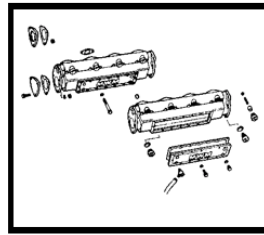
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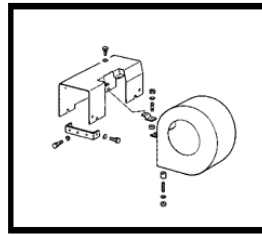
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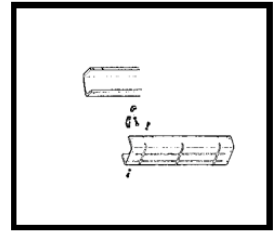
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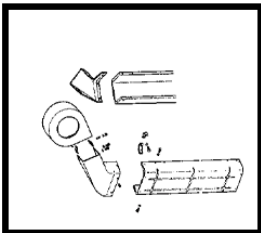
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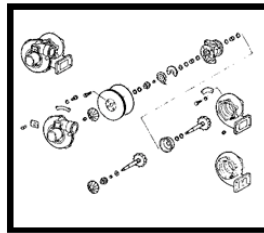
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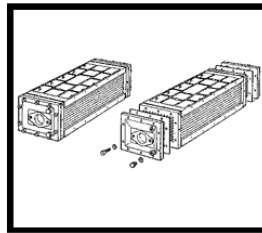
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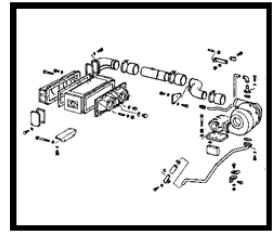
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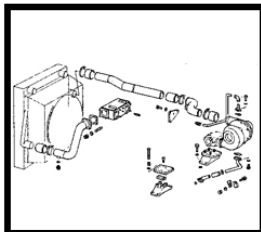
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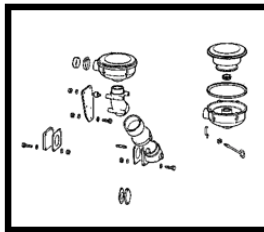
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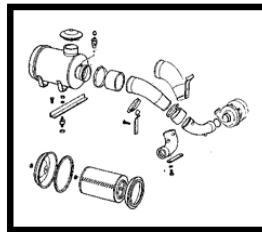
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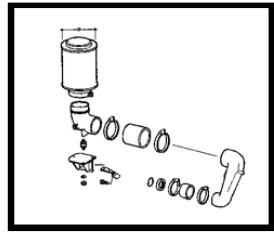
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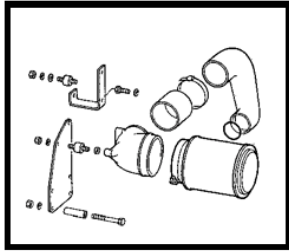
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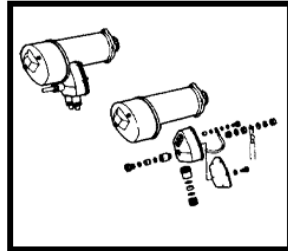
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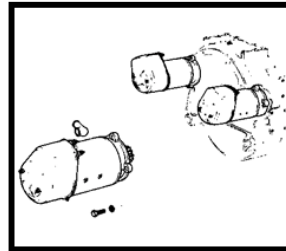
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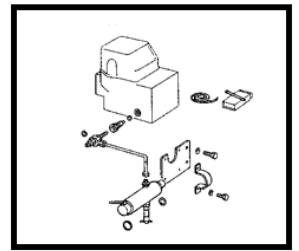
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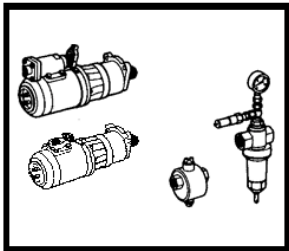
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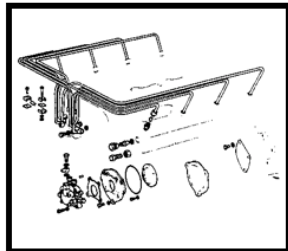
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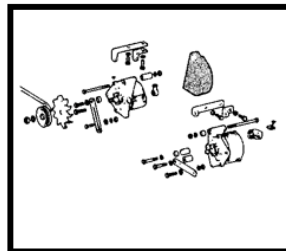
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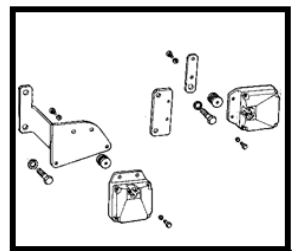
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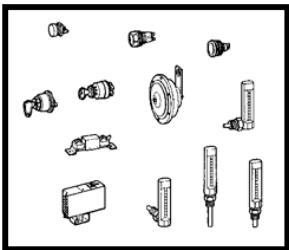
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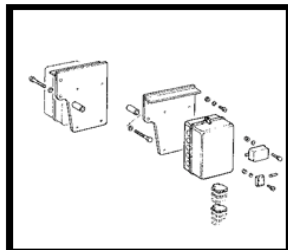
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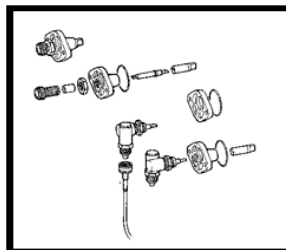
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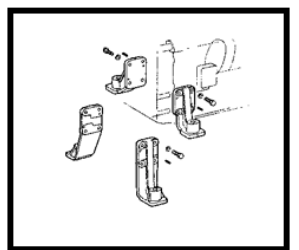
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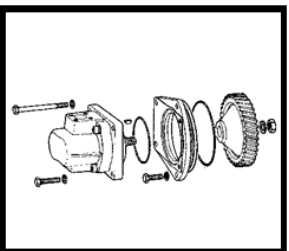
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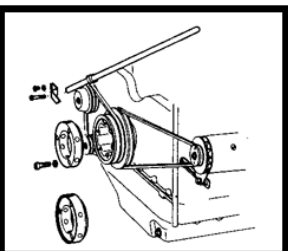
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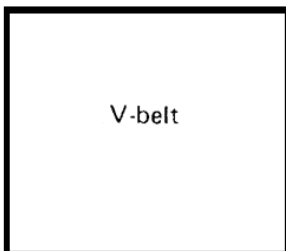
91-



93-



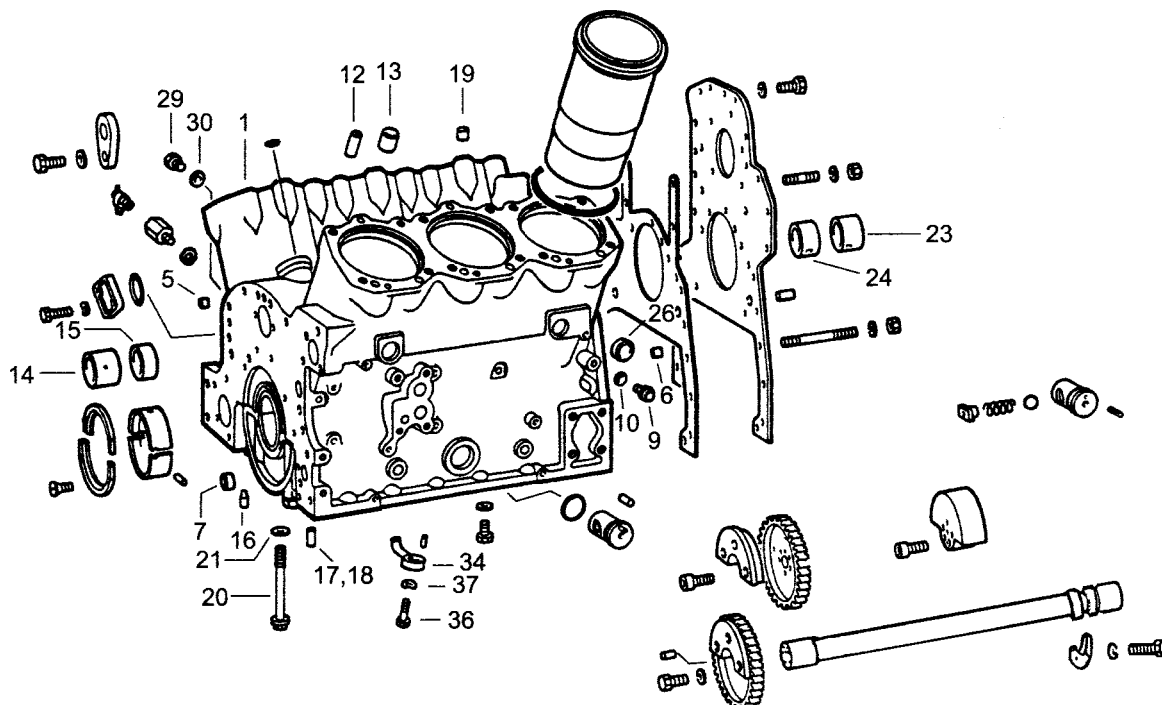
96-



99-

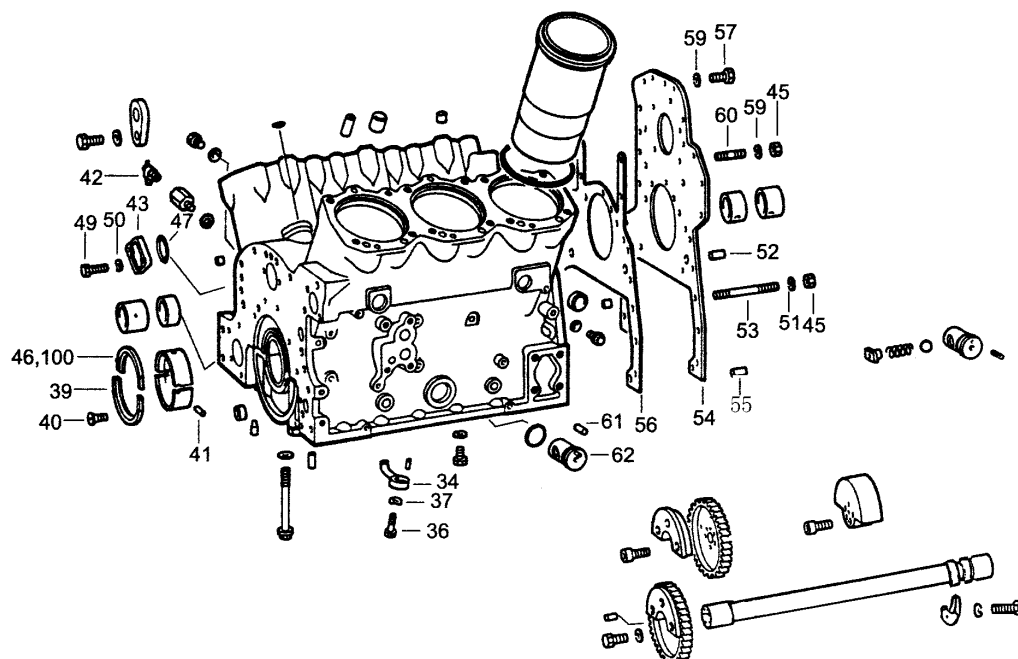
V-belt

Crankcase



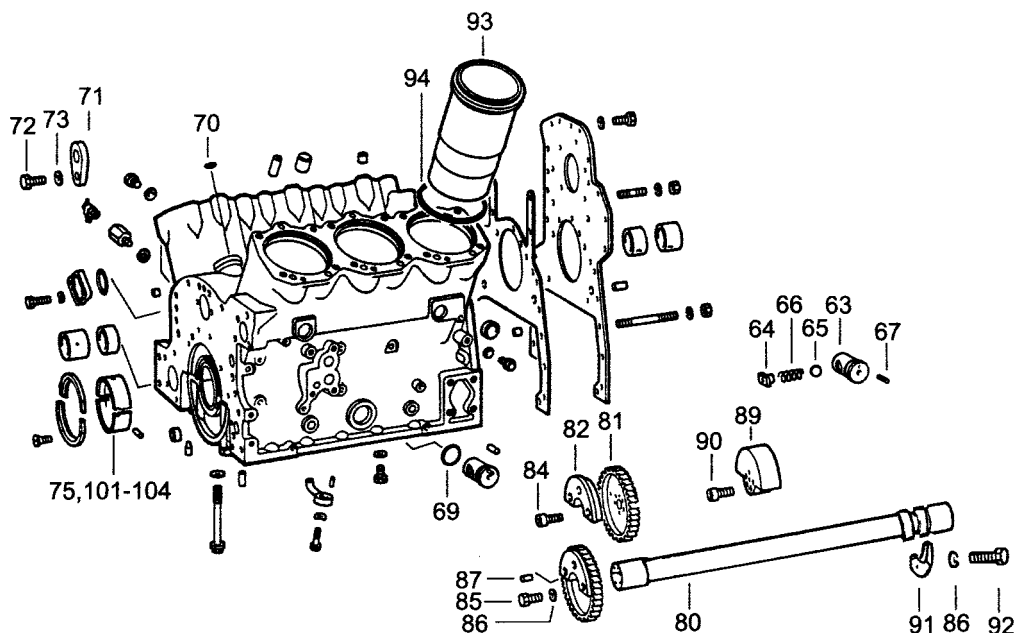
S/N	Drawing No	Specification	Denomination	Quantity
1	6.234.0.110.063.7		Cylinder crankcase, compl. consist of fig. No. 5-41, 93, 94	1
5	6.205.1.327.001.4	Φ 10mm	Plug	2
6	6.324.1.327.002.4	Φ 14mm	Plug	4
7	6.0215.21.8.0025	25DIN443	Cap	5
9	6.0206.05.0.1010	AM10× 1DIN7604-5.8	Screw plug	1
10	6.0492.01.0.1014	A10× 14DIN7603-Cu	Packing ring	1
12	6.232.0.330.014.4		Sleeve	12
13	6.234.0.330.011.4		Sleeve	12
14	6.232.0.432.007.4		Bearing bush	1
15	6.232.0.432.006.4		Bearing bush	1
16	6.232.0.310.001.4		Straight pin	4
17	6.232.0.310.002.4		Straight pin	3
18	6.232.0.310.003.4		Straight pin	1
19	6.232.0.330.022.4		Bush	1
20	6.0200.01.8.1856	BM18× 165DIN931-12.9	Hexagon screw	16
21	6.0215.06.1.1851		Washer	16
23	6.234.0.432.002.2		Bearing bush	2
24	6.234.0.432.001.2		Bearing bush	2
26	6.0215.21.8.0030	30DIN443	Cap	4
29	6.0206.05.0.1215	AM12× 1.5DIN7604-5.8	Screw plug	1
30	6.0492.01.0.1218	A12× 18DIN7603-Cu	Packing ring	1
	6.324.1.327.001.4		Plug	4

Crankcase

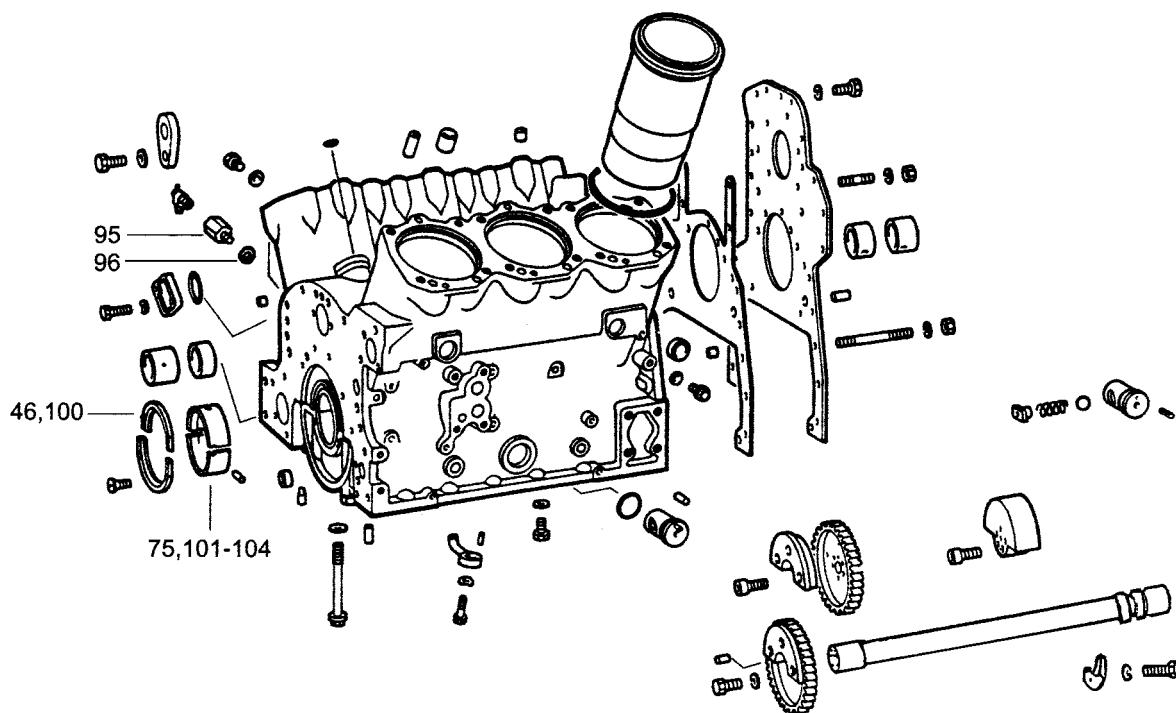


S/N	Drawing No	Specification	Denomination	Quantity
34	6.234.0.465.001.5		Nozzle for cooling oil	6
36	6.0200.01.0.0845	M8× 45DIN931-8.8	Hexagon screw	6
37	6.0216.03.1.0080	B8 DIN137	Spring washer	6
39	6.234.0.340.001.4		Ring half	2
40	6.0203.21.0.0612	AM6× 12 DIN963-5.8	Countersunk screw	4
41	6.0220.15.0.0408	4× 8 DIN1481	Clamping sleeve	4
42	6.0452.04.8.0014	CM14× 1.5keg DIN71401	Exhaust valve	1
43	6.234.0.950.019.4		Cover	1
45	6.0210.05.4.0080	M8 DIN934m-10	Hexagon nut	14
46	6.234.0.340.002.4		Ring half (Series)	2
47	6.0493.10.4.0554		Round packing ring	1
49	6.0200.05.0.0825	M8× 25 DIN933-8.8	Hexagon screw	2
50	6.0216.03.1.0080	B8 DIN137	Spring ring	2
51	6.0216.01.0.0080	B8 DIN127	Spring ring	5
52	6.0220.10.0.1024	10m6× 24 DIN7	Straight pin	4
53	6.0201.10.1.0811	M8× 110 DIN939-5.8	Stud	4
54	6.232.0.788.002.4		Cover plate	1
55	6.0220.15.0.0620		Straight pin	2
56	6.232.0.853.015.4		Shaped gasket	1
57	6.0200.05.0.0820	M8× 20 DIN933-8.8	Hexagon screw	14
59	6.0216.01.0.0080	B8 DIN27	Spring ring	9
60	4.234.0.355.750.4	M18× 25-10.9	Stud	5
61	6.0220.10.0.1024	10m6× 24 DIN7	Straight pin	2
62	6.234.0.767.001.6		Overflow valve, compl. consist of fig. No. 63-67	1

Crankcase

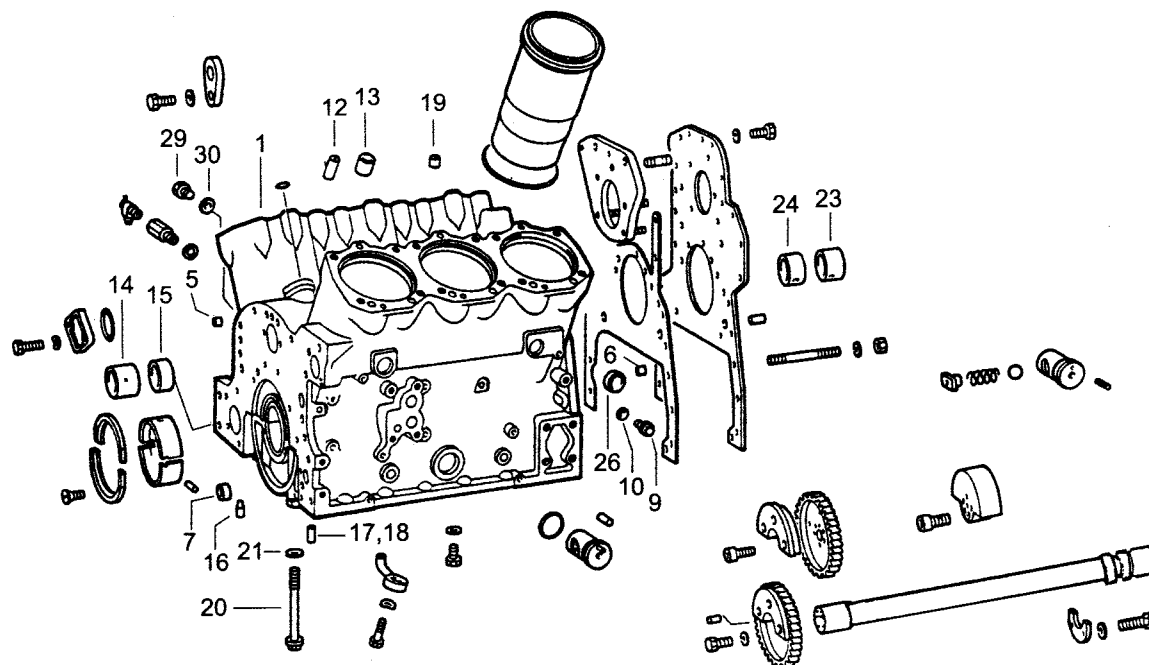


S/N	Drawing No	Specification	Denomination	Quantity
63	6.234.0.346.001.4		Valve insert	1
64	6.234.0.342.002.4		Spring plate	1
65	6.0325.11.0.0024	3/4III DIN5401	Ball	1
66	6.0240.19.0.1110		Pressure spring	1
67	6.0220.15.0.0416	4× 16 DIN1481	Clamping sleeve	1
69	6.0493.13.0.3501	35× 4	Round packing ring	1
70	6.0493.13.0.1401	14× 3	Round packing ring	12
71	6.234.0.637.011.4		Bracket	2
72	6.0200.05.0.2040	M20× 40 DIN933-8.8	Hexagon screw	2
73	6.0215.01.2.0210	21 DIN125-V2A	Washer	2
75	6.234.0.430.001.7		Main bearing bush, compl. (Serie)	4
80	6.234.0.300.002.5		Shaft	1
81	6.234.0.371.007.4		Front gear wheel	1
82	6.232.0.671.002.4		Counter weight	1
84	6.0200.70.0.0830	M8× 30 DIN91210.9	Cheese head screw	3
85	6.0200.05.0.0820	M8× 20 DIN933-8.8	Hexagon screw	5
86	6.0216.01.0.0080	B8 DIN127	Spring ring	12
87	6.0220.15.0.0614	6× 14 DIN1481	Clamping sleeve	2
89	6.234.0.671.001.4		Counter weight	1
90	6.0200.05.0.0825	M8× 25 DIN933-8.8	Hexagon screw	5
91	6.234.0.673.002.4		Segment	1
92	6.0200.01.0.0850	M8× 50 DIN931-8.8	Hexagon screw	2
93	6.234.0.132.002.4		Cylinder liner	6
94	6.0493.13.1.4202	142× 4.5 DIN3770	Round packing ring	12



Drawing No	Specification	Denomination	Quantity
95 6.232.0.355.015.4		Screw socket	1
96 6.0492.01.0.1418	A14× 18 DIN7603-Cu	Packing ring	2
100 6.234.8.340.002.4		Ring half	2
101 6.234.8.430.003.7	104.692-104.714mm	Main bearing bush, compl. Repair stage I	4
102 6.234.8.430.005.7	104.442-104.464mm	Main bearing bush, compl. Repair stage II	4
103 6.234.8.430.007.7	104.192-104.214mm	Main bearing bush, compl. Repair stage III	4
104 6.234.8.430.009.7	103.942-103.964mm	Main bearing bush, compl. Repair stage IV	4

Crankcase



S/N	Drawing No	Specification	Denomination	Quantity
1	6.234.0.110.063.7		Cylinder crankcase, compl. consist of fig. No. 5-41, 93, 94	1
5	6.205.1.327.001.4	Φ 10mm	Plug	6
6	6.324.1.327.002.4	Φ 14mm	Plug	4
7	6.0215.21.8.0025	25 DIN443	Cap	6
9	6.0206.05.0.1010	AM10× 1DIN7604-5.8	Screw plug	3
10	6.0492.01.0.1014	A10× 14DIN7603-Cu	Packing ring	3
12	6.232.0.330.014.4		Sleeve	12
13	6.234.0.330.011.4		Sleeve	12
14	6.232.0.432.007.4		Bearing bush	1
15	6.232.0.432.006.4		Bearing bush	1
16	6.232.0.310.001.4		Straight pin	4
17	6.232.0.310.002.4		Straight pin	3
18	6.232.0.310.003.4		Straight pin	1
19	6.232.0.330.022.4		Bush	1
20	6.0200.01.8.1856	BM18× 165DIN931-12.9	Hexagon screw	16
21	6.0215.06.1.1851		Washer	16
23	6.234.0.432.002.2		Bearing bush	2
24	6.234.0.432.001.2		Bearing bush	2
26	6.0215.21.8.0030	30DIN443	Cap	4
29	6.0206.05.0.1215	AM12× 1.5DIN7604-5.8	Screw plug	1
30	6.0492.01.0.1218	A12× 18DIN7603-Cu	Packing ring	1