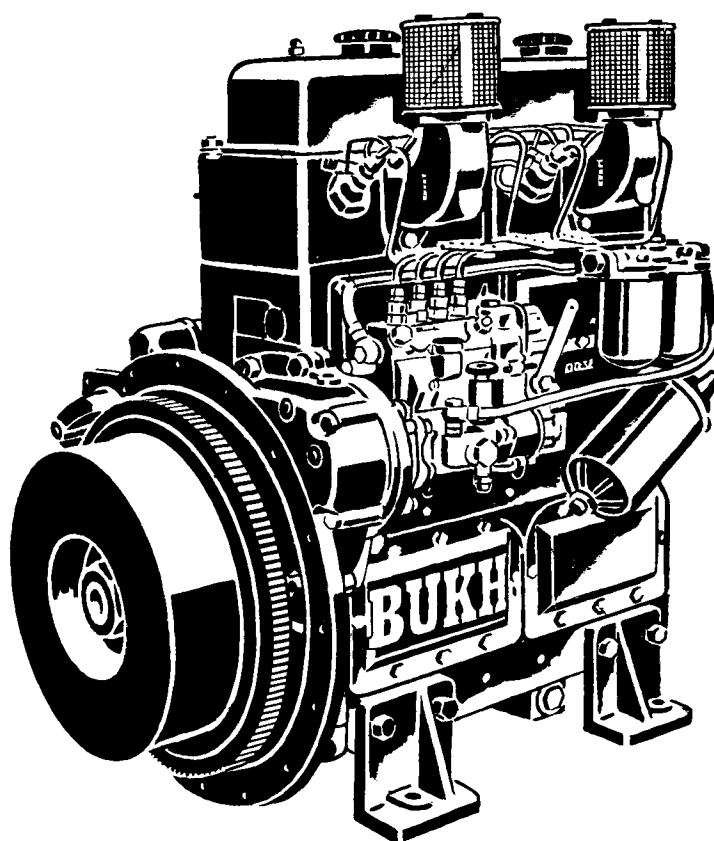


ILLUSTRATED
SPARE PARTS CATALOGUE
FOR
BUKH DIESEL ENGINES

TYPES 4 K 105 and 6 K 105



Løkken Smede- og Maskinværksted A/S

Egevej 41 • 9480 Løkken • Tlf. 98 99 14 75 • Fax. 98 99 24 27
www.lsm-diesel.dk • e-mail: lsm@lsm-diesel.dk

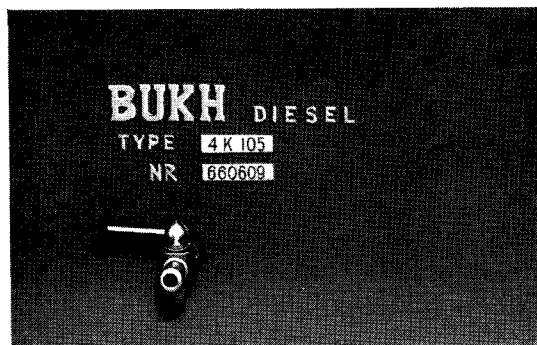
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5	Crank case with studs
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9	Crank shaft, main- and intermediate bearings Camshaft with cams and bearings
11	Cylinder head, cylinder head cover, cylinder head gasket Rocker arms, valves, valve seats, valve springs
13	Piston with pin and rings, connecting rod with bearings and bolts Fly wheel, brackets for engine
15	Fuel injection pump with governor and feed pump, fuel valve, fuel duo filter, gear wheel and flange for fuel pump, locking plate for governor arm
17	Specification of spare parts for fuel pump
19	" " " " " feed pump
21	" " " " " governor
23	" " " " " fuel filter
25	" " " " " fuel valve
27	Lubricating oil pump, lub.oil suction filter, overflow valve Lubricating oil manometer Lubricating oil filter
29	Cooling water pump complete, bracket for cooling water pump, V-belt pulleys for cooling water pump, tension roller Cooling water outlet pipe, cooling water admission pipe, cooling water inlet flange
31	Specification of spare parts for cooling water pump
33	Fuel- and lubricating pipes Cooling water by-pass and thermostat
35	Air inlet filter (dry filter and oil bath filter) Air inlet pipe Exhaust manifold
37	Starting gear rim, starter, charging dynamo, bracket for charging dynamo Instrument panel, instruments, charging relay, battery
39	Specification of spare parts for starter
41	" " " " " dynamo
43	Tools
44	Sets of gaskets – specified

This spare parts catalogue is common to BUKH diesel engines types 4 K 105 and 6 K 105.

The spare parts are indicated by spare parts numbers which are stated in the illustrations and in the corresponding parts lists. These parts lists also state the designations of the spare parts and the quantity of parts required for each engine type.

WHEN ORDERING SPARE PARTS, PLEASE ALWAYS STATE:



Type and serial number of engine (placed on the side of crank case – direct above the cooling water drain cock).

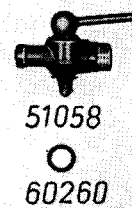
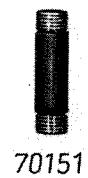
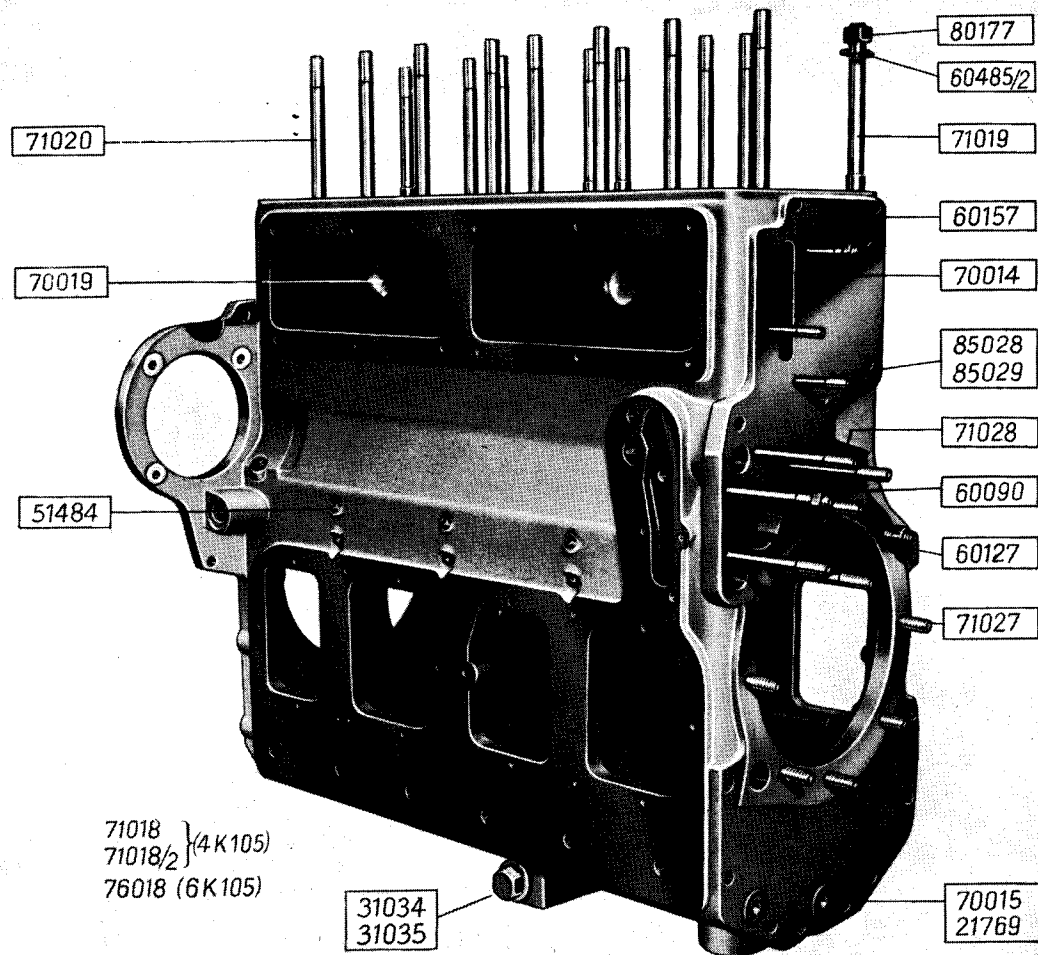
Quantity of spare parts required.

Designation of spare parts.

Spare part number.

An example of a correct spare part order:

"I order for engine type 4 K 105 – serial No. 660609 – four cylinder liners No. 60383."



Spare Part No.	Nos. required per engine		Weight each kg	Designation
	4 K 105	6 K 105		
21769	4	4		Copper asbestos gasket $\phi 26.5/\phi 32$ mm
31034	2	2	0.125	³⁾ Drain plug for lub. oil
31035	2	2		Copper asbestos gasket $\phi 33.3/\phi 40$ mm
51484	7	9	0.005	Pipe plug – $1/8" \times 3/8"$ Unbraco type P
60090	5	5	0.010	Nut 10 MG DIN 934 for lubricating oil pump
60127	7	7	0.015	Nut 12 MG DIN 934
60157	3	3	0.005	Nut 8 MG DIN 934
60485/2	16	24	0.010	Washer plate for 80177
70014	3	3	0.020	Stud 8MG $\times$ 50 mm DIN 939 for intake flange for cooling water
70015	4	4	0.070	Pipe plug $3/4"$
70019	2	3	0.020	Closing plate $\phi 40$ mm DIN 443
71018	1		174.000	¹⁾ Crank case with studs
71018/2	1		174.000	²⁾ Crank case with studs
71019	4	6	0.240	Stud with guide ring for cylinder head
71020	12	18	0.235	Stud without guide ring for cylinder head
71027	7	7	0.030	Stud 12 MG $\times$ 25 mm DIN 939 for end cover at front of engine
71028	5	5	0.060	Stud 10 MG $\times$ 95 mm DIN 939 for lubricating oil pump
76018		1	250.000	Crank case with studs
80177	16	24	0.030	Nut for 71019 og 71020
85028	1	1	0.040	Pipe plug $3/8"$ for corrosion hole
85029	1	1		Copper asbestos gasket $\phi 17/\phi 22$ mm

6343	1	1	0.040	Expansion plug $\phi 40$ mm
31392	1	1	0.020	Expansion plug for lub. oil channel – $\phi 27$ mm
35056	6	6		Spring washer 12 mm
40029	3	3	0.005	Set screw 6 MG $\times$ 10 mm DIN 933
60109	3	3		Spring washer 6 mm
60127	6	6	0.015	Nut 12 MG DIN 934
70008	1	1	0.035	Cover for lubricating oil overflow
70016	6	6	0.035	Stud 12 MG $\times$ 30 mm DIN 939 for endcover at fly wheel end
12008	1	1	0.080	Pipe plug $1/2"$
31034/2	1	1	0.110	³⁾ Plug with threaded hole for lub. oil drain pipe
31036	1	1		Copper asbestos gasket $\phi 21/\phi 27$ mm
31374	1	1		O-ring for dipstick
51058	1	1	0.160	Drain cock for cooling water $3/8"$ RG
60260	1	1		O-ring R 13 $\times$ 2.5 mm (R117)
70151	1	1	0.080	Pipe for draining-off lubricating oil
70152	1	1	0.070	Socket
71047	1	1	0.130	Dipstick

¹⁾ For engine type 4 K 105 up to serial No. 54049

²⁾ For engine type 4 K 105 from serial No. 54050

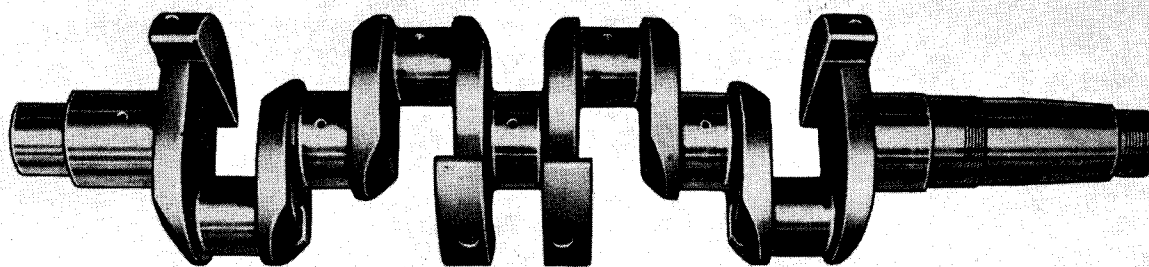
³⁾ 31034/2 replaces 31034 when the engine is mounted with drain-off pipe No. 70151

Spare Part No.	Nos. required per engine		Weight each kg	Designation
	4 K 105	6 K 105		
51484	4	4	0.005	Pipe plug $\frac{1}{8}'' \times \frac{3}{8}''$ – Unbraco type P
60156	5	5	0.015	Machine bolt 8 MG $\times$ 25 mm DIN 931
60227	39	61	0.010	Set screw 8 MG $\times$ 20 mm DIN 933
60260	1	1		O-ring R 13 – 2.5 mm (R117)
70010	1	1	0.160	Centering bush
70011	2	2		O-ring R 28 – 2.5 mm
70012	2	2		O-ring R 23 – 2.5 mm (R130)
70013	1	1	0.010	Expansion plug ϕ 30 mm
70017	1	1	6.800	End cover at fly wheel end
70018	6	6	0.005	Washer plate ϕ 17/ ϕ 8.4 $\times$ 2 mm
71017	1	1	0.055	Seal ring for crank shaft – 80100
71038	4	6	1.800	Cover for crank case
71039	4	6	0.015	Gasket for 71038
71040	2	3	1.400	Cover for crank case (at push rod chamber)
71041	2	3	0.010	Gasket for 71040
71341	1	1		Gasket for 71342
71342	1	1	11.900	End cover at front of engine

31017	1	1	0.030	Seal ring for crank shaft 7085
31032	1	1	0.075	Pipe plug $\frac{1}{2}''$
31036	1	1		Copper asbestos gasket ϕ 21/ ϕ 27 mm
35056	12	12		Spring washer 12 mm DIN 127
60127	1	1	0.015	Nut 12 MG DIN 934
70020	1		37.000	1) Cover for timing gear
70020/2	1	1	37.000	2) Cover for timing gear
70021	1		0.015	1) Gasket for 70020
70021/2	1	1	0.015	2) Gasket for 70020/2
70022	1	1	0.035	Guide stud for cover
70023	1	1	0.095	Machine bolt 12 MG $\times$ 95 mm DIN 931
70024	10	10	0.050	Machine bolt 12 MG $\times$ 40 mm DIN 931
70025	2	2	0.070	Machine bolt 10 MG $\times$ 110 mm
70029	1		0.500	1) Intermediate gear wheel for fuel pump
70029/2	1	1	0.600	2) Intermediate gear wheel for fuel pump
71045	1	1	3.800	Gear wheel for camshaft
71127	1	1	0.800	Gear wheel for crank shaft

1) For engine type 4 K 105 up to serial No. 54049

2) For engine type 4 K 105 from serial No. 54050



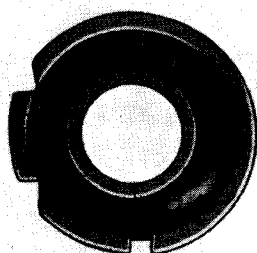
71002 (4 K 105)
76002 (6 K 105)

70003 31006



71007

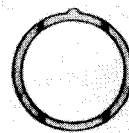
35074



71009



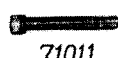
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72087



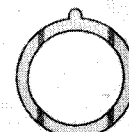
31005



71011



35056



72088



31004



70002



70315



60210



70000



71014



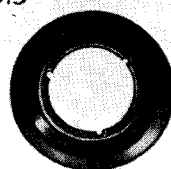
70007



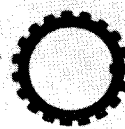
71013



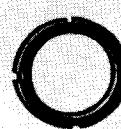
31015



70001



70005



70004



71275 (4 K 105)
76275 (6 K 105)

70038



70042



70107



70108



70109



70041



70039



70040

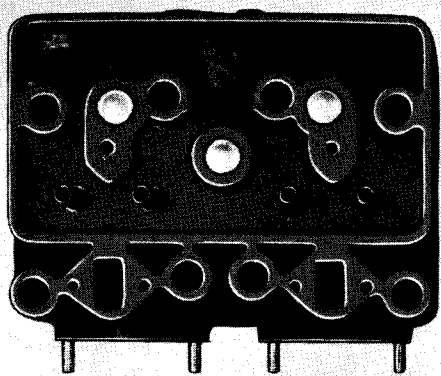


71278

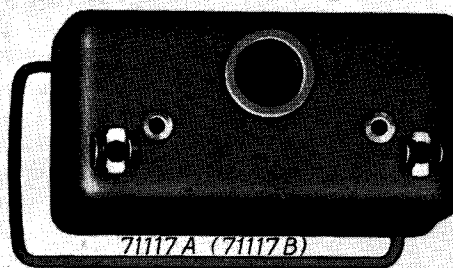


71276

Spare Part No.	Nos. required per engine		Weight each kg	Designation
	4 K 105	6 K 105		
31004	1	1	0.600	Nut for crank shaft
31005	1	1	0.050	Locking washer for nut
31006	1	1	0.065	Key for fly wheel
31015	3	5	0.015	Pressure shoe
35056	6	10		Spring washer 12 mm DIN 7980
35074	6	10		Ball ϕ 8 mm
60210	8		0.006	Set screw 6 MG $\times$ 20 mm DIN 558
70000	8		0.055	Screw 12 MG $\times$ 50 mm – Unbraco type MC
70001	1	1	0.200	Oil throw disc
70002	4		0.025	Cylindric pin ϕ 13 $\times$ 28 mm DIN 7
70003	1	1	0.010	Key for gear wheel
70004	1	1	0.065	Nut SKF KM 15
70005	1	1	0.030	Locking plate SKF MB 15
70007	3	5		Copper gasket ϕ 14.2/ ϕ 20 mm
70315	4		1.600	Counter weight
71002	1		52.500	Crank shaft with counter weights
71007	2	2	0.170	Main bearing liner – standard
71007A				Main bearing liner – 0.5 mm undersize
71007B				Main bearing liner – 1.0 mm undersize
71007C				Main bearing liner – 1.5 mm undersize
71007D				Main bearing liner – 0.8 mm undersize
71009	3	5	5.200	Hub for intermediate bearing – top- and bottom part
71011	6	10	0.080	Screw 12 MG $\times$ 80 mm – Unbraco type MC
71013	3	5	0.090	Key bolt
71014	3	5	0.070	Key
71016	3	5	0.150	Intermediate bearing shells – standard
71016A				Intermediate bearing shells – 0.5 mm undersize
71016B				Intermediate bearing shells – 1.0 mm undersize
71016C				Intermediate bearing shells – 1.5 mm undersize
71016D				Intermediate bearing shells – 0.8 mm undersize
72087	1	1	0.040	Axial thrust washer for main bearing (front)
72088	1	1	0.050	Axial thrust washer for main bearing (rear)
76002		1		Crank shaft
70038	1	1	0.010	Key for gear wheel A 6 $\times$ 6 $\times$ 40 mm
70039	1	1	0.005	Locking plate SKF MB 4
70040	1	1	0.020	Nut SKF KM 4
70041	4	6	0.280	Bearing for camshaft
70042	1	1	0.130	Bearing for camshaft (front bearing)
70107	4	6	0.095	Cam for inlet valve
70108	4	6	0.095	Cam for exhaust valve
70109	8	12	0.010	Conical pin ϕ 5 $\times$ 45 mm
71275	1		4.500	Camshaft with cams and bearings
71276	8	12	0.100	Guide for push rod
71278	8	12	0.165	Push rod
76275		1		Camshaft with cams and bearings

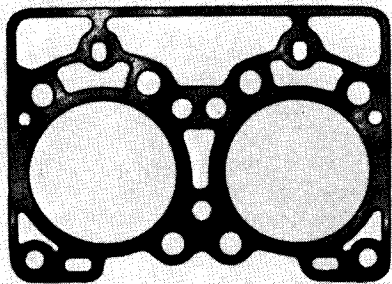


71071



71117A (71117B)

71119



71026



31392



32157



31046



31113



85012



71087



70006



6193/3



60090



70028



71115



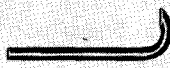
6169/2



71089



71373



70026



6434



71118



31123



71081



60386



32237



60023



70469



70470



60424



71080

60296



71084



70027



31447



31448



3109 1/3



31449



60564



70400



71073



60403



60592



60565



70399



6040 1/2

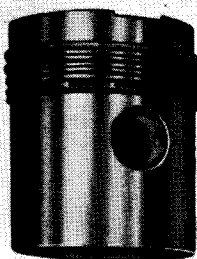


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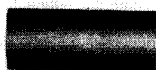


60402

Spare Part No.	Nos. required per engine		Weight each kg	Designation
	4 K 105	6 K 105		
6169/2	4	6	0.005	2) Slotted pin $\phi 6 \times 30$ mm
6193/3	4	6	0.005	2) Spring for valve lifting handle
6434	4	6		Leather gasket
31046	2	3	0.125	Screw cap for oil filling
31113	2	3	0.035	Plug for indicator hole
31123	4	6	0.070	2) Valve lifting handle
31392	4	6	0.010	Expansion plug $\phi 27$ mm
32157	2	3		Gasket for 31046 (=32128)
60090	16	24	0.010	Nut 10 MG DIN 934
70006	2	3	0.025	Stud for air inlet pipe 10 MG $\times 30$ mm
70026	2	3	0.055	Vent pipe
70028	4	6	0.005	Washer plate $\phi 19/\phi 10.2 \times 1.5$ mm
71026	2	3	0.075	Cylinder head gasket
71071	2	3	22.800	Cylinder head with studs and valve guides
71087	4	6	0.075	Stud for cylinder head cover
71089	4	6	0.455	Pre-combustion chamber – upper part
71115	10	15	0.020	Stud 10 MG $\times 25$ mm for inlet- and exhaust pipe
71117A	2	3	4.800	1) Cylinder head cover
71117B	2	3	4.800	2) Cylinder head cover
71118	4	6	0.020	Cap nut 10 MG DIN 1587 for cylinder head cover
71119	2	3	0.015	Gasket for cylinder head cover 71117 A and B
71373	4	6	0.005	Copper gasket for 71089
85012	4	6	0.025	2) Valve lifter
				1) For engine with electric start (without hand start)
				2) For engine with hand start
31091/3	4	6		Copper gasket $\phi 10.2/\phi 14$ mm
31447	2	3	0.001	Valve flap for overpressure valve
31448	2	3	0.001	Spring for overflow valve
31449	2	3	0.015	Banjo bolt for overpressure valve
32237	8	12	0.002	Circlip 21 u
60023	8	12	0.020	Bush for rocker arm
60296	2	3	0.001	Shank screw 3 MG $\times 8$ mm DIN 427
60386	8	12	0.007	Thrust washer for rocker arm
60401	8	12	0.035	Valve spring guide
60402	8	12	0.005	Conical retaining spring ring
60403	4	6	0.090	Valve spring – outer
60404/2	8	12	0.010	Disc plate for valve spring
60424	8	12	0.010	Wearing shoe for rocker arm
60564	4	6	0.030	Valve seat (inlet)
60565	4	6	0.025	Valve seat (exhaust)
60592	4	6	0.025	Valve spring – inner
70027	2	3	0.025	Overpressure valve
70399	4	6	0.190	Valve (exhaust)
70400	4	6	0.220	Valve (inlet)
70469	4	6	0.215	Rocker arm with bush and wearing shoe – for valve No. 2, 4, 6, 8, 10 and 12
70470	4	6	0.215	Rocker arm with bush and wearing shoe – for valve No. 1, 3, 5, 7, 9 and 11
71073	4	6	0.125	Valve guide
71080	8	12	0.015	Adjusting screw with nut for rocker arm
71081	2	3	0.370	Shaft for rocker arm
71084	4	6	0.600	Stanchion for rocker arm



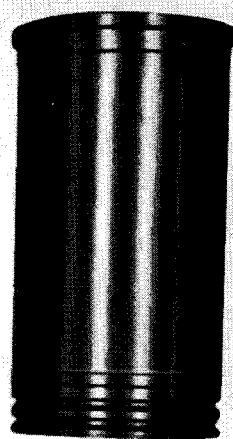
71062



60390



60391



60383



31067/2



60394



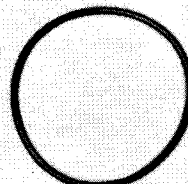
31070



31068

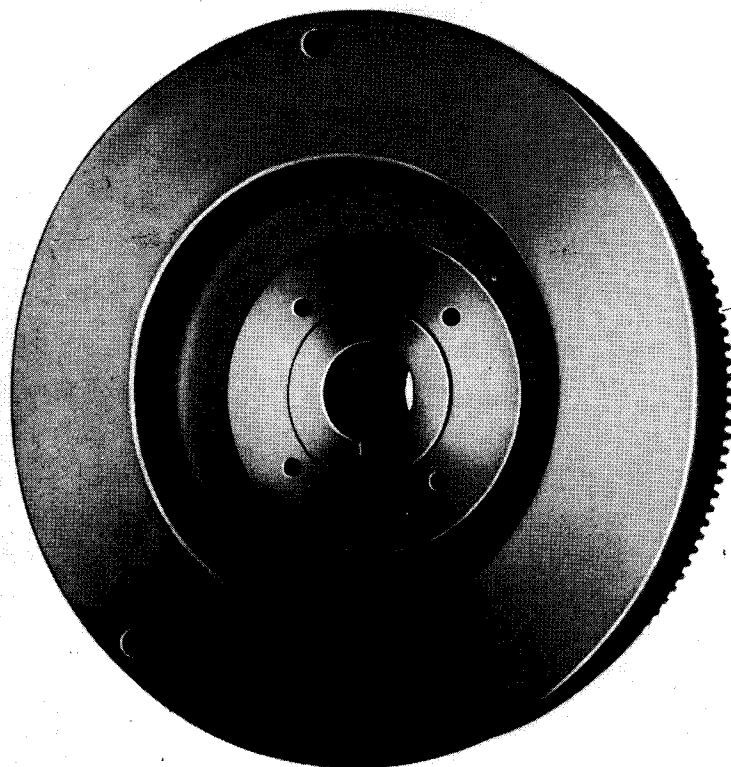


31418



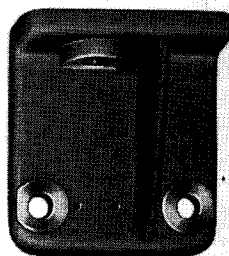
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6802/3 A

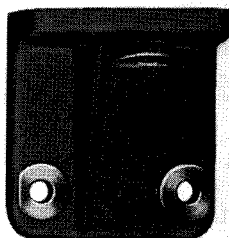


6802/3

31001



75032



75033



80102

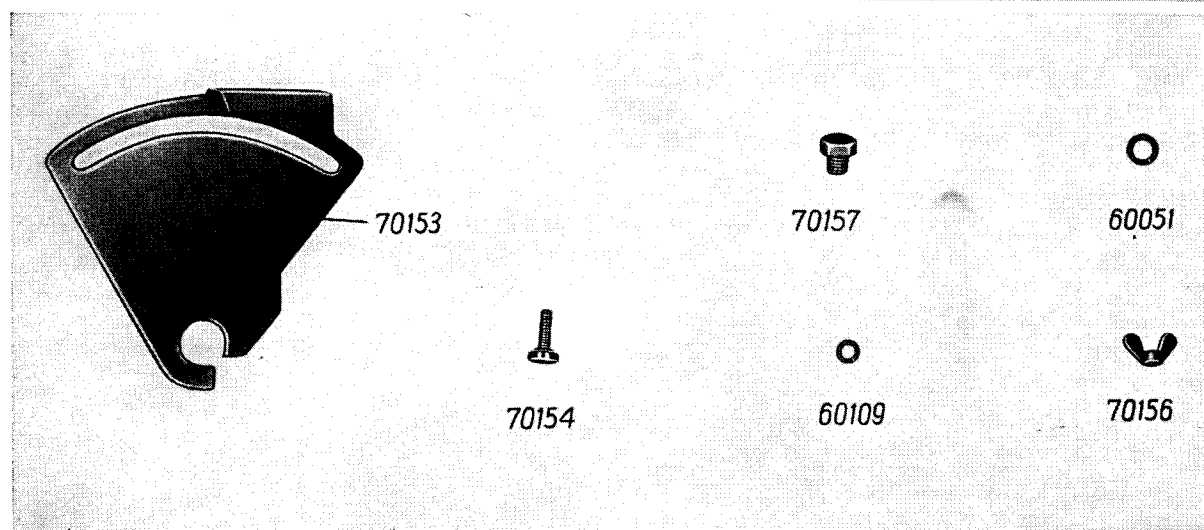
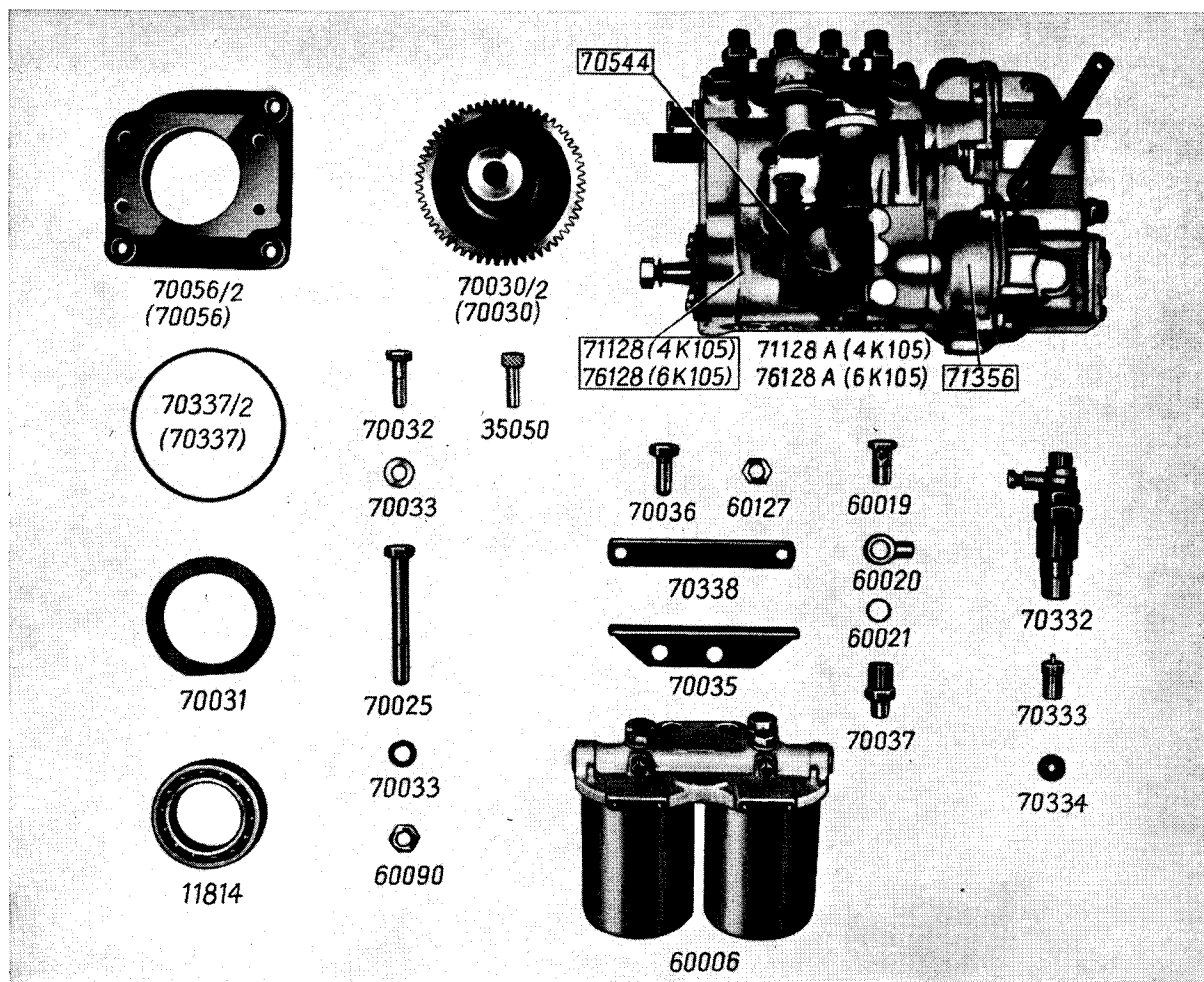


70150



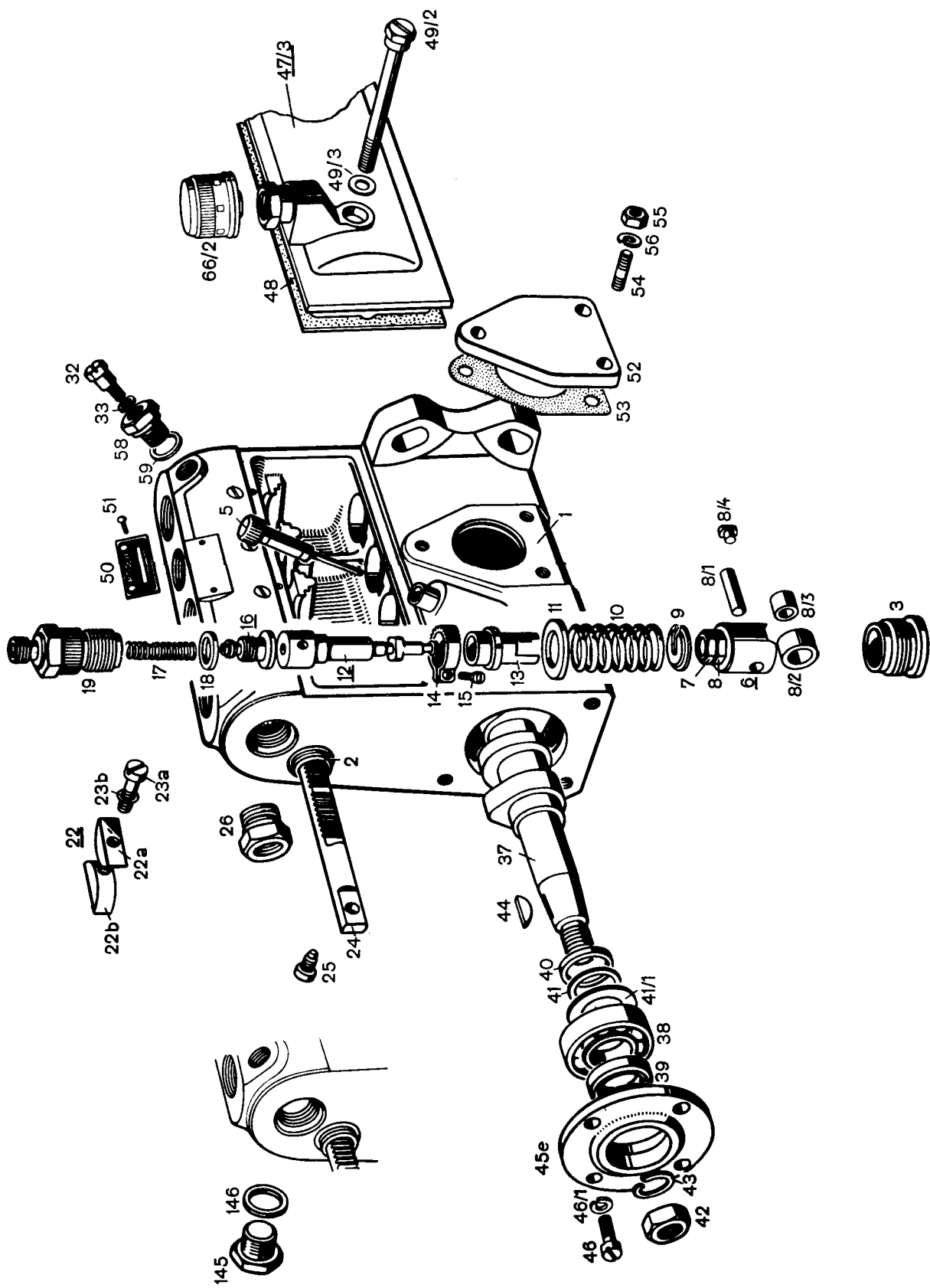
85004

Spare Part No.	Nos. required per engine		Weight each kg	Designation
	4 K 105	6 K 105		
31067/2	4	6	2.600	Connecting rod complete with bearings and bolts
31068	4	6	0.050	Connecting rod bearing shells – standard
31068A				Connecting rod bearing shells – 0.5 mm undersize
31068B				Connecting rod bearing shells – 0.8 mm undersize
31068C				Connecting rod bearing shells – 1.2 mm undersize
31070	8	12	0.100	Connecting rod bolt with nut
31418	8	12	0.020	Nut for connecting rod bolt
60383	4	6	4.700	Cylinder liner
60384	8	12	0.005	Cylinder liner rubber ring
60390	4	6	0.500	Piston pin
60391	8	12	0.005	Circlip $\phi 38$ i
60392	4	6	0.030	Piston ring
60392/2	4	6	0.025	Piston ring
60392A	4	6	0.025	Scraper ring
60393	4	6	0.035	Oil ring
60394	4	6	0.100	Bush for piston pin
71062	4	6	1.550	Piston complete with pin and rings
6802/3	1	1	94.400	Fly wheel without gear rim
6802/3A	1	1	98.500	Fly wheel with gear rim for electric start
31001	1	1	4.100	Gear rim for electric start
70150	8	12	0.100	Machine bolt 16 MG $\times$ 45 mm DIN 931
75032	2		4.500	Bracket for engine
75033	2		4.500	Bracket for engine
80102	8	12		Spring washer 16 mm DIN 127
85002		4	10.800	Bracket for engine (not illustrated)
85004	8	12	0.005	Tightening pin $\phi 6 \times 32$ mm DIN 1481



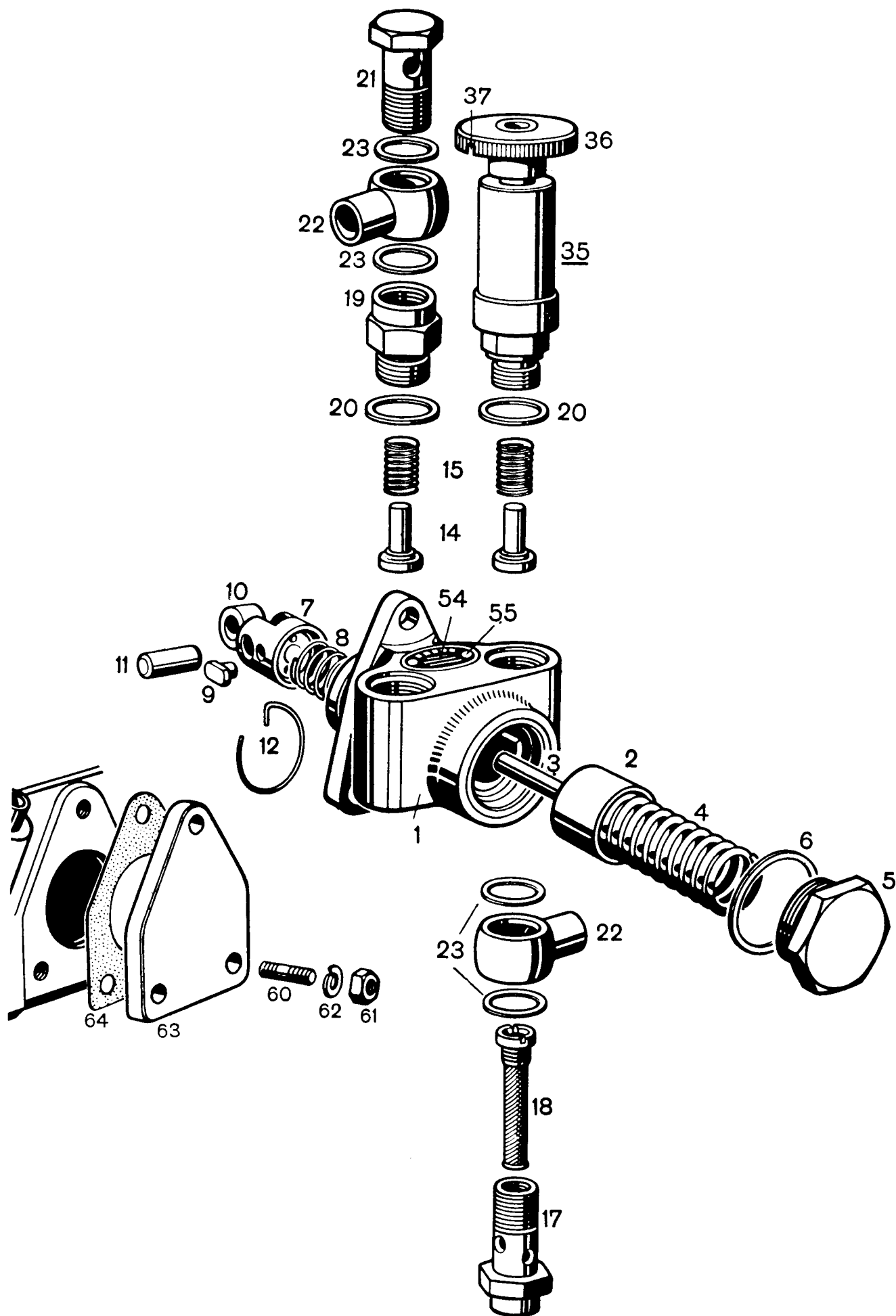
The text indicates no. 35050 as no. 70034

Spare Part No.	Nos. required per engine		Weight each kg	Designation
	4 K 105	6 K 105		
11814	1	1	0.260	Ball bearing SKF 6010
60006	1	1	1.350	d) Fuel duo filter
60019	1	1	0.020	Banjo plug
60020	1	1	0.025	Banjo
60021	2	2		Packing ring $\phi 14/\phi 18$ mm
60090	2	2	0.010	Nut 10 MG DIN 934
60127	2	2	0.015	Nut 12 MG DIN 934
70025	2	2	0.075	Machine bolt 10 MG $\times$ 110 mm
70030	1			¹⁾ Gear wheel for fuel pump
70030/2	1	1	0.850	²⁾ Gear wheel for fuel pump
70031	1	1		Gasket for fuel pump
70032	4	4	0.030	Machine bolt 10 MG $\times$ 35 mm DIN 931
70033	7	7		Washer plate $\phi 22/\phi 10.3 \times 2.5$ mm
70034	1	1	0.030	Screw 10 MG $\times$ 30 mm – Unbraco type
70035	1	1	0.275	Bracket for fuel filter
70036	2	2	0.040	Machine bolt 12 MG $\times$ 30 mm DIN 931
70037	1	1	0.050	Overflow valve
70056	1			¹⁾ Flange for fuel pump
70056/2	1	1	2.300	²⁾ Flange for fuel pump
70332	4	6	0.380	e) Fuel valve complete with nozzle 70333
70333	4	6	0.035	Nozzle
70334	4	6	0.005	Washer for nozzle
70037	1			¹⁾ O-ring R 107 – 2.5 mm
70337/2	1	1	0.005	²⁾ O-ring R 115 – 3.0 mm
70338	1	1	0.100	Distance piece for 70035
70544	1	1		b) Fuel feed pump complete
71128	1			a) Fuel injection pump without feed pump and governor
71128A	1		8.500	Fuel injection pump complete with feed pump and governor
71356	1	1		c) Governor complete
76128		1		a) Fuel injection pump without feed pump and governor
76128A		1	12.000	Fuel injection pump complete with feed pump and governor
¹⁾ For engine type 4 K 105 up to serial No. 54049				
²⁾ For engine type 4 K 105 from serial No. 54050				
a) Specification and drawing of spare parts on pages 16–17				
b) Specification and drawing of spare parts on pages 18–19				
c) Specification and drawing of spare parts on pages 20–21				
d) Specification and drawing of spare parts on pages 22–23				
e) Specification and drawing of spare parts on pages 24–25				
60051	1	1		Spring washer 10 mm DIN 127
60109	1	1		Spring washer 6 mm DIN 127
70153	1	1	0.180	Locking plate for governor arm
70154	1	1	0.010	Bolt for locking plate
70155	1	1		Closing screw for governor – special – see ill. No. 20 on pages 20–21
70156	1	1		Wing nut 6 MG
70157	1	1	0.015	Set screw 10 MG $\times$ 10 mm DIN 558



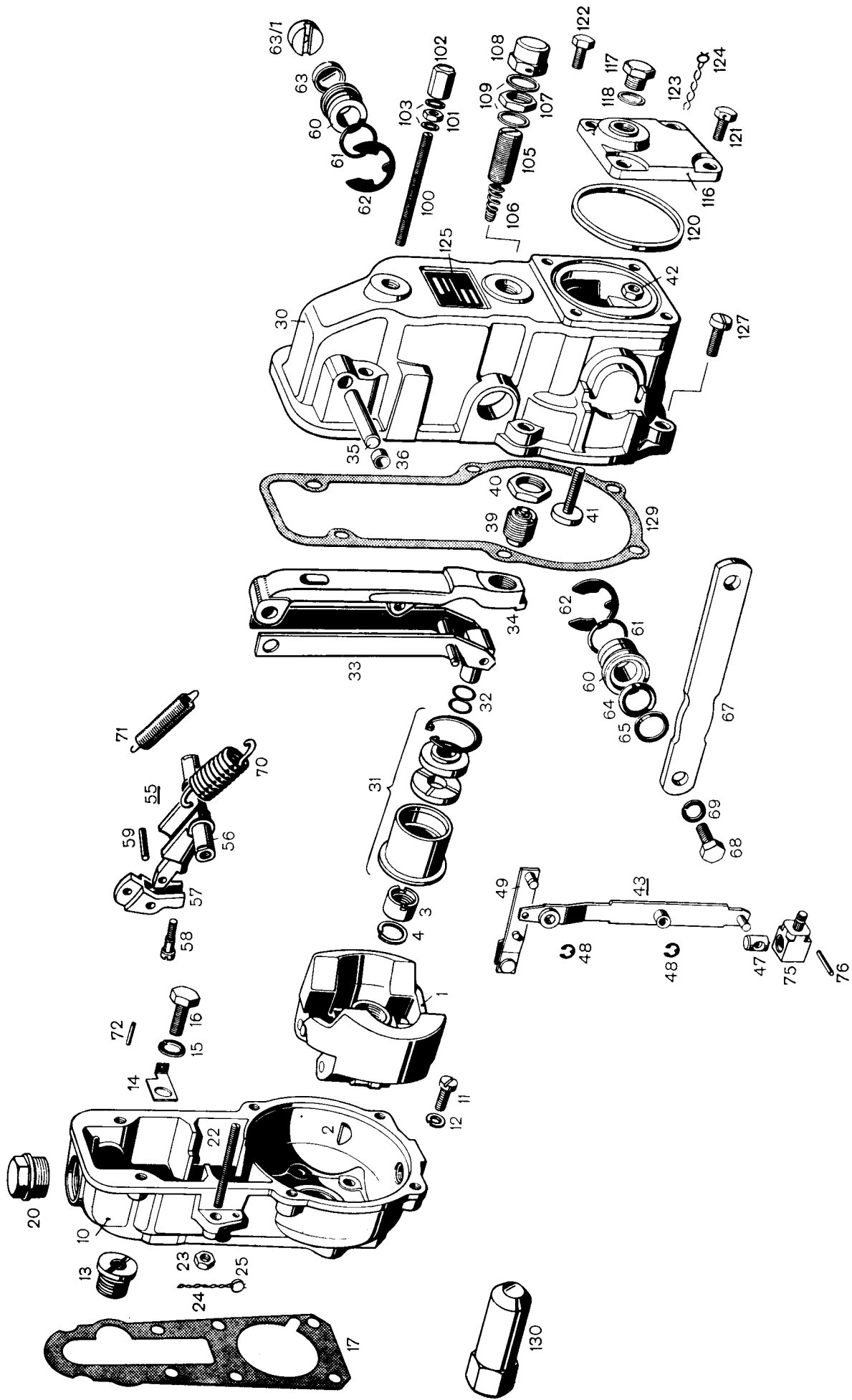
Specification of Spare Parts for Fuel Injection Pump 71128 (76128)

Spare Part No.	Illustration No.	Nos. required per engine		Designation
		4 K 105	6 K 105	
71134	1	1		Pump housing with guide bushes and baffle screws for 4 K 105
76134	1		1	Pump housing with guide bushes and baffle screws for 6 K 105
71130	2	1	1	Guide bushes in housing for control rod
70060	2/1	2	2	Guide ring (not illustrated)
70061	2/2	1	1	Threaded ring (not illustrated)
70062	3	4	6	Base closing plug
70063	6	4	6	Roller tappet, complete
71280	7	4	6	Adjusting screw
71281	8	4	6	Hexagon nut
70064	8/1	4	6	Roller pin
70065	8/2	4	6	Roller
70066	8/3	4	6	Bearing bush
70067	8/4	4	6	Sliding block
31145	9	4	6	Spring plate, lower
31144	10	4	6	Plunger spring
31143	11	4	6	Spring plate, upper
71131	12	4	6	Pump element
71132	13	4	6	Control sleeve
71135a	14a	as required		Toothed quadrant
71135b	14b	as required		Toothed quadrant
70068	15	4	6	Clamp screw for toothed quadrant
31141	16	4	6	Delivery valve and seating
31140	17	4	6	Delivery valve spring
31142	18	4	6	Packing ring for delivery valve
31137	19	4	6	Connector (delivery valve holder)
70069	22	2	3	Clamping jaws, complete
70069a	22a	2	3	Clamping jaws separate, with bore hole
70069b	22b	2	3	Clamping jaws separate, with thread
70070	23a	2	3	Fillister-head screw for fixing clamping jaws
71133	24	1		Control rod
76133	24		1	Control rod
70071	25	1	1	Control rod locating screw
70087	26	1	1	Reducing nipple (connecting piece) for fuel inlet
70088	27/1	1	1	Closing plug for unused fuel inlet (not illustrated)
60016	32	1	1	Vent screw
60017	33	1	1	Packing washer for 60016
70089	37	1		Camshaft
76089	37		1	Camshaft
70090	38	2	2	Roller bearing 30203
70091	39	2	2	Packing ring (Simmer ring)
70092	40	2	2	Intermediate ring
70093a	41	as required		Equalising washer 0.1 mm thick
70093b	41	as required		Equalising washer 0.12 mm thick
70093c	41	as required		Equalising washer 0.14 mm thick
70093d	41	as required		Equalising washer 0.16 mm thick
70093e	41	as required		Equalising washer 0.18 mm thick
70093f	41	as required		Equalising washer 0.3 mm thick
70093g	41	as required		Equalising washer 0.5 mm thick
70093h	41	as required		Equalising washer 1.0 mm thick
70094	41/1	1	1	Washer
60127	42	1	1	Hexagon nut
21452	43	1	1	Lock washer
70246	44	1	1	Woodruff key
70096	45e	1	1	Bearing endplate
70097	46	4	4	Fillister-head screw
32720-126	46/1	4	4	Lock washer
70098	47/3	1		Cover plate
76098	47/3		1	Cover plate
70099	48	1		Gasket for 70098
76099	48		1	Gasket for 76098
70100	49/2	2	2	Hexagon screw
70101	49/3	2	2	Packing ring
70102	53	1	1	Gasket for feed pump
70103	54	3	3	Staybolt
60108	55	3	3	Hexagon nut
32720-126	56	3	3	Lock washer
70104	58	1	1	Threaded bush for vent screw
31204	59	1	1	Packing ring
70105	66/2	1	1	Air filter
70106	145	1	1	Plug (rear side of pump)
31091/3	146	1	1	Packing ring $\phi 10.2/\phi 14$ mm



Specification of Spare Parts for Fuel Feed Pump 70544

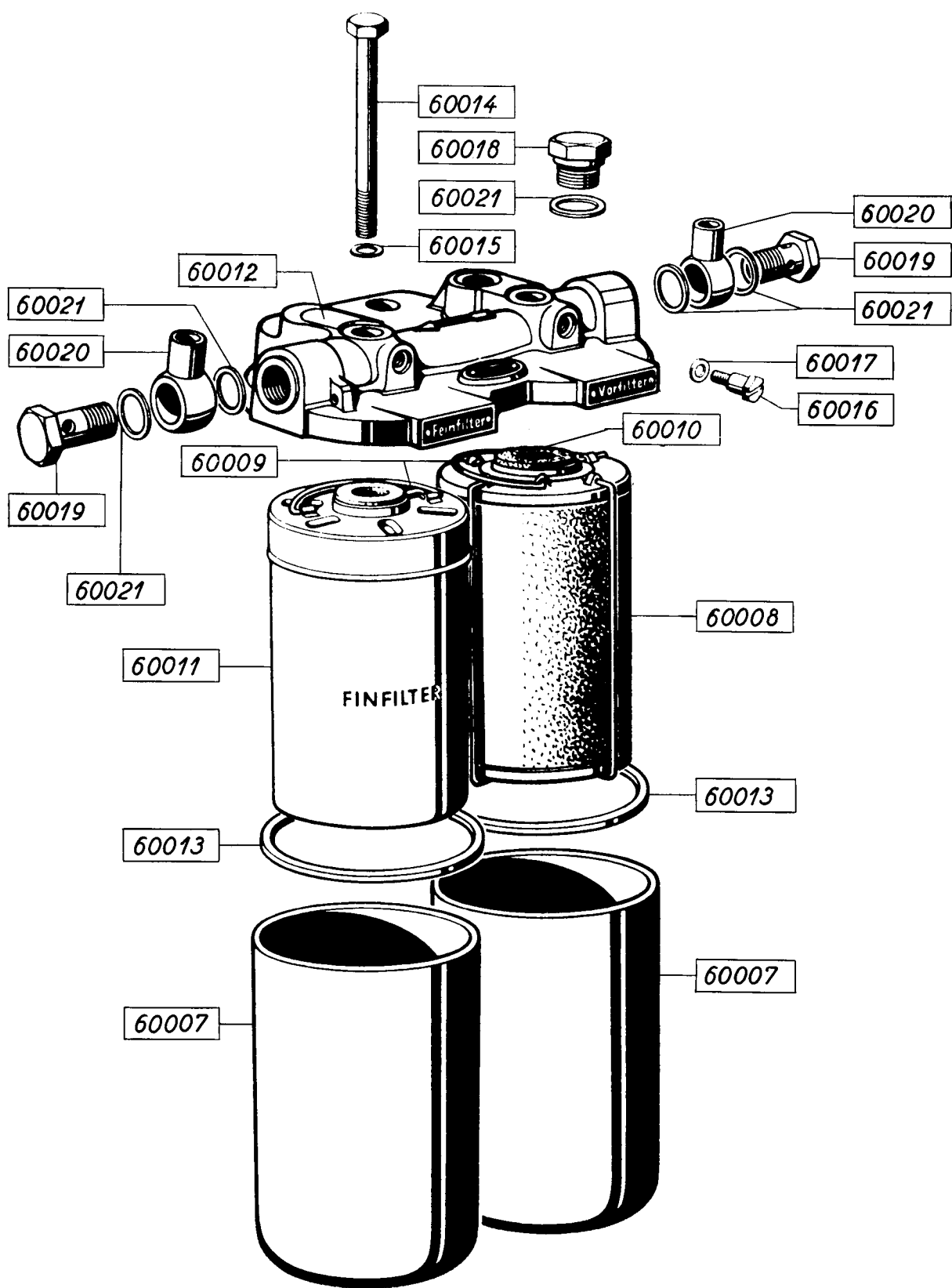
Spare Part No.	Illustration No.	Nos. required per engine		Designation
		4 K 105	6 K 105	
70233	1	1	1	Pump housing
70234	1/1	1	1	Packing ring in pump housing (not illustrated)
70235	2	1	1	Pump plunger
70236	3	1	1	Pressure spindle for pump plunger
60548	4	1	1	Helical spring for pump plunger
60549	5	1	1	Screw plug
60550	6	1	1	Packing ring for 60549
70237	7	1	1	Roller tappet
70238	8	1	1	Helical spring for 70237
70241	9	2	2	Sliding block for 70237
70239	10	1	1	Roller
70240	11	1	1	Roller pin
70242	12	1	1	Snap ring to secure 70237
70243	14	2	2	Valve
60552	15	2	2	Helical spring for valve
60453	17+18	1	1	Female hexagon screw with strainer
60453a	17	1	1	Female hexagon screw
60454	18	1	1	Strainer
60553	19	1	1	Reducing nipple
60554	20	2	2	Packing ring for 60553 and 60555
60019	21	1	1	Female hexagon screw
60021	23	4	4	Packing ring $\phi 14/\phi 18$ mm
60555	35	1	1	Hand priming device, complete
60556	36	1	1	Knob
70244	37	1	1	Grooved pin for fixing 60556
70103	60	3	3	Staybolt
60108	61	3	3	Hexagon nut 6 MG DIN 934
32720-126	62	3	3	Lock washer
70102	64	1	1	Gasket for feed pump



Specification of Spare Parts for Governor 71356

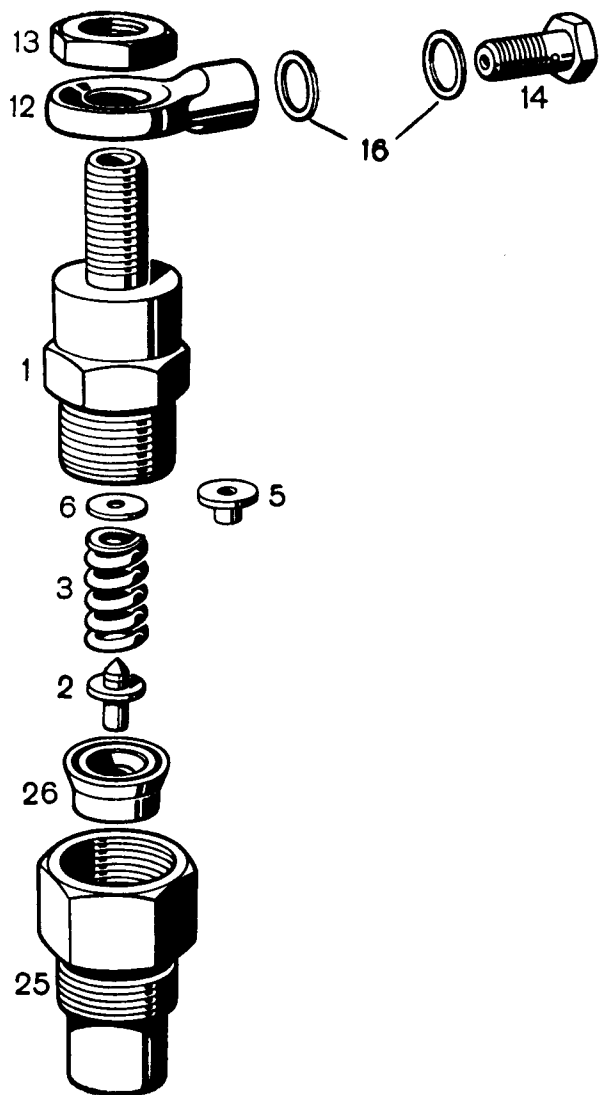
Spare Part No.	Illustration No.	Nos. required per engine		Designation
		4 K 105	6 K 105	
70245	1	1	1	Flyweight, complete
70246	2	1	1	Woodruff key
70247	3	1	1	Round nut
70248	4	1	1	Lock washer
70249	10	1	1	Governor housing
70250	11	6	6	Fillister-head screw
32720-26	12	6	6	Lock washer
70251	13	1	1	Closing plug
70252	14	1	1	Fastening plate
60227	15	1	1	Hexagon screw
70253	16	1	1	Lock washer
70254	17	1	1	Gasket
70255	20	1	1	Closing screw
70155	20	1	1	Closing screw ¹ (especially for stationary engines)
70256	22	1	1	Stop screw
70257	23	1	1	Hexagon nut for stop screw
70258	24	1	1	Locking wire
70259	25	1	1	Lead seal
70260	30	1	1	Governor cover
70261	31	1	1	Bearing assembly
70262a	32	as required		Compensating washer 0.2 mm thick
70262b	32	as required		Compensating washer 0.3 mm thick
70262c	32	as required		Compensating washer 0.4 mm thick
70262d	32	as required		Compensating washer 1.0 mm thick
70264	33	1	1	Guide lever with adjusting pin
70265	34	1	1	Tensioning lever
70266	35	1	1	Lever shaft for 70264 and 70265
70267	36	2	2	Sealing plug for 70266
70268	39	1	1	Spring capsule, complete
70269	40	1	1	Hexagon nut
70270	41	1	1	Stop screw
60108	42	1	1	Hexagon nut
70271	43	1	1	Floating lever
70272	47	1	1	Slider
32720-140	48	2	2	Retaining ring for fastening 70271 and 70273
70273	49	1	1	Shackle (connecting for control rod)
70274	55	1	1	Swivelling lever, complete (with parts No. 70275 to 70278)
70275	56	1	1	Swivelling lever, separate
70276	57	1	1	Rocker
70277	58	1	1	Adjusting screw
70278	59	1	1	Pivot pin for 70275 and 70276
70279	60	2	2	Bearing bush
70280	61	2	2	Packing ring
70281	62	2	2	Retaining ring
70282	63	1	1	Closing cap
70283	64	1	1	Packing ring
70284	65	1	1	Washer
70285	67	1	1	Control lever
70286	68	1	1	Hexagon screw
32720-126	69	1	1	Lock washer
70287	69/1	1	1	Washer
70288	70	1	1	Swivel spring
70289	71	1	1	Tension spring
70290	72	2	2	Protection sleeve for 70289
70291	75	2	2	Link fork in lower part of cover 70260 for guiding floating 70271
70292	76	2	2	Pin
70293	100	1	1	Grub screw
70294	101	1	1	Hexagon nut
70295	102	1	1	Cap nut
70296	103	2	2	Packing ring
70297	105	1	1	Adjusting screw
70298	106	1	1	Helical spring
70299	107	1	1	Hexagon nut
70300	108	1	1	Cap nut
70301	109	2	2	Packing ring
70302	116	1	1	Closing cover (with parts No. 70303 and 31091/3)
70303	117	1	1	Screw plug
31091/3	118	1	1	Packing ring 10×14 DIN 7603
70304	120	1	1	Packing ring
70305	121	2	2	Hexagon screw
70306	122	2	2	Hexagon screw
70307	123	1	1	Locking wire
70259	124	1	1	Lead seal
70309	125	1	1	Name plate without type inscription
70310	127a	2	2	Fillister-head screw 6 MG×40 DIN 84
70311	127b	4	4	Fillister-head screw 6 MG×25 DIN 84
70312	129	1	1	Gasket for 70260
70313	130	1	1	Closing cap control rod end

¹) 70155 is used together with the regulating parts shown on pages 14-15



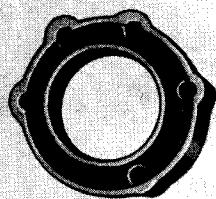
Specification of Spare Parts for Fuel Duo Filter 60006

Spare Part No.	Nos. required per engine		Weight each kg	Designation
	4 K 105	6 K 105		
60007	2	2	0.350	Filter housing
60008	1	1	0.145	Filter element – Preliminary filter
60009	2	2	0.001	Wire handle for 60008 and 60011
60010	2	2	0.001	Felt disc for filter element
60011	1	1	0.135	Filter element – Fine filter
60012	1	1	0.500	Filter cover, complete
60013	2	2	0.002	Packing ring for filter cover
60014	2	2	0.030	Hexagon screw for fixing filter cover
60015	2	2	0.001	Packing washer for hexagon screw 60014
60016	2	2	0.008	Vent screw in filter cover
60017	2	2	0.001	Packing washer for vent screw 60016
60018	1	1	0.025	Screw plug
60019	2	2	0.025	Female hexagon screw
60020	2	2	0.025	Banjo connection
60021	5	5	0.001	Packing ring



Specification of Spare Parts for Fuel Valve 70332

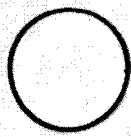
Spare Part No.	Illustration No.	Nos. required per engine		Designation
		4 K 105	6 K 105	
	1			Not supplied as spare part
71094	2	4	6	Spindle with guide bush
70336	3	4	6	Spring
71398	5	4	6	Guide bush – upper – for spring
31365	6	as required		Equalising washer 0.1 mm thick
71365	6	as required		Equalising washer 0.15 mm thick
31366	6	as required		Equalising washer 0.2 mm thick
71366	6	as required		Equalising washer 0.25 mm thick
31367	6	as required		Equalising washer 0.5 mm thick
31368	6	as required		Equalising washer 1.0 mm thick
71368	6	as required		Equalising washer 2.0 mm thick
71369	6	as required		Equalising washer 3.5 mm thick
71102	12	4	6	Leak-off connection stud
71360	13	4	6	Lock nut
70316	14	4	6	Banjo stud
60482	16	8	12	Joint $\phi 8/\phi 12$ DIN 1726
70335	25	4	6	Nozzle cap nut
70072	26	4	6	Intermediate disc



71286



71291



70043



70198



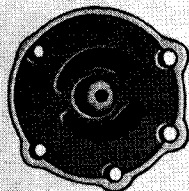
70199



31035



31034
(31034/2)



71287



71290



70044



70050



71310



71308



71309



31036



71311



70046



70045



6335



21738



21737



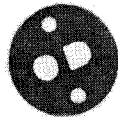
60204



21735



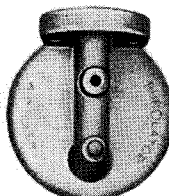
71000



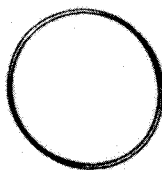
71295



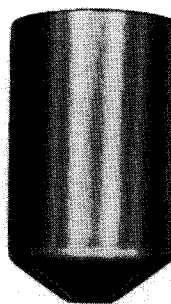
71296



75079



75074



75082



75073



75069



75070



75078



75081



75072



75083



70047



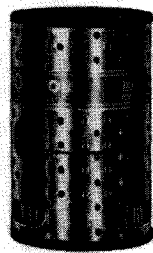
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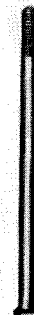
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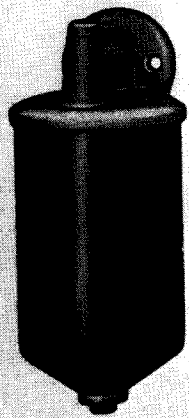
70033



71349

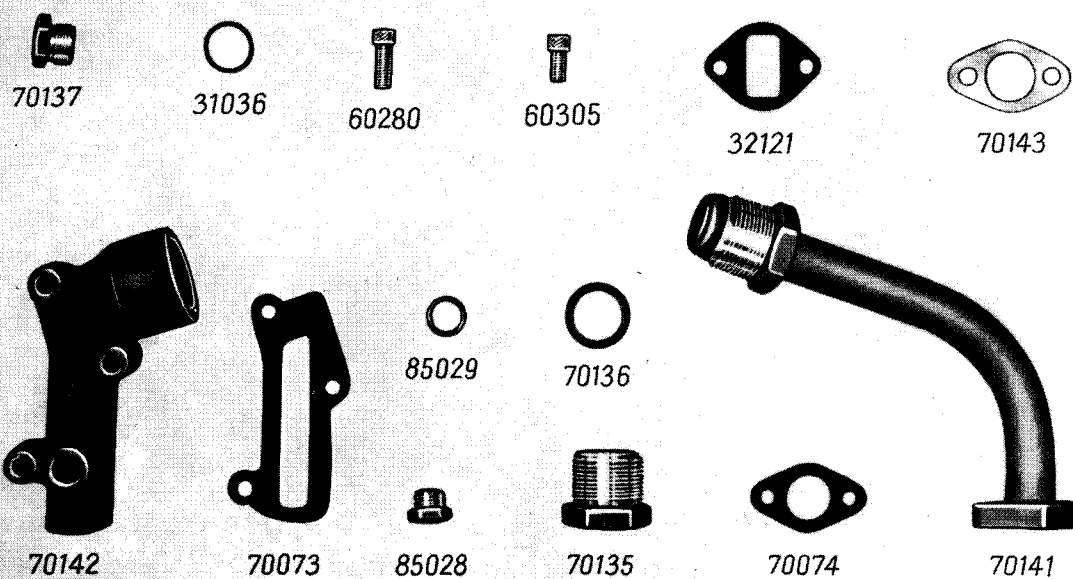
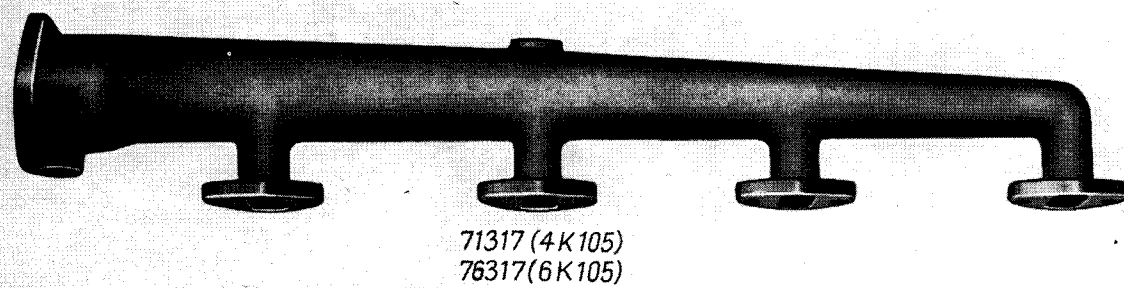
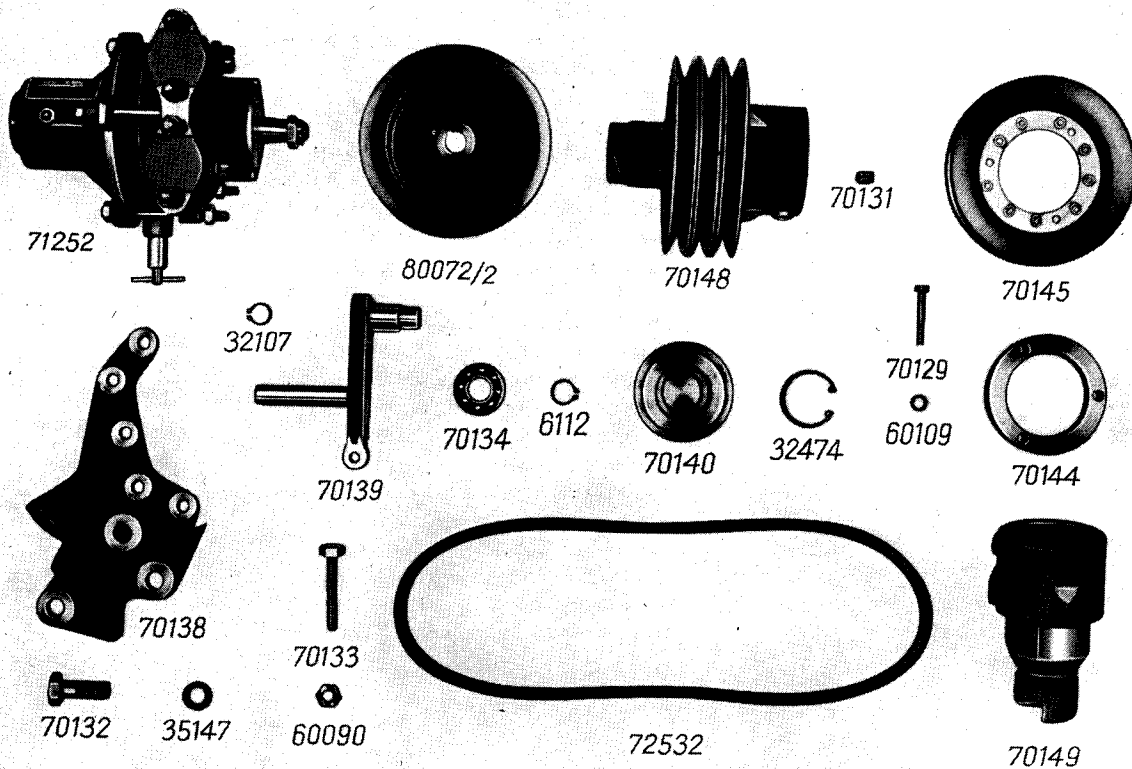


75084



71293

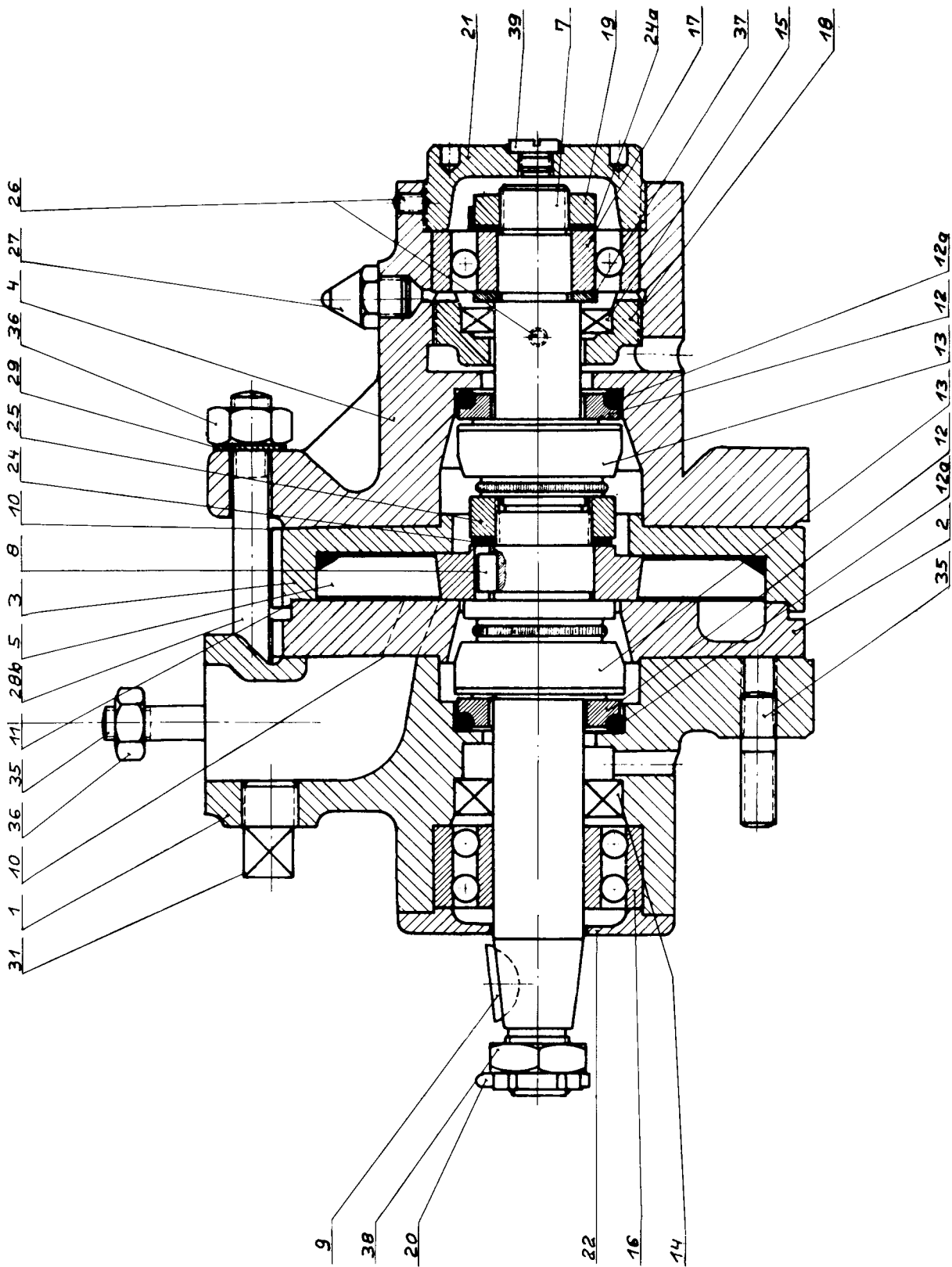
Spare Part No.	Nos. required per engine 4 K 105	6 K 105	Weight each kg	Designation
6335	1	1	0.115	Manometer for lub. oil – 1/4" RG
21735	1	1	0.025	Angle piece
21737	2	2		Copper asbestos gasket $\phi 13.2/\phi 18$ mm
21738	1	1	0.025	Nipple for manometer
31034	1	1	0.125	Pipe plug
31034/2	1	1	0.110	Pipe plug – special for engine with extended drain-off pipe
31035	1	1		Copper asbestos gasket $\phi 33.2/\phi 40$ mm
31036	1	1		Copper asbestos gasket $\phi 21/\phi 27$ mm
60204	2	2		Round head screw 6 MG $\times$ 10 mm DIN 86
70043	2	2		O-ring R 76 $\times$ 2,5 mm
70044	1	1	0.200	Shaft for lubricating oil pump
70045	1	1	0.005	Key A 6 $\times$ 6 $\times$ 25 mm
70046	3	3	0.020	Bearing bush S+E No. 1001
70050	1	1		Circlip 5 mm u.
70198	1	1	0.015	Suction filter for lub. oil
70199	1	1	0.010	Spring for suction filter
71286	1	1	1.700	Lubricating oil pump housing
71287	1	1	1.250	Cover for 71286
71290	1	1	0.260	Inside rotor for lubricating oil pump
71291	1	1	0.410	Outer rotor for lubricating oil pump
71308	1	1	0.010	Valve for lub. oil overflow valve
71309	1	1	0.010	Spring for lub. oil overflow valve
71310	1	1	0.010	Guide for lub. oil overflow valve
71311	1	1	0.080	Plug screw for lub. oil overflow valve
70033	2	2		Washer plate $\phi 22/\phi 10.3$ mm DIN 125
70047	1	1	0.035	Machine bolt 10 MG $\times$ 45 mm DIN 931
70048	1	1	0.040	Machine bolt 10 MG $\times$ 55 mm DIN 931
70049	3	3	0.015	Machine bolt 8 MG $\times$ 30 mm DIN 931
71000	1	1	1.200	Intermediate flange
71293	1	1	1.900	Lubricating oil filter complete
71295	1	1		Gasket between filter and intermediate flange
71296	1	1		Gasket between intermediate flange and crank case
71349	1	1	0.150	Lubricating oil filter element
75069	1	1	0.015	Guide for element
75070	1	1		Seal
75072	1	1		O-ring
75073	1	1		Circlip
75074	1	1	0.005	Sealing ring
75078	1	1		Washer
75079	1	1	0.380	Head assembly
75081	1	1	0.010	Spring
75082	1	1	1.200	Sump
75083	1	1	0.035	Collar
75084	1	1	0.160	Center bolt



Spare Part No.	Nos. required per engine		Weight each kg	Designation
	4 K 105	6 K 105		
6112	1	1		Circlip $\phi 17$ mm u
32107	1	1		Circlip $\phi 15$ mm u
32474	1	1		Circlip $\phi 40$ mm i
35147	2	2		Spring washer 14 mm DIN 127
60090	1	1	0.010	Nut 10 MG DIN 934
60109	3	3		Spring washer 6 mm
70129	3	3	0.010	Screw 6 MG $\times$ 40 mm – Unbraco type MC for 70148
70131	2	2	0.005	Pointed screw 10 MG $\times$ 12 mm Unbraco type MSP
70132	2	2	0.065	Machine bolt 14 MG $\times$ 35 mm DIN 931
70133	1	1	0.045	Set screw 10 MG $\times$ 60 mm DIN 933
70134	1	1	0.065	Ball bearing SKF 6203 RS
70138	1	1	2.000	Bracket for cooling water pump
70139	1	1	0.500	Swivel arm complete for tension roller
70140	1	1	0.530	V-belt pulley for tension roller
70144	1	1	0.330	Distance piece for 70148
70145	3	3	0.420	V-belt pulley for 70148
70148	1	1	4.100	V-belt pulley complete (three grooves) for crank shaft
70149	1	1	2.400	Hub for V-belt pulley 70148
71252	1	1	8.400	*) Centrifugal cooling water pump complete
72532	2	2	0.070	
80072/2	1	1	2.200	V-belt V-517
				V-belt pulley for 71252

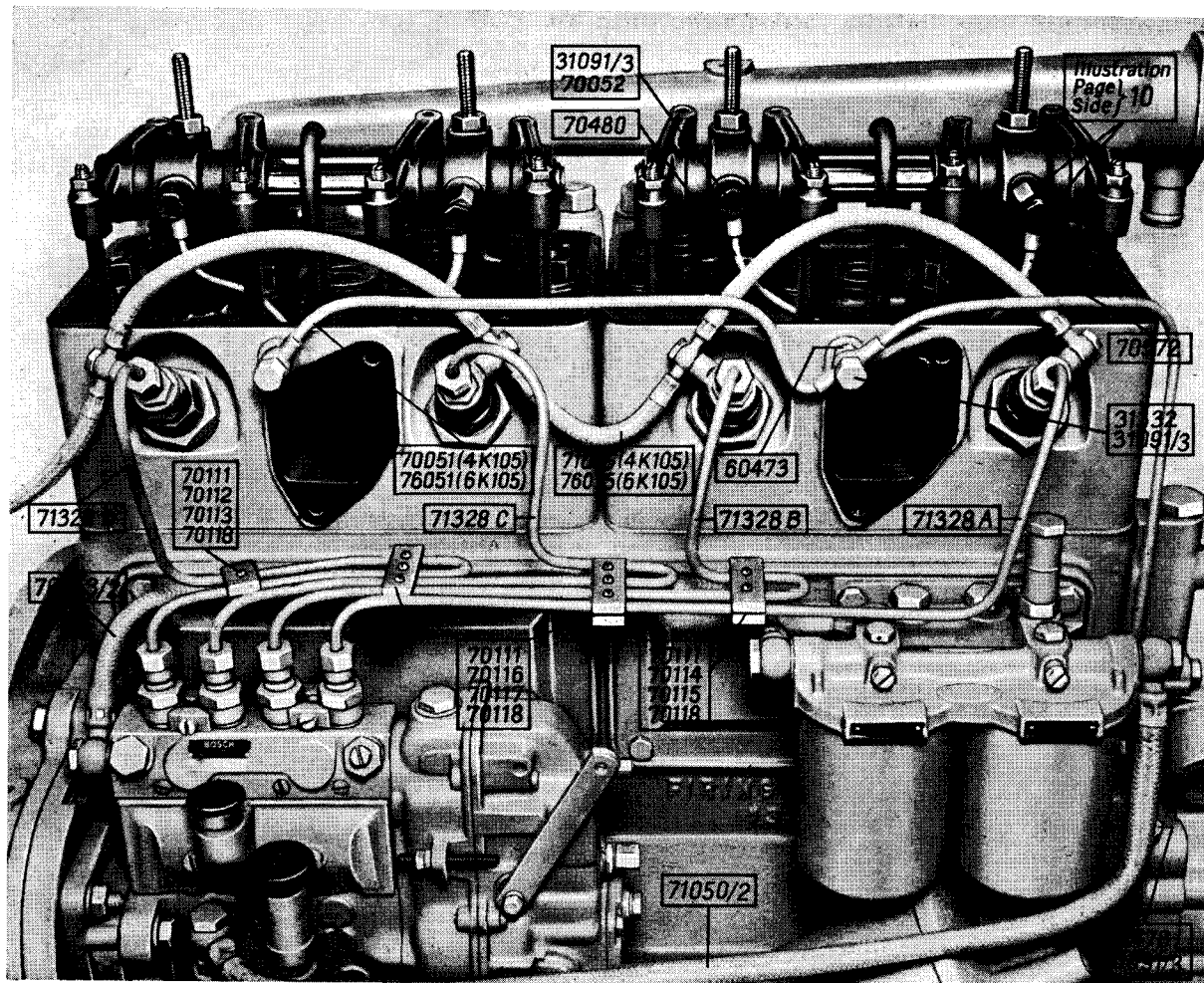
*) Specification of spare parts and spare parts drawing for cooling water pump on pages 30-31

31036	1	1		Copper asbestos gasket $\phi 21/\phi 27$ mm
32121	4	6	0.005	Gasket for water outlet manifold
60280	4	4	0.015	Screw 8 MG $\times$ 25 mm – Unbraco type MC
60305	8	12	0.010	Screw 8 MG $\times$ 20 mm – Unbraco type MC
70073	1	1		Gasket for cooling water inlet flange
70074	2	2	0.005	Gasket for 70143 and 70141
70135	1	1	0.280	Union nut for cooling water admission pipe
70136	1	1	0.040	Soldering-on ring for cooling water admission pipe
70137	1	1	0.075	Pipe plug $1/2"$
70141	1	1	1.200	Cooling water admission pipe
70142	1	1	1.900	Cooling water inlet flange
70143	1	1	0.160	Flange for suction side of cooling water pump
71317	1		4.400	Cooling water outlet manifold
76317		1	6.600	Cooling water outlet manifold
85028	1	1	0.040	Pipe plug $3/8"$ for corrosion hole
85029	1	1		Copper asbestos gasket $\phi 17/\phi 22$ mm



Specification of Spare Parts for cooling water pump No. 71252

Spare Part No.	Illustration No.	Nos. required per engine		Designation
		4 K 105	6 K 105	
70200	1	1	1	Housing
70201	2	1	1	Intermediate piece
70202	3	1	1	Centre piece for impeller
70203	4	1	1	Cover
70204	5	1	1	Impeller
70205	7	1	1	Driving shaft
70206	8	1	1	Key 5×5×8 mm DIN 6885
70207	9	1	1	Woodruf key 4×6.5 mm DIN 6888
70208	10	2	2	Gasket
70209	11	1	1	Gasket
70210	12	2	2	Wearing ring
70211	12a	2	2	O-ring 30×38×4 mm
70212	13	2	2	Shaft seal
70213	14	1	1	Seal ring BA 20×38×8 mm DIN 6504
70214	15	1	1	Seal ring BA 20×35×6 mm DIN 6504
70215	16	1	1	Ball bearing 4204 20×47×18 mm
70216	17	1	1	Ball bearing 6303 17×47×14 mm DIN 625
70217	18	1	1	Adjusting ring
70218	19	1	1	Nut 16 MG×1.5 mm DIN 936
32252	20	1	1	Split pin ϕ 3×20 mm
70219	21	1	1	Cover
70220	22	1	1	Cover
70221		2	2	Rounded counter sunk head screw 5 MG×10 mm (not illustrated)
70222	24	1	1	Lock washer
70223	24a	1	1	Lock washer
70224	25	1	1	Adjusting nut
70225	26	2	2	Threaded pin 6 MG×8 mm
70226	27	2	2	Lubricator nipple 10 MG×1 mm
70227	28	3	3	Stud 8 MG×60 mm DIN 939
32732	29	3	3	Spring washer 8 mm
70229	31	2	2	Threaded plug
32159		1	1	Drain cock 1/4" DIN 71401 (not illustrated)
70230	35	9	9	Stud 8 MG×20 mm DIN 939
60157	36	7	7	Nut 8 MG DIN 934
70231	37	1	1	Support washer
52052	38	1	1	Slotted nut
70232	39	1	1	Closing screw



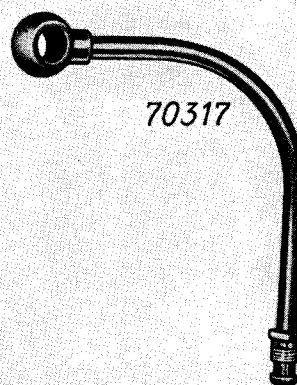
21884



31036



70318



70317



32125

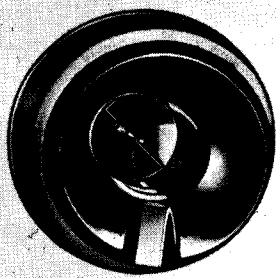


21885



32730

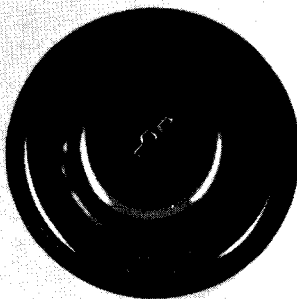
Spare Part No.	Nos. required per engine		Weight each kg	Designation
	4 K 105	6 K 105		
31091/3	16	24		Copper gasket $\phi 10.2/\phi 14$ mm
31332	2	3		Cap nut
60473	2	3		Lead-in nipple
70051	1			Lubricating pipe (end cover/cylinder head)
70052	2	3		Banjo plug
70053/2	1	1		Flexible pipe connection (filter/fuel pump)
70111	9	18		Round head screw 4 MG $\times$ 12 mm DIN 86
70112	1	1		Double pipe bow for fuel pressure pipes
70113	1	1		Support plate for 70112
70114	1	1		Triple pipe bow for fuel pressure pipes
70115	1	1		Support plate for 70114
70116	2	2		Four pipe bow for fuel pressure pipes
70117	2	2		Support plate for 70116
70118	13	23		Rubber tubes for supporting pipes in pipe bows
70478	1	1		Banjo plug with throttle plate
70480	2	3		Pipe for lubricating rocker arms
70572	2	3		Pipe – (rocker shaft/oil sump)
71035	1			Flexible pipe connection (overflow fuel valves/fuel tank)
71050/2	1	1		Flexible pipe connection (feed pump/filter)
71328A	1			Fuel pressure pipe – cylinder 1
71328B	1			Fuel pressure pipe – cylinder 2
71328C	1			Fuel pressure pipe – cylinder 3
71328D	1			Fuel pressure pipe – cylinder 4
76035		1		Flexible pipe connection (overflow fuel valves/fuel tank)
76051		1		Lubricating oil pipe (end cover/cylinder head)
Not illustrated				
60107	1	1		Round head slotted screw 6 MG $\times$ 15 mm DIN 86 for 70119
60108	1	1		Nut 6 MG DIN 934 for 70119
60109	1	1		Spring washer 6 mm DIN 127 for 70119
60427	2	2		Saddle for flexible pipe connection 71050/2
70119	1	1		Clamping arm for flexible pipe connection 71050/2
70121	2	2		Saddle for flexible pipe connection 70053/2
70177	1	1		Union nut for 71035 and 76035
70178	1	1		Cablaine for 71035 and 76035
76118		1		Five pipe bow for fuel pressure pipes
76119		1		Supporting plate for 76118
76120		1		Six pipe bow for fuel pressure pipes
76121		1		Supporting plate for 76120
76328A		1		Fuel pressure pipe – cylinder 1
76328B		1		Fuel pressure pipe – cylinder 2
76328C		1		Fuel pressure pipe – cylinder 3
76328D		1		Fuel pressure pipe – cylinder 4
76328E		1		Fuel pressure pipe – cylinder 5
76328F		1		Fuel pressure pipe – cylinder 6
Not illustrated				
Pipe connection for lub. oil manometer 6335				
21741/2	1	1		Pipe for lubricating oil manometer
31091/3	2	2		Copper gasket $\phi 10.2/\phi 14$ mm for 32787
32787	1	1		$\frac{1}{8}$ " RG banjo plug for connecting 21741/2
70009	1	1		Slotted screw 4 MG $\times$ 10 mm DIN 86 for 70110
70110	1	1		Pipe saddle for fixing 21741/2
21884	1	1	0.500	Cover for thermostat housing
21885	1	1	0.095	Thermostat 60/68° Cel.
31036	2	2		Copper asbestos gasket $\phi 21/\phi 27$ mm
32125	1	1	0.005	Rubber gasket for thermostat housing
32730	2	2	0.015	Set screw $\frac{5}{16}$ " $\times$ 20 mm
70317	1	1	0.350	Copper pipe (cooling water inlet flange/cover for thermostat housing)
70318	1	1	0.110	Banjo bolt



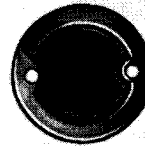
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70082



70081



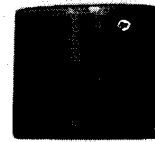
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70079 70080



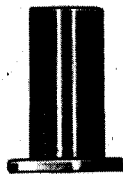
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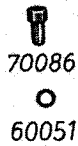
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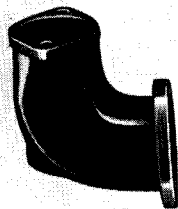
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70127



70086
60051



70124



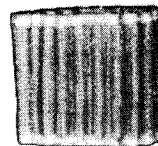
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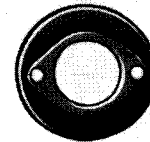
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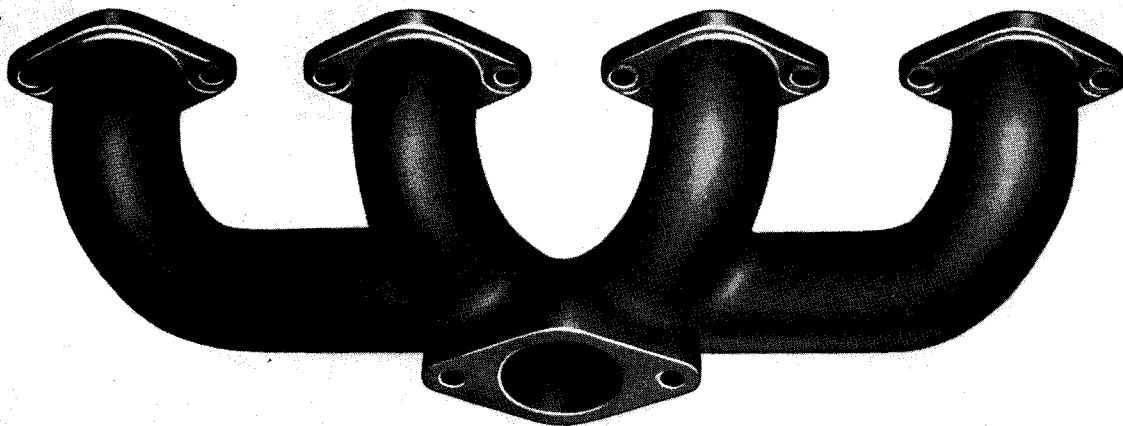
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6338



6336



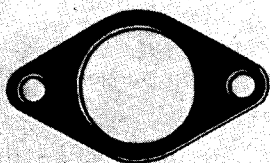
70165 (4 K 105)
76165 (6 K 105)



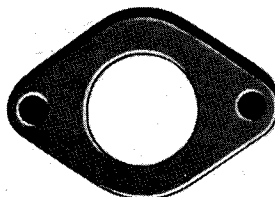
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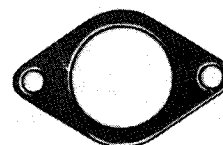
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70075

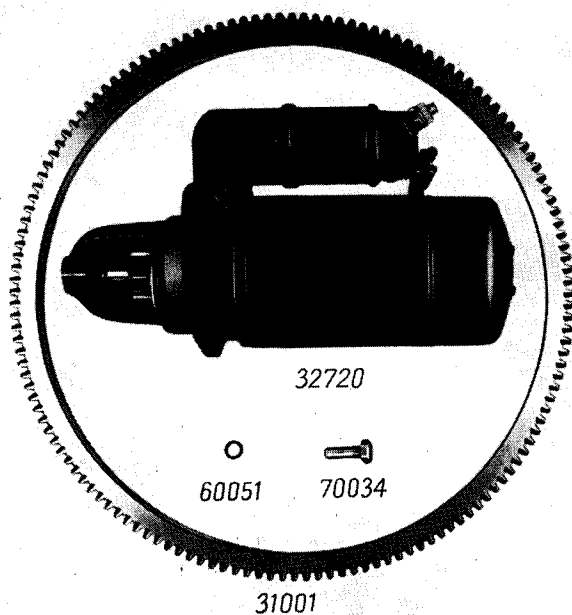


70120



71401

Spare Part No.	Nos. required per engine		Weight each kg	Designation
	4 K 105	6 K 105		
6163/3	2	3	0.530	Air inlet filter, complete – not illustrated
6336	2	3	0.075	Bottom flange for 6163/3
6337	2	3	0.100	Perforated cylinder for 6163/3
6338	2	3	0.130	Insert for 6163/3
6339	2	3	0.085	Top plate for 6163/3
60051	8	12		Spring washer 10 mm DIN 7980
70058	2	3	0.010	Gasket for air inlet pipe
70078	2	3	1.400	Oil bath air inlet filter, complete – not illustrated
70079	2	3		Square nut for 70078
70080	2	3	0.010	Screw for 70078
70081	2	3	0.600	Cover with insert for 70078
70082	2	3	0.010	Seal ring for 70078
70083	2	3	0.700	Oil pot for 70078
70086	8	12	0.015	Screw 10 MG×20 mm – Unbraco type MC
70124	2	3	1.800	Air inlet pipe
70125	4	6	0.070	Machine bolt 10 MG×115 mm DIN 931
70126	2	3	0.750	Pipe for bringing up air inlet filter 6163/3
70127	2	3	0.430	Pipe – short – for mounting oil bath filter 70078
70128	2	3	0.800	Pipe – long – for bringing up oil bath filter 70078
70075	1	1	0.015	Gasket for 70120
70120	1	1	0.600	Exhaust flange
70122	2	2	0.015	Nut 12 MG
70146	2	2	0.040	Stud 12 MG×55 mm DIN 939
70165	1		7.100	Exhaust manifold
71401	4	6	0.010	Gasket for exhaust manifold
76165		1		Exhaust manifold



60479



70194

32271

60157



72729

70018

32271



80090



70468



60152



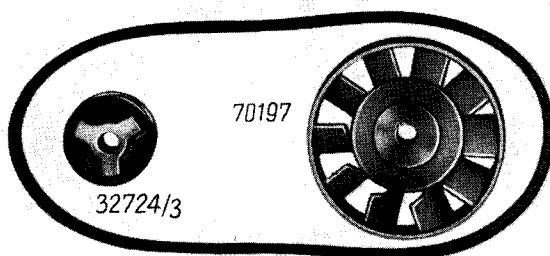
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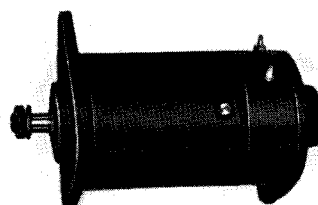
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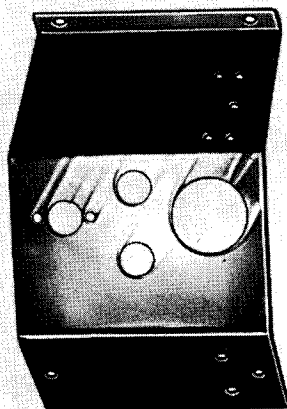
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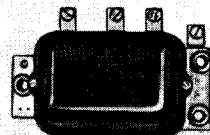
32115/3
70193



32723/2

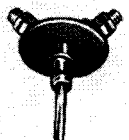


21470/2



32849

60108 70191 60109 60154



21472



21472 a



21475



72791 a

60138 60524 60106



32780



21474



21474 a



21474 b



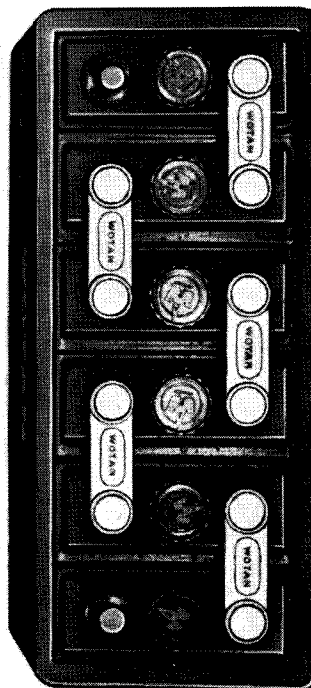
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70192



32781



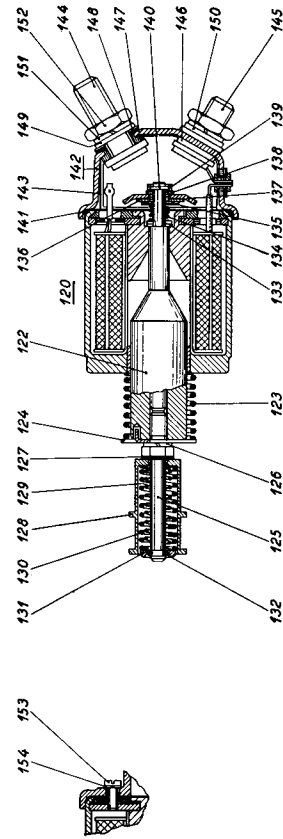
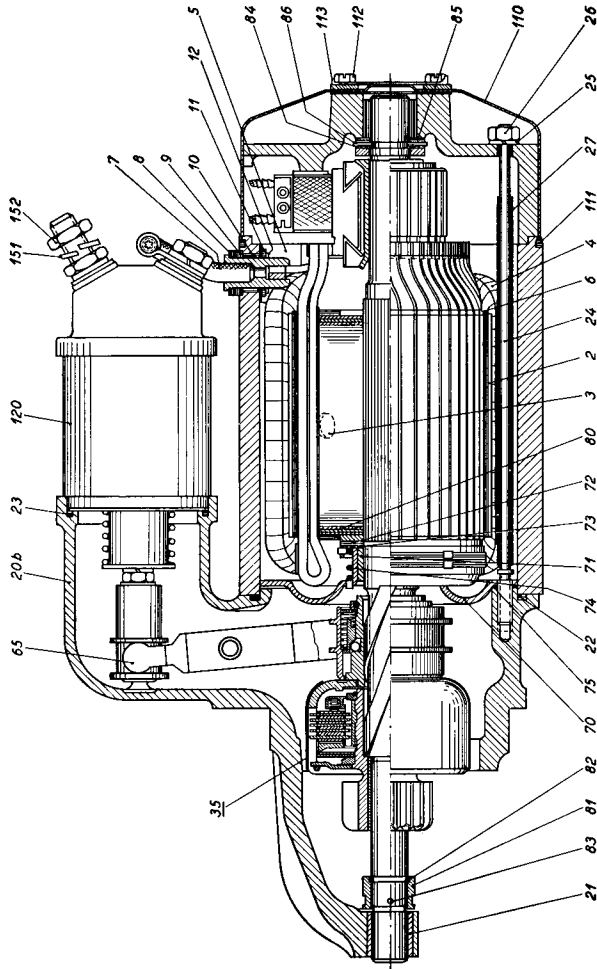
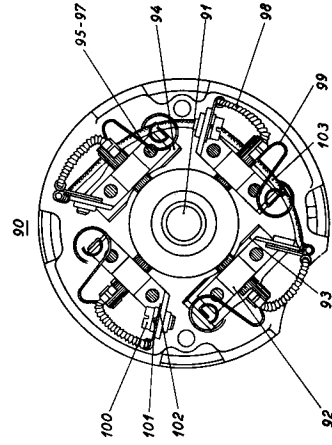
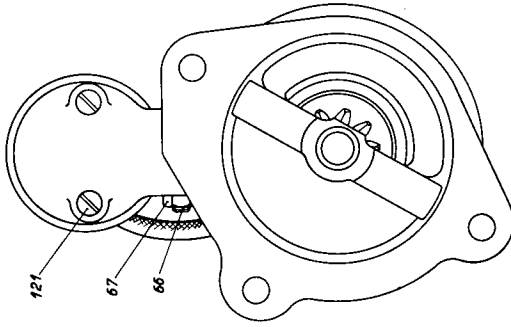
80134/2

Spare Part No.	Nos. required per engine		Weight each kg	Designation
	4 K 105	6 K 105		
31001	1	1	4.100	Starting gear rim
32115/3	1	1	0.070	V-belt for charging dynamo (only for engines with radiator cooler)
32271	4	4		Spring washer 8 mm DIN 127
32720	1	1	14.200	Starter*
32723/2	1	1	7.200	Charging dynamo**
32724/3	1	1	0.300	V-belt pulley for charging dynamo (only for engines with radiator cooler)
60051	3	3		Spring washer 10 mm DIN 127
60152	2	2	0.010	Set screw for bracket 10 MG×25 mm
60156	2	2	0.015	Machine bolt 8 MG×25 mm DIN 931
60157	3	3		Nut 8 MG DIN 934
60479	1	1		Copper-asbestos gasket $\phi 13.2/\phi 18$ mm
70018	1	1		Washer plate for 80090 $\phi 18/\phi 8.3$ mm
70034	3	3	0.025	Machine bolt 10 MG×30 mm DIN 931
70194	1	1	0.150	Distance bolt
70193	1	1	0.070	V-belt for charging dynamo (only for engines without radiator cooler)
70197	1	1	0.450	Fan with V-belt pulley for charging dynamo (only for engines without radiator cooler)
70468	1	1	0.900	Bracket for charging dynamo
72729	1	1	0.750	Tension piece for charging dynamo
80090	1	1	0.010	Set screw 8 MG×15 mm

*) Specification and drawing of spare parts on pages 38-39

**) Specification and drawing of spare parts on pages 40-41

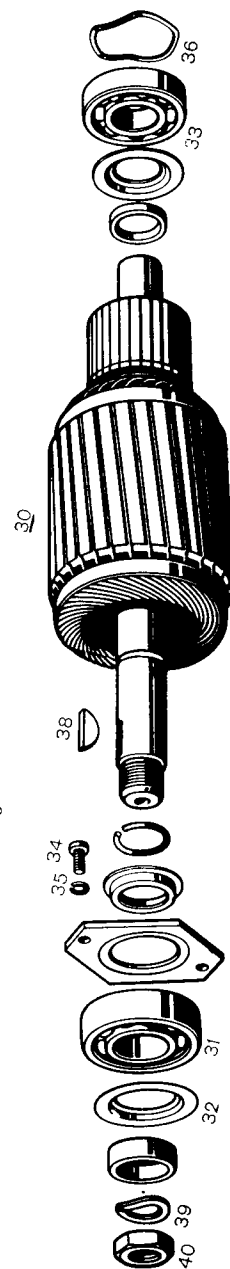
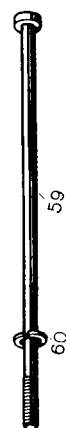
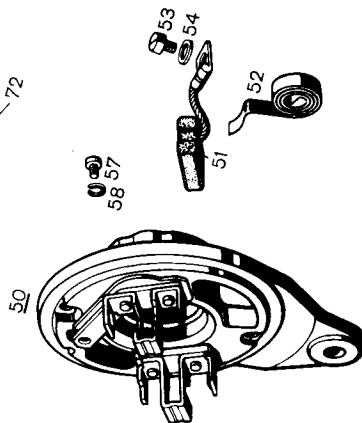
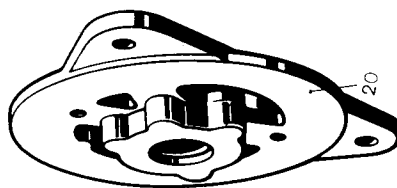
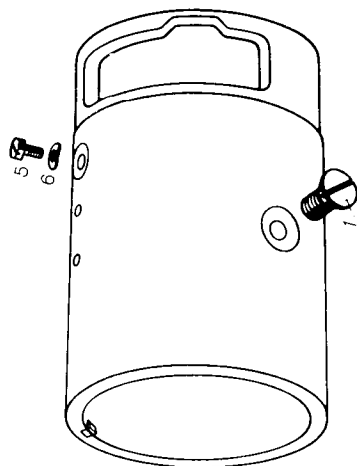
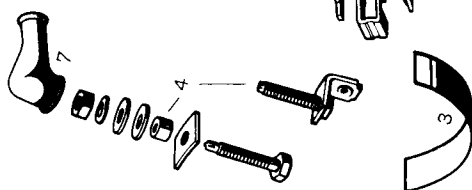
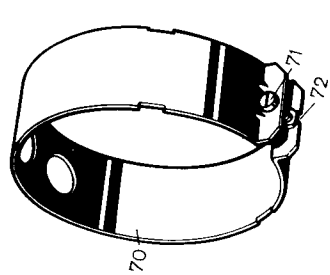
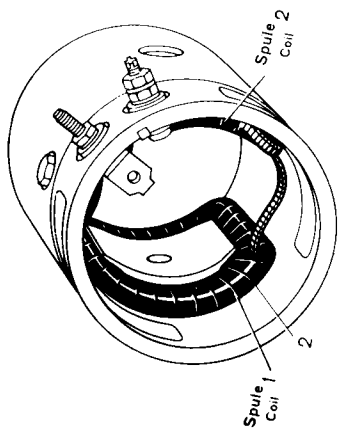
21470/2	1	1	1.500	Instrument panel for electrical start (and thermo start)
21472	1	1	0.250	Battery switch
21472a	1	1	0.030	Key for 21472
21474	1	1	0.065	Fuse holder with 4 fuses
21474a	1	1	0.010	Cover for fuse holder
21474b	4	4		30 amp. fuses
21475	1	1	0.110	Ammeter 30-0-30 - $\phi 52$ mm
32780	1	1	0.075	Left cable lug for battery
32781	1	1	0.075	Right cable lug for battery
32849	1	1	1.000	Relay for charging dynamo
60106	4	4		Nut 5 MG DIN 934
60108	4	4		Nut 6 MG DIN 934
60109	6	6		Spring washer 6 mm DIN 127
60138	4	4		Round head slotted screw 5 MG×10 mm DIN 86
60154	3	3		Round head slotted screw 6 MG×20 mm DIN 86
60204	3	3		Round head slotted screw 6 MG×10 mm DIN 86 (not illustrated)
60524	4	4		Spring washer 5 mm DIN 127
70191	3	3		Washer 6 mm
70192	4	4	0.020	Cable lug for 50 mm ² cable
70195	1	1		Stay for panel (not illustrated)
70196	1	1	0.010	Plug for hole for thermo start
72791a	1	1	0.020	Start button
80134/2	1	1	48.000	Battery



Specification of Spare Parts for Starter (Spare Part No. 32720)

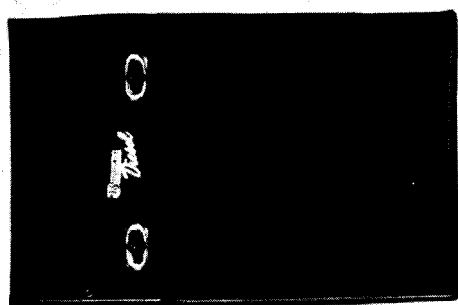
Nos. req.	Part No.	Designation	Nos. req.	Part No.	Designation
32720-			32720-		
4	2	Pole shoe	4	98	Carbon brush + and —
4	3	Screw for pole shoe No. 2	4	99	Spring for carbon brush
1	4	Exciting winding — coil 1 and 2	2	100a	Screw for fixing carbon brushes and ends of coil (for — carbon)
1	4	Exciting winding — coil 3 and 4	2	100b	Screw for fixing carbon brushes and ends of coil (for + carbon)
1	5	Insulating strip for exc. winding No. 4	4	101	Spring washer for screw No. 100a
1	6	Insulating plate for exc. winding No. 4	2	102	Washer for screw No. 100b
1	7	Connecting part with bolt	1	103	Lead for + carbon brush
1	8	Spring washer for connect. part No. 7	1	110	Cover for commutator and bearing
2	9	Insulating washer for conn. part No. 7	1	111	Gasket for cover
1	10	Insulating bush for connect. part No. 7	2	112	Screw for cover
1	11	Insulating plate for conn. part No. 7		113	Lock plate for screw No. 112
1	12	Washer for connecting part No. 7	1	120	Solenoid switch
1	20	Driving end bearing with bear. bush	2	121	Screw — for fixing solenoid switch
1	21	Bearing bush	1	122	Armature with shaft
1	22	Gasket between end bear. and yoke	1	123	Spring for armature
1	23	Gasket between driving end bearing and solenoid switch No. 120	1	124	Retaining washer for spring No. 123
2	24	Bolt for fixing end bearing	1	125	Bolt for armature
2	25	Spring washer for fixing end bearing	1	126	Spring for washer for bolt No. 125
2	26	Nut for fixing end bearing	*	127	Shim 0.1 mm for bolt No. 125
2	27	Insulating tube for bolt No. 24	*	127	Shim 0.2 mm for bolt No. 125
1	35	Pinion, complete, number of teeth 11, module 3	1	128	Bush for bolt No. 125
1	65	Engaging lever for pinion	1	129	Spring, inner, for bush No. 128
1	66	Screw for fixing engaging lever, No. 65	1	130	Spring, outer, for bush No. 128
1	67	Nut for fixing engaging lever, No. 65	1	131	Retaining washer for bolt No. 125
1	70	Intermediate bearing with bush	1	132	Lock ring for retaining washer No. 131
1	71	Bearing bush in intermediate bearing	2	133	Washer for armature shaft
1	72	Intermediate washer (insulat. washer) on intermediate bearing No. 70	1	134	Spring for armature shaft
1	73	Spring washer on interm. bearing No. 70	1	135	Insulating bush for armature shaft
1	74	Spring on interm. bearing No. 70	1	136	Washer for armature shaft
1	75	Gasket for intermediate bearing	1	137	Contact rail for armature shaft
1	80	Armature, complete	1	138	Insulating washer for armature shaft
1	81	Nut for armature shaft	1	139	Disced washer for armature shaft
1	82	Lock ring for nut No. 81	1	140	Lock washer for armature shaft
1	83	Split pin for nut No. 81	1	141	Rubber gasket between switch housing and switch cover
2	84	Washer on commutator end of armature shaft	1	142	Switch cover with contact bolts
*	85	Shim 0.2 mm on commutator end of armature shaft	1	143	Insulating plate inside cover No. 142
*	85	Shim 0.1 mm on commutator end of armature shaft	1	144	Contact bolt, long
1	86	Insulating washer on commutator end of armature shaft	1	145	Contact bolt, short
1	90	Commutator end bearing, complete	2	146	Insulating plate, inner, for contact bolts No. 144 and 145
1	91	Bearing bush for ditto	2	147	Insulating ring for contact bolts No. 144 and 145
4	92	Brush-holder + and —	2	148	Insulating washer for contact bolts No. 144 and 145
2	93	Insulating plate underneath + brush-holder	2	149	Washer for contact bolts No. 144 and 145
2	94	Plate underneath — brush-holder	1	150	Washer for contact bolt No. 145
8	95	Rivet for brush holder	2	151	Spring washer for contact bolt No. 144 and 145
4	96	Insulating bush for rivet No. 95, only for + brush-holder	2	152	Nut for contact bolts No. 144 and 145
4	97	Insulating washer for rivet No. 95, only for + brush-holder	4	153	Screw for fixing cover No. 142
			4	154	Spring washer
			1	155	Connecting screw kl. 50 (not illustr.)

*) As required



Specification of Spare Parts for Dynamo (Spare Part No. 32723/2)

Spare Part No.	Illustration No.	Nos. required per engine		Designation
		4 K 105	6 K 105	
32720-3	1	2	2	Flat head screw for fastening pole shoe (M 10×15 mm DIN 63)
32957/2c	2	1	1	Field coil – coil 1
32957/2d	2	1	1	Field coil – coil 2
32803	3	1	1	Insulating strip under coil ends
32959/2	4	1	1	Terminal part, complete
32815	5	1	1	Hexagon screw (M 5×8 mm DIN 933)
32967	6	1	1	Curved washer (A 5 mm DIN 137)
32979	7	2	2	Rubber protective cap for 32959/2
32980/2	20	1	1	Drive end bearing
32984/2	30	1	1	Armature assembly (including parts 32987 – 32988 – 32992)
32987	31	1	1	Deep-groove ball bearing (6203 DIN 625)
32988	32	1	1	Splash ring
32992	33	1	1	Deep-groove ball bearing for armature (6202 DIN 625)
21430	34	2	2	Fillister-head screw (M 4×10 mm DIN 84)
32720-154	35	2	2	Lock washer
32994	36	1	1	Spring ring, undulated (between 32992 and 32981/2)
32485	38	1	1	Woodruff key
32996	39	1	1	Lock washer
32997	40	1	1	Hexagon nut
32981/2	50	1	1	Commutator end bearing assy.
32975/2	51	2	2	Carbon brushes
32976/2	52	2	2	Carbon brush spring
32977/2	53	2	2	Fillister head screw (M 4×5 mm DIN 84)
32720-154	54	2	2	Lock washer
32831	57	1	1	Fillister-head screw (M 4×6 mm DIN 84)
32720-154	58	1	1	Lock washer
32982	59	2	2	Fillister-head screw
32720-126	60	2	2	Lock washer
32999	70	1	1	Cover band
33000	71	1	1	Fillister-head screw (M 4×15 mm DIN 84)
33001	72	1	1	Hexagon nut (M 4 DIN 439)



8358



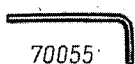
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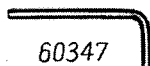
32884A



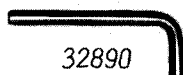
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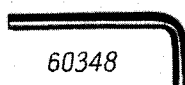
70055



60347



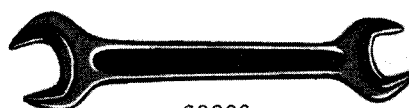
32890



60348



32892



32883



32882



32881



32880



70054

Spare Part No.	Nos. required per engine		Weight each kg	Designation
	4 K 105	6 K 105		
8358	1	1	0.160	Tool bag – containing:
32880	1	1	0.030	Single-ended spanner 11 mm
32881	1	1	0.080	Double-ended spanner 14×17 mm
32882	1	1	0.160	Double-ended spanner 19×22 mm
32883	1	1	0.400	Double-ended spanner 27×32 mm
32884	1	1	0.170	Socket spanner 17 mm span of jaw
32884A	1	1	0.060	Handle for 32884 and 70057
32890	1	1	0.085	Hexagon spanner for Unbraco screw W 10
32892	1	1	0.085	Screw driver
60347	1	1	0.030	Hexagon spanner for Unbraco screw M 26
60348	1	1	0.100	Hexagon spanner for Unbraco screw M 30
70054	1	1	0.025	Single-ended spanner 10 mm
70055	1	1	0.015	Hexagon spanner for Unbraco screw M 25 mm
70057	1	1	0.600	Socket spanner for Bosch fuel injection pump

Spare Part No.	Nos. required per engine		Weight each kg	Designation
	4 K 105	6 K 105		
71030	1			Set of gaskets (4 K 105)
76030		1		Set of gaskets (6 K 105)
				consisting of:
6434	4	6		Leather gasket for cylinder head cover
21737	2	2		Copper asbestos gasket $\phi 13.2/\phi 18$ mm
21769	4	4		Copper asbestos gasket $\phi 26.5/\phi 32$ mm
31035	2	3		Copper asbestos gasket $\phi 33.3/\phi 40$ mm
31036	4	4		Copper asbestos gasket $\phi 21/\phi 27$ mm
31091/3	22	34		Copper gasket $\phi 10.2/\phi 14$ mm
32121	4	6		Gasket for water outlet manifold
32125	1	1		Rubber gasket for thermostat housing
32157	2	3		Gasket for screw cap (=32128)
60013	2	2		Packing ring for filter cover
60015	2	2		Packing washer for hexagon screw
60017	2	3		Packing washer for 60016
60021	11	11		Packing ring $\phi 14/\phi 18$ mm
60260	2	2		O-ring R 13 – 2.5 mm (R 117)
60384	8	12		Cylinder liner rubber ring
60482	8	12		Copper gasket $\phi 8/\phi 12$ mm DIN 1726
70007	3	5		Copper gasket $\phi 14.2/\phi 20$ mm
70011	2	2		O-ring R 28 – 2.5 mm
70012	2	2		O-ring R 23 – 2.5 mm (R 130)
70021	1			Gasket for cover for timing gear 70020
70021/2	1	1		Gasket for cover for timing gear 70020/2
70031	1	1		Gasket for fuel pump
70043	2	2		O-ring R 76 – 2.5 mm
70058	2	3		Gasket for air inlet pipe
70073	1	1		Gasket for cooling water inlet flange
70074	2	2		Gasket for 70143 and 70141
70075	1	1		Gasket for exhaust flange
70102	1	1		Gasket for feed pump
70254	1	1		Gasket between governor and fuel pump
70334	4	6		Washer for nozzle
70337	1			O-ring R 107 – 2.5 mm
70337/2	1	1		O-ring R 115 – 3.0 mm
71026	2	3		Cylinder head gasket
71039	4	6		Gasket for cover 71038
71041	2	3		Gasket for cover 71040
71119	2	3		Gasket for cylinder head covers 71118A and B
71295	1	1		Gasket between filter and intermediate flange
71296	1	1		Gasket between intermediate flange and crank case
71341	1	1		Gasket for front end cover 71342
71373	4	6		Copper gasket for pre-combustion chamber
71401	4	6		Gasket for exhaust manifold
75070	1	1		Seal for lubricating oil filter
75072	1	1		O-ring for lubricating oil filter
75074	1	1		Sealing ring for lubricating oil filter
85029	2	2		Copper asbestos gasket $\phi 17/\phi 22$ mm
71399	1			Set of gaskets for valve grinding (4 K 105)
76399		1		Set of gaskets for valve grinding (6 K 105)
				consisting of:
32121	4	6		Gasket for water outlet manifold
70058	2	3		Gasket for air inlet pipe
71026	2	3		Cylinder head gasket
71119	2	3		Gasket for cylinder head cover
71401	4	6		Gasket for exhaust manifold
70075	1	1		Gasket for exhaust flange