

R198



THORNYCROFT

SPARE PARTS LIST

154

Marine Engine



Thornycroft 154

Parts List Alteration Sheets

Some part numbers have been superseded since this Spare Parts List was printed.

After identifying the part(s) required from the illustrated list always refer to the Parts List Alteration Sheet(s) in the front of the book before ordering.

These sheets clearly indicate where part number changes have taken place.

Type 154 engines are now supplied with electric instruments and wiring looms as detailed on a separate sheet in the front of this book.

For mechanical type instruments supplied with earlier engines see pages 64/66/67.

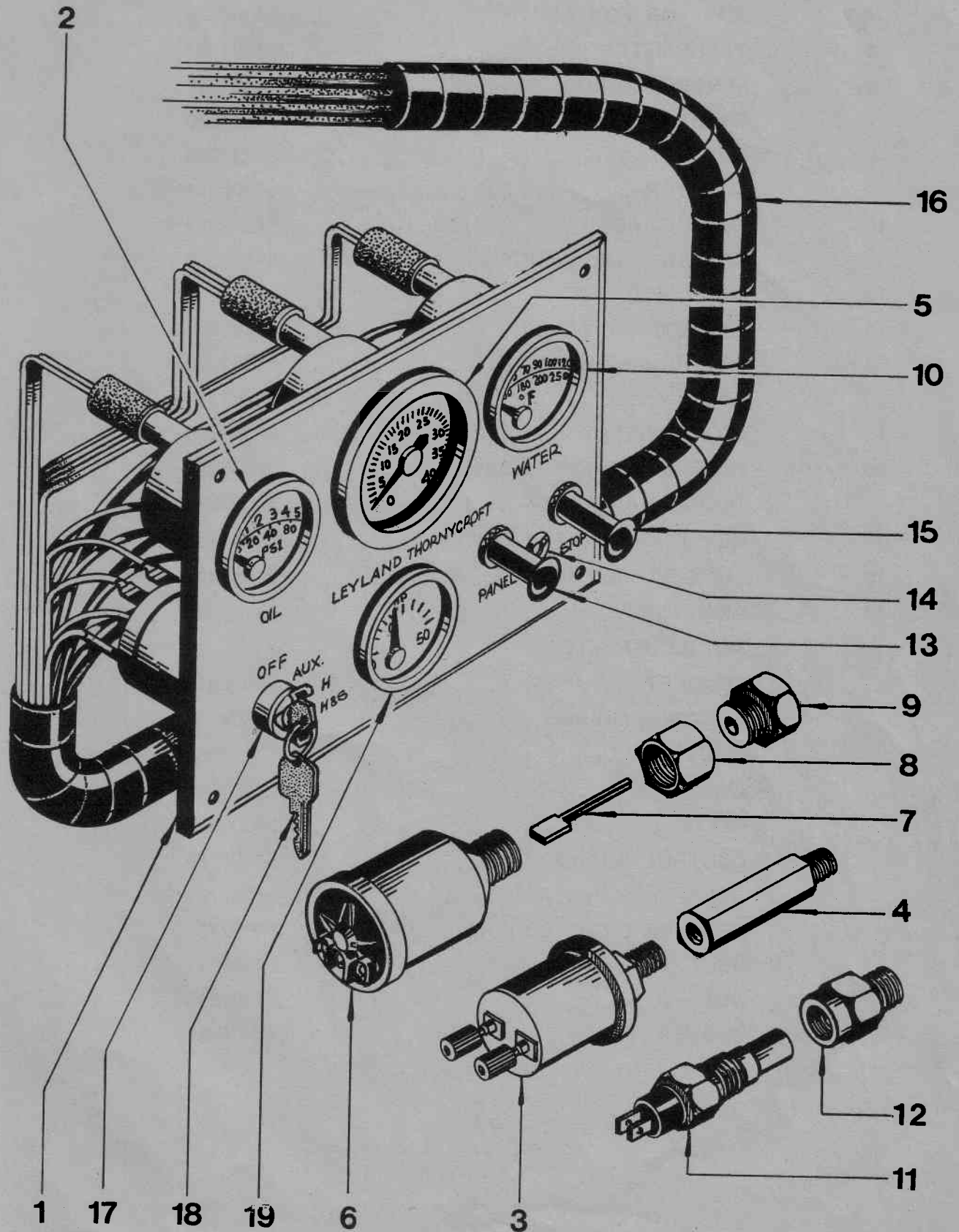
PAGE NO	REF NO	DESCRIPTION	OLD NO	NEW NO
7	1	Cyl. block and crankcase Assy	58G550	12B1842
7	2	Core plug	12B2741	AEC 876
7	10	Cap main bearing front		12B2385
7	10	Cap main bearing middle		12B2383
7	11	Cap main bearing rear		12B2382
7	17	Bearing bush camshaft front	8G2214	1B 1030
7	17	Bearing bush camshaft middle	8G2214	1 K 64
7	17	Bearing bush camshaft rear	8G2214	1 K 66
7	27	Piston Assy	8G259003	62B98
7	28	Piston ring top groove	8G2592	12B2528
7	29	Piston ring 2nd groove	8G2592	12B1900
7	30	Piston ring 3rd groove	8G2592	12B1901
7	31	Piston ring 4th groove	8G2592	12B1902
9	6	Main bearings front	8G2593	12B1192
9	7	Main bearing centre	8G2593	12B1874
9	8	Main bearings rear	8G2593	12B1193
9	13	Pulley vee type 3/8"	12B2250	62 B70
		vee type		
9	15	Lock washer	2H731	12B681
9	21	Big end bearing std.	8G2219	11B69
13	1	Cylinder Head assy	58G552	JAM 1440
13	8	Plug	2K4996	2K6164
13	16	Stud	22A 152	53K552
13	26	Gasket	12B1880	62B 251
13	29	Heater plug	12H275	13H9543
15	42	Rocker assy	12B2070	11B510
15	59	Thermostat	13H6285	13H7603
17	1	Flywheel assy	12B2045	62B238
19	2	Oil Seal	AEC621	13H7228
19	19	Oil separator alum manifold	12B2251	54008318
		cast iron man		
19	27	Dipstick lowline	11G64	54009229
23	25	Pulley vee type 3/8"	12B241	62B134
		poly vee		
25	1	Oil filter complete	12B492	13H7448
25	11	Elbow	54007741	54381607
25	8	Pipe Assy	54007722	54009044
27		Water inj. bend alum man.		54008949
27		Injection pipe assy. alum man.		6281/1
27		Hose alum man.		54008677
27		Clip alum man.		54381452
29	1	Fuel inj. pump	12B2291	JAM 1474
37	1	Joint	11F51	12H1318
37	17	Flange	12B361	62B108
37	18	Washer	11F50	PWN105
37		Stiffener for cover		62B139
39	16	Nut nozzle holder cap		7008-902
41	4	Pipe	310-139	12B445
41	7	Pipe	0200029T	62B205
41	11	Pipe No 1 Cylinder	12B2309	62B30
41	12	Pipe No 2 Cylinder	12B2311	62B31
41	13	Pipe No 3 Cylinder	12B2313	62B32
41	14	Pipe No 4 Cylinder	12B2315	62B33
41	20	Pipe	310-136	12B270
43		Alternative pipe work		
43		Pipe eng. oil cooler to SWP		54008538
43		Hose		54381510
43		Clip		54381452
43		Rubber elbow		54007677
43		Hose SWP to heat exchanger		54008512

PAGE NO	REF NO	DESCRIPTION	OLD NO	NEW NO
43		Clip		54381452
45	1	Foot port side front	54007697	54008885
45	8	Rear foot	54007729	54007730
47	1	Fuel filter assy	BMK601	12B2512
47	11	Washer	6K638	BMK 596
47	12	Valve	12H 409	AAU 3509
49	1	Fuel pump assy	13H6306	12B774
49	25	Joint	37D2891	12B2720
51	22	Pulley vee type	54380576	62B68
51	24	Bracket	poly vee	
51	36	Link	12B1317	62B63
51	42	Belt vee type	12B1319	12B1538
54		Joint set	13H4155	13H7104
54		Water pump	poly vee	
			58G556	58G559
			12B1503	62B138

55 PRM ADAPTING PARTS

5400762	Adaptor Housing for V8 Gearbox or
54007725	Adaptor Housing for V8 Gearbox
UES 106/7	Setscrew 3/8" UNF x 7/8" LG
54381359	Loctite 245
54381464	Drive Plate
54381467	Cap Screw
54381471	Washer
UCS106/8	Setscrew 3/8" UNC x 1" LG
UCB106/4	Bolt 5/8" UNC x 1.3/4"
UCB106/18	Bolt 3/8" UNC x 2.1/4"
WA 6	Washer 3/8" Spring
6655	Oil Cooler
54008975	Bracket
54008976	Bracket
URS104/5	Setscrew 1/4" UNF x 5/8" LG
UFN 104	Nut 1/4" UNF
WA 4	Washer 1/4" Spring
WA6	Washer 1/4" Spring
WP6	Washer 1/4" Plain
54381590	Oil Pipe
54381592	Union
54381593	Adaptor
54008443	Water Pipe 1" O/Dia. x 8" LG
54381452	Clip

Electric Instruments And Sender Units



1	PANEL .....	.54008872
2	OIL PRESSURE GAUGE .....	.54381349
3	SENDER OIL PRESSURE .....	.54381376
4	ADAPTOR FOR ABOVE .....	.54008845
5	TACHOMETER .....	.54381387
6	SENDER TACHO .....	.54381399
7	SHAFT .....	.54381580
8	NUT .....	.54381582
9	ADAPTOR .....	.54008971
10	TEMP. GAUGE .....	.54381352
11	SENDER TEMP. GAUGE .....	.54381375
12	NOT USED	
13	PANEL SWITCH .....	.54380361
14	WARNING LIGHT .....	.54381608
	BULB .....	.54381393
15	STOP CONTROL .....	.54380756
16	WIRING HARNESS (ENGINE) .....	.54008935
	WIRING HARNESS (PANEL) .....	.54008939
17	KEY TYPE STARTER SWITCH .....	.54381445
18	LOCK BARREL & KEYS .....	.54381446
19	AMMETER .....	.54381338
	NOT ILLUSTRATED	
	BRACKET .....	.54008970
	FLEXIBLE MOUNT .....	.54008948
	NUT	NF4
	WASHER	WA4
	PLATE .....	.54008941
	CONTROL BOARD .....	.54007766
	RELAY .....	.54007767
	WARNING LIGHT CONTROL .....	.54007768
	BOLT .....	.54381611
	NUT .....	.54381612
	WASHER	WA3

R 198



154

2.52 litre
MARINE ENGINE

Leyland Thornycroft

BRITISH LEYLAND UK LIMITED

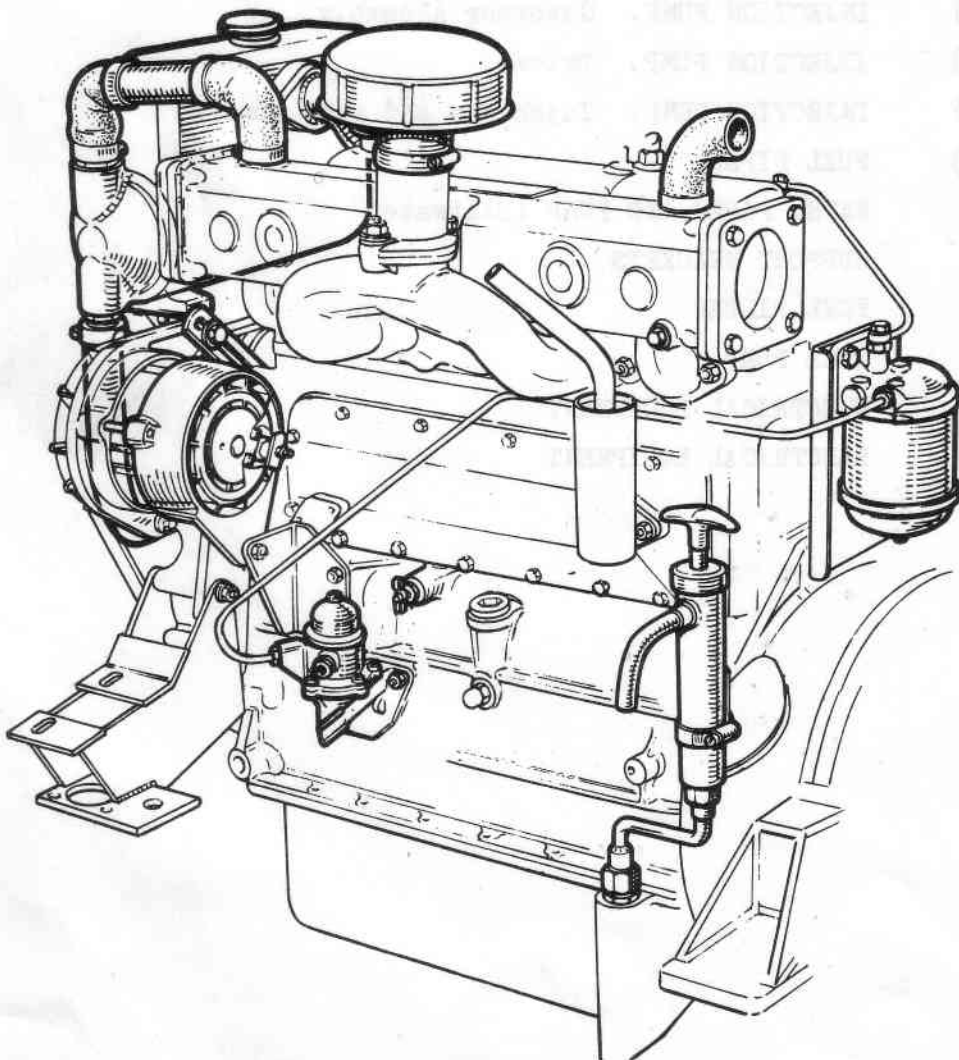
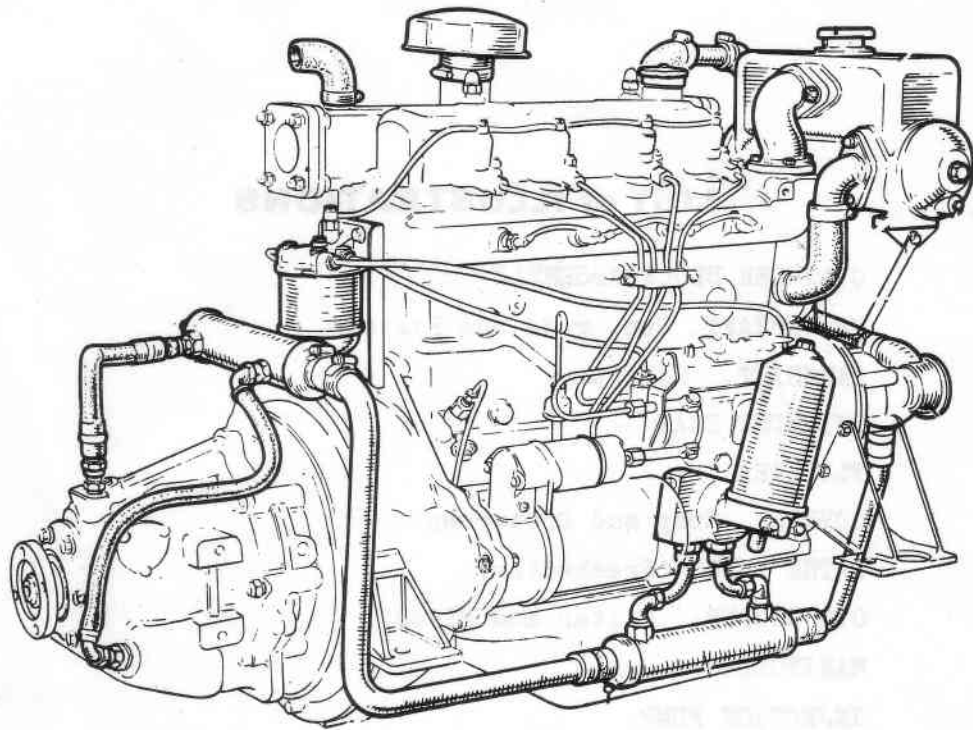
PO Box 2, Hurst Lane, Tipton, Staffs DY4 9AD

Telephone 021-557 2881 Telex 338026 Cables Bean Tipton Telex



LIST of ILLUSTRATIONS

TA	CYLINDER BLOCK ASSEMBLY
TB	CRANKSHAFT. Con. rods and Pistons
TC	CAMSHAFT. Oil Pump
TD	CYLINDER HEAD
TE	FLYWHEEL
TF	COVERS. Sump and Drainpump
TG	WATER PIPES (Freshwater)
TH	OIL COOLER. Filter and Pipes
TI	MANIFOLDS
TJ	INJECTION PUMP
TJ(a)	INJECTION PUMP. Governor Assembly
TJ(b)	INJECTION PUMP. Drive
TJ(c)	INJECTION PUMP. Injectors and stop control
TJ(d)	FUEL PIPES
TK	WATER PIPES AND PUMP (Saltwater)
TL	SUPPORT BRACKETS
TM	FUEL FILTER
TN	FUEL PUMP
TO	ELECTRICAL EQUIPMENT
TP	ELECTRICAL EQUIPMENT



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4	General view of Engine	41	Fuel Pipes
5	Engine	42	Plate T K
6	Plate T A	43	Saltwater Pipes & Pump
7	Cylinder Block	44	Plate T L
8	Plate T B	45	Support Brackets
9	Crankshaft & Conrods	46	Plate T M
10	Plate T C	47	Fuel Filter
11	Camshaft and Oil Pump	48	Plate T N
12	Plate T D	49	Fuel Lift Pump
13-15	Cylinder Head	50	Plate T O
16	Plate T E	51-53	Electrical Equipment
17	Flywheel	52	Plate T P
18	Plate T F	54	Service Kits. Engine
19-21	Covers, Sump & Drain Pump	55-56	Gearboxes & Reducing Gear
22	Plate T G	62	
23	Freshwater Pipes	63-67	Special Requirements
24	Plate T H		
25	Oil Cooler Filter & Pipes		
26	Plate T I		
27	Manifolds & Water Injection Bend		
28	Plate, T J		
29-31	Injection Pump		
32	Plate T J(a)		
33-35	Governor Assembly		
36	Plate T J(b)		
37	Pump Drive		
38	Plate T J(c)		
39	Injectors - Stop Control		

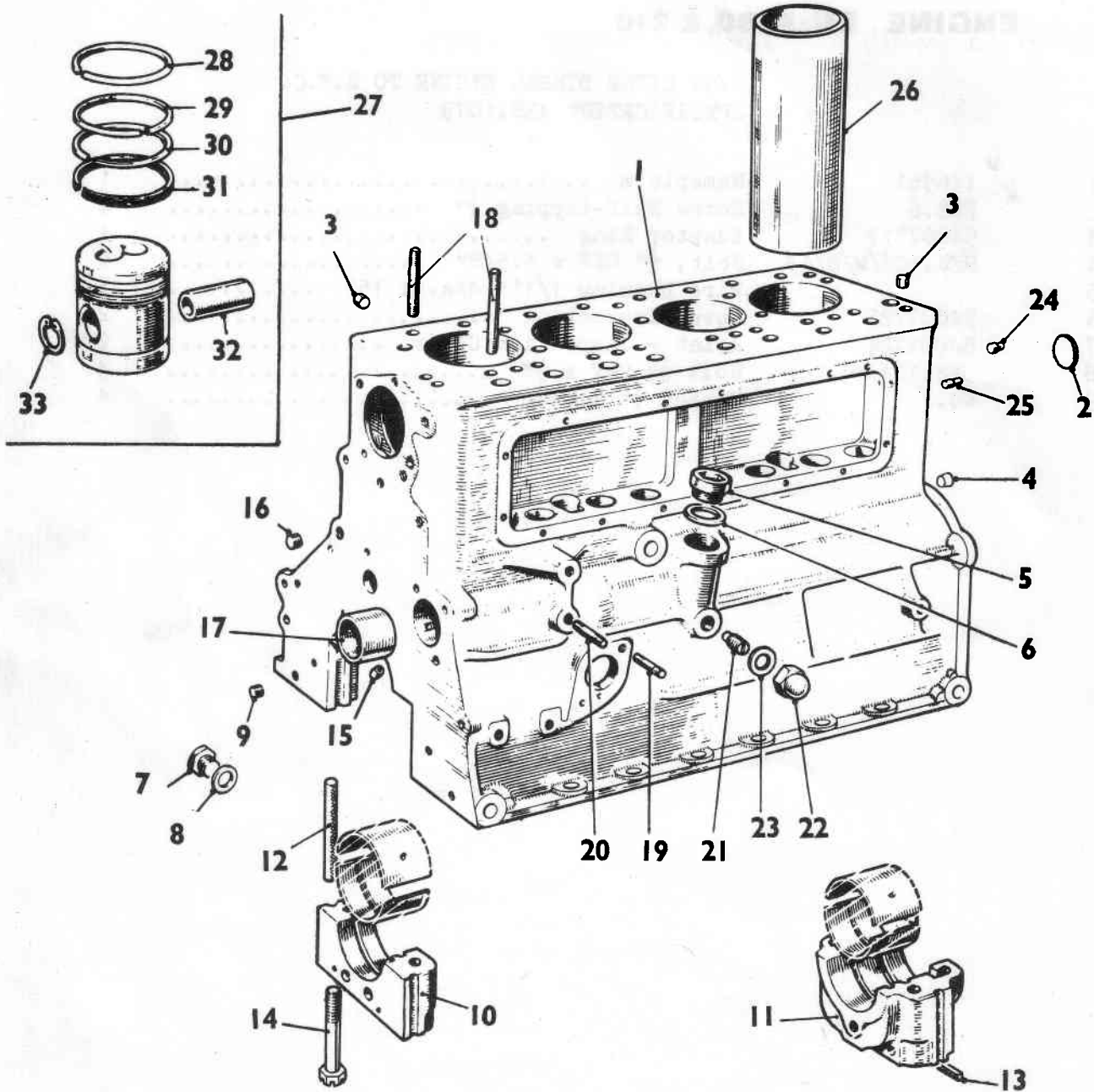
154 Engine Unit

Ref No Part No Description No Off

ENGINE EN-M.80, & 210

2.52 LITRE DIESEL ENGINE TO B.M.C.
SPECIFICATION AEB.1079

1	116361	Nameplate	1
2	PKZ.6	Screw Self-tapping $\frac{1}{4}$ "	4
3	54007717	Adaptor Ring	1
4	UFB.106/W/S/13	Bolt, $\frac{3}{8}$ " UNF x 1.5/8"	6
5		Wire Locking 1/16" dia. x 15"	3
6	54007723	Cover Inspection	2
7	54007724	Joint - Inspection Cover	2
8	UFB.104/4	Bolt $\frac{1}{4}$ " UNF x $\frac{1}{2}$ "	4
9	WG.4	Washer $\frac{1}{4}$ " Grover	4



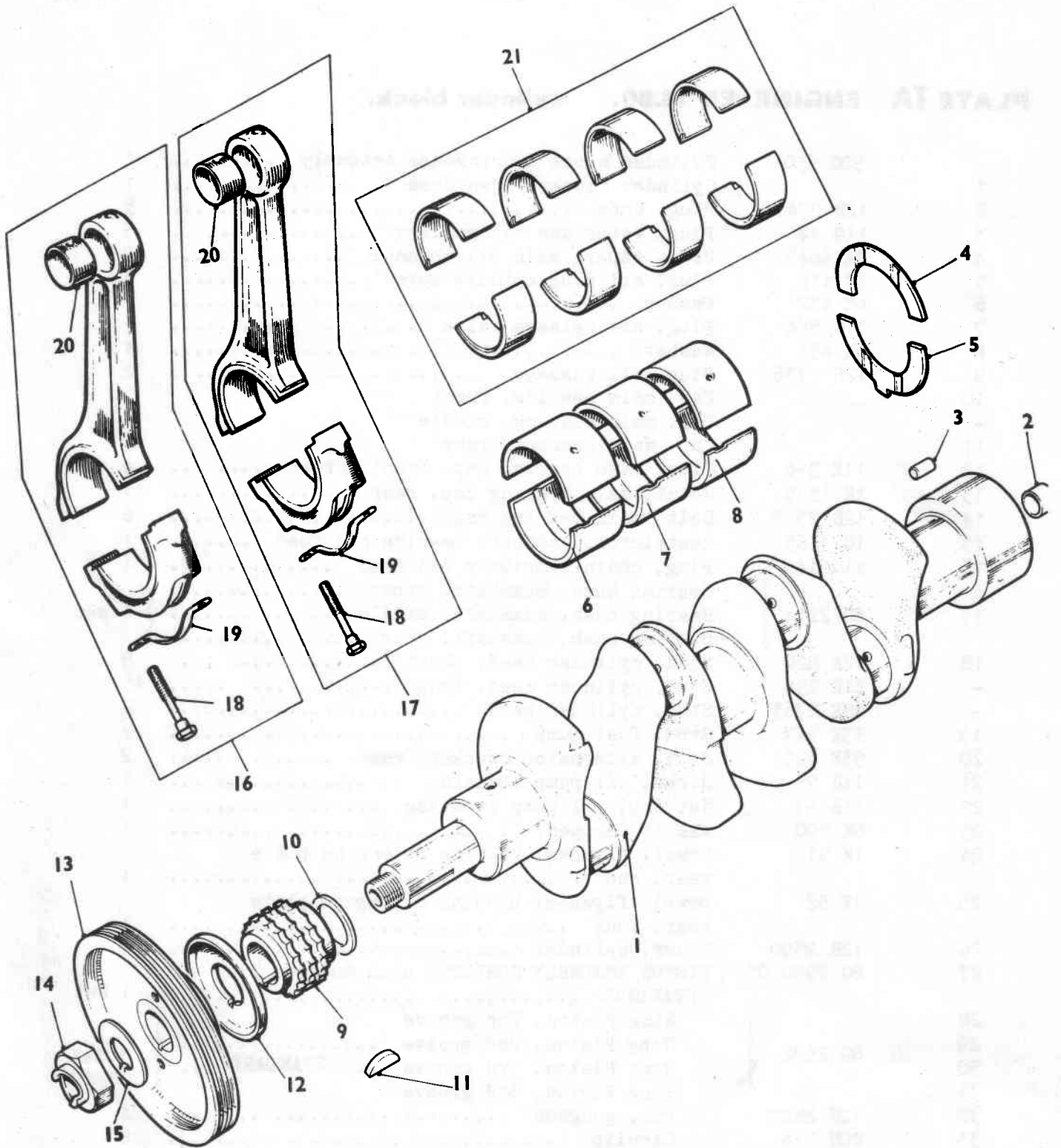
154 Engine Unit

Ref No Part No Description No Off

PLATE TA ENGINE EN-M.80. cylinder block.

	58G 550	Cylinder Block & Crankcase Assembly	1
1		Cylinder Block & Crankcase	1
2	12B 2741	Plug, core	5
3	11G 14	Plug, water and oil gallery	5
4	2K 6649	Plug, taper, main oil channel	2
5	1K 115	Plug, oil plug spindle bore	1
6	6K 432	Washer	1
7	11B 594	Plug, oil release valve	1
8	6K 431	Washer	1
9	12H 1736	Plug, oil passage	2
10		Cap, main bearing, front	
-		Cap, main bearing, middle	
11		Cap, main bearing, rear	
12	11K 396	Plug, main bearing cap, front & rear	4
13	1K 1515	Joint, main bearing cap, rear	1
14	12B 2358	Bolt, main bearing cap	6
15	1G 1165	Restrictor, camshaft bearing oil feed	1
16	11G 14	Plug, chain tensioner oil feed	1
		Bearing bush, camshaft, front	
17	8G 2214	Bearing bush, camshaft, middle	1 set
		Bearing bush, camshaft, rear	
18	12A 820	Stud, cylinder head, short	8
-	51K 259	Stud, cylinder head, long	15
-	CMK 2763	Stud, cylinder head	2
19	53K 547	Stud, fuel pump	2
20	53K 525	Stud, alternator bracket, rear	2
21	11B 96	Screw, oil pump locating	1
22	11B 97	Nut cap, oil pump locating	1
23	6K 500	Washer (copper)	1
24	1K 51	Dowel, flywheel housing or engine plate rear, short	1
25	1K 52	Dowel, flywheel housing or engine plate rear, long	1
26	12B 2590	Liner, cylinder	4
27	8G 2590 03	PISTON ASSEMBLY COMPLETE with Gudgeon pin. STANDARD	1 Set
28		Ring Piston, Top groove	
29	8G 2592	Ring Piston, 2nd groove	
30		Ring Piston, 3rd groove STANDARD ...	1 Set
31		Ring Piston, 4th groove	
32	12B 2529	Pin, gudgeon	4
33	CCN 218	Circlip	8
	8G 2590 23	PISTON ASSEMBLY COMPLETE .020" (508 mm) 0/S ..	1 set
	8G 2590 33	PISTON ASSEMBLY COMPLETE .030" (762 mm) 0/S ..	1 set
	8G 2592 20	RING, PISTON .020" (508 mm) 0/S	1 set
	8G 2592 30	RING, PISTON .030" (762 mm) 0/S	1 set

PLATE TB



154 Engine Unit

Ref No	Part No	Description	No Off
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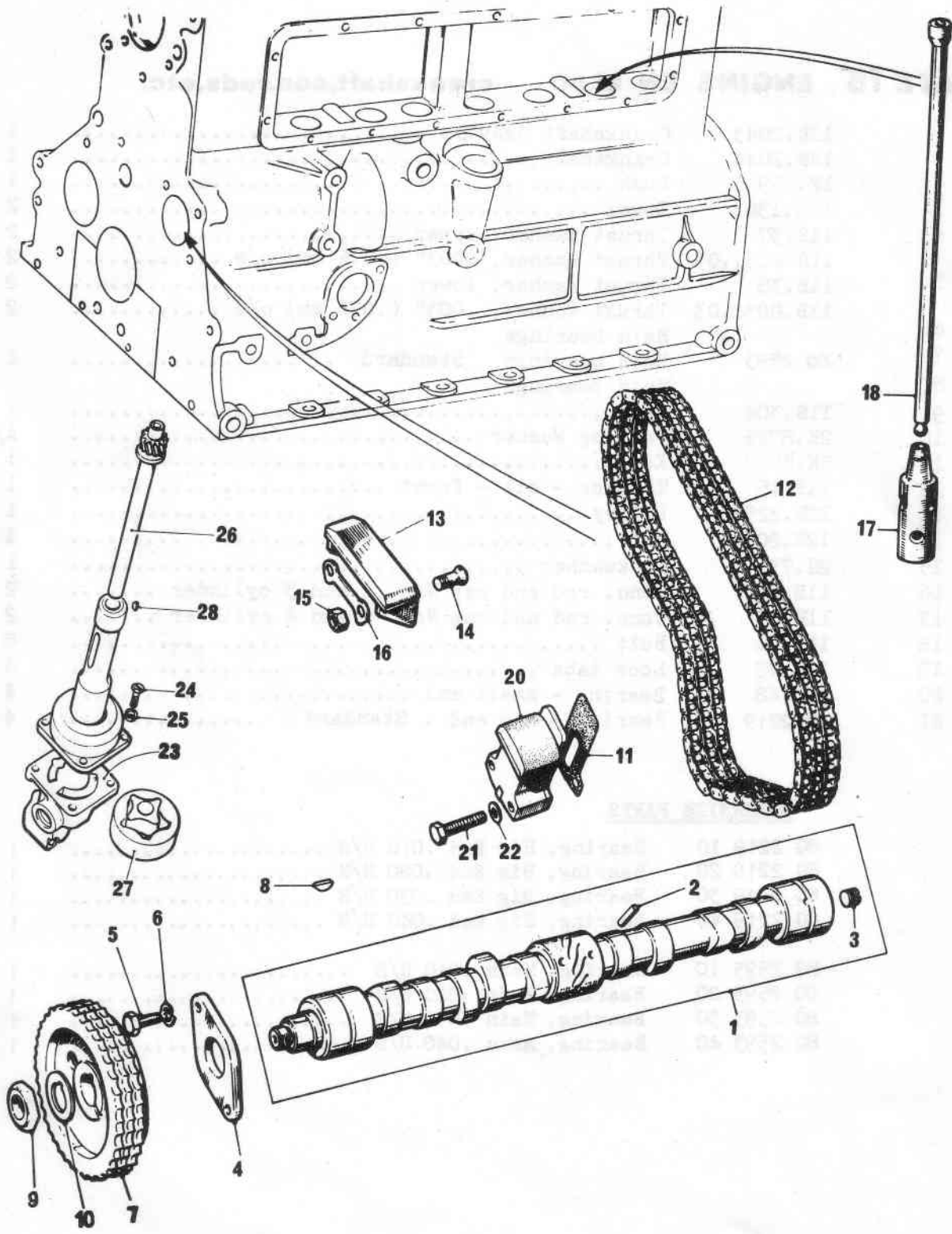
PLATE TB ENGINE EN·M.80 crankshaft,con.rods,etc.

	12B.2043	Crankshaft assy.....	1
1	12B.2044	Crankshaft	1
2	1K.369	Bush	1
3	12H.1301	Dowel	2
4	11B.37	Thrust Washer, upper	2
	11B.0037.03	Thrust Washer, .003" (.076 mm) o/s	2
5	11B.38	Thrust Washer, lower	2
	11B.0038.03	Thrust Washer, .003" (.076 mm) o/s	2
6		Main bearings	
7	8G 2593	Main bearings Standard	1 set
8		Main bearings	
9	11B.304	Gear	1
10	2K.8725	Packing Washer	A/R
11	2K.5578	Key	1
12	11F.15	Thrower - oil - front	1
13	12B.2257	Pulley	1
14	12B.2072	Nut	1
15	2H.731	Lockwasher	1
16	11B.65	Conn. rod and cap Nos. 1 and 3 cylinder	2
17	11B.63	Conn. rod and cap Nos. 2 and 4 cylinder	2
18	11B.71	Bolt	8
19	11B.72	Lock tabs	4
20	11B.68	Bearing - small end	4
21	8G 2219	Bearing - big end . Standard	4 sets

UNDERSIZE PARTS

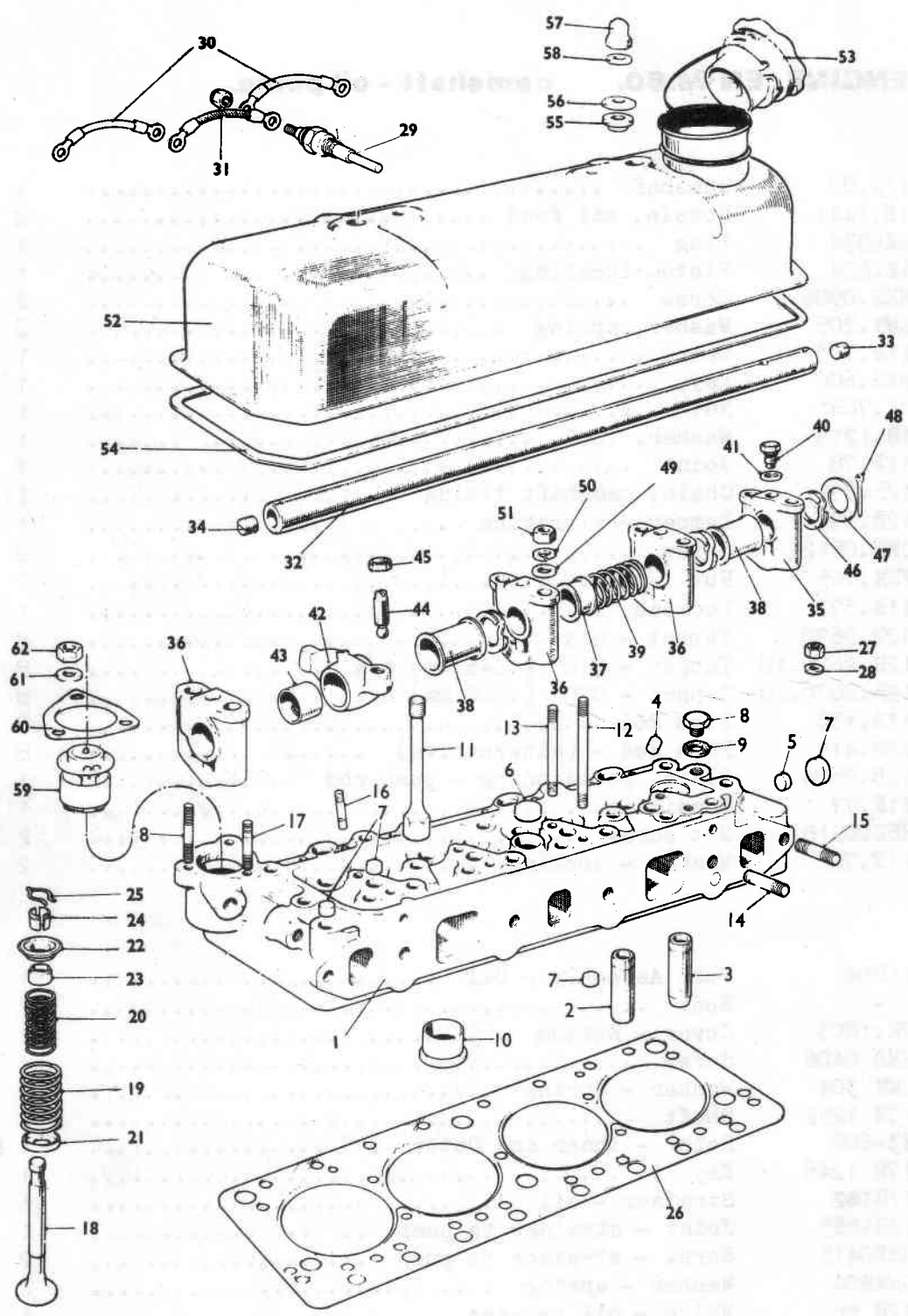
8G 2219 10	Bearing, Big End .010 U/S	1 set
8G 2219 20	Bearing, Big End .020 U/S	1 set
8G 2219 30	Bearing, Big End .030 U/S	1 set
8G 2219 40	Bearing, Big End .040 U/S	1 set
8G 2593 10	Bearing, Main .010 U/S	1 set
8G 2593 20	Bearing, Main .020 U/S	1 set
8G 2593 30	Bearing, Main .030 U/S	1 set
8G 2593 40	Bearing, Main .040 U/S	1 set

PLATE 16



154 Engine Unit

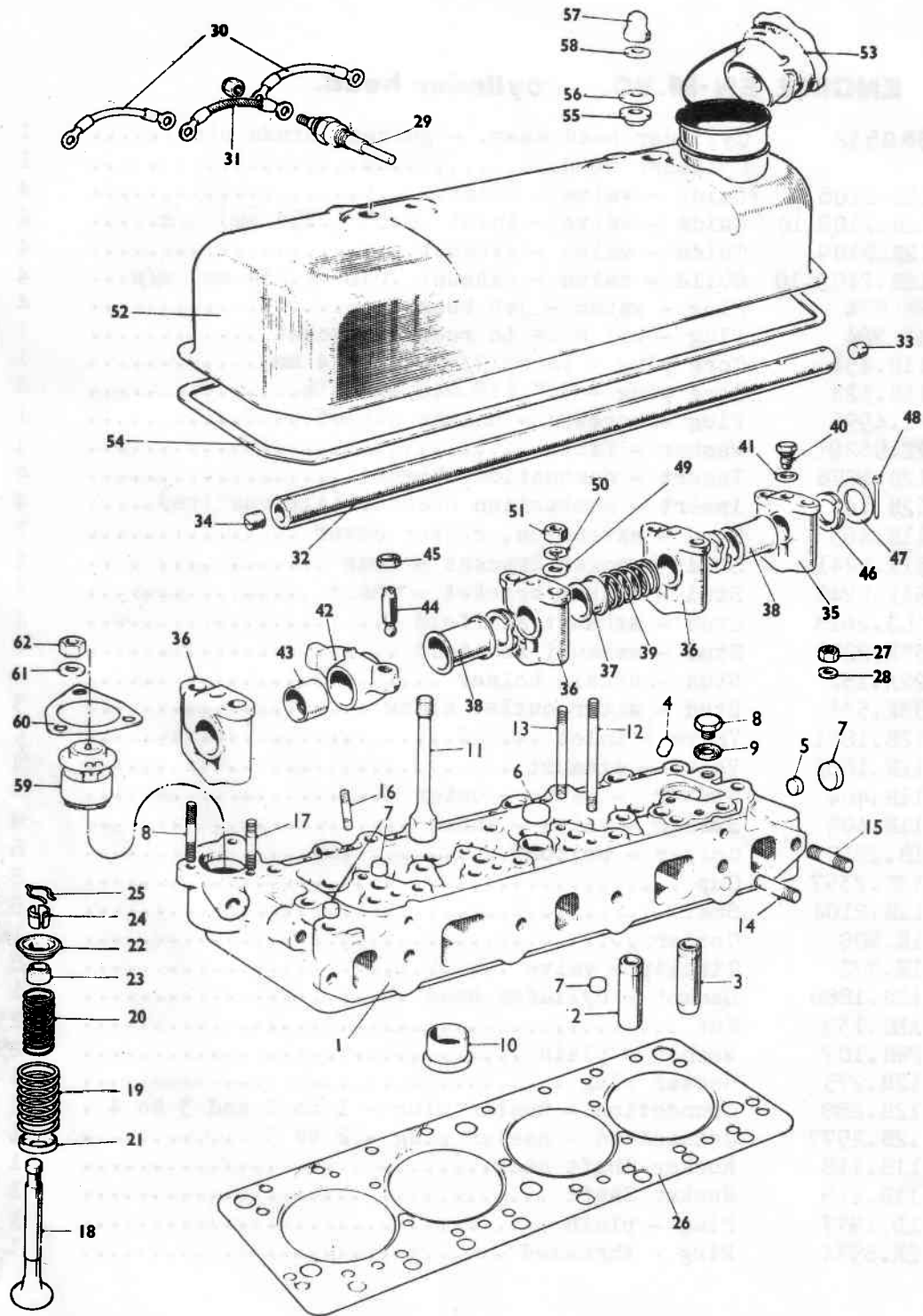
Ref No	Part No	Description	No Off
PLATE TC ENGINE EN-M.80. camshaft - oil pump.			
<u>CAMSHAFT</u>			
1	11B.82	Camshaft	1
2	1K.1441	Nozzle, oil feed	2
3	2K6534	Plug	1
4	1K.624	Plate, locating	1
5	HZS.0506	Screw	2
6	LWN.205	Washer, spring	2
7	11B.303	Gear	1
8	WKN.606	Key	1
9	2K.7681	Nut	1
10	1B.1219	Washer, lock	1
11	11F.78	Joint	1
12	12B.696	Chain, camshaft timing	1
13	12B.693	Damper - vibration	1
14	CMN.0512	Screw	2
15	FNN.105	Nut	2
16	11B.377	Locktab	1
17	12B.2670	Tappet - std	8
	12B.2670.10	Tappet - 010" (.245 mm) o/s	8
	12B.2670.20	Tappet - 020" (.508 mm) o/s	8
18	11B.133	Push Rod	8
	AEB.414	Push Rod - (alternative)	8
19	12B.2684	Plate, positioning - push rod	1
20	11F.77	Tensioner	1
21	HBZ.0518	Set screw	2
22	11F.79	Washer - locking	2
<u>OIL PUMP</u>			
	11B94	Pump Assembly - Oil	1
	-	Body	1
23	7H.1803	Cover - Bottom	1
24	HNS 0406	Screw	4
25	LWN 304	Washer - Spring	4
26	17H 1252	Shaft	1
27	B3-602	Rotor - Inner and Outer	1 Pr.
28	17H 1246	Key	1
	11G142	Strainer - oil	1
	12H1863	Joint - strainer to pump	1
	HBNO415	Screw - strainer to pump	2
	LWN304	Washer - spring	2
	12H 865	Valve - oil release	1
	2K 7695	Spring - valve	1



154 Engine Unit

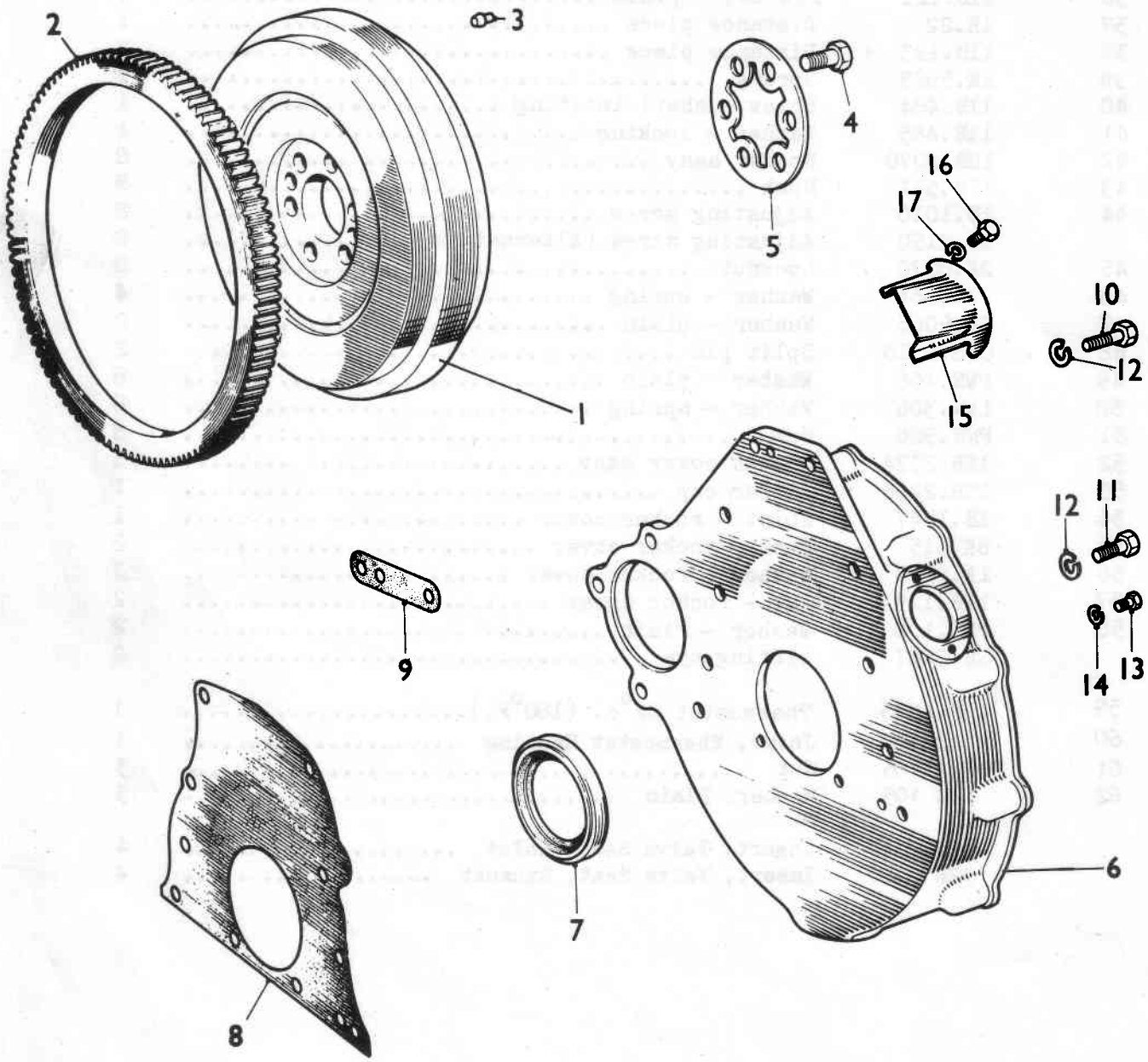
Ref No	Part No	Description	No Off
PLATE TD ENGINE EN-M.80. cylinder head.			
	58G552	Cylinder head assy. - guides, studs etc	1
1		Cylinder head.....	1
2	12B.2108	Guide - valve - inlet.....	4
	12B.2108.10	Guide - valve - inlet .010" (.254 mm) o/s.....	4
3	12B.2109	Guide - valve - exhaust.....	4
	12B.2109.10	Guide - valve - exhaust .010" (.254 mm) o/s...	4
4	6K 874	Plug - water - jet boss.....	4
5	6K 784	Plug - oil hole to rocker bracket	1
6	11B.434	Core plug - taper 7/8" (22.224 mm).....	1
7	11B.323	Core plug - 3/4" (19.048 mm) dia.....	8
8	2K.4996	Plug - screwed - heater outlet.....	1
9	2K.5629	Washer - fibre	1
10	12B.1878	Insert - combustion chamber	4
	62B.14	Insert - combustion chamber (Alternative).....	4
11	11B.483	Stud - extension, rocker cover	2
12	51K.2241	Stud - rocker bracket - long	4
13	51K.2240	Stud - rocker bracket - short	4
14	CLS.2613	Stud - exhaust manifold	2
15	53K.2215	Stud - exhaust manifold	4
16	22A.152	Stud - nozzle holder	8
17	53K.531	Stud - water outlet elbow	3
18	12B.1881	Valve - inlet	4
	12B.1882	Valve - exhaust	4
19	11B.404	Spring - valve - Outer	8
20	11B.405	Spring - valve - inner	8
21	1B.2812	Collar - bottom	8
22	12B.2357	Cup	8
23	12B.2104	Seal	8
24	1K.800	Cotter	16
25	1K.372	Circlip - valve	8
26	12B.1880	Gasket - cylinder head	1
27	AEC.139	Nut	23
28	PWN.107	Washer - plain	25
29	12H.275	Heater plug	4
30	12H.288	Connection - heater plug - 1 to 2 and 3 to 4 .	2
31	12B.2577	Connection - heater plug - 2 to 3	1
	11B.118	Rocker Shaft assy.....	1
32	11B.119	Rocker Shaft	1
33	1D.1977	Plug - plain	1
34	2K.6534	Plug - threaded	1

PLATE 10



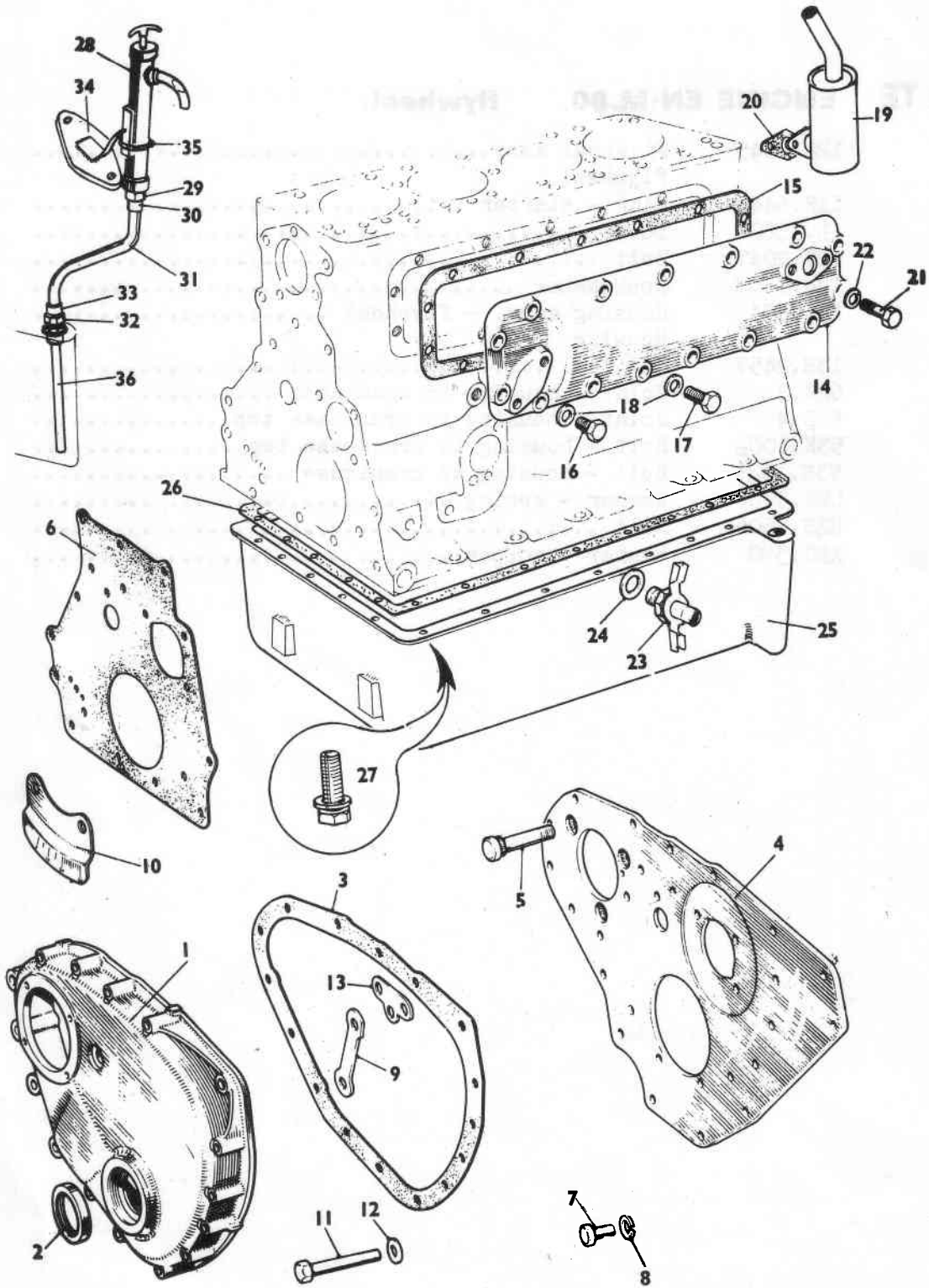
154 Engine Unit

Ref No	Part No	Description	No Off
<u>CYLINDER HEAD (Cont'd)</u>			
35	11B.298	Bracket - tapped	1
36	11B.121	Bracket - plain	3
37	1K.22	Distance piece	1
38	11B.123	Distance piece	2
39	2K.5923	Spring	1
40	11B.484	Screw - shaft locating	1
41	11B.485	Washer - locking	1
42	12B.2070	Rocker assy	8
43	11B.511	Bush	8
44	1B.1010	Adjusting screw	8
	1B.2150	Adjusting screw (Alternative)	8
45	2K.8070	Locknut	8
46	2K.2561	Washer - spring	4
47	2K.5066	Washer - plain	2
48	CPS.0310	Split pin	2
49	PWN.106	Washer - plain	8
50	LWN.306	Washer - spring	8
51	FNN.506	Nut	8
52	12B.2324	Rocker cover assy	1
53	13H.2296	Filler cap	1
54	1B.1247	Joint - rocker cover	1
55	6K.515	Bush - rocker cover	2
56	1A.2156	Washer - rocker cover	2
57	11B.129	Nut - rocker cover	2
58	PWZ.106	Washer - Plain	2
	1B.2287	Lifting eye	2
59	13H.6285	Thermostat 82°c. (180°F.)	1
60	11B 288	Joint, Thermostat Housing	1
61	FNZ 105	Nut	3
62	PWZ 105	Washer, Plain	3
	12B 2723	Insert, Valve Seat, Inlet	4
	12B 2724	Insert, Valve Seat, Exhaust	4



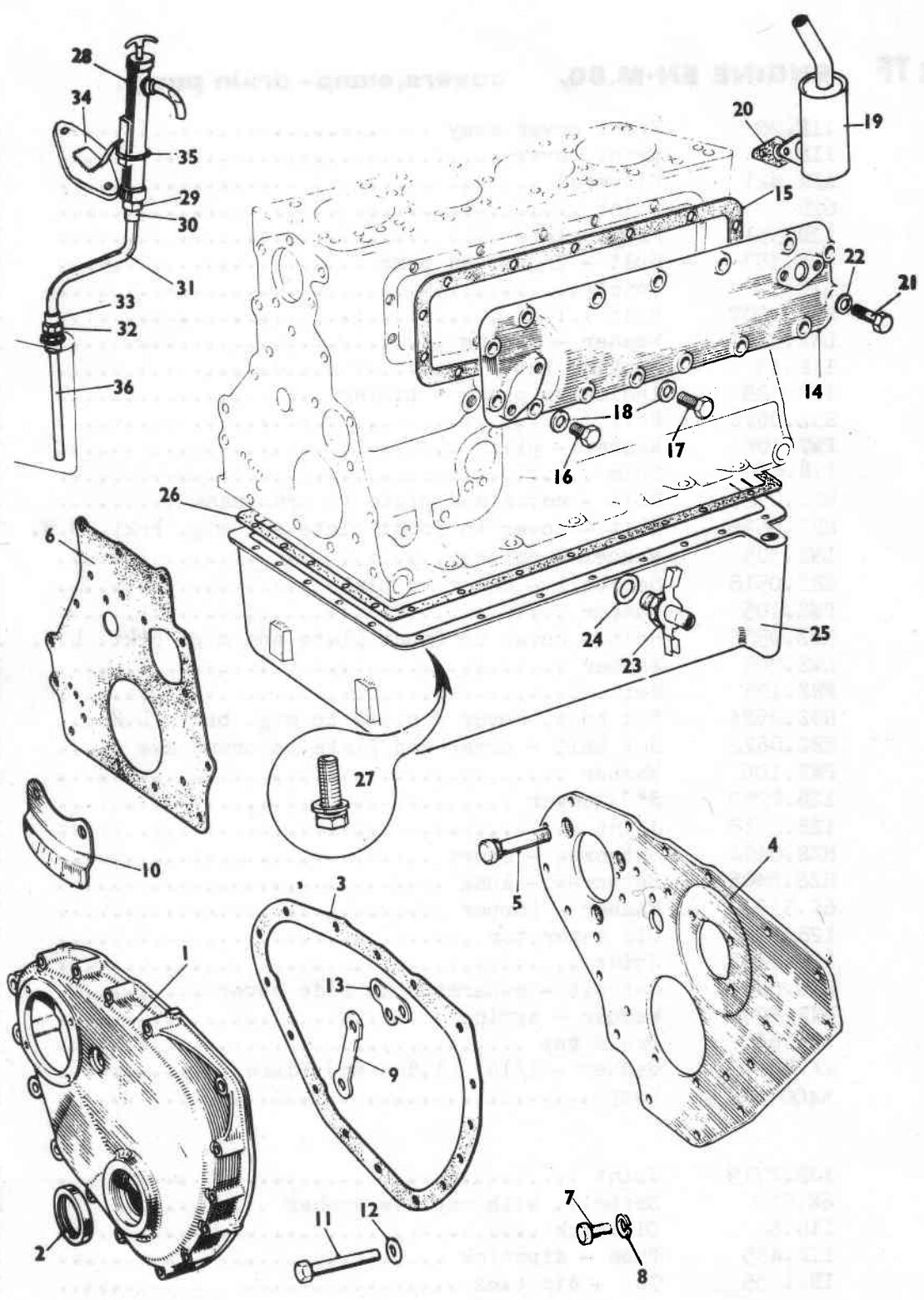
154 Engine Unit

Ref No	Part No	Description	No Off
PLATE TE ENGINE EN-M.80. flywheel.			
	12B.2045	Flywheel assy.....	1
1		Flywheel	
2	11B.644	Ring - starter	1
3	1D.1960	Dowel	2
4	12B.2047	Bolt	6
5	12H.1303	Lockwasher	1
	22B.584	Housing assy. - flywheel	1
6		Housing	
7	13H.2457	Oil Seal	1
8	62B.3	Joint - housing to crankcase	1
9	62B.4	Joint - housing to crankcase top	1
10	53K.100 ₈	Bolt - housing to crankcase top	2
11	53K.1025	Bolt - housing to crankcase	8
12	LWN.306	Washer - spring	10
13	HZS.0506	Bolt	2
14	AEC.398	Washer - copper	2



154 Engine Unit

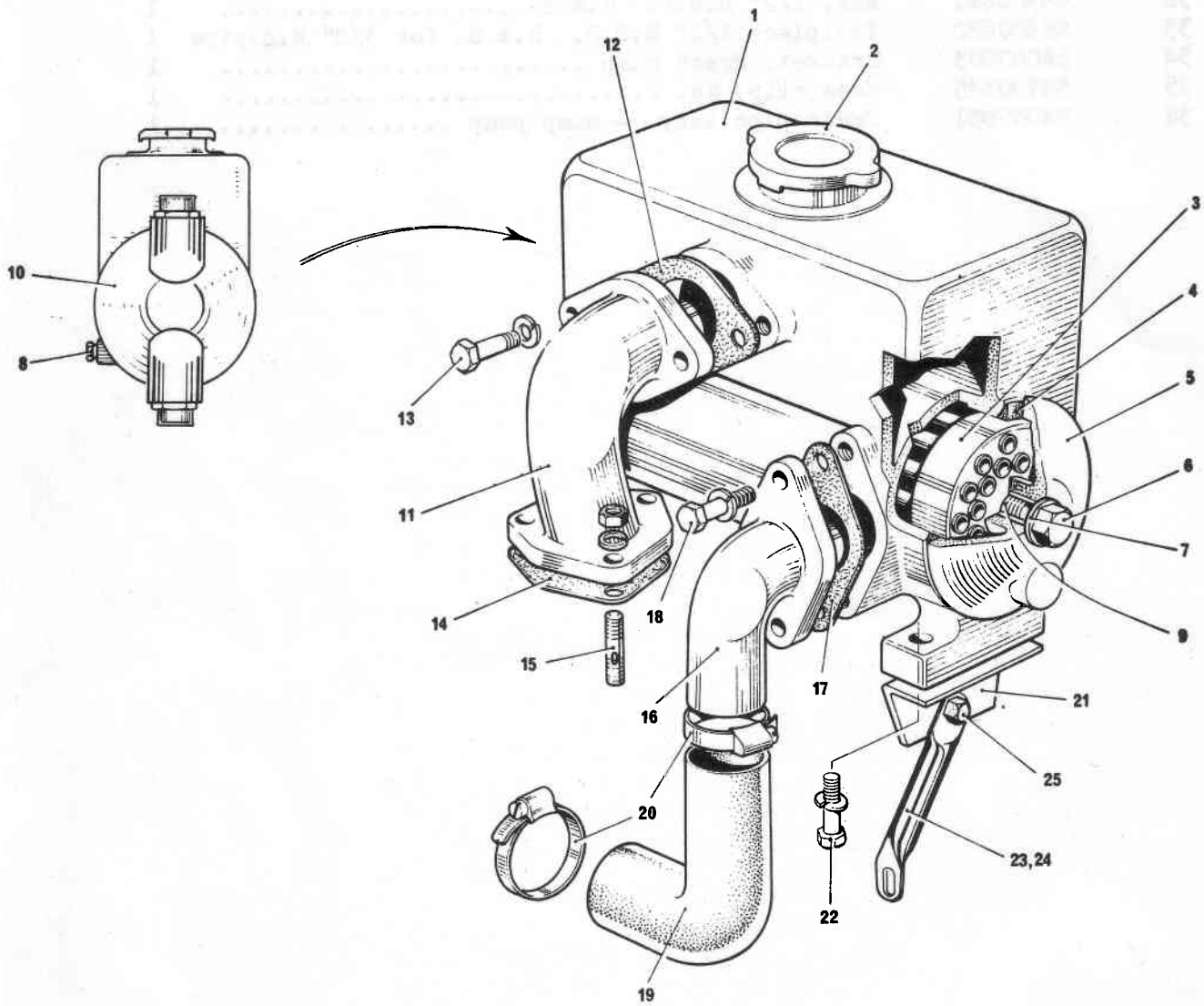
Ref No	Part No	Description	No Off
PLATE TF ENGINE EN-M.80. covers, sump - drain pump.			
	11F.28	Front cover assy	1
1	11F.29	Front cover	1
2	AEC.621	Oil seal	1
3	62B.2	Joint	1
4	12B.351	Front plate	1
5	12B.353	Bolt - injection pump	3
6	62B.7	Joint	1
7	HZS.0607	Bolt	4
8	LWZ.206	Washer - spring	2
9	11B.13	Locking tab	1
10	12B.788	Indicator plate - timing	1
11	HBZ.0620	Bolt	1
12	PWZ.106	Washer - plain	1
13	11B.430	Shim	1
	HBZ.0520	Bolt - cover and plate to crankcase	2
	HBZ.0528	Bolt - cover to front plate and mtg. brkt. R.H.	3
	LWZ.305	Washer - spring	3
	HBZ.0518	Set bolt - cover to plate	1
	PWZ.105	Washer	1
	HBZ.0526	Bolt - cover to front plate and mtg. brkt. L.H.	2
	LWZ.205	Washer	2
	FNZ.105	Nut	2
	HBZ.0524	Set bolt, cover & plate to mtg. brkt. L.H....	1
	HBZ.0622	Set bolt - cover and plate to crankcase	1
	PWZ.106	Washer	1
14	12B.2252	Side cover	1
15	12B.2718	Joint	1
16	HZS.0404	Setscrew - short	1
17	HZS.0406	Setscrew - long	13
18	6K.516	Washer - copper	14
19	12B.2251	Oil separator	1
20	12B.2266	Joint	1
21	HZS.0406	Setbolt - separator to side cover	2
22	LNZ.304	Washer - spring	2
23	2H.764	Drain tap	1
24	2K.4954	Washer - 1/16" (1.588 mm) fibre	1
25	54007672	Sump	1
26	12B.2719	Joint	1
27	6K.639	Setbolt, with captive washer	22
	11G.64	Dipstick	1
	11B.455	Tube - dipstick	1
	1B.1735	Cap - dipstick	1



154 Engine Unit

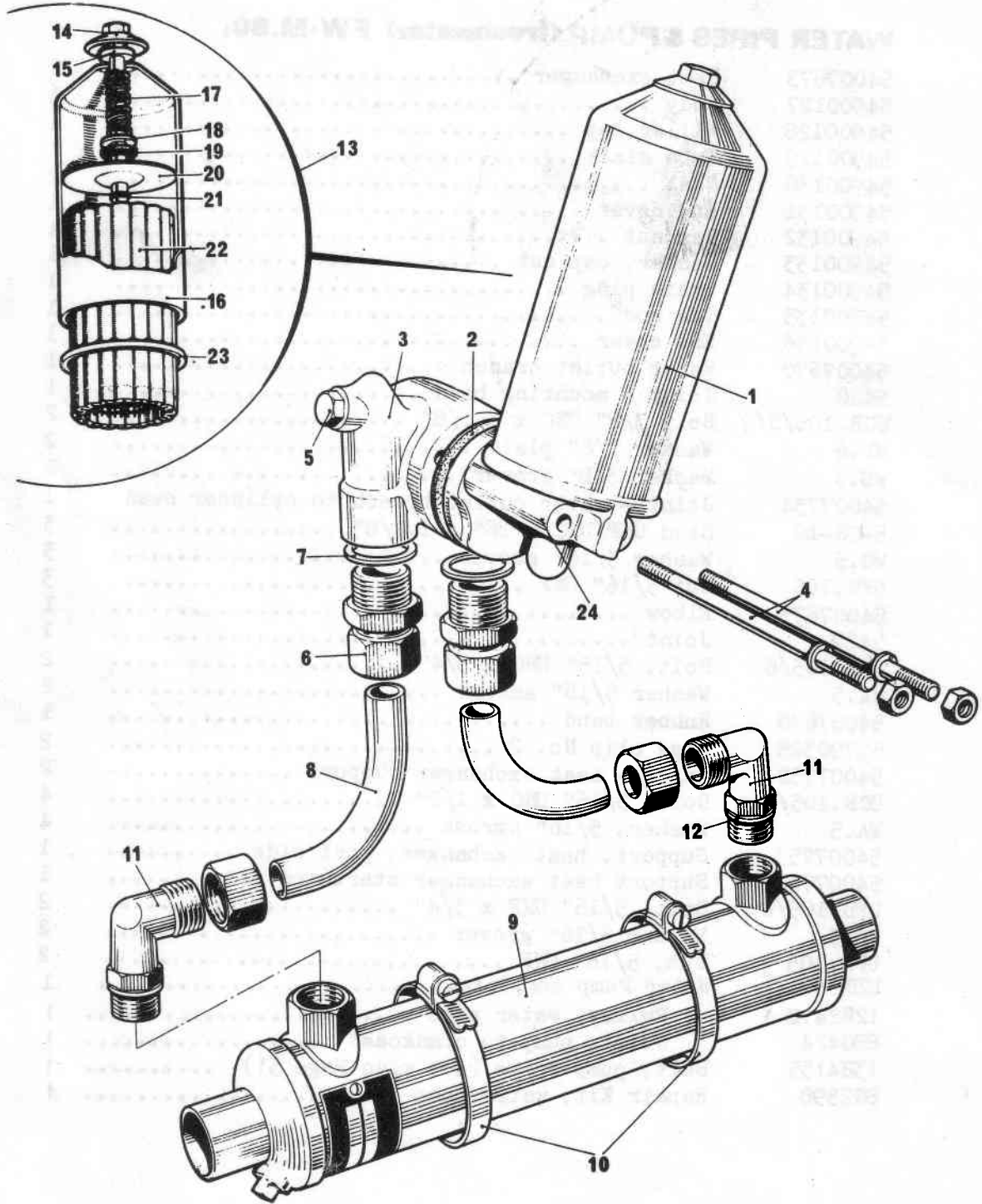
Ref No	Part No	Description	No Off
ENGINE EN-M.80. sump drain pump.			
28	54007802	Drain pump	1
29	55300683	Nut 3/8" B.S.P. B & S.....	1
30	55300682	Tailpiece 3/8" B.S.P. B & S.....	1
31		Pipe 3/8" o.d. x 18 S.W.G. copper 1 ft. long	1
32	55300681	Nut, 1/2" B.S.P. B.& S.....	1
33	55300680	Tailpiece 1/2" B.S.P. B.& S. for 3/8" o.d.pipe	1
34	54007803	Bracket, drain pump	1
35	55790325	Hose clip, No. 2.....	1
36	54007851	Drain pipe assy. - sump pump	1





154 Engine Unit

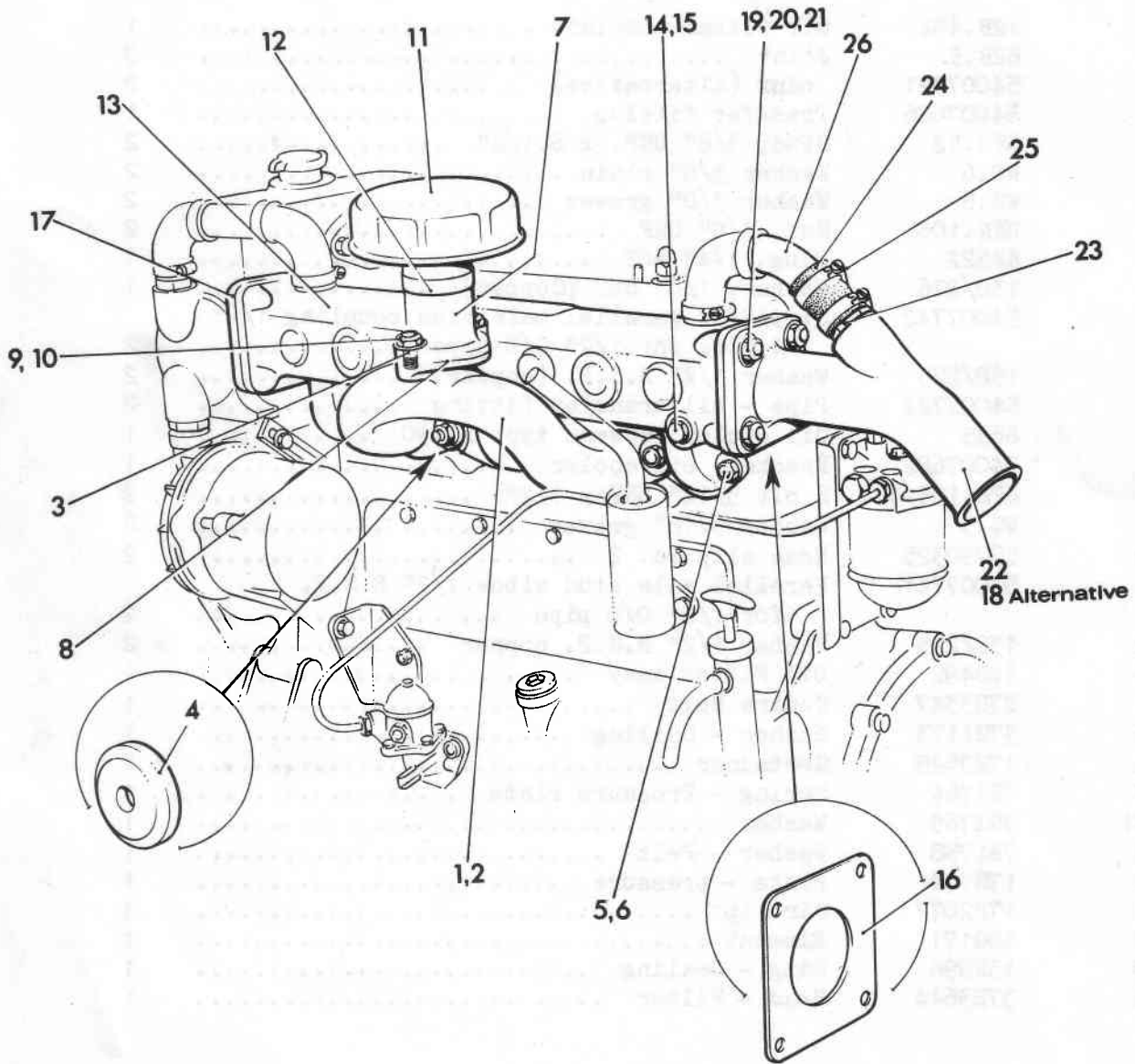
Ref No	Part No	Description	No Off
WATER PIPES & PUMP (freshwater) FW-M.80.			
	54007673	Heat exchanger	1
1	54900127	Body	1
2	54900128	Filler cap	1
3	54900129	Tube stack	1
4	54900130	Seal	2
5	54900131	End cover	1
6	54900132	Cap nut	1
7	54900133	Washer, cap nut	1
8	54900134	Drain plug	1
9	54900135	Tie rod	1
10	54900136	End cover	1
11	54007670	Water outlet branch	1
12	5428	Joint - mounting bend	1
13	UCB.106/S/9	Bolt 3/8" UNC x 1.1/8"	2
	WP.6	Washer 3/8" plain	2
	WG.6	Washer 3/8" grover	2
14	54007734	Joint - water outlet branch to cylinder head	1
15	5-CS-10	Stud UNF/UNC 5/16" x 1.1/8"	3
	WG.5	Washer 3/16" grover	3
	UFN.105	Nut 5/16" UNF	3
16	54007675	Elbow	1
17	5429	Joint	1
18	UCB.105/6	Bolt, 5/16" UNC x 3/4"	2
	WA.5	Washer 5/16" amross	2
19	54007678	Rubber bend	1
20	55790325	Hose clip No. 2	2
21	54007752	Angle - heat exchanger support	2
22	UCB.105/4	Bolt, 5/16" UNC x 1/2"	4
	WA.5	Washer, 5/16" amross	4
23	54007753	Support, heat exchanger, port side	1
24	54007754	Support heat exchanger starboard side	1
25	UFB/105/6	Bolt, 5/16" UNF x 3/4"	2
	WG.5	Washer 5/16" grover	2
	UFN.105	Nut, 5/16" UNF	2
	12B2747	Water Pump complete.....	1
	12B2412	Pulley, water pump	1
	88G424	Joint, pump to crankcase	1
	13H4155	Belt, pump drive (see also Page 51)	1
	8G2598	Repair Kit, water pump	1



154 Engine Unit

Ref No	Part No	Description	No Off
PLATE TH OIL COOLER, FILTER & PIPES. OC-M.80. LF-M.80.			
1	12B.492	Oil filter complete	1
2	62B.5	Joint	2
	54007721	Joint (Alternative)	2
3	54007686	Transfer fitting	1
4	6FS.52	Stud, 3/8" UNF. x 6.1/2"	2
	WP.6	Washer 3/8" plain	2
	WG.6	Washer 3/8" grover	2
	UNF.106	Nut, 3/8" UNF	2
5	64522	Plug, 1/4" BSP	1
	138/226	Washer, 1/4" BSP (Copper)	1
6	54007742	Simplifix parallel male stud coupling 1/2" B.S.P. for 1/2" O/D pipe	2
7	138/225	Washer 1/2" B.S.P. (copper)	2
8	54007722	Pipe - oil transfer fitting	2
9	6635	Oil cooler, Bowman type DC.90	1
	54007682	Bracket, oil cooler	1
	UFB.105/4	Bolt 5/16" UNF x 1/2"	2
	WG.5	Washer 5/16" grover	2
10	55790325	Hose clip No. 2	2
11	54007741	Parallel male stud elbow 1/2" B.S.P. for 1/2" O/D pipe	2
12	138/225	Washer 1/2" B.S.P. copper	2
13	12B492	Oil Filter Assy	1
14	27H3347	Centre Bolt	1
15	37H1173	Washer - Sealing	1
16	17H3529	Container	1
17	7H1764	Spring - Pressure Plate	1
181	7H1765	Washer	1
19	7H1758	Washer - Felt	1
20	17H942	Plate - pressure	1
21	17H2877	Circlip	1
22	48G171	Element	1
23	13H998	Ring - Sealing	1
24	37H3644	Head - Filter	1

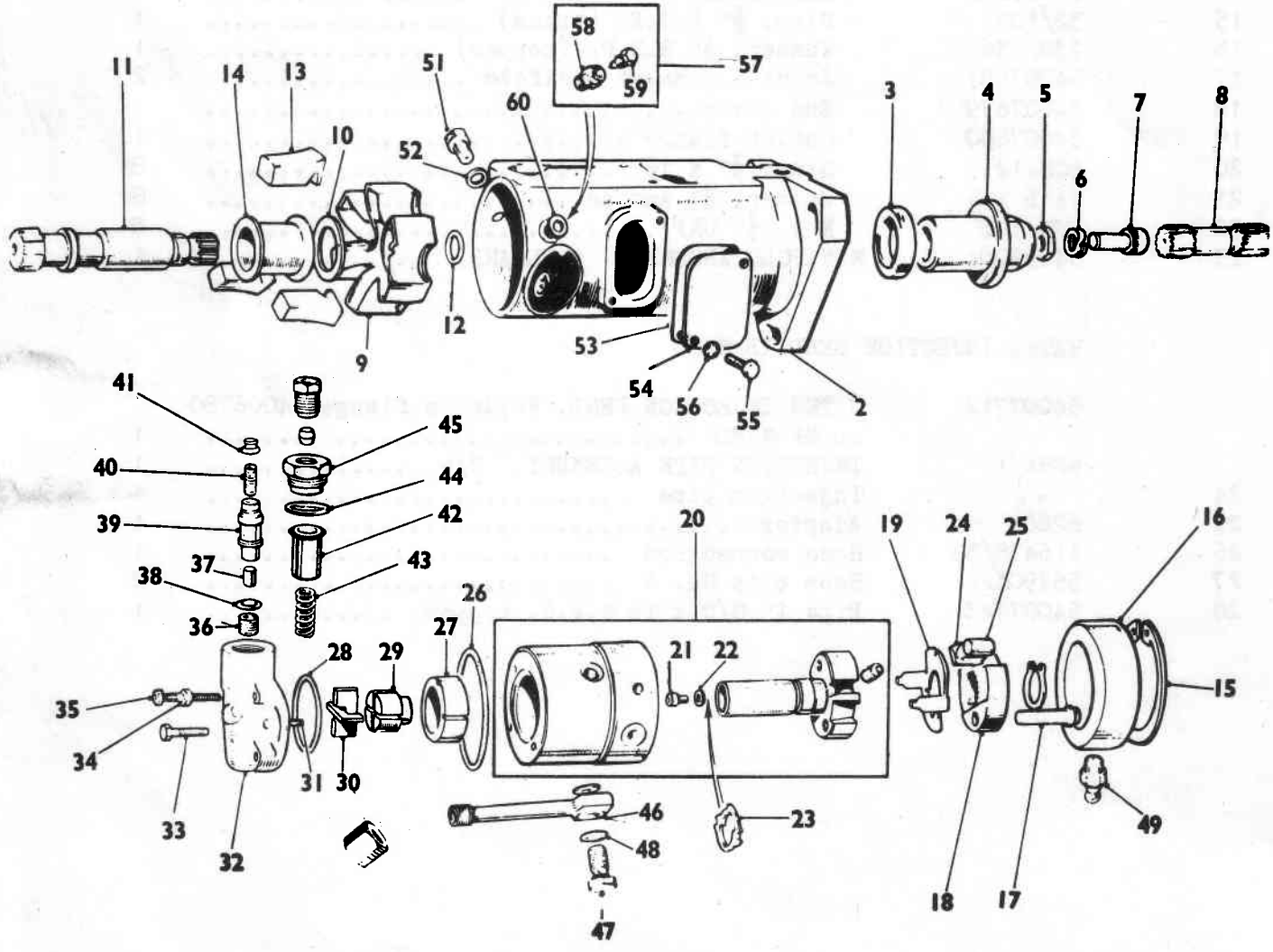
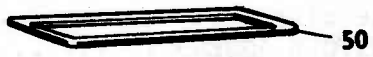
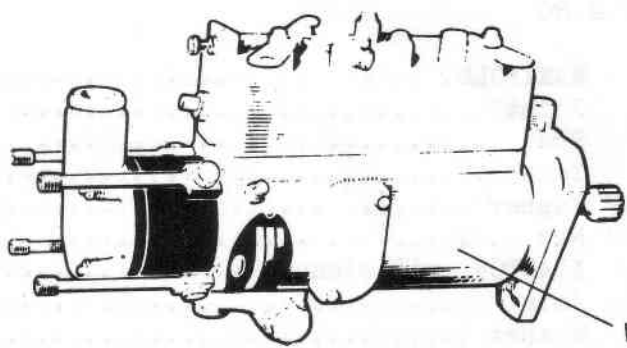
PLATE II



154 Engine Unit

Ref No	Part No	Description	No Off
MANIFOLDS MP-M.80			
1	11B.136	MANIFOLD, inlet	1
2	11B.127	Joint	1
3	53K.603	Stud	2
4	1B.1369	Yoke	4
5	PWZ.106	Washer	2
6	BNN.106	Nut	6
7	AMK.1922	ADAPTOR, air cleaner	1
8	11B.141	Joint	1
9	LWZ.306	Washer	2
10	FNZ.106	Nut	2
11	54007674	AIR CLEANER	1
12	55790326	Hose clip	1
13	54999003	MANIFOLD ASSEMBLY	1
14	54007640	Exhaust Manifold (water cooled)	1
15	32/103	Plug, $\frac{1}{8}$ " B.S.P. (brass)	1
16	138/236	Washer, $\frac{1}{8}$ " B.S.P. (copper)	1
17	54007681	Joint - exhaust manifold	2
18	54007679	End cover	1
19	54007680	Outlet flange	1
20	6CS.12	Stud, $\frac{3}{8}$ " x $1\frac{1}{2}$ "	8
21	WA 6	Washer, $\frac{3}{8}$ " Amross	8
22	UFN 106	Nut, $\frac{3}{8}$ " UNF	8
23	54999004	MANIFOLD ASSEMBLY (HOLLAND)	1
WATER INJECTION BEND IB-M.80			
	54007712	WATER INJECTION BEND. Replaces flange 54006780 on MP-M.80	1
	6281/1	INJECTION PIPE ASSEMBLY. C/w	1
24	-	Injection pipe	1
25	6280	Adaptor	1
26	116478/35	Hose connection	1
27	55790324	Hose clip No. 1	2
28	54007748	Pipe 1" O/D x 16 S.W.G. copper	1

PLATE TJ



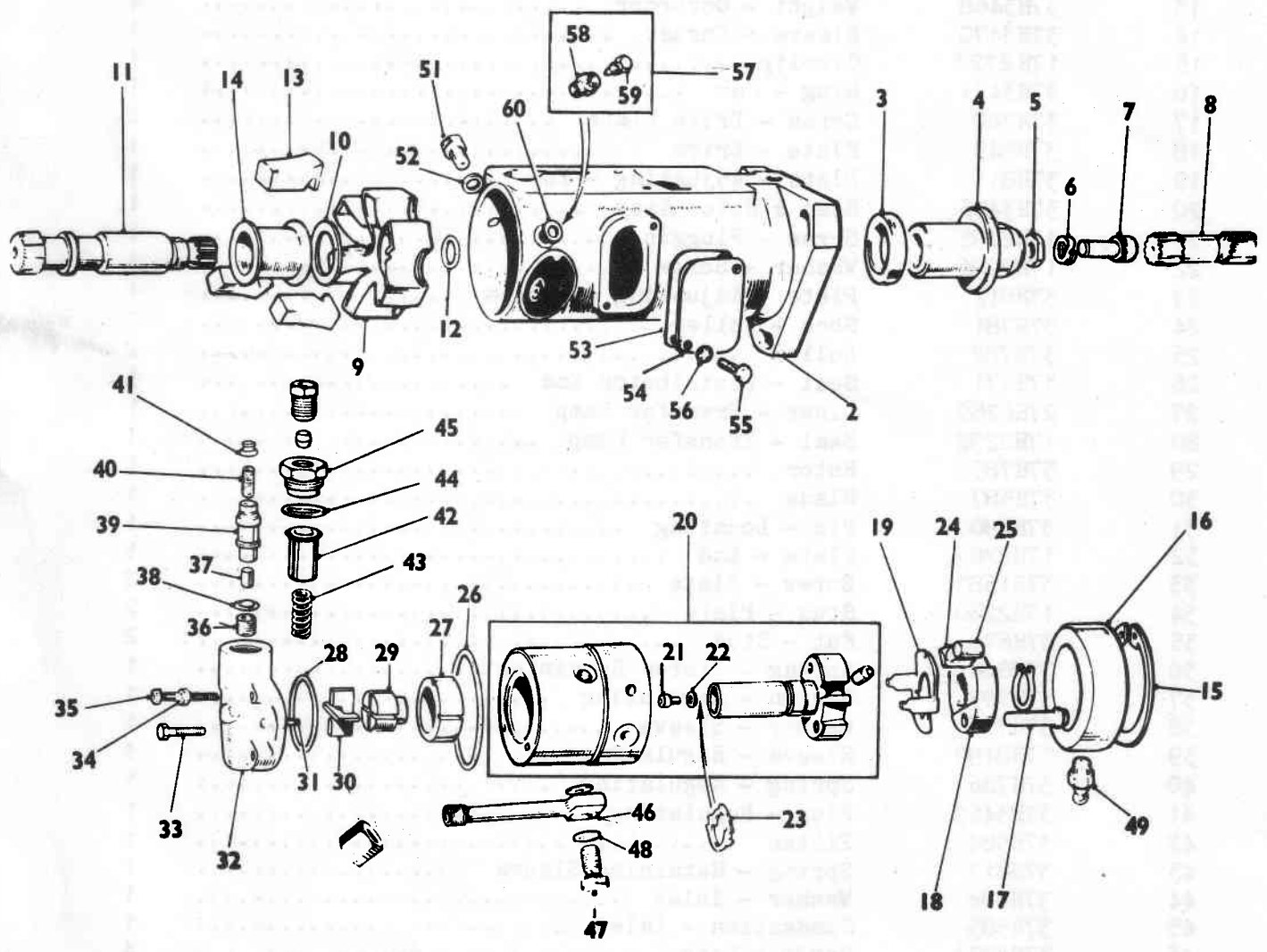
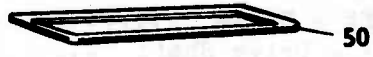
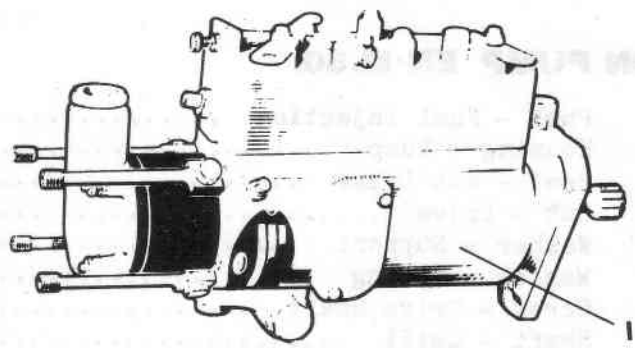
154 Engine Unit

Ref No	Part No	Description	No Off
PLATE TJ INJECTION PUMP EN-M.80.			
1	12B2291	Pump - Fuel Injection	1
2	27H6999	Housing - Pump	1
3	17H2910	Seal - Hub Drive	1
4	17H2909	Hub - Drive	1
5	17H2908	Washer - Support	1
6	17H2907	Washer - Spring	1
7	17H2966	Screw - Drive Shaft	1
8	17H8858	Shaft - Quill	1
9	17H2901	Retainer - Weights	1
10	17H2903	Washer - Thrust	1
11	17H2904	Shaft - Drive	1
12	17H2905	Seal - Drive Shaft	1
13	37H3468	Weight - Governor	4
14	37H3470	Sleeve - Thrust	1
15	17H2727	Circlip	1
16	37H3471	Ring - Cam	1
17	37H760	Screw - Drive Plate	2
18	37H849	Plate - Drive	1
19	37H811	Plate - Adjusting - Top	1
20	37H3476	Head & Rotor Assy	1
21	17H2295	Screw - Plugging	1
22	17H2296	Washer - Screw	1
23	37H812	Plate - Adjusting - Bottom	1
24	37H781	Shoe - Roller	2
25	37H782	Roller	2
26	37H771	Seal - Distributor End	1
27	27H6289	Liner - Transfer Pump	1
28	17H2292	Seal - Transfer Pump	1
29	37H785	Rotor	1
30	37H587	Blade	1
31	37H780	Pin - Locating	1
32	17H2289	Plate - End	1
33	37H1583	Screw - Plate	2
34	17H2290	Stud - Plate	2
35	37H676	Nut - Stud	2
36	37H804	Spring - Piston Retaining	1
37	37H783	Piston - Regulating	1
38	37H776	Washer - Sleeve	1
39	17H8192	Sleeve - Regulating	1
40	37H786	Spring - Regulating	1
41	37H3469	Plug - Regulating	1
42	37H584	Filter	1
43	37H813	Spring - Retaining Sleeve	1
44	37H586	Washer - Inlet	1
45	37H585	Connection - Inlet	1
46	37H4274	Banjo - Long	4
47	37H590	Stud - Fuel Connection	4
48	37H592	Washer - Stud	8

Contd.

194 Engine Unit

PLATE TJ



154 Engine Unit

Ref No	Part No	Description	No Off
<u>FUEL INJECTION PUMP</u>			
49	17H2954	Screw - Cam Advance	1
50	17H 2913	Gasket - Housing	1
51	37H762	Screw - Head Locking	1
52	37H594	Washer - Screw	1
53	37H599	Gasket - Cover Plate	1
54	17H2914	Plate - Cover	1
55	37H600	Screw	2
56	LWN403	Washer - Screw	2
57	17H2471	Screw Assembly - Vent	1
58	17H3636	Screw - Head Vented	1
59	37H2972	Screw - Vent	1
60	37H594	Washer - Vent Body	1

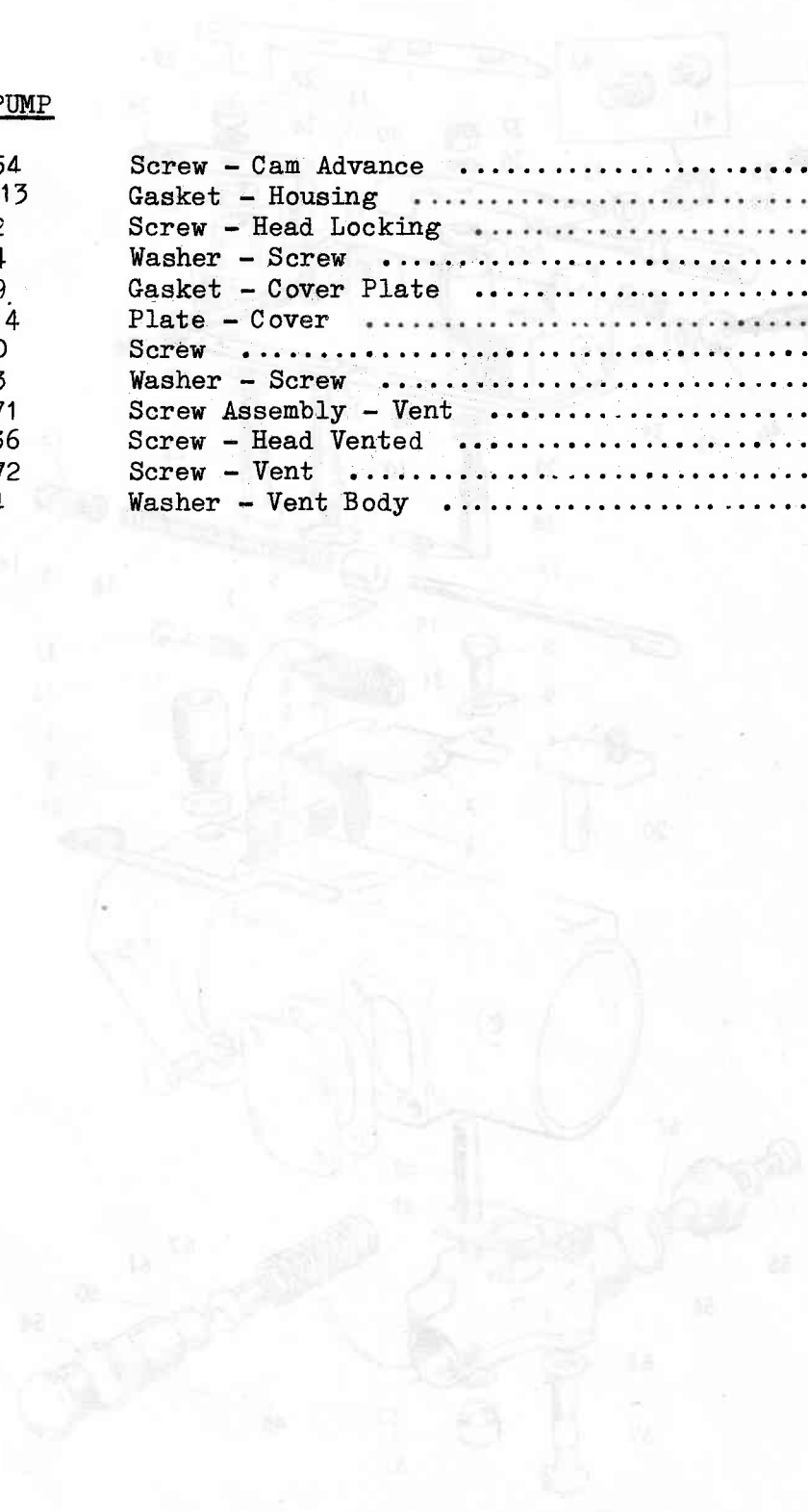
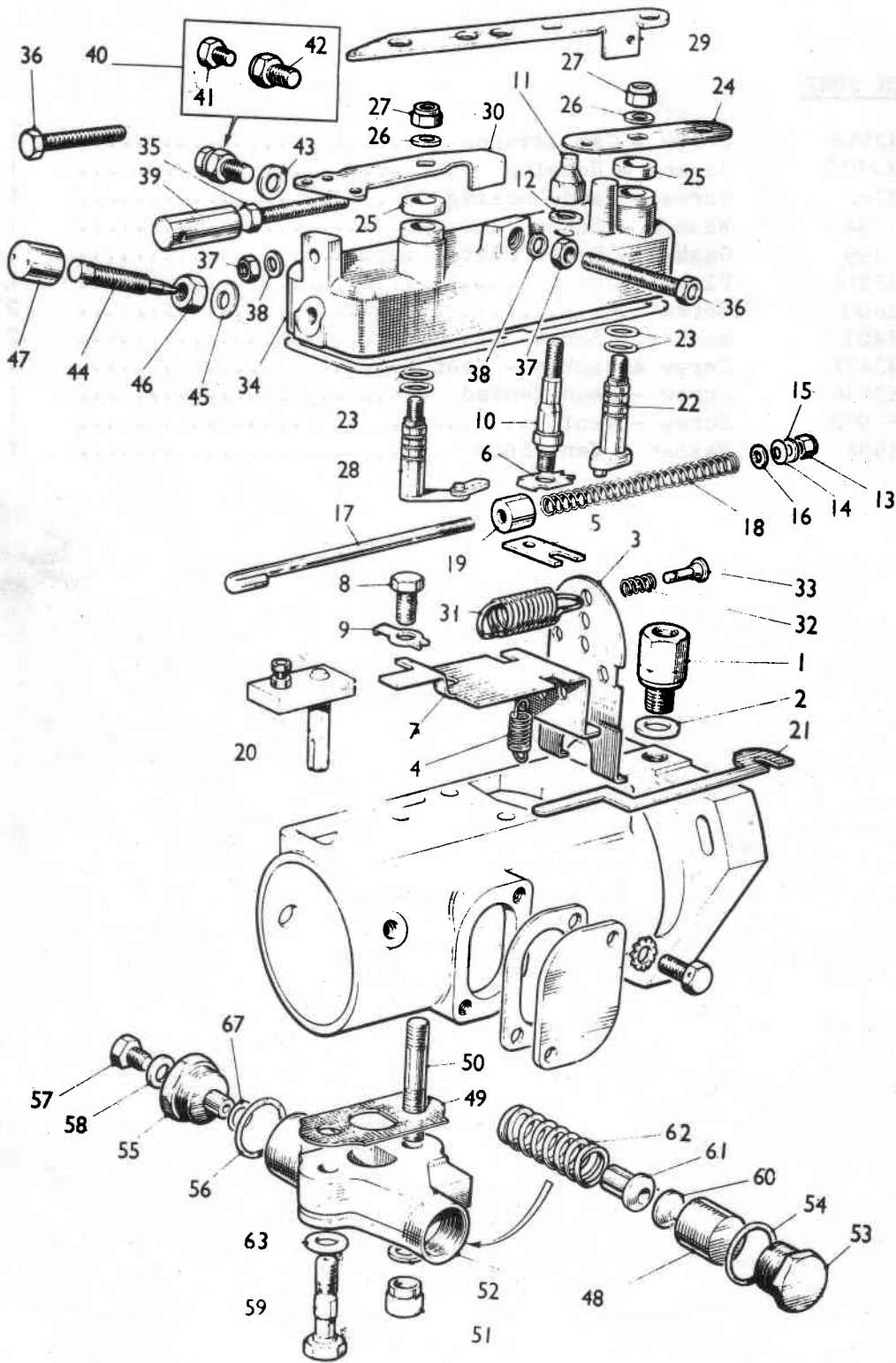


PLATE T (a)

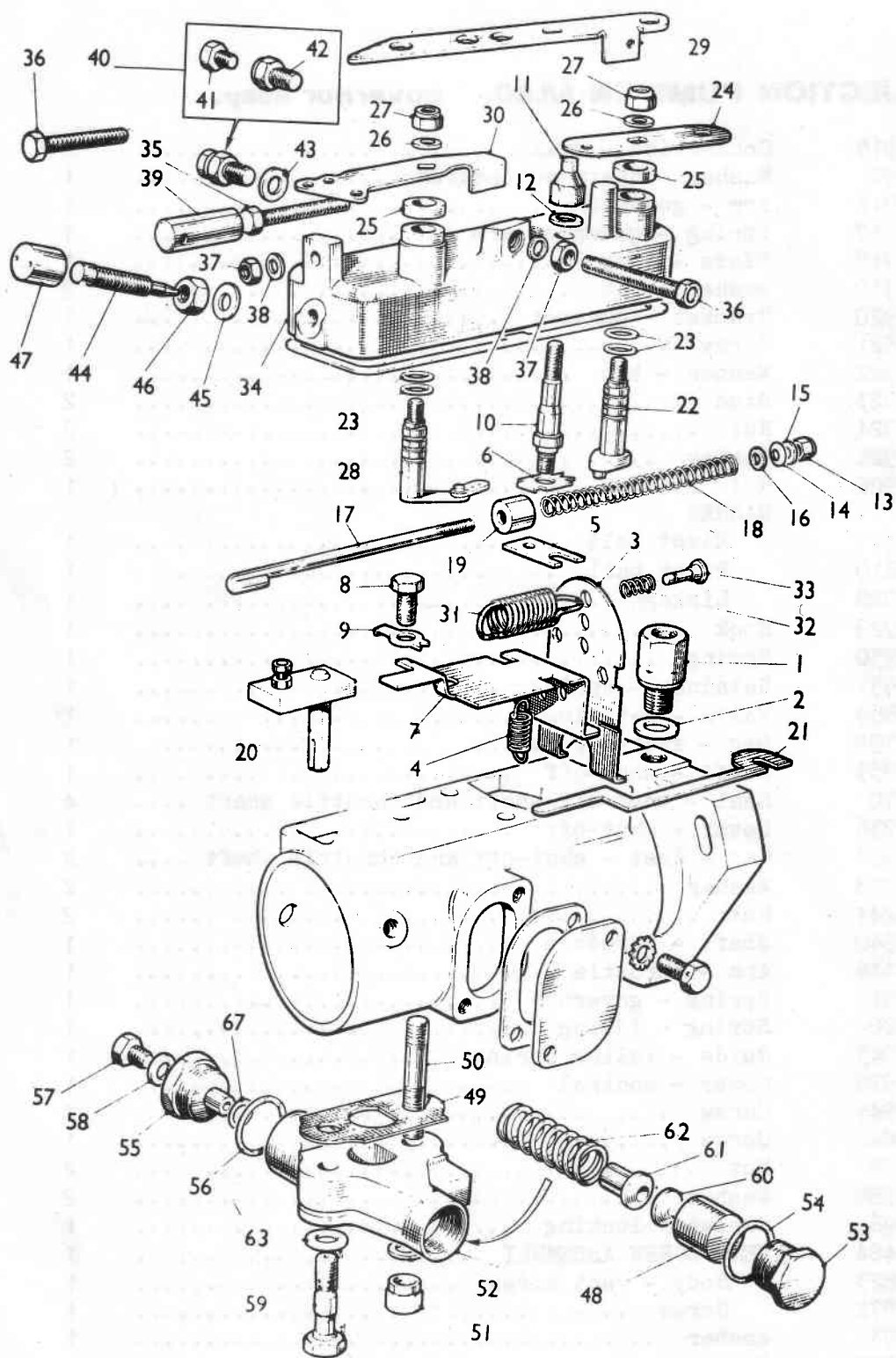


154 Engine Unit

Ref No	Part No	Description	No Off
PLATE TJ(a)INJECTION PUMP EN-M.80. governor assy.			
1	17H2915	Connection - drain	1
2	37H592	Washer - drain connection	1
3	17H2916	Arm - governor	1
4	17H2917	Spring - governor arm	1
5	17H2918	Plate - keep	1
6	17H2919	Washer - tab	2
7	17H2920	Bracket - control	1
8	17H2921	Screw	1
9	17H2922	Washer - tab	1
10	17H2923	Stud	2
11	17H2924	Nut	2
12	17H2925	Washer	2
13	17H2926	Nut	1
		WASHER	
14	17H2927	Pivot ball	1
15	27H7810	Pivot ball	1
16	17H2928	Linkage	1
17	17H2929	Hook	1
18	17H2930	Spring	1
19	17H2931	Retainer - spring	1
20	17H8859	Valve - metering	1
21	37H2799	Bar - shut-off	1
22	17H2935	Shaft - shut-off	1
23	37H770	Seal - shut-off shaft and throttle shaft	4
24	17H2936	Lever - shut-off	1
25	17H2937	Cap - dust - shut-off and throttle shaft	2
26	17H2938	Washer	2
27	27H9241	Nut	2
28	17H2940	Shaft - throttle	1
29	12B2446	Arm - throttle	1
31	17H2917	Spring - governor	1
32	17H8209	Spring - idling	1
33	17H2943	Guide - idling spring	1
34	27H2978	Cover - control	1
35	17H2945	Screw	1
36	27H2842	Screw	1
37	37H676	Nut	2
38	17H9388	Washer	2
39	BMK996	Sleeve - locking	1
40	17H2484	VENT SCREW ASSEMBLY	1
41	17H2823	Body - vent screw	1
42	17H2972	Screw	1
43	37H603	Washer	1
44	17H2949	Screw	1

Contd.

PLATE T J (a)

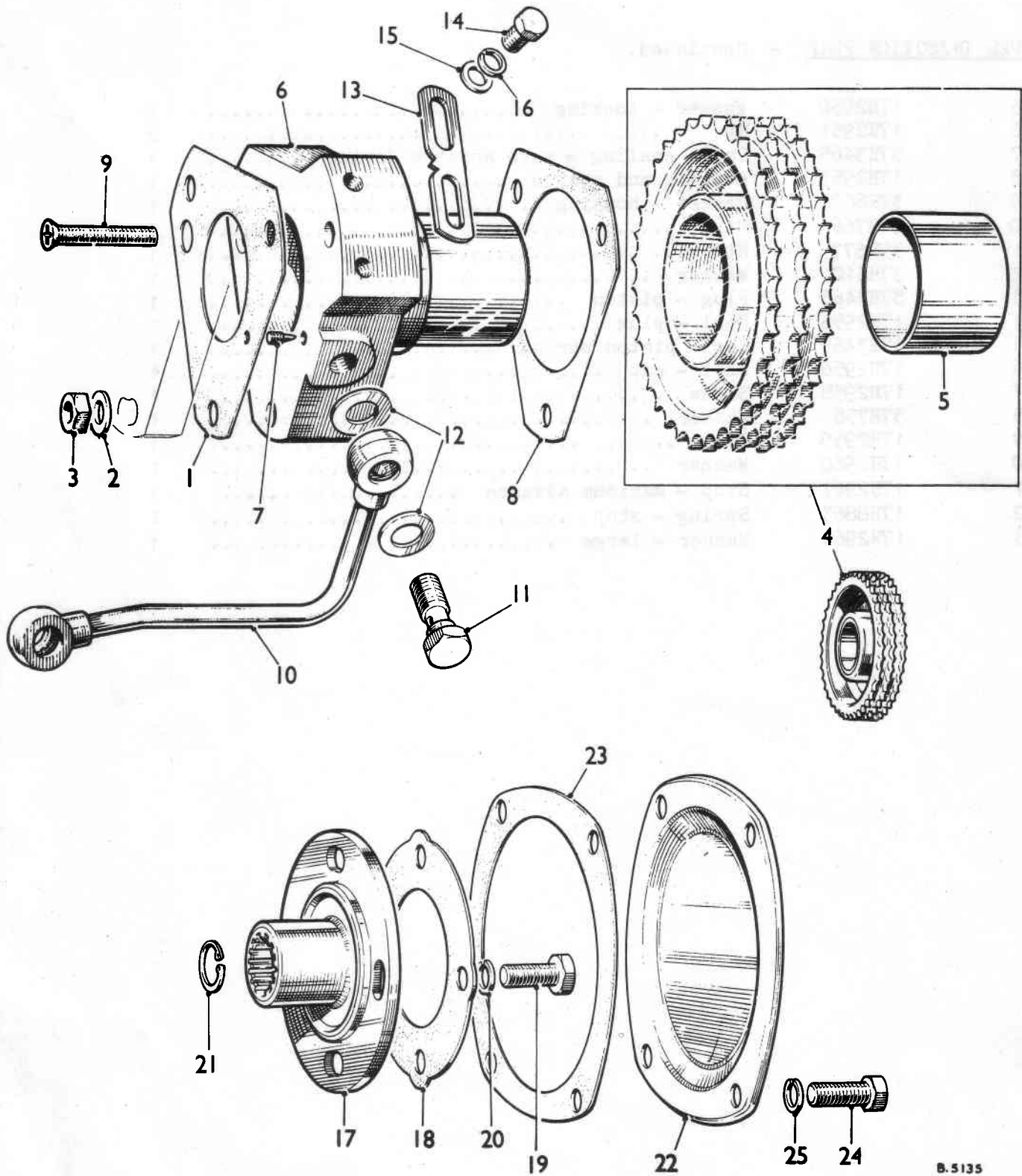


154 Engine Unit

Ref No	Part No	Description	No Off
FUEL INJECTION PUMP - Continued.			
45	17H2950	Washer - locking	2
46	17H2951	Nut	2
47	37H3465	Cap - sealing - auto advance device	1
48	17H2953	Housing and piston	1
49	37H609	Gasket - housing	1
50	37H766	Stud	1
51	37H677	Nut	1
52	37H610	Washer	1
53	37H3466	Plug - piston	1
54	17H2956	Seal - plug	1
55	37H3467	Cap - piston spring	1
56	17H2956	Seal - cap	1
57	17H2958	Screw	1
58	37H758	Washer	1
59	17H2959	Stud	1
60	17H2960	Washer	1
61	17H2961	Stop - maximum advance	1
62	17H8863	Spring - stop	1
63	17H2964	Washer - large	1



PLATE TJ (b)



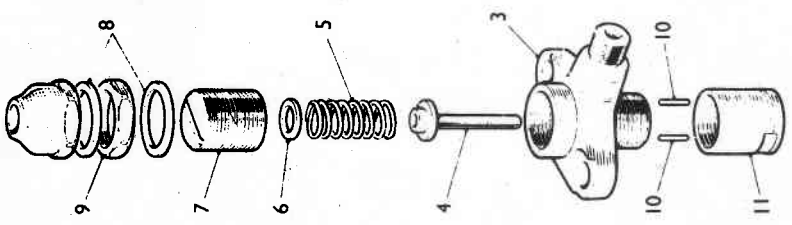
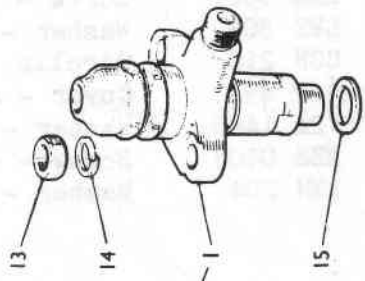
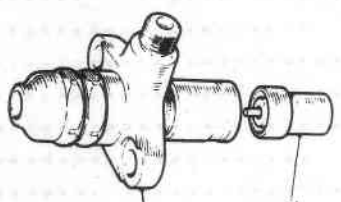
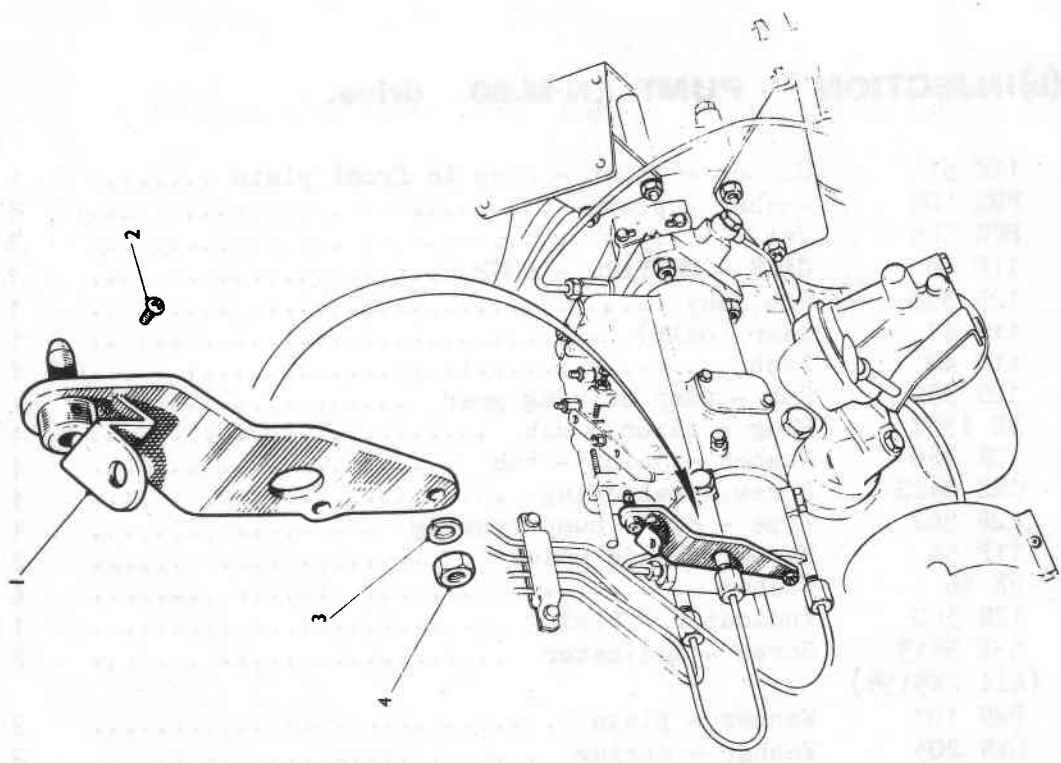
154 Engine Unit

Ref No	Part No	Description	No Off
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PLATE TJ(b)INJECTION PUMP EN-M.80. drive.

1	11F 51	Washer - joint - pump to front plate	1
2	PWZ 105	Washer - plain	3
3	FNZ 505	Nut	3
4	11F 46	GEAR - DRIVING - PUMP	1
-	12B 358	Hub Assy	1
-	11F 47	Gear (only)	1
5	11F 48	Bush	1
6	12B 359	Hub - pump driving gear	1
7	2K 1357	Plug - taper - hub	1
8	12B 360	Washer - joint - hub	1
9	CMZ 0422	Screw - retaining	1
10	12B 362	Pipe - oil - pump bearing	1
11	11F 56	Screw - banjo union	2
12	6K 56	Washer	4
13	12H 380	Indicator - timing	1
14	53K 3513 (Alt 2K5195)	Screw - indicator	2
15	PWN 103	Washer - plain	2
16	LWN 203	Washer - spring	2
17	12B 361	Flange - driving - pump	1
18	11F 50	Washer - flange	1
19	HZS 0507	Screw - flange to gear	4
20	LWZ 305	Washer - spring	4
21	CCN 210	Circlip	1
22	11F 49	Cover - driving gear	1
23	12A 1448	Washer - joint - cover	1
24	HZS 0405	Screw - cover	4
25	LWN 204	Washer - spring	4





154 Engine Unit

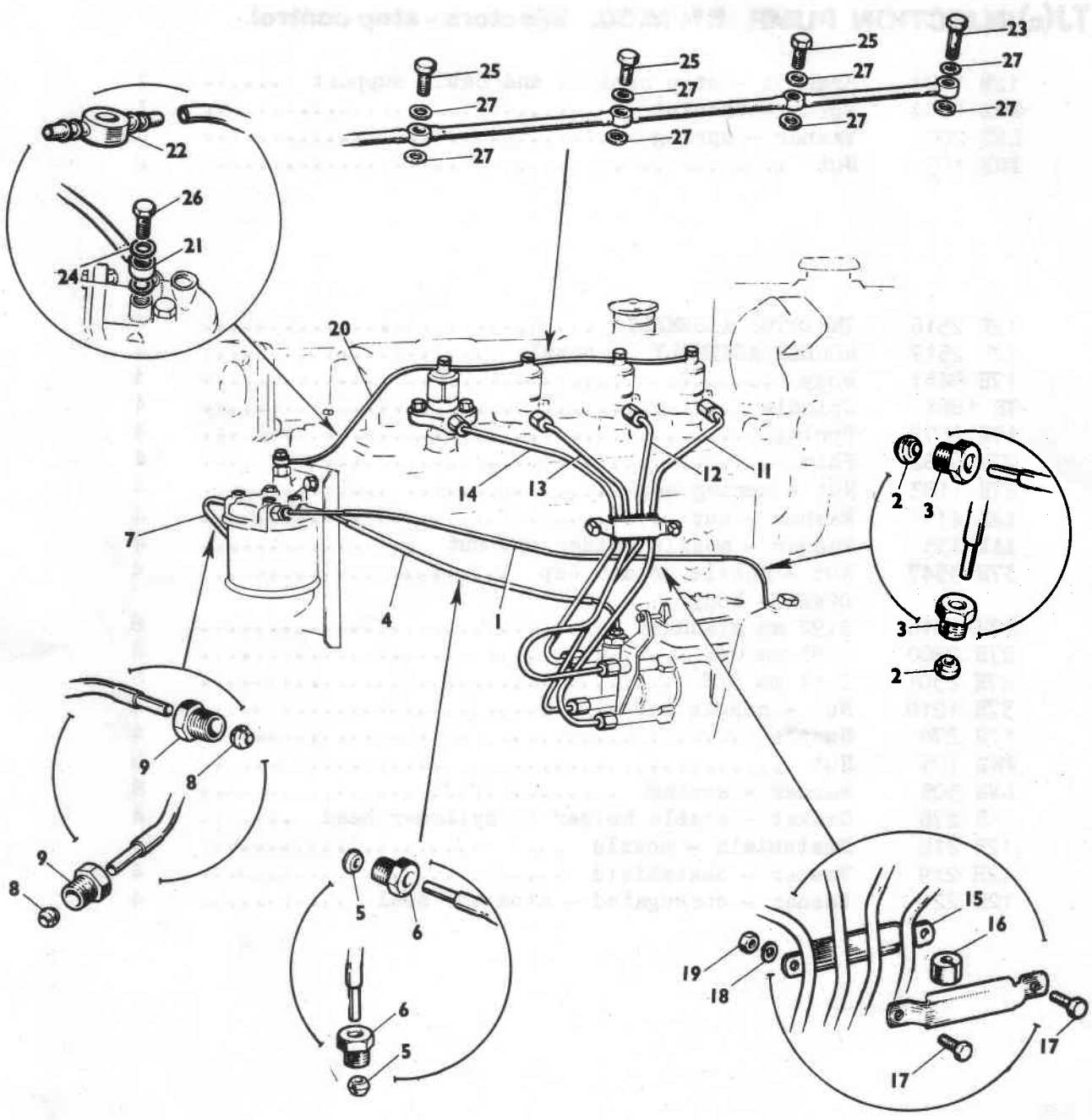
Ref No	Part No	Description	No Off
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PLATE TJ(c) INJECTION PUMP EN-M.80. injectors - stop control.

1	12B 1204	Bracket - stop control and cable support	1
2	PMZ 0204	Screw - bracket	1
3	LWZ 203	Washer - spring	2
4	FNZ 103	Nut	2
1	12B 2516	INJECTOR ASSEMBLY	4
2	12B 2517	HOLDER ASSEMBLY - nozzle	4
3	17H 9461	Body	4
4	7H 1861	Spindle	4
5	17H 2879	Spring	4
6	27H 6982	Shim	4
7	27H 1183	Nut - spring cap	4
8	AAK 435	Washer - nut	4
	AAK 435	Washer - nozzle holder cap nut	4
9	37H 3547	Nut - nozzle holder cap	4
		DOWEL - body	
10	27H 1816	2.92 mm standard	8
	27H 2300	2.93 mm O/S	8
	27H 2301	2.94 mm O/S	8
11	37H 1210	Nut - nozzle cap	4
12	12H 278	Nozzle	4
13	FNZ 105	Nut	8
14	LWZ 305	Washer - spring	8
15	11B 276	Gasket - nozzle holder to cylinder head	4
	12H 218	Heatshield - nozzle	4
	12H 219	Washer - heatshield	4
	12H 220	Washer - corrugated - atomizer seal	4

Engine Unit

PLATE T(d)



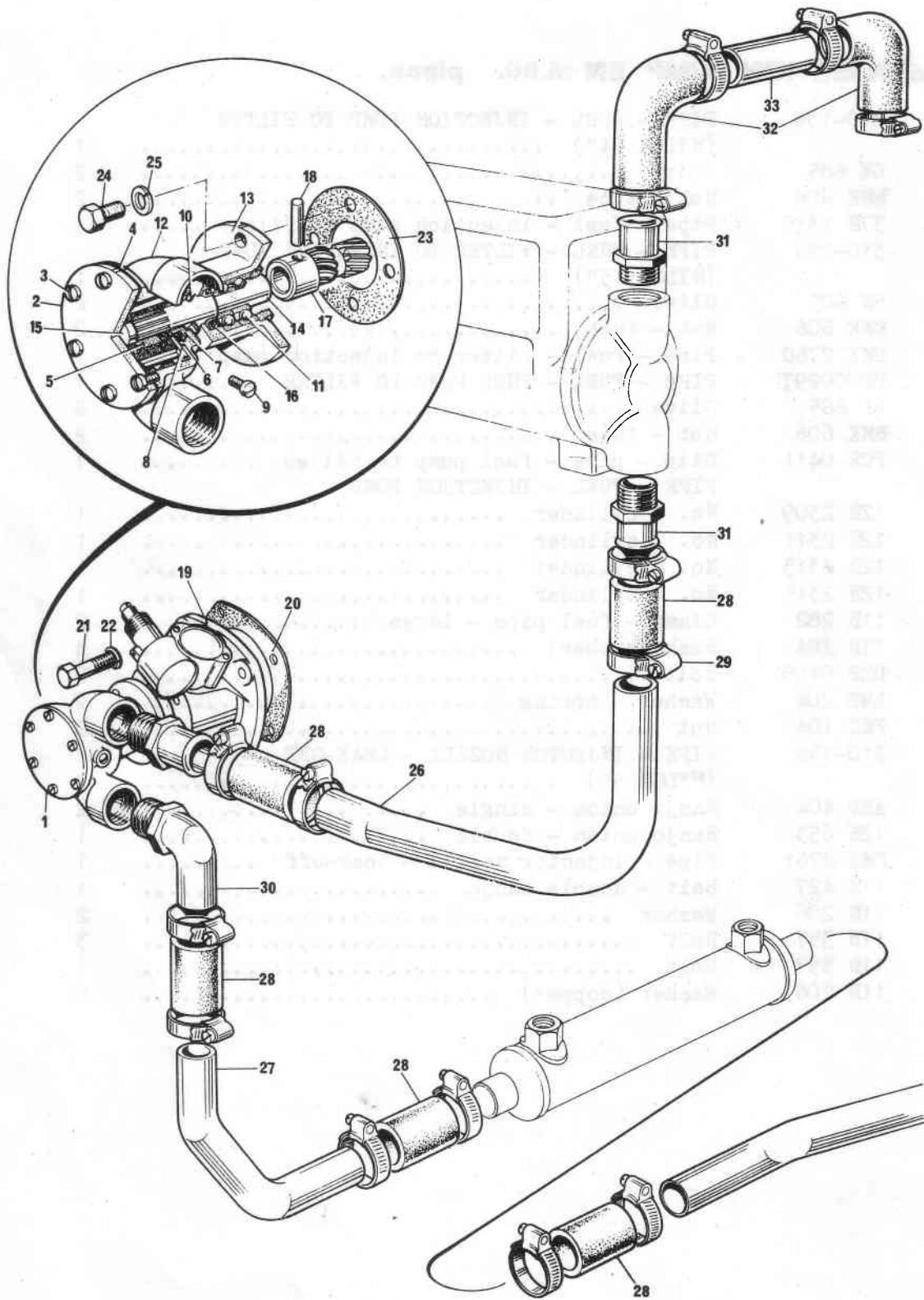
154 Engine Unit

Ref No	Part No	Description	No Off
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PLATE TJ(a) INJECTION PUMP EN-M.80. pipes.

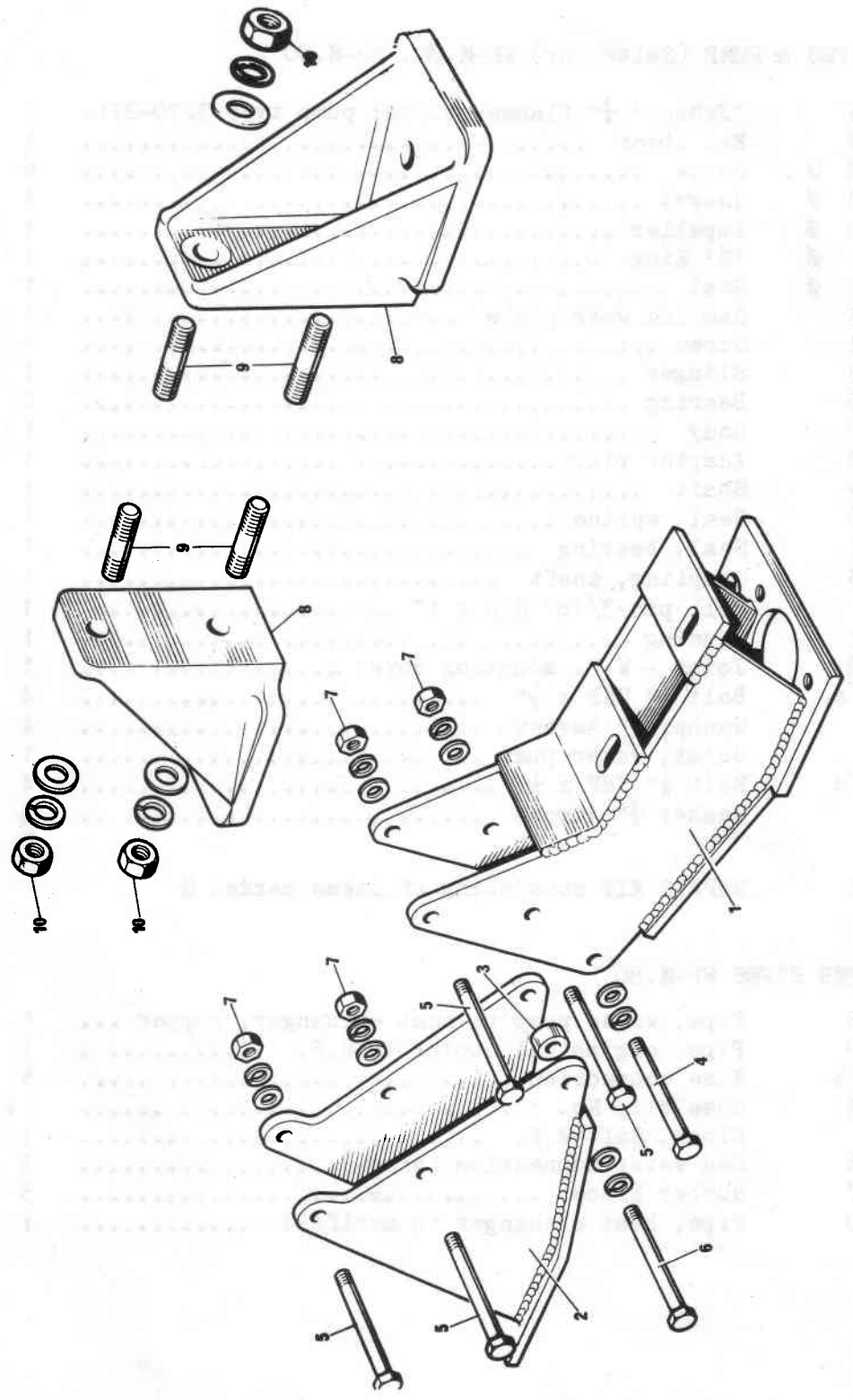
1	310-139	PIPE - FUEL - INJECTION PUMP TO FILTER (NYLON 24")	1
2	6K 685	Olive	2
3	BMK 606	Nut - tube	2
	37H 1335	Pipe - fuel - injection pump to filter	1
4	310-139	PIPE - FUEL - FILTER TO INJECTION PUMP (NYLON 15")	1
5	6K 685	Olive	2
6	BMK 606	Nut - tube	2
	CMK 2760	Pipe - Fuel - filter to injection pump	1
7	0200029T	PIPE - FUEL - FUEL PUMP TO FILTER	1
8	6K 685	Olive	2
9	BMK 606	Nut - tube	2
10	PCR 0411	Clip - pipe - fuel pump to filter	1
		PIPE - FUEL - INJECTION PUMP	
11	12B 2309	No. 1 cylinder	1
12	12B 2311	No. 2 cylinder	1
13	12B 2313	No. 3 cylinder	1
14	12B 2315	No. 4 cylinder	1
15	11B 282	Clamp - fuel pipe - large	2
16	11B 284	Bush (rubber)	4
17	HZS 0405	Bolt	2
18	LWZ 204	Washer - spring	2
19	FNZ 104	Nut	2
20	310-136	PIPE - INJECTOR NOZZLE - LEAK-OFF (NYLON 9")	1
21	AED 404	Banjo union - single	2
22	12H 653	Banjo union - double	1
	CMK 2761	Pipe - injector nozzle - leak-off	1
23	11B 427	Bolt - double banjo	1
24	11B 206	Washer	2
25	11B 357	Bolt	3
26	11B 357	Bolt	1
27	11B 206	Washer (copper)	8

PLATE TK



154 Engine Unit

Ref No	Part No	Description	No Off
WATER PIPES & PUMP (Saltwater) WP-M.80, SP-M.80			
1	54007735	'Jabsco' $\frac{3}{4}$ " flange mounted pump type 3270-271.	1
2	54900137	End cover	1
3	54900138	Ø Screw	6
4	54900139	Ø Gasket	1
5	54900140	Ø Impeller	1
6	54900141	Ø 'O' Ring	1
7	54900142	Ø Seal	1
8	54900143	Cam and wear plate	1
9	54900144	Screw	1
10	54900145	Slinger	1
11	54900146	Bearing	2
12	54900147	Body	1
13	54900148	Adaptor ring	1
14	65900149	Shaft	1
15	54900150	Seal, spline	1
16	54900151	Seal, bearing	1
17	54007693	Coupling, shaft	1
18	706194	Roll pin $\frac{3}{16}$ " dia x 1"	1
19	54007692	Housing	1
20	54007740	Joint - W.P. mounting cover	1
21	UFB/104/4	Bolt $\frac{1}{4}$ " UNF x $\frac{1}{2}$ "	4
22	WA 4	Washer $\frac{1}{4}$ " Amross	4
23	6088	Joint, water pump	1
24	UFB/104/4	Bolt $\frac{1}{4}$ " UNF x $\frac{1}{2}$ "	4
25	WA 4	Washer $\frac{1}{4}$ " Amross	4
54999005	REPAIR KIT consisting of items marked Ø		
SALT WATER PIPES WP-M.80			
26	54007718	Pipe, water pump to heat exchanger, copper ...	1
27	54007719	Pipe, engine oil cooler to W.P.	1
28	116478/35	Hose connection	5
29	55790324	Hose clip No. 1	14
30	6285	Elbow, Salt W.P.	1
31	54007676	Sea water connection (brass)	3
32	54007677	Rubber Elbow	3
33	54007720	Pipe, heat exchanger to manifold	1



154 Engine Unit

PLATE TL

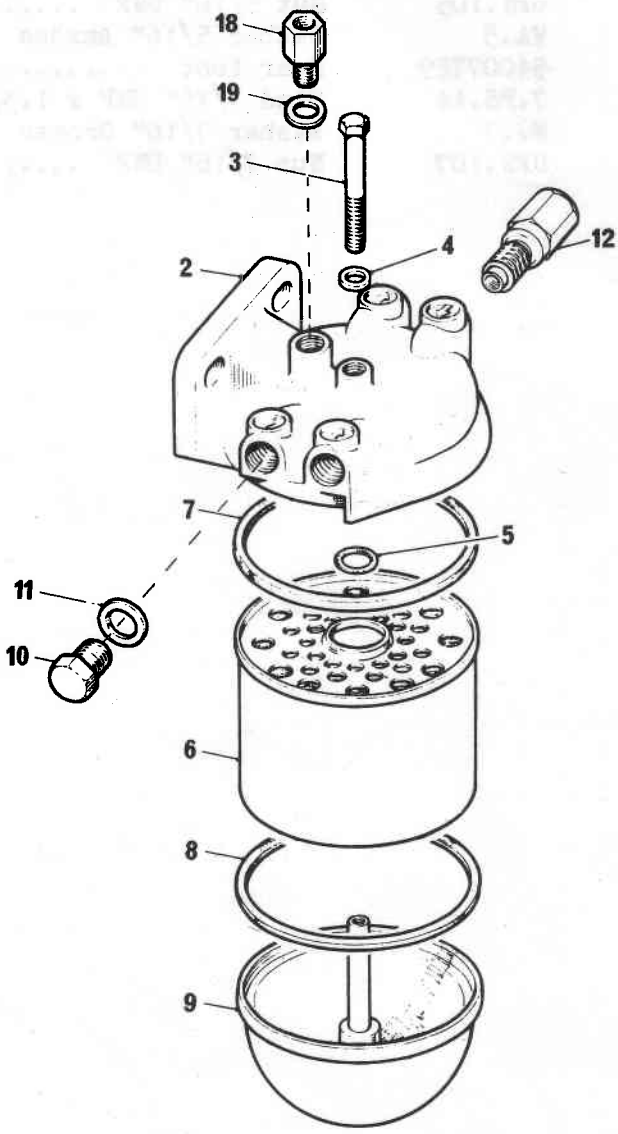
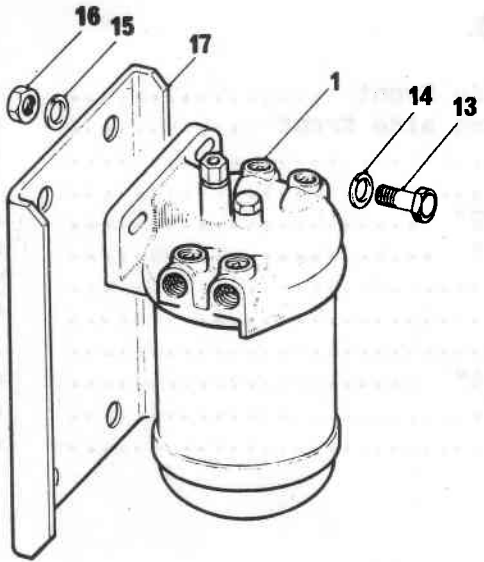
Ref No	Part No	Description	No Off
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PLATE TL SUPPORT BRACKETS SB-M.80.

1	54007697	Foot assembly port side front	1
2	54007704	Foot assembly starboard side front	1
3	54007709	Spacing collar	1
4	UFB.105/24	Bolt 5/16" UNF x 3"	1
5	UFB.105/28	Bolt 5/16" UNF x 3.1/2"	4
6	UFB.106/28	Bolt 3/8" UNF x 3.1/2"	1
7	UFN.105	Nut 5/16" UNF	5
-	WA.5	Washer 5/16" Amross	5
8	54007729	Rear foot	2
9	7.FS.14	Stud 7/16" UNF x 1.3/4"	4
-	WG.7	Washer 7/16" Grover	4
10	UFN.107	Nut 7/16" UNF	4



PLATE TM



154 Engine Unit

Ref No Part No Description No Off

PLATE TM FUEL FILTER EN-M.80.

1	BMK 601	FILTER ASSEMBLY, FUEL	1
2	17H 8857	Cover	1
3	17H 6824	Bolt, centre	1
4	37H 574	Washer	1
5	37H 575	Ring, element sealing	1
6	37H 576	Element	1
7	37H 2051	Ring, sealing, cover	1
8	37H 2051	Ring, sealing, base	1
9	37H 578	Base (with stud)	1
10	BMK 598	Plug, filter	1
11	6K 638	Washer	1
12	12H 409	Valve, non-return	1
13	HZS 0610	Bolt, filter to bracket	2
14	PWZ 106	Washer, plain	2
15	LWZ 306	Washer, spring	2
16	FNZ 106	Nut	2
17	54007714	Bracket, filter to engine	1
18	12B 271	Adaptor, banjo bolt to filter, double	1
19	37H 439	Washer, adaptor	1
20	UFB106/S/10	Bolt, bracket to engine	2
21	WG 6	Washer, $\frac{3}{8}$ " Grover	2

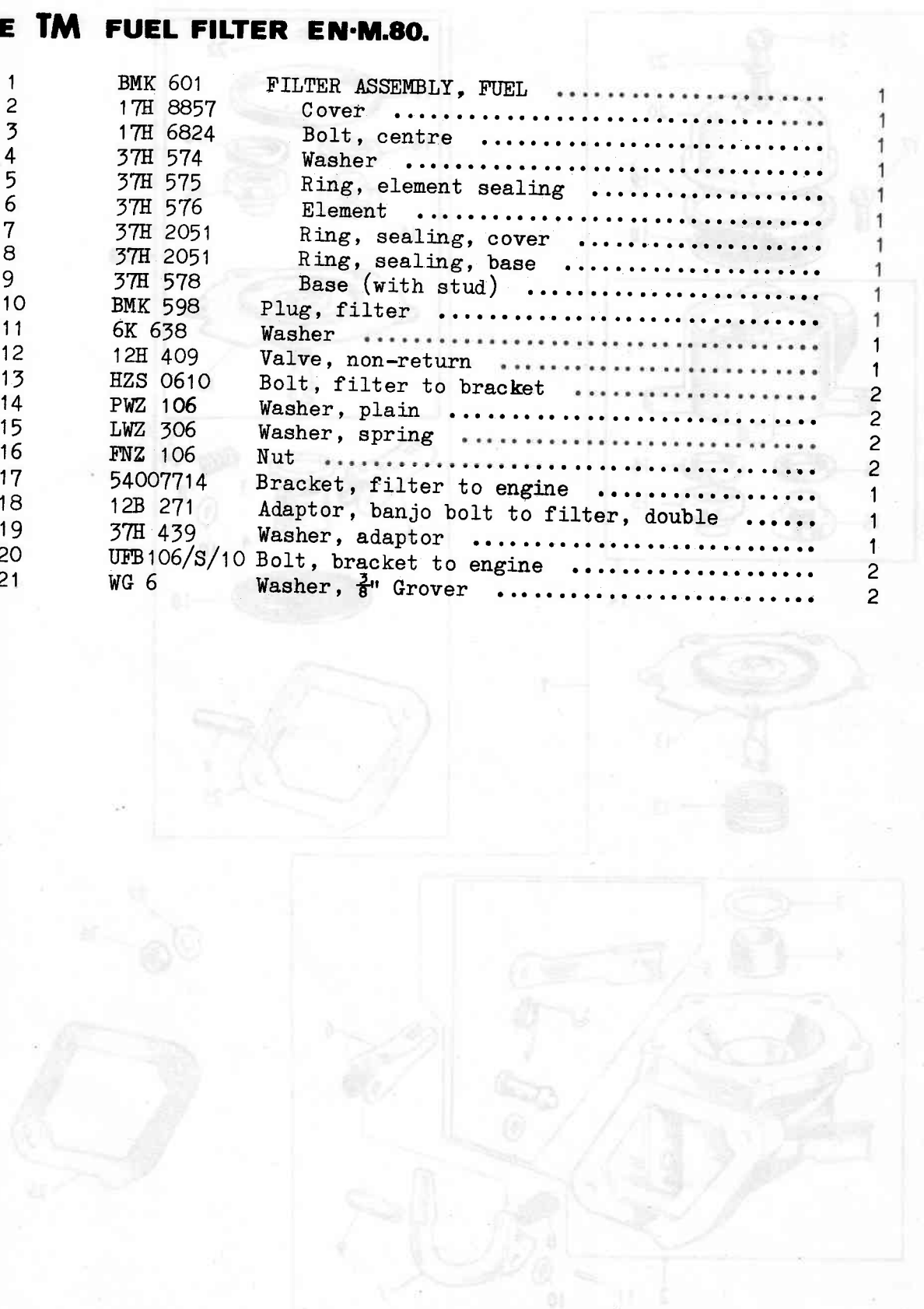
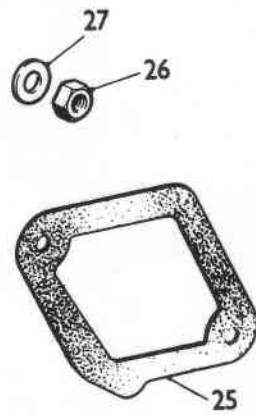
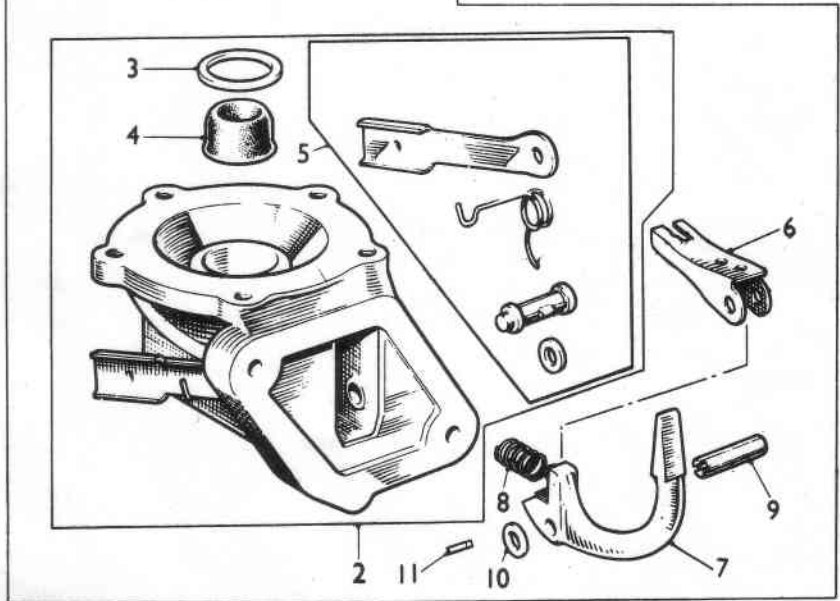
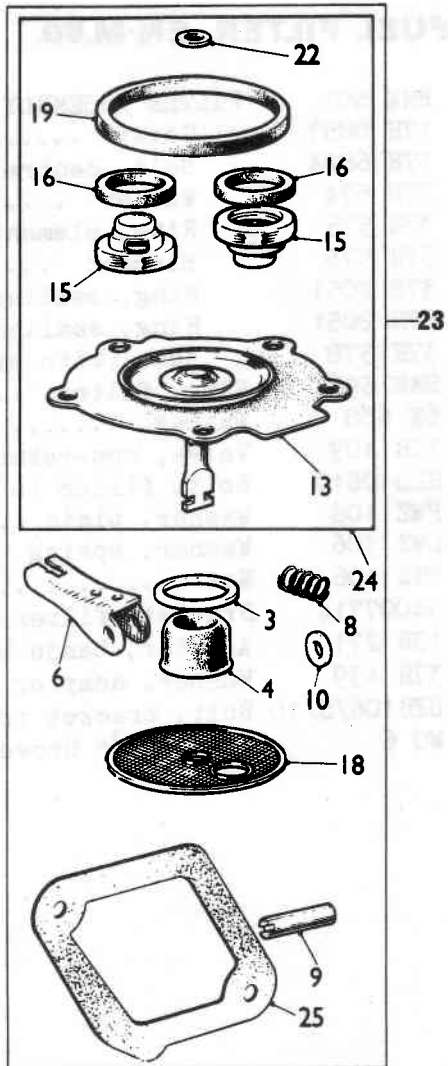
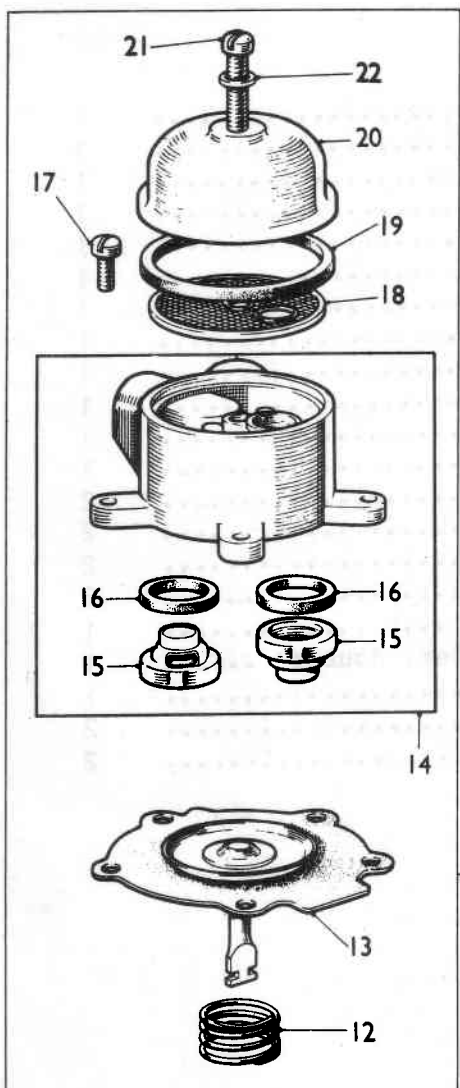


PLATE TN



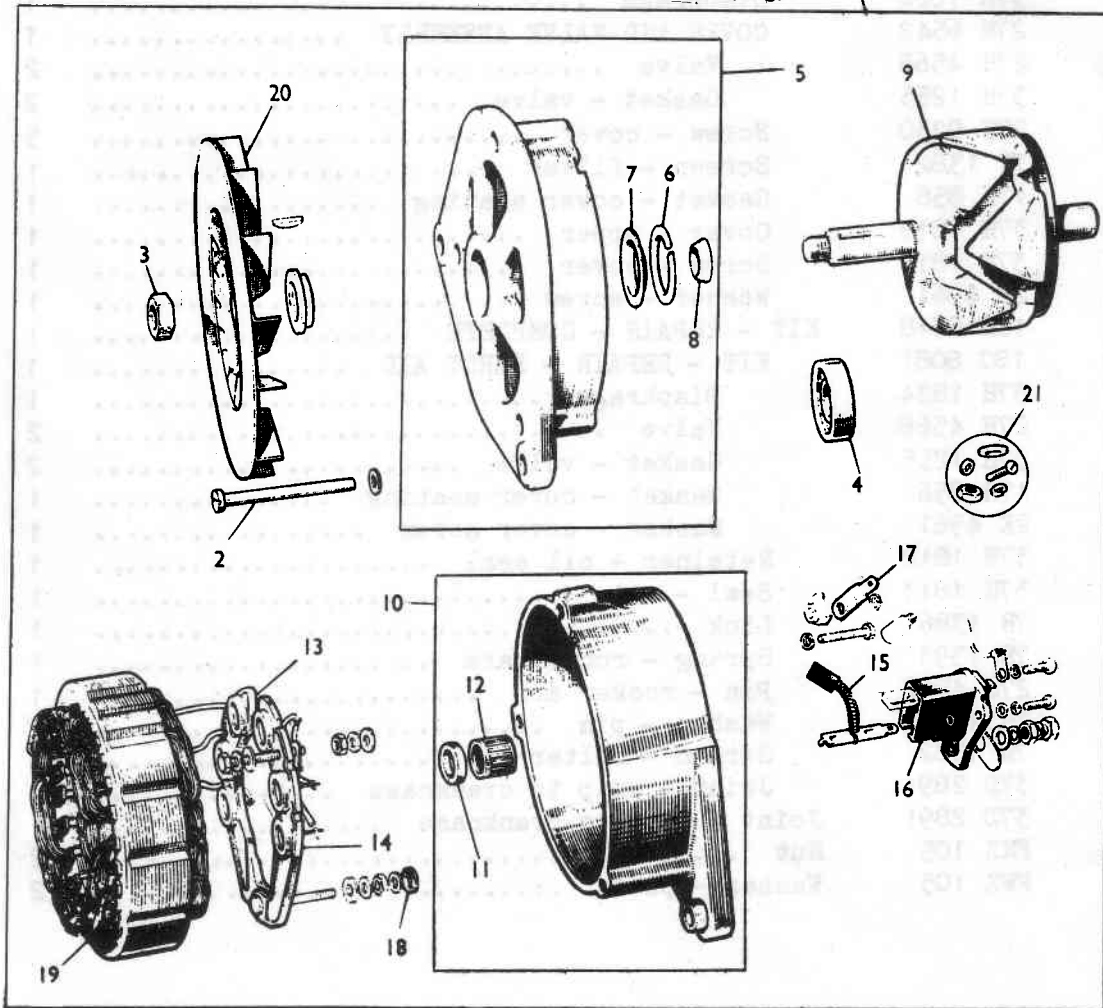
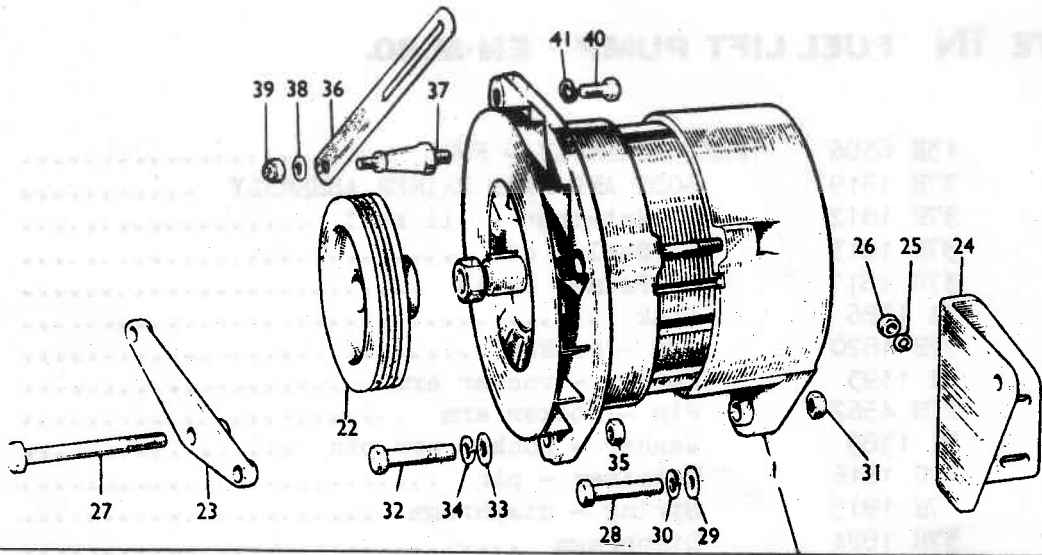
154 Engine Unit

Ref No	Part No	Description	No Off
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PLATE TN FUEL LIFT PUMP EN-M.80.

1	13H 6306	PUMP ASSEMBLY - FUEL	1
2	37H 1819	BODY AND HAND PRIMER ASSEMBLY	1
3	37H 1812	Retainer - oil seal	1
4	37H 1813	Seal - oil	1
5	37H 1817	Primer Parts	1 set
6	7H 1386	Link	1
7	37H 1820	Arm - rocker	1
8	7H 1393	Spring - rocker arm	1
9	27H 4562	Pin - rocker arm	1
10	7H 1389	Washer - rocker arm pin	2
11	37H 1816	Retainer - pin	2
12	37H 1815	Spring - diaphragm	1
13	37H 1824	Diaphragm	1
14	27H 6542	COVER AND VALVE ASSEMBLY	1
15	27H 4568	Valve	2
16	37H 1255	Gasket - valve	2
17	27H 9230	Screw - cover	5
18	7H 1382	Screen - filter	1
19	17H 856	Gasket - cover seating	1
20	37H 1818	Cover - upper	1
21	37H 1814	Screw - cover	1
22	2K 4961	Washer - screw	1
23	18G 8318	KIT - REPAIR - COMPLETE	1
24	18G 8081	KIT - REPAIR - FIRST AID	1
13	37H 1824	Diaphragm	1
15	27H 4568	Valve	2
16	37H 1255	Gasket - valve	2
19	17H 856	Gasket - cover seating	1
22	2K 4961	Washer - cover screw	1
3	37H 1812	Retainer - oil seal	1
4	37H 1813	Seal - oil	1
6	7H 1386	Link	1
8	7H 1393	Spring - rocker arm	1
9	27H 4562	Pin - rocker arm	1
10	7H 1389	Washer - pin	2
18	7H 1382	Screen - filter	1
25	37D 2891	Joint - pump to crankcase	1
25	37D 2891	Joint - pump to crankcase	1
26	FNZ 105	Nut	2
27	PWZ 105	Washer - plain	2

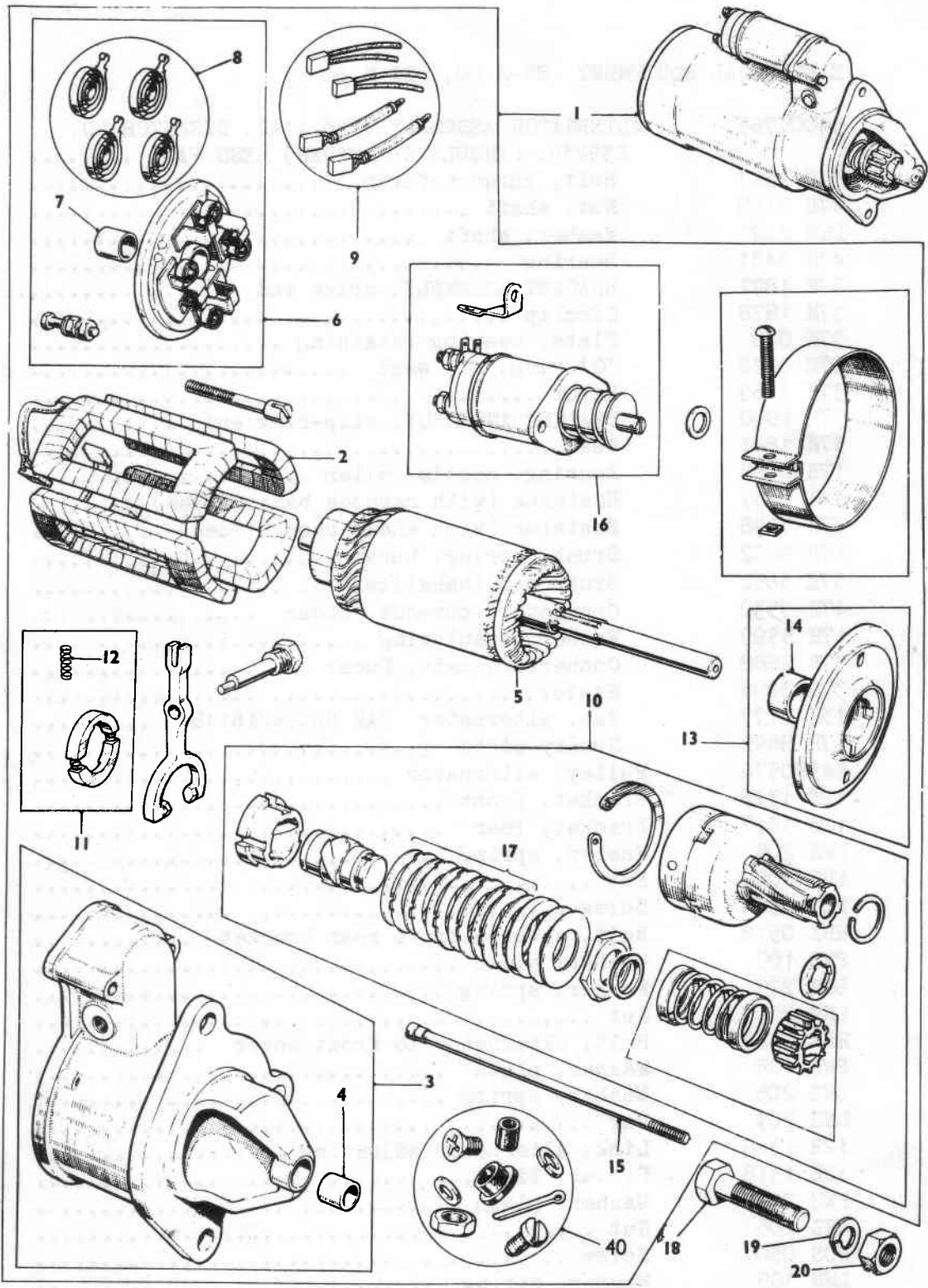
PLATE 10



154 Engine Unit

Ref No	Part No	Description	No Off
ELECTRICAL EQUIPMENT EN-M.80, EQ-M.80			
1	54007765	ALTERNATOR ASSEMBLY TYPE 11AC DISPATCH NO. 23523D. (INSULATED RETURN) LESS FAN	1
2	37H 1527	Bolt, through-fixing	3
3	47H 5139	Nut, shaft	1
	LWN 207	Washer, shaft	1
4	47H 5431	Bearing	1
5	37H 1877	BRACKET ASSEMBLY, drive end	1
6	37H 1878	Circlip	1
7	37H 879	Plate, bearing retaining	1
8	27H 3832	'O' ring, oil seal	1
9	37H 4169	Rotor	1
10	37H 1880	BRACKET ASSEMBLY, slip-ring end	1
11	37H 1881	Seal	1
12	17H 8689	Bearing, needle-roller	1
13	37H 2885	Heatsink (with cathode base diodes)	1
14	37H 3798	Heatsink (with anode base diodes)	1
15	17H 8692	Brush, spring, Lucar	2
16	37H 3652	Brush box (bakelite)	1
17	47H 5530	Connector, cut-out, Lucar	1
18	17H 5599	Washer, insulating	5
	37H 2888	Connector, main, Lucar	1
19	37H 3096	Stator	1
20	13H 2177	Fan, alternator CAV No.54216148	1
21	17H 8695	Sundry parts	1
22	54380576	Pulley, alternator	1
23	12B 1316	Bracket, front	1
24	12B 1317	Bracket, rear	1
25	LWZ 205	Washer, spring	2
26	FNZ 105	Nut	2
27	HBZ 0524	Screw	1
28	HBZ 0512	Bolt, alternator to rear bracket	1
29	PWZ 105	Washer, plain	1
30	LWZ 205	Washer, spring	1
31	LNZ 205	Nut	1
32	HBZ 0522	Bolt, alternator to front cover	1
33	PWZ 105	Washer, plain	1
34	LWZ 205	Washer, spring	1
35	LNZ 205	Nut	1
36	12B 1319	Link, alternator adjusting	1
37	12B 1318	Pillar, link	-
38	PWZ 205	Washer, plain	1
39	LNZ 205	Nut	1
40	NCS 0507	Screw	1
41	LWN 305	Washer, spring	1
42	13H 4155	Belt, pulley, alternator	1

Cont'd



154 Engine Unit

Ref No	Part No	Description	No Off
	54007766	Control board 4 TR-37449A	1
	54007767	Relay 6 RA-33266	1
	54007768	Control, warning light 3 AW-3818	1
	54007769	Warning light, WL 1338736A	1

STARTED MOTOR ASSEMBLY (M45G) DISPATCH NO. 26286B

1	13H 6374	Starter Motor Assembly	1
2	27H 5326	Coil-Field	1
3	37H 6148	Bracket, fixing	1
4	27H 2587	Bush, Bearing	1
	37H 4698	Bush, Dowel sealing	1
5	27H 2590	Armature	1
		Washer, thrust commutator end	1
6	27H 6588	Bracket, commutator end	1
7	27H 2584	Bush, bearing	1
8	27H 5932	Spring, brush tension	1
	27H 8823	Ring, sealing bracket	1
9	GSB 101	Brushes	1 set
10	27H 6589	Drive assembly	1
11	27H 7603	Shoe-brake	1
12	27H 7902	Spring, brake shoe	1
13	27H 6591	Bracket, intermediate	1
14	27H 2589	Bush, bearing	1
	37H 2597	Ring, sealing bracket	1
15	27H 6587	Bolt, through fixing	1
	27H 7932	Washer, sealing bolt	1
16	37H 4699	Solenoid	1
17	37H 4793	Bellows	1
18	27H 6594	Sundry Parts	1
	43765324	Start switch, key type 128SA	1
	24/980	Connector, Lucar (small)	16
	24/977	Cover, connector	16
	790526	Connector, Lucar (large)	6
	790527	Cover, connector	6
	24/433	Connector tube (W.L)	2
	43765325	Lock, barrel and keys	1
19	HBZ 0616	Bolt	3
20	FNZ 106	Nut	3
21	LWZ 306	Washer	3

154 Engine Unit

Ref No	Part No	Description	No Off
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ENGINE SERVICE KITS

	58G 556	SET - JOINT - ENGINE OVERHAUL	1
	1K 1515	Rear bearing cap	1
	62B 7	Front plate to crankcase	1
	12B 2718	Side cover	1
∅	12G 1114	Oil separator	2
	62B 5	Oil filter	1
	12B 2719	Oil reservoir	1
∅	88G 424	Water pump	1
	62B 3	Flywheel housing	1
	62B 4	Flywheel housing - top	1
∅	37D 2891	Fuel pump	1
	11F 51	Injection pump	1
	12A 1448	Injection pump gear bearing housing	1
	62B 2	Crankcase front cover	1
	6K 431	Washer - oil reservoir drain plug (copper)	1
	11K 396	Plug - rear bearing cap (felt)	4
	58G 554	SET - JOINT - DECARBONIZING	1
	12B 1880	Cylinder head	1
	11B 127	Induction and exhaust manifold	1
	1B 1247	Rocker cover	1
	11B 276	Injector	1
∅	AMK 9304	Exhaust pipe flange	1
	11B 288	Water outlet elbow	1
	12B 2104	Seal - oil - valve (rubber)	8

∅ NOTE: These Items should be discarded and the following Numbers used.

.....	12B 2266	Oil Separator	1
.....	12B 1503	Water Pump	1
.....	12B 2720	Fuel Pump	1

Also:

AEC 216 Joint Flywheel Housing, should be used in conjunction with 62B4 Joint Flywheel Housing Top

154 Engine Unit

Ref No	Part No	Description	No Off
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REDUCING & REVERSING GEARBOXES

P.R. MOTORS, FORWARD & REVERSE TRANSMISSIONS WITH REDUCING GEARS.

This gearbox is available with direct drive or with 2 to 1 or 3 to 1 ratios for left or right handed propeller rotation..

For full details of spare parts, refer to separate list.

The following parts are required to adapt the P.R.Motors, gearbox to the engine.

Adapting Parts.

54007805	Drive plate (Borg-Beck No. 55121)	1
UFB.105/6	Bolt, 5/16" UNF x 3/4"	6
WA.5	Washer, 5/16" amross	6
54007725	Adaptor housing	1
54007763	Adaptor housing)	1
54007809	Adaptor housing)	1
54007762	Adaptor housing) Alternatives to requirements	1
54007761	Adaptor housing)	1
54007810	Adaptor housing)	1
UFB/106/5/8	Bolt, 3/8" UNF x 1"	6
UFB/105/5/14	Bolt, 3/8" UNF x 1.3/4"	2
UFB/106/18	Bolt, 3/8" UNF x 2.1/4"	2
WG.6	Washer, 3/8" grover	10
54007811	Joint (P.R. Motors No. MT.152)	1

OIL PIPES

7029	Flexible oil pipes	2
54007808	Union, single ended 3/8" x 1/2" B.S.P.	2
138/225	Washer 1/2" B.S.P. copper	2
55300693	Union Body, single ended 3/8" B.S.P.	2
138/133	Washer 3/8" B.S.P. copper	2

OIL COOLER

6634	Gearbox oil cooler (Bowman DC.50).....	1
	1/2" B.S.P. oil tapping	1
54007755	Bracket, oil cooler	1
55790326	Hose clip No. 2X	1

154 Engine Unit

Ref No	Part No	Description	No Off
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BORG WARNER HYDRAULIC REVERSE GEARBOX

The Borg Warner type 71 forward and reverse gearbox with reducing gears is available with direct drive or with 1.523 to 1, 2.10 to 1, 2.57 to 1 and 2.91 to 1 reduction gear for left hand propeller rotation, and with 1.91 to 1 reduction gear for right handed propeller rotation.

For full details of spares for reverse and reduction gearboxes, refer to separate list.

ADAPTING PARTS

54007726	Adaptor housing	1
UFB/106/5/8	Bolt 3/8" UNF x 1"	6
UFB/106/5/14	Bolt 3/8" UNF x 1.3/4"	21
UFB/106/18	Bolt 3/8" UNF x 2.1/4"	2
WG.6	Washer 3/8" grover	10
	Stud 7/16" UNF	6
UFN107	Nut 7/16" UNF	6
WG7	Washer 7/16" grover	6
	Damper assy. No. A.S.4 - KIC	1
	Cap screw socket head 1/4" UNF x 1/2"	5
	Shake-proof washer (internal)	5

OIL COOLER

7195	Oil cooler (Bowman type D.C.90)	1
	3/8" B.S.P. oil ports	
7026	Bracket oil cooler, top	1
7027	Bracket oil cooler, bottom	1
UFB.104/S/5	Bolt 1/4" UNF x 5/8"	1
UFN.104	Nut 1/4" UNF	1
WA.4	Washer 1/4" amross	1
UCS107/S/6	Setbolt 7/16" UNC x 3/4"	1
WA.7	Washer 7/16" amross	

Contd.

154 Engine Unit

Ref No	Part No	Description	No Off
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BORG WARNER HYDRAULIC REVERSE GEARBOX CONTD.

OIL PIPES

149352	Flexible oil pipe, oil line to cooler	1
7029	Flexible oil pipe, cooler to oil line	1
	Adaptor 3/8" B.S.P. Male to 3/8" N.P.T.F.	2
	Union, single equal end 3/8" Gas Brass	
	Bouckley & Sawyer No. 3.S.B.	2

NEUTRAL SWITCH KIT

71-1A4A	Neutral switch kit Drg. No. 4863B	1
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154 Engine Unit

Ref No	Part No	Description	No Off
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NICOR MARINÉ (T.M.P) GEARBOXES

The following Gearboxes are supplied Direct Drive or Reduction and Reversing Gear and with adapting parts and output coupling and are used with Standard rotation engine.

54380277	GEARBOX. Direct drive, solid coupling with output coupling TM.12396
54380278	GEARBOX. Direct drive, flexible coupling with output coupling TM.12019B/3
54380279	GEARBOX. 2 pinion, 2 : 1 ratio, forward and reverse solid coupling with output coupling TM.1206P
54380280	GEARBOX. 2 pinion, 2 : 1 ratio, forward and reverse flexible coupling with output coupling TM.12406B/2
54380281	GEARBOX. 3 pinion, 2 : 1 ratio, forward and reverse solid coupling with output coupling TM.12406P
54380282	GEARBOX. 3 pinion, 2 : 1 ratio, forward and reverse flexible coupling with output coupling TM.12406B/2
54380283	GEARBOX. 2 pinion, 3 : 1 ratio, forward and reverse, solid coupling with output coupling TM.12406P
54380284	GEARBOX. 2 pinion, 3 : 1 ratio forward and reverse, flexible coupling, with output coupling TM.12406B/2
54380285	GEARBOX. 3 pinion, 3 : 1 ratio forward and reverse, solid coupling with output coupling TM.12406P
54380286	GEARBOX. 3 pinion, 3 : 1 ratio, forward and reverse, flexible coupling with output coupling TM.12406B/2
54380287	GEARBOX. 2 pinion, 2 : 1 ratio, forward and reverse, solid coupling with output coupling TM.12406P

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Ref No	Part No	Description	No Off
54380288		GEARBOX. 2 pinion, 2 : 1 ratio forward and reverse. L.H. offset, flexible coupling with output coupling TM.12406B/2	
54380289		GEARBOX. 3 pinion, 2 : 1 ratio forward and reverse. L.H. offset, solid coupling with output coupling TM.12406P	
54380290		GEARBOX. 3 pinion, 2 : 1 ratio forward and reverse. L.H. offset, flexible coupling with output coupling TM.12406B/2	
54380291		GEARBOX. 2 pinion, 2 : 1 ratio forward and reverse. R.H. offset, solid coupling with output coupling TM.12406P	
54380292		GEARBOX. 2 pinion, 2 : 1 ratio forward and reverse. R.H. offset, flexible coupling with output coupling TM.12406B/2	
54380293		GEARBOX. 3 pinion, 2 : 1 ratio forward and reverse. R.H. offset, solid coupling with output coupling TM.12406P	
54380294		GEARBOX. 3 pinion, 2 : 1 ratio forward and reverse. R.H. offset, flexible coupling with output coupling TM.12406B/2	

All Gearboxes are supplied with the following parts

Bell Housing	TM.12543
Flexible Coupling	TM.12384
Input drive boss	TM.12193

ADAPTING PARTS required with each Gearbox

UFB/106/5/8	Bolt, $\frac{3}{8}$ " UNF x 1"	6
UFB/106/5/14	Bolt, $\frac{3}{8}$ " UNF x $1\frac{3}{4}$ "	2
UFB/106/18	Bolt, $\frac{3}{8}$ " UNF x $2\frac{1}{4}$ "	2
WG.6	Washer $\frac{3}{8}$ " Grover	10
116-181	Screw Cap Socket Head $\frac{1}{4}$ " UNF x $\frac{3}{4}$ " ..	5
1.S.W.A.	Washer, shakeproof (INT) $\frac{1}{4}$ "	5

154 Engine Unit

Ref No	Part No	Description	No Off
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WATER PIPES (DIRECT)

54380372	Elbow, Malleable Iron $\frac{3}{4}$ " B.S.P	2
54008091	Union, Single end, Reduced	2
54380388	Nipple	2
54380389	Nut	2
54008093	Pipe - Gearbox to engine oil cooler	1

WATER PIPES (REDUCTION)

54008091	Union, Single end, Reduced	2
54380388	Nipple	2
54380389	Nut	2
54008092	Pipe - Gearbox to engine oil cooler	1

OIL PRESSURE GAUGE

54380392	Oil Pressure Gauge (A.C.Delco Part No. 7954350, 0 to 5 P.S.1 with Nut & Tailpiece for $\frac{3}{16}$ " Copper Pipe	1
54380134	Union and Olive	1
310-143	Tubing, Nylon $\frac{3}{16}$ " O/D	1'0"
Z48621	Sleeve	2
19/91	Adaptor, Male	1
19/72	Nut	2
19/74	Olive	2

HALF COUPLING (SOLID)

54380402	Half Coupling (Bored $\frac{1}{8}$ " dia.)	1
54380403	Half Coupling (Bored $\frac{1}{4}$ " dia.)	1
54380404	Half Coupling (Bored $\frac{3}{8}$ " dia.)	1
54380405	Half Coupling (Bored $\frac{1}{2}$ " dia.)	1
54380406	Half Coupling (Bored $\frac{3}{4}$ " dia.)	1
54380407	Half Coupling (Bored 2" dia.)	1
54380408	Half Coupling (Bored $2\frac{1}{4}$ " dia.)	1

ALTERNATIVES TO REQUIREMENTS

UCB 107/5/10	Bolt $\frac{7}{16}$ " UNC x $1\frac{1}{4}$ "	4
UNC 107	Nut $\frac{7}{16}$ " UNC	4
WG.7	Washer $\frac{7}{16}$ " Grover	4

(One Set required for each Coupling)

154 Engine Unit

Ref No	Part No	Description	No Off
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HALF COUPLING (FLEXIBLE)

54380411	Half Coupling (Pilot Bored)	1
54008098	Half Coupling (Bored 1")	1
54008099	Half Coupling (Bored 1 $\frac{1}{8}$")	.....	1
54008100	Half Coupling (Bored 1 $\frac{1}{4}$")	.....	1
54008104	Half Coupling (Bored 1 $\frac{3}{8}$")	.....	1
54008105	Half Coupling (Bored 1 $\frac{1}{2}$")	.....	1

ALTERNATIVES TO REQUIREMENTS WITH FLEXIBLE COUPLING 54380412
SILENT BLOC FC.9218

UCB 107/S/20	Bolt, 7/16" UNC x 2 $\frac{1}{2}$"	.....	4
UNC 107	Nut, 7/16" UNC	.....	4
WG.7	Washer, 7/16" Grover	.....	4

(One Set required with each Coupling)

54380414	Half Coupling (Pilot Bored)	.....	1
54008101	Half Coupling (Bored 1" dia.)	.....	1
54008102	Half Coupling (Bored 1 $\frac{1}{2}$ " dia.)	.....	1
54008103	Half Coupling (Bored 1 $\frac{3}{4}$ " dia.)	.....	1

ALTERNATIVES TO REQUIREMENTS WITH FLEXIBLE COUPLING
54360413 (METALASTIK 21/868/1)

UCB 107/S/20	Bolt, 7/16" UNC x 2 $\frac{1}{2}$"	.....	4
UCN 107	Nut, 7/16" UNC	.....	4
WG.7	Washer, 7/16" Grover	.....	4



TABLE CONTAINING LISTINGS

1	184-101	184-101	184-101
2	184-102	184-102	184-102
3	184-103	184-103	184-103
4	184-104	184-104	184-104
5	184-105	184-105	184-105
6	184-106	184-106	184-106
7	184-107	184-107	184-107
8	184-108	184-108	184-108
9	184-109	184-109	184-109
10	184-110	184-110	184-110

ADDITIONAL INFORMATION TO BE OBTAINED FROM THE FOLLOWING

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Ref No	Part No	Description	Part No	No Off
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SPECIAL REQUIREMENTS

The following Section deals with extra equipment not fitted as standard to the 154 Marine Engine.

This Section is not illustrated and care should be taken to ensure that the correct Part Number is quoted.

154 Engine Unit

Ref No	Part No	Description	No Off
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BILGE PUMP & EXTENSION SHAFT BP-M.80

5407710	Driving Pulley and extension shaft	1
	Grub screw 3/8" UNF x 1/2"	1
54380138	Bilge Pump - Jabsco type 6520-200 (1" B.S.P.Parts)	1
6173	Elbow - Bilge pump	2
	Washer	2
5407708	Clench plate	1
	Set bolt 3/8" UNF x 3/4"	2
54007745	Vee belt 'Flexicon' A35 inside length	1

BATTERIES, STARTER BS-M.80

54007787	Batteries - CAV type 6.M.T.17 6 volt 108 am	2
707048	Connectors	2
707049	Connectors	2

PTO EXTENSION SHAFT ES-M.80

54007710	Driving Pulley and extension shaft	1
	Grub screw 3/8" UNF x 1/2"	1

This item replaces starting nut 54007746 and lock washer 54007747

TACHOMETER TR-M.80,81.

54007778	Mechanical revolution indicator	1
	4" dia. calibrated 004000 r.p.m. clockwise 5/8" x 18. .104 square A.C. Delco No. 1577862	
54380124	Mechanical tachourmeter	1
	Ickniel model 568A 4" dia. 5/8" x 18 .104 square dial reading 0 to 4000 r.p.m. clockwise, calibrated 1 to 2. White figures on black dial. Counter calibrated 1 hour at 18000 r.p.m.	

154 Engine Unit

Ref No	Part No	Description	No Off
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COUPLINGS, FLEXIBLE FC-M.80-89

7439		Flexible coupling, direct drive and 2 to 1 ratio	1
7397		Flexible coupling, heavy duty 3 to 1 ratio..	1
54007780		Flexible coupling, direct drive, 1.1/4" bore	1
54007782		Flexible coupling, 2 to 1 and light duty 3 to 1, 1.1/2" bore	1
54107557		Flexible coupling, 3 to 1 heavy duty, 1.3/4" bore	1

Alternatives to suit application.

54007781		Collar stud	4
UNF.107		Nut 7/16" UNF	4
W.G.7		Washer 7/16" Grover	4
5861		Spigot ring	1
55007784		Flexible coupling, pilot bored for Borg Warner 4" coupling	1
55007785		Flexible coupling, pilot bored for heavy duty 3 to 1 ratio 4" Borg Warner Coupling.	1
55007786		Flexible coupling for direct drive 1.1/4" bore	1
540017617		Flexible coupling for 2 to 1 ratio and light duty 3 to 1, 1.1/2" bore	1
7383		Flexible coupling for heavy duty 3 to 1, 1.3/4" bore	1

Alternatives to suit application.

5860		Collar stud	4
NF.6		Nut 3/8" B.S.F	4
WG.6		Washer 3/8" Grover	4
5861		Spigot ring	1

MOUNTING FEET, FLEXIBLE FS-M.80

54007730		Rear foot - Replaces rear foot 54007729 from SB-M.80	2
		Flexible mountings, Silentbloc RE.11712	4
UFB.105/4		Bolt 5/16" UNF x 1/2"	12
WA.5		Washer 5/16" amross	12
54007750		Bearer plate	4
		Gauge pipe assy	1
19-91		Male adaptor	1
19-72		Tubing nut	3
19-74		Olive	3

154 Engine Unit

Ref No	Part No	Description	No Off
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FLEXIBLE MOUNTINGS & PIPES FS-M.80 (Contd)

01B	Olive union	1
Z48621	Sleeve	2
D4/4534	Nylon tube 3/16" x 1'0" long	1
	Fuel pipe assy	1
81-2530	Union Nut	2
81-2536	Adaptor	1
560-3757	Olive	3
560-3759	Nut	1
310-139	Nylon tube, 5/16" o.d x 1'0" long	1
137540/48	Bolt, 5/8" whit. x 6"	4
08648	Nut	4

GAUGE, WATER TEMPERATURE WT-M.81

54007790	Water temperature gauge A.C. Delco Part No. 7954736	1
54007801	Sender unit, A.C. Delco Part No.7954514 ...	1
24W/1283	Ross Courtney terminal No. 6 4.B.A.	2
55790707	Ross Courtney terminal No..6 2. B.A. ...	1

GAUGE, OIL PRESSURE OP-M.80

54007789	Oil pressure gauge "A.C. Delco" 0-100 lb. with nut and tail piece for 3/16" o.d pipe.	1
54380134	Single ended union "Rotherham" 0.1.B	1

MORSE SINGLE LEVER CONTROLS SL-81 (BORG WARNER)

54380171	Morse control kit fuel pump	1
54380172	Morse control kit Borg Warner reverse gear.	1
54380173	Morse single lever control head type MT.E.32897	1
54380174	Morse single lever control head type MT.Twin-E.32888-1	1
54380175	Morse single lever control head type M. M.I.W.B.33518	1
	Specify which required.	
7025/8	Morse cable 33/m 8ft long	2
7025/10	Morse cable 33/M 10 ft. long	2
7025/12	Morse cable 33/M 12 ft long	2
7025/14	Morse cable 33/M 14 ft long	2
7025/16	Morse cable 33/M 16 ft long	2
7025/20	Morse cable 33/M 20 ft long	2
	Specify which required.	

154 Engine Unit

Ref No	Part No	Description	No Off
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TACHOMETER DRIVE TD·M.80

54007770		Flexible shaft A.C. Delco cable and casing assy 4'0" long. No. 7229278	1
54007771		Flexible shaft A.C. Delco cable and casing assy 6'0" long. No. 7962378	1
54007772		Flexible shaft A.C. Delco cable and casing assy 8'0" long. No. 7961727	1
54007773		Flexible shaft A.C. Delco cable and casing assy 10'0" long. No. 7961728	1
54007774		Flexible shaft A.C. Delco cable and casing assy 12'0" long. No. 7961735	1
54007775		Flexible shaft A.C. Delco cable and casing assy 16'0" long. No. 7962168	1
54007776		Flexible shaft A.C. Delco cable and casing assy 20'0" long. No. 7961943	1
		Specify which length required.	
54007777		Icknield cable assy 5/8" 18 T.P.I. Nuts and .104 cable ends each end	1
		(Please state length required)	