



*Illustrated*  
**SPARE PARTS LIST**  
**FOR**  
**Marks**  
**10/1 10/2**  
**(98 c.c.)**  
**AND**  
**12/1 12/2**  
**(120 c.c.)**  
**FOUR-STROKE ENGINES**

**THE VILLIERS ENGINEERING CO. LTD.**  
**WOLVERHAMPTON . . ENGLAND.**

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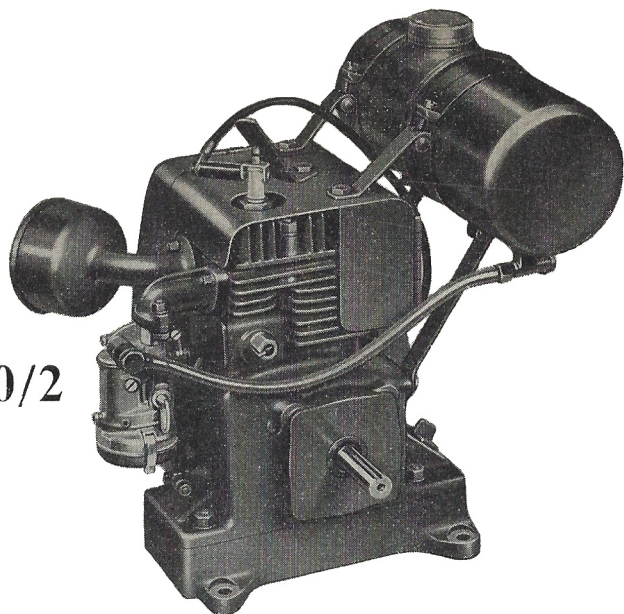
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★ *Insist on*

GENUINE

*Villiers* SPARES

*Villiers*



Marks 10/1, 10/2

and

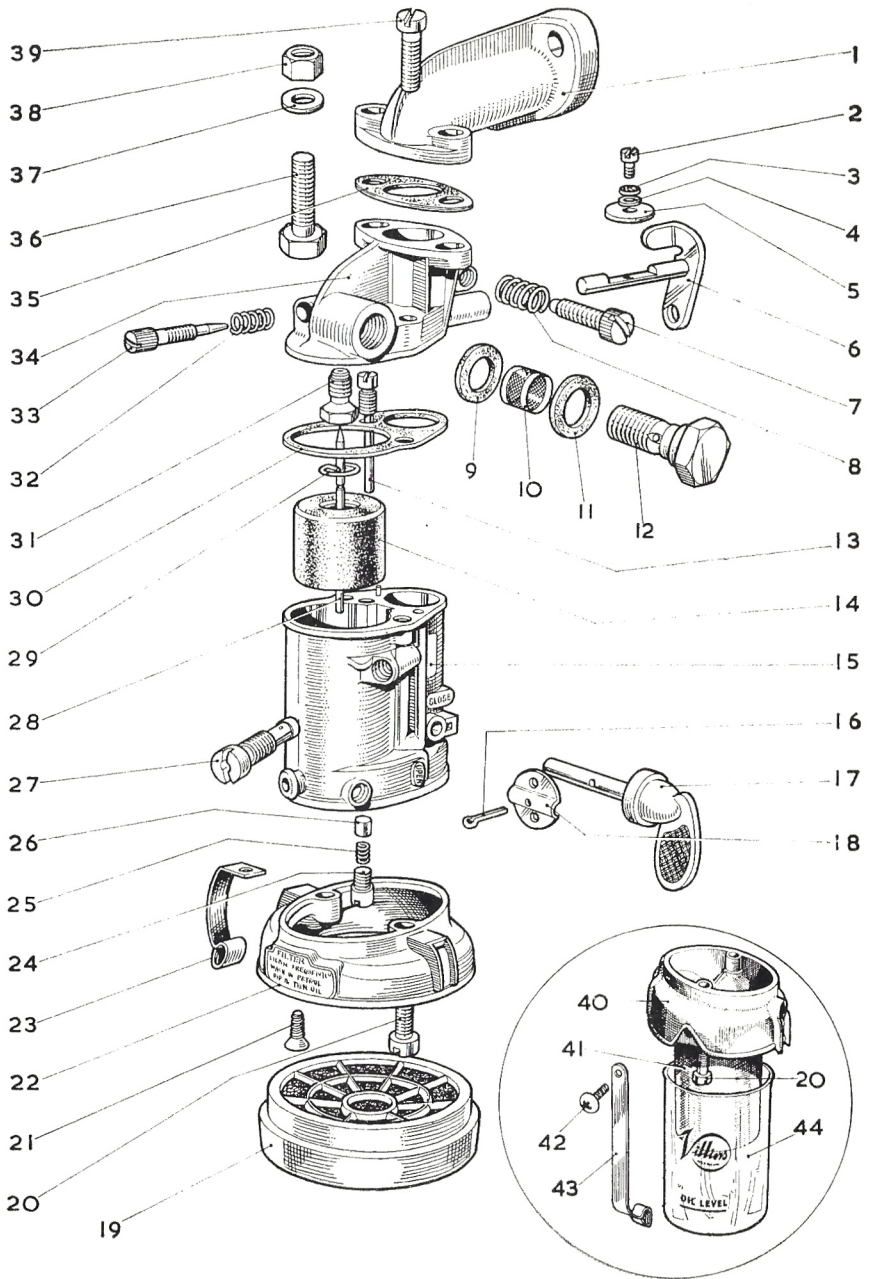
12/1, 12/2

**TECHNICAL DATA**

Bore	...	...	...	...	...	{ 50 mm. (Mark 10). 55 mm. (Mark 12).
Stroke	...	...	...	...	...	50 mm.
Capacity	...	...	...	...	...	{ 98 c.c. (Mark 10). 120 c.c. (Mark 12).
<b>Power Output—Continuous Running</b>						
Mark 10	...	...	...	...	...	1.3 b.h.p. @ 2,800 r.p.m.
Mark 10 H.S.	...	...	...	...	...	1.6 b.h.p. @ 3,400 r.p.m.
Mark 12	...	...	...	...	...	1.5 b.h.p. @ 2,800 r.p.m.
Mark 12 H.S.	...	...	...	...	...	1.95 b.h.p. @ 3,400 r.p.m.
Cooling System	...	...	...	...	...	Air cooled, by fan.
Magneto	...	...	...	...	...	Flywheel type.
Carburetter	...	...	...	...	...	B.10/1.
Sparking Plug	14 m.m.	...	...	...	...	Lodge BN.
Air filter	...	...	...	...	...	Oil wetted or Oil bath type.
Fuel tank capacity	...	...	...	...	...	½ gallon.
Lubricating oil sump capacity	...	...	...	...	...	1 pint.
Recommended tappet clearance	...	...	...	...	...	Inlet and exhaust :— .006" / .010".

★ Mks. 10/2 and 12/2 differ from 10/1, 12/1 chiefly in the magneto—(see pages 18 and 19). Items throughout the book are common to all types unless specially marked. Items marked Mk. 10 apply to both types of Mk. 10 and similarly for Mk. 12.

# CARBURETTOR TYPE B.10/1.



## CARBURETTER, TYPE B.10/1.

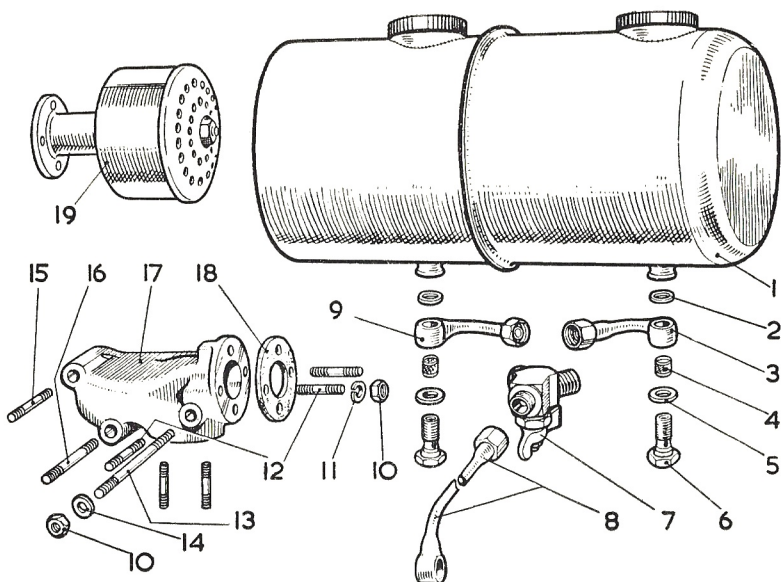
ILLUS. No.	PART No.	DESCRIPTION	
1	<b>DM.1882</b>	Pipe, inlet.	
2	<b>V.1241E</b>	Screw, throttle plate.	
3	—	Not now fitted.	
4	<b>1035 × 7E</b>	Washer, plain, throttle plate.	
5	<b>V.1240E</b>	Plate, throttle.	
6	<b>25659/60</b>	Lever and spindle, throttle.	
7	<b>V.1331E</b>	Screw, throttle stop.	
8	<b>V.1332E</b>	Spring, throttle stop screw.	
9	<b>V.383E</b>	Washer, banjo, small hole.	
10	<b>V.404E</b>	Gauze, banjo bolt.	
11	<b>H.104 × 8E</b>	Washer, banjo, large hole.	
12	<b>V.382E</b>	Bolt, banjo.	
13	<b>V.1527E/V.1324E</b>	Jet, pilot with tube, 35 c.c.	
14	<b>V.2100E</b>	Float.	
15	<b>V.2075C</b>	Body, bottom, $\frac{5}{16}$ " choke	} For vaporising oil engines affix letters C/P.
or	<b>V.2076C</b>	„ „ $\frac{3}{8}$ " „	
or	<b>V.2077C</b>	„ „ $\frac{7}{16}$ " „	
or	<b>V.2078C</b>	„ „ $\frac{1}{2}$ " „	
16	<b>V.1980E</b>	Pin, split.	
17	<b>V.1363E/V.1245E</b>	Lever and spindle, strangler.	
18	<b>V.1246E</b>	Plate, strangler.	
19	<b>V.1383D</b>	Filter, oil wetted.	
20	<b>1022 × 4E</b>	Screw, oil wetted filter cover (2).	
21	<b>V.829/1E</b>	Screw, clip (2).	
22	<b>V.1344/1D</b>	Cover, oil wetted filter.	
23	<b>V.1349D</b>	Clip, oil wetted filter cover (2).	
24	<b>V.1302E</b>	Screw, strangler spring and cover locating.	
25	<b>EM.1166/1</b>	Spring, plunger.	
26	<b>V.1018E</b>	Plunger, locating strangler spindle.	
27	<b>V.1803E</b>	Jet, main, 34 c.c.	
or	<b>V.1323E</b>	„ „ 36 c.c.	
or	<b>V.1543E</b>	„ „ 38 c.c.	

**CARBURETTER, TYPE B.10/1—continued.**

ILLUS. No.	PART No.	DESCRIPTION
or	<b>V.1545E</b>	Jet, main; 40 c.c.
or	<b>V.1544E</b>	„ „ 42 c.c.
or	<b>V.1546E</b>	„ „ 44 c.c.
or	<b>V.1704E</b>	„ „ 46 c.c.
or	<b>V.1594E</b>	„ „ 48 c.c.
28	<b>V.1873E</b>	Needle, fuel.
29	<b>26697</b>	Circlip, fuel needle.
30	<b>V.1353E</b>	Washer, joint, body.
31	<b>V.1871E</b>	Seating, fuel needle valve.
32	<b>E.4270</b>	Spring, pilot jet adjuster screw.
33	<b>V.885E</b>	Screw, pilot jet adjusting.
34	<b>V.1303C</b>	Body, top half.
35	<b>EM.1919</b>	Washer, joint, carburetter/inlet pipe.
or	<b>26593</b>	Washer, joint, carburetter flange
—	<b>E.10104/1</b>	Washer, insulating
36	<b>EM.1580</b>	Bolt, carburetter/inlet pipe (2).
37	<b>V.157 × 2E</b>	Washer, carburetter/inlet pipe bolt (2).
38	<b>EM.1565</b>	Nut, carburetter/inlet pipe bolts (2).
39	<b>E.5102</b>	Screw, body, top/bottom (2).
40	<b>V.1270/1C</b>	Cover, filter, oil bath.
41	<b>V.1314D</b>	Filter element, oil bath.
42	<b>EM.2298</b>	Screw, clip, oil bath filter (2).
43	<b>V.1729E</b>	Clip, cup, oil bath filter (2).
44	<b>V.1272D</b>	Cup, oil bath filter.
---	<b>V.1467E</b>	Screw, float chamber drain (for Vap. Oil body).
---	<b>V.1273E</b>	Pipe, petrol, 11" } Quote engine number
or	<b>V.1254E</b>	„ „ 12" } for other lengths.

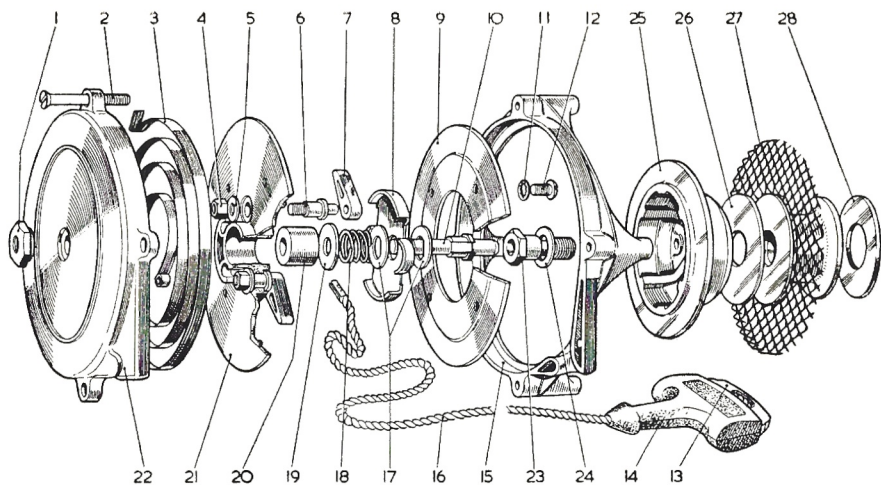
The earlier B.10 carburetter differs from the above in the following respects :—

---	<b>V.1459E</b>	Needle, fuel control assembly (in lieu of illus. 31).
---	<b>V.1031E</b>	Float (in lieu of illus. 14).
---	<b>V.1333C</b>	Body, bottom half, $\frac{3}{8}$ " choke (in lieu of illus. 15).
or	<b>V.1334C</b>	„ „ „ $\frac{7}{16}$ " „ ( „ „ „ ).
or	<b>V.1335C</b>	„ „ „ $\frac{1}{2}$ " „ ( „ „ „ ).



**ALTERNATIVE AND ADDITIONAL PARTS for Engines operating on Vaporising Oil. (see also pages 3 and 4).**

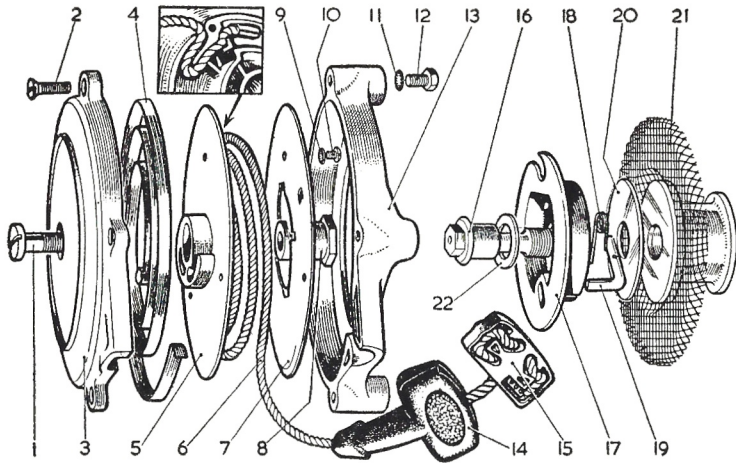
ILLUS. No.	PART No.	DESCRIPTION
—	<b>B.10/1 P/P</b>	Carburetter complete.
1	<b>CM.1023</b>	Tank, fuel, two compartments.
2	<b>V.383E</b>	Washer, fibre, small hole (2).
3	<b>EM.601</b>	Pipe, petrol, short.
4	<b>V.404E</b>	Gauze, filter, for banjo (2).
5	<b>H.104×8</b>	Washer, fibre, large hole (2).
6	<b>V.382E</b>	Bolt, banjo (2).
7	<b>EM.1857</b>	Cock, three-way.
8	<b>CM.2046</b>	Pipe, fuel, long.
9	<b>EM.600</b>	Pipe, short, vaporising oil.
10	<b>E.2539</b>	Nut, vaporiser and silencer studs (6).
11	<b>E.1430</b>	Washer, spring, silencer.
12	<b>FG.185E</b>	Stud, vaporiser and silencer (3).
—	<b>4011</b>	Stud, carburetter flange (2).
—	<b>M.2604E</b>	Nut, carburetter flange (2).
13	<b>E.4112</b>	Stud, long, vaporiser.
14	<b>E.2924</b>	Washer, plain, vaporiser studs (4).
15	<b>EM.816</b>	Stud, short, vaporiser.
16	<b>EM.817</b>	Stud, medium, vaporiser.
17	<b>CM.1884</b>	Vaporiser.
18	<b>EM.821</b>	Washer, joint, silencer.
19	<b>EM.2722</b>	Silencer (straight pipe).
—	<b>BM.1416</b>	Head, cylinder (Mk. 12 only).
—	<b>D.2497</b>	Spanner, 18 mm. spark plug.
—	<b>Lodge CB.3</b>	Sparkling plug, 18 mm.



**RE-COIL STARTER (when fitted)—NEW TYPE.**

ILLUS. No.	PART No.	DESCRIPTION.
1	<b>E.12015</b>	Nut, centre bolt.
2	<b>1091 × 15E</b>	Screw, starter fixing (4).
3	<b>D.10191</b>	Spring, rope return.
4	<b>EM.1565</b>	Nut, pawl fulcrum pin (2).
5	<b>E.2924</b>	Washer, nut (2).
6	<b>E.12239</b>	Pin, pawl fulcrum (2).
7	<b>E.12010</b>	Pawl (2).
8	<b>E.12229</b>	Drag plate.
9	<b>D.11832</b>	Plate, bottom, rope pulley.
10	<b>26046</b>	Centre bolt.
11	<b>M.2707E</b>	Washer, shakeproof, bottom plate screws (6).
12	<b>E.12199</b>	Screw, bottom plate (6).
13	<b>D.10216</b>	Handle, starting rope.
14	<b>D.10224</b>	Cover, starting rope handle.
15	<b>DM.2816</b>	Backplate, starter.
16	<b>E.10205</b>	Rope, starting.
17	<b>E.11837</b>	Washer, thrust, drag plate (2).
18	<b>E.12018</b>	Spring, tension.
19	<b>E.12013</b>	Washer, thrust, tension spring.
20	<b>E.12014</b>	Distance piece.
21	<b>C.12019</b>	Plate, top, rope pulley.
22	<b>B.10129</b>	Plate, cover.
23	<b>EM.2863</b>	Bolt, auxiliary pulley.
24	<b>EM.2350</b>	Washer, auxiliary pulley bolt.
25	<b>D.11830</b>	Pulley, auxiliary.
26	<b>E.10194</b>	Shim, auxiliary pulley (as reqd.).
27	<b>27377</b>	Revolving gauze assembly.
28	<b>EM.2687</b>	Washer, distance.
—	<b>27667</b>	Washer, distance.
—	<b>CM.2815</b>	Cowl.



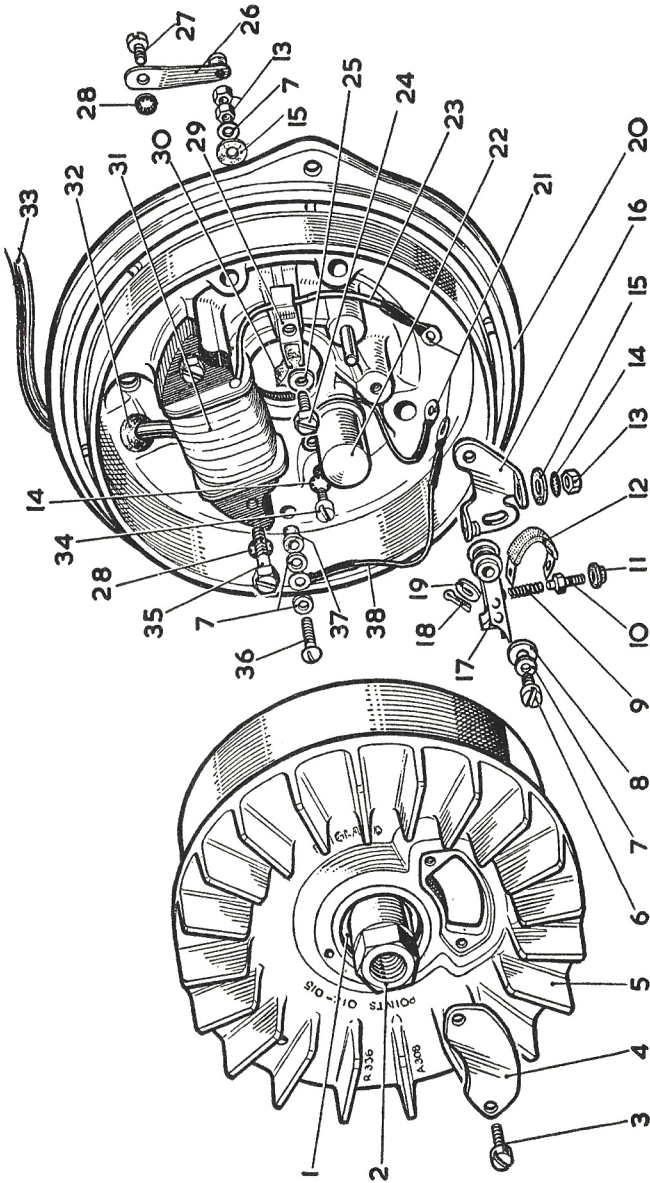


**RE-COIL STARTER—(Earlier Type).**

ILLUS. No.	PART No.	DESCRIPTION.	QTY.
—	<b>D.11641</b>	Recoil starter assembly (illus. Nos. 1 to 10, 13 to 15) ... ..	1
1	<b>E.10322</b>	Screw, rope pulley nut ... ..	1
2	<b>E.10673</b>	Screw, cover plate ... ..	4
3	<b>B.10129</b>	Plate, cover, recoil starter ... ..	1
4	<b>D.10191</b>	Spring, return ... ..	1
5	<b>C.10130</b>	Pulley, rope ... ..	1
6	<b>E.10205</b>	Rope, starting ... ..	1
7	<b>D.10193</b>	Plate, bottom, rope pulley ... ..	1
8	<b>E.10320</b>	Nut, rope pulley ... ..	1
9, 11	<b>M.2707E</b>	Washer, shakeproof ... ..	10
10	<b>E.8479</b>	Screw, bottom plate ... ..	6
12	<b>E.10672</b>	Bolt, back-plate ... ..	4
13	<b>B.10671</b>	Plate, back ... ..	1
14	<b>D.10224</b>	Cover, starting rope handle ... ..	1
15	<b>D.10216</b>	Handle, starting rope ... ..	1
16	<b>E.10674/1</b>	Bolt, auxiliary pulley ... ..	1
17	<b>C.10131</b>	Pulley, auxiliary ... ..	1
18	<b>E.10197</b>	Spring, pawl ... ..	1
19	<b>E.10195</b>	Pawl, starting ... ..	1
20	<b>E.10194</b>	Shim (.040"), auxiliary pulley ... ..	} As reqd.
20	<b>E.10701</b>	Shim (.104"), auxiliary pulley ... ..	
—	<b>EM.2688</b>	Washer, distance ... ..	1
21	<b>DM.2537</b>	Gauze and distance piece assembly ... ..	1
—	<b>EM.2687</b>	Washer distance ... ..	1
22	<b>EM.2350</b>	Washer, pulley bolt ... ..	As reqd.
—	<b>CM.2150</b>	Cowl ... ..	1

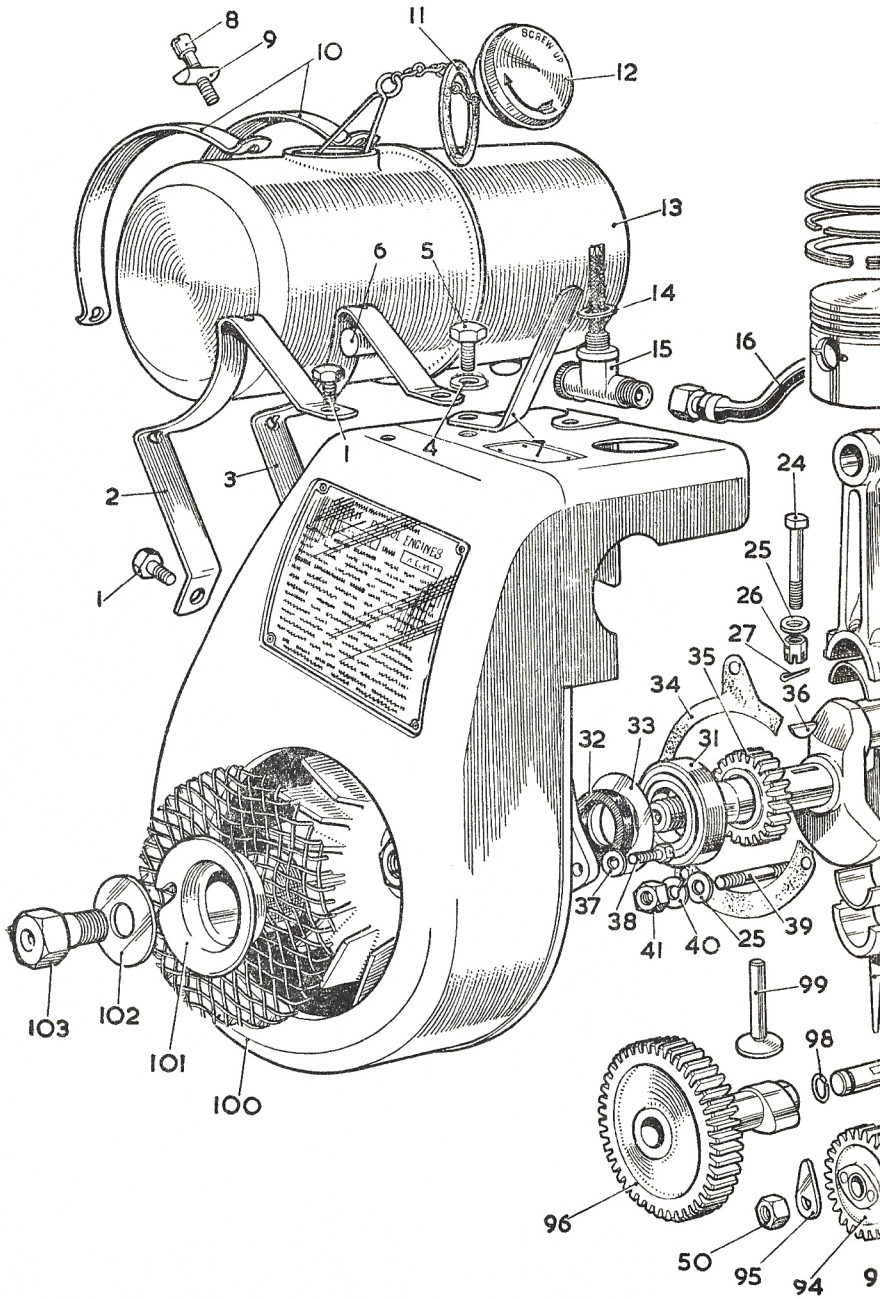
# MAGNETO.

(Mks. 10/1 and 12/1 only).

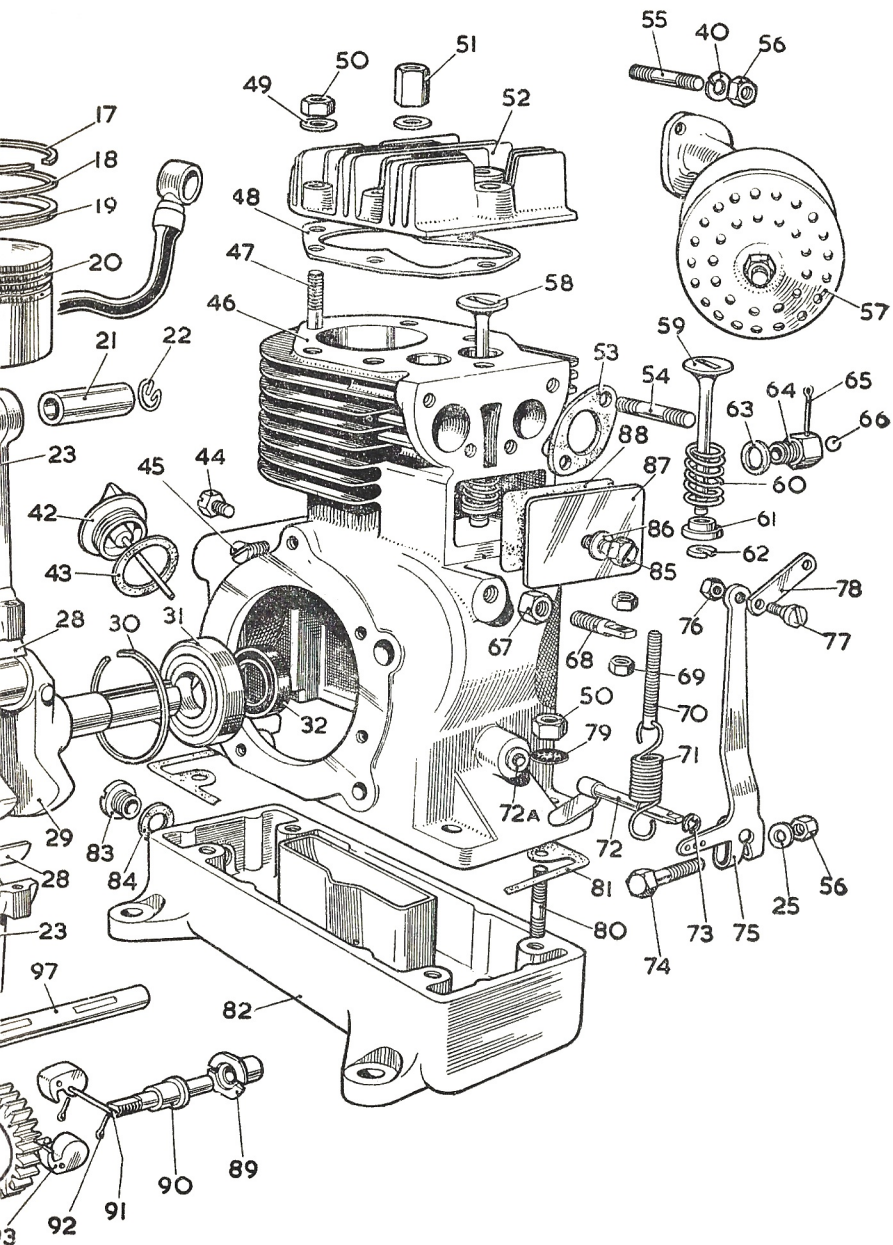


**MAGNETO.**  
(Mks. 10/1 and 12/1 only).

ILLUS. No.	PART No.	DESCRIPTION	QTY.
1	<b>M.2641E</b>	Circlip, centre nut ... ..	1
2	<b>M.3054E</b>	Nut, centre ... ..	1
3	<b>M.2907E</b>	Screw, cover plate ... ..	2
4	<b>M.2906E</b>	Cover plate (2 $\frac{1}{4}$ " overall) ... ..	1
or	<b>M.3122E</b>	" " (2 $\frac{3}{8}$ " " ) ... ..	1
5	<b>R.336</b>	Flywheel with fan ... ..	1
6	<b>M.1801E</b>	Screw, locking, point bracket ... ..	1
7	<b>1113/5E</b>	Washer, brass ... ..	4
8	<b>M.1802E</b>	Washer, point bracket screw ... ..	1
9	<b>1047 × 3E</b>	Spring, rocker ... ..	1
10	<b>M.2120E</b>	Pin, point bracket ... ..	1
11	<b>M.2138E</b>	Bush, point bracket pin insulating ... ..	1
12	<b>M.2365E</b>	Strip, rocker connecting ... ..	1
13	<b>EM.1001</b>	Nut ... ..	3
14	<b>M.2714E</b>	Washer, shakeproof ... ..	2
15	<b>M.1805E</b>	Washer, insulating, point bracket pin ... ..	2
16	<b>M.2293E</b>	Point bracket ... ..	1
17	<b>M.2141/1D</b>	Rocker arm ... ..	1
18	<b>V.111 × 2E</b>	Pin, split ... ..	1
19	<b>E.5257</b>	Washer, pivot pin, .032" ... ..	} As reqd.
"	<b>M.2985E</b>	" " " .022" ... ..	
"	<b>M.3127E</b>	" " " .005" ... ..	
"	<b>M.3128E</b>	" " " .015" ... ..	
20	<b>A.308</b>	Stator assembly complete ... ..	1
21	<b>M.2911E</b>	Shoe, L.T. leads ... ..	4
22	<b>M.2916E</b>	Condenser ... ..	1
23	<b>EM.2296</b>	Lead, L.T., coil to point bracket ... ..	1
24	<b>M.3027E</b>	Screw, bracket lubricating pad ... ..	1
25	<b>FG.161E</b>	Washer, lubricator bracket screw ... ..	1
26	<b>1086 × 4E</b>	Cut-out switch ... ..	1
27	<b>1089 × 9E</b>	Screw, cut-out lever ... ..	1
28	<b>M.2707E</b>	Washer, shakeproof ... ..	3
29	<b>M.2914D</b>	Bracket, lubricator pad ... ..	1
30	<b>M.2859D</b>	Pad, oil ... ..	1
31	<b>EM.2612</b>	Coil, ignition ... ..	1
32	<b>M.2788E</b>	Grommet (H.T. lead) ... ..	1
33	<b>EM.2541</b>	H.T. lead, 15" ... ..	1
34	<b>E.5561</b>	Screw, condenser clip ... ..	1
35	<b>M.2917E</b>	Screw, coil fixing ... ..	2
36	<b>M.1670E</b>	Screw, cut-out contact ... ..	1
37	<b>1013/13E</b>	Bush, insulating, cut-out screw ... ..	1
38	<b>EM.2613</b>	Lead, L.T., point bracket to cut-out ... ..	1



ENGINE, COWL and



FUEL TANK ASSEMBLY.

## ENGINE GROUP.

ILLUS. No.	PART No.	DESCRIPTION	QTY.
1	EM.539	Bolt, tank bracket ... ..	2
2	DM.1370	Bracket, tank, short ... ..	1
3	DM.1369	Bracket, tank, long ... ..	1
4	E.2667	Washer ... ..	1
5	EM.1812	Bolt, top, tank bracket ... ..	2
6	EG.542	Trunnion, tapped ... ..	4
7	EM.596	Strip, ignition cut-out ... ..	1
8	E.781	Bolt, trunnion ... ..	4
9	EM.276	Trunnion, plain ... ..	4
10	EM.542	Strap, tank ... ..	2
11	EM.1870	Washer, tank cap ... ..	1
12	E.7601	Cap, petrol tank ... ..	1
13	CM.970	Tank, petrol (with cap) ... ..	1
14	V.107 × 4E	Washer, petrol tap ... ..	As reqd.
15	E.9724	Tap, petrol ... ..	1
—	E.10824	Plunger with cork, petrol tap ... ..	1
16	V.1273E	Pipe, petrol, 11" ... ..	1
17	EM.1771	Ring, piston, top, std. size, Mk. 10 ... ..	1
or	EM.1777	" " .015" O/S, " " ... ..	1
or	EM.1778	" " .030" O/S, " " ... ..	1
17	EM.2413	Ring, piston, top, std. size, Mk. 12 ... ..	1
or	EM.2414	" " .015" O/S, " " ... ..	1
or	EM.2415	" " .030" O/S, " " ... ..	1
18	EM.839	Ring, piston, intermediate, std. size, Mk. 10 ... ..	1
or	EM.916	" " " .015" O/S, " " ... ..	1
or	EM.917	" " " .030" O/S, " " ... ..	1
18	EM.942	Ring, piston, intermediate, std. size, Mk. 12 ... ..	1
or	EM.1097	" " " .015" O/S, " " ... ..	1
or	EM.1100	" " " .030" O/S, " " ... ..	1
19	EM.518	Ring, piston scraper, std. size, Mk. 10 ... ..	1
or	EM.658	" " " .015" O/S, " " ... ..	1
or	EM.661	" " " .030" O/S, " " ... ..	1
19	EM.943	Ring, piston scraper std. size, Mk. 12 ... ..	1
or	EM.1098	" " " .015" O/S, " " ... ..	1
or	EM.1101	" " " .030" O/S, " " ... ..	1
20	DM.503	Piston, std. size, Mk. 10 ... ..	1
or	DM.656	" .015" O/S, " " ... ..	1
or	DM.659	" .030" O/S, " " ... ..	1
20	DM.927	Piston, std. size, Mk. 12 ... ..	1
or	DM.1272	" .015" O/S, " " ... ..	1
or	DM.1273	" .030" O/S, " " ... ..	1
21	EM.522	Pin, gudgeon, Mk. 10 ... ..	1
or	EM.926	Pin, gudgeon, Mk. 12 ... ..	1
22	EM.132	Circlip, gudgeon pin ... ..	2
23	DM.911/1	Connecting rod ... ..	1
24	EM.131	Bolt, connecting rod ... ..	2
25	E.2924	Washer, plain ... ..	7
26	EM.196	Nut, connecting rod bolt ... ..	2
27	—	Pin, split, $\frac{1}{16}$ " × $\frac{7}{16}$ " ... ..	2
28	EM.913	Liner, std. size ... ..	1 pr.
or	EM.2557	" .020" U/S ... ..	1 pr.
29	DM.910	Crankshaft (quote No. on balance weight) ... ..	1
30	EM.664	Circlip, ball bearing ... ..	2
31	LS.8	Bearing, ball ... ..	2
32	E.9718	Seal, oil ... ..	2
33	EM.545	Washer, ball bearing packing ... ..	As reqd.
34	DM.530	Washer, joint, stator plate ... ..	1
35	EM.523/2	Gear, timing ... ..	1

## ENGINE GROUP—continued.

ILLUS. No.	PART No.	DESCRIPTION.	QTY
36	<b>E.4873</b>	Key, timing gear ... ..	1
37	<b>E.5257</b>	Washer, cowl screw ... ..	2
38	<b>E.6849</b>	Screw, cowl/stator plate ... ..	2
39	<b>EM.257</b>	Stud, stator plate/crankcase ... ..	4
40	<b>E.1430</b>	Washer, spring ... ..	8
41	<b>E.401</b>	Nut, stator plate fixing ... ..	4
42	<b>EM.2367/2365</b>	Cap, oil filler and dipstick ... ..	1
43	<b>EM.2224</b>	Washer, dipstick ... ..	1
44	<b>E.1962</b>	Screw, tank bracket ... ..	1
45	<b>EM.220</b>	Screw, set, stator plate ... ..	1
46	<b>DM.2483</b>	Cylinder and crankcase, Mk. 10 ... ..	1
—	<b>AM.2373</b>	” ” ” Mk. 12 ... ..	1
47	<b>EM.1799</b>	Stud, cylinder head ... ..	6
48	<b>DM.516</b>	Washer, joint, cylinder head ... ..	1
49	<b>FG.186E</b>	Washer, cylinder head studs ... ..	6
50	<b>E.364</b>	Nut ... ..	9
51	<b>EM.1798</b>	Nut, pillar, cylinder head studs ... ..	2
52	<b>BM.2349</b>	Head, cylinder ... ..	1
53	<b>EM.202</b>	Washer, joint, inlet and exhaust ... ..	2
54	<b>E.4011</b>	Stud, inlet pipe ... ..	2
55	<b>FG.185E</b>	Stud, exhaust pipe ... ..	2
56	<b>E.2539</b>	Nut (except for governor lever bolt) ... ..	4
—	<b>M.2406E</b>	Nut, governor lever bolt ... ..	1
57	<b>EM.327</b>	Silencer ... ..	1
58	<b>EM.925</b>	Valve, inlet, std. ... ..	1
or	<b>EM.1362</b>	” ” .005” O/S stem ... ..	1
59	<b>EM.929</b>	Valve, exhaust, std. ... ..	1
or	<b>EM.1363</b>	” ” .005” O/S stem ... ..	1
60	<b>EM.513/1</b>	Spring, valves ... ..	2
—	<b>25178</b>	Seat, valve spring, top ... ..	2
61	<b>EM.514</b>	Seat, valve springs, bottom ... ..	2
62	<b>EM.515</b>	Collar, valve ... ..	2
63	<b>H.104 × 8E</b>	Washer, breather valve ... ..	1
64	<b>EM.207</b>	Valve, breather body ... ..	1
65	—	Pin, split $\frac{1}{16}$ ” × $\frac{7}{8}$ ” ... ..	1
66	<b>EM.2161</b>	Ball, breather valve ... ..	1
67	<b>EM.236</b>	Nut, anchor bolt, locking ... ..	1
68	<b>EM.223</b>	Bolt, anchor, governor adjuster ... ..	1
69	<b>1002 × 15E</b>	Nut, adjuster, locking ... ..	2
70	<b>E.4869</b>	Adjuster, governor spring ... ..	1
71	<b>EM.222</b>	Spring, governor (1,500 to 2,400 r.p.m.) ... ..	1
or	<b>EM.921</b>	” ” (up to 1,500 r.p.m.) ... ..	1
or	<b>EM.547</b>	” ” (over 2,400 r.p.m.) ... ..	1
72	<b>EM.2640</b>	Crank, governor ... ..	1
72a	<b>EM.2109</b>	Bush, governor crank ... ..	1
73	<b>EM.2038</b>	Circlip ... ..	1
74	<b>E.3222/1</b>	Bolt, governor lever ... ..	1
75	<b>DM.1883</b>	Lever, governor ... ..	1
76	<b>1004 × 5E</b>	Nut, pivot pin ... ..	2
77	<b>V.626E</b>	Pin, pivot ... ..	1
78	<b>EM.194</b>	Link, carburetter ... ..	1
79	<b>E.9723</b>	Washer, shakeproof ... ..	4
80	<b>E.4160</b>	Stud, crankcase base ... ..	4
81	<b>DM.2409</b>	Washer, joint, crankcase/base ... ..	1
82	<b>BM.2324</b>	Base (quote No. cast on bottom) ... ..	1
83	<b>E.4104/1</b>	Plug, drain ... ..	1

**ENGINE GROUP—continued.**

ILLUS. No.	PART No.	DESCRIPTION.	QTY.
84	<b>26403</b>	Washer, drain plug ... ..	1
85	<b>EM.2505</b>	Screw, cover plate ... ..	1
86	<b>V.476E</b>	Washer, cover plate screw ... ..	1
87	<b>EM.597</b>	Cover plate ... ..	1
88	<b>EM.533</b>	Washer, joint, cover plate ... ..	1
89	<b>EM.129/1</b>	Sleeve, governor gear ... ..	1
90	<b>EM.128/1</b>	Spindle, governor gear ... ..	1
91	<b>EM.217</b>	Pin, governor weights ... ..	2
92	<b>V.111 × 2E</b>	Pin, split ... ..	6
93	<b>EM.701</b>	Weight, governor gear ... ..	2
94	<b>A.27905</b>	Gearwheel, bush, and guide pin assy. ... ..	1
—	<b>A.27670</b>	Governor gear assy. ... ..	1
95	<b>EM.341</b>	Lockplate, governor spindle ... ..	1
96	<b>DM.507</b>	Camshaft ... ..	1
97	<b>EM.521</b>	Spindle ... ..	1
98	<b>EM.546</b>	Circlip ... ..	1
99	<b>EM.520</b>	Tappet ... ..	2
100	<b>AM.519/2</b>	Cowl ... ..	1
101	<b>27420</b>	Pulley, starter, with gauze ... ..	1
—	<b>EM.2687</b>	Washer, starter pulley ... ..	1
102	<b>EM.2504</b>	Washer, starter pulley bolt ... ..	1
103	<b>1140 × 12E</b>	Bolt, starter pulley ... ..	1

Where a pump is bolted direct to the crankcase, the following alternative and special parts may be fitted :—

<b>DM.2698</b>	Crankcase (Mk. 10).
* <b>DM.2699</b>	„ (Mk. 12).
<b>DM.2519</b>	Crankshaft.
<b>EM.2675</b>	Seal, oil.

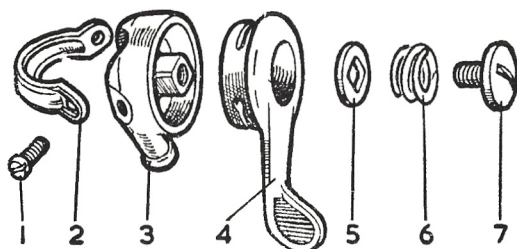
\* or Built-up crankcase comprising :—**DM.2521** Crankcase, **DM.2520** Plate, adaptor, **EM.220** Screw, adaptor plate (2).

**Alternative Parts** when engines rotate in Reverse Direction, i.e. clockwise viewed from driving-shaft end :—

<b>CM.2781/EM.2010</b>	Cowl.
<b>40462</b>	Crankshaft (quote No. on balance weight).
<b>EM.2002</b>	Camshaft.
<b>R.343</b>	Flywheel, 10/1, 12/1 only.
<b>27862</b>	Centre nut, 10/2, 12/2 only.
<b>27442</b>	Starting pulley and gauze assembly.
<b>60286</b>	Flywheel, 10/2, 12/2 only.

★ Where engines are built to machine manufacturers' specific requirements, certain special parts may not be included in this spares list. We can supply the correct replacement parts if the description and full engine number are given.





**CONTROL LEVER (Type 4).  
VARIABLE SPEED CONTROL.**

The following parts are fitted to some engines in place of the standard spring tension adjuster and anchor bolt.

ILLUS. No.	PART No.	DESCRIPTION
—	<b>Quote Engine No.</b>	Cable with bracket and adjuster.
—	<b>E.1962</b>	Screw, bracket fixing.
—	<b>Quote Engine No.</b>	Control, Type 4, complete. Consisting of :—
1	<b>V.1525E</b>	Screw, clip (2).
	<b>V.1528E</b>	Clip, body ( $\frac{3}{8}$ " dia. fixing).
or	<b>V.1481E</b>	Clip, body ( $\frac{3}{8}$ " dia. fixing).
or	<b>V.1529E</b>	Clip, body (1" dia. fixing).
3	—	Body, control (quote No. cast on underside).
4	<b>V.1483C</b>	Lever.
5	<b>V.1371E</b>	Washer, locating.
6	<b>V.1572E</b>	Spring.
7	<b>V.1368E</b>	Screw.
—	<b>V.2111E</b>	Washer, friction.

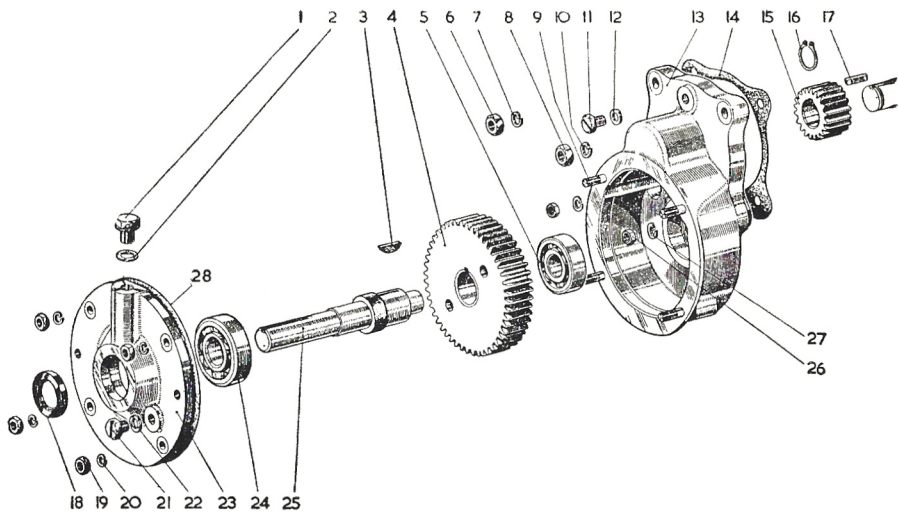
#### IDLING CONTROL.

Engines to certain specifications are fitted with an idling control incorporating the following parts :—

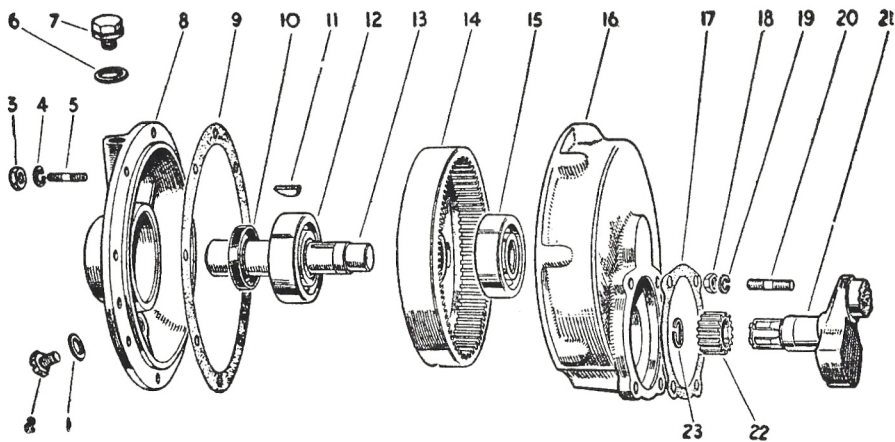
<b>1004 × 5E</b>	Nut (2).
<b>EM.1990</b>	Washer, fibre.
<b>EM.1959</b>	Lever.
<b>EM.1973</b>	Washer, domed.
<b>V.1061E</b>	Screw, pivot.
<b>EM.1964</b>	Bracket.
<b>E.3222/1</b>	Bolt, inlet pipe.
<b>E.9722</b>	Washer, shakeproof.
<b>DM.2287</b>	Control lever assembly.

#### TOOLS, etc.

<b>M.2715E</b>	Screwdriver.	} For contact breaker adjustment.
<b>M.2693E</b>	Feeler gauge	
<b>E.7402</b>	Plug spanner (14 mm.)	
<b>EM.556/7</b>	Starting rope—for standard engine.	
<b>Lodge BN</b>	Sparking plug.	
<b>M.2491E</b>	Suppressor, H.T. lead, 10/1, 12/1 only.	
<b>EM.548</b>	Spanner, flywheel centre nut.	



**REDUCTION GEAR (Ratio 3-1).**



**REDUCTION GEAR (Ratio 6-1).**

### REDUCTION GEAR (Ratio 3-1).

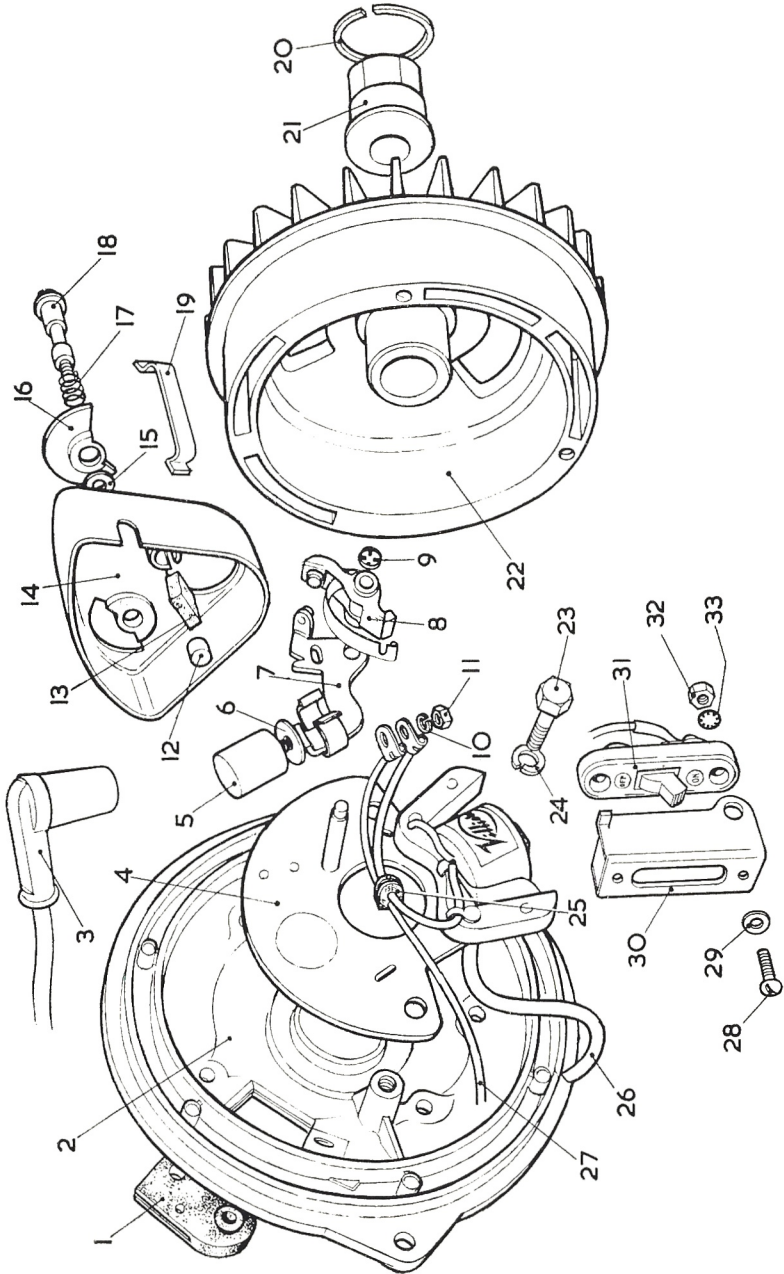
ILLUS. No.	PART No.	DESCRIPTION.	QTY
—	<b>DM.2487</b>	Cylinder and crankcase with studs, Mk. 10 RG	1
—	<b>DM.2486</b>	As above for Mark 12 RG. engine ... ..	1
—	<b>E.2152</b>	Stud, long, in crankcase for reduction gear casing	2
—	<b>E.8470</b>	Stud, short, in crankcase for reduction gear casing	2
1	<b>E.5267</b>	Oil filler plug ... ..	1
2	<b>V.107×3E</b>	Washer ... ..	1
3	<b>EM.1813</b>	Woodruff key for large gear wheel ... ..	1
*4	<b>DM.773</b>	Large gear wheel ... ..	1
*4	<b>DM.773</b>	Large gear wheel ... ..	1
6 & 8	<b>E.364</b>	Nut for gear-case retaining stud (large hexagon)	2
7 & 10	<b>E.1050</b>	Washer, spring ... ..	2
9	<b>FG.185</b>	Stud in gearcase securing end cover ... ..	4
11 & 21	<b>E.1962</b>	Plug ... ..	2
12 & 22	<b>E.1905</b>	Washer ... ..	2
13	<b>CM.770</b>	Casing, gear ... ..	1
14	<b>DM.814</b>	Gasket ... ..	1
*15	<b>EM.775</b>	Pinion, crankshaft ... ..	1
16	<b>EM.949</b>	Circlip ... ..	1
17	<b>EM.793</b>	Key ... ..	1
—	<b>40085</b>	Crankshaft ... ..	1
18	<b>E.9718</b>	Oil seal ... ..	1
19	<b>E.401</b>	Nut ... ..	4
20	<b>E.1430</b>	Washer, spring ... ..	4
23	<b>CM.771</b>	End cover ... ..	1
24	<b>LS.8</b>	Outer ball bearing, $\frac{3}{4}$ " $\times$ $1\frac{1}{8}$ " $\times$ $\frac{9}{16}$ " ... ..	1
25	<b>DM.772</b>	Shaft, gear ... ..	1
26	<b>E.3961</b>	Nut for gearcase retaining stud (small hexagon)	2
27	<b>E.1050</b>	Washer, spring ... ..	2
28	<b>DM.833</b>	Gasket ... ..	1

\*4 will be replaced by DM.2626 and 15 by 25636. Do not use old pattern with new and vice versa.

### REDUCTION GEAR (Ratio 6-1).

—	<b>DM.2487</b>	Cylinder and crankcase, Mk. 10 RG. ... ..	1
—	<b>DM.2486</b>	Cylinder and crankcase, Mk. 12 RG. ... ..	1
1	<b>E.1905</b>	Washer, oil level plug ... ..	1
2	<b>E.1962</b>	Oil level plug ... ..	1
3	<b>E.401</b>	Nut, $\frac{1}{4}$ " ... ..	8
4	<b>E.1430</b>	Spring washer ... ..	8
5	<b>FG.185</b>	Stud in gearcase ... ..	8
6	<b>V.107×3E</b>	Washer, oil filler plug ... ..	1
7	<b>E.5267</b>	Oil filler plug ... ..	1
8	<b>CM.1337</b>	End cover ... ..	1
9	<b>DM.1343</b>	Gasket, end cover ... ..	1
10	<b>E.9718</b>	Oil seal ... ..	1
11	<b>EM.1813</b>	Key for large wheel ... ..	1
12	<b>MS.10</b>	Outer ball bearing, $1$ " $\times$ $2\frac{1}{2}$ " $\times$ $\frac{3}{4}$ " ... ..	1
13	<b>DM.1341</b>	Gearshaft ... ..	1
14	<b>DM.1338</b>	Large wheel ... ..	1
15	<b>LS.8</b>	Inner ball bearing, $\frac{3}{4}$ " $\times$ $1\frac{1}{4}$ " $\times$ $\frac{3}{16}$ " ... ..	1
16	<b>CM.1336</b>	Casing, gear ... ..	1
17	<b>DM.814</b>	Gasket ... ..	1
18	<b>E.364</b>	Nut ... ..	4
19	<b>E.1050</b>	Washer, spring ... ..	4
20	<b>E.2152</b>	Stud ... ..	4
21	<b>DM.1340</b>	Crankshaft ... ..	1
22	<b>EM.1342</b>	Pinion, crankshaft ... ..	1
23	<b>EM.1344</b>	Circlip ... ..	1

BACK-PLATE, MAGNETO AND SWITCH,  
MARKS 10/2 and 12/2 ENGINES.

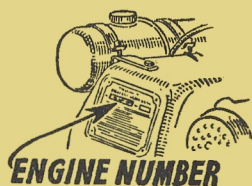


**BACK-PLATE, MAGNETO AND SWITCH,  
MARKS 10/2 and 12/2 ENGINES.**

ILLUS. No.	PART No.	DESCRIPTION.
1	<b>27346</b>	Grommet, switch and H.T. leads.
2	<b>60019</b>	Back-plate.
3	<b>M.2490E</b>	Cover, plug and suppressor.
—	<b>27268</b>	Stator plate assembly (with coil, contact breaker, capacitor, leads, etc.)
4	<b>25055</b>	Stator plate assembly (with coil and core only).
5	<b>25076</b>	Capacitor (condenser) assembly.
6	<b>25078</b>	Washer, insulating, capacitor.
7	<b>25075</b>	Point bracket assembly.
8	<b>25077</b>	Rocker arm assembly.
9	<b>27035</b>	Washer, retaining rocker arm/pivot pin.
10	<b>27491</b>	Washer, spring.
11	<b>27490</b>	Nut, L.T. leads to capacitor.
12	<b>25650</b>	Plug, lubricating pad.
13	<b>25114</b>	Pad, lubricating.
14	<b>40139</b>	Casing, contact breaker.
15	<b>25604</b>	Washer, distance, adjuster screw.
16	<b>25548</b>	Cover, contact breaker inspection.
17	<b>25702</b>	Spring, adjuster screw.
18	<b>25547</b>	Screw, adjuster.
19	<b>25546</b>	Clip, contact breaker casing (2).
20	<b>M.2641E</b>	Circlip, flywheel centre nut.
21	<b>M.3054E</b>	Nut, flywheel centre.
22	<b>60079</b>	Flywheel.
23	<b>25602</b>	Bolt, stator plate/back-plate (2).
24	<b>25592</b>	Washer, spring (2).
25	<b>25044</b>	Grommet, L.T. leads.
26	<b>27390</b>	Lead, H.T. assembly.
—	<b>25765</b>	Screw, H.T. lead/coil.
27	<b>27387</b>	Lead, ignition switch assembly.
28	<b>26253</b>	Screw, ignition switch (2).
29	<b>1113 × 5E</b>	Washer, switch screw (2).
30	<b>26690</b>	Bracket, switch.
31	<b>A.25725</b>	Switch, ignition.
32	<b>EM.1001</b>	Nut (2).
33	<b>M.2714E</b>	Washer, shakeproof (2).



# SERVICE REPLACEMENT AND REPAIR ORGANISATION.



To enable users to obtain speedy servicing of Villiers Engine Units the following exchange assemblies are obtainable through "Villiers" Officially Appointed Service Depots.

- (1) Engine Unit complete with magneto and carburetter.
- (2) Magneto complete (10/1, 12/1 only).
- (3) Carburetter (less air filter).
- (4) Rebored cylinder with oversize piston complete. (The cylinder presented for exchange must be suitable for reboring to our maximum oversize of .030").
- (5) Crankshaft reground .020" undersize, with liners.

Prices and delivery details of replacement assemblies can be obtained from your nearest Service Depot or direct from our Service Department, who will also be pleased to advise you of the nearest Villiers Service Depot for Industrial and Agricultural Engines.

Our Service Depots also carry comprehensive stocks of genuine Villiers Spares, and, in addition to carrying out the exchange service referred to above, are fully equipped to carry out complete overhauls of all types of Villiers Industrial and Agricultural Engines.

Should it be inconvenient for you to obtain your requirements from a Villiers Service Depot we are prepared to accept complete Engine Units and Sub-assemblies for repair or replacement. In this event the following points should be carefully noted.

## ESTIMATES.

If requested at the time of despatch, we are prepared to give an estimate before proceeding with any repair. This entails a certain amount of labour in dismantling to ascertain what new parts will be required, therefore, in the case of any estimate not being accepted, a charge is made for our mechanic's time in taking down the engine for report, the re-building, and return carriage costs.

Estimates must be treated as approximate only. We reserve the right to include additional parts should these be found, on further examination or on bench test to be necessary to make the repair satisfactory.

We do not undertake to fit to engines sent to us for overhaul, such parts as specified by the customer if we consider that other parts are necessary to make an efficient repair. In such cases, we are prepared to supply the customer's requirements in spares, but we do not undertake to fit them.

## IMPORTANT.

1.—In correspondence, and when ordering replacement assemblies or spares, always quote the Engine Specification and Serial Number stamped on the plate attached to the engine cowling. This is most essential as there are minor changes from standard in many engines supplied for various purposes. The parts listed in this booklet relate to standard engines only.

The number is comprised of two parts, the first being the SPECIFICATION Number which is the key to the component parts fitted, and the second being the Engine Serial Number by which the date of manufacture, etc., can be determined. e.g. 298C/1342.

The **Magneto** on 10/1, 12/1 engines also bears identification numbers, e.g. R336/A308—these are stamped on the flywheel between the fan blades. Only the flywheel of 10/2, 12/2 engines bears a reference, e.g. 60079 4 62—marked on the outside rim.

The **Carburetter body**, bottom half, has part numbers cast on.

2.—When sending parts for replacement, repair, or as pattern, the name and address of the sender should always be securely attached, and full instructions explaining what is required must also be sent separately by post. In no circumstances should instructions be sent only with the parts as they are liable to be lost or damaged in unpacking.

3.—If an engine is sent for repair, it should be well packed in a strong wooden box. Cardboard or a sack is insufficient; engines so packed are liable to get seriously damaged in transit. Packing cases are not returnable unless specially asked for by the owner at the time of sending to us.

4.—All goods must be consigned to us carriage paid, addressed to "Service Dept." Goods returned by rail are consigned carriage paid.

5.—As we are not manufacturers of complete vehicles or other machines, only the engine, magneto and carburetter should be sent to us. If machines are forwarded an extra charge will be made for dismantling the engine from the frame and returning the components that are not of our manufacture.

6.—We prefer to bench test every repaired engine before returning it to its owner. It is, therefore, always advisable to send the engine complete with its magneto, sparking plug and carburetter.

7.—When forwarding a flywheel magneto for overhaul, send the armature plate and the flywheel complete.

8.—Any engine or sub-assembly sent to our Works for repair and not paid for within 12 months from the date of our estimate or from the date the owner is notified of completion of repair, will be dealt with under The Disposal of Uncollected Goods Act, 1952.

9.—An extra amount must always be included in remittances to cover the cost of postage or carriage and packing on spare parts. This is 5% extra up to £10 value. Minimum extra is 1/-. Stamps cannot be accepted for items over 1/- in value.

10.—When making remittances by telegraph money order, the name and address of the sender must be included in the space provided on the Post Office Requisition Form for a private message from remitter to payee. Unless this is done, the Post Office does not give this information upon the telegram.

## GUARANTEE.

**W**E give the following guarantee with VILLIERS Engines and Accessories in place of any implied guarantee by statute or otherwise, all such guarantees being in all cases excluded. No statement or representation contained in this catalogue shall be construed as enlarging or varying this guarantee. In the case of engines and accessories which have been used for "hiring out" purposes, or from which our trade mark, name or manufacturing number has been removed, no guarantee of any kind is given or is to be implied.

We guarantee subject to the conditions mentioned below, that all precautions which are usual and reasonable have been taken by us to secure excellence of materials and workmanship, but this guarantee is to extend and to be in force for six months only from the date the engines or accessories are purchased by the first owner user, and the damages for which we make ourselves responsible under this guarantee are limited to the replacement of a part manufactured by us which may have proved defective. We cannot accept responsibility for the replacement of any proprietary articles or parts not manufactured by us, unless the makers of these parts agree to replacement. We do not undertake to refit or bear the cost of replacement or refitting such new part.

As VILLIERS Engines and accessories are liable to derangement by neglect or misuse, this guarantee does not apply to defects caused by wear and tear, misuse and neglect.

## CONDITIONS OF GUARANTEE.

If a defective part should be found in our engines or accessories, it must be sent to us carriage paid and accompanied by an intimation from the sender that he desires to have it repaired free of charge, under our guarantee, and he must also furnish us at the same time with the number of the engine and full particulars of purchase. Failing compliance with the above, no notice will be taken of anything that may arrive, but such articles will lie here at the risk of the sender, and this guarantee or any implied guarantee shall not be enforceable.

THE TERM 'AGENT' is used in a complimentary sense only, and those firms whom we style our agents are not authorised to advertise, incur any debts, or transact any business whatsoever on our account other than the sale of goods which they may purchase from us, nor are they authorised to give any warranty or make any representations on our behalf or sell subject to or with any conditions other than those contained in the above guarantee.

The guarantee becomes void if any parts not made or supplied by THE VILLIERS ENGINEERING COMPANY LTD., are fitted to a VILLIERS engine. To safeguard his own interests, the owner should always insist upon genuine VILLIERS parts.

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## THE VILLIERS ENGINEERING COMPANY LTD.

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