



**Marks 10/1 & 10/2**  
(98 c.c.)

AND  
**12/1 & 12/2**  
(120c.c.)

**FOUR-STROKE ENGINES**

Winget Limited are unable to supply spares parts for Villiers Engines.

Winget Limited are also unable to offer Service or Technical advice to users of Villiers Engines fitted in other Manufacturers Equipment.

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**OPERATING  
AND SPARES  
HANDBOOK**



*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.**

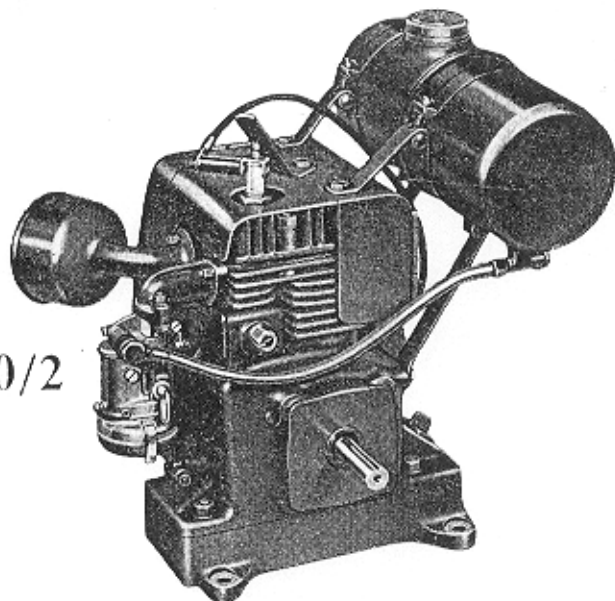
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\* Insist on

GENUINE

*Villiers* SPARES

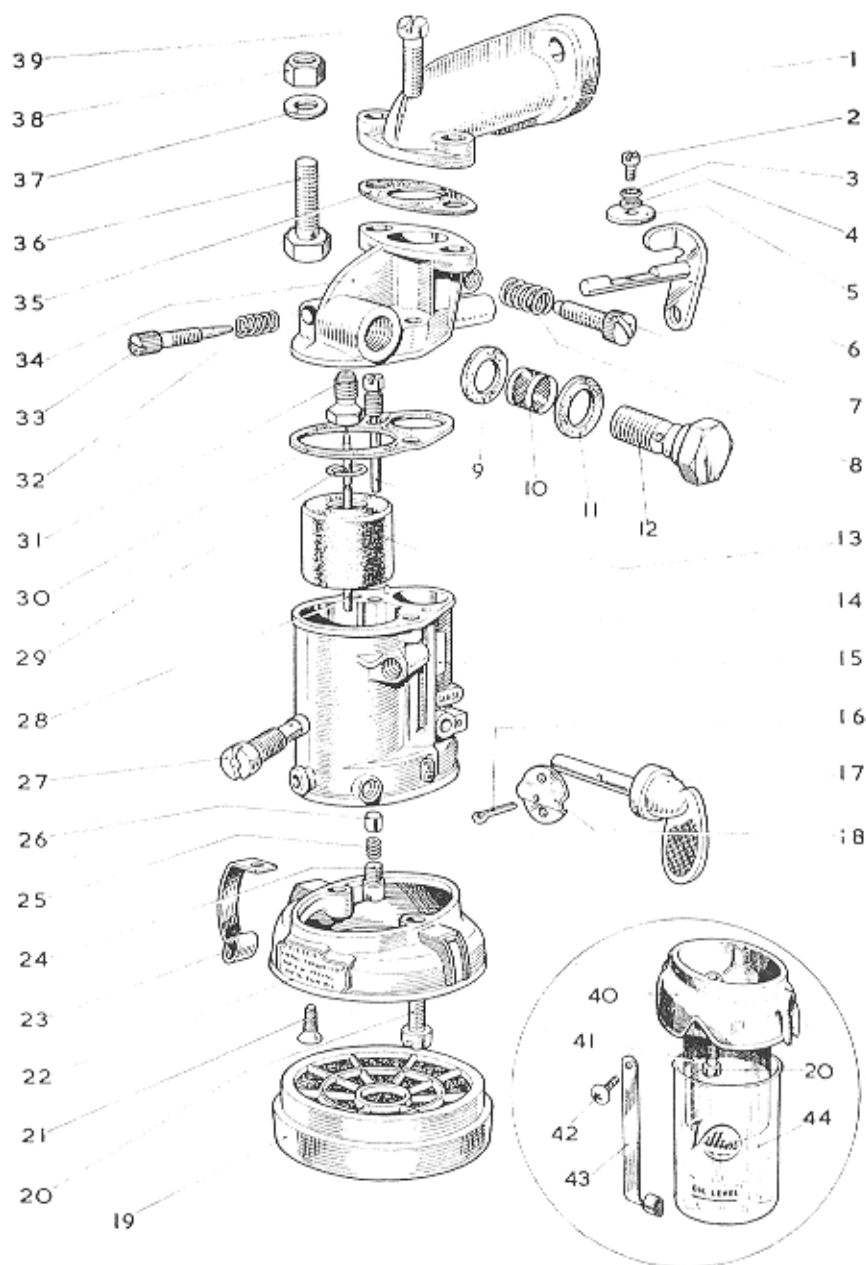
Marks 10/1, 10/2  
and  
12/1, 12/2

### 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).
Power Output—Continuous Running						
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	...	...	...	...	...	$\frac{1}{2}$ 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.

# CARBURETTER TYPE B.10/1.



## CARBURETTER, TYPE B.10/1.

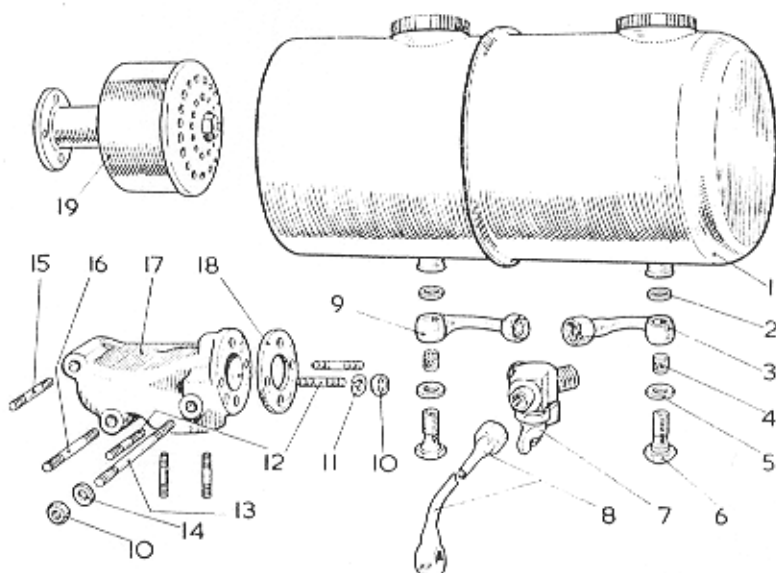
ILLUS No.	PART No.	DESCRIPTION	
1	<b>DM.1882</b>	Pipe, inlet.	
2	<b>V.1241E</b>	Screw, throttle plate.	
3	—	Not now fitted.	
4	<b>1035 × 7E</b>	Washer, plain, throttle plate.	
5	<b>V.1240E</b>	Plate, throttle.	
6	<b>25659/60</b>	Lever and spindle, throttle.	
7	<b>V.1331E</b>	Screw, throttle stop.	
8	<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, $\frac{5}{8}$ " choke	} For vaporising oil engines affix letters C/P.
or	<b>V.2076C</b>	" " $\frac{1}{2}$ " "	
or	<b>V.2077C</b>	" " $\frac{7}{16}$ " "	
or	<b>V.2078C</b>	" " $\frac{3}{4}$ " "	
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	V.1545E	Jet, main, 40 c.c.
or	V.1544E	.. .. 42 c.c.
or	V.1546E	.. .. 44 c.c.
or	V.1704E	.. .. 46 c.c.
or	V.1594E	.. .. 48 c.c.
28	V.1873E	Needle, fuel.
29	26697	Circlip, fuel needle.
30	V.1353E	Washer, joint, body.
31	V.1871E	Seating, fuel needle valve.
32	E.4270	Spring, pilot jet adjuster screw.
33	V.885E	Screw, pilot jet adjusting.
34	V.1303C	Body, top half.
35	EM.1919	Washer, joint, carburetter/inlet pipe.
or	26593	Washer, joint, carburetter flange
—	E.10104/1	Washer, insulating
36	EM.1580	Bolt, carburetter/inlet pipe (2).
37	V.157 × 2E	Washer, carburetter/inlet pipe bolt (2).
38	EM.1565	Nut, carburetter/inlet pipe bolts (2).
39	E.5102	Screw, body, top/bottom (2).
40	V.1270/1C	Cover, filter, oil bath.
41	V.1314D	Filter element, oil bath.
42	EM.2298	Screw, clip, oil bath filter (2).
43	V.1729E	Clip, cup, oil bath filter (2).
44	V.1272D	Cup, oil bath filter.
	V.1467E	Screw, float chamber drain (for Vap. Oil body).
	V.1273E	Pipe, petrol, 11" } Quote engine number
or	V.1254E	.. .. 12" } for other lengths.

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

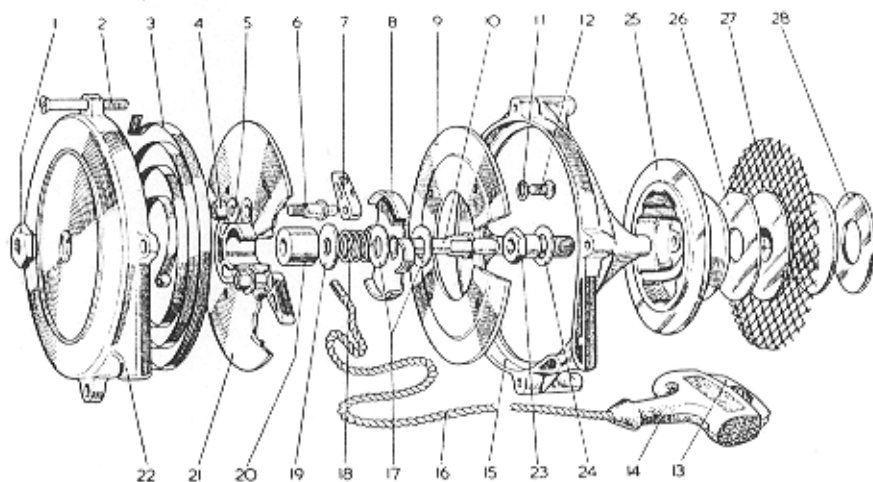
	V.1459E	Needle, fuel control assembly (in lieu of illus. 31)
	V.1031E	Float (in lieu of illus. 14).
	V.1333C	Body, bottom half, $\frac{3}{8}$ " choke (in lieu of illus. 15).
or	V.1334C	.. .. " $\frac{1}{2}$ " .. ( .. .. ..).
or	V.1335C	.. .. " 1" .. ( .. .. ..).



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

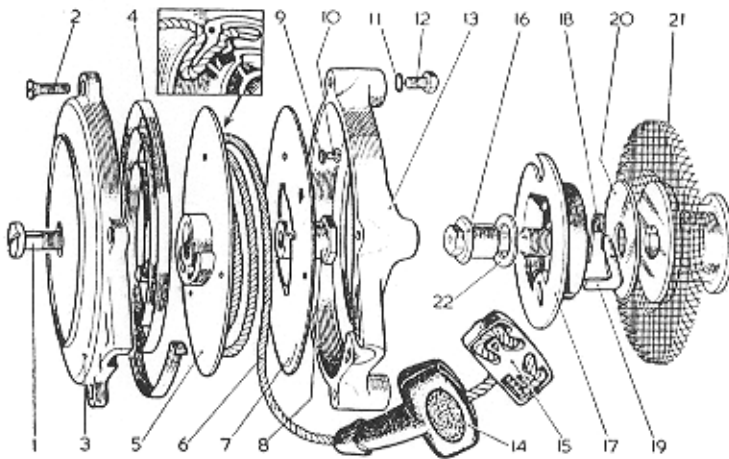
ILLUS No.	PART No.	DESCRIPTION
—	<b>B.10/1 P/P</b>	Carburettor complete.
1	<b>CM.1023</b>	Tank, fuel, two compartments
2	<b>V.383E</b>	Washer, fibre, small hole (2).
3	<b>EM.601</b>	Pipe, petrol, short.
4	<b>V.404E</b>	Gauze, filter, for banjo (2).
5	<b>H.104×8</b>	Washer, fibre, large hole (2).
6	<b>V.382E</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, carburettor flange (2).
—	<b>M.2604E</b>	Nut, carburettor 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.

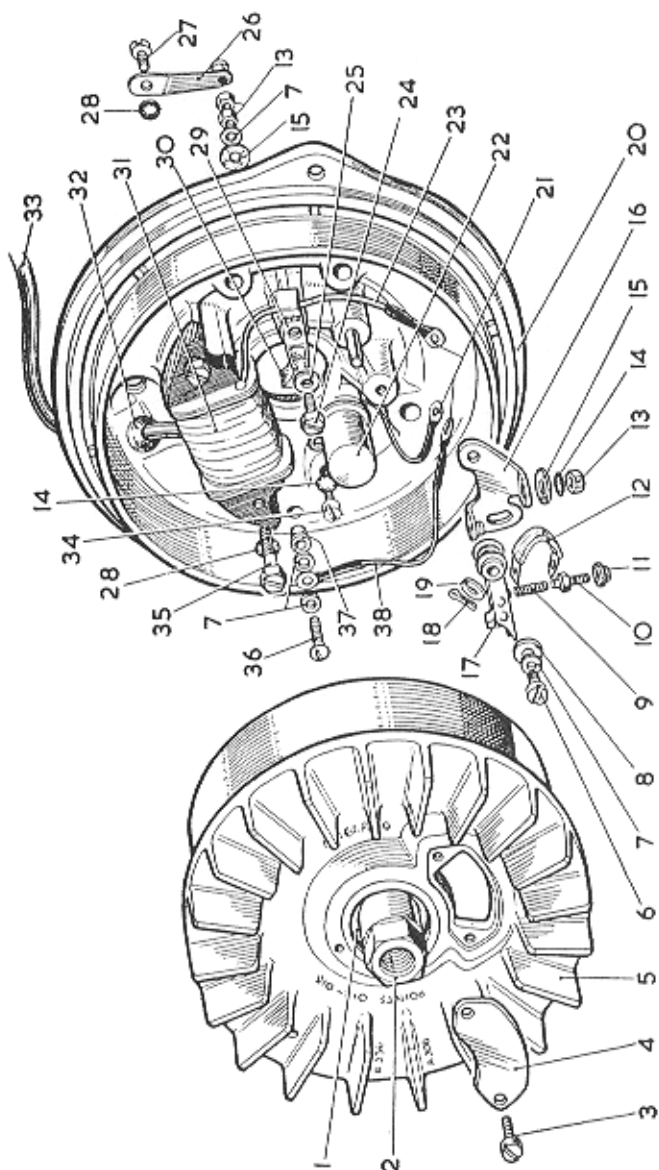


RE-COIL STARTER—(Earlier Type).

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

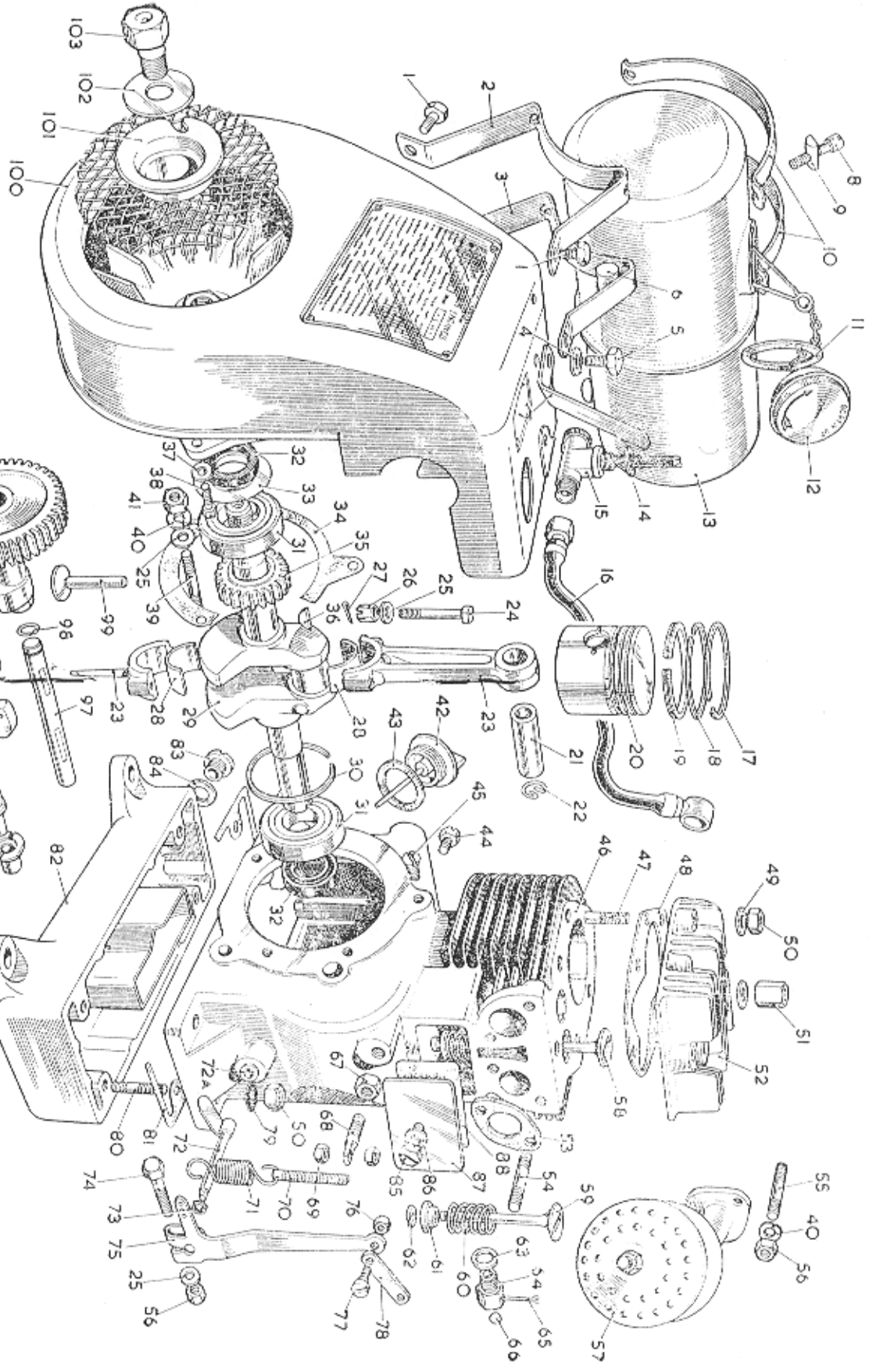
# MAGNETO.

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



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

ILLUS. No.	PART No.	DESCRIPTION	QTY.
1	M.2641E	Circlip, centre nut ... ..	1
2	M.3054E	Nut, centre ... ..	1
3	M.2907E	Screw, cover plate ... ..	2
4	M.2906E	Cover plate (2½" overall) ... ..	1
or	M.3122E	.. .. (2½" .. ) ... ..	1
5	R.336	Flywheel with fan ... ..	1
6	M.1801E	Screw, locking, point bracket ... ..	1
7	1113/5E	Washer, brass ... ..	4
8	M.1802E	Washer, point bracket screw ... ..	1
9	1047 × 3E	Spring, rocker ... ..	1
10	M.2120E	Pin, point bracket ... ..	1
11	M.2138E	Bush, point bracket pin insulating ... ..	1
12	M.2365E	Strip, rocker connecting ... ..	1
13	EM.1001	Nut ... ..	3
14	M.2714E	Washer, shakeproof ... ..	2
15	M.1805E	Washer, insulating, point bracket pin ... ..	2
16	M.2293E	Point bracket ... ..	1
17	M.2141/1D	Rocker arm ... ..	1
18	V.111 × 2E	Pin, split ... ..	1
19	E.5257	Washer, pivot pin, .032" ... ..	As reqd.
..	M.2985E	.. .. .022" ... ..	
..	M.3127E	.. .. .005" ... ..	
..	M.3128E	.. .. .015" ... ..	
20	A.308	Stator assembly complete ... ..	1
21	M.2911E	Shoe, L.T. leads ... ..	4
22	M.2916E	Condenser ... ..	1
23	EM.2296	Lead, L.T., coil to point bracket ... ..	1
24	M.3027E	Screw, bracket lubricating pad ... ..	1
25	FG.161E	Washer, lubricator bracket screw ... ..	1
26	1086 × 4E	Cut-out switch ... ..	1
27	1089 × 9E	Screw, cut-out lever ... ..	1
28	M.2707E	Washer, shakeproof ... ..	3
29	M.2914D	Bracket, lubricator pad ... ..	1
30	M.2859D	Pad, oil ... ..	1
31	EM.2612	Coil, ignition ... ..	1
32	M.2788E	Grommet (H.T. lead) ... ..	1
33	EM.2541	H.T. lead, 15" ... ..	1
34	E.5561	Screw, condenser clip ... ..	1
35	M.2917E	Screw, coil fixing ... ..	2
36	M.1670E	Screw, cut-out contact ... ..	1
37	1013/13E	Bush, insulating, cut-out screw ... ..	1
38	EM.2613	Lead, L.T., point bracket to cut-out ... ..	1



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

**ENGINE GROUP—continued.**

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

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

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

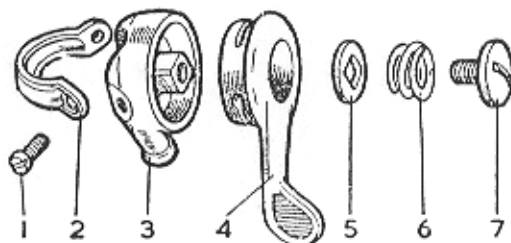
\* or Built-up crankcase comprising :—DM.2521 Crankcase,  
DM.2520 Plate, adaptor, EM.220 Screw, adaptor plate (2).

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

CM.2781/EM.2010	Cowl.
40462	Crankshaft (quote No. on balance weight).
EM.2002	Camshaft.
R.343	Flywheel, 10/1, 12/1 only.
27862	Centre nut, 10/2, 12/2 only.
27442	Starting pulley and gauze assembly.
60286	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).
2	<b>V.1528E</b>	Clip, body ( $\frac{1}{2}$ " 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.

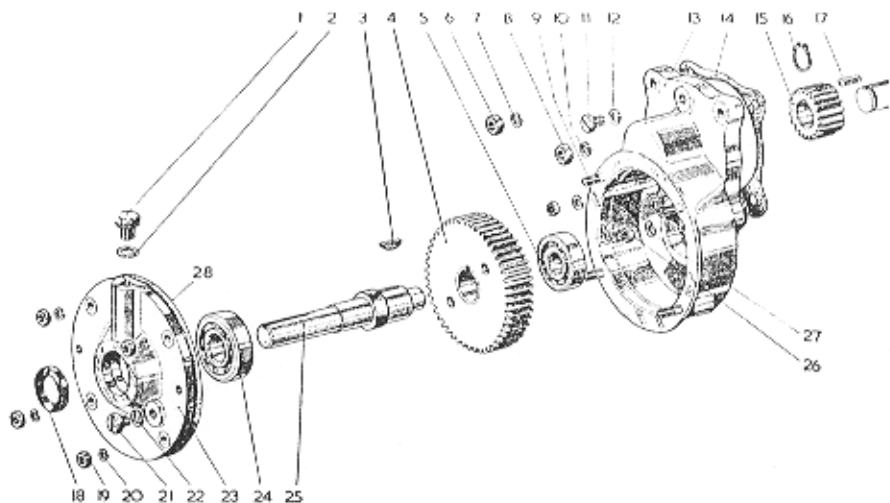
**IDLING CONTROL.**

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

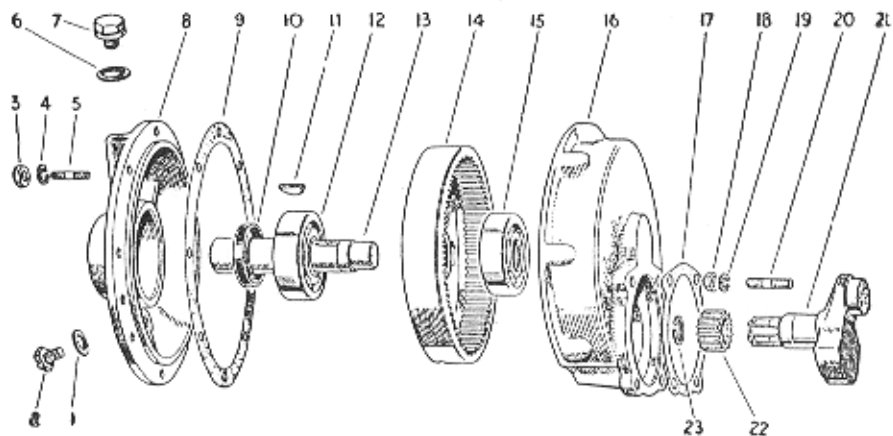
<b>1004 x 5E</b>	Nut (2).
<b>EM.1990</b>	Washer, fibre.
<b>EM.1959</b>	Lever.
<b>EM.1973</b>	Washer, domed.
<b>V.1061E</b>	Screw, pivot.
<b>EM.1964</b>	Bracket.
<b>E.3222/1</b>	Bolt, inlet pipe.
<b>E.9722</b>	Washer, shakeproof.
<b>DM.2287</b>	Control lever assembly.

**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).

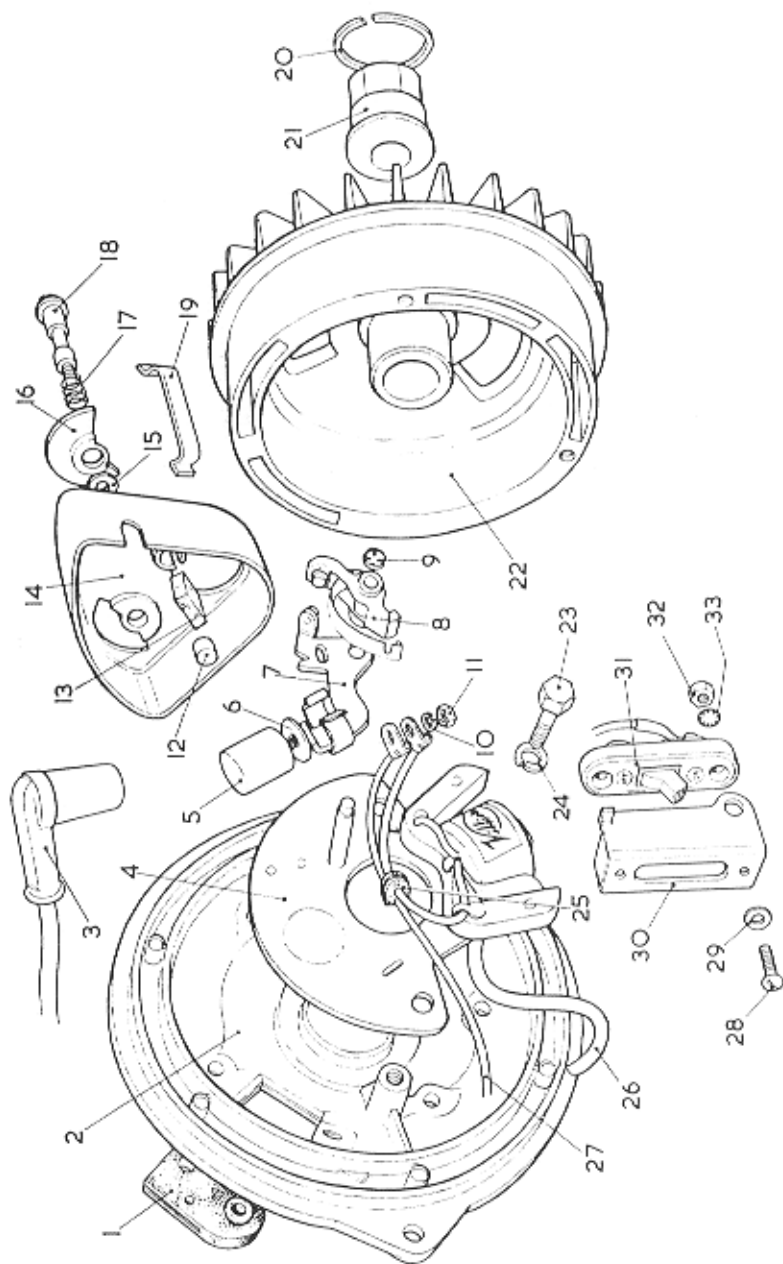
ILLUS. No.	PART No.	DESCRIPTION.	QTY
---	DM.2487	Cylinder and crankcase with studs, Mk. 10 RG	1
---	DM.2486	As above for Mark 12 RG. engine	1
---	E.2152	Stud, long, in crankcase for reduction gear casing	2
---	E.8470	Stud, short, in crankcase for reduction gear casing	2
1	E.5267	Oil filler plug	1
2	V.107×3E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

---	DM.2487	Cylinder and crankcase, Mk. 10 RG.	1
---	DM.2486	Cylinder and crankcase, Mk. 12 RG.	1
1	E.1905	Washer, oil level plug	1
2	E.1962	Oil level plug	1
3	E.401	Nut, $\frac{1}{4}''$	8
4	E.1430	Spring washer	8
5	FG.185	Stud in gearcase	8
6	V.107×3E	Washer, oil filler plug	1
7	E.5267	Oil filler plug	1
8	CM.1337	End cover	1
9	DM.1343	Gasket, end cover	1
10	E.9718	Oil seal	1
11	EM.1813	Key for large wheel	1
12	MS.10	Outer ball bearing, $1'' \times 2\frac{1}{4}'' \times \frac{1}{4}''$	1
13	DM.1341	Gearshaft	1
14	DM.1338	Large wheel	1
15	LS.8	Inner ball bearing, $\frac{1}{2}'' \times 1\frac{1}{4}'' \times \frac{3}{8}''$	1
16	CM.1336	Casing, gear	1
17	DM.814	Gasket	1
18	E.364	Nut	4
19	E.1050	Washer, spring	4
20	E.2152	Stud	4
21	DM.1340	Crankshaft	1
22	EM.1342	Pinion, crankshaft	1
23	EM.1344	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	27346	Grommet, switch and H.T. leads.
2	60019	Back-plate.
3	M.2490E	Cover, plug and suppressor.
—	27268	Stator plate assembly (with coil, contact breaker, capacitor, leads, etc.)
4	25055	Stator plate assembly (with coil and core only).
5	25076	Capacitor (condenser) assembly.
6	25078	Washer, insulating, capacitor.
7	25075	Point bracket assembly.
8	25077	Rocker arm assembly.
9	27035	Washer, retaining rocker arm/pivot pin.
10	27491	Washer, spring.
11	27490	Nut, L.T. leads to capacitor.
12	25650	Plug, lubricating pad.
13	25114	Pad, lubricating.
14	40139	Casing, contact breaker.
15	25604	Washer, distance, adjuster screw.
16	25548	Cover, contact breaker inspection.
17	25702	Spring, adjuster screw.
18	25547	Screw, adjuster.
19	25546	Clip, contact breaker casing (2).
20	M.2641E	Circlip, flywheel centre nut.
21	M.3054E	Nut, flywheel centre.
22	60079	Flywheel.
23	25602	Bolt, stator plate/back-plate (2).
24	25592	Washer, spring (2).
25	25044	Grommet, L.T. leads.
26	27390	Lead, H.T. assembly.
—	25765	Screw, H.T. lead/coil.
27	27387	Lead, ignition switch assembly.
28	26253	Screw, ignition switch (2).
29	1113 × 5E	Washer, switch screw (2).
30	26690	Bracket, switch.
31	A.25725	Switch, ignition.
32	EM.1001	Nut (2).
33	M.2714E	Washer, shakeproof (2).

## ALTERNATIVE AND ADDITIONAL PARTS FOR ENGINES OPERATING ON PROPANE GAS.

PART No.	DESCRIPTION.
26381	Bracket, gas cut-off valve.
40255	Valve, gas cut-off.
<b>B.10/1 Carburetter.</b>	
25436	Body, top half.
26444	Jet, gas.
25506	Body, bottom half ( $\frac{1}{8}$ " choke).
or 25507	Body, bottom half ( $\frac{7}{16}$ " choke).
26382	Pipe, gas feed.
26003	Union, gas feed pipe.

The following Illus Nos. on pages 3 and 4 are not fitted :-  
9, 10, 11, 12, 13 14, 28, 29, 31.

## COMPONENT PARTS FOR KICKSTARTER (where fitted).

PART No.	DESCRIPTION.
DM.2486	Crankcase, Mk. 12.
DM.1302	Crankshaft, Mk. 12.
CM.1208	Plate, adaptor, crankcase.
BM.1865	Lever, kickstart, with quadrant.
E.363	Stud, adaptor plate (4).
E.364	Nut, adaptor plate studs (4).
EM.1050	Washer, spring (4).
E.4150	Washer, pivot pin.
EM.1213	Pin, pivot.
E.7224	Spring, lever return.
E.7232	Cap, lever return spring.
EM.1242	Buffer, rubber.
*EM.1218	Pulley, "V", $2\frac{1}{2}$ " dia.
E.5581	Key, pulley.
—	Set screw, pulley.
EM.1221	Pinion, ratchet.
E.7223/1	Spring, ratchet.
E.7221/1	Cap, ratchet spring (2).
E.6552	Circlip, kickstart lever and crankshaft (3).

\* Apply to machine manufacturer for other pulleys.

## ALTERNATIVE PARTS WHEN PETROL TANK IS MOUNTED ON TOP OF ENGINE.

PART No.	DESCRIPTION.
CM.873/1	Cowl.
EM.1812	Screw, cowl fixing (2 extra).
E.401	Nut, cowl (2).
E.9722	Washer, shakeproof (2).
E.2924	Washer (2).
DM.866	Bracket, tank.
DM.867	Bracket, tank.
FG.186E	Washer, tank bracket.
DG.513	Strap, tank (2).
E.781E	Screw (2).
EM.276	Trunnion (2).
EG.532	Trunnion (2).
EM.1798	Nut, pillar, cylinder head (4).
E.364	Nut, pillar, cylinder head (2).
V.1194E	Pipe, petrol ( $7\frac{1}{4}$ ").

## 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 **Carburettor 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 hereon, 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.

**THE VILLIERS ENGINEERING COMPANY LTD.**  
**Marston Road** - - - - **Wolverhampton.**  
TELEPHONES - - - - TELEGRAMS - VILLIERS  
22399 (2½ lines) WOLVERHAMPTON