

**OPERATING
INSTRUCTIONS
AND
SPARE PARTS
LIST FOR THE**

Villiers

**TWO STROKE
ENGINES
Mk. 2 & Mk. 3
“MIDGET”**

Price
1/-

The Villiers Engineering Co. Ltd.

WOLVERHAMPTON, England

ESTABLISHED 1898

Telegrams:
“VILLIERS”
WOLVERHAMPTON

Telephone:
WOLVERHAMPTON 22399
(20 lines) All departments.

**KEEP THIS BOOK SAFELY
FOR REFERENCE**

V.E.C. 103.

OCT. 1954



Mark 2



Mark 3

**BEFORE STARTING ENGINE FOR THE FIRST TIME
READ OPERATING INSTRUCTIONS CAREFULLY**

The Mk. 2 and Mk. 3 "MIDGET" ENGINES



OPERATING INSTRUCTIONS

1. FIXING.

The engine should be securely fixed and stand reasonably upright, otherwise lubrication and carburation will be adversely affected.

2. BEFORE STARTING.

This engine is lubricated by petroil, which is a mixture of oil and petrol in the proportion of one part of lubricating oil to 20 parts of petrol. The useful life and amount of good service the engine will give, depends almost entirely upon the way it is lubricated, especially during the early stages of its life.

Patent Castrol XL Oil, obtainable at most garages, has been found to give good results, and as it is advisable always to use one particular brand of oil and not to change from one to another, Villiers owners are advised to adopt this brand regularly.

The Villiers engine is as reliable as engineering skill can make it, and the only constant attention which the owner is asked to give it, is to ensure that the correct oil is thoroughly mixed with the petrol before putting into fuel tank.

The fuel tank fitted to the Mark 3 Engine has a filler cap to which is attached an oil measure, the number of measures required being given on cap.

3. TO START—WHEN COLD.

After putting petroil mixture in fuel tank, turn petroil on by pulling tap knob (Mark 3). Close carburetter strangler by lifting end of lever.

Press tickler at side of carburetter body until petroil is seen to drip. There is no need to allow fuel to run to waste.

Open carburetter control lever about one third of its full opening. Wind starting rope (Mark 3) or strap (when pulley is fitted to Mark 2) around pulley on flywheel magneto in a clockwise direction, one end in the pulley notch, the other end being gripped in, but not round the hand. Then give a brisk pull to rotate the engine, pulling the rope or strap clear of starting Pulley.

After engine has started, gradually open strangler as engine warms up.

4. TO START—WHEN HOT.

The same procedure should be adopted, except that it should not be necessary to close strangler or to flood carburetter by pressing tickler.

FAILURE TO START.

If the engine will not start after a reasonable number of trials, ascertain whether this is due to lack of compression, faulty fuel supply, or faulty ignition.

COMPRESSION should be felt when the engine is rotated at normal starting speeds with throttle partly open.

FUEL SUPPLY.

Depress tickler at side of carburetter body. If fuel is reaching float chamber it will spurt out of vent at top of tickler.

IGNITION SYSTEM.

Unscrew sparking plug from cylinder head and place it with ignition cable attached, on a metal portion of the engine. When the engine is rotated a spark should be visible at the plug points, if the plug and ignition system are in order. If there is no spark, try a new plug or alternatively check whether a spark occurs at the end of the ignition cable when this is held about one-eighth inch away from a clean metal part of the engine.

After these preliminary tests it will be clear where a more detailed examination may be required.

5. RUNNING IN.

Whilst the engine is new, it is advisable to add a little extra oil to the petrol.

MAINTENANCE AND REPAIRS



1. DECARBONISING.

Decarbonising the Villiers Two-Stroke Engine is quite straightforward, because of the simplicity of this type of unit, the following points, however, are worth special attention.

When removing and replacing the cylinder, care should be taken not to twist it round the piston—it should be pulled off or pushed on straight so that the rings cannot catch in any of the ports and break.

All carbon should be removed from inside the piston head, as well as from the top of the piston and from the cylinder head.

The ports in the cylinder—particularly the exhaust port, should receive careful attention, and should be kept clean, but on no account must the size or shape of these ports be altered by filing.

Piston ring grooves must be kept free from carbon in order to leave the rings quite free. Piston rings should be bright round their surface which makes contact with the cylinder bore. Should wear cause the joint gap to exceed 1/32-in. when in the cylinder, the piston ring should be replaced.

Carbon will form on the gudgeon pin at either side of the small end bush, and this should be carefully removed, otherwise difficulty will be experienced in removing the pin from the piston. The small end bush and the piston bosses should be kept quite free from carbon.

It is of the utmost importance that silencers and exhaust pipes are kept quite clean internally, and that a heavy deposit of carbon is not allowed to accumulate. This would cause back pressure and loss of power.

It is important that air leaks should be avoided.

The connection between carburetter and induction pipe must be absolutely airtight, and after dismantling an engine, new washers should always be fitted at the induction pipe joint, and cylinder base joint, if the original ones have been disturbed.

2. SPARKING PLUG.

The type recommended is the **Lodge CB3**, 18 mm

Clean and reset the points .025-in. gap after each 100 hours operation.

Adjustment of the gap should be done by moving the points attached to the outer body of the plug. *Never bend the centre pin.* Keep the outside of the plug insulation free from water and dirt. When screwing the plug in the cylinder head, should any undue stiffness be experienced, do not use force but examine the thread for any particles of grit or carbon which may be present. These must be removed, otherwise the threads in the cylinder head may be damaged. It is a good plan to smear a little graphite grease on the plug threads before replacing.

3. PETROIL FILTER.

A filter gauze is fitted to bolt connecting pipe to carburetter, and also to fuel tap in tank of the Mark 3 "Midget" Engine. These filters should be examined occasionally and cleaned by dipping in petrol.

4. AIR FILTER.

This must be removed every 100 hours, or more frequently

under very dusty conditions, and washed in petrol, then dip in *thin oil*, and allow surplus to drain off before refitting. Oil bath filters should be dismantled and the old oil drained away, the filter should then be washed and re-filled with oil to level indicated on container.

5. CONTACT BREAKER.

The contact breaker points should be checked occasionally to see that they are clean, and that the gap when fully opened is between .012-in. and .016-in., and that they open and close properly ; to obtain access to points proceed as follows :—

Mark 2 Engine—Remove flywheel cover, which is secured by 3 screws.

Mark 3 Engine.—Remove the 3 screws securing cowl front, then the starter pulley centre bolt, the contact points can then be adjusted by the spanner supplied with engine using the attached gauge to check the point cap.

6. MAGNETO TIMING.

When the engine is built the magneto is timed so that the contact points commence to open when the piston is $\frac{5}{32}$ " before top dead centre. A timing mark is stamped on the small boss on rim of armature plate, which coincides with a similar mark stamped on the flywheel rim when the piston is at the top of the stroke. On checking timing it is only necessary to remove sparking plug ; turn flywheel until the two marks are opposite, when the piston should be at the top of stroke.

7. FLYWHEEL REMOVAL.

The cam operating the contact breaker is rivetted to the flywheel which is driven by a taper on the crankshaft, and if alteration to magneto timing is necessary, the flywheel must be released, by unscrewing the centre nut with the Villiers hammer-tight spanner. This *nut* has a right hand thread and is imprisoned in the flywheel and it should be unscrewed until the flywheel is just free to revolve on the crankshaft. With the piston in its correct position, the flywheel should then be moved round until the points commence to open, then tighten up the nut firmly and re-check timing. This nut must be tightened up hard by hitting with a hammer on the end of the centre nut spanner.

The taper of shaft and cam must be clean and dry ; if any oil is present on the surfaces it will be impossible to secure an effective drive.

8 COOLING SYSTEM (Mark 3 Engine)

It is most important that the complete cowling and fan should be in position when this engine is running.

9. CARBURETTER.

This is the Villiers " Junior " type having a single control lever to throttle, and attached to the throttle is a taper needle which provides a correctly adjusted mixture at all throttle openings. The taper needle is set at works before delivery, but if it is desired to make adjustments at any time, proceed as follows :—

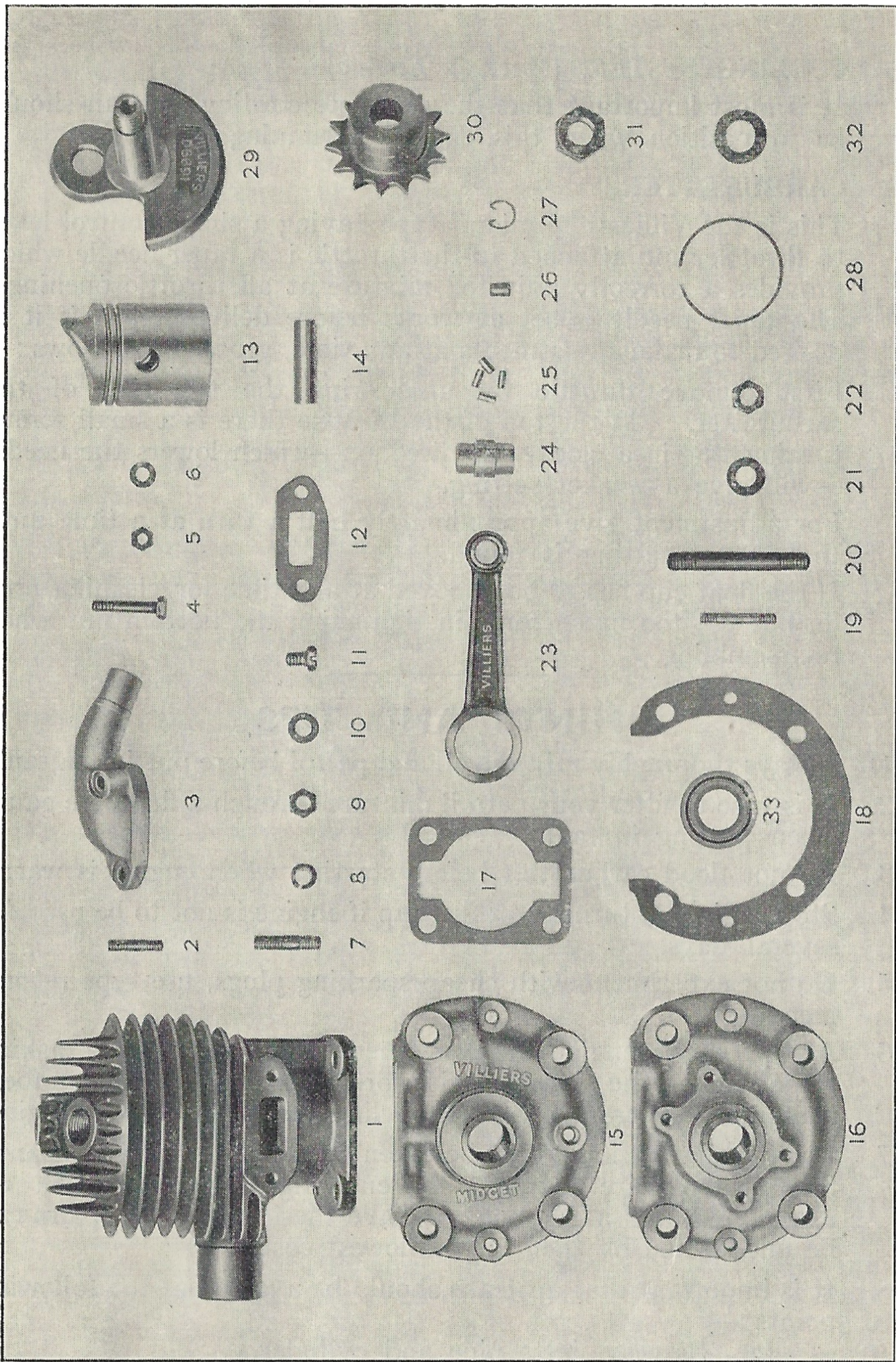
First remove throttle by unscrewing the top ring of the carburetter. At the top of the throttle there is a small screw, turning this in a clock-wise direction—which lowers the needle—will give a weaker setting.

For adjustment give approximately half a turn at a time until the correct setting is found.

If the float cup has to be removed at any time for cleaning etc., do not use too much force in tightening the bottom nut when re-assembling.

HINTS AND TIPS

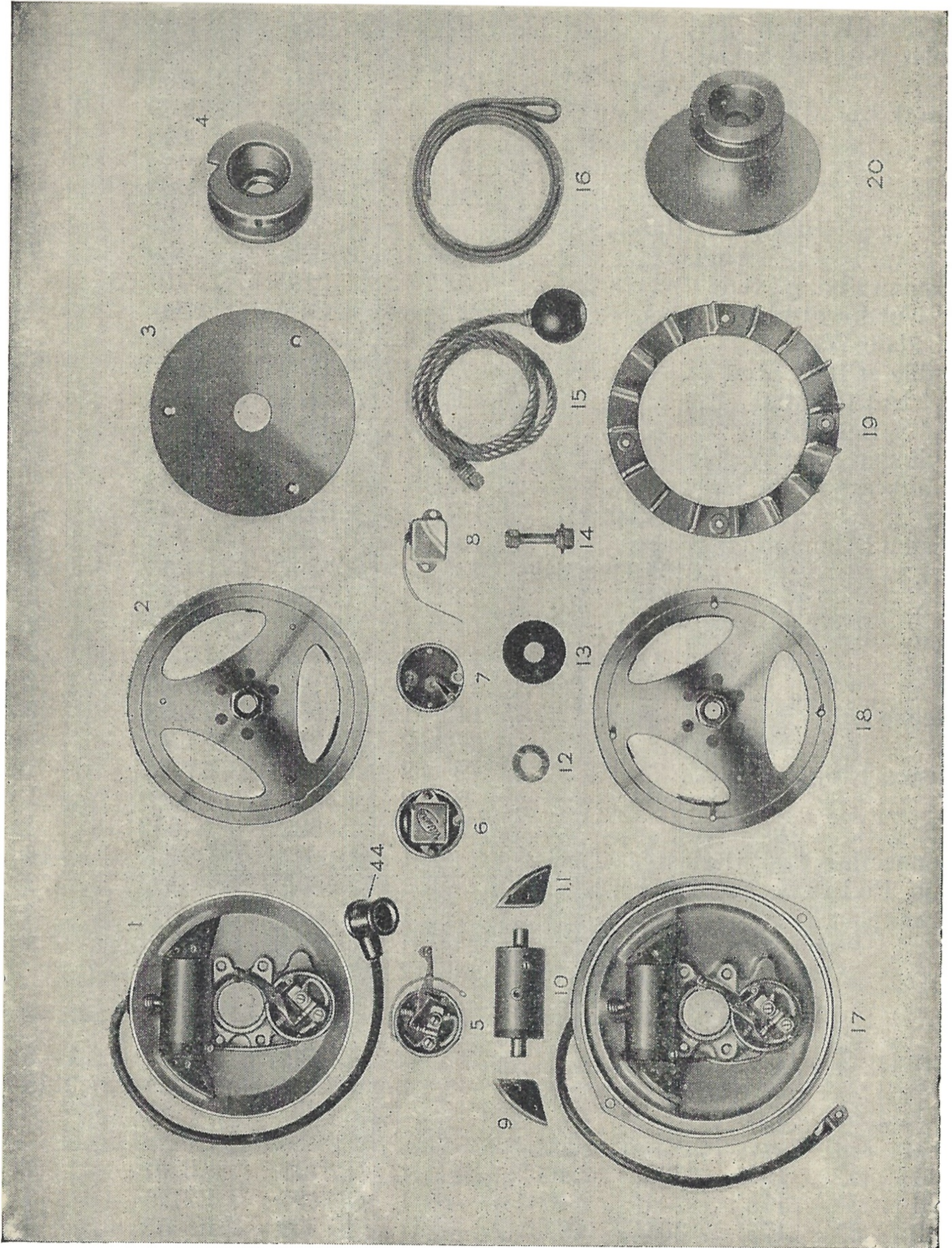
1. Always thoroughly mix the oil and petrol before putting in tank.
2. It is wise to filter your petrol mixture through a fine wire gauze when putting in tank.
3. Do not flood carburetter before starting when engine is warm.
4. Stop engine by turning off fuel tap if engine is not to be used for several days.
5. Do not experiment with cheap sparking plugs, use type recommended.
6. Always quote engine number when ordering spares or asking for advice. The number with prefix letters and/or numbers is stamped on crankcase below cylinder base, at rear of engine.
7. Driving shafts should only be taken apart by a skilled mechanic. Special tools are required for ensuring alignment when re-assembling, and as the makers have these facilities, repairs can be undertaken by them at the lowest cost.
8. It is important that air leaks should be avoided at the following points :—
 - (a) Between inlet pipe and cylinder.
 - (b) Between inlet pipe and carburetter.
 - (c) Between cylinder base and crankcase.
 - (d) Between the two halves of crankcase.
9. When decarbonising the engine it is very important that silencers and exhaust pipes are also cleaned out.
10. Avoid all sharp bends in the carburetter control cables.



Component.	Illus. No.	No. per Engine	Mk. 2		Mk. 3		List Price Each
			Part No.	Part No.	£	s.	
Cylinder, less Studs	1	1	B6698	B6698	2	12	6
Bolt, Inlet Manifold	4	1	E6764	E6764			3
Stud, ,, ,,	2	1	E6902	E6902			3

Component.	Illus. No.	No. per Engine	MK.		List Price	Each
			2	3		
			Part No.	Part No.	£	s. d.
1/4" Nut for Studs	5	5	E401	E401		2
1/4" Plain Washer	6	6	E2924	E2924		1
Inlet Manifold, Standard	3	1	D6746	D6746	10	0
" " Joint Washer	12	1	E6700	E6700		2
Crankcase with Bush, L. hand	15	1	B6689	B6689	1	5 0
" " " R. hand	16	1	B6690	B6690	1	5 0
" Joint Washer	18	1	D7172	D7172		2
" " Stud	19	2	E3392	E3392		5
" Bush, Left Hand		1	D2775	D2775		7 6
" " Right		1	E7539	E7539		7 6
Engine Fixing Stud	20	4	Z1010 x 5	Z1010 x 5		6
3/8" Nut for Stud	22	8	E834	E834		2
3/8" Plain Washer	21	8	E373	E373		1
Cylinder Base Stud	7	4	E363	E363		3
5/16" Nut for Stud	9	4	E364	E364		2
5/16" Spring Washer	8	4	E1050	E1050		1
Cylinder Joint Washer	17	1	E6699	E6699		2
Crankcase Drain Screw	11	1	E1962	E1962		3
" " " Washer	10	1	E1905	E1905		1
Piston (Aluminium) Bushed	13	1	C6752	C6752	1	2 0
" " .015" Oversize	13	1	D7397	D7397	1	2 0
" " .03"	13	1	D7398	D7398	1	2 0
" (Cast Iron) Bushed	13	1	C6697	C6697	1	2 0
" " .015" Oversize	13	1	D7928	D7928	1	2 0
" " .03"	13	1	D7927	D7927	1	2 0
Gudgeon Pin	14	1	E3903	E3903		2 6
" " Circlip	27	2	E4047	E4047		3
Piston Ring	2	2	E1725	E1725		1 9
" .015" Oversize	2	2	E4480	E4480		1 9
" .03"	2	2	E4582	E4582		1 9
Connecting Rod, Bushed	23	1	D6693	D6693	16	0
Con. Rod Bush, small end		1	E6696	E6696		2 0
Crankpin	24	1	E6695	E6695		4 0
" Oversize .001"	24	1	E7578	E7578		4 0
" Plug	26	2	E5488	E5488		3
" Roller, Steel	25	8	E2677	E2677	Set	4 0
" " Bronze		8	E2825	E2825		
Driving Shaft	29	2	D6691	D6691	1	5 0
" " Assembly	—	1	C7389	C7389	3	15 0
Driving Sprocket						
<i>Teeth</i>	<i>Pitch</i>	<i>Width</i>	<i>Roller Dia.</i>	<i>Chainline</i>		
14	.5"	.195"	.335"	2.406"	30	1
14	.5"	.176"	.305"	2.406"		1
10	.5"	.176"	.305"	3.375"		1
14	.5"	.176"	.305"	2.156"		1
12	.5"	.176"	.305"	2.406"		1
Sprocket Nut, Standard	31	1	E422	E422		6
Ditto, Thin, for Sprocket D7033	31	1	FG152	FG152		6
Spring Washer	32	1	E424	E424		1
Oil Seal, Magneto Slide	33	1	MIS,012	MIS,012		2 3

VILLIERS Mk. 2 and Mk. 3 MIDGET.

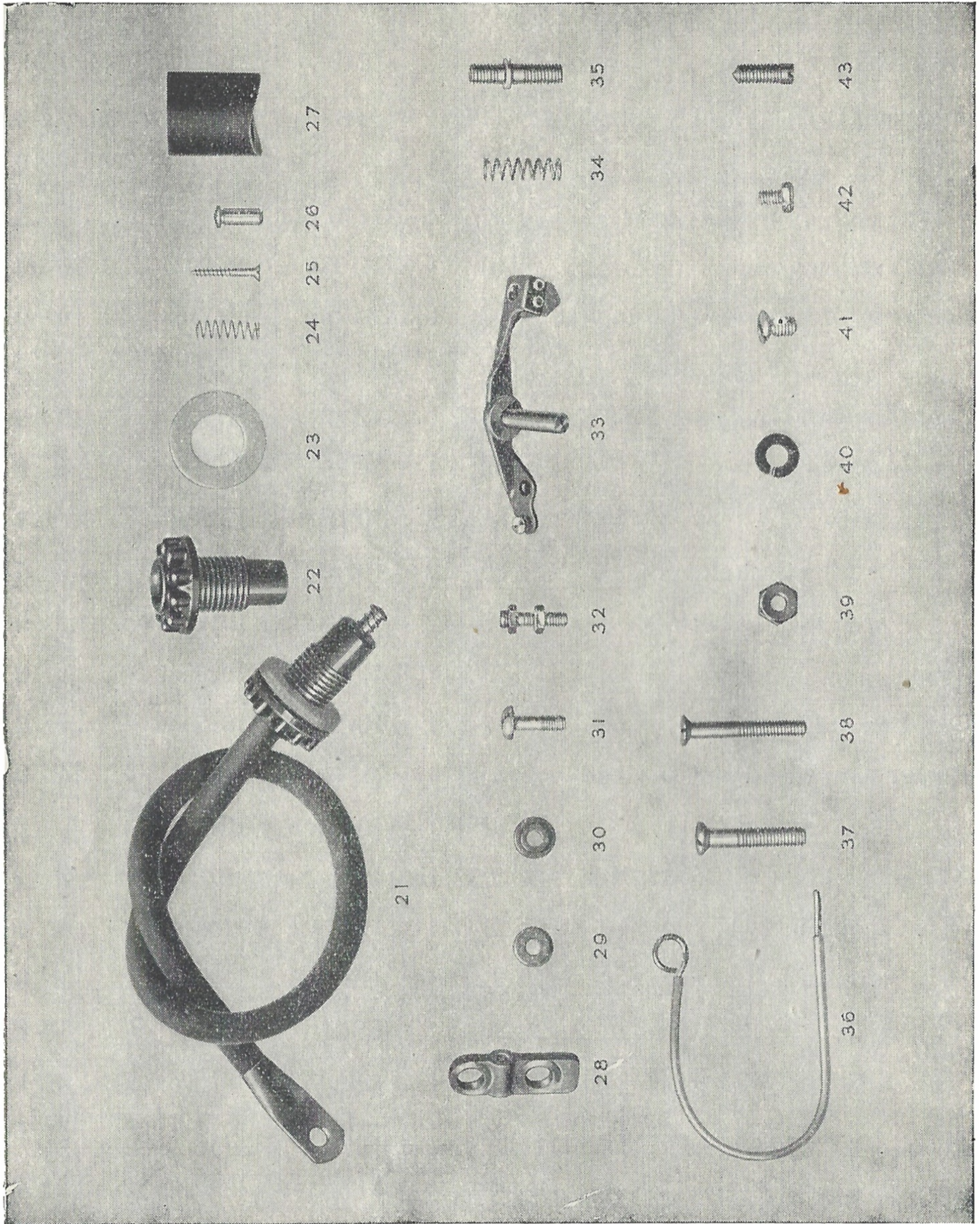


See page 17 for later type Condenser Box Assembly.

Always quote Engine No. when ordering spares.

Component	Illus. No.	No. per Engine	Mk.	Mk.	List Price Each		
			2	3	£	s.	d.
			Part No.	Part No.			
MAGNETO							
Armature Plate Assembly complete	1	1	A66		4	0	0
„ „ „ „	17	1		A67	4	0	0
„ „ Fixing Screw ..	37	4	1140×1	1140×1			3
High Tension Coil	10	1	M1634	M1634	1	10	0
Condenser Box Assembly complete	5	1	M1715	M1715	1	4	0
„ „ Fixing Stud ..	35	2	1053×1	1053×1			3
Con. Box with Condenser & Studs..	6	1	M1776	M1776	10		0
Condenser only	8	1	M1750	M1750		4	9
Clamp Screw, Con. Box	31	2	1013×3	1013×3			3
„ „ Bush, top	30	2	1013×13	1013×13			5
„ „ „ bottom	29	2	1013×12	1013×12			5
Clamp	28	1	1022×7	1022×7	1		6
Con. Box only	7	1	1012×2	1012×2	4		6
Rocker Arm with Point and Pad ..	33	1	M1714	M1714	4		0
„ „ Spring	34	1	1047×3	1047×3			2
Adjustable Point with Lock Nut ..	32	1	487	487	2		0
H.T. Cable complete	21	1	1148×4	1148×4	4		0
H.T. Terminal	22	1	1124×8	1124×8	1		0
„ „ Felt Washer ..	23	1	E869	E869			2
„ „ Woodscrew ..	25	1	491	491			1
„ „ Spring	24	1	1010×11	1010×11			1
„ „ Pad	26	1	1046×13	1046×13			2
„ „ Rubber Sleeve ..	27	1	M1673	M1673			4
L.T. Lead with Sleaving (Coil to Condenser Box)	36	1	482	482			6

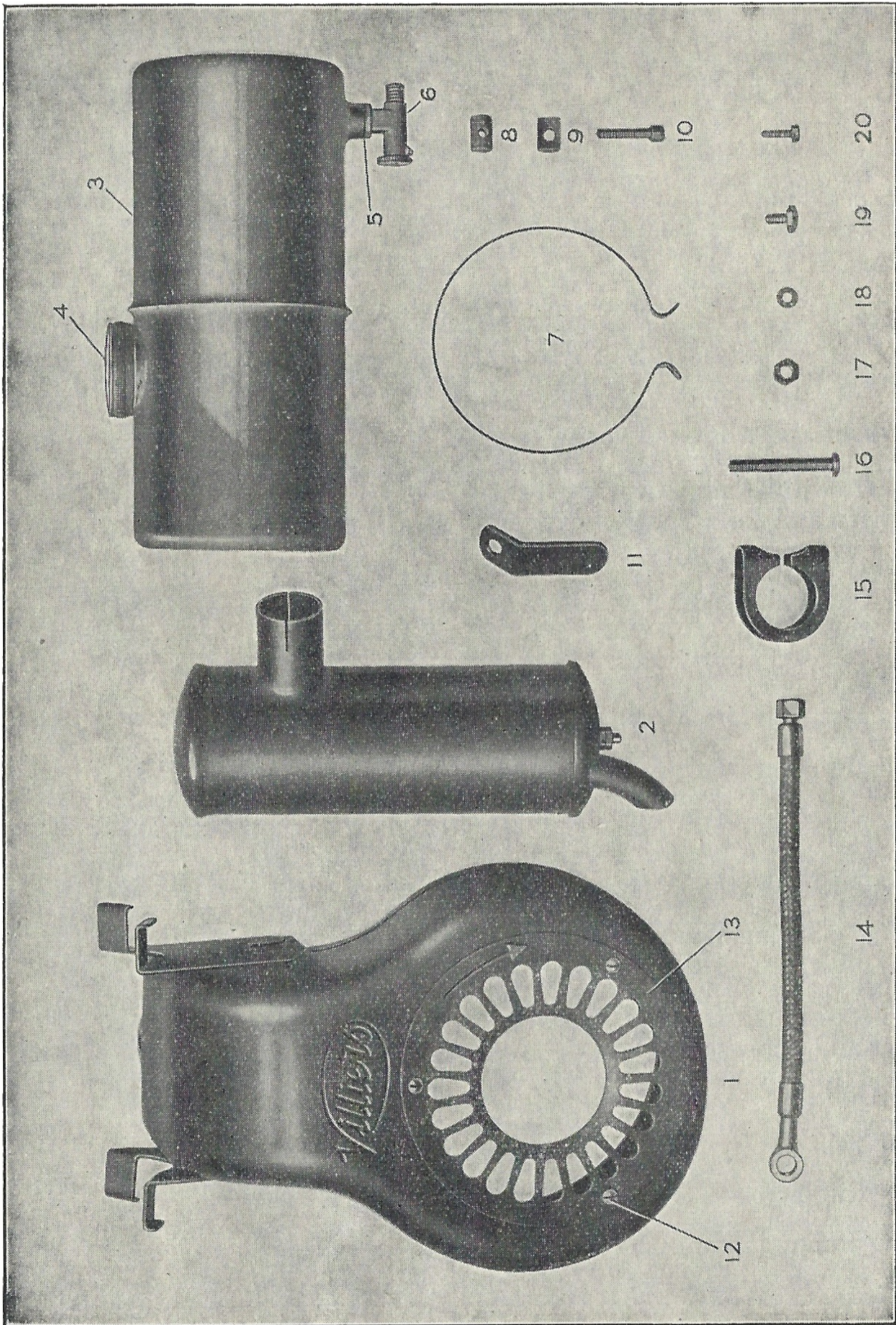
VILLIERS Mk. 2 and Mk. 3 MIDGET.



See pages 17 and 18 for later type Contact Breakers.
 Always quote Engine No. when ordering Spares.

Component	Illus. No.	No. per Engine	Mk.	Mk.	List Price Each		
			2	3	£	s.	d.
			Part No.	Part No.			
Coil Cheek, L. hand	9	1	M1513	M1513	4	0	
„ „ R. hand	11	1	M1514	M1514	4	0	
„ „ Fixing Screw	38	4	M1799	M1799			3
H.T. Coil Locking Screw	43	2	V561	V561			2
L.T. Plug, H.T. Coil	42	1	483	483			2
$\frac{3}{16}$ " Nut	39	2	1002×15	1002×15			2
$\frac{3}{16}$ " Spring Washer	40	2	1002×13	1002×13			1
Waterproof Spark Plug Cover ..	44	1	M4	M4	1	3	
Flywheel with Cam, Centre Nut, Magnets and Pole Shoes, but less Fan and Starter Pulley	18	1		R69	4	5	0
Starter Pulley	20	1		M509	9	0	
„ „ Fixing Bolt	14	1	E6753	M531	2	0	
„ „ „ Washer	12	1		E424			1
„ Rope	15	1		M557	3	0	
Fan	19	1		M508	9	0	
„ Fixing Nuts	39	4		1002×15			2
„ „ Spring Washer	40	4		1002×13			1
Flywheel with Cam, Centre Nut, Magnets and Pole Shoes, but less Cover and Screws	2	1	R67		4	5	0
Cover (Domed)	—	1	M1580		3	6	
„ (Flat)	3	1	M1229		3	6	
„ Fixing Screw	41	3	M1228				3
Starting Pulley (Strap)	4	1	M1417		12	6	
„ „ Washer	13	1	FG163				3
„ Strap	16	1	D5877		4	9	
Magnet		2	M1507	M1507	9	0	

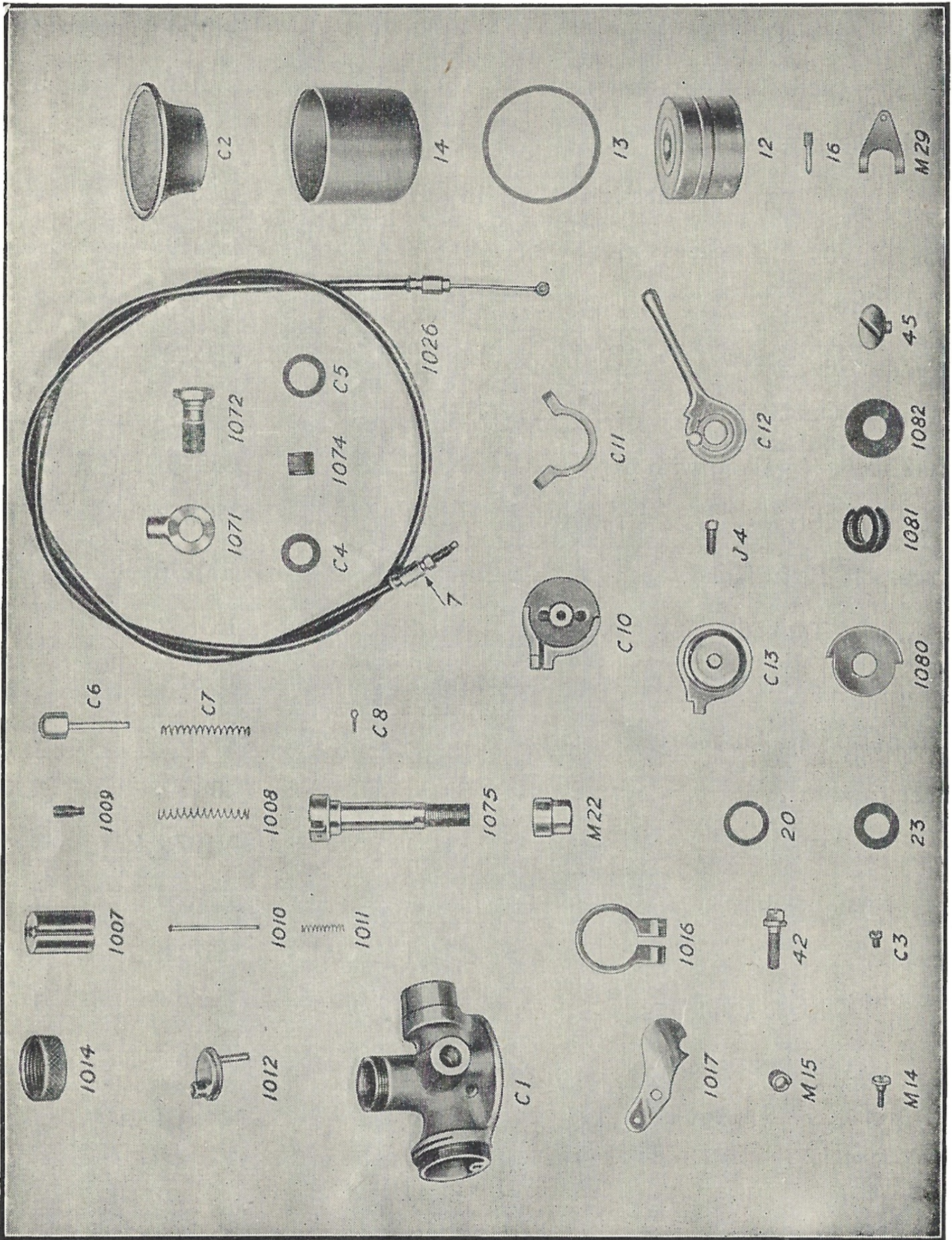
VILLIERS Mk. 2 and Mk. 3 MIDGET.



Always quote Engine No. when ordering spares.

<i>Component</i>	<i>Illus. No.</i>	<i>No. per Engine</i>	Mk.		<i>List Price Each</i>			
			2 <i>Part No.</i>	3 <i>Part No.</i>	<i>£</i>	<i>s.</i>	<i>d.</i>	
Cowling (less Tank Brackets) ..		1			B6720	1	2	6
„ (with Tank Brackets) ..	1	1			C7108	1	5	0
Cowl Fixing Screw Top ..	19	1			EM539			6
„ „ „ Washer ..	18	1			E2924			1
„ „ „ Sides ..	20	2			E6849			3
„ Front ..	13	1			D6598		2	6
„ „ Screw ..	12	3			M1228			3
H.T. Cut Out Strip ..	11	1			E6743			9
Fuel Tank ($\frac{1}{2}$ gallon) with cap ..	3	1			C5946	1	1	0
„ „ Strap ..	7	2			DG513		1	0
Trunnion, Plain Hole ..	9	2			EM276			6
„ Tapped Hole ..	8	2			EG532			10
„ Screw ..	10	2			E781			6
Filler Cap with Oil Measure ..	4	1			P426		6	0
Fuel Tap ..	6	1			468		4	6
„ „ Washer ..	5	1			V107 \times 4			1
„ Pipe, flexible ..	14	1			EM551		7	0
Silencer ..	2	1	C6723		C6723	1	5	0
„ Clip, to Cylinder ..	15	1	E462		E462		1	6
„ Clip Bolt ..	16	1	E435		E435			4
„ „ „ Nut ..	17	1	E834		E834			2

VILLIERS Mk. 2 and Mk. 3 MIDGET.



Always quote Engine No. when ordering spares.

Component	Illus. No.	No. per Engine	Mk. 2		Mk. 3		List Price Each		
			Part No.	Part No.	£	s.	d.		
Carburettor Body	C1	1	V508/C1	V508/C1	9	6			
Top Ring	1014	1	V367	V367	1	6			
„ Disc	1012	1	V368	V368	2	0			
Throttle	1007	1	V365	V365	3	0			
„ Spring	1008	1	V369	V369				2	
Taper Needle	1010	1	V651	V514	1	0			
„ „ Adjuster	1009	1	V413	V413				6	
„ „ Spring	1011	1	V107×7	V107×7				2	
Centre Piece and Jet	1075	1	M7J	M8J	5	0			
„ „ Washer	20	1	V107×3	V107×3				1	
„ „ Locating Screw	C3	1	V424	V424				3	
Bottom Nut	M22	1	V581	V581	1	3			
„ „ Washer	23	1	V107×4	V107×4				1	
Float	12	1	V107×1	V107×1	3	6			
„ Cup	14	1	V146×6	V146×6	2	6			
„ „ Washer	13	1	V107×2	V107×2				2	
Fuel Needle	16	1	V355	V355				10	
„ „ Lever and Pin	M29	1	V257	V257				3	
Body Clip	1016	1	V922	V922	2	3			
„ „ Screw	42	1	V754E	V754E				8	
Strangler Plate	1017	1	V373	V373				9	
„ „ Screw	M14	1	V626	V626				3	
„ „ Spring Washer	M15	1	V146×2	V146×2				1	
Air Cleaner	C2	1	V148×3	V148×3	3	0			
Banjo Union	1071	1	V381	V381	2	0			
„ „ Bolt	1072	1	V382	V382	1	3			
„ Filter Gauze	1074	1	V404	V404				8	
Fibre Washer (large hole)	C4	1	H104×8	H104×8				1	
„ „ (small hole)	C5	1	V383	V383				1	
Tickler	C6	1	V207	V207					
„ Spring	C7	1	V369	V369					
„ Split Pin	C8	1	V111×2	V111×2					
Control Cable complete	1026	1			5	0			
<i>(Quote Engine No. when ordering)</i>									
Cable Adjuster and Locknut	7	1	V105×1/2	V105×1/2				9	
Control Body	C10	1	V405	V405	3	6			
„ „ H'bar Clip	C11	1	V142×7	V142×7	1	6			
„ „ „ „ Screw	J4	2	V142×5	V142×5				2	
„ Lever	C12	1	V406	V406	3	0			
„ Top Cover	C13	1	V387	V387				6	
„ Body Friction Plate	1080	1	V429	V429				6	
„ „ Spring Washer	1081	1	V142×11	V142×11				2	
„ „ Fibre Washer	1082	2	V142×10	V142×10				1	
„ „ Top Screw	45	1	V117×5	V117×5				8	
„ Cable Nipple	—	1	V123×15	V123×15				3	
„ „ „ Throttle	—	1	V145×16	V145×16				2	
„ „ Sleeve	—	1	V108×4	V108×4				3	

VILLIERS FLYWHEEL MAGNETO

The contact breaker illustrated on page 8 was superseded by the one described below :-

The condenser box is made in a new light alloy, the rocker arm being pivotted in a graphited bronze bearing, ensuring long life.

It is now not necessary to use a spanner for contact point adjustment, a small screwdriver being the only tool necessary.

To adjust the point gap proceed as follows :-

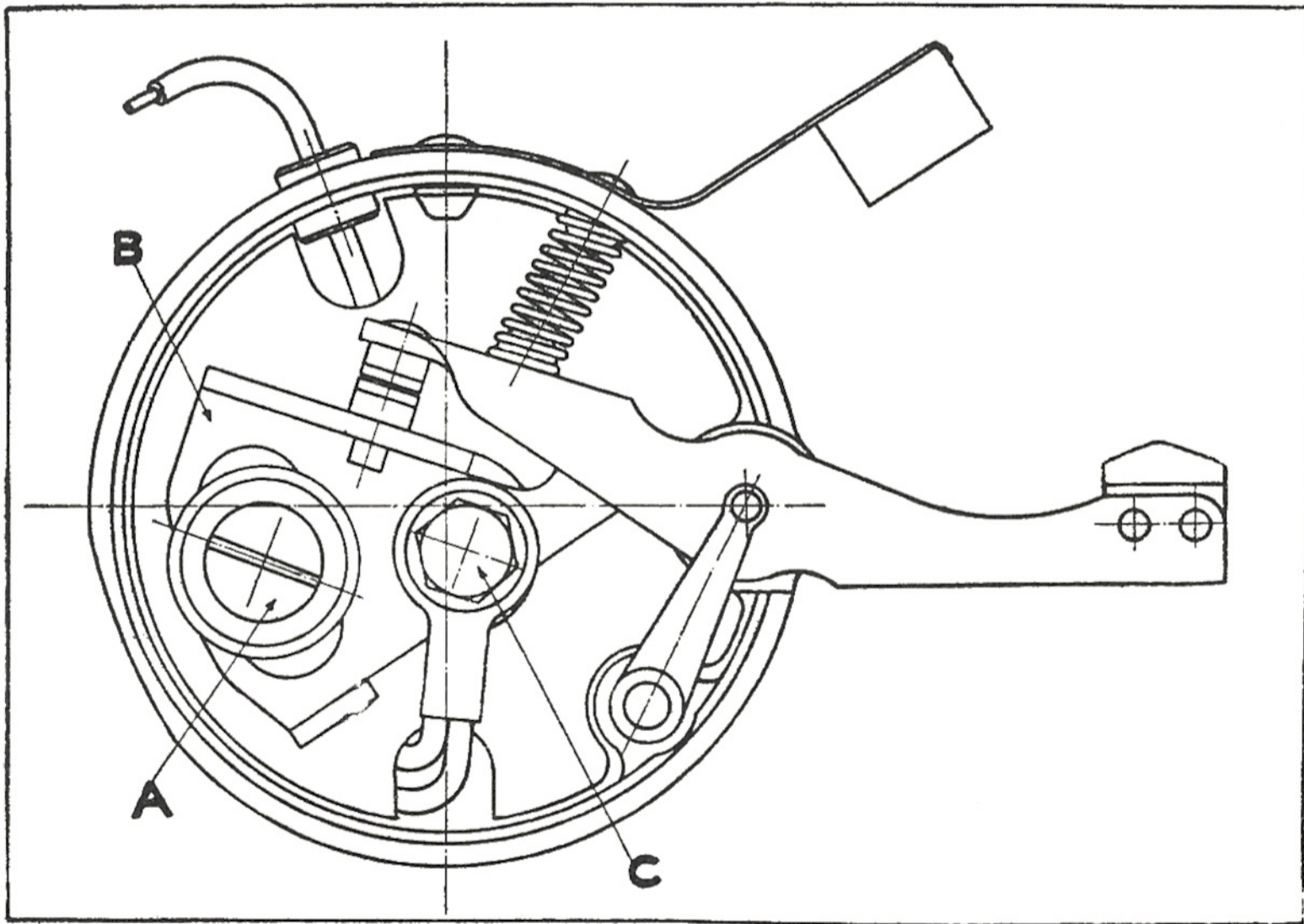
Turn flywheel until rocker pad is on top of cam profile of flywheel boss.

Release the screw " A " see illustration.

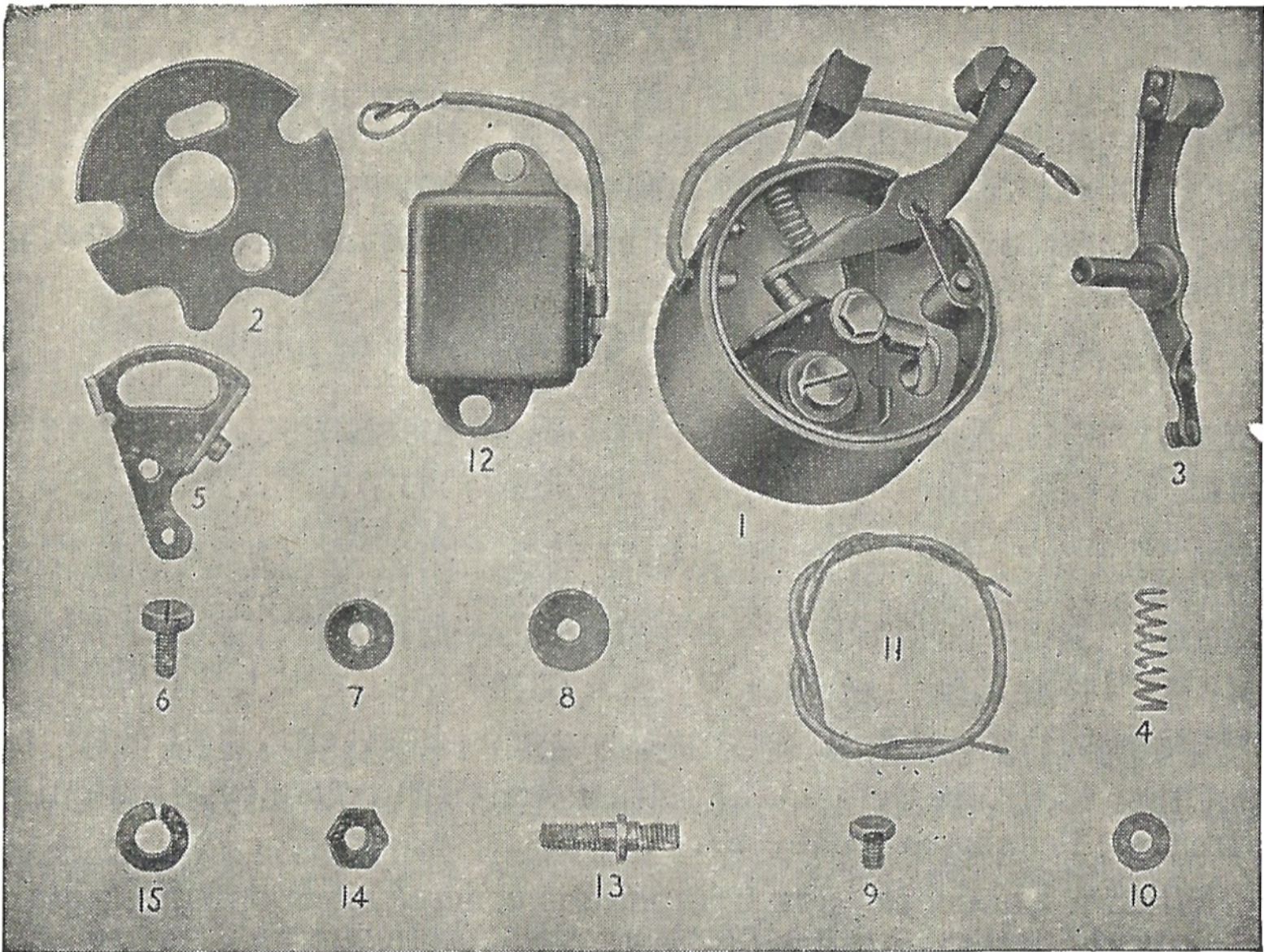
Position bracket " B " with .015" feeler gauge between contact points, tighten screw, taking care not to use too much force. It is not necessary to disturb screw " C " when adjusting the point gap.

To keep the felt pad moist, give a drop of oil occasionally.

The complete condenser box assembly is interchangeable with the type previously fitted, but when ordering, the number of the engine for which it is required should be stated.



*For spares for this type of Contact Breaker see Page 17
For spares for the later type of Contact Breaker see Page 18*



Spare Parts List

<i>Illust. No.</i>	<i>Part No.</i>	<i>Description of Part</i>	<i>Price Each</i>		
			<i>No. off</i>	<i>£</i>	<i>s. d.</i>
1	M.1864	Complete Assembly as Illustration :—	1	18	6
	M.1872	Condenser Box only, with Rocker Clip Insulating Bushes and Oil Pad ..	1	4	6
	M.1884	Ditto, but including Condenser, Fixing Stud, Nuts and L.T. Lead	1	10	0
2	M.1803	Insulating Pad.. .. .	1		4
3	M.1714	Rocker with Point and Pad	1	4	0
4	1047×3	Rocker Spring	1		2
5	M.1873	Bracket with Tungsten Point and Pivot Pin	1	2	3
6	M.1801	Lock Screw, Point Bracket	1		2
7	M.1802	Brass Washer for Screw	1		1
8	M.1805	Insulating Washer for Screw.. ..	1		1
9	1006×3	L.T. Lead Connection Screw	1		2
10	1113×5	4BA Washer for Screw	1		1
11	482	L.T. Lead with Sleeve	1		6
12	M.1750	Condenser only	1	4	9
13	1053×1	Condenser Fixing Stud	2		3
14	1002×15	Condenser Fixing Stud Nut	2		2
15	1002×13	Condenser Fixing Stud Washer ..	2		1

Always quote Engine No. when ordering spares.

CONTACT BREAKER

Magnetos with a letter "E" in the magneto number, e.g. R112/A119/E/54, are fitted with a new pattern Contact Breaker in which the point gap can be adjusted by means of an eccentric cam.

This improved type of contact breaker now supersedes that illustrated on page 16.

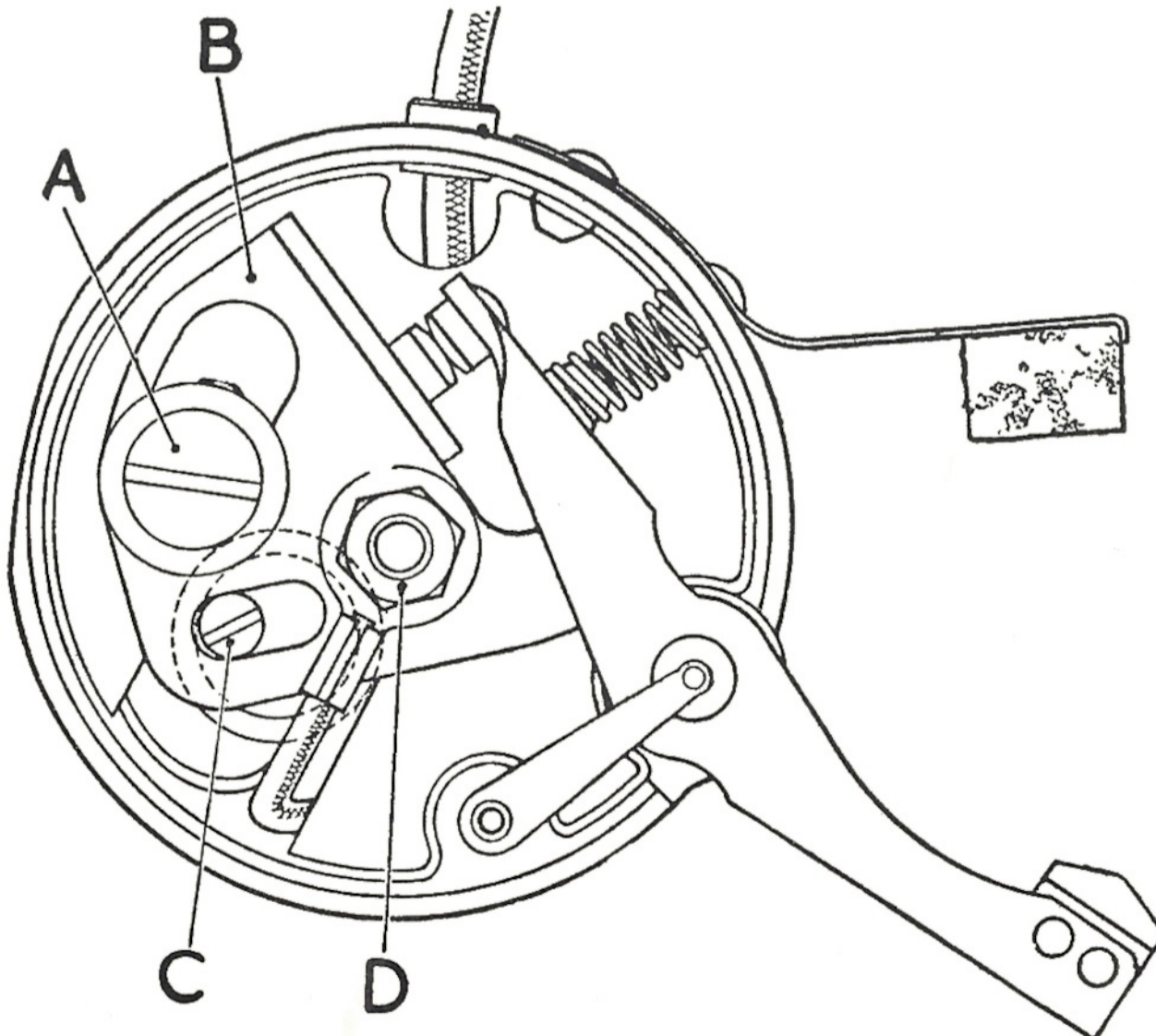
The parts fitted to this type of assembly are as follows:—

						s.	d.
M2504	C.B. Assembly Cpte.	(Replaces M1864)	..	1		18	6
M2505	C.B. Only	(Replaces M1872)	..	1		4	6
M2506	C.B. with Condenser	(Replaces M1884)	..	1		10	0
M2309	Insulating Pad	(Replaces M1803)	..	1			4
M2313	Point Bracket	(Replaces M1873)	..	1		2	3
M2311	Point Bracket Cam	1			6
1113x4	L.T. Lead Nut	1			2

Other parts are the same as those fitted to the older type of Contact Breaker. See pages 16 and 17.

When a Condenser Box Complete is ordered, it is our intention to supply the latest improved type.

To adjust contact point gap, turn flywheel clockwise until rocker pad is on top of cam profile of flywheel boss. Release the screw "A." Stop the position bracket "B" by turning adjuster cam "C" until .015" feeler gauge can be inserted between the contact points. Tighten screw "A" and withdraw feeler gauge. It is not necessary to disturb nut "D" when adjusting point gap.



IMPORTANT.

1.—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 should be sent separately by post. In no circumstances should instructions be enclosed with the parts, as they are liable to be lost or damaged in unpacking.

2.—If an engine is sent for repair, it should be well packed in a strong box. Cardboard or a sack is insufficient, and 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.

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

4.—In correspondence, always quote the engine number, and prefixed letter(s) stamped on the crankcase below the cylinder base.

5.—As we are not manufacturers of complete motor cycles or other machines, only the engine should be sent to us. If machines are forwarded, extra expense will be charged for dismantling the engine from the frame and refitting same.

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.—Always quote the magneto number and letter(s) (if any) which is stamped on the face of the flywheel, when corresponding about your flywheel magneto.

8.—**Old or worn-out parts sent as patterns, which we consider unserviceable, are not returned unless specially asked for by the owner at the time of sending them to us.**

9.—Any engines or parts sent to our Works, for repair not paid for within six months from the date of our estimate, will be offered for sale by us elsewhere to defray expenses.

ESTIMATES

If required, we are always 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, and therefore, in the case of any estimate not being accepted for special reasons, a small charge is made for our mechanics' time in taking down the parts for report.

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, any parts specified by the customer when we consider that other parts are necessary to make an efficient repair. In such cases, we are prepared to supply the customers' requirements in spares, but we do not undertake to fit them.

TERMS OF BUSINESS

Repairs and spares must always be treated on a cash basis. Ledger accounts will be opened for items of £5 (five pounds) and upwards for approved accounts.

An extra amount must always be included in remittance to cover the cost of postage or carriage and packing on spare parts. This is 5 per cent. extra up to £5 value. Minimum extra is 6d. Stamps cannot be accepted for items over 1/- (one shilling) in value.

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

WE 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 despatched by us, 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 do not undertake, to refit or bear the cost of replacement or refitting such new part. We guarantee, subject to the conditions mentioned below, to make good at any time within six months any defects in these respects. 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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