

Mobylette

WORKSHOP MANUAL

MOTOR IMPORTS CO. LTD.

7 GRESHAM ROAD, LONDON, S.W.9



AFTER SALES SERVICE

Dear Mobylette Dealer,

This Manual, written by Mobylette experts is intended to give Mobylette agents and their mechanics information to enable them to give service to our mutual customers at the minimum of cost.

On page 2 of the Manual you will find all the technical data carefully tabulated.

We have, with the aid of photographs shown the various stages of the dismantling and re-assembly of the engine which we are sure will be of help to the mechanic.

The Manual has been made up into various sections so that the correct section can be referred to depending on the extent of the work to be carried out.

A list of flat rate repair times is included on page 10 but we would draw your attention to the fact that these can only be approximate, due to the special circumstances of the particular repair job.

MOTOR IMPORTS COMPANY LTD.,
LONDON.

DECEMBER, 1960

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MOBYLETTE TECHNICAL DATA

Engine	Motobecane Mobylette AV 7
Cylinder barrel	Chrome lined aluminium alloy
Method of operation	Two stroke-twin transfer port
Lubrication	Petrol-oil mixture
Oil-petrol mixture	5%-6% SAE 30, i.e. 1 part oil to 16 parts petrol
Carburettor	Gurtner B.R.10
Air cleaner	Plastic-metal insert filter
Cylinder bore	1.53"
Stroke	1.64"
Capacity	49.933 c.c.
Compression ratio	6.5-1
R.P.M.	5,000 R.P.M. cruising
B.H.P.	1 B.H.P.
Piston clearance	0.00039"
Piston ring gap clearance	0.0059"
End float on crankshaft assembly	0.0039"—0.0078"
Con rod side clearance	0.0039" (on crankshaft), 0.0078" (on little end)
Gudgeon pin diameter	0.5118"
{ Small end bush clearance	0.00039"-0.00078" clearance
{ Small end bearing type	INA 13 × 16 × 14 mm.
Ignition.....	NOVI 6V. 8W. lighting
Ignition timing	2 mm. (1/9") before T.D.I.
Spark plug	Floquet 14c-102
Spark plug gap	0.015"
Contact breaker gap	0.015"
Clutch operation.....	at 2,500 R.P.M. of engine centrifugal
Primary drive	14 × 7 mm. belt
Sprocket sizes	Pulley sprocket 12 teeth, rear wheel 44 teeth
Fuel tank capacity	0.81 gallon
Weight	77 lbs.
Maximum width	2' 3"
Overall length	5' 8"
Rims	23 × 2 or 600 × 50
Tyres.....	{ 23 × 2 Front 24 lbs. sq. 1" Rear 28 lbs. sq. 1"
Tyre pressures.....	{ 600 × 50 " 23 " " " " 27 " " "
Pedal chain	98 links, 3 mm. × 13 mm.
Transmission chain.....	100 links, 5 mm. × 13 mm.
Lamp size.....	3.7" diameter

MOBYLETTE WORKSHOP MANUAL

- DISMANTLING -

SECTION I.

REMOVAL OF ENGINE FROM FRAME

1. We suggest machine is held in a front wheel stand (this stand can easily be made from timber dimensions, see plate 1).
2. Check that the fuel tap is switched off (clockwise).
3. Remove chain guards from both sides of the machine by unscrewing the six knurled fixing screws (Pt. No. 15556 and Pt. No. 15557, see plate 2).
4. Clean exterior of the engine thoroughly.
5. Remove carburettor by loosening flange bolt nut, after first disconnecting the petrol feed pipe and plastic air filter. Tie securely to frame after wrapping in cloth or paper to avoid scratching the paintwork of the machine (see plate 2).
6. Disconnect decompressor control cable after compressing the decompressor spring. Tie this to the frame.
7. Disconnect the lighting wire lead from the terminal at the base of the magneto.
8. Undo and remove the two retaining bolts (Pt. No. 14063 top) and (Pt. No. 14064 bottom) in the following order: 1—bottom, 2—top, at the same time supporting the engine from the underneath. It is most important that the engine is supported to avoid the assembly suddenly dropping when the last bolt is removed, thus causing damage. (See plate 2).
9. Slide belt over pulley and remove engine to workbench.

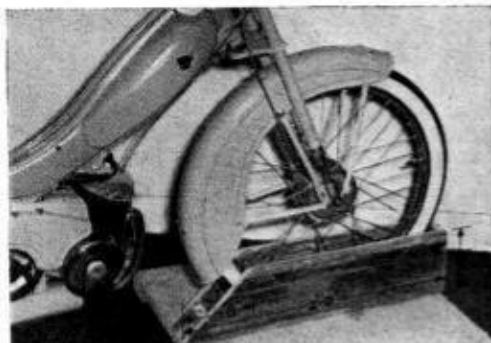


PLATE 1

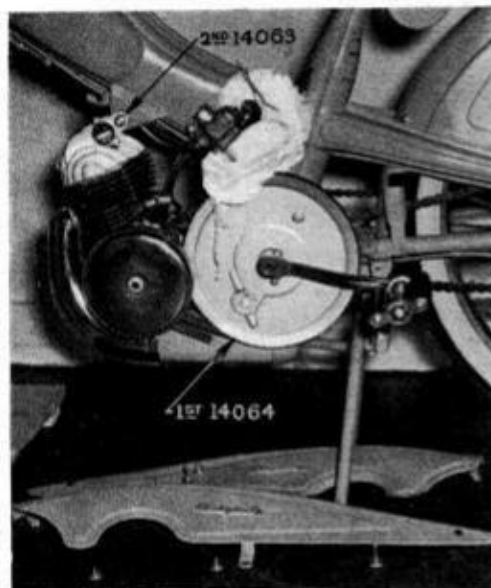


PLATE 2

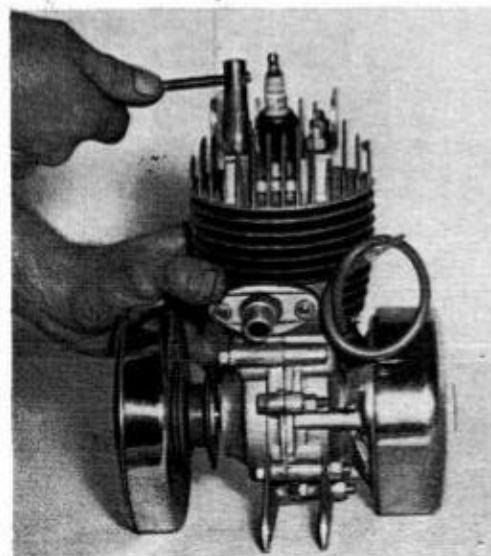


PLATE 3

SECTION II.

DISMANTLING OF THE ENGINE (A)

1. Remove H.T. lead from sparking plug. Roll back rubber cover from lead where this enters top of the magneto and unscrew the lead anti-clockwise. (Does not apply to model with outside coil.)
2. Unscrew the sparking plug, making certain that the copper plug gasket is also removed.
3. Unscrew cylinder head nut with 10 mm. box spanner (Pt. No. T7). (Remove washers and mounting plates, lift off cylinder head and gasket.) (See plate 3.)
4. Undo exhaust pipe securing nut (Pt. No. 15245). Remove silencer, pipe and copper gasket.
5. Carefully draw off cylinder barrel and place clean rag around the connecting rod under the piston to avoid damage to crankcase or dirt entering the crankcase. (See plate 4.)
6. Remove circlips from piston with pointed pliers. (See plate 5.) Warm piston carefully and evenly to a temperature of 120° C. (250° F.) and push out gudgeon pin with tool (Pt. No. T68). Remove piston, piston rings and cylinder base gasket.

- DISMANTLING -

SECTION III.

REMOVAL AND DISMANTLING OF DIMOBY CLUTCH UNIT

1. Holding magneto rotor with holding tool (Pt. No. T1002) undo securing nut (Pt. No. 14560) using 14 mm. socket spanner (tool Pt. No. T57) by turning anti-clockwise. (See plate 6)
2. Remove outer drum assembly from shaft by means of withdrawal tool (Pt. No. T15141). (See plate 7.)
3. Remove internal circlip (Pt. No. 14563) using circlip pliers tool (Pt. No. T987). Remove washer and further circlip (Pt. No. 14561) after first removing key from keyway. Take out further washer and roller bearing cage. Remove clutch inner assembly from crankshaft. (See plate 8.)
4. Unscrew the four screws holding shoe securing S-shaped plate. (See plate 9.) This will require a strong screwdriver with a blade the full width of screw, these screws having been centre punched. Remove plate. The shoes can now be taken off back plate. Care should be taken not to lose the washers which should be in the following order: 1 washer/1 spring washer/clutch shoe/1 washer. The springs can now be easily removed from the pair of shoes and also the two rubber stops that should be inserted in the lining end of the shoe.
5. The centre bush and felt seal can now be taken out and the oil felt removed from it.
6. The oil seal felt is removed from the pulley side of the clutch assembly by forcing off the covering washer (Pt. No. 14750) this washer having been punched after insertion. The felt can then be removed and the further internal washer (Pt. No. 14588).

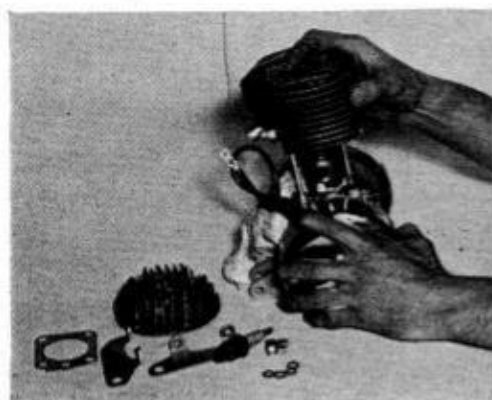


PLATE 4

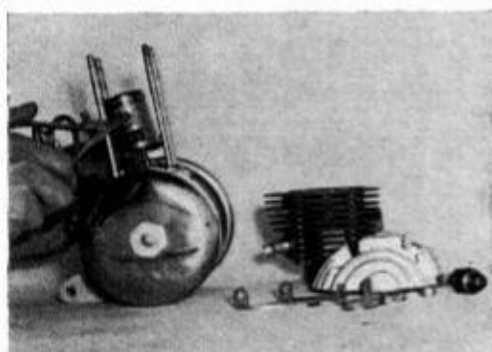


PLATE 5

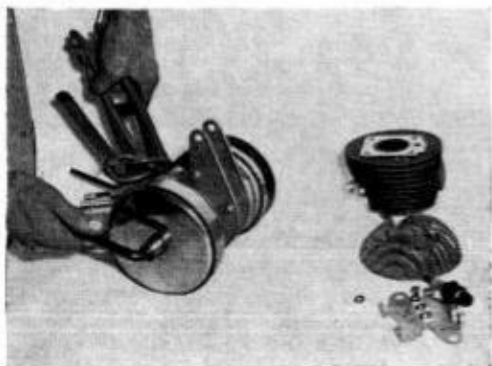


PLATE 6

SECTION IV.

REMOVAL AND DISMANTLING OF THE MAGNETO

1. Hold rotor with holding tool T1002 and using either tool Pt. No. T57, 14 mm. box spanner, or tool Pt. No. T10, 29 mm. open ended spanner, or tool Pt. No. T16733, 10 mm. A/F square spanner, depending on year and model of Mobylette. Undo rotor securing nut in a clockwise direction. (See plate 10).
2. Remove the rotor.
3. Using tool Pt. No. T15142 withdraw magneto cam. (See plate 11.) (Early models Pt. No. T15141 tool.)
4. Unscrew nut (Pt. No. 1192) from the two coils and remove the complete back plate from crankcase. (See plate 12.)
5. Unscrew bolt (Pt. No. 16513) and (16512) securing both coils to back plate after flattening the clock washers. (See plate 13.) Before moving coils detach electrical leads to condenser and contact breaker assembly.
6. Remove condenser by unscrewing small screw (Pt. No. 853). Be careful not to drop and lose point adjusting cam (Pt. No. 30).

- DISMANTLING -

SECTION V.

DISMANTLING THE ENGINE (B)

1. The four cylinder studs (Pt. No. 14716) should be unscrewed and removed.
2. The seven nuts and bolts around the circumference of the crankcase should be undone and the engine bottom mounting plates and bolts removed. Remove the two magneto mounting studs (Pt. No. 14990).
3. Warm up crankcase to an even temperature of approximately 120° C. (250° F.). The crankcases can now be separated (see plate 14), leaving main bearings on the crankshaft.
4. Remove the oil seals. These seals have to be replaced, so it is important if they are damaged during removal.
5. Withdraw bearings from crankshaft using a withdrawal extractor.
6. Remove little end bronze bush by driving it out with tool (Pt. No. T68). This bush should only be removed if there is a marked play between the gudgeon pin and bush.



PLATE 7

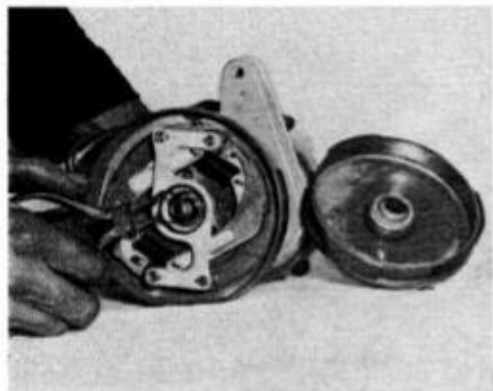


PLATE 8

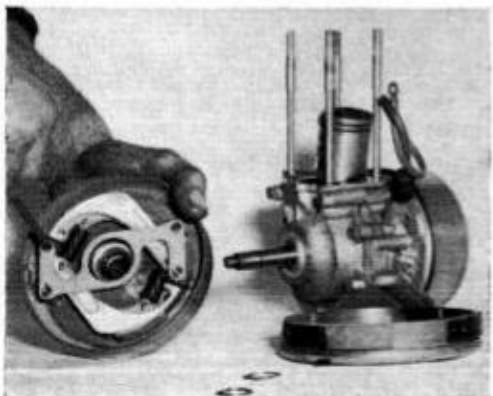


PLATE 9

- RE-ASSEMBLY -

SECTION 5.

RE-ASSEMBLY OF ENGINE (B)—Note, Assembly is in reverse order to dismantling

6. Replace small end bush if there is any notable play between the gudgeon pin and bush. File slight taper on one face of the new bush. Carefully centre the new bush and force it into the con rod little end, using tool (Pt. No. T68) to draw the bush into the rod. Using a small hacksaw blade, a slot 1/32" deep should be cut across the bush. The three oiling holes should now be drilled, using a 3/32" drill. The bush should now be reamed out using reamer (Pt. No. T11). (See plate 15.) Take a small even pass, and be sure to get a good surface finish in the bush by lubricating the reamer. The gudgeon pin should revolve freely without any play. It must not be a tight fit. In later models a roller cage little end is fitted and it is only necessary to replace this roller cage (Pt. No. 15855) and also the gudgeon pin, if this is badly worn. If there is appreciable up and down movement in the big end itself we would advise an exchange or new crankshaft assembly to be fitted. We do not advise crankshafts to be split and re-assembled locally as very special tools are required for this work.
5. } Replace main bearings if wear can be felt in these. In every case all gaskets and oil seals should be replaced. Replace oil seals on both sides of the shaft. If a shim washer is found on either side of the bearing this must also be replaced when fitting the new bearing. End play of 0.0039" should be allowed.
4. } Warm up crankcase evenly to 120° C. (250° F). Fit the two halves together on the crankshaft, using a new face gasket.
2. Insert all bolts and nuts, at the same time replacing the lower engine plate. These should face to the rear of the engine. Tighten nuts and bolts evenly, working from front to back of engine in turn.
1. Screw back the four cylinder studs into the top of the crankcase, at the same time replacing the face gasket. Replace the two magneto fixing studs (Pt. No. 14990).

- RE-ASSEMBLY -

SECTION 4.

RE-ASSEMBLY OF MAGNETO

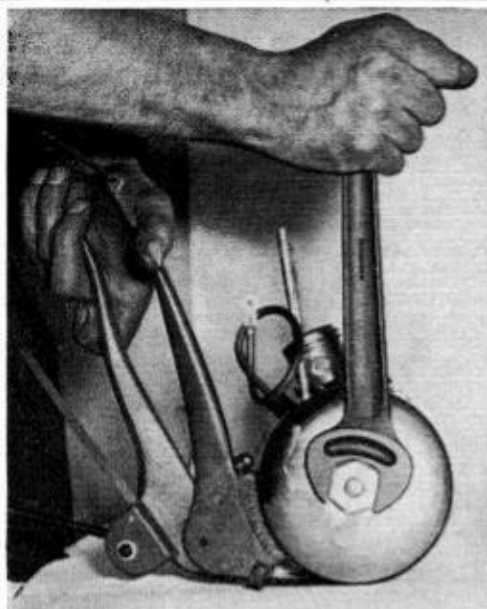


PLATE 10

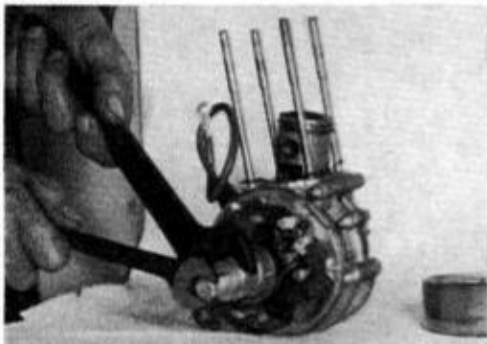


PLATE 11

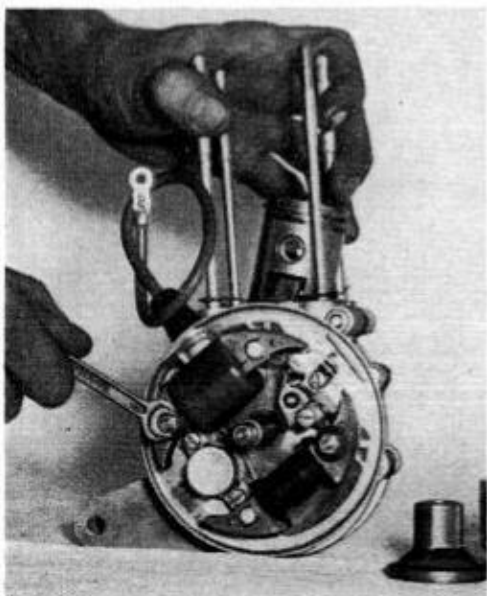


PLATE 12

6. Refit condenser and contact breaker points, securing these with screws (Pt. No. 853). Be certain to insert point adjusting cam (Pt. No. 30) at the same time.
5. Place coils on back plate, making certain that coil (Pt. No. 16511 H.T. supply) is mounted nearest the large hole in the back plate (top). Place coil locating tool (Pt. No. T16516) around the coil. Insert screws (Pt. No. 16513 and Pt. No. 16512) making certain that a new lock washer is placed under the screws (Pt. No. 16513) in the case of each coil. (See plate 16.) Tighten these and turn up the lip of the lock washers. Refit wiring leads from coils and from the condenser.
4. Position back plate on to the two crankcase locating studs (Pt. No. 14990). Replace the washers (Pt. No. 1271) and tighten securing nuts (Pt. No. 1192).
3. Slide the magneto cam onto the crankshaft, at the same time lifting the contact breaker arm. Position the cam for the correct timing of engine by use of tool (Pt. No. T.15746), which should be screwed into the sparking plug hole of the cylinder head. (See plate 17). The crankshaft should be turned until the piston is at top dead centre. The shaft should then be turned back (clockwise working from the magneto side) until the top of the red mark on the tool is flush with the top of the body of the tool (i.e. 2 mm. or 1/9" before top dead centre). The cam should now be positioned so that the points are just breaking with the crankshaft in this position. Adjust the contact breaker gap clearance to 0.015" in the open position, using a feeler gauge, and by turning the small adjusting screw (Pt. No. 30) after first very slightly loosening the holding screw (Pt. No. 853). Tighten this screw and then re-check breaker gap with the feeler gauge.
2. Refit the rotor and tighten the securing nut (Pt. No. 15951) using the holding tool (Pt. No. T.1002), and the correct spanner (Pt. Nos. T57, T10 or T16733) depending on the model of the Mobylette.
1. It is advisable to again remove the rotor and check that the cam position has not moved before finally tightening the rotor securing nut.

SECTION 3.

RE-ASSEMBLY OF THE DIMOBY CLUTCH

6. Insert the washer and replace the felt oil seal in the pulley side of the clutch base assembly. New washer (Pt. No. 14750) should be placed on top of the felt and the inner edge of the pulley casting should be 'centrepunched' to hold this washer in position.
5. The clutch base assembly should be turned on its other face and the centre bush replaced on the centre hub of the back plate. Fit a new felt washer (Pt. No. 681) into the centre bush.
4. If the pair of inner clutch shoes have worn linings, a new or exchange pair should be fitted. We do not advise local relining of shoes as a special process is used to attach the lining to the shoe. Fit a new rubber stop (Pt. No. 16540) into the heel of each shoe. Attach the two return springs to the pair of shoes. Place one plain washer on each swivel pin and place the pair of shoes on these pins. Place the

- RE-ASSEMBLY -

SECTION 3 (Continued).

further spring tension washer and plain washer on the pin. The retaining 'S' plate now should be refitted and new retaining screws inserted and tightened. *New screws must be fitted and after tightening 'centre punched' at their edges to avoid any chance of these coming undone when the engine is in operation.*

3. Refit the inner assembly on to the engine crankshaft. Inspect the centre roller bearing and cage for signs of wear. Replace if worn. Place the bearing into the inner assembly and on to the engine shaft. Next insert plain washer and using circlip pliers (tool Pt. No. T987) insert *new* inner circlip (Pt. No. 14561). Insert further washer, and using circlip pliers (tool Pt. No. T988) insert *new* outer circlip (Pt. No. 14563). Refit the key in keyway of shaft.
2. Inspect linings or springs on outer clutch drum, if these are badly worn replace with a new or exchange drum assembly. We do not advise local replacement of these linings as special equipment is required for this work. Refit the drum assembly on to the engine shaft, making certain that the keyway is located on the key.
1. Holding magneto rotor with holding tool (T.1002) refit and tighten securing nut (Pt. No. 14560 or 16679) using 14 mm. socket spanner (tool Pt. No. T.57) by tightening in a clockwise direction.

SECTION 2.

RE-ASSEMBLY OF ENGINE (A)

6. Warm piston to a temperature of 120° C. (250° F.) and holding it with a piece of cloth locate on to the connecting rod. Push the gudgeon pin through the piston and connecting rod bush. (See plate 18.) Refit new gudgeon pin circlips into the piston, using pointed pliers. Be certain that the circlips have bedded into the slot in piston. Refit piston rings on to the piston with the gap located correctly where the pins project through ring groove. If new rings are being fitted, first insert these midway in the cylinder barrel and check that the ring gap is 0.0059", file if necessary.
5. Compressing the piston rings with your fingers, slide the cylinder barrel on to the piston and down the cylinder studs on to the crankcase. (See plate 19.)
4. Fit a new cylinder head gasket and refit the cylinder head on to the four studs and cylinder. The decompressor should be to the front of the engine and the hole in the gasket for the decompressor matched to the hole in the head. Refit the top engine mounting plates, these should face to the rear of the engine. Fit the four washers and nuts. Tighten these, using 10 mm. box spanner (tool Pt. No. T7) evenly working from opposite corner to opposite corner.
3. Insert *new* exhaust pipe copper ring gasket and refit exhaust pipe. Tighten securing nut (part No. 15245).
2. Refit sparking plug and plug washer after setting the gap with feeler gauges to 0.018".
1. Screw H.T. lead into the magneto socket. Cover lead and socket with rubber cover and connect plug cap to sparking plug. The decompressor should only be dismantled if the valve and valve seating shows signs of wear. If this is the case a new valve should be re-seated by rotating backwards and forwards in the decompressor housing, using grinding paste on the seating face of the valve. After being ground in, both the body and valve should be thoroughly washed in petrol before re-assembly.



PLATE 13

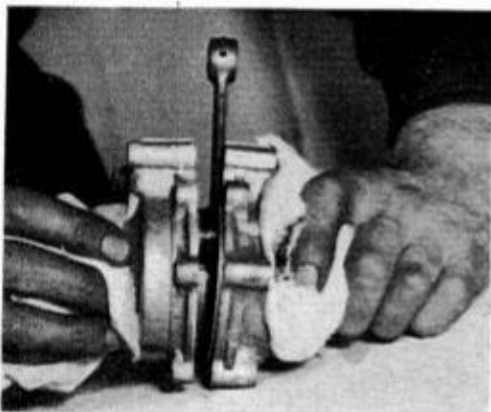


PLATE 14

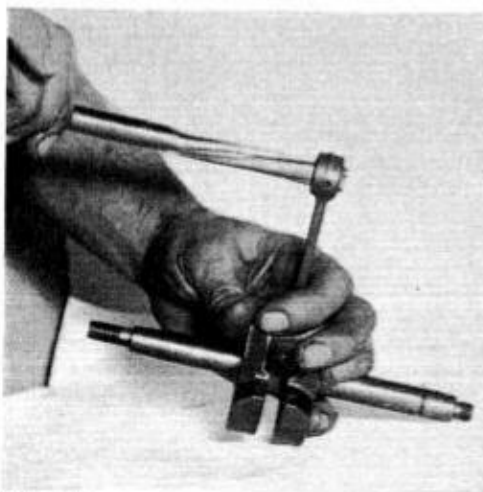


PLATE 15

- RE-ASSEMBLY -

SECTION I.

RE-ASSEMBLY OF ENGINE IN THE FRAME

1. Replace engine in the frame and line up and refit upper retaining bolt (Pt. No. 14063). Fit the belt over the pedal pulley and engine pulley.
2. Fit lower mounting bolt, (Pt. No. 14064). Tension the belt by pulling the engine crankcase towards the front of the machine by hand. Do not use a lever as the belt should be tight but not drum tight. Refit washer and screw nut on lower mounting bolt. Tighten this up. Refit washer and screw nut on upper mounting bolt. Tighten this up.
3. Refit lighting wire to base of the magneto.
4. Refit decompressor cable to the decompressor by tensioning the spring and sliding the roller nipple of the cable under the clip and the inner wire through the eye of the spring.
5. Refit carburettor to the cylinder intake flange. After first making certain the carburettor is in a upright position, tighten the fixing bolt and nut.
6. Reconnect petrol feed pipe and plastic air cleaner, making certain that the cleaner is securely clipped into position.
7. Replace left-hand chain guard and refit fixing screws.
8. Replace right-hand chain guard and refit fixing screws. Tighten all fixing screws thoroughly.
9. In the case of model with an outside frame mounted H.T. coil refit H.T. lead to coil from the sparking plug. Be certain that the waterproof cover covering the lead and coil terminal is replaced.

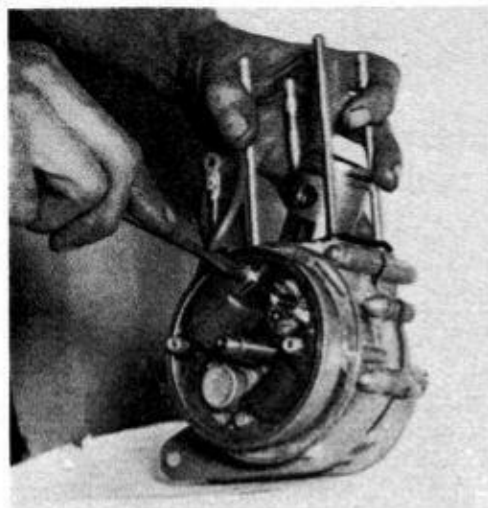


PLATE 16

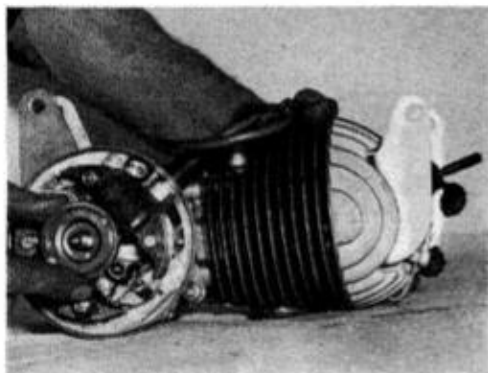


PLATE 17

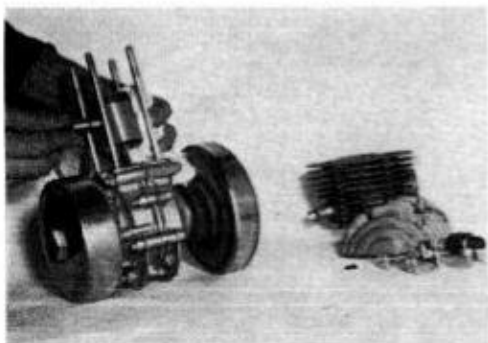


PLATE 18

PEDAL PULLEY UNIT

- DISMANTLING -

SECTION VI.

DISMANTLING THE PEDAL PULLEY ASSEMBLY

1. Remove the chainguards from machine (see Section I, paragraph 3).
2. Loosen the engine mounting bolts and remove lower bolt and nut (Pt. No. 14064). Remove the belt from the engine pulley and pedal pulley and swing the engine forward so that it clears the pedal pulley.
3. Loosen the left-hand crank cotter pin nut and tap with hammer to loosen cotter pin. Undo the nut completely and remove washer and pin. Slide off crank.
4. Repeat as paragraph 3 for right-hand crank, after first removing the pedal chain spring link.
5. Remove the distance piece (Pt. No. 14182 or 16565) and dust deflector (Pt. No. 14156 or 16568) using circlip pliers tool (Pt. No. T988). Remove outer circlip (Pt. No. 14158). Remove washer (Pt. No. 14998 or 14153).
6. Extract the spring link from the transmission chain.
7. Remove pulley from the pedal axle. Remove washer and second circlip, using circlip pliers (Pt. No. T988). Remove the further washer and take out the axle.
8. Remove further washer and circlip from the axle.

MOBYLETTE WORKSHOP MANUAL

- RE-ASSEMBLY -

SECTION 6.

RE-ASSEMBLY OF PULLEY ASSEMBLY (Note Re-assembly in reverse order)

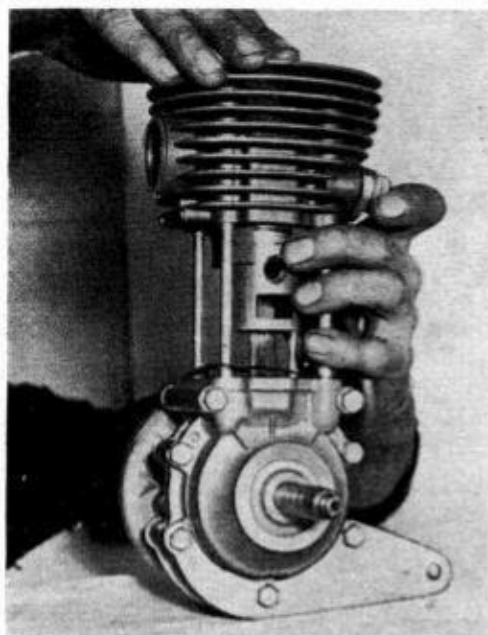
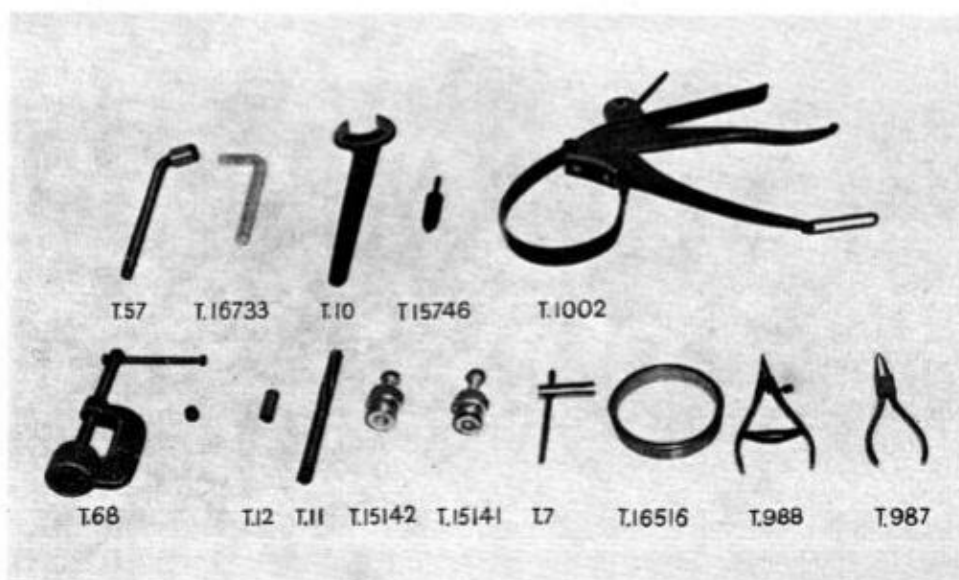


PLATE 19

Re-assemble in reverse order to dismantling. If pulley internal roller bearing cage is worn due to lack of greasing replace this. In some cases one bearing (Pt. No. 14176) is fitted in others two bearings (Pt. No. 14330) according to the year and model of machine. Before fitting replacement bearing make certain that the old one is completely removed then press the new bearing into the pulley. When fitting the single bearing (Pt. No. 14176) make certain that the grease hole in the bearing lines up with the hole in the bracket pulley.

The washers that are placed next to the frame bushes on the axle vary in thickness and should be fitted of a thickness to avoid any sideways play of axle after the circlips have been fitted. Always use *new* circlips.

- SPECIAL TOOLS -



	£	s.	d.		£	s.	d.		£	s.	d.
T.57 14mm Mag. Spanner ...	9	9		T.68 Small End Extractor ...	2	19	3	T.7 Cylinder Head Spanner ...	1	6	
T.16733 10mm A/F Mag. Spanner ...	4	2		T.12 Gudgeon Pin Remover ...	3	2		T.16516 Coil Locating Tool ...	1	3	5
T.10 29mm Mag. Spanner ...	6	6		T.11 Small End Reamer ...	1	3	6	T.988 Ext. Circlip Pliers ...	18	6	
T.15746 Engine Timing Device ...	7	8		T.15142 Cam Extractor ...	6	4		T.987 Int. Circlip Pliers ...	17	6	
T.1002 Rotor Grip ...	3	2	6	T.15141 Clutch Extractor ...	6	4					

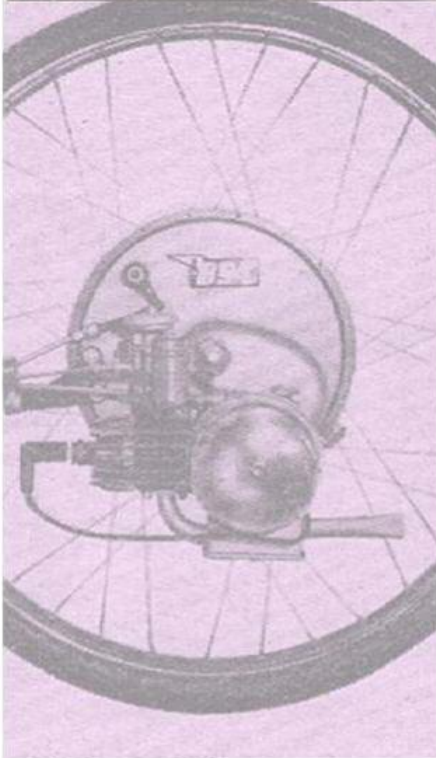
MOBYLETTE WORKSHOP MANUAL

FLAT RATE REPAIR TIMES

	DIMOBY MODEL MOBYLETES		MOBYMATIC	
	HRS.	MINS.	HRS.	MINS.
Removal of engine from frame ...		15		30
Repair and grinding in decompressor valve assembly ...		30		30
Overhauling clutch assembly ...		30		30
Decoke of cylinder head and piston top and re-assembly ...		30		30
Fitting new piston and piston rings ...		45		45
Assembly of a new clutch unit on engine		15		15
Overhaul of magneto and retiming of engine ...	1	30	1	30
Adjusting contact breaker points and check timing ...		20		20
Removal and cleaning of carburettor ...		30		30
Overhaul complete engine unit including magneto and carburettor ...	6	—	6	—
Mounting engine in frame and testing ...	1	—	1	—
Replacing carburettor ...		20		20
Replacing pedal pulley ...		30		30
Replacing bottom bracket axle and pulley ...	1	—	1	—
Replacing front hub bearings ...		45		45
Replacing rear hub bearings ...	1	—	1	—
Replacing decompressor cable ...		20		20
Replacing throttle cable ...		30		30
Replacing choke cable ...		20		20
Replacing front brake cable or rear brake cable ...		15		15
Replacing complete handlebar ...		45	1	—
Replacing front mudguard ...		30		30
Replacing rear mudguard ...		45		45
Replacing front fork assembly ...	1	0	1	30
Replacing front brake shoes ...		30		30
Replacing rear brake shoes ...		45		45
Replacing all electrical wiring ...	1	—	1	—
Replacing petrol tank ...	1	—	—	—
Replacing saddle ...		10		10
Replacing front or rear light ...		15		15
Replacing of one inner tube and/or cover		15		15
Complete assembly of machine after crash ...	6	—	6	—
Dismantling and re-assembly of machine ...	8	—	8	—



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