C. CALLCOTT REILLY, M.B.E., B.Sc., A. F. PALMER PHILLIPS, J. D. McGREGOR, M.C.

Cyclemaster LIMITED

Telegrams:
Cymast · Sowest · S.W.1
Cables:
Cymast · London.

38a, ST. GEORGE'S DRIVE,
LONDON, S.W.1.
ADJOINING VICTORIA STATION
Telephone: VICtoria 6312/3/4/5

DECARBONISING B.P.BRAKE MODEL.

The decarbonising of the Cyclemaster engine is a straightforward operation, but it cannot be done without removing the engine from the wheel, as both head and cylinder barrel foul the wheel drum.

The wheel must be removed from the cycle and details may be found on Page 8 of your Instruction Book.

Remove the filter choke, front engine cover and rear cover assembly.

Remove power unit from drum as follows:-

With the petrol tap in the "off" position, disconnect flexible petrol pipe from carburettor. Remove petrol tank by removing three screws and three spring washers and replace screws and washers in tapped holes in suspension bracket.

Remove lock ring (Item 2, Fig.2, Page 19 of Instruction Book)

Gently lever off brake arm.

Rotate eccentric sleeve (Item 3, Fig.2, Page 19 of Instruction Book) until chain from clutch-shaft to drum is at its slackest. If the engine is then rocked gently, the eccentric sleeve may be withdrawn with the fingers. Tilt engine slightly to remove chain and withdraw engine.

Lift cylinder head by removing three nuts and washers (O.B.A. Box Spanner). (NOTE: There is no cylinder head gasket). Scrape carbon away from head and lightly polish with fine emery cloth dipped in paraffin. Scrape carbon from top of piston and from inside top of cylinder beyond limit of piston travel. To clean exhaust port, remove exhaust pipe, turn crankshaft to bring piston to its lowest position and scrape out exhaust port. Apply airline (or cycle pump) to blow fragments of carbon away.

If.....

If necessary to remove the cylinder barrel, this should be done as follows:-

Using two nuts on each stud (for locking purposes) remove studs with spanner and lift off barrel. IMPORTANT: Lift barrel straight up; do not attempt to twist it or there will be a serious risk of breaking the piston rings. NOTE: There is a paper gasket between barrel and crankcase.

The crankcase should be packed with rag while cleaning the piston grooves, to keep out carbon.

Clean away carbon from the three ports by using a curved scraper. Inlet ports may be relatively clean, but exhaust port tends to become badly clogged after prolonged running. Clean all carbon out of piston ring grooves.

When refitting rings, make sure that they are correctly located with the gap of each fitting over the small projection in each groove. A special clip will be required to squeeze rings in position.

When all is clean, fit new gasket between crankcase and cylinder barrel; refit barrel; fit head with hermatite and replace engine in wheel by reversing the above procedure. Leave ring lock nut slack until secondary chain has been adjusted.

Clean out exhaust system. Clean carburetter.

Check magneto points.

Adjust chain from clutch to drum as follows:-

Move eccentric sleeve until chain has a total up and down movement of $\frac{1}{2}$" (This can be done with a suitable drift or "C" spanner)

Tighten ring lock nut.

Re-check chain tension.

Refit wheel in cycle (see Instruction Book - Page 6).

NOTE: If a suitably thin spanner is available, the above operation of chain adjustment may be carried out with the wheel fitted to the cycle and should be checked each quarter.

Check hub bearing adjustment (Instruction Book - Page 7).

C. CALLCOTT REILLY, M.B.E., B.Sc., A. F. PALMER PHILLIPS, J. D. McGREGOR, M.C.

Cyclemaster LIMITED

Telegrams:
Cymast · Sowest · S.W.1
Cables:
Cymast · London.

38a, ST. GEORGE'S DRIVE,
LONDON, S.W.1
Adjoining Victoria Station
Telephone: **VICtoria 6312/3/4/5**

150 MILES SERVICE.

After a Cyclemaster has covered approximately 150 miles, it must be given initial servicing.

This service is as follows:-

Remove the Filter Choke, Front Engine Cover and Rear Cover Assembly.

Clutch Chamber Oil.

Remove Oil Filler Plug and inspect level of oil in clutch chamber. The chain should be just dipping in oil. If you drain the clutch chamber, replace with one filler cap full (55 c.c.) of CASTROL "D" or equivalent grade of S.A.E. 140.

Clutch Cable Adjustment.

The free travel at the handle-bar control should be $\frac{1}{4}$" and primary adjustment is provided where the control cable enters the casting. Slacken locknut and screw adjuster downwards to increase free travel, upwards to reduce it. When sufficient adjustment can no longer be obtained, proceed as follows:-

Clutch adjustment.

Hold adjuster with screwdriver while slackening locknut with spanner. To obtain greater disengagement, turn adjuster to RIGHT (screw up). To obtain less disengagement, turn adjuster to LEFT (unscrew). Hold adjuster with screwdriver and tighten locknut.

Check Wheel for Alignment.

If it is necessary to adjust spokes, proceed after the next operation, as spokes must not be tightened without first removing cover, tube and tape (or the tube may be damaged). If any spoke end is proud of the nut after tightening, it must be filed level.

If necessary to remove Wheel from Cycle.

A detailed description of this operation may be found in the "Owners Instruction Book" or the "Just in Case" publication.

To remove Power Unit from Drum.

With the petrol tap in the "off" position, disconnect flexible petrol pipe from carburettor. Remove petrol tank by removing three screws and three spring washers and replace screws and washers in tapped holes in suspension bracket.

Unscrew large hexagon nut (5/8") and remove plain washer from hub spindle.

Continued....

Turn square end of hub spindle until spindle is at lowest point of eccentric (this slackens chain from clutch shaft to drum).

Withdraw engine, lifting it clear of chain.

Thoroughly clean inside of Drum.

Check Cylinder Head Bolts.

Tighten if necessary with OBA Box Spanner.

Check Contact Breaker Points.

Clean and adjust if necessary to 0.018"

General.

Tighten all nuts and bolts where necessary.

Replace Power Unit.

By reversing the above procedure.

At this stage the large hexagon nut should be left slack.

Adjust Chain from Clutch to Drum.

Place spanner on square end of hub spindle and adjust to allow not more than $\frac{1}{2}$" total slack in chain. This measurement can be observed through large hole in drum. Hold hub spindle firm and tighten large hexagon nut. Re-check adjustment. Note: the $\frac{1}{2}$" measurement must be made when this large nut is tight.

Refit Wheel in Cycle.

NOTE: If a suitably thin spanner is available the above operation of chain adjustment may be carried out with the wheel fitted to the cycle.

Inspect Sparking Plug.

Clean and adjust points if necessary to 0.018" to 0.020". Examine all surfaces of plug which are exposed in combustion chamber. They should be light brown in colour.

If dark, mixture is too rich or too oily.

If surfaces are covered with pearl-like formation, engine is running too hot, and spark is probably too far retarded. Correct timing - if this is beyond the capabilities of the owner, it is advisable to seek the advice of the Dealer.

Carburettor.

The carburettor should be cleaned and details of this operation can be found in the "CM" Instruction Book.

Choke.

To clean filter wash in petr 1 then dip in oil

Exhaust.

Make sure the exhaust system is clear of carbon and poke out the fish tail with a piece of wire.

CYCLEMASTER SERVICING HINTS.

1. IGNITION TIMING.

The contact points of the magneto should just start to open at 24° before top dead centre or alternatively 7/8" measured on the rim of the flywheel. It is important that the points are set to the correct clearance before testing the timing, and when carrying out this adjustment you should use the hole in the flywheel marked "C.C.W. rotation set points .018" here". The crankshaft of course rotates in a counter clockwise direction. The three threaded holes in the rotor, equally spaced around the nut are for attaching the special puller designed for removing the flywheel.

2. CARBURETTOR ADJUSTMENT.

Provision is made in the carburettor for altering the petrol/air mixture strength. A tapered needle is held in the piston throttle by means of a copper clip located in one of 3 or 5 grooves cut in this needle.
To carry out adjustment here you should:-

1. Remove the Carburettor.
2. Release the cable from the handle-bar lever.
3. Take off the knurled cap of the mixing chamber.
4. Release the inner cable from the slot in the carburettor piston.
5. Lift out the spring and needle.
6. Place the copper clip in another groove nearer the thick end to weaken the mixture and nearer the thin end to richen the mixture.
7. Re-build by reversing the procedure already described.
8. Test. The maximum petrol flow is controlled by the main jet and its size is 30. Always make certain before testing or alteration that the choke filter is clean and free from obstruction. If this unit is dirty it should be washed thoroughly in petrol and lightly oiled with engine oil. The same grade as used in the petrol is quite satisfactory.

Note: If for any reason the carburettor banjo union has been removed great care must be exercised when refitting the nut. This screws on to a hollow brass sleeve and excessive pressure with a spanner will fracture the sleeve. Do not attempt to rectify a petrol leak by fastening the nut too tight. Fit new fibre washers if necessary.

3. DECARBONISING.

This will be necessary at more frequent intervals than with a larger motor-cycle engine. You will appreciate that the Cyclemaster engine rotates many more revolutions per mile, in fact, just as if the motor-cycle was proceeding in low or second gear all the time. You will understand that a small amount of carbon can make a considerable difference to the performance of a small engine. However, although we find that it is reasonable to decarbonise the engine at approximately 1500/2000 miles, it is possible to greatly exceed this distance if the Cyclemaster is always operated under conditions of maximum efficiency. Finally we would point out that it is most important to use the grade of oil recommended in our instruction book. May other oils, particularly the heavier grades cause much more rapid carbon formation. It is important to clean out the exhaust fish tail at least every 500 miles. This can easily be done with a short piece of stiff wire.

4. PISTON RINGS.

New piston rings should have a gap of .006" or more when fitted to the cylinder. Check this by inserting the ring in the bore and then pushing the piston in slightly to "square" it up. Take great care to avoid the possibility of going too far and catching the ring in the ports. If this is done there is a possibility of breaking them during removal. The later type ring and all replacements are not machined with the special end faces for clearing the locating peg. The new type ring with the plain gap is thicker and has therefore greater radial pressure and it is most important that the ring grooves are thoroughly cleaned when making replacements. This ring replaces all existing types without alteration to the piston but the new type piston is fitted with a longer locating pin and under no circumstances should the original pattern ring be fitted to it. The clearance between locating pin and piston ring ends should be .006" and this can best be tested by fitting one ring to its mating groove, inserting the piston and ring into the bottom of the cylinder bore, rotating the piston lightly to and fro, to make certain that there is a minimum of .006" clearance. The gap in this ring is cut

/to .007"

to .067" during manufacture, and this clearance should give satisfactory results. When testing the ring it is most important that you do not push the piston too far in the cylinder, otherwise there is a danger of getting it damaged in one of the ports.

5. CYLINDER HEAD NUTS.

The size of this nut is OBA or 7/32" B.S.F. For your information a suitable socket is made by Messrs. Jenks Bros., Wolverhampton, the makers of Britool spanners. This part number is MH. 413 and the handle required with it is M. 70. Incidentally the nut is .413" across the flats. We are now in possession of a limited supply of these tools. The price is 6/4d.

6. MAIN ENGINE MOUNTING BOLT, PART NO. 700084.

It is most important that this bolt is fully tightened so that it grips the steel sleeves which go through the rubber mounting bushes. It is advisable to re-check this bolt at frequent intervals, and to facilitate this, we can now supply an extension to go between the handle and socket. Britool part numbers M. 70 and MH. 413 mentioned in paragraph 5. The price of the extension is: 5/5d.

7. SECONDARY CHAIN (Up to and including 1951 Models)

To adjust the secondary chain you should remove the wheel and undo the large Hexagon nut, which fastens the main engine bracket to the hub, immediately below the petrol tank. Place a spanner on the "square" end of the hub-spindle, and adjust the chain by rotating this spindle so that there is approximately $\frac{1}{2}$" slack in the chain. Always re-check this adjustment after the big nut has been tightened, and again after the Cyclemaster has been fitted to the bicycle.

1952 MODEL (Back pedalling brake type).

Adjustment of the secondary chain is fully covered in the Instruction Book issued with the machine. Please refer to this for details. The chain should be lubricated in exactly the same way as the pedal chain. Oil or special graphited lubricant may be used.

8. ENGINE POSITION IN HUB.

When refitting the Cyclemaster to the hub care must be taken to refit all spacing washers which you found between the engine bracket and the hub. If this is not done there is a danger of the clutchshaft sprocket fouling the inside of the drum when the chain is under maximum load. As the unit is mounted on rubber bushes, you will appreciate that it moves slightly when the chain tension alters. Always examine the clutchshaft sprocket clearance through the holes in the drum after the big nut has been tightened. The space between the drum and collar should not be less that 3/32".

9. MAIN CYCLE CHAIN.

If there is any tendency for this to catch the ribs of the main drum, a thin spacing washer may be fitted behind the free-wheel. Further clearance can also be given by fitting a longer pedal spindle of the type used on bicycles fitted with chain cases.

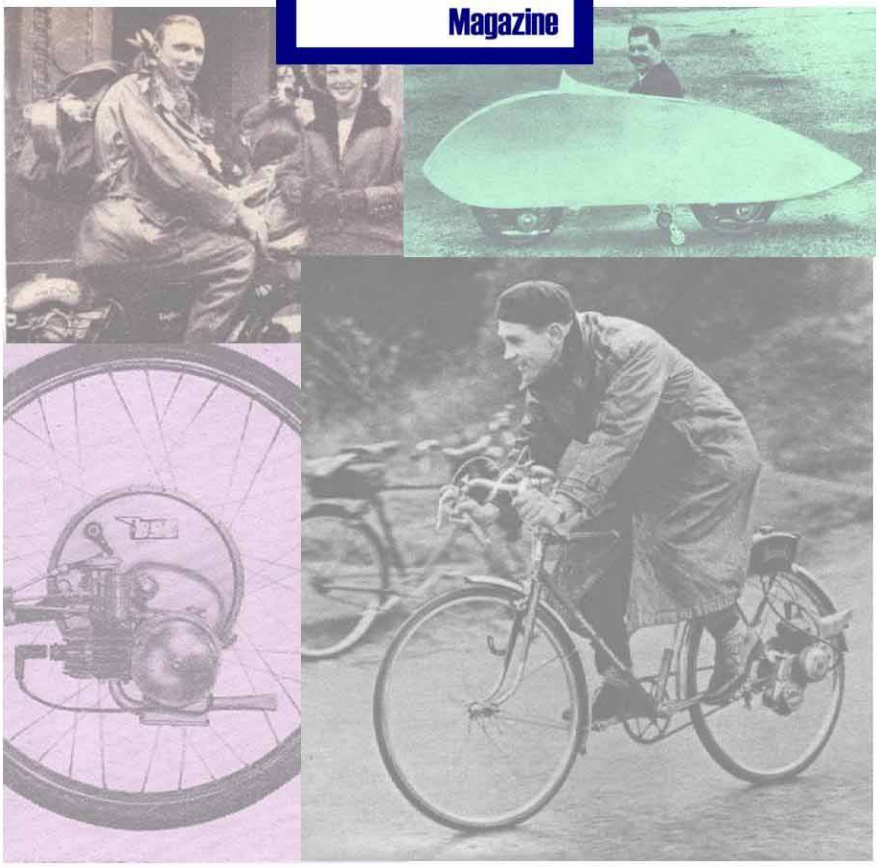
10. THE EXHAUST SYSTEM.

May deposit a film of oil at the rear if the carburettor is incorrectly adjusted. A rich mixture cannot of course be completely burnt up inside the cylinder. Refer to Paragraph 2 for alteration.

The exhaust system and particularly the cylinder nut should be checked and if necessary tightened with the engine hot. It is impossible to get it tight enough with a cold unit.

IceniCAM
Information Service

The Iceni CAM Magazine
Cyclemotor Autocycle C Moped



www.icenicam.org.uk