ARIEL

OWNER'S GUIDE

Supplement

1956
MOTOR CYCLES

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Extracts for

Owner's Guides
1956 Models

Note. — The attached rear wheel and chain case details do not apply to the 1956 4G Mark II Models.

The enclosed extracts, together with those items in the 1955 Owner's Guide which are common to 1955 and 1956, are applicable to all 1956 Models, except the Colt 200 c.c.

1. PRIMARY CHAIN

($\frac{1}{2}''\times.305''\times$ 72 or 73 pitches)

Adjustment. Chain adjustment is made by swinging the gearbox, which is pivot mounted, back or forward as required. Slack off the pivot bolt, which is below the gearbox and which passes through the two lugs on the cradle tubes; similarly slack off the clamp bolt passing through the engine plates above the gearbox. At the top rear extremity of the offside engine plate will be found the draw bolt adjuster; rotating nuts on the draw bolt swings the box about the pivot bolt, varying the chain tension. Adjust until the primary chain has approximately $\frac{3}{8}''$ up and down movement midway between the sprockets at the tightest point. Retighten clamp bolt and pivot bolt.

If the drawbolt does not turn easily, do not force it or the lug on the gearbox may be broken. Ascertain why the box is not moving; probably the bolts are not properly free or the chain may be already too tight.

2. REAR CHAIN

($\frac{5}{8}''\times\frac{3}{8}''\times$ 100 pitches)

Adjustment. For accessibility the spring clip fastener is fitted on the outer side of the chain, and it is important to always ensure that the CLOSED end of the clip points in the direction of the drive.

Note also "Chains" booklet, issued with other literature for new machines.

To adjust the chain, slack off the two rear wheel spindle nuts and loosen the nut securing the brake anchor bar to the brake plate; then adjust by rotating the screw adjusters; turn each adjuster by an equal amount. The rear chain should be adjusted so that when the machine is on the centre stand and the damper units fully extended, the chain will have an up and down movement of between $1\frac{1}{4}''$ and $1\frac{1}{2}''$.

The chain will then have the normal adjustment of $\frac{5}{8}''$ up and down movement when the rear wheel is on the ground and the rider seated.

Chain lubrication. The primary chain is lubricated by dipping into the oil in the case. Maintain the oil level up to the "oil level plug", but do not overfill or the oil may be thrown out of the case where the gearbox mainshaft enters. The oil level is *not* maintained by the engine lubrication system. No drain plug is fitted, and if it is desired to drain off the oil, the outer half of the chaincase must be removed.

Rear chain lubrication is carried out by means of a feed pipe taken from the return supply of oil in the tank direct to the enclosed rear chaincase or chainguard and chain. The pipe is fed with warm oil through a felt wick immediately below the tank filler cap and is, therefore, a drip feed to the rear chain only when the engine is running.

When a rear chain open type guard only is fitted the exposed rear driving chain should be periodically removed and thoroughly cleaned with paraffin and then dipped in a grease and graphite mixture, well warmed.

REAR WHEEL AND BRAKE

1. Removing rear wheel and brake

Support the machine on centre stand. Remove the brake cable from the operating lever and adjuster on the brake plate after turning the latter and the locknut until the "split" allows the inner wire to be withdrawn. Disconnect the rear chain and remove the securing bolt from the front end of the brake anchor bar.

Remove the rubber plug from the enclosed rear chaincase, when fitted, and rotate the rear wheel to expose each of the four wheel securing nuts, which can be removed by inserting the spanner provided through the plug hole. Next release the main hub spindle bolt.

Remove the two bolts securing the dualseat stays, and the four bolts securing the rear end of the mudguard.

Detach the two rear lamp "snap" cable connectors inside the rear guard and the rear end of the mudguard can be removed, thus facilitating easy removal of the complete wheel, but leaving the chain sprocket and short fixed spindle in position.

2. Removal of brake plate and attachments

After removing the rear wheel, the brake plate, with attachments, can be withdrawn, thus exposing the brake shoes, etc. To remove the brake shoes, first release the tension on the two adjusting wedges by unscrewing fully the fulcrum adjuster on the brake plate, when the shoes can be pulled off.

Note the location and action of the two brake shoes and one cam return spring.

Also note, when reassembling, to lightly grease the cam and fulcrum bearing faces, and inject grease into the cam spindle bearing by way of the nipple provided.

3. Removal of hub ball bearing

After taking off the brake plate, with attachments, the screwed bearing locking ring can be unscrewed (R.H. thread), but note the one indentation which must be removed, on the outer cover, before unscrewing the ring.

The single row ball journal bearing can be tapped or pressed out from the R.H. side, noting the location of the circlip, which need not be disturbed.

4. Rear hub bearing lubrication

The ball bearing should be packed with grease before assembly, and afterwards during service at approximately every 3,000 miles, when a small quantity of grease can be inserted by hand through the R.H. side of the hub tube.

5. Removal of chain sprocket and lubrication of bearing

The rear chain sprocket, with spindle and ball bearing, can be removed from the L.H. rear fork end after releasing the securing nut and distance piece(s).

Next remove the spindle and take off the dust cover or plate, which will then expose the ball journal bearing, which can be tapped or pressed out from the opposite side. Note the location of the felt grease retaining washer.

REPLACING THE REAR WHEEL

When replacing spindle, it is easier to engage the thread if the nearside nut is slackened about one turn. If the brake anchor bar is taken off, notice that it is not perfectly flat, the large end pointing very slightly inwards, and the smaller end outwards.

Be very careful when reassembling to refit in this position; also be careful when greasing the wheel bearings not to use too much grease, or some of the surplus may escape on to the brake linings.

REAR BRAKE ADJUSTMENT

Fitted to the rear brake plate is a cable stop and adjuster which can be used for adjusting the cable tension and taking up the initial cable stretch.

Adjustment for brake lining wear is made by turning the square-ended cam, or fulcrum screw, with one of the spanners provided in the tool kit.

The cable should first be slackened off as far as possible and then the brake shoes adjusted by turning the fulcrum screw clockwise until the brake linings just touch the bearing surface of the drum. Release the fulcrum screw two or three notches, until the wheel revolves freely, and then re-tension the brake cable with the adjuster, leaving just a trace of idle movement.

WHEEL ALIGNMENT

Whenever adjustment has been carried out to the rear chain, it is advisable to check the rear wheel alignment, because if this is incorrect the steering will be unsatisfactory and undue wear will occur with the sprockets and chains.

BRAKE LININGS

The type of linings fitted to the full width alloy hubs is of a special wear-resisting material, and thus guaranteed to give very long service under all conditions of running.

After lengthy service, when it may be necessary to replace the linings, this should only be carried out by fitting a pair of complete brake shoes with linings attached, as supplied direct from the factory.

All brake shoes are first fitted with the linings and then turned or ground on the bearing surface to conform to a gauge corresponding to the size of the internal diameter of the brake drum, which is 6.970″– 6.980″.

One of the original brake shoes will be found to have a colour code mark corresponding to a similar mark on the brake plate, and the shoes should be refitted in the original order if for any reason dismantling has taken place.

Always insist that the local Ariel Dealer supplies genuine works replacement brake shoes complete with linings, and never attempt to reline the shoes unless facilities are available for turning or grinding linings after fitting.

FRONT WHEEL

1. Removing front wheel

Support the machine on both stands and proceed in the following order:

Release the front brake cable from the stop lug. Release the R.H. front mudguard stay and brake plate anchor bar.

Loosen the pinch bolt on the lower end of the fork tube and also remove the large hub spindle nut on the brake plate side.

Insert a tommy bar in the hole on the end of the hub spindle, and by turning this in either direction it can be pulled out, leaving the wheel free for removal.

2. Removal of front brake plate and attachments

After removing the wheel, the brake plate, with attachments, can be withdrawn, thus exposing the brake shoes, etc.

To remove the brake shoes, release the tension on the two adjusting wedges by fully unscrewing the fulcrum adjuster on the brake plate, when the shoes can be pulled off.

3. Removal of the two front hub ball bearings

After taking off the brake plate, with attachments, the screwed bearing locking ring can be removed (R.H. thread), and also the same type screwed locking ring from the opposite side, noting the positions of the felt grease retainers.

Both single row ball journal bearings can be tapped or pressed out from each respective side, noting the location of the two circlips, which need not be disturbed.

4. Front hub bearing lubrication

The two ball bearings should be packed with grease before assembly, and afterwards during service at approximately every 3,000 miles, when a small quantity of grease can be inserted by hand direct into each bearing, after removal of the locking rings.

FRONT BRAKE ADJUSTMENT

Fitted to the handlebar, against the brake lever, is a knurled screw ring which can be used for adjusting the cable tension and taking up the initial cable stretch.

Adjustment for brake lining wear is made by turning the square-ended cam, or fulcrum screw, with one of the spanners provided in the tool kit.

The cable should first be slackened off as far as possible, and then the brake shoes adjusted by turning the fulcrum screw clockwise until the linings just touch the bearing surface of the drum. Next release the fulcrum screw two or three notches until the wheel revolves freely, and then re-tension the brake cable with the knurled screw on the handlebar, leaving just a trace of idle movement.

BRAKE LININGS

The type of linings fitted to the full width alloy hubs is of a special wear-resisting material and thus guaranteed to give very long service under all conditions of running.

After lengthy service it may be necessary to replace the linings. This should only be carried out by fitting a pair of complete brake shoes with linings attached, as supplied direct from the factory.

All brake shoes are first fitted with the linings, and then turned or ground on the bearing surface to conform to a gauge corresponding to the size of the internal diameter of the brake drum, which is 6.970″– 6.980″.

FRONT HEADLAMP WITHIN THE FORK COWL

The headlamp is of the sealed beam type, incorporating the main and pilot bulbs. The lamp, being positioned within the covering hood or cowl, must be withdrawn forward if it is necessary to exchange one of the bulbs. To withdraw the lamp, first unscrew the two slotted pins on each side of the cowl, taking note of the two loose distance pieces within, and the lamp can then be withdrawn by placing one hand underneath the body and pulling it forward out of the fork cowl.

The lamp front light unit can then be removed after partially releasing the fixing screw at the rim base. When placing the complete lamp back within the fork cowl or hood, make certain to first position the two loose distance pieces on the fixing screws before finally tightening. The above operation is best carried out if the steering is first turned fully to the right.

FRONT FORK ASSEMBLY

The forks are filled with oil before leaving the factory, the correct amount being approximately one third of a pint, or nearest equivalent 6½–7 fluid ounces for each leg. If it is necessary to check or top up the oil level, each leg should be drained (remove lower drain plugs) and refilled with 6½–7 fluid ounces (198 c.c.) by way of the top screw holes (remove slotted screws).

Oil recommendations: Wakefields Castrol XL

Essolube 30 Mobiloil 'A'

B.P. Energol 30 Shell X100-30

VALVES (MODEL NH 350 c.c. SINGLE CYLINDER)

Note that hardened valve stem end caps are NOT fitted to the 350 c.c. 1956 Models, the inlet and exhaust valves being manufactured from specially treated material to prevent wear on the valve stem ends.

SPARKING PLUG (MODEL NH 350 c.c.)

Lodge CB14 Long Reach or Champion N.A.8 Long Reach.

Correct plug gap: .015″–.018″.

GEAR RATIOS (MODEL FH 650 c.c.)

Engine Driving Sprocket — Solo — 24 teeth.

Engine Driving Sprocket — Sidecar — 21 teeth

Clutch Chain Wheel — 44 teeth.