BSA - SECTION H

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CHAINS
An early indication that the chain is being starved of oil is the appearance at the joints of a reddish-brown deposit. For chain lubrication details refer to page A4.

The standard method of coupling a chain is by a spring connecting link, which is simple and effective. It is important to note that the closed end of the springclip must point in the direction of chain travel.

FIG. H1. Spring link.

CHAIN MEASUREMENT

It is useful to know the extent of wear, and a simple test for this consists of measuring the chain with an ordinary foot-rule, steel for preference. Wear up to ¼" per foot of chain length is accommodated by the depth of hardening of the bearing surfaces, and when this limit is reached the chain should be replaced.

With a new ¼" pitch chain, 23 pitches will come to the 11½" mark on the rule , and a sufficiently accurate check for subsequent wear is to take a limit of 11¾" for 23 pitches.

Naturally, the test should be made carefully to obtain an accurate result. The chain is first washed in kerosene to ensure that all joints are free, and laid unlubricated on a flat board. If it is anchored at one end by a nail the necessary tension to pull it out to its fullest extent can be applied with one hand, while measuring between the centres of the bearing pins.

If it is found that the chain is still serviceable but the full amount of adjustment has been taken up, then the chain length should be reduced by either one or two pitches as detailed below.

FIG. H2. Measuring the chain.

CHAIN ALTERATIONS AND RENEWALS

The illustrations show temporary repairs on the roadside; for permanent repairs, the parts should be replaced by a riveted outer link.

FIG. H3.

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To shorten a chain containing an even number of pitches: remove the parts shown (A) Fig. H3, replace by cranked double link and single connecting link, parts shown (B) Fig. H3.

To shorten a chain containing an odd number of pitches: remove the parts shown (C) Fig. H3, replace by single connecting link and inner link, parts shown (D) Fig. H3.

To repair a chain with a broken roller or inner link, remove the parts shown (E) Fig. H3, replace by two single connecting links and one inner link, parts shown (F) Fig. H3.

CHAIN AND SPROCKET INSPECTION

Chain sprockets on a new machine should be correctly aligned but malalignment may arise in use. This may be due perhaps to slackened nuts, incorrect reassembly after say, an emergency repair, or minor spills. A periodical alignment check is therefore desirable, and is most easily done when the machine is undergoing overhaul as removal of adjacent components facilitates the job.

A straight-edge across the sides of the teeth on the two sprockets should touch at four points, in any position of rotation of the sprockets. If the latter are in incorrect alignment, the inner plates of the chain will be lightly polished equally on their inner sides and this is not detrimental. However, if one side shows considerably more wear than the other, it indicates that the shafts are not parallel (as viewed from the above) or not in the same plane (as viewed from the back of the machine). If the inner plates on both sides of the chain show real wear as opposed to polishing, particularly after a comparatively short mileage, it is probable that one sprocket is further out on its shaft than the other.

FIG. H4. Worn sprocket.

Sprockets which are excessively worn assume a "hooked" appearance, as shown above. When they are replaced check the new ones for accuracy. A new chain should fit completely round the teeth with a snug fit, neither too slack nor having a tight "springy" feel. The sprocket bore must be concentric, otherwise the

chain will tend to slacken and tighten as the sprockets are rotated.

With the sprocket in position, a pointer fitted adjacent to the teeth edges will detect such faults, if any show up, the sprocket should be rejected, assuming that the wobble is not caused by a bent shaft. Failure to correct such faults will cause the chain to wear quickly and unevenly.