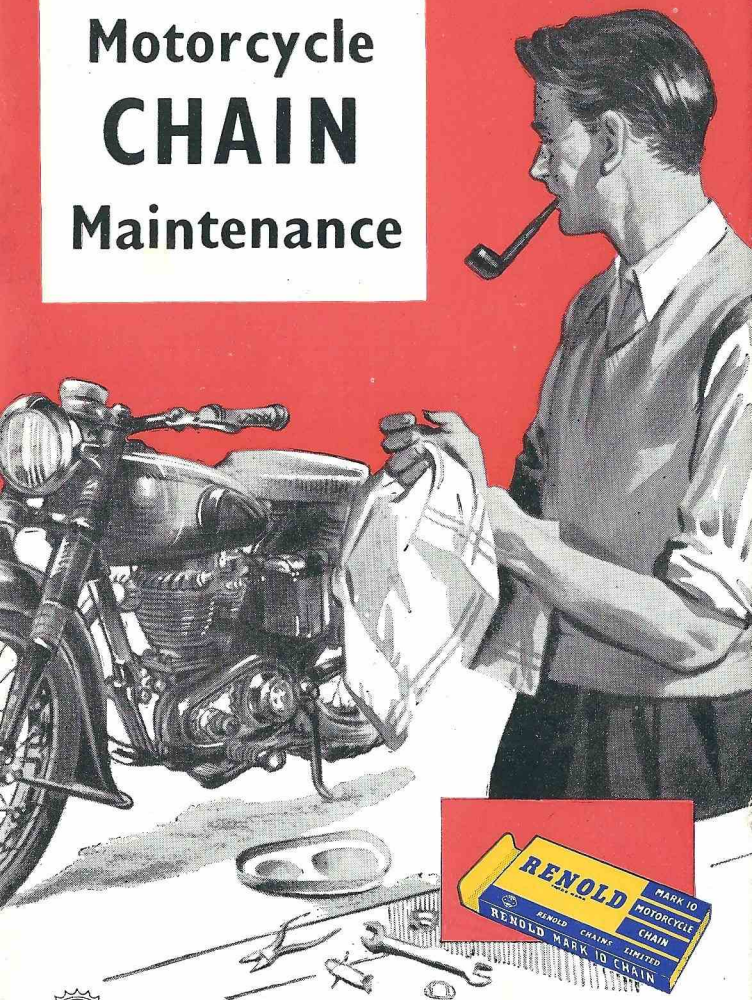


# Motorcycle **CHAIN** Maintenance



**RENOLD CHAINS LIMITED · MANCHESTER**

***M O T O R C Y C L E***

**CHAIN**

***M A I N T E N A N C E***



**RENOLD CHAINS LIMITED**

*Precision Chain Engineers*

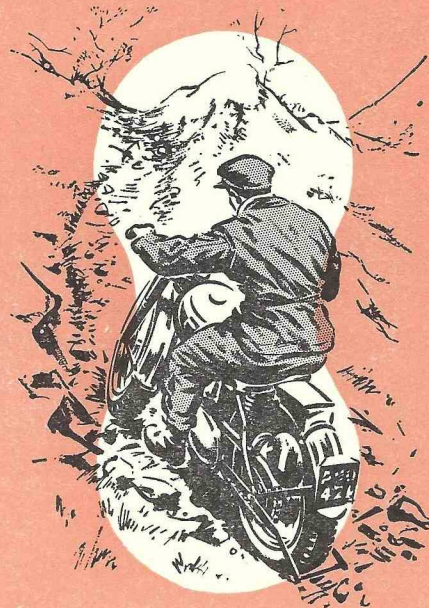
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**RENOLD**

(Trade Mark)

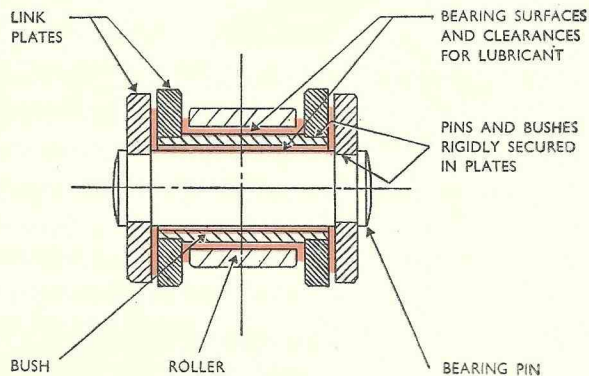


**EFFICIENT AND RELIABLE PERFORMANCE** is built into your motorcycle when fitted with Renold Chains. Due attention given to the points outlined in this booklet will ensure a continuation of reliable service and maximum power from your mount.

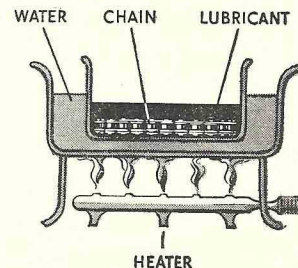
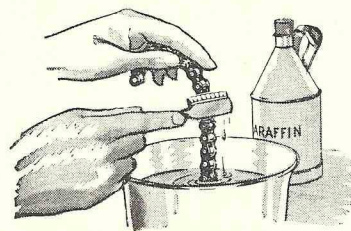


## LUBRICATION

Whatever method of chain lubrication is provided on your machine, the point to watch is this—make sure the lubricant flows freely between the inner and outer plates of the chain ; otherwise it will not reach the actual bearing surfaces. A film of lubricant between these surfaces—the bearing pins and bores of the bushes and rollers—eliminates friction and cushions the drive.



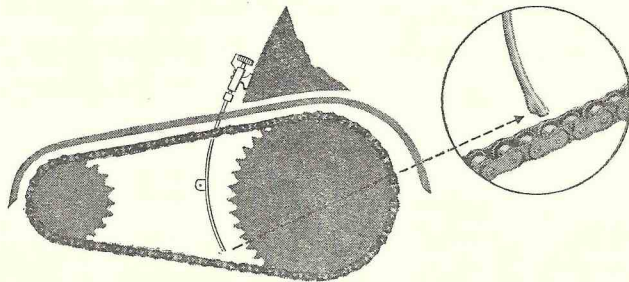
## PERIODIC LUBRICATION



An exposed chain which is not fitted with an efficient oil-feed must be removed from the machine every 1,000 miles (or oftener in bad weather), immersed in a paraffin bath, and scrubbed perfectly clean. After the paraffin has dried off, the chain should be immersed in chain lubricant which has been melted in a shallow container over a pan of boiling water. Move the chain about to ensure that the lubricant penetrates to all working surfaces. After ten minutes immersion, allow the lubricant to cool. Remove the chain from the pan and wipe off surplus lubricant. (The leading oil companies have special lubricants which they recommend for this purpose.)

Before refitting the chain, thoroughly clean the chain wheels.

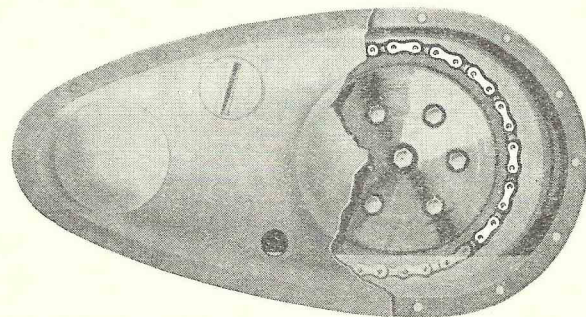
## OIL FEED



With drip-feed or breather lubrication, the feed should be arranged so that the oil drips on to the inner edges of the links on both sides of the chain. The oil should be fed on to the chain at a point inside the bottom run as near as possible to where it engages the driven wheel. Make sure the pipe is rigidly supported and that there is no danger of it becoming jammed between chain and wheel. As the oil feed will vary with oil temperature, it is preferable to have a separate supply tank for the chain feed, rather than a tapping from the main oil tank.

## OIL LEVEL

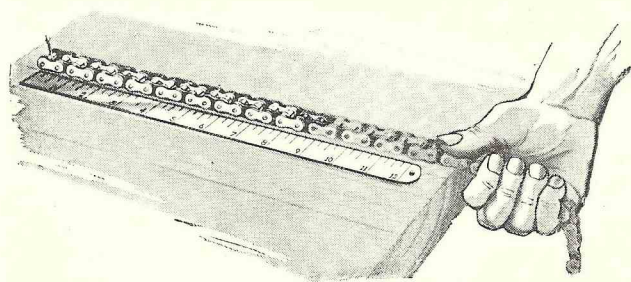
With oil-bath lubrication, maintain the correct oil level to ensure that the lower strand of the chain is submerged and continuously lubricated. The level should be checked with the machine off the stand and held vertically. Always ensure that the chaincase is oil-tight, and change the oil when it becomes dirty or sludgy.



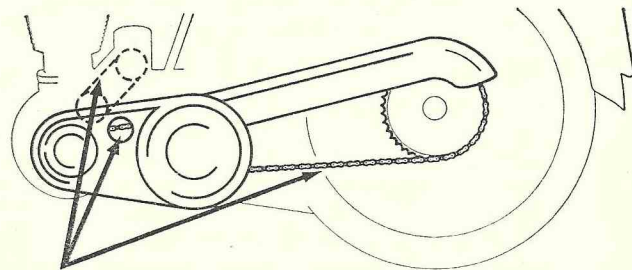


## TEST FOR CHAIN WEAR

A simple test for chain wear is to remove chain from machine, lay it on a flat surface and stretch to its fullest extent. Measure 24 pitches between bearing pin centres. If the chain shows more than  $\frac{1}{4}$ " per foot elongation, it should be replaced. Apply the test after cleaning the chain thoroughly, and before lubricating.



## CHAIN ADJUSTMENT



After the initial bedding-down adjustment on a new chain, an oil-bath enclosed drive will run for a long time without needing further adjustment. An exposed rear chain needs adjusting more frequently, and should be periodically checked for tension. The correct amount of up-and-down movement midway between the wheels is: rear  $\frac{1}{2}$ "; primary  $\frac{3}{8}$ "; magneto and similar  $\frac{1}{4}$ ". Test at different positions of rotation erring on the slack side rather than over tightening.

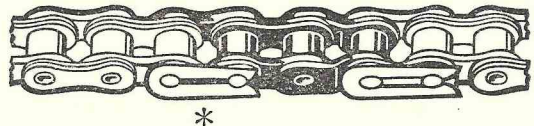
On spring frame machines check at position of suspension travel in which chain is tightest. Adjust so that the chain is just free at this point. Always re-check adjustments after final tightening of nuts, etc.

## CHAIN ALTERATIONS and RENEWALS\*

1



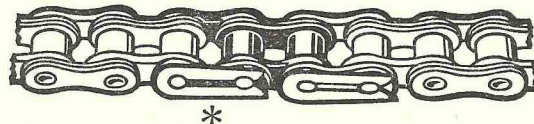
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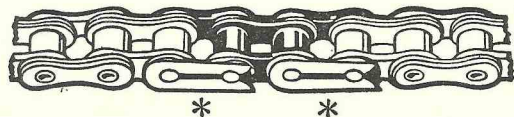
4



5



6



\*The illustrations show temporary repairs on the roadside; for permanent repairs, the parts marked (\*) should be replaced by part No. 107

Alterations and renewals will be infrequent if the chains are given regular attention. However, to be ready to repair or alter the length of a chain, keep a few spare parts, an extractor tool and a pair of special pliers in your kit. (These, as described on page 14, are obtainable from your dealer.)

To **SHORTEN** a chain containing AN **EVEN** NUMBER OF PITCHES: remove the dark parts shown in Fig. 1: replace by cranked double link and single connecting link, dark parts as Fig. 2.

To **SHORTEN** a chain containing AN **ODD** NUMBER OF PITCHES: remove the dark parts shown in Fig. 3: replace by single connecting link and inner link, dark parts as Fig. 4.

To **REPAIR** a chain with a broken roller or inner link, remove the dark parts shown in Fig. 5: replace by two single connecting links and one inner link, dark parts as Fig. 6.

## SPARES

The spare parts illustrated below are available for Renold motorcycle chains.



Inner  
link  
No. 4

Outer  
link  
No. 107

Spring clip  
fastener  
No. 27

Connecting  
link single  
No. 26

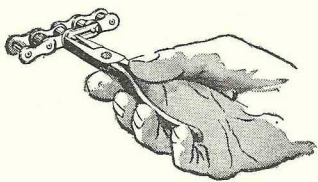
Cranked  
link double  
No. 30



## CHAIN TOOLS

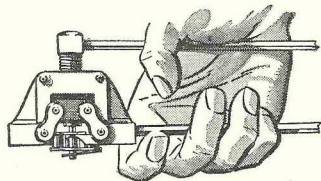
Avoid the use of brutal methods on your chains. Renold tools enable you to effect adjustments easily and without damage.

**PLIERS**—To fit a spring clip, press on closed end with flat jaw of pliers, with grooved jaw engaging end of bearing pin. To remove the clip, press with flat jaw on the open end of the clip.



It is important that the closed end of the spring clip must point in the direction of the drive.

**EXTRACTOR**—Grip chain roller between jaws of tool by pressing handle and tommy-bar together. Turn extractor screw clockwise until tip engages end of bearing pin. Continue turning just sufficiently to force pin from plate. Repeat operation on bearing pin at the opposite



end of plate, thus detaching plate completely. Detached parts should NOT be refitted.

## THE MARK 10 FEATURE

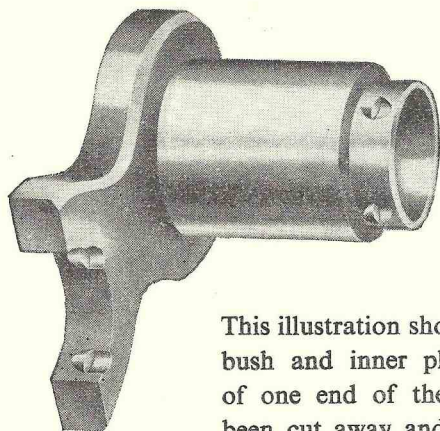
Renold  $\frac{1}{2}$ ",  $\frac{5}{8}$ " and  $\frac{3}{4}$ " pitch motorcycle chains incorporate a unique feature in the form of a locking device between the plate and the bush. Chains incorporating this feature are known as Mark 10 chains. The locking device was designed to overcome the trouble experienced with open chains without oil bath lubrication where, under certain conditions, it was found that in the event of partial seizure between the bearing pin and the bush, the bush rotated in the plates which were then forced outwards causing stiff joints.

In the Mark 10 chains the bushes are definitely locked in the side plates, thus preventing all possibility of turning or end movement.

It will be appreciated that this feature, in chains fitted to the rear transmission of motorcycles, is the secret of their freedom from tight joints, which would cause loss of power and ultimate failure.

—continued





This illustration shows a keyed bush and inner plate. Half of one end of the plate has been cut away and the keyed bush taken out. The keyways cut by the keys can be distinctly seen, and the metal pushed forward by the keys is shown clearly by the projections or bulges in the bore of the plate. This proves how the metal of the plate has been forced into, and moulded by, the depressions in front of the keys on the bush.

## RENOLD CHAIN DIMENSIONS

### FRONT AND REAR DRIVES

#### RENOLD MARK

Chain No.	Pitch × Width <i>in.</i>	Roller Dia. <i>in.</i>
110 037	$\times \frac{5}{32}$ (.375 × .155)	.25
110 038	$\times \frac{7}{32}$ (.375 × .225)	.25
*114 038	$\times \frac{7}{32}$ (.375 × .225)	.25
†116 038	$\times \frac{7}{32}$ (.375 × .225)	.25

#### MARK 10 CHAINS

110 044	$\times \frac{3}{16}$ (.5 × .205)	.335
110 046	$\times \frac{5}{16}$ (.5 × .305)	.335
110 054	$\times \frac{1}{4}$ (.625 × .255)	.40
110 056	$\times \frac{3}{8}$ (.625 × .380)	.40
110 066	$\times \frac{7}{16}$ (.75 × .460)	.475

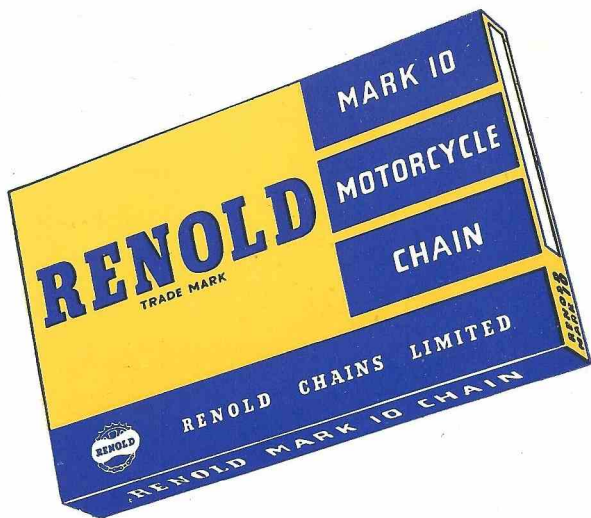
### MAGNETO, DYNAMO AND TIMING DRIVES

#### RENOLD MARK

Chain No.	Pitch × Width <i>in.</i>	Roller Dia. <i>in.</i>
110 500	8 mm. × 3 mm.	5 mm.
*114 500	8 mm. × 3 mm.	5 mm.
110 037	$\times \frac{5}{32}$ (.375 × .155)	.25
110 038	$\times \frac{7}{32}$ (.375 × .225)	.25
111 044	$\times \frac{1}{8}$ (.5 × .130)	.305
111 046	$\times \frac{3}{16}$ (.5 × .192)	.305

\* Duplex

† Triplex



## **RENOLD** MOTORCYCLE CHAINS

represent the highest development of chain technique both in design and manufacture ; special attention is given to the elimination of initial wear by the inclusion of a running-in process before dispatch from the factory.