# MAINTENANCE OPERATION No. 1

# SPRING WHEEL

## MARK 2

The Mark 2 Spring Wheel is of robust design and will operate over long periods with the minimum of maintenance.

The recommended servicing periods are every 20,000 miles. It will be noted that there is no provision for greasing ; it has been found through exhaustive tests that addition of grease is unnecessary. When the wheel is dismantled for servicing, new grease should be packed into the working parts and by referring to the lubricant chart it will be noted two types of grease are used.

To dismantle the Plunger Guide Box Assembly the mechanic MUST use a special jig to compress the springs. Failure to observe this warning may result in serious injury. On pages 6 and 7 two jigs are illustrated; in the first illustration all dimensions are given to enable it to be manufactured locally. The jigs have been designed to handle the dismantling of both Mark 1 and 2 Spring Wheels. The first jig should be held in the vice by clamping the lower fixed leg and the second can be secured permanently to either the bench or a fixture.

### DISMANTLING.

1. After the wheel has been removed from the frame take off both spindle nuts and distance collars. Place the wheel on the workbench with the brake side uppermost.

2. Prise off the spindle to frame anchorage lever by using a screwdriver under the lever close to the spindle and then tap the other end of the lever with a hammer. On the underside of the lever are two split collars. Withdraw the dust excluder centre sleeve, spring and sliding portion. Unscrew the two screws securing dust cover and gently ease the cover away with a screwdriver. The brake anchor plate may now be lifted off.

3. Before removing the slipper roller test for freedom of rotation and clearance each side with a feeler gauge. If the roller rotates freely and the clearance is not more than ·002″ EACH SIDE, it will be in order to carry on with the dismantling. Should the clearance be above the limit make a note of the dimensions to enable rectification on assembly.

4. Turn the wheel over and remove the chamfered collar and dust cover assembly. Remove the slipper roller after checking.

5. Remove the ten nuts securing the end plate to the hub. Fit the jig as shown on page 9 and by screwing down the centre screw the plate will be withdrawn from the hub. Beneath the plate aluminium shims are fitted; when removed they should be counted to ensure correct clearance on re-assembly.

6. Withdraw the spring box assembly from the hub.

7. To remove the brake drum and sprocket, bend back the four locking tabs and remove the eight nuts. Between the brake drum side bearing and anchor plate a cast iron ring is fitted.

8. Removal of the off-side bearing is simplified by heating the back plate ; when the temperature is sufficiently high (approx. 100° C.) the bearing can easily be tapped out. On the brake drum side a suitable piece of hard wood should be made to fit the bearing inner ring in order that it can be drifted out.

### DISMANTLING THE PLUNGER GUIDE BOX.

9. Remove four of the six bolts from the plunger guide box and unscrew the two centre bolts sufficiently to allow the cases to be parted about $\frac{3}{8}$″.

10. Place the spring box in the jig with the curvature towards the jig and the long spindle on the left-hand side. Screw down the jig until the springs are sufficiently tensioned to remove the cases. (See paragraphs 30 to 32.)

11. Unscrew the jig until the spring tension is released and remove the springs from the shoe. Note that the bottom of the shoe has two springs fitted, one heavy and one light gauge, the upper part being fitted with one only of medium gauge.

12. If the slipper pads show no sign of wear there is no necessity to disturb them. Wear is generally noticed on the thrust side only, front on the chain side and rear on the opposite. To remove, unscrew the two screws holding each pad in position. Note at the back of each pad metal shims are fitted of varying thicknesses. (See assembly of spring box for refitting.)

### RE-ASSEMBLING THE PLUNGER GUIDE BOX.

LUBRICATION. *NOTE.*—The ball journal bearing must be packed with bearing grease only. (See chart on page 10.)