

MAINTENANCE



INSTRUCTIONS

No. 507

## REPLACEMENT OF FRONT BRAKE DRUM

### *Full-Width, Light-Alloy Hubs*

*Replacement of the drum is not a simple job and must only be undertaken by those who have a fully-equipped workshop. Amongst the equipment which will be required is a lathe large enough to accommodate a complete wheel, and some method of heating the hub and maintaining it at a prescribed temperature for a certain time. The necessary skill to build and true the wheel is also required.*

**T**HE light-alloy front wheel hub is fitted with an alloy-iron liner. It is a shrink fit and prevented from creeping by five bolts placed equi-distant around the flange.

#### **Removal of the Drum**

- (a) The necessary preliminaries are the removal of the tyre, tube and rim tape. Next, unspoke the wheel and remove the spokes from the hub.

Finally, dismantle the bearings. Instructions are given in *Maintenance Instruction 505*.

- (b) Remove the nuts and bolts securing the liner to the hub shell.

The nuts are on the right-hand side of the hub. They are of the self-locking type. Discard them and fit new nuts when the wheel is reassembled.

- (c) Heat the hub to 220° to 225°C. (428° to 437° F.) and soak at this temperature for 20 minutes.
- (d) Place the hub brake-side down on the bench and whilst it is still hot tap the hub sharply to dislodge the liner.

#### **Fitting the New Liner**

- (a) Thoroughly clean out the hub shell and remove congealed oil, etc., particularly where the liner fits.

- (b) Clean the new liner and examine it for burrs. Remove any that exist, and the sharp edge, if there is one, at the junction of the flange and curved portion.

- (c) Heat the hub shell to a temperature of 210° to 215°C. (410° to 419°F.) and soak for 10 minutes.

The liner must not be heated, but kept at room temperature. When the room temperature is above 16°C. (60°F.), place the liner in a refrigerator if available;

alternatively, increase the hub temperature by about 5°C. (9°F.).

- (d) Place the hub on the bench and immediately push the liner into position, making certain that it seats squarely.

The operation must be done very quickly because the hub will be cooling and contracting, and the liner will expand rapidly as it comes into contact with the hot hub.

- (e) When the hub has cooled turn it right-hand side uppermost, and drill the flange of the liner. There are five holes, 5/16-inch diameter, which are picked up off the hub shell.

On 1954 Models ten holes were provided, but only five were used.

- (f) Turn the hub over and countersink the holes sufficiently to allow the bolt heads to lie flush with the flange.
- (g) Insert the bolts and tighten them evenly and equally.
- Use new nuts* of the self-locking type.
- (h) Re-spoke the wheel and true the rim.
- (i) Reassemble the bearings, spindle and brake.

See *Maintenance Instruction 505*.

- (j) The wheel must now be mounted in a lathe so that the drum can be machined to size and to ensure that it runs concentrically with the wheel spindle.

Use the centres in the spindle for location. The finished dimension of the drum is: 7.03 inch maximum. 7.025 inch minimum. Bevel or radius the edge of the liner to remove the sharp corner.

*It is absolutely essential that this machining is done after the wheel has been spoked and trued.*

- (k) Refit rim tape, tube and tyre.