FRONT AXLE
(RIGID)

SERVICE INSTRUCTION LEAFLET

ISSUED BY
BENTLEY MOTORS (1931) LTD.

BM/L1

SB/VK.2/JSB.

Subject : OVERHAUL OF STEERING PIVOT PINS
BENTLEY 3½ & 4¼ LITRE MODELS

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IMPORTANT

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GENERAL:

On all 3½ and 4¼ Litre models, the axle pivot upper bearing is a Hoffmann roller assembly and the lower bearing consists of a chrome nickel steel bush pressed into the axle pivot, the corresponding portion of the pivot pin forming the inner bearing element.

On A & B series cars, the tapered portion of the pivot pin has a maximum diameter of .700", which dimension was increased to .750" on all subsequent models.

Preliminary Dismantling:

The work on the pivot pins is best done with the front axle removed from the car, rather than carrying out the overhaul in situ.

1. Jack up the front of the car and place a stand under each chassis side member.
2. Remove the front wheels and draw the front hubs as described in Service Instruction Leaflet BM/V1. Special tools are required for this.
3. Disconnect the brake cables from the torsion bars by removing the split pins and collars and withdrawing the cotter pins.
4. Disconnect the shock absorbers links from the front axle.
5. Disconnect the actuating rods from the brake levers.
6. Disconnect the forward end of the side steering tube.
7. Remove the cross steering tube complete with the steering levers.
8. Remove the brake shoe carrier plate, the brake shoe pivot bolts and the brake shoe guides. Withdraw the spring eye pins from one brake shoe, withdraw the toggle lever pin connections and remove the brake shoes. Remove the brake back plate.
9. Undo the nuts on the road spring U-bolts, lower the front axle and mount it in a convenient working position.

It will be necessary to disconnect the pipe lines of the chassis lubrication system, stage by stage, but as no difficulty should be encountered in this respect the description of the system is omitted.

Removal and Refitting of Axle Pivots:

1. Undo the securing nuts and remove the top cap.

2. Undo the securing nuts and remove the bottom flange, taking care not to lose the thrust washer.

3. Undo the pivot pin nut and lift out the locking washer and loosen the setscrew in the back of the axle neck.

4. With a suitable drift drive the pivot pin out in the downward direction.

5. From beneath, drive out the top bearing assembly.

6. Pull away the pivot axle, taking care not to lose the dust excluder positioned over the bottom bush. The bush may then be driven out in the downward direction.

For A & B Series cars no oversize pins are supplied, but a repair may be effected by reaming the axle eye 1:200 taper to take the later type pivot pin (GB.1465). This procedure may also be adopted for cars fitted with the original pivot pins, but in these cases it will be necessary to fit the later type top bearing and oil trough. The early type pivot pins are easily recognised as they are threaded .500" B.S.F compared with .5625" 9/16 B.S.F. 1/2"

From C Series onwards oversize (+ .002" & + .010") pivot pins are available. In fitting these pins it is necessary to ream the axle eyes with a 1:200 taper reamer to the desired light drive fit. It is essential that the pivot pin goes fully home in the axle eye to nip the dust excluder against the lower face of the axle eye, and that the groove registers with the setscrew in the axle neck.