

## SECTION L

### THE HYDRAULIC DAMPERS

(1½ and 2½ LITRE)

General Description.

Maintenance.

- Section No. L.1 Removal and replacement of the front dampers.
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- Section No. L.6 Removing the rear dampers (telescopic type).
- Section No. L.7 Fitting larger diameter front telescopic dampers.

#### GENERAL DESCRIPTION

Girling telescopic-type dampers are used on the Torsionic front suspension and on the rear axle. On earlier cars Girling pressure recuperative double-acting type of dampers are used on the rear axle.

#### MAINTENANCE

The maintenance of the rear hydraulic double-acting dampers in position on the vehicles is confined to the periodical examination of the anchorage to the chassis and axle, and tightening the fixing bolts as required. For replenishing the fluid at every 12,000 miles (20000 km.) they must be removed from the chassis and thoroughly cleaned before the filler plug is unscrewed.

The Girling telescopic shock absorbers on the front and rear are sealed and cannot be replenished. They must also be removed every 12,000 miles (20000 km.), their action checked, and if found to be faulty, they must be renewed.

No adjustment of the dampers is required or provided. Any attempt to dismantle them will seriously affect their operation and performance. They should be returned to the makers for attention.

#### Section L.1

##### REMOVAL AND REPLACEMENT OF THE FRONT DAMPERS

Remove the Simmonds nuts on the upper and lower pivots and then take out the top pivot bolt. Compress the damper and pull it off the lower pivot.

**Note.**—When reassembling, make quite sure that the longer portion of the hexagon sleeve on the upper end of the damper is pointing towards the front of the car.

#### Section L.2

##### REMOVAL AND REPLACEMENT OF THE PISTON-TYPE REAR DAMPERS

The rear dampers are interconnected by means of an anti-roll bar. This bar must be detached before either of the dampers can be removed, and in order to do this each damper connecting link must be detached from its mounting on the rear spring "U" bolt plate.

Then move the damper arms upwards so that the plates holding the anti-roll bar may be disconnected.

Then remove whichever damper is required, by taking out the two fixing bolts.

#### Section L.3

##### TESTING THE PISTON-TYPE HYDRAULIC DAMPERS

If there is any doubt that the road springs are adequately damped, the condition of the springs and the tyre pressures should also be considered, as these have an appreciable bearing on the results obtained.

If the hydraulic dampers do not appear to function satisfactorily an indication of their resistance can be obtained by carrying out the following check :—

Remove the dampers from the chassis.

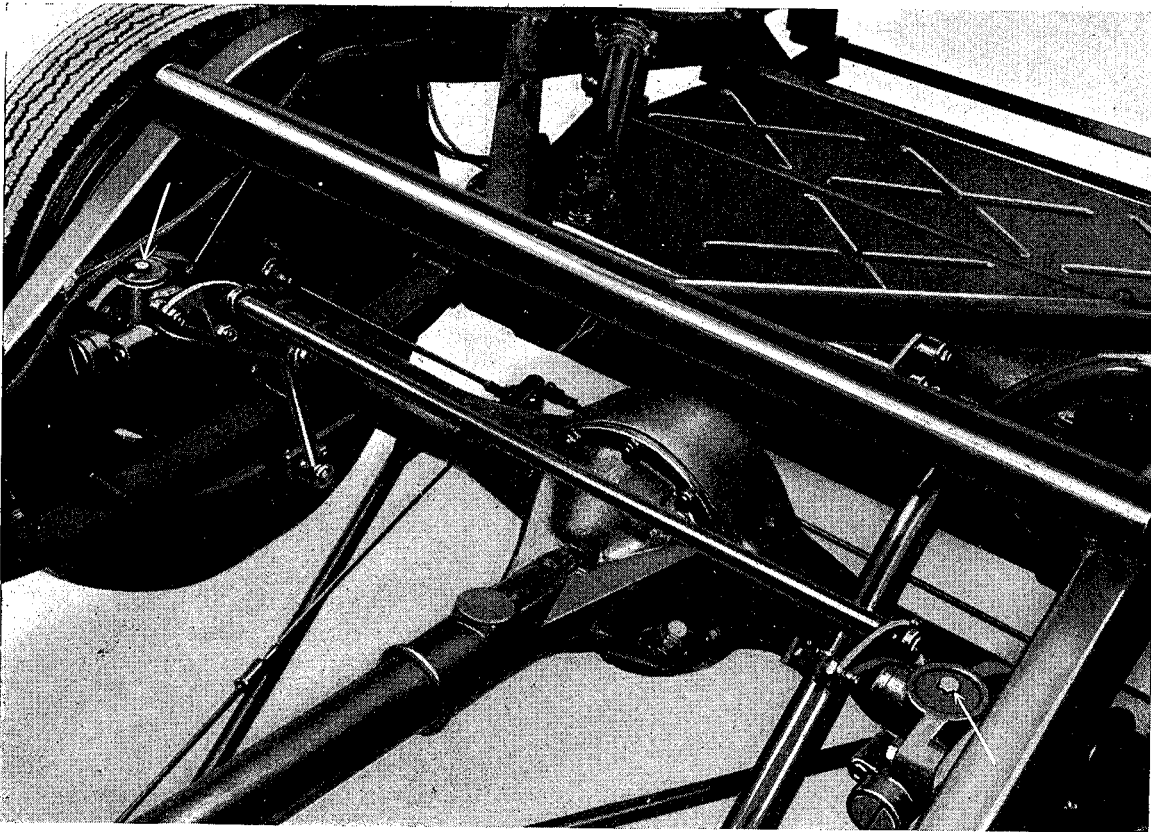


Fig. L.1.

The Girling double-acting pressure recuperative type of dampers fitted to earlier cars. Note the anti-roll bar. The arrows indicate the filler plugs for replenishing the dampers.

Hold them in a vice and move the lever arm up and down through its complete stroke. A moderate resistance throughout the full stroke should be felt ; if, however, the resistance is erratic, or free movement in the lever is noted, lack of fluid is indicated or there may be air in front of the pistons. **There should be not more than  $\frac{1}{16}$  in. (1.6 mm.) free movement at the end of the arm.**

If the addition of fluid (added to the level given in Section L.5) gives no improvement a new damper should be fitted.

Too much resistance, i.e. when it is not possible to move the lever arm slowly by hand, indicates a broken internal part or a seized piston ; in such cases the damper should be changed for a new or reconditioned unit.

## Section L.4

### TESTING THE TELESCOPIC DAMPERS

Telescopic dampers are non-adjustable and no provision is made for replenishment, except by the makers.

The dampers should be removed every 12,000 miles (20000 km.) and checked for free movement by holding the lower end lug in a vice with the damper body approximately vertical and actuating the other end. A steady resistance should be felt in whichever direction the damper is actuated, although the resistance on rebound will be greater than that on compression.

In the event of a damper being found defective it must be replaced by a new unit.

## Section L.5

### TOPPING UP PISTON-TYPE DAMPERS

The rear dampers must be removed from the chassis to ensure that they are clean and that no dirt from the under side of the body falls into the filler orifice.

Before removing the filler plug (located on the top of the damper) carefully clean the whole of the exterior of the damper, especially in the vicinity of the filler plug. **This is most important, as it is absolutely vital that no dirt or foreign matter should enter the operating chamber.**

Use of Luvax-Girling official piston-type hydraulic damper thin fluid only is imperative.

When fluid has been added the lever arm should be worked throughout its full stroke to expel any air that might be present in the operating chamber before the filler plug is replaced.

The interior of the body should be filled with fluid to within  $\frac{3}{8}$  in. (10 mm.) from the top of the cover.

## Section L.6

### REMOVING THE REAR DAMPERS (Telescopic type)

After the retaining nuts have been removed the damper will pull away complete with its rubber mounting bushes.

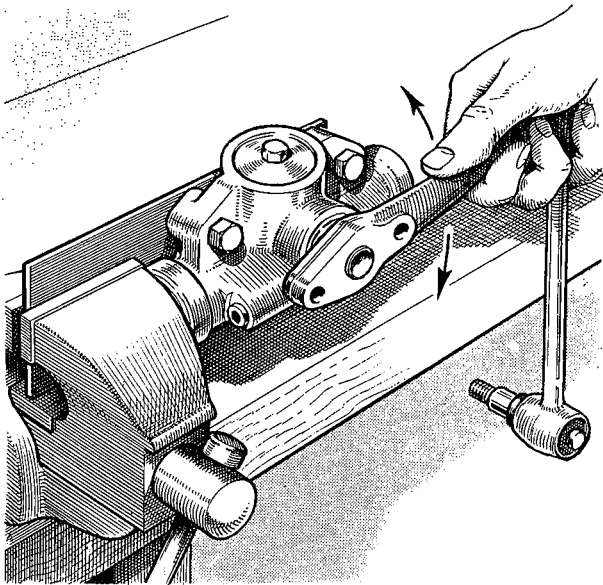
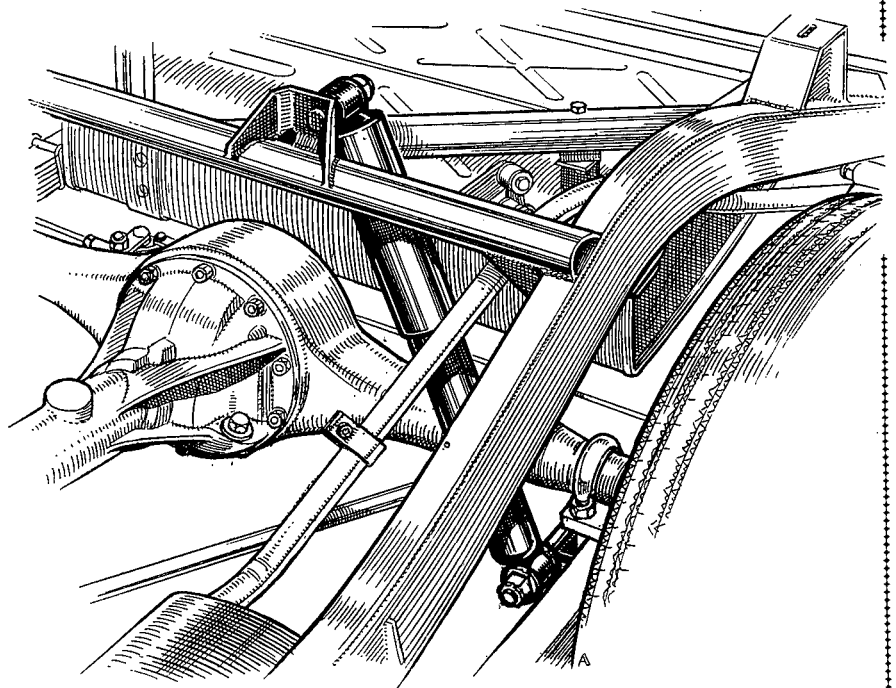


Fig. L.2.

The method of holding piston-type dampers in the vice to avoid distortion when checking their action. The damper must be attached to a supporting plate.

Fig. L.3.  
The diagonally mounted telescopic dampers fitted to the rear axle of later models provide resistance to sway and roll and eliminate the transverse anti-roll bar previously employed with the piston-type dampers.



# L THE HYDRAULIC DAMPERS

(1½ and 2½ LITRE)

## Section L.7

### FITTING LARGER DIAMETER FRONT TELESCOPIC DAMPERS

Commencing at Chassis No. 415/19498 on RHD and at No. 415/19453 on LHD 1½ litre models the 1 in. bore telescopic front dampers have been superseded by 1½ in. bore dampers.

The same change has taken place on the 2½ litre models at Chassis No. 605/7681.

Should it be desired to fit the larger diameter dampers to cars originally fitted with the smaller type this can be carried out without difficulty provided the top damper mounting bracket is modified in the manner indicated in Fig. L.4.

The carrying out of this modification entails the deletion of the following components :—

D.5634	Front damper (1½ litre)	...	...	2
D.5670	Front damper (2½ litre)	...	...	2
D.5635	Anchorage sleeve	...	...	2
D.5638	Nut for anchorage sleeve	...	...	2
A.2593	Front damper bottom lug—R/H	...	...	1
A.2594	Front damper bottom lug—L/H	...	...	1
D.5540	Locating tab	...	...	2

which are replaced by :—

500306	Front damper (1½ litre)	...	...	2
500157	Front damper (2½ litre)	...	...	2
500110	Anchorage sleeve	...	...	2
500113	Nut for anchorage sleeve	...	...	2

FB.108/18N	Bolt—½ in. B.S.F. × 2¼ in.	...	...	2
500111	Front damper bottom lug—R/H	...	...	1
500112	Front damper bottom lug—L/H	...	...	1
500114	Dowel pin—bottom wishbone	...	...	2

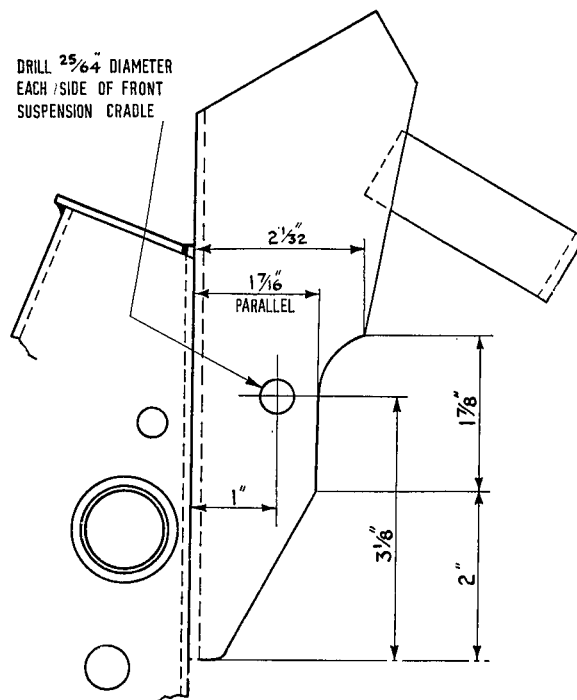


Fig. L.4.

The modifications required to the top damper mounting bracket to accommodate the larger dampers.