

# **SERVICE HANDBOOK**

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**SILVER WRAITH — SILVER DAWN — BENTLEY MK. VI.  
R. TYPE BENTLEY — PHANTOM IV.**

## **SECTION L CHASSIS LUBRICATION**

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## **SECTION L.**

### **CENTRALISED CHASSIS LUBRICATION SYSTEM**

**PUMP UNIT - PIPE LINE - DRIP PLUGS**

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## SECTION L.

### CENTRALISED CHASSIS LUBRICATION SYSTEM

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## THE CENTRALISED CHASSIS LUBRICATION SYSTEM

### GENERAL:

A Luvax Bijur foot-operated pump and combined oil reservoir is located on the front of the dashboard and supplies oil under pressure for chassis lubrication.

Diagrams of the system are given in Figures L1 and L2, the piping being coloured in red. Red discs indicate the positions of the drip plugs, and the rating of each is given in parenthesis against description of part lubricated.

### THE PUMP UNIT:

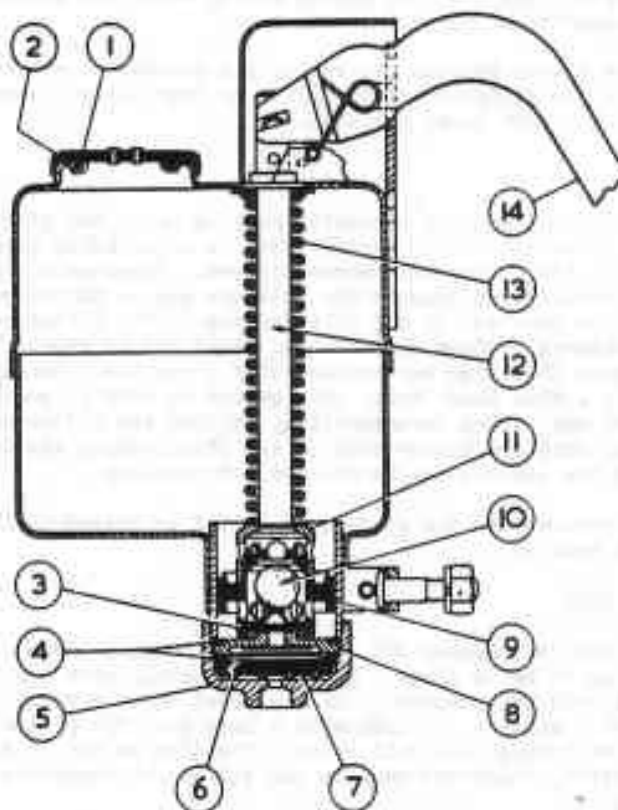


FIG. L3. CHASSIS LUBRICATION PUMP.

- |                                  |                            |
|----------------------------------|----------------------------|
| 1. Filler cap.                   | 8. Strainer plate.         |
| 2. Filler cap joint washer.      | 9. Piston cup.             |
| 3. Piston valve disc.            | 10. Piston valve ball.     |
| 4. Strainer plate joint washers. | 11. Piston rod valve unit. |
| 5. Cylinder cap nut.             | 12. Piston rod.            |
| 6. Strainer pad.                 | 13. Spring.                |
| 7. Strainer support.             | 14. Pedal.                 |

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The construction of the pump unit is shown in Fig. L3.

The pedal is mounted on a fulcrum pin, and when depressed raises the piston in the cylinder and at the same time compresses the return spring.

As the piston rises, oil is drawn through a ball valve, in the centre of the piston, to the underside.

The pressure being removed from the pedal, the return spring forces the piston downwards. The pressure on the oil below the piston closes the ball valve, thus preventing a return flow through the piston, the oil being forced downwards through the filter and out of the pump outlet.

The spring is so rated that the pressure is practically constant throughout the stroke, and the time period during which the piston descends depends on the viscosity of the oil.

When the piston reaches the end of its stroke, it effectively closes the hole in the filter-retaining plate so that the oil cannot leak away while the pump is not being operated.

## PUMP FILTER:

If, with the pump unit correctly coupled up to the pipe lines, the pump lever fails to return to its normal position after being pressed down, it is probable that the filter has become clogged. Disconnect the chassis oil line at the pump outlets and unscrew the cylinder cap on the underside of the reservoir. Note the position in the cylinder cap of the filter retaining plate, with its gaskets, before dismantling. Lift out to expose the felt filter disc, discard this disc and replace with a new one. Beneath the felt disc in the cap is a wire gauze disc, this should be left in position with the ridges against the cap. When re-assembling, replace the filter retaining plate and gaskets, with the hollow side of the plate facing the felt disc. Be sure that both the gaskets are in the correct position.

After reconnecting the system, it should be primed until oil is exuding from each bearing.

## TESTING THE PUMP UNIT:

Disconnect the chassis oil line from the pump outlets, and close the outlets by screwing in solid plugs. Depress the pedal, with the outlets plugged, the piston should hold the pressure; if the pedal shows a visible upwards motion during a period of 2 minutes, it indicates a leak past the piston, either past the cup leathers or through the ball valve. Too thin an oil in the reservoir will also give this effect, therefore examine the oil and if necessary replace with the recommended grade.

## THE OIL PIPE LINE:

Brass tubing of 5/32" outside diameter is used for the oil pipe line, and all connections are made with screwed joints. The connections from the pipe line to the junction-pieces and drip plugs are made with compression sleeves (or olives), which are permanently pinched onto the end of the tube as the nut is tightened up. Flexible connections are used between the frame and the axles.

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## THE DRIP PLUGS:

In each drip plug is an accurate restriction orifice which controls the flow of oil to the bearing, and also a valve which prevents oil draining away from the system when the car is at rest. The plugs are stamped with a letter and number indicating the shapes and relative rates of oil emission respectively, a higher number indicating a greater rate.

The drip plugs never require cleaning, and being non-adjustable and non-demountable, no attempt must be made to take them apart. If one is suspected of being defective, it must be replaced with a new one of the same rating.

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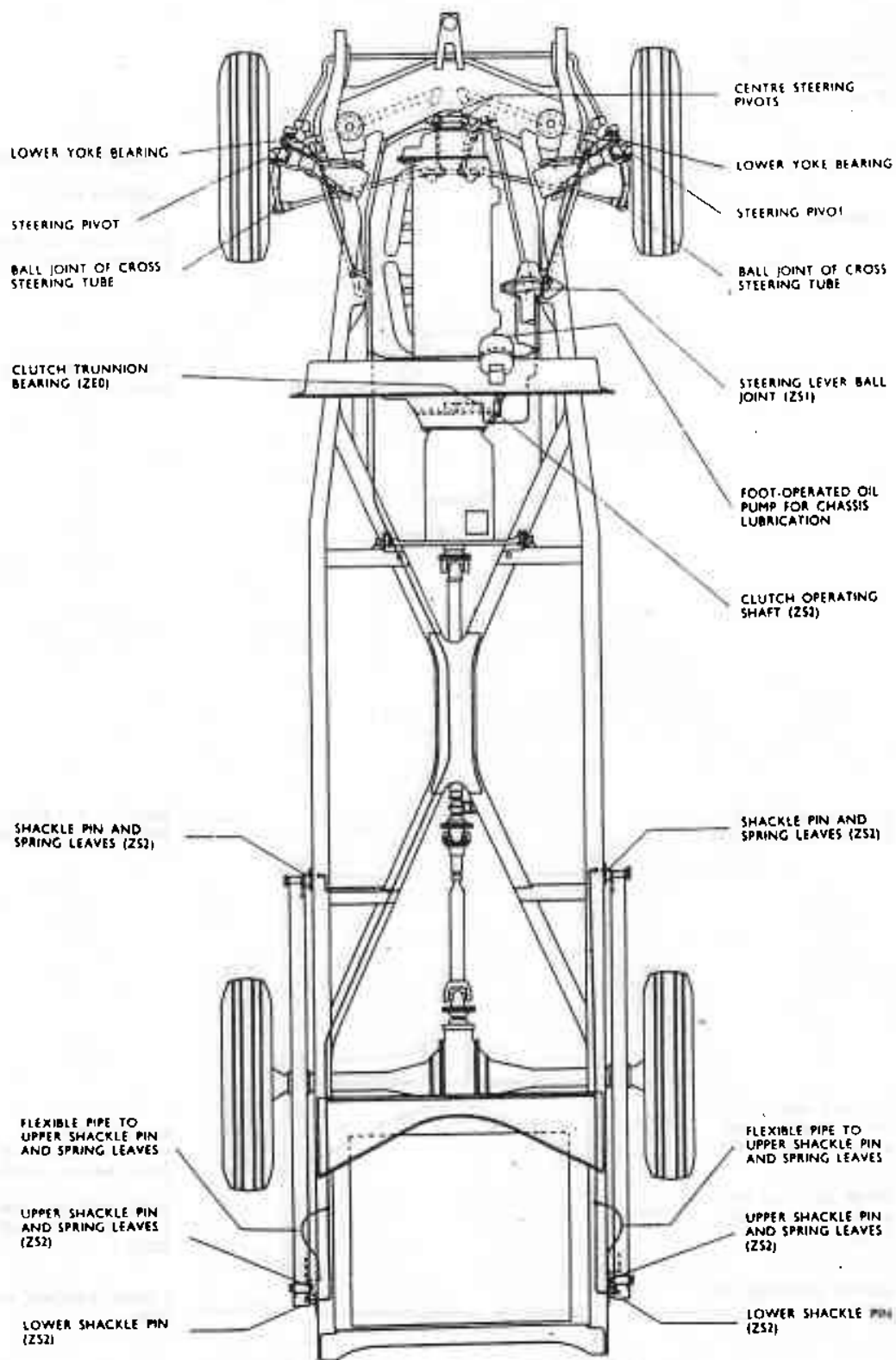


Fig. 1.—DIAGRAM OF CHASSIS LUBRICATION SYSTEM.  
MANUAL GEARBOX

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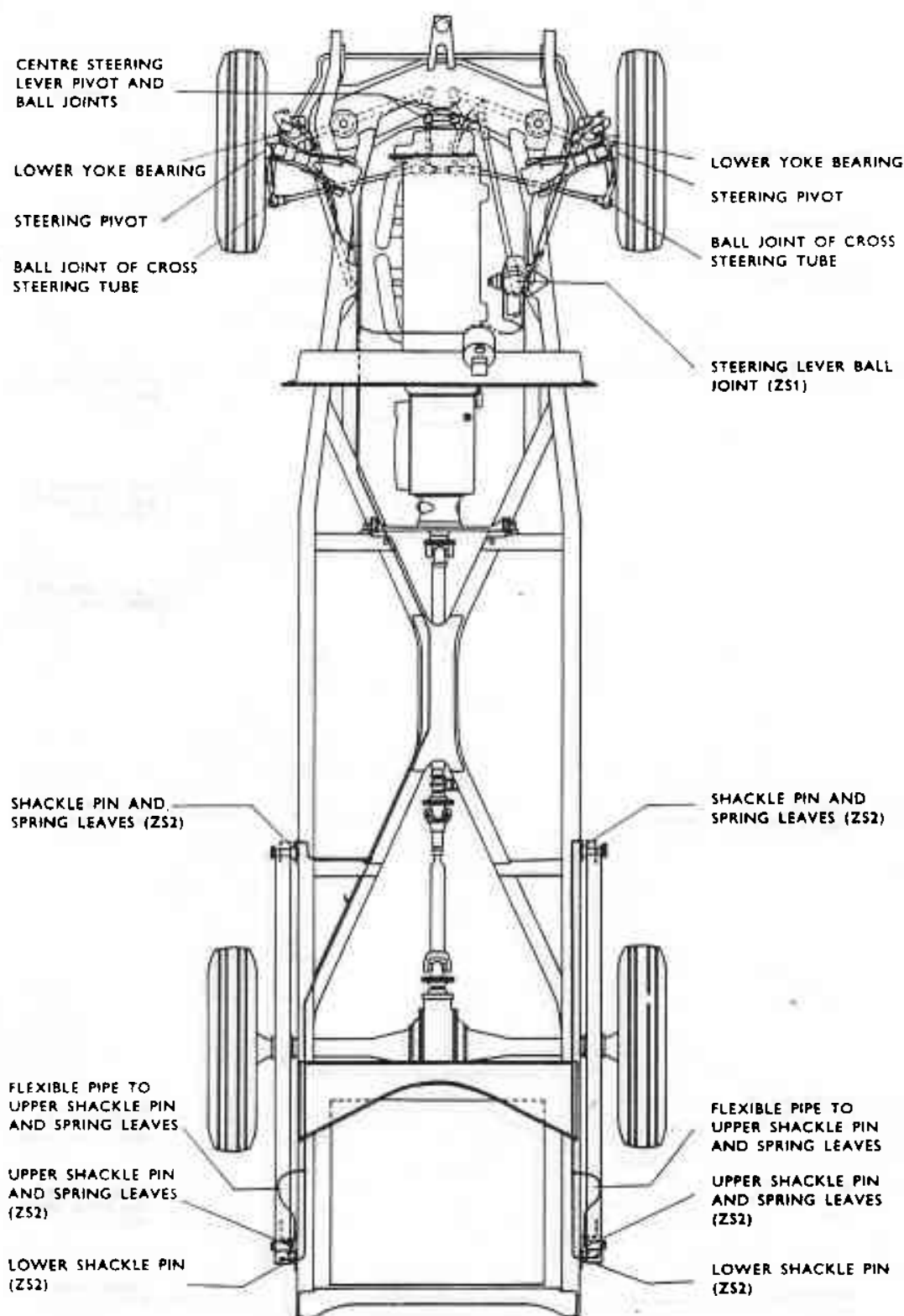


Fig. 2 — DIAGRAM OF CHASSIS LUBRICATION SYSTEM.

**AUTO GEARBOX**