

FOR INFORMATION

HARSH FRONT SUSPENSION

Occasionally complaints have been received concerning harshness of the front suspension; this may be identified by vibrations which may be felt throughout the car, particularly by the driver through the steering wheel. These vibrations are very similar to those produced when driving the car over extremely rough road surfaces.

FRICTION HEIGHT

The friction height, which must not be confused with the standing height, is a means of testing whether there is excessive friction in the front suspension.

To check the friction height, ensure that the car is standing on a level surface, then press down the front of the car as far as possible and release gently. Measure the vertical height from the floor to the underside of the front pan. Raise the front of the car by hand and release gently. Again measure the vertical height to the same point on the underside of the front pan. The difference between the first (lesser) measurement and the second (greater) measurement is the friction height which should not exceed 9/10 in.

If the friction height is over 9/10 in. or if undue effort is required to press down or raise the front of the car, this indicates that there is excessive friction in the front suspension.

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HARSH FRONT SUSPENSION - TO RECTIFY

Before commencing any adjustments to the front suspension, it is essential to ensure that the steering geometry is correct.

FIRST METHOD

Lubricate the front suspension pivot points as shown in Figure. 1. with either of the following approved lubricants :-

Rocol Moly Spring Grease 204G.

Shell Grease S5466.

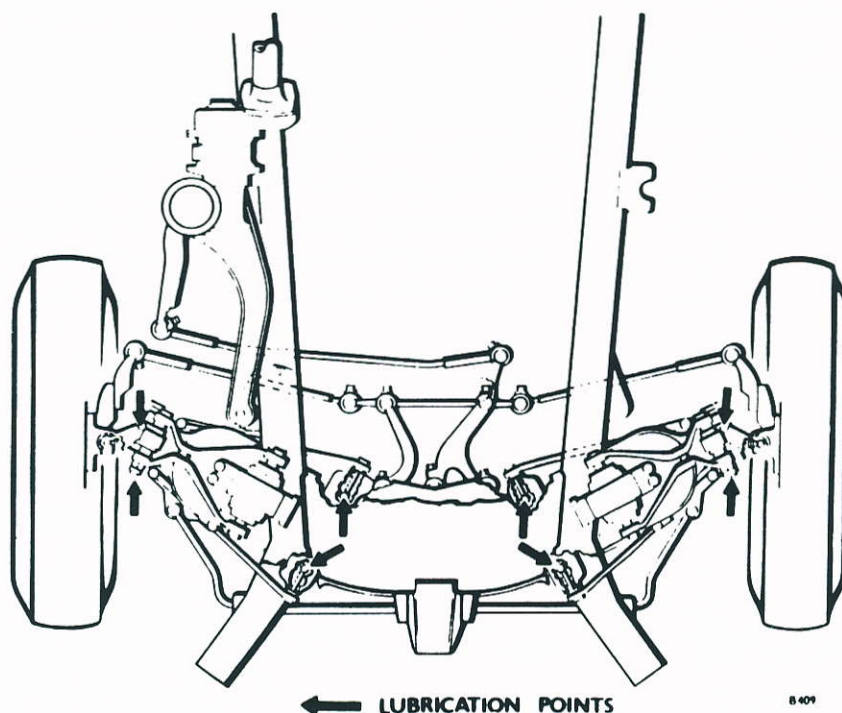


Fig.1. Front Suspension Lubrication Points.

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To facilitate penetration of lubricant to the threaded bearings, the front of the car should be pressed down and then released continuously during the process of lubrication.

After lubricating the suspension, check the friction height again and if the difference between the two measurements is still in excess of 9/10 in. the following method must be carried out.

SECOND METHOD

Special Tools Required

RH.195 Front Spring Compressor

Foot scales capable of weighing up to 10 stone

Front Suspension - To Measure Friction

Press down on alternate sides of the car to determine whether the friction is greater on one side than the other. If the friction is approximately equal on each side it will be necessary to rectify both sides.

Position a jack under the front pan, taking care that the jack head does not come into contact with the steering power cylinder. Jack up the car and place supports under the chassis side members well clear of the front suspension.

Remove the appropriate road wheel(s) and detach the stabiliser rod. Using Tool No. RH.195, compress the front coil spring. Unscrew the four nuts, and remove the bolts and plain washers securing the front spring support plate to the lower triangle levers, then remove the front spring. Refit the spring support plate and tighten the securing bolts to prevent distortion in the lower triangle levers when checking the friction.

Place a screw jack on to the weighing scales and add sufficient wood packing under the scales to enable the jack head to contact the brake drum, see Figure.2.

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Raise the suspension by means of the screw jack and note the reading on the scales as the upper triangle levers pass the horizontal position. Lower the suspension by unscrewing the jack and again note the reading as the upper triangle levers pass the horizontal position. The difference between the first and second reading should not be more than 36 lb. If the difference is more than 36 lb. the following operations should be carried out in order.

Harsh Front Suspension - To Rectify

The friction should be measured after each of the following operations until a figure is obtained not exceeding 36 lb. If the friction is reduced by any one of the operations it should be noticeable by raising the suspension by hand.

1. Slacken the two $\frac{1}{2}$ in. U.N.F. bolts securing the shock damper to the chassis frame; then re-tighten them.
2. Slacken the two bolts securing the shock damper mounting plate to the chassis frame; then re-tighten them.
3. Slacken all four bolts securing the shock damper, then remove the rear two bolts, nuts and washers. Tighten the two front $\frac{1}{2}$ in. U.N.F. bolts first and then fit and tighten the rear two bolts. If the rear two bolts cannot be positioned in the mounting plate holes these holes should be enlarged by filing to obtain correct alignment.

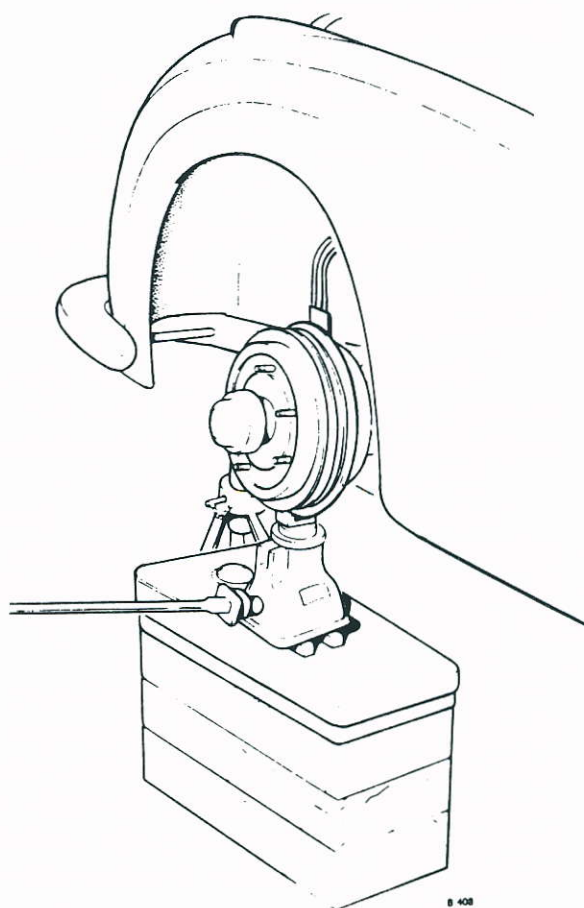


Fig. 2. Method of Measuring Front Suspension Friction.

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The previous three operations are usually sufficient to correct most cases of harsh front suspension but in extreme cases it may be necessary to adopt the following operation.

4. Unlock the tabs on the fulcrum bracket locking plates and slacken the four nuts and bolts securing the fulcrum bracket to the front pan. Experiment by placing feeler gauges between the front pan and either the front or rear faces of the fulcrum bracket and tightening the four bolts.

A guide to which face of the fulcrum bracket the feeler gauges should be inserted may be obtained by examining the position of the upper triangle levers on the shock damper shaft. If the levers are positioned more to the rear of the car, the feeler gauges should be inserted between the rear faces of the fulcrum bracket.

For each setting the suspension should be weighed until the friction figure does not exceed 36 lb. When the friction figure is correct, the feeler gauges should be removed and correct packings fitted as follows :-

<u>Part No.</u>	<u>Thickness</u>
UR. 5325	0.048 in.
UR. 5326	0.037 in.
UR. 5327	0.024 in.

Fit new locking plates to the four bolts securing the fulcrum bracket to the chassis frame. Before tightening and locking these bolts, take up the clearance in the bolt holes by pushing the yoke end of the lower triangle levers towards the rear of the car.

Refit the front coil spring reversing the procedure for removal.

Re-connect the stabiliser rod.

Refit the wheel.

Remove the supports, lower the car and remove the jack.

After any adjustment to the front suspension unit it is advisable to finally check the steering geometry.

Circulation - All Rolls-Royce
Franchise Holders

Category C

DELETION OF RIDE CONTROL

APPLICABLE TO:

All Rolls-Royce Silver Cloud II cars and all Bentley S2 cars.

INTRODUCTION:

The two-way ride control suspension damping system used on the above cars has been replaced by a fixed ride system.

This bulletin outlines the procedure which should be followed in the event of it being necessary to replace a damper or its associated parts on cars fitted with the two-way ride control system.

DESCRIPTION:

The rear damper solenoid, slow leak push rod and spring, have been discontinued. A new spring is fitted in place of the push rod and a blanking plate is fitted in place of the solenoid.

In the event of a ride control solenoid or rear damper requiring replacement on cars fitted with the two-way system, it will be necessary to modify the remaining damper and associated ride control wiring. The same procedure should also be followed in the event of a ride control malfunction.

PROCEDURE:

- 1 Disconnect the battery.
- 2 Disconnect the feed wire to the ride control switch and tape back into the loom.

- 3 Disconnect both the wires to each rear damper solenoid and tape them back into the loom.
- 4 Remove the ride control solenoid (see Fig. 1)
- 5 Remove the solenoid spring (see Fig. 1)
- 6 Remove the slow leak push rod (see Fig. 1)
- 7 Fit the new spring in place of the slow leak push rod (see Fig. 2)
- 8 Fit the blanking plate in place of the solenoid (see Fig. 2)

PARTS REQUIRED:

Part No.	Description
UR 1509	Blanking Plate
UB 15301	Spring

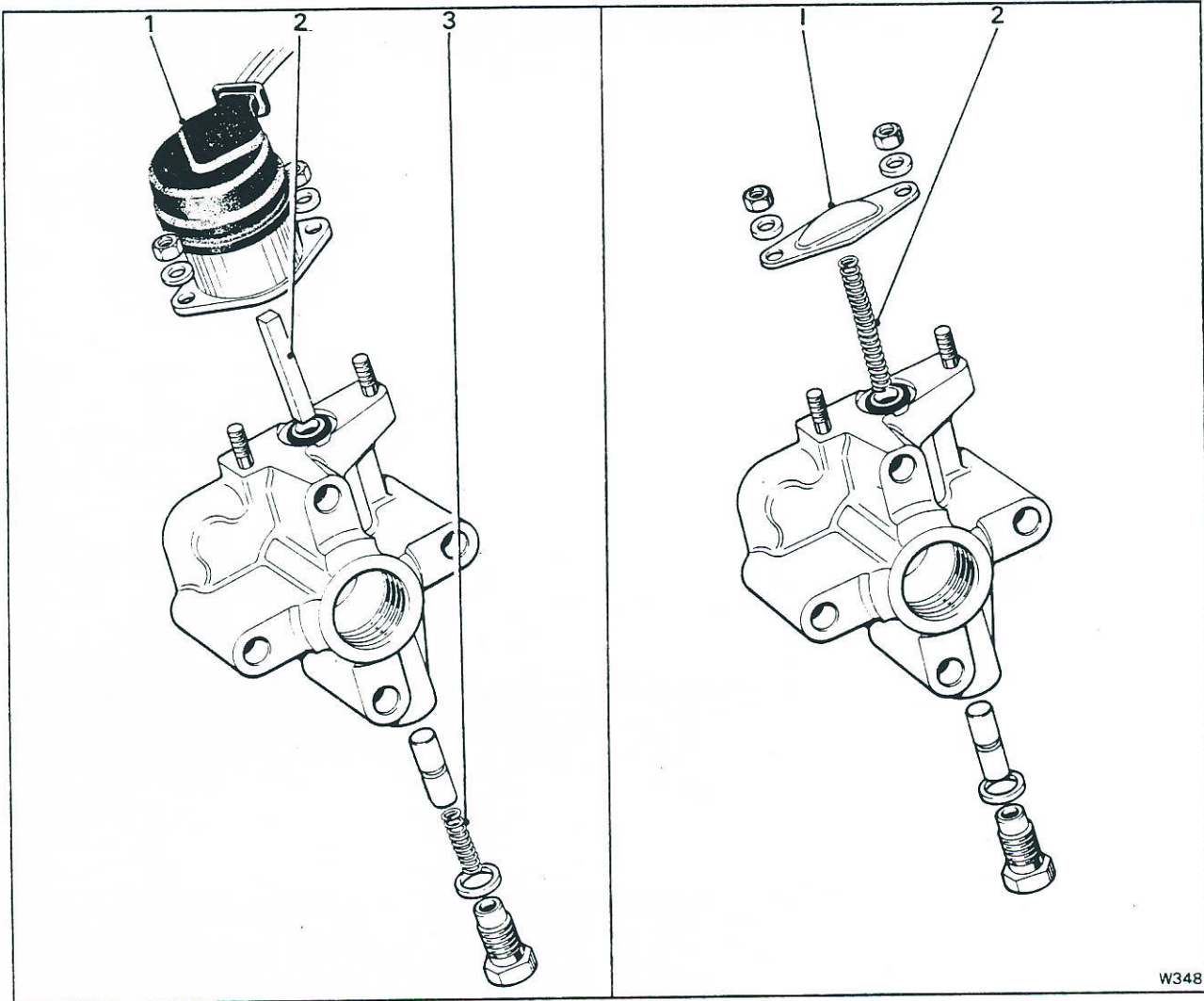


FIG 1 EARLIER ASSEMBLY

- 1 Solenoid
- 2 Push Rod
- 3 Spring

FIG 2 LATER ASSEMBLY

- 1 Blanking Plate
- 2 Spring