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CATEGORY C

LONGER FRONT SHOCK DAMPERS

APPLICABLE TO

All Rolls-Royce Silver Shadow and Corniche cars, and all Bentley T Series and Corniche cars from Car Serial Number SRH 11466 and onwards.

DESCRIPTION

Longer front shock dampers have been introduced on the above cars to reduce the damper bearing side load. This reduction in load is effected by increasing the span of the rod guide and piston bearing.

At the same time the opportunity has been taken to simplify the upper mounting point, deleting the ram and the isolator etc. The longer shock damper now mounts directly into a top cover plate bolted to the spring pot tower (see Fig. 1). The methods of attaching the spring to the shock damper and the shock damper body to the lower triangle remain unchanged.

It is possible to replace a short shock damper by a long shock damper provided:

- (a) The new top cover (UR 17050) is used to replace the old top cover, ram and isolator.
- (b) Earlier cars fitted with front height control have the levelling system blanked off as described in Service Bulletin SY/G37.

PROCEDURE

Long type shock damper - To remove

1. Position the car on a ramp, firmly apply the handbrake and chock the rear wheels.
2. Remove the gear range selector thermal cut-out switch.

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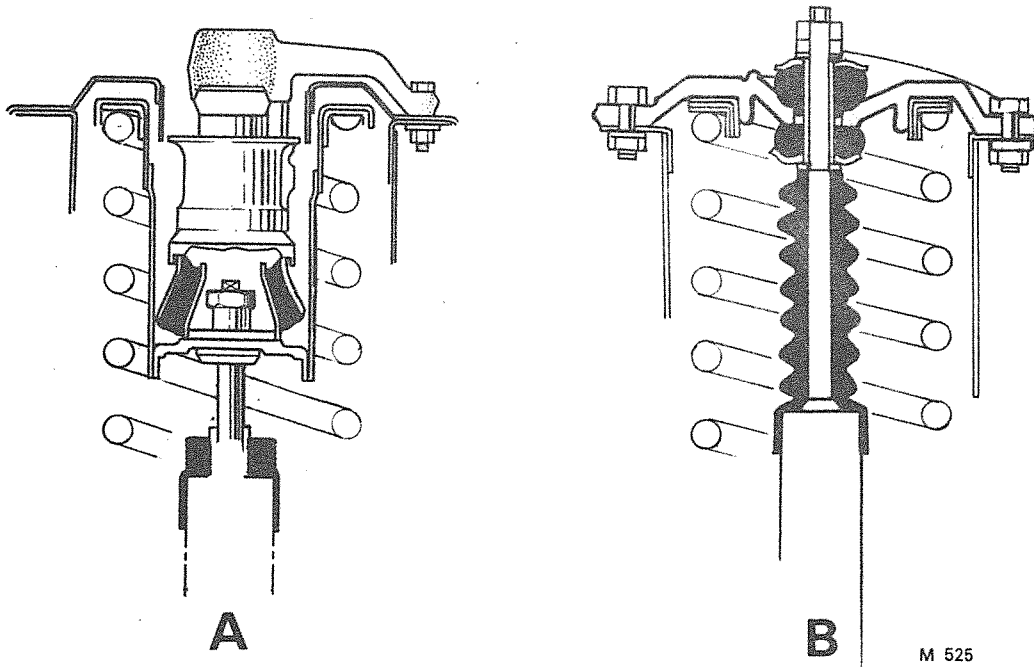
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3. Position a hydraulic jack and extension fitted with a protective hardwood block beneath the pivot points of the lower front triangle levers; raise the car.
4. Position suitable blocks to support the shaped wooden beams (RH 8920) placed beneath the sill of the body just rearward of the front wheels.
5. Carefully lower the car onto the sill boards.
6. Remove the nut, washer and spigotted bush from the top of the shock damper push rod.
7. Fit the road spring compressing tool (RH 7889) (see Fig. 2) in position. It is most important that each long bolt of the compressor is screwed fully into the base plate of the tool.
8. Secure the halves of the base plate by fitting the 5/16 in. UNF setscrews provided.
9. Using the nuts, thrust races and special washers provided compress the spring sufficiently to enable the split adjusting washers to be removed.
10. Remove the split pin, castellated nut and washer which secures the shock damper ball pin to the lower triangle levers.
11. Use the extractor tool (RH 8100) to separate the seal between the taper of the shock damper ball pin and the taper of the ball joint housing.
12. Remove the bolt which locates the lower triangle levers adjacent to the lower ball joint lever.
13. Slacken the dowel bolt which also serves to align and secure the lower triangle levers to the lower ball joint lever. The lower ball joint lever will then swivel clear.

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Fig. 1 Displaced and new shock dampers

- A. Displaced shock damper arrangement
- B. New shock damper arrangement

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14. Push the shock damper upwards until the ball pin is clear of the mating bore in the lever, then lower the shock damper from the car by moving it sideways and downwards to clear the lever, retain the split washer(s).

Long type shock damper - To fit

To fit a new shock damper reverse the procedure for its removal noting the points in the Workshop Manual TSD 2476 Chapter H, Section H2 - Front Shock Damper - To fit.

Fitting a long type shock damper in place of a short shock damper

In the event of it being necessary to replace a short damper with a longer damper the following procedure should be followed.

1. Remove and dismantle the front road spring assembly as described in the Workshop Manual TSD 2476 Chapter H, Section H4 - Front Road Spring - To remove.

Retain the spring and the spring support assembly. If the spring support assembly is seized onto the shock damper it must be renewed. Examine the spring seatings and renew if necessary.

2. Fit the spring seating onto the new top cover.
3. Using the compressing tool (RH 7909) compress the top cover, spring and spring support assembly to enable the road spring compressing tool (RH 7889) to be fitted.

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4. Place the shock damper washer and non-spigotted rubber on the shock damper stem. Slide the shock damper sleeve over the shock damper body and push the shock damper through the spring support assembly until the end of the spindle protrudes through the top cover; fit the spigotted rubber (spigot downwards) top washer, nut and tighten.
5. Inspect the bottom ball joint as described in the Workshop Manual TSD 2476 Chapter H, Section H2 - Shock Damper Ball Joint - To maintain; Renew the ball joint if necessary.
6. Fit the ball joint to lower end of the shock damper and torque tighten.
7. Lower the entire assembly into the spring pot tower and bolt down the top cover.
8. Bolt the bottom ball joint housing to the lower triangle lever attachment.
9. Fit the split adjusting washer (s) and decompress the spring. When fitting the spring assembly the following points should be noted:-
 - (a) Care should be taken to avoid any side loading when fitting the shock damper and the assembly to the car, as this could result in permanent damage to the piston rod and seal.
 - (b) It is important that the front rebound stops are in position when fitting the road spring assembly. Over-travelling the suspension ball joints can result in damage to the ball joint seals.
 - (c) After fitting the assembly the car should be 'bounced' to settle the spring.
 - (d) The mechanical standing height must then be checked as described in Workshop Manual TSD 2476 Chapter H, Section H8 - Suspension Settings.
 - (e) The circlip, which is fitted to the front shock dampers, carries the lower spring support sleeves. When assembling these sleeves, liberally coat the mating surfaces of the sleeves and shock dampers with an approved grease. This will assist fitting and any subsequent removal of the sleeves.

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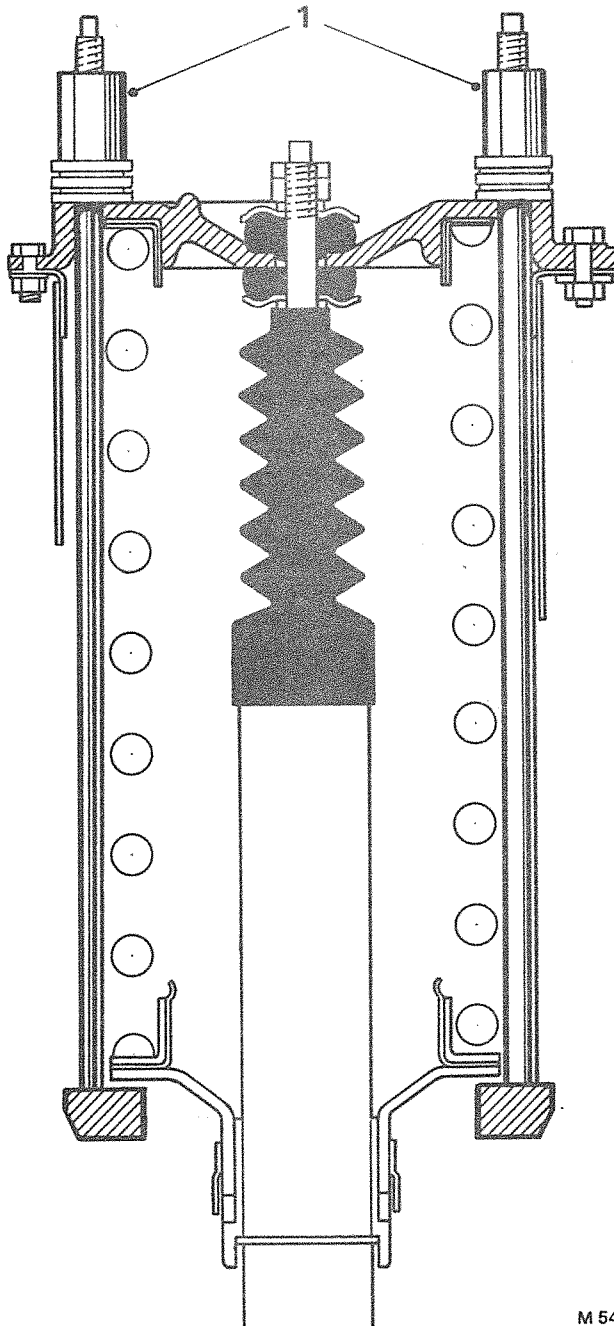


Fig. 2 Spring compressing tool in position

- 1 Compressing tool comprising long studs and split base plate

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- (f) Cars fitted with front levelling which has not yet been blanked off should have the front levelling deleted as described in Service Bulletin SY/G37.
- (g) The existing parts should be replaced by the parts given in the following list, when replacing shorter shock dampers with the new longer shock dampers.

<u>Description</u>	<u>New</u>
Bolt (8 off)	UA 156/Z
Bolt (8 off)	UA 104/Z
Cover (2 off)	UR 17050
Shock damper (2 off)	UR 17051
Heavy duty shock damper (2 off)	UR 17406
Spigotted rubber (2 off)	UR 17646

Note:

It would appear from past experience that shock dampers have been changed in an attempt to rectify complaints of suspension noise and soft suspension. On inspection the displaced shock dampers have been found to be operating satisfactorily and were obviously not the source of trouble.

It is therefore stressed that in such complaint cases all possible sources of trouble should be investigated rather than immediately assuming the fault to lie in the shock dampers.

After Car Serial Number SRH 11466 shock damper changes will not be accepted under Warranty without prior authority from either the Factory or the Service Representative.

TIME ALLOWED

To renew one long front shock damper - 2.25 hrs. (4.25 hrs. for two).

To replace two short shock dampers by two long shock dampers - 5.5 hrs.

Arr/JC1/Hly