

SHOCK ABSORBER AND ANTI-ROLL BAR

General

The front axle of the Porsche car is equipped with double-acting hydraulic telescopic shock absorbers which lessen road shocks and prevent rebound of the car. These shock absorbers have a progressive effect, i. e. the shock absorbing forces increase with increased wheel movement, whereas they are relatively small with minor wheel movement.

As both the compression and rebound rate of the shock absorbers correspond to the spring characteristics of the car, no attempt should be made to alter the adjustment of the shock absorbers or to install shock absorbers of different characteristics. This would result in inferior roadholding of the car. KONI shock absorbers allow a certain adjustment limited by the spring characteristics.

Inspection and Maintenance

For checking effectiveness of the shock absorbers, bounce car at front and rear end, or still better, test the car on a very uneven road. Accurate checking necessitates special test installations, which generally are not available in workshops.

A simple check of the removed shock absorber can be carried out by holding it vertically and compressing it by hand. However, this method only indicates whether the shock absorbers are working. The degree of effectiveness cannot be determined in this way.

If the effectiveness of the shock absorber is found to be insufficient, it should be replaced – if possible by one of the same manufacture. Leaking shock absorbers must also be replaced. However, if only a slight loss of fluid is noticed and the effectiveness of the shock absorber is not impaired, it is not necessary to make immediate replacement, as an adequate fluid reservoir compensates smaller losses. Refilling the shock absorbers is not possible. This explains why they require no maintenance in this respect! Maintenance is limited to checking the effectiveness of the shock absorbers, and to a periodic examination of the shock absorber mounts on the front axle tube and the suspension arm.

Removing and Installing Shock Absorber

16 ST

Removal

1. Jack up car and remove front wheel

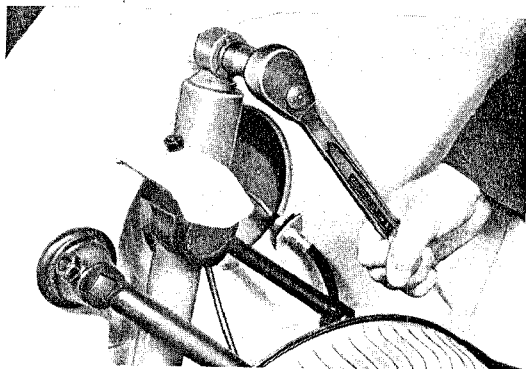


Fig. 59

2. Unlock and unscrew hex. nut on lower suspension arm link pin and retaining screw on front axle tube.
3. Take off shock absorber

Installation

When installing, proceed in reverse order, observing the following points:

1. Check shock absorber, if necessary replace – using only parts of identical manufacture –
2. Check shock absorber rubber bushings for wear, if necessary replace.
3. Check retaining screw and pin of suspension arm for wear, if nec. replace.
4. Use new lock plates.
5. Tighten nut and screw until they fit tightly against the rubber bushing sleeves, otherwise premature wear and rattling will be experienced.

Adjusting KONI Shock Absorbers

For initial assembly, the shock absorber is installed in its softest position. If after some time a readjustment will be required, proceed according to the following instructions:

1. Remove shock absorber and fix in a vise in vertical position at lower eye – with the plunger rod pointing upward – (see fig. 60).

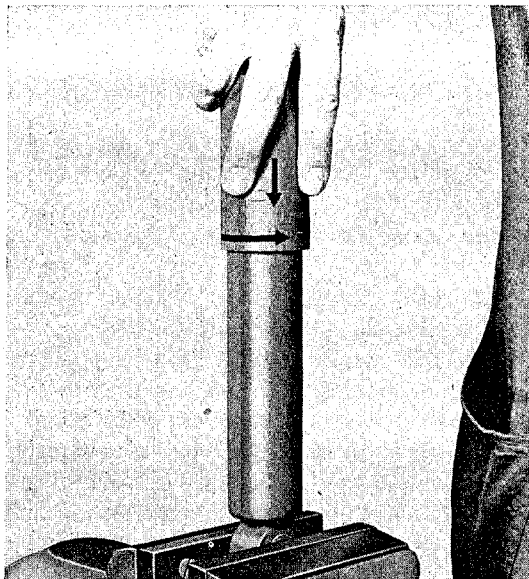


Fig. 60

2. Compress shock absorber completely and turn plunger rod counterclockwise without applying force, until the lug of the adjusting cam engages the recess of the bottom valve (see fig. 61).

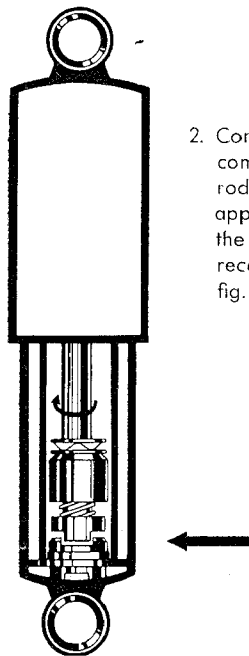


Fig. 61

3. Turn carefully further counterclockwise in order to find out whether the shock absorber has already been readjusted and to what extent (whether a harder position has been adjusted).

4. Starting from the original position, turn $\frac{1}{2}$ or more revolutions clockwise – depending on the extent of the shock absorbing force to be checked – then stretch the shock absorber somewhat apart in order to be able to disengage the adjusting device (see fig. 62) (Max. readjustment 4 revolution halves).

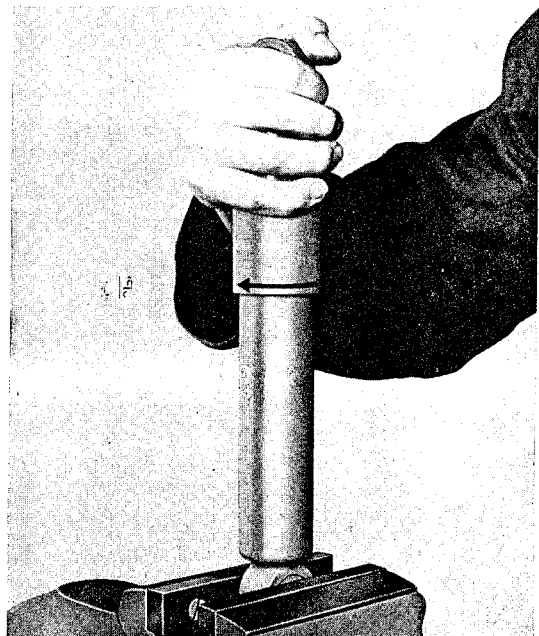


Fig. 62

5. By spreading and compressing with some intuition it will be easy to ascertain whether 2 shock absorbers have identical adjustment.

Removing and Installing Rubber Bushing for Shock Absorber

18 ST

Special tools:

- VW 438 Guide pin in connection with
- VW 401 Thrust plate
- VW 410 Punch and
- VW 421 Tube for removing shock absorber rubber bushing sleeve
- VW 436 Guide pin (tapered) in connection with VW 401, VW 410 and VW 421 for installation of the shock absorber rubber bushing sleeve

Removal

1. Remove shock absorber (16 St)
2. Press out rubber bushing sleeve on VW repair press with cylindrical guide pin VW 438 in connection with VW 401, VW 410 and VW 421

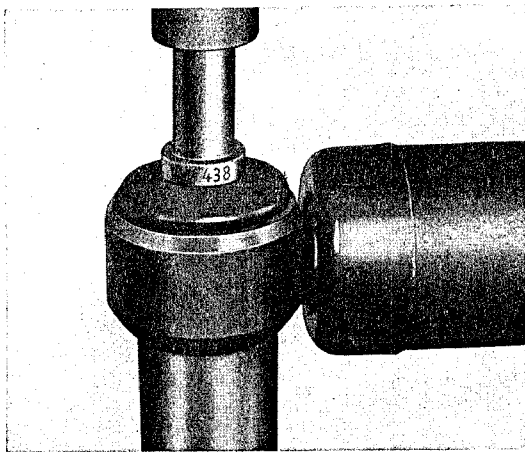


Fig. 63

3. Press out rubber bushing from shock absorber mounting eye

Installation

1. Install rubber bushing in shock absorber mounting eye
2. Install rubber bushing sleeve on VW repair press with the tapered guide pin VW 436 in connection with VW 401, VW 410 and VW 421

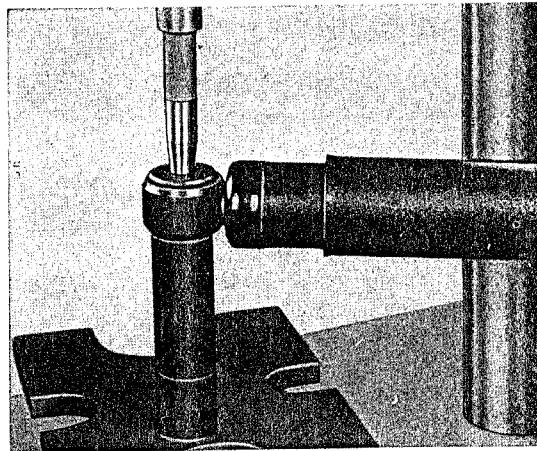


Fig. 64

3. Fit shock absorber

Removing and Installing Anti-Roll Bar

19 ST

Removal

1. Jack up car
2. Loosen bearing cover on bottom end of front axle tube
3. Loosen anti-roll bar shackle screws on lower suspension arm
4. Take off anti-roll bar, loosen retaining clips and remove rubber bushings. Check all parts for damages, if necessary replace

Installation

1. Attach anti-roll bar to lower suspension arm shackles
2. Press anti-roll bar upwards and bolt on bearing cover
3. Attach retaining clips and tighten screws
4. Tighten screws at suspension arms
5. Lower car

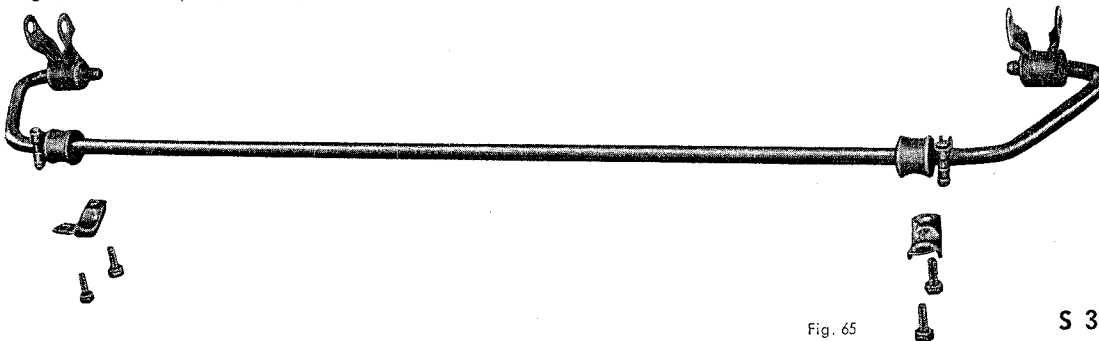


Fig. 65

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