

## Section H7

## Rear crossmember

**Crossmember end mounts - To remove**

Using the following method the rear crossmember end mounts can be removed with the crossmember in position. Only one mount should be removed at any time.

1. Drive the car onto a ramp and chock the rear wheels.
2. Apply the parking brake.
3. Depressurize the hydraulic system as described in Chapter G.
4. Position a jack beneath the rear crossmember as near as possible to the mount being removed. Adjust the jack to support the crossmember.
5. Position sufficient ballast (sandbags) in the luggage compartment of the car, to overcome the action of the road springs, when the mount is removed.

The ballast should maintain the correct distances between the mount, the crossmember mounting point, and the faces of the upper and lower sill brackets.

6. Wedge a piece of wood between the rear crossmember and the body heelboard to prevent the crossmember from tilting forward.
7. Remove the centre bolt from the mount and the lower steady bracket from the body sill.
8. Remove the setscrews securing the mount to the crossmember and withdraw the mount.

**Crossmember end mounts - To fit**

Fit the mounts by reversing the removal procedure noting the following.

1. Invert the mount and support the central flange of the mount on blocks. The blocks should have a minimum height of 7,0 cm. (2.750 in.).

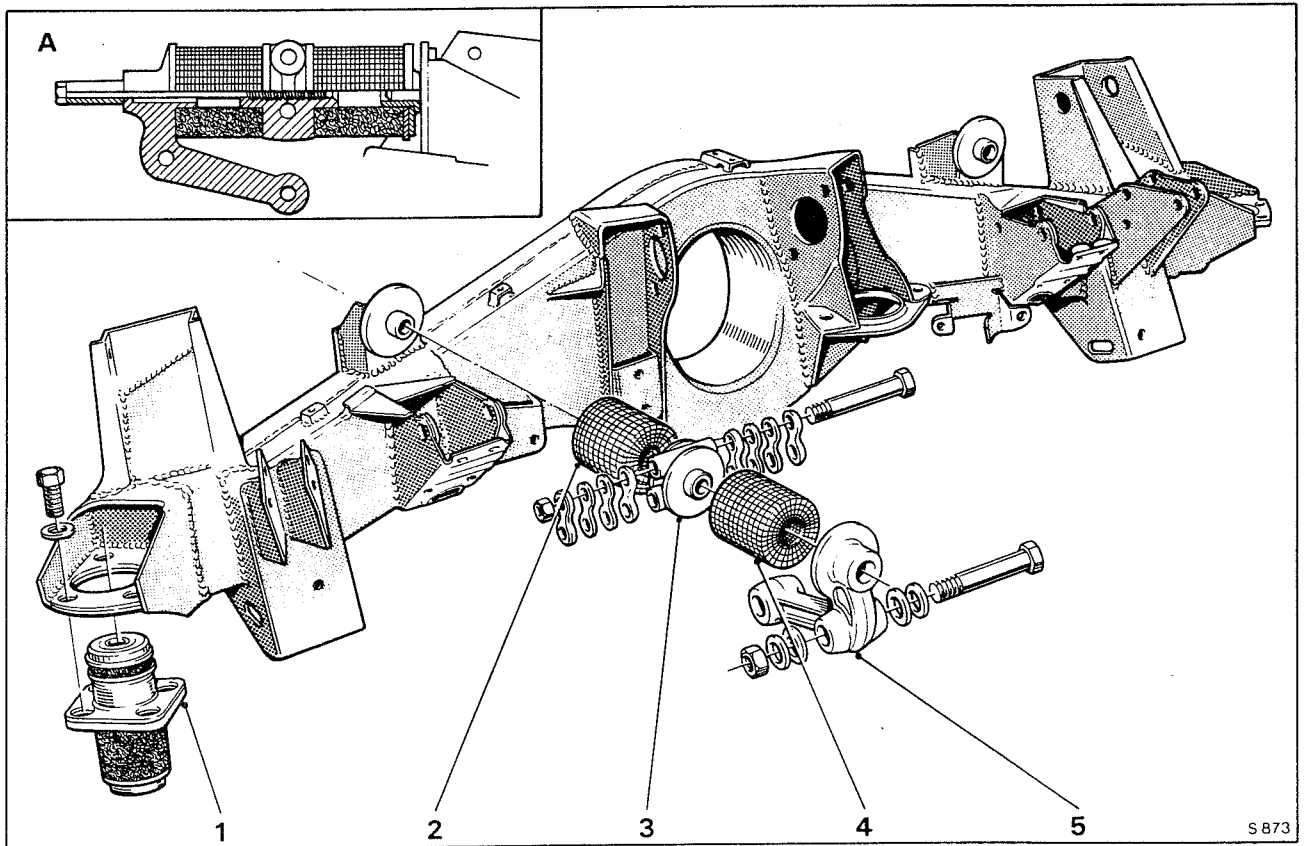
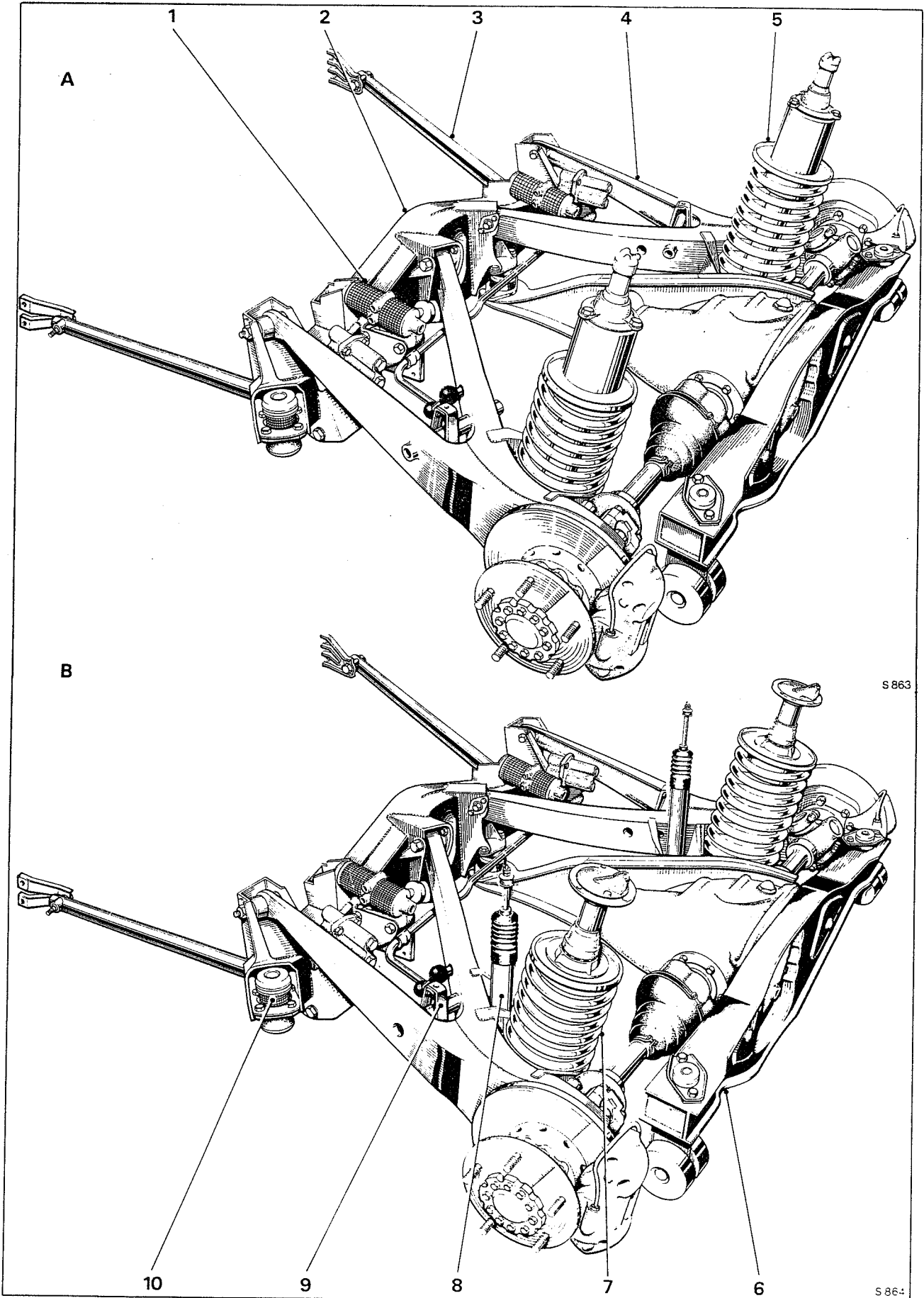


Fig. H24 Rear crossmember

- |   |   |   |  |
|---|---|---|--|
| 1 | Crossmember end mount                       | 4 | Horizontal compliance mount cushion (long) |
| 2 | Horizontal compliance mount cushion (short) | 5 | Forged abutment bracket                    |
| 3 | Centre abutment block                       | A | Horizontal compliance mount assembly.      |

H7 - 2



2. Using a small hand press located on the bottom cup of the mount, press open the top cup of the mount.

Insert split packing ring (RH17848) between the upper cup rim and the single limiting cushion (see Fig. H26)

Care should be taken not to bend the central flange.

3. Centralize the mount using special fixture (RH7847) so that the radial run out of the cylindrical portion of the mount does not exceed 0,64 mm. (0.025 in.).

4. Fit the mount to the crossmember and torque tighten the setscrews to the figure quoted in Chapter P.

Ensure that the crossmember position is not disturbed.

5. Fit the lower steady bracket and the mount centre bolt. Torque tighten the setscrews and centre bolt to the figures quoted in Chapter P.

6. Remove the split packing from the mount and the wooden wedge from between the crossmember and heelboard.

7. Repeat the procedure for the other mount if necessary.

#### Crossmember and trailing arm assembly - To remove

1. Drive the car onto a ramp and chock the front wheels.

2. Depressurize the hydraulic system as described in Chapter G.

3. Remove the rear wheel trims and slacken the wheel nuts.

4. Remove the road springs as described in Section H10.

5. With the body supported on sill blocks, position a jack under each trailing arm. Jack up the arms and remove the road wheels.

6. Remove the rear sections of the exhaust system from beneath the crossmember and trailing arms.

7. Disconnect the flexible hydraulic pipes from the crossmember and trailing arms. Fit blanks to the pipe ends.

8. Disconnect the brake cables from the rear calipers and the clips on the trailing arms.

9. Remove the propeller shaft as described in Chapter F.

#### Fig. H25 Rear sub-frame and suspension assembly

- A All cars except Corniche Convertible
- B Corniche Convertible
- 1 Horizontal compliance cushions
- 2 Crossmember
- 3 Right-hand tubular link
- 4 Right-hand trailing arm
- 5 Spring, damper and height control ram
- 6 Final drive crossmember assembly
- 7 Spring and special height control ram
- 8 Damper. Independent fixing position
- 9 Rebound strap
- 10 Crossmember to body sill mount

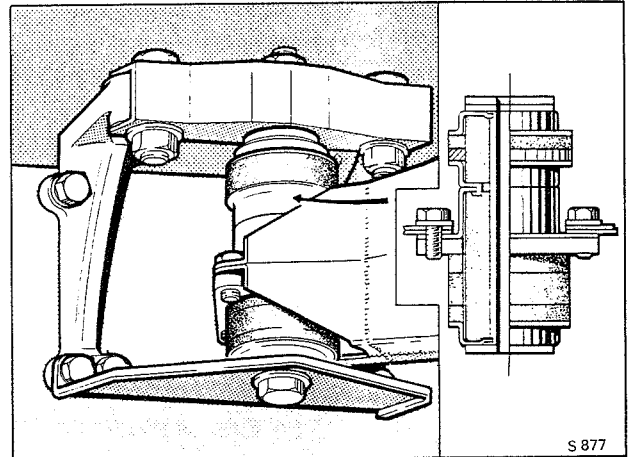


Fig. H26 Crossmember end mount  
Inset Split rings in position

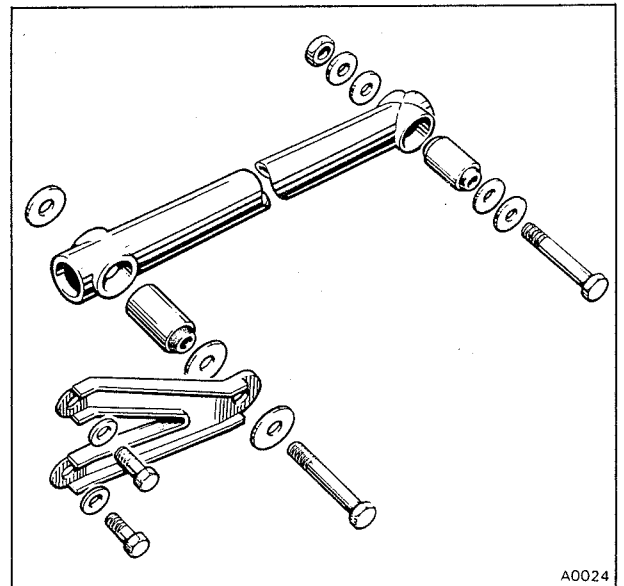


Fig. H27 Crossmember to body tubular link

#### Note

To reduce the weight and enable the crossmember and trailing arm assembly to be handled more easily, the rear hubs can be removed as described in Chapter J.

If the hubs are not removed, disconnect the drive shafts from the hubs. Bind the needle roller caps with masking tape to retain them on the universal joint.

Secure the drive shafts to the final drive crossmember with cord to prevent the withdrawal of the trunnion joint from its housing.

10. Disconnect the height control valve links.

11. Screw a slave  $\frac{5}{16}$  in. U.N.F. setscrew through the centre of the two horizontal compliance cushion mounts (see Fig. H24) to retain them in their compressed condition.

12. Remove the bolts securing the centre abutment block of the mounts to the body. Note the thickness

## H7 - 4

and position of the packing plates to assist assembly.

**13.** Support the final drive casing with a jack, then remove the torque arm. Do not allow the final drive to be unsupported when the torque arm has been removed.

**14.** Support the crossmember with jacks.

**15.** Remove the tubular links.

**16.** Remove the lower bracket and centre mounting bolt from the crossmember end mounts.

**17.** Ensure that all the relevant components have been disconnected then carefully lower the crossmember and trailing arm assembly from the car.

#### Crossmember and trailing arm assembly - To fit

Fit the assembly by reversing the removal procedure noting the following.

**1.** Always ensure that all mounts, pivot bushes, hoses, pipes, etc., are in a serviceable condition.

**2.** If the trailing arms have been removed from the rear crossmember the camber and toe-in should be checked as described in Section H8.

**3.** Fit the horizontal compliance cushions to the crossmember as described under Horizontal compliance mount cushions - To renew.

**4.** Fit the crossmember end mounts as described in Operations 1 to 4 inclusive of Crossmember end mounts - To fit.

**5.** Ensure that the upper beam distance tubes on the body mounting points are free to move. This will enable the crossmember to be centralized without side load being applied to the mounts.

**6.** With the crossmember and trailing arms supported on jacks, raise the assembly into position. Fit the lower steady brackets and centre bolts to the

end mounts. Only finger tighten the centre bolts at this stage. Ensure that the mounts are not disturbed radially and that the crossmember remains vertical.

**7.** With the crossmember within 3,18 mm. (0.125 in.) of its final position, align it to the front sub-frame. Measure the longitudinal and diagonal distances between the machined fixture locating pads (see Fig. H29). Similar measurements should be equal to within 1,60 mm. (0.062 in.).

**8.** Raise the crossmember to abut the upper crossbeams.

**9.** Position and secure the lower steady brackets to the car sills. Torque tighten the setscrews and the centre bolts of the mounts to the figures quoted in Chapter P.

**10.** Fit the tubular links to the crossmember and body sills. Ensure that the crossmember is in the vertical position.

**11.** Secure the horizontal compliance cushion mounts to the body. Fit the packing plates to each side of the abutment block to rectify any body bracket variation and retain cushion alignment.

**12.** Remove the slave bolts from the centre of each mount.

**13.** Remove the split packing from the crossmember end mounts.

**14.** Bleed the hydraulic system as described in Chapter G Part 1.

**15.** Check the car standing and levelled height as described in Section H8 and Chapter G.

#### Horizontal compliance mount cushions - To renew with rear crossmember fitted.

**1.** Fit a  $\frac{5}{16}$  in. U.N.F. setscrew through the centre of

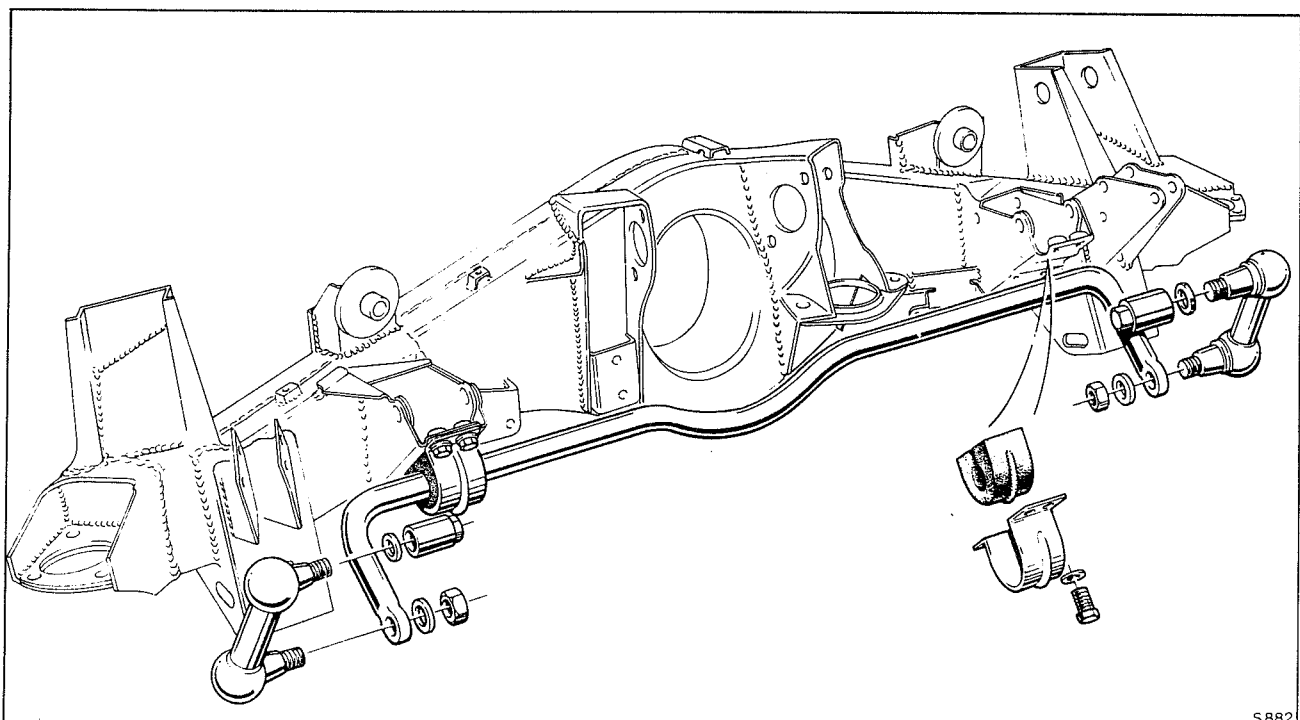
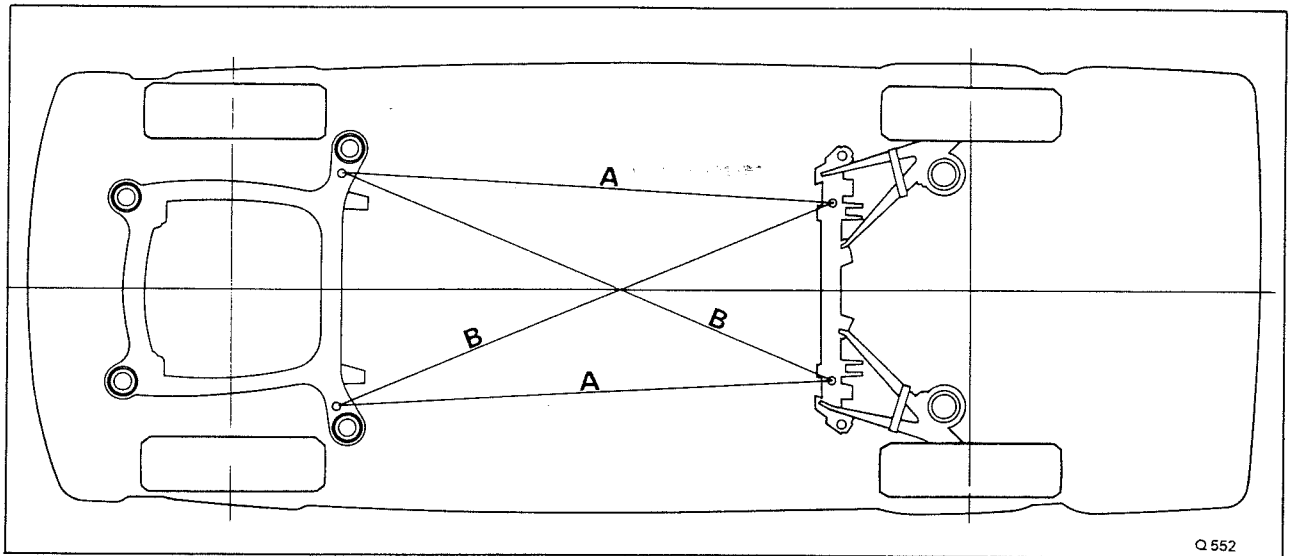


Fig. H28 Rear stabilizer assembly



**Fig. H29 Sub-frame alignment**

Measurements to be equal within 1,6 mm.(0.062 in.)

each horizontal compliance assembly, screwing it into the centre abutment bracket. Tighten the setscrew sufficiently to compress the rear cushion of the mount to approximately 5,08 mm. (2.0 in.).

In order to fit the setscrew it may be necessary to raise the car body to relieve spring load from the crossmember.

2. If the cushions have collapsed, it will be necessary to move the top of the crossmember rearward until the 5,08 mm. (2.0 in.) measurement is obtained.

Raise the body to relieve the spring load then insert wooden wedges between the crossmember trailing arm outer mounting brackets and the body heelboard.

3. Remove the bolts securing the forged abutment bracket and the centre abutment block from one of the mounts. Note the position, quantity, and thickness of the packing plates fitted on each side of the centre abutment bracket.

4. Remove the slave setscrew from the centre of the mount and discard the cushions.

5. Fit a new long cushion between the centre and forged abutment brackets. Fit the slave setscrew through the centre of the components. Compress the cushion by tightening the setscrew until the cushion measures 5,08 mm. (2.0 in.)

6. Fit a new short cushion onto the crossmember mounting bracket, then fit the bracket and cushion assembly onto the crossmember and body. Fit the packing plates and washers into the positions from which they were removed. Torque tighten the bolts to the figures quoted in Chapter P.

Do not remove the slave setscrew at this stage.

7. Carry out the same procedure to renew the other mount.

8. Remove the slave setscrew from the centre of each mount and any wooden wedges that have been used to position the crossmember.

#### Rear stabilizer - To remove

1. Unscrew but do not fully remove the reach nuts securing the stabilizer links to the trailing arms.
2. Using a hammer and soft metal drift placed on the reach nut, separate the stabilizer link tapers from the trailing arms.
3. Remove the brackets retaining the stabilizer mounting bushes to the crossmember.
4. Remove the stabilizer and rubber mounting bushes.
5. To remove the stabilizer links from the stabilizer bar repeat Operations 1 and 2.

#### Rear stabilizer - To fit

Fit the stabilizer by reversing the removal procedure noting the following.

1. Examine the stabilizer mounting bushes and links for serviceability. Renew if necessary.
2. Loosely assemble the links into the trailing arms.
3. Fit the stabilizer onto the links then secure the stabilizer bar onto the crossmember.
4. Torque tighten the setscrews and link nuts to the figures quoted in Chapter P.