

Fig. 46-82. Removing the drive shaft joint

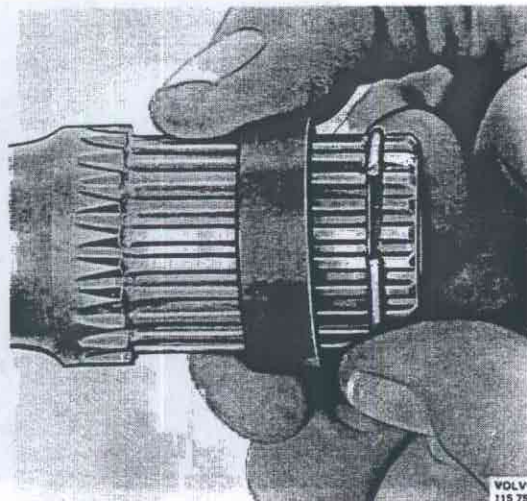


Fig. 46-84. Placing the spacer ring

4. Replace the circlip on the drive shaft and push the spacer ring over the circlip, Fig. 46-84. Grease the circlip and splines.
5. Place the shaft pin on a flat surface, Fig. 46-85, and the drive shaft in the flange. Knock on the rear end of the drive shaft so that it glides into the flange.
6. Replace the circlip on the shaft pin. Grease the circlip and splines. Place the shaft in the gear wheel of the wheel carrier. Knock down the shaft pin so that the circlip grips in the gear wheel.
7. Grease the guide edge of the rubber dust cover and bushing. Fit the dust cover over the shaft. Knock down the dust cover with 6117, Fig. 46-86.

8. See under "Installing the front wheel carrier".
NOTE! The rubber dust cover can easily be damaged if the shaft rests against the steering knuckle support.

Reconditioning the drive shaft joint (removed)

The drive shaft joint can be disassembled for cleaning and checking. The components of the joint are not sold separately since, like a ball bearing which is matched with its inner and outer races, the joint parts are matched. The joint is disassembled and assembled as follows:

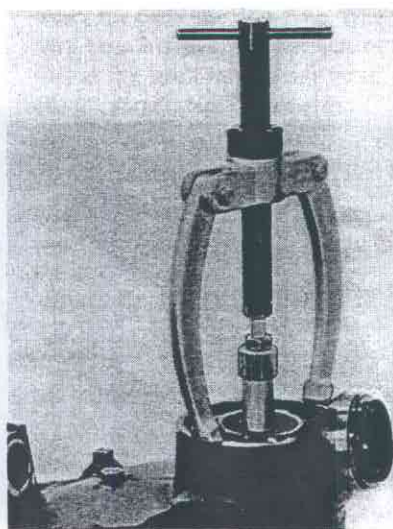


Fig. 46-83. Removing the shaft pin

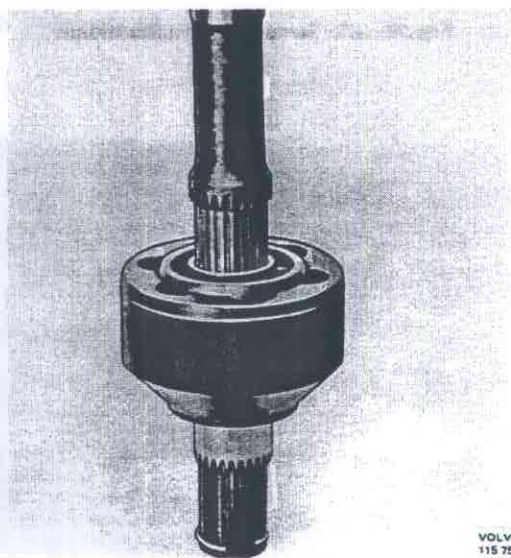


Fig. 46-85. Driving in the drive shaft



Fig. 46-86. Driving in rubber dust cover

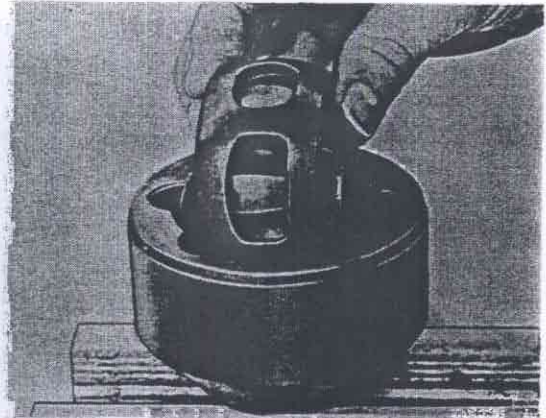


Fig. 46-89. Removing the ball cage

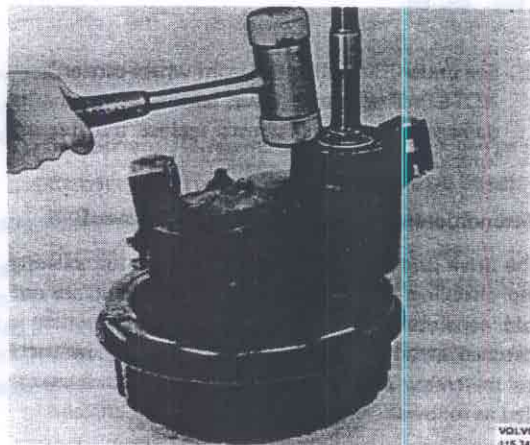


Fig. 46-87. Removing drive shaft joint

Disassembling

1. Secure the drive shaft in a vice provided with copper jaws or similar. Knock the drive shaft joint out of the drive shaft by knocking on the shaft pin, Fig. 46-87, with a plastic mallet.
2. Secure the shaft pin in a vice. Rotate the ball cage and flange so that a ball can be plucked up, Fig. 46-88. Repeat this and pluck up the remaining balls.
3. Rotate the ball cage and flange according to Fig. 46-89 and pluck it out of the shaft pin.
4. Rotate the flange according to Fig. 46-90 and take it out of the cage.

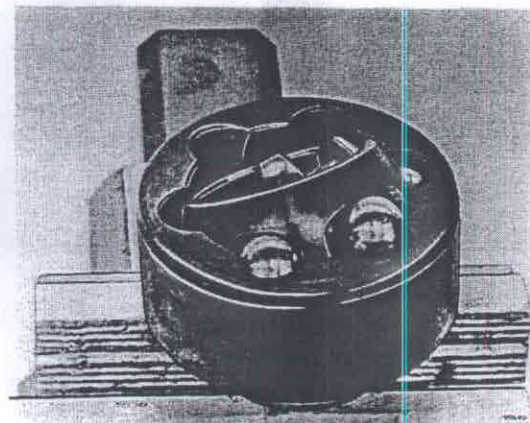


Fig. 46-88. Drive shaft joint

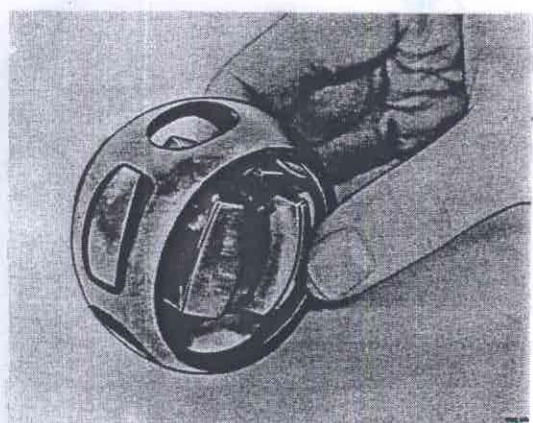


Fig. 46-90. Removing the flange

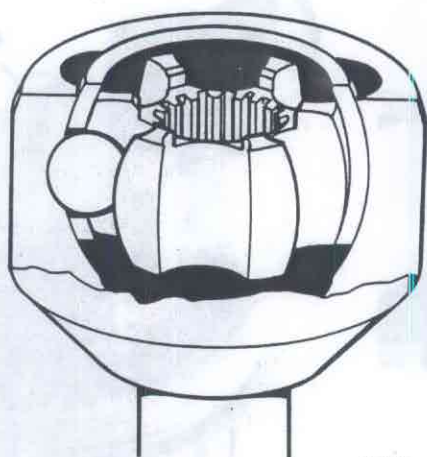
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Fig. 46-91. Location of flange

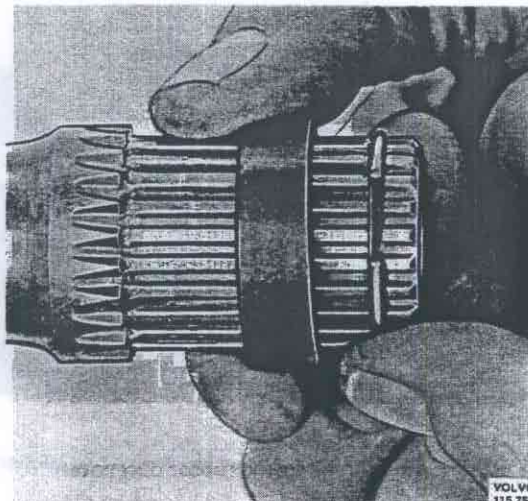
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Fig. 46-92. Placing the circlip

Checking and replacing parts

Clean all parts and dry them thoroughly. If the balls, cage, flange or shaft pin are damaged in any way, then the shaft pin and joint must be replaced complete.

When assembling, fill the inside of the shaft pin and the parts with grease of the long-fibre type for wheel bearings, e.g., MP lubricating grease.

Assembling

1. Place the flange in the cage and fit them in the shaft pin.
2. Insert the balls one at a time. When all the balls have been inserted, the flat side of the flange as well as the small inner diameter of the cage, Fig. 46-91, should face downwards.
3. Replace the circlip on the drive shaft and push the spacer ring over the circlip, Fig. 46-92.
4. Place the shaft pin on a flat surface, Fig. 46-93, and fit the drive shaft in the flange. Knock on the rear end of the drive shaft so that it glides into the flange.

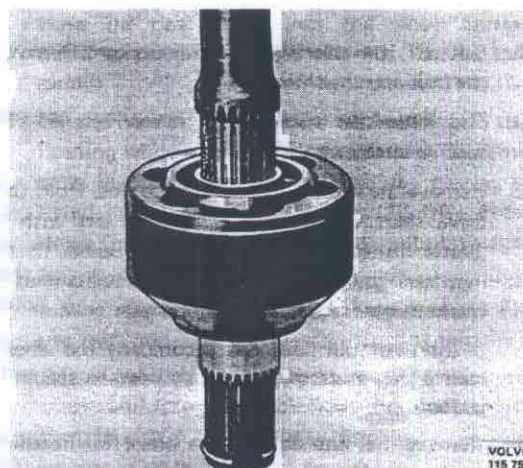
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Fig. 46-93. Driving in the drive shaft

Reconditioning a wheel carrier (removed)**Disassembling**

Special tools: 2413, 6141.

1. Clean the wheel carrier housing and the steering knuckle support.
2. Remove the cover for the lower steering knuckle joint. Unscrew the nut for the bolt. Push in the bolt and remove the ball shell, Fig. 46-94.

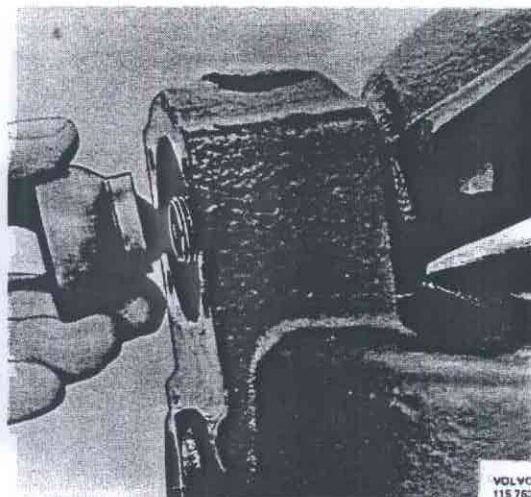
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Fig. 46-94. Removing the ball shell

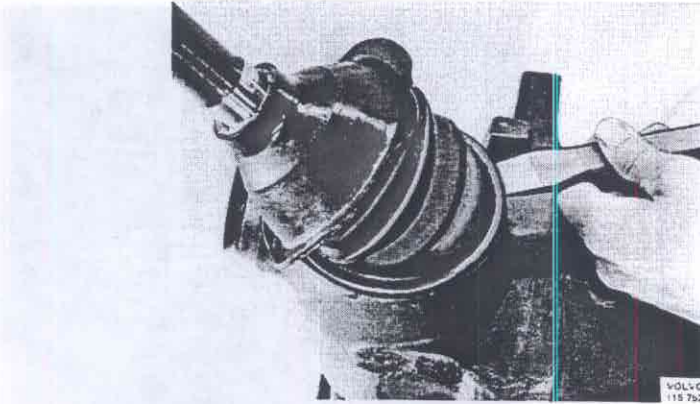


Fig. 46-95. Removing rubber dust cover

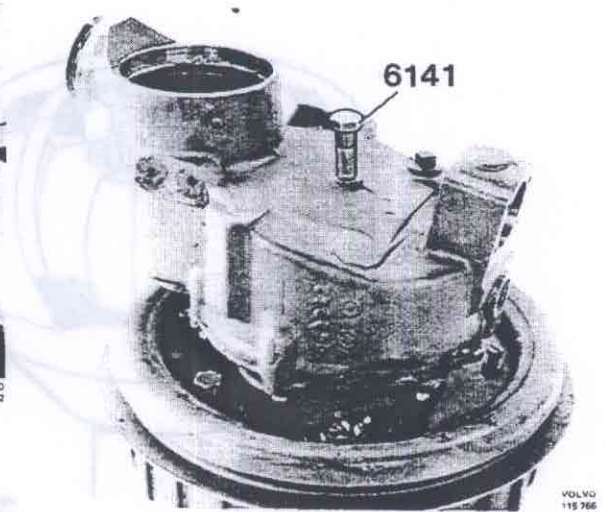


Fig. 46-97. Pressing housing apart

3. Lift off the steering knuckle support. Remove the bolt and the shims.
4. Tap loose the rubber dust cover, Fig. 46-95, with a suitable tool.
5. Remove the wheel carrier from the vice. Hold the drive shaft upwards, Fig. 46-96, and with a plastic mallet knock on the wheel carrier housing, see Fig. 46-96, so that the shaft pin releases from the gear wheel in the housing.
If the shaft pin does not accompany the wheel carrier, it must be pulled out with a standard puller.
6. Remove the nuts securing the wheel hub housing to the wheel carrier housing. Remove the plug on

the wheel carrier housing. Fix and pull in the dismantling bolt 6141, Fig. 46-97. Remove the hub when it loosens from the final gear. Remove the bolt 6141.

7. Remove the bearing circlip from the housing.
8. Place the final gear in a press and press out the gear wheel, bearing and needle bearing at the same time with 2413, Fig. 46-98.
9. Remove the circlip on the gear wheel and press off the bearing with 2413, Fig. 46-99.

Checking and replacing parts

Clean all parts and also the contact surfaces thoroughly. Replace the ball and needle bearings.

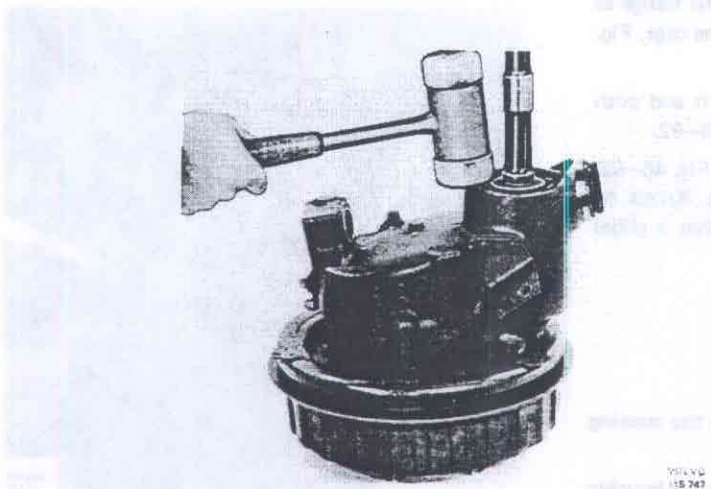


Fig. 46-96. Removing the drive shaft

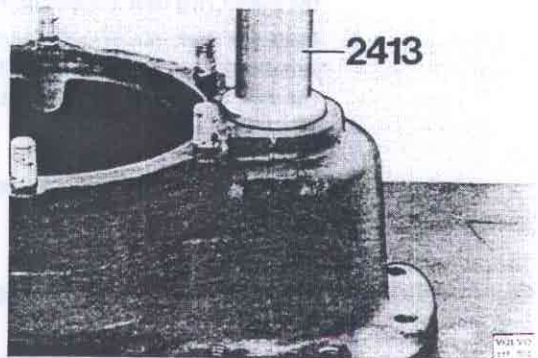


Fig. 46-98. Pressing out gear wheel

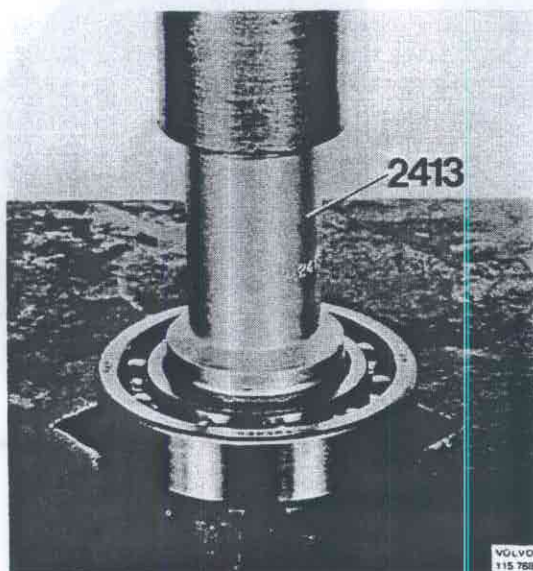


Fig. 46-99. Removing the bearing

Check the teeth on the gear wheel and if they are damaged the gear wheel should be replaced. With replacement of the gear wheel, the wheel hub should also be replaced, see special instructions under "Wheel and hub, Part 6".

Check the rubber dust cover to make sure it is not damaged. Also check the steering knuckle bolt and the ball shells for damage, see Part 6.

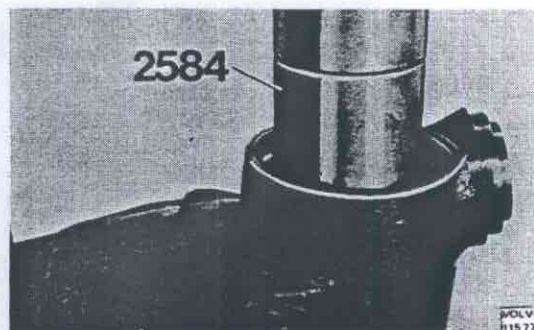


Fig. 46-101. Pressing in the gear wheel

Assembling

1. Press the ball bearing on the gear wheel with 2022, Fig. 46-100. Fit the circlip.
2. Press the gear wheel into the wheel carrier housing, using 2584, Fig. 46-101. Secure the circlip.
3. Oil the needle bearing. Press the bearing into the housing while rotating the gear wheel at the same time in order to make sure that the bearing is fitted properly, using 2413, Fig. 46-102. Press down the bearing so that it is flush with the edge.
4. Coat the contact surface against the hub with sealing agent. Place the hub in the housing. Fit the nuts and tighten hub and housing together.
5. Replace the circlip on the shaft pin. Grease the circlip and splines. Knock down the shaft pin so that the circlip grips in the gear wheel.

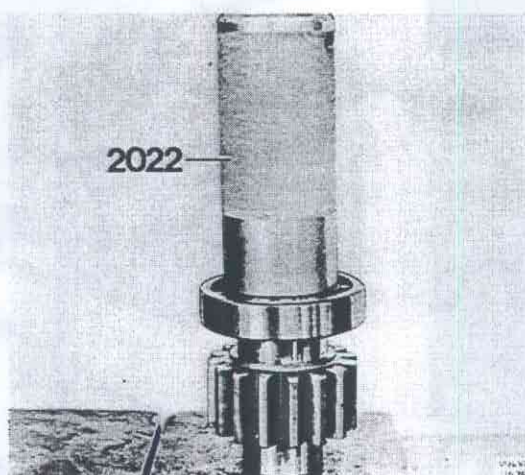


Fig. 46-100. Pressing on the bearing

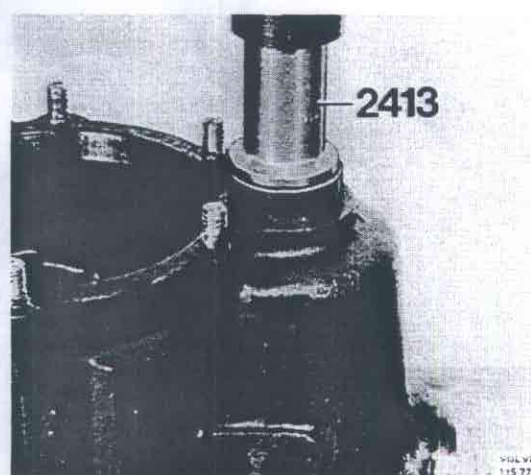


Fig. 46-102. Pressing in the needle bearing



Fig. 46-103. Driving in rubber dust cover

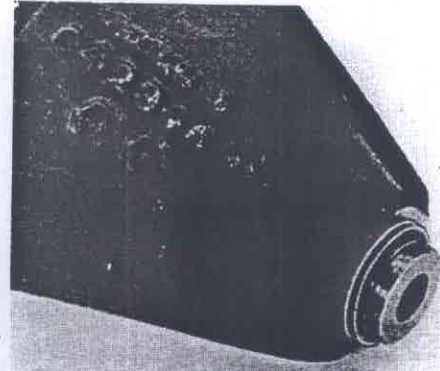


Fig. 46-105. Fitting the seal

6. Grease the rubber dust cover guide edge and bushing. Fit the dust cover over the shaft. Drive down the cover with 6117, Fig. 46-103.
7. Replace the upper seal on the wheel carrier housing, Fig. 46-104, and the seal on the support Fig. 46-105. Fit the support on the wheel carrier housing.
8. Fit the lower bolt in position. Place the same number of shims on the bolt that was removed during disassembling. Fit the ball shell in position, Fig. 46-106. Fit the nut and tighten it to a

torque of 150–200 Nm (15–20 kpm = 108–145 lbftf).

9. Fit the lower cover.

Installing a wheel carrier

1. Clean the contact surface on the shaft casing and coat it with sealing agent.
2. Fit the two guide pins 6131 in the upper holes of the steering knuckle support. See Fig. 46-107. Place the wheel carrier on a jack. Jack up the carrier so that the guide pins can fit into the front axle casing.

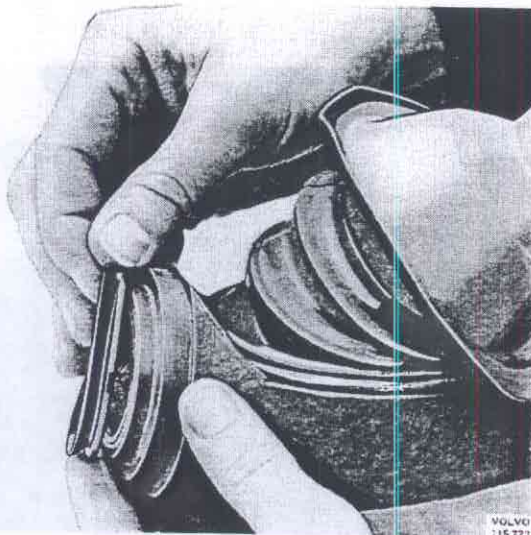


Fig. 46-104. Fitting the seal

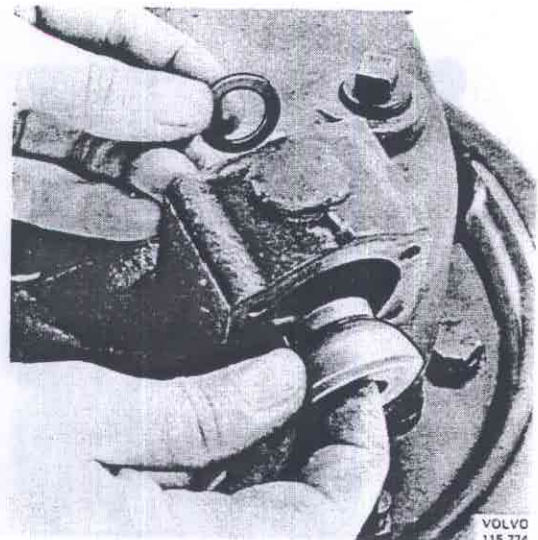


Fig. 46-106. Installing the ball shell

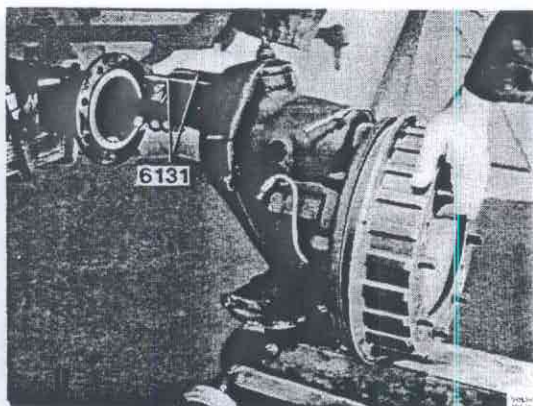


Fig. 46-107. Fitting the wheel carrier

NOTE! Check that the rubber dust cover for the drive shaft is in good condition and is fitted properly in the steering knuckle support, Fig. 46-108 before it is fitted entirely in position.

Lift up the drive shaft while pushing in the carrier at the same time. When the drive shaft comes in contact with the differentials, rotate the differential carrier flange while pushing the wheel carrier to the bottom at the same time.

3. Fit the bolts round the front axle casing. Remove the guide pins. Tighten the bolts to a torque of 100–120 Nm (10–12 kpm = 72–87 lbf·ft). Use 6135, Fig. 46-109. Remove the jack. Fit the bracket for the brake pipes on the front axle casing.
4. Connect the hoses to the brake pipes. Fit the bracket for the hoses on the wheel carrier housing.

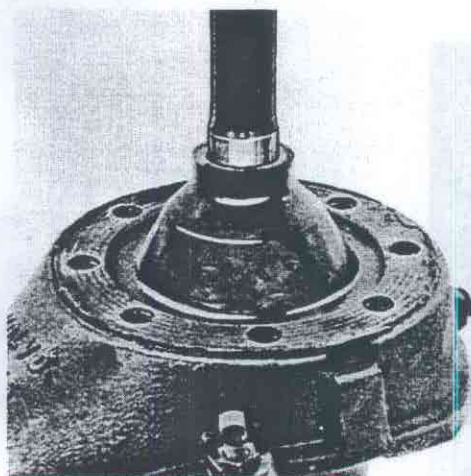


Fig. 46-108. Checking rubber dust cover



Fig. 46-109. Tighten the bolts

5. Fit the plate for the hollow rubber spring.
6. Check that the lower lubricating nipple is not damaged. Fit the steering rod.
7. Bleed the wheel cylinders. The pressure-difference contact should be removed before bleeding, see Fig. 46-110. If a bleeder unit is used, the working pressure should be 0.2 MPa (2 kp/cm² = 28 lbf/in²). For more detailed instructions about bleeding, see Part 5.
8. Fill the carrier with oil. Concerning quantity and quality, see under "Data".
9. Fit the wheel.
10. Lower the vehicle. Tighten the wheel nuts to a torque of 210 Nm (21 kpm = 152 lbf·ft).

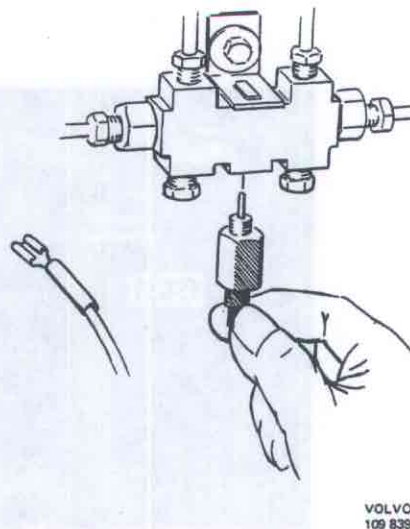


Fig. 46-110. Removing the contact

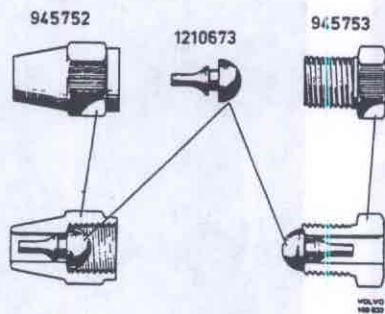


Fig. 46-111. Sealing nipple

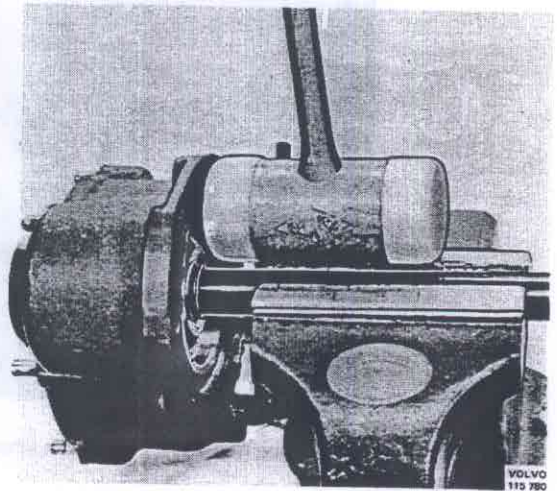


Fig. 46-113. Removing the drive shaft

Rear wheel carrier

Removing a wheel carrier

1. Remove the wheel nuts. Jack up the rear of the vehicle.
2. Remove the wheel.
3. Drain the oil from the carrier.
4. Remove the shock absorber from its lower anchorage. Disconnect the brake pipe from the brake backing plate. Plug the pipe with sealing nipples. Concerning a suitable nipple, see Fig. 46-111. Volvo Part Nos. 945752 + 1210673.
5. Place a jack under the wheel carrier housing. Remove the bolts round the rear axle casing which secure the wheel carrier. Allow two bolts to remain. Carefully tap on the bolts so that the housing loosens from the casing.
6. Remove the bolts and pull out the wheel carrier housing with drive shaft, see Fig. 46-112.

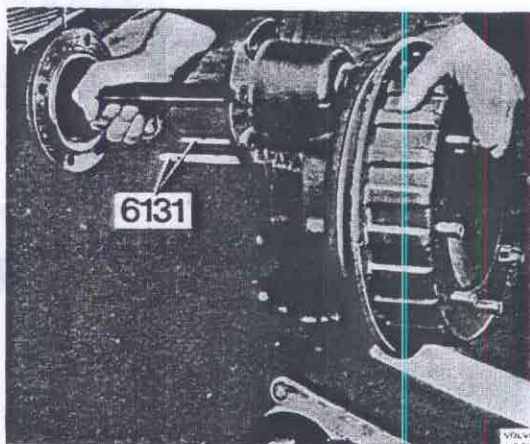


Fig. 46-112. Removing the wheel carrier

Replacing the wear ring and seal

Special tools: 1821, 2097, 2132.

1. See under "Removing the rear wheel carrier".
2. Clean the wheel carrier housing.
3. Hold the drive shaft and with a plastic mallet knock the drive shaft and with a plastic mallet knock on the wheel carrier housing, see Fig. 46-113, so that the drive shaft releases from the gear wheel.
4. Remove the sealing wear ring with 1821, Fig. 46-114.

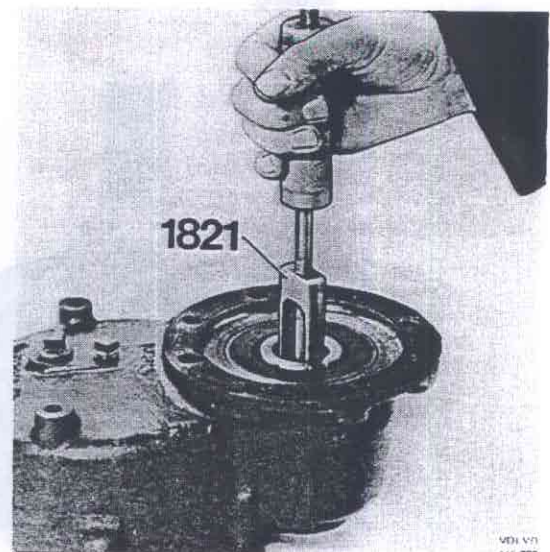


Fig. 46-114. Removing the wear ring

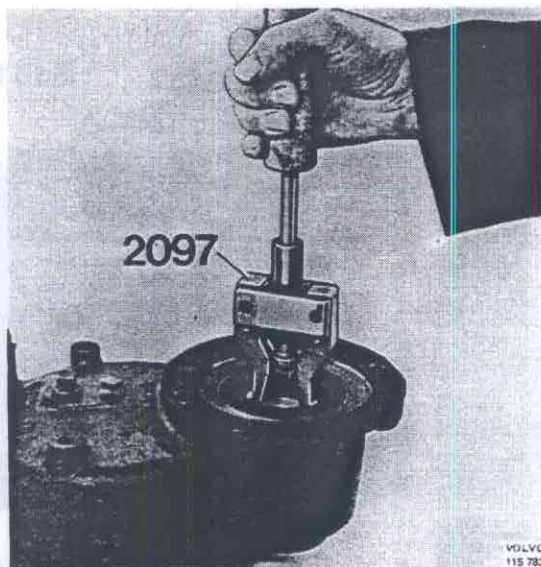


Fig. 46-115. Removing the seal

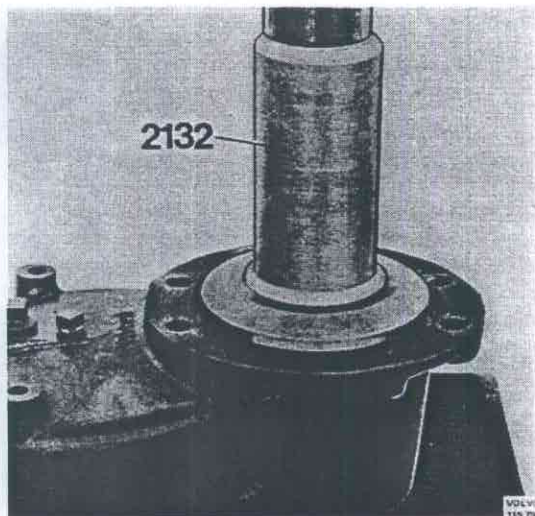


Fig. 46-117. Pressing in the seal

5. Remove the seal with 2097, Fig. 46-115.
6. Press the wear ring into gear wheel, Fig. 46-116. Grease the sealing ring surface. Press down the seal with 2132, Fig. 46-117.
7. Replace the circlip and X-ring on the drive shaft. Grease the circlip and splines. Fit the shaft in the gear wheel and drive it down so that the

circlip grips the gear wheel. Grease the X-ring, Fig. 46-118, and press it down into the wear ring.

8. See under "Install the rear wheel carrier".

Reconditioning the wheel carrier

Disassembling

Special tools: 1821, 2097, 6141.

1. Clean the wheel carrier housing.
2. Hold the drive shaft and with a plastic mallet knock on the wheel carrier housing, see Fig. 46-119, so that the drive shaft releases from the gear wheel.

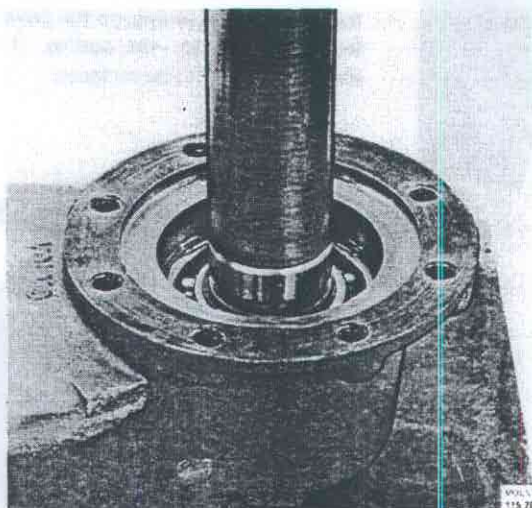


fig. 46-116. Pressing in the wear ring

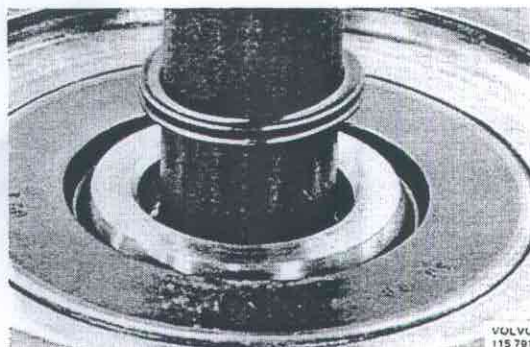


Fig. 46-118. Installing the X-ring