SERVICE MANUAL

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GROUP 45

PROPELLER SHAFT

TOOLS

SVO 2846 Special socket for propeller shaft bolts

DESCRIPTION

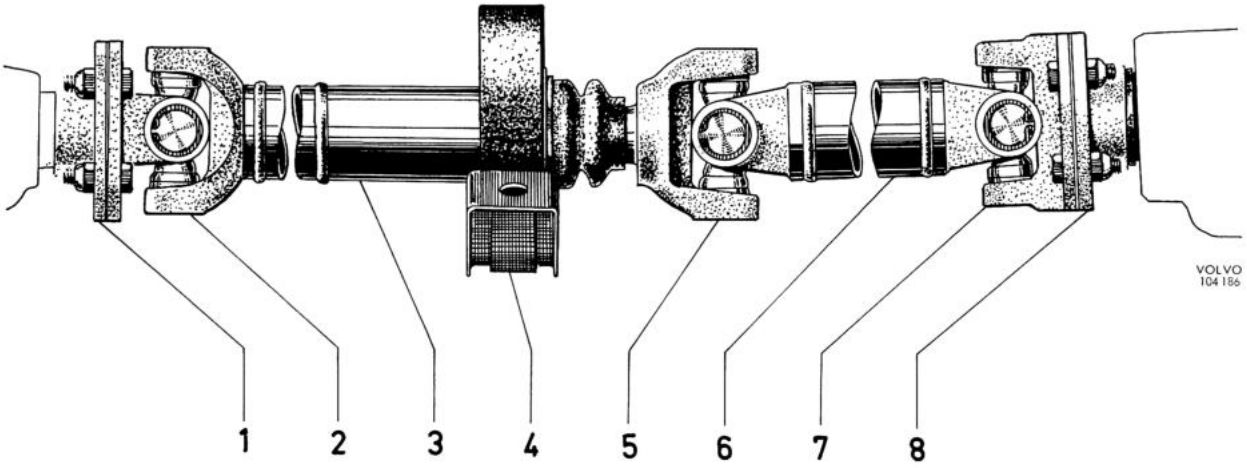

Fig. 4-124. Propeller shaft with support bearing

1. Flange on gearbox
2. Front universal joint
3. Front section of propeller shaft
4. Support bearing
5. Intermediate universal joint
6. Rear propeller shaft
7. Rear universal joint
8. Flange on rear axle

The propeller shaft is of the divided, tubular type, see Fig. 4-124. The rear end of the front section of the propeller shaft is in the form of a splined sleeve. In this there is a splined shaft which also forms one of the yokes on the intermediate universal joint. The rear end of the front section of the propeller shaft is carried in a ball bearing. The ball bearing is contained in a rubber bearing housing, which is attached to the propeller shaft tunnel with a cover, see Fig. 4-125. The propeller shaft is fitted with three universal joints. Each joint consists of a spider with four ground trunnions carried in flange yokes by means of needle bearings.

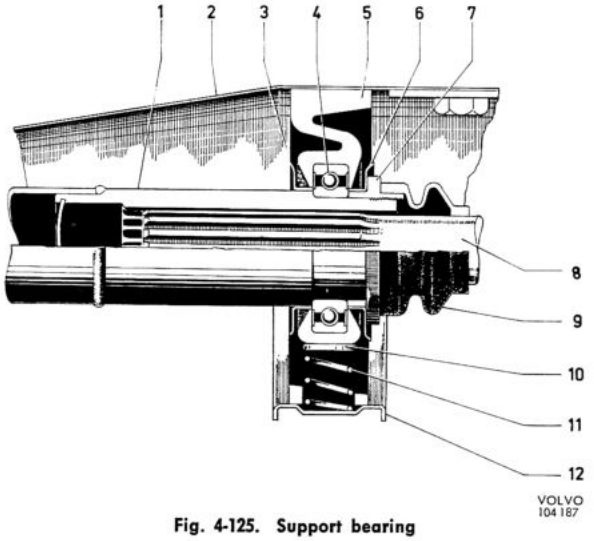

Fig. 4-125. Support bearing

1. Front section of propeller shaft
2. Floor tunnel
3. Dust cover
4. Ball bearing
5. Rubber housing
6. Dust cover
7. Nut
8. Rear section of propeller shaft
9. Rubber cover
10. Washer
11. Suspension spring
12. Cover

REPLACING THE SUPPORT BEARING

1. Jack up the vehicle. Slacken the propeller shaft from the rear axle flange. Bend back the lock washer and unscrew the nut at the sliding joint. Pull out the propeller shaft to the rear.
2. Loosen the cover for the support bearing. Pull off the support bearing complete.
3. Press the old bearing out of the rubber housing. Fit the new bearing.
4. Fit the support bearing and the other parts in the reverse order to removal. If the splined joint appears dry, lubricate it with grease mixed with molybdenum disulphide.

REMOVING

Jack up the vehicle. Slacken the propeller shaft from the gearbox and rear axle flanges. The bolts can be loosened by an air impact wrench and special socket SVO 2846, see Fig. 4-126. Loosen the cover for the support bearing and take down the propeller shaft complete.

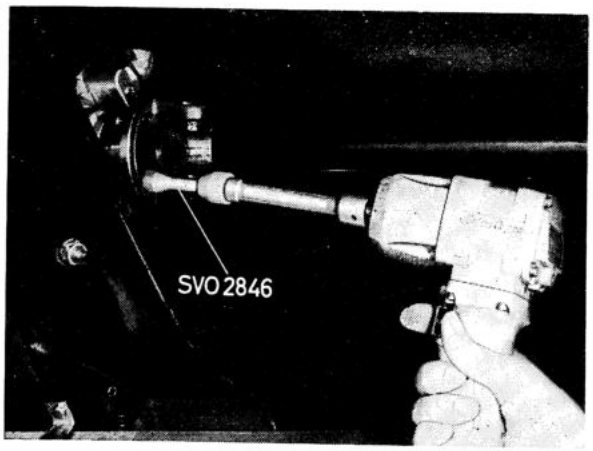

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Fig. 4-126. Removing the bolts

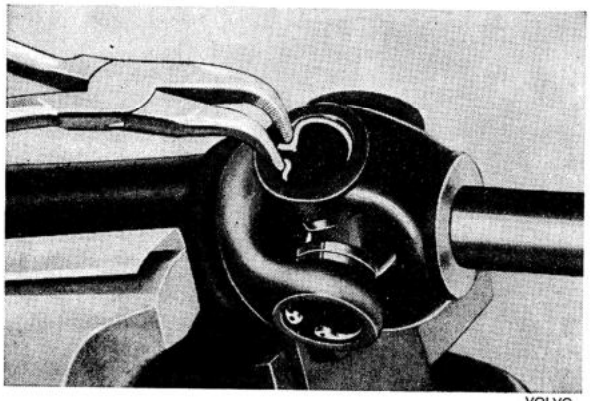

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Fig. 4-127. Removing the snap ring

DISMANTLING

DISMANTLING THE PROPELLER SHAFT

1. Bend back the lock washer and unscrew the nut for the support bearing. Remove the rear section of the propeller shaft. Pull off the support bearing.
2. Remove the support bearing from the housing.

DISMANTLING THE UNIVERSAL JOINTS

1. Remove the snap rings securing the needle bearings in the yokes, see Fig. 4-127.
2. Secure the shaft in a vice so that the universal joint comes as near as possible to the vice jaws. Remember that the propeller shaft is tubular and can easily be deformed.
3. With a hammer and metal punch drive the spider as far as it will go in one direction. The needle bearing will then come about half way out.
4. Then drive the spider as far as it will go in the opposite direction, see Fig. 4-128.

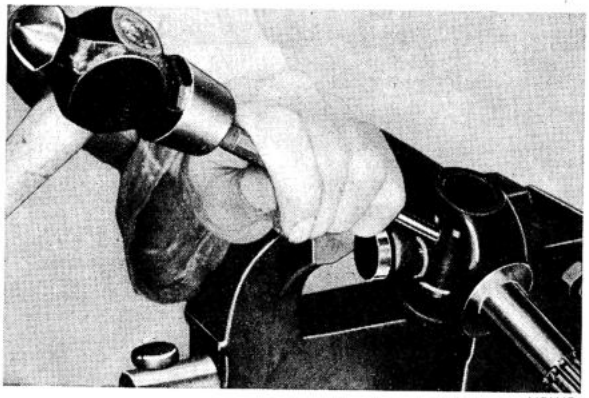

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Fig. 4-128. Removing the spider, I

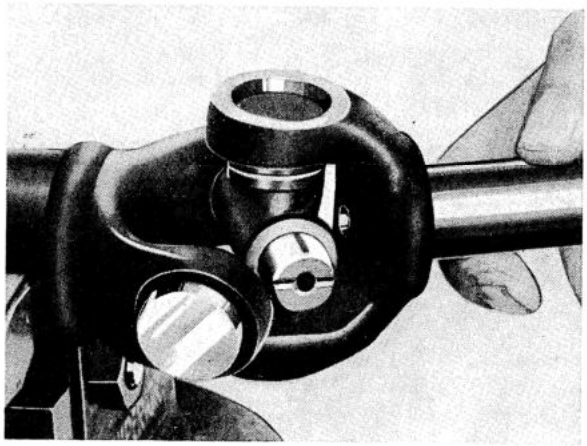

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Fig. 4-129. Removing the spider, II

5. Drive out one of the needle bearings with a thin metal punch. Remove the spider, see Fig. 4-129. Drive out the other needle bearing.

INSPECTING

It is extremely important to ensure that the propeller shaft is straight. Since even minor damage on a propeller shaft can cause vibration, the inspection must be very thorough. The shaft should be set up between centers and checked along its entire length with an indicator gauge while it is rotating. If it is out-of-true more than 0.25 mm (0.010"), the shaft must be replaced. **N.B. No attempt should be made to straighten a damaged propeller shaft — discard and replace with a new one.**

Examine the support bearing by pressing the bearing races against each other by hand and turning them in opposite directions. The bearing should run easily without binding at any point. If it does not, scrap the bearing and replace it with a new one.

Check needle bearings and spiders. Worn or damaged parts should be replaced.

ASSEMBLING

ASSEMBLING THE UNIVERSAL JOINTS

1. When fitting the old needle bearings, check that they are filled with grease and that the rubber seals are not damaged. New bearings should be half-filled with grease.

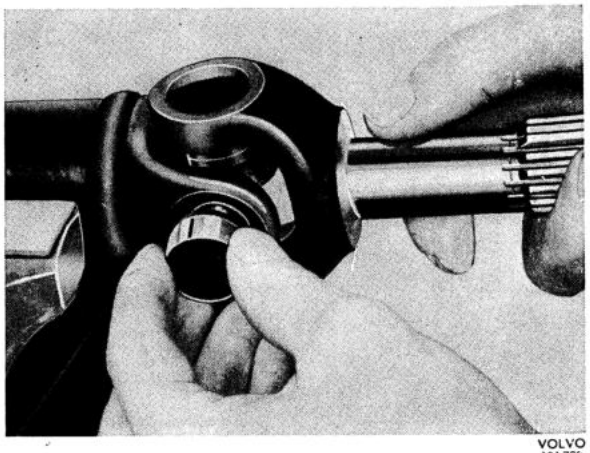

Fig. 4-130. Fitting the spider

2. Insert the spider in the flange yoke. Push the spider over in one direction so far that the needle bearing can be fitted on to the trunnion, se Fig. 4-130. Then press the needle bearing in so far that the snap ring can be fitted. Use a drift having a diameter slightly less than that of the needle bearing sleeve.
3. Fit the other needle bearing and snap ring as above. The fitting of the spider in the other yoke should also be carried out in the same way as described in operation 2.

FITTING

Fitting is in reverse order to removal.