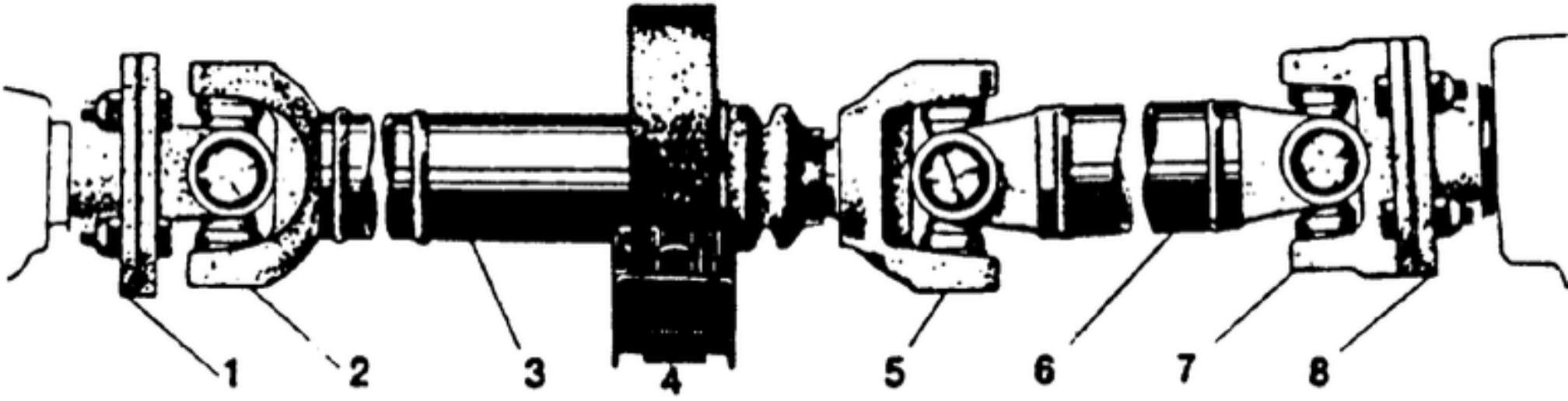


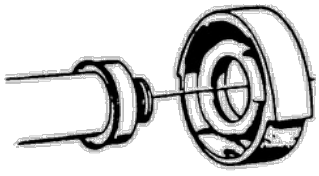
1. Flange on transmission
2. Front universal joint
3. Front section of driveshaft
4. Support bearing
5. Intermediate universal joint
6. Rear section of driveshaft
7. Rear universal joint
8. Flange on rear axle

The center support bearing must rotate freely with no noise or binding. It not a serviceable component; if it is noisy or binds it must be replaced. Use of a press with the appropriate blocks and sleeves is required for replacement.

240

1. Remove the front driveshaft and center bearing assembly as previously outlined.
2. Press the bearing out of the rubber mount. The bearing will stay attached to the driveshaft.
3. Using a drift or a press if necessary, remove the bearing from the driveshaft. Take care not to damage the dust cover around the bearing.
4. Install the new bearing by pressing it onto the shaft.
5. Install the rubber mount. Observe correct placement of the bearing within the mount.
6. Reassemble the driveshaft halves. If the splines are dry, lightly coat them with grease.
7. When reinstalling the driveshaft and central bearing in the vehicle, check that the spring and washer are positioned correctly in the rubber mount. Also make sure that the bearing is centered in its mounts before final tightening.

Fig. 1: Disassembly of the center bearing and dust cover



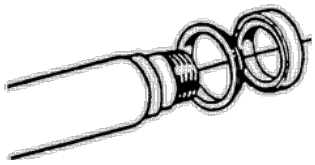
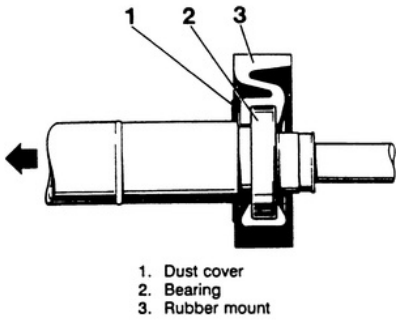


Fig. 2: Install the bearing correctly in the rubber mount



Except 240

1. Raise and safely support the vehicle on jackstands.
2. Mark the relative positions of the driveshaft yokes on the transmission and differential housing flanges for purposes of assembly.
3. Remove the nuts and bolts which retain the front and rear driveshaft sections to the transmission and differential housing flanges.
4. Remove the support bearing housing from the driveshaft tunnel, and lower the driveshaft and universal joint assembly as a unit.
5. Pry up the lock washer and remove the support bearing retaining nut.
6. Pull off the rear section of the driveshaft with the intermediate universal joint and splined shaft of the front section.
7. The support bearing may now be pressed off from the driveshaft.
8. Remove the support bearing from its housing.
9. For removal of the universal joints from the driveshaft, refer to "Universal Joint Overhaul" in this section.
10. Inspect the driveshaft sections for straightness. Using a dial indicator, or rolling the shafts along a flat surface, make sure that the driveshaft out-of-round does not exceed 0.010 inches (0.25mm). Do not attempt to straighten a damaged shaft. Any shaft exceeding 0.010 inches (0.25mm) out-of-round will cause substantial vibration, and must be replaced. Also, inspect the support bearing by pressing the races against each other by hand and turning them in opposite directions. If the bearing binds at any point, it must be discarded and replaced.
11. Install the support bearing into its housing.
12. Press the support bearing and housing onto the front driveshaft section. Push the splined shaft of the rear section (with the intermediate universal joint and rear driveshaft section) into the splined sleeve of the front section. Install the retaining nut and lock washer for the support bearing.

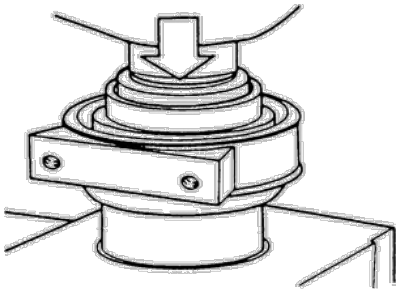
    NOTE: Pay particular attention to the placement of the yokes at the end of the shaft. They must be in the same alignment front and rear or driveline vibration will be induced.

13. Taking note of the alignment marks made prior to removal, position the driveshaft and universal joint assembly to its flange and install but do not tighten its retaining nuts and bolts. Position the support bearing housing to the driveshaft tunnel and install the retaining nut. Tighten the nuts which retain the driveshaft sections to the transmission and

differential housing flanges to 32 ft. lbs. (44 Nm).

14. Remove the safety stands and lower the vehicle.
15. Road test the vehicle and check for driveline vibrations.

Fig. 3: Installing the bearing into the cage using a press



1992 Volvo 940

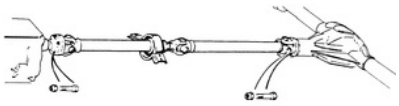
Submodel: | **Engine Type:** L4 | **Liters:** 2.3
Fuel Delivery: FI | **Fuel:** GAS

The driveshaft is a two-piece tubular unit, connected by an intermediate universal joint. The rear end of the front section of the driveshaft contains a splined sleeve. A splined shaft forming one of the yokes for the intermediate U-joint fits into this sleeve.

The front section is supported by a bearing contained in an insulated rubber housing attached to the bottom of the driveshaft tunnel. The front section is connected to the transmission flange, and the rear section is connected to the differential housing flange by universal joints.

Each joint consists of a spider with 4 ground trunnions in the flange yokes surrounded by needle bearings.

Fig. 1: Two-piece driveshaft with center bearing, yokes and universal joints



1992 Volvo 940

Submodel: | **Engine Type:** L4 | **Liters:** 2.3
Fuel Delivery: FI | **Fuel:** GAS

Driveshaft balancing is a process best left for a professional with the proper equipment. Makeshift methods using hose clamps or similar devices can work, but the process of correcting the imbalance in this manner is very tough and extremely time consuming.

Many machine shops can balance driveshafts; some parts stores and jobbers can also balance driveshafts using outside contractors.

1992 Volvo 940

Submodel: | **Engine Type:** L4 | **Liters:** 2.3
Fuel Delivery: FI | **Fuel:** GAS

1. Raise the vehicle and safely support the vehicle.
2. Mark the relative positions of the driveshaft yokes on the transmission and differential housing flanges for purposes of assembly.
3. Remove the nuts and bolts which retain the front and rear driveshaft sections to the transmission and differential housing flanges.
4. Remove the support bearing housing from the driveshaft tunnel, and lower the driveshaft and universal joint assembly as a unit.
5. Pry up the lock washer and remove the support bearing retaining nut.
6. Pull off the rear section of the driveshaft with the intermediate universal joint and splined shaft of the front section. The support bearing may now be pressed off from the driveshaft.
7. Remove the support bearing from its housing.
8. For removal of the universal joints from the driveshaft, refer to "Universal Joint Overhaul" in this section.
9. Inspect the driveshaft sections for straightness. Using a dial indicator, or rolling the shafts along a flat surface, make sure that the driveshaft out-of-round does not exceed 0.010 inches (0.25mm). Do not attempt to straighten a damaged shaft. Any shaft exceeding 0.010 inches (0.25mm) out-of-round will cause substantial vibration, and must be replaced. Also, inspect the support bearing by pressing the races against each other by hand and turning them in opposite directions. If the bearing binds at any point, it must be discarded and replaced.

To install:

10. Install the support bearing into its housing.
11. Press the support bearing and housing onto the front driveshaft section.
12. Push the splined shaft of the rear section (with the intermediate universal joint and rear driveshaft section) into the splined sleeve of the front section.
13. Install the retaining nut and lock washer for the support bearing.

NOTE: Pay particular attention to the placement of the yokes at the end of the shaft. They must be in the same alignment front and rear or driveline vibration will be induced.

14. Taking note of the alignment marks made prior to removal, position the driveshaft and universal joint assembly to its flange and install but do not tighten its retaining nuts and bolts.
15. Position the support bearing housing to the driveshaft tunnel and install the retaining nut.
16. Tighten the nuts which retain the driveshaft sections to the transmission and differential housing flanges to 32 ft. lbs. (44 Nm).
17. Lower the vehicle.
18. Road test the vehicle and check for driveline vibrations.

Fig. 1: Correct relative placement of the yokes is essential to eliminating driveline vibrations

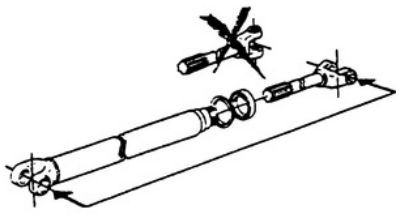
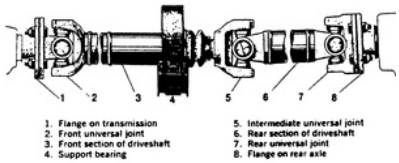


Fig. 2: Assembled driveshaft components



1. Remove the driveshaft and universal joint assembly as previously outlined.
2. Clean off the dirt from the surrounding area and remove the snaprings, which secure the needle bearings in the yokes, with a snapring pliers. If the rings are difficult to loosen, apply rust penetrant and tap the ring lightly with a hammer and punch.
3. Lightly mount the shaft in a vise and adjust its position so that the yoke is supported by the jaws. If at all possible, do not tighten the vise onto the tubular shaft; it can be easily deformed.
4. Using a plastic mallet, tap on the shaft flange until the bearing cup(s) protrude about 0.2 inch (5mm). Do not tap on the tubular shaft.
5. Leaving the flange clamped in the vise, lift the driveshaft and insert a piece of wood or a hammer handle under the shaft. Gently press down on the driveshaft; this will lever the bearing cap upwards. Once all are removed, clean the seats in the driveshaft and flange. Clean the spider and needle bearings completely. Check the contact surfaces for wear. Replace any worn or broken parts. If the old needle bearings and spider are to be reused, fill them with molybdenum disulfide chassis grease, and make sure that the rubber seals are not damaged. If new needle bearings are used, fill them half-way with the grease.
6. Remove the bearing caps and seals from the new spider. Make sure that the needle bearings and seals are in place within the cups.
7. Position the spider into the flange yoke. Place one of the bearing cups on the spider and tap the cup until it is firmly seated.
8. Using the vise and a sleeve of proper size, press the cup into place in the yoke. The cup should project through the yoke about 0.1–0.2 inch (2.5–5.0mm). Install the snapring (circlip). Make sure the spider is centered within the yoke.
9. Repeat the previous pressing operation on the opposite side of the flange yoke. Note that when the second bearing cup is pressed into place, the first bearing cup is pressed against its snapring.
10. Fit the spider into the driveshaft yoke. Place and press each bearing cup into place following the procedures above.
11. Release the assembly from the vise. Check the new joint for free motion in all dimensions. If any stiffness or binding is present, remount the assembly in the vise (as described previously) and LIGHTLY tap the spider ends with a plastic mallet.

Fig. 1: Make sure the needle bearings are in place inside the cups before installation

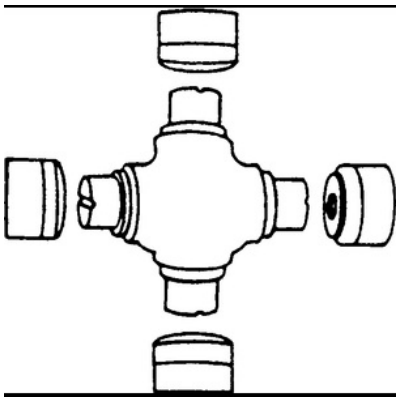


Fig. 2: Gently tap the flange to raise the bearing cup

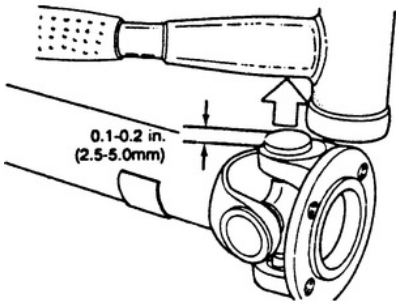


Fig. 3: Press down on the shaft when supported from underneath to further free the bearing cups

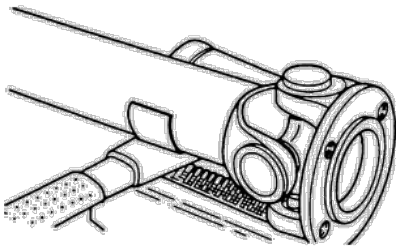
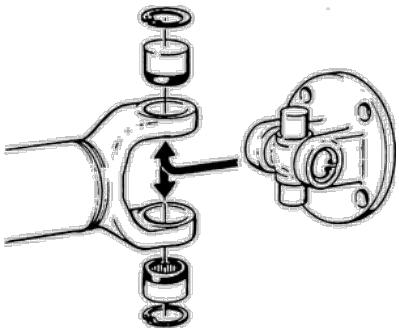


Fig. 4: Position the flange and new joint into the driveshaft



1992 Volvo 940

Submodel: | **Engine Type:** L4 | **Liters:** 2.3
Fuel Delivery: FI | **Fuel:** GAS

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1. Raise and safely support the vehicle.
2. Remove the right front wheel.
3. Remove the passenger side halfshaft from the transfer case.
4. Remove the old seal from the transfer case using a seal puller or other suitable tool.

To install:

5. Thoroughly clean the sealing surface before installing the new seal.
6. Lubricate the new seal with wheel bearing grease.
7. Install the new seal in transfer case, and press seal into place using tool 5564 or an equivalent seal driver.
8. Install the passenger side halfshaft.
9. Install the right front wheel. Tighten the lug nuts to 81 ft. lbs. (110 Nm).
10. Lower the vehicle.

1992 Volvo 940

Submodel: | **Engine Type:** L4 | **Liters:** 2.3
Fuel Delivery: FI | **Fuel:** GAS

1. Raise and safely support the vehicle.
2. Mark the flange, and remove the rear driveshaft from the transfer case.
3. Remove the transfer case rear driveshaft flange using counterhold tool 5652 or equivalent. Remove the flange nut.
4. Remove the flange from the transfer case using puller 5304 or equivalent.
5. Remove the pinion spacer sleeve using puller 7693 or equivalent.
6. Remove the seal using puller 5069 or equivalent inside seal puller.

To install:

7. Thoroughly clean the sealing surface before installing new seal.
8. Lubricate the new seal with wheel bearing grease.
9. Install the new seal in transfer case, and press seal into place using tools 5653 and 5504 or equivalent seal installer.
10. Install the pinion spacer sleeve.
11. Install the flange and tighten the nut to 133–148 ft. lbs. (180–200 Nm).
12. Install the rear driveshaft.
13. Lower the vehicle.

1992 Volvo 940

Submodel: | **Engine Type:** L4 | **Liters:** 2.3
Fuel Delivery: FI | **Fuel:** GAS

1. Raise and safely support the vehicle.
2. Remove the right front wheel.
3. Remove the passenger side halfshaft from the transfer case.
4. Remove the transfer case vibration damper with support bracket.
5. Mark the flange, and remove the rear driveshaft from the transfer case.
6. Remove the transfer case-to-transaxle retaining bolts.
7. Remove the transfer case.

To install:

8. Install the transfer case on the transaxle. Make sure that the coupling sleeve is between the transaxle and the transfer case.
9. Tighten the retaining bolts to 37 ft. lbs. (50 Nm).
10. Install the rear driveshaft.
11. Install the vibration damper and bracket.
12. Install the passenger side halfshaft.
13. Install the right front wheel. Tighten the lug nuts to 81 ft. lbs. (110 Nm).
14. Lower the vehicle.

Fig. 1: The transfer case (1) as assembled to the transaxle (2)

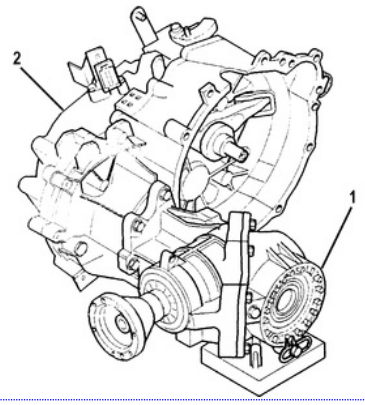

Fig. 2: Cutaway view of power distribution through a transfer case