



Service Parts Instructions

WARNING

To prevent serious eye injury, always wear safe eye protection when you perform vehicle maintenance or service.

Before You Service a Driveline

Before you service the driveline, check that you have the special tools required to remove and install the universal joint round bushings. For a list of tools specified in the following instructions, refer to the "Special Tools" section at the end of this publication.

For complete maintenance and service information on Meritor drivelines, refer to Maintenance Manual MM-96147, *Drivelines*. To order this manual, call Meritor's Customer Service Center at 800-535-5560 or visit the Technical Library Section of Meritor's web site at www.meritorauto.com.

Removal

Driveline

WARNING

Only service a driveline when the engine is OFF. A rotating driveline can cause serious personal injury.

Park the vehicle on a level surface. Block the wheels to prevent the vehicle from moving. Support the vehicle with safety stands. Do not work under a vehicle supported only by jacks. Jacks can slip and fall over. Serious personal injury can result.

1. Park the vehicle on a level surface.
2. Block the wheels to keep the vehicle from moving.
3. Raise the vehicle so that the area you will service is off of the ground. Support the vehicle with safety stands.

RPL Series Permalube™ Generation II Driveline Removal and Installation

4. Use a twelve-point socket to loosen the four bolts located in the end of the driveline to be repaired. **Figure 1.**
5. Remove the bolts. **Figure 2.**

Figure 1

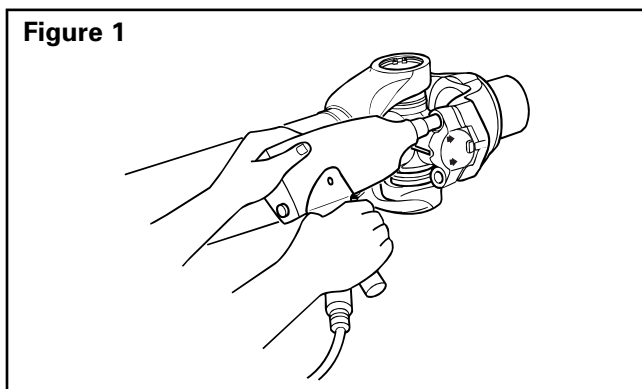
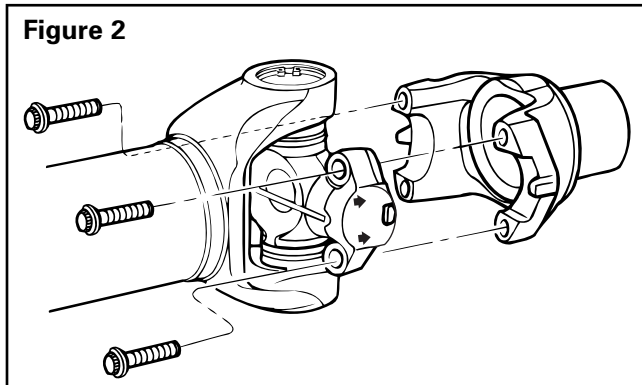


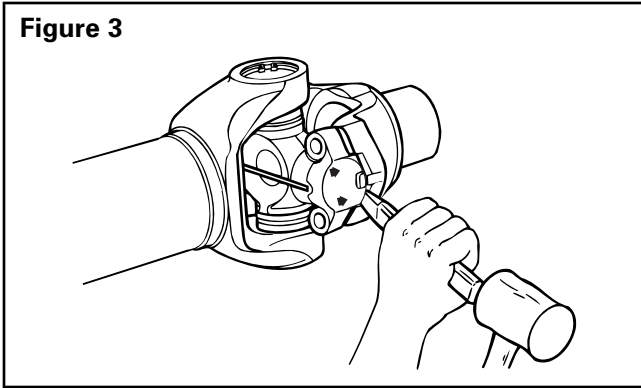
Figure 2



NOTE: Support the driveline when you remove it from the end yoke.

6. If necessary tap the wing bushing from the end yoke. **Figure 3.**
7. **To remove the opposite end of the driveline:** Follow Steps 4-6.

Figure 3



Universal Joint

NOTE: Refer to "Special Tools" in this bulletin to order tools specified in the following instructions.

1. If necessary, use a brass drift to hit the center of the bushing to assist in snap ring removal. **Figure 4.**
2. Use snap ring pliers (tool number J-44676-1) to remove the snap rings. **Figure 5.**
3. Repeat the previous step on the opposite side of the yoke.

Figure 4

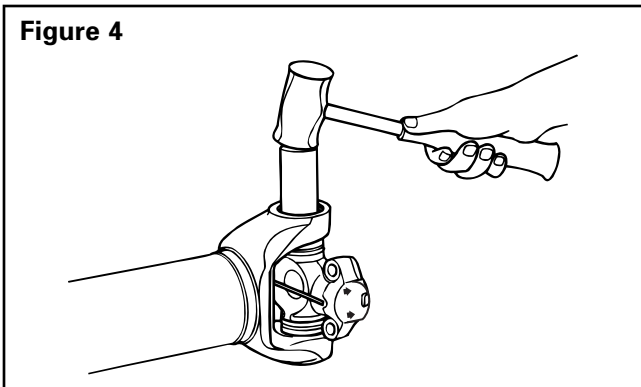
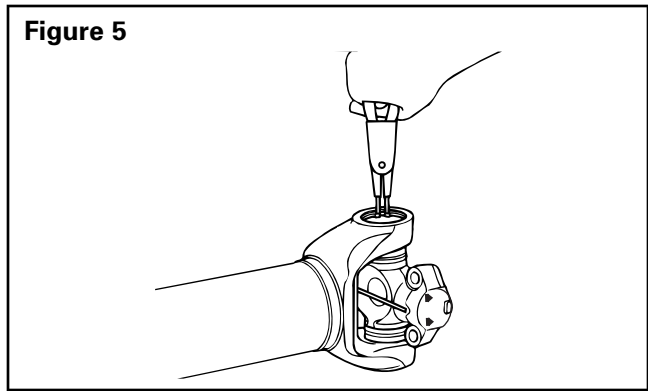


Figure 5



Round Bushings

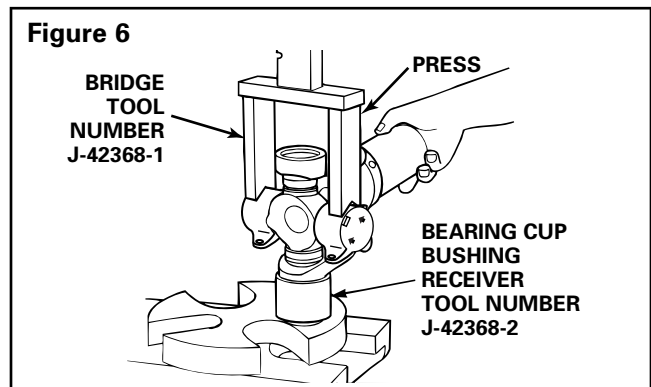
Using a Press, Bridge and Bearing Cup Receiver

CAUTION

Use only the specified tools to remove the round bushings. Do not use the SPX Kent-Moore yoke bearing cup installation (tool number J-44516) to remove the round bushings. Damage to the tool can result.

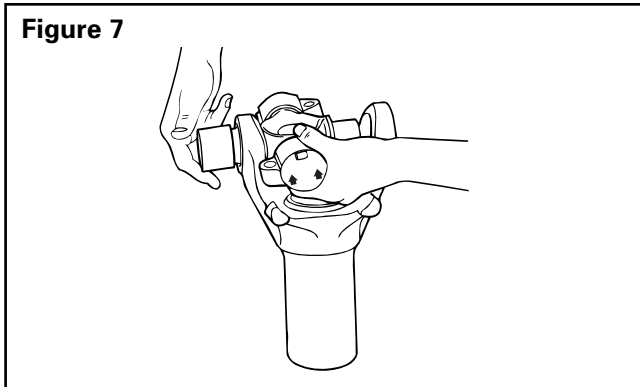
1. Use a press bridge (tool number J-42368-1) and bearing cup bushing receiver (tool number J-42368-2) as shown in **Figure 6.**
2. Press DOWN until the first round bushing loosens. **Figure 6.**

Figure 6



3. Remove the round bushing. **Figure 7.**
4. Turn over the universal joint. Repeat the procedure for the opposite side of the universal joint.

Figure 7



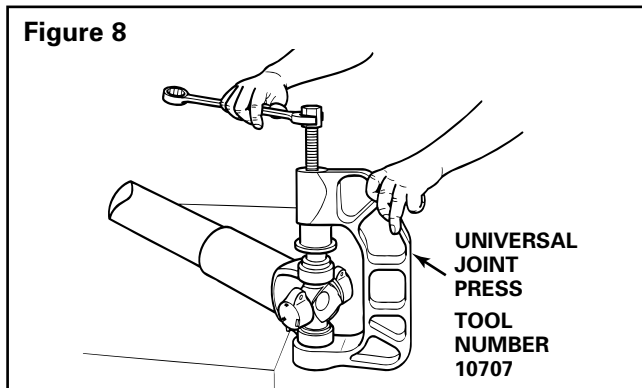
Using a Universal Joint Press

CAUTION

Use only the specified tools to remove the round bushings. Do not use the SPX Kent-Moore yoke bearing cup installation (tool number J-44516) to remove the round bushings. Damage to the tool can result.

1. Position a universal joint press (tool number 10707) as shown in **Figure 8.**

Figure 8



2. Turn the screw on the tool **CLOCKWISE** until the round bushing loosens.
3. Turn the screw on the tool **COUNTERCLOCKWISE** until you can remove the round bushing.
4. Turn over the universal joint. Repeat the procedure for the opposite side of the universal joint.

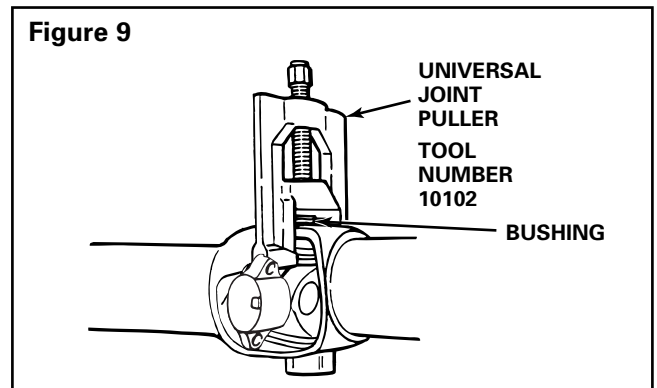
Using a Universal Joint Puller

CAUTION

Use only the specified tools to remove the round bushings. Do not use the SPX Kent-Moore yoke bearing cup installation (tool number J-44516) to remove the round bushings. Damage to the tool can result.

1. Position a universal joint puller (tool number 10102) as shown in **Figure 9.**

Figure 9



2. Turn the screw on the tool **CLOCKWISE** until the round bushing loosens.
3. Turn the screw on the tool **COUNTERCLOCKWISE** and remove the round bushing.
4. Turn over the universal joint. Repeat the procedure for the opposite side of the universal joint.

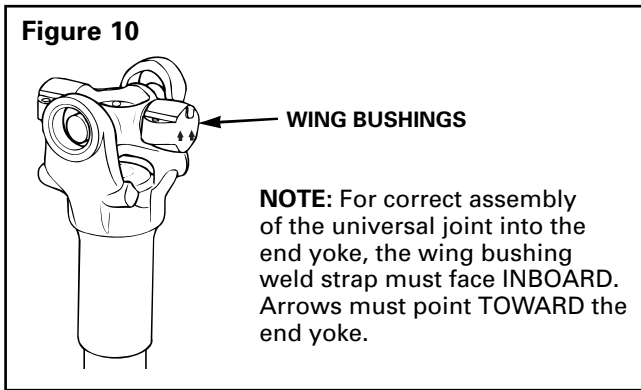
Installation

Universal Joint

CAUTION

Do not allow grease or anti-seize compound to enter the yoke ear bores. Damage to components can result.

1. Clean dirt and contamination from the slip yoke and weld yoke ears.
2. Install the universal joint in the yoke so that the wing bearing weld straps face INBOARD. **Figure 10.**

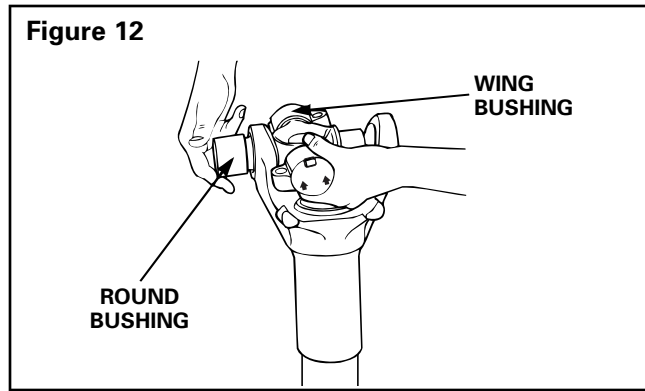
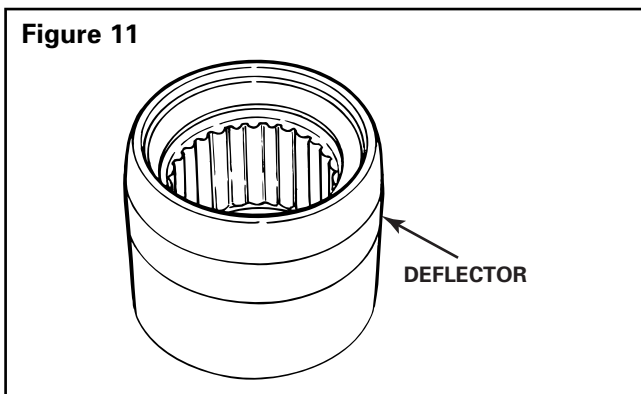


Round Bushings

CAUTION

The universal joint is supplied with the correct amount of grease. Do not apply additional grease to the joint. Damage to components can result.

1. Ensure that the plastic deflectors are attached to the round bushings. The deflector is preassembled onto the round bushing. **Figure 11.** Slide the first bushing onto the trunnion. **Figure 12.**



CAUTION

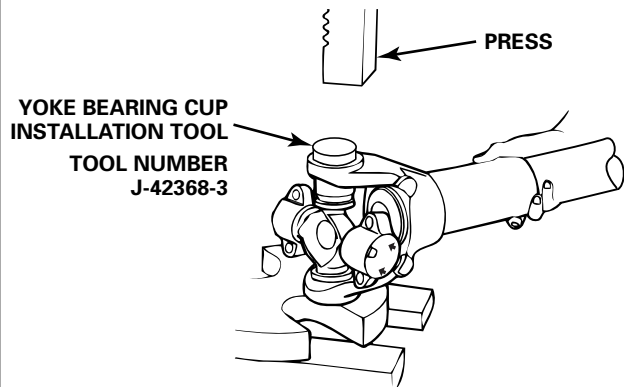
Use a press, universal joint press or yoke bearing cup installation tool to install the round bushing into the yoke. Do not use a hammer, which can loosen and damage components.

NOTE: When you install the bushing, ensure that you align it with the universal joint. The yoke bearing cup installation tool (number J-44516) has a positive stop for correct bearing cup installation. When the cup contacts the yoke, the cup is correctly installed. Ensure that you do not overtighten the bearing cup, which can damage the installation tool.

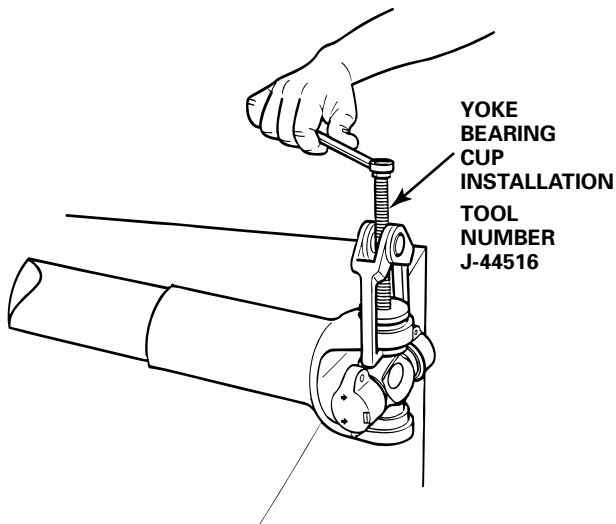
2. Use a press, yoke bearing cup installation (tool number J-44516) or universal joint press (tool number 10707) to install the first round bushing slightly past the snap ring groove. **Figure 13.** Do not overtighten the bearing cup, which can damage the installation tool.

Figure 13 INSTALLING THE BUSHING

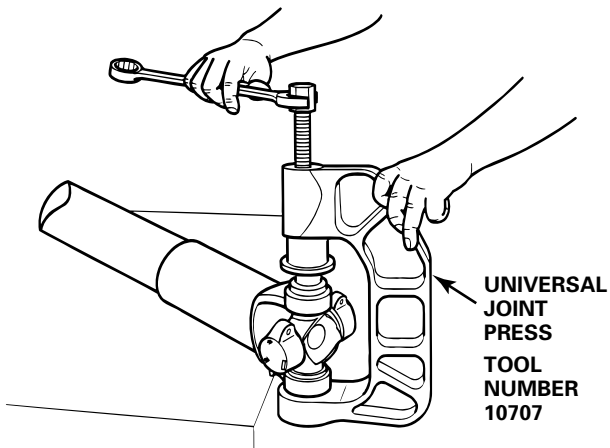
Press Method



Yoke Bearing Cup Installation Method



Universal Joint Press Method

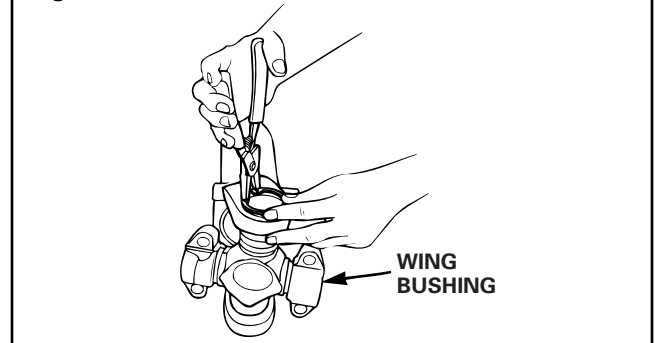


CAUTION

You must fully seat the snap ring into the snap ring groove to avoid damage to the driveline.

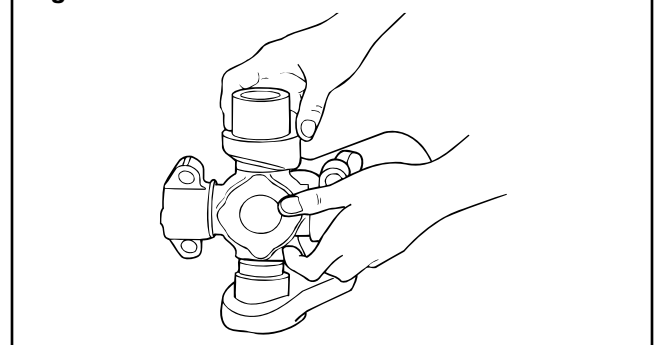
3. Use snap ring pliers to install the snap ring into the snap ring groove. **Figure 14.**
4. Fully seat the snap ring in the snap ring groove.

Figure 14



5. Slide the second bushing onto the trunnion. **Figure 15.**
6. Use a press, yoke bearing cup installation (tool number J-44516) or universal joint press (tool number 10707) to install the second round bushing slightly past the snap ring groove. **Figure 13.** Check that the bushing is aligned with the universal joint.

Figure 15

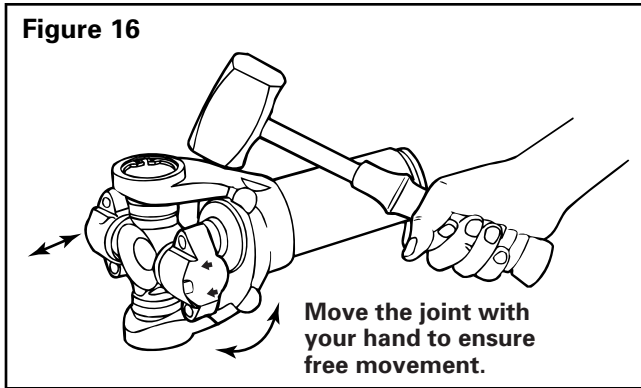


CAUTION

You must fully seat the snap ring into the snap ring groove to avoid damage to the driveline.

7. Use snap ring pliers to install the snap ring into the snap ring groove. **Figure 14.**

8. Ensure that the universal joint moves freely. Strike the yoke ear with a brass or copper hammer until the joint moves freely. **Figure 16.**



Driveline

WARNING

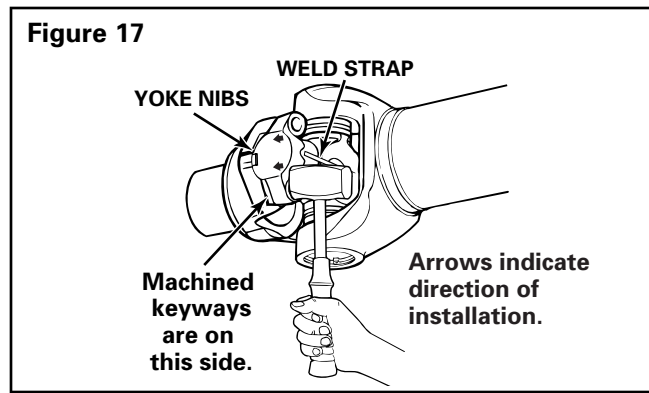
*You must position the wing bushing's machined keyway against the machined keyway of the end yoke ears when you install a universal joint. Ensure that the arrows stamped on the wing bushing point **TOWARD** the end yoke, and the universal joint weld strap faces the driveline and **AWAY** from the yoke.*


If you do not correctly install the universal joint and end yoke, the bushings will not correctly seat in the yoke, which can cause the capscrews that secure the universal joint to fatigue under normal operating conditions. Serious personal injury and damage to components can result.

A broken weld strap can cause a wing bushing to rotate. When a bushing rotates, it is possible to assemble it into the yoke backwards. To ensure correct assembly and prevent damage to components, you must insert both of the wing bushing's machined keyways into the yoke.

NOTE: Install only capscrews with integrated larger-diameter washers (part number CSC8-20-52) when you service RPL Series Permalube™ universal joints.

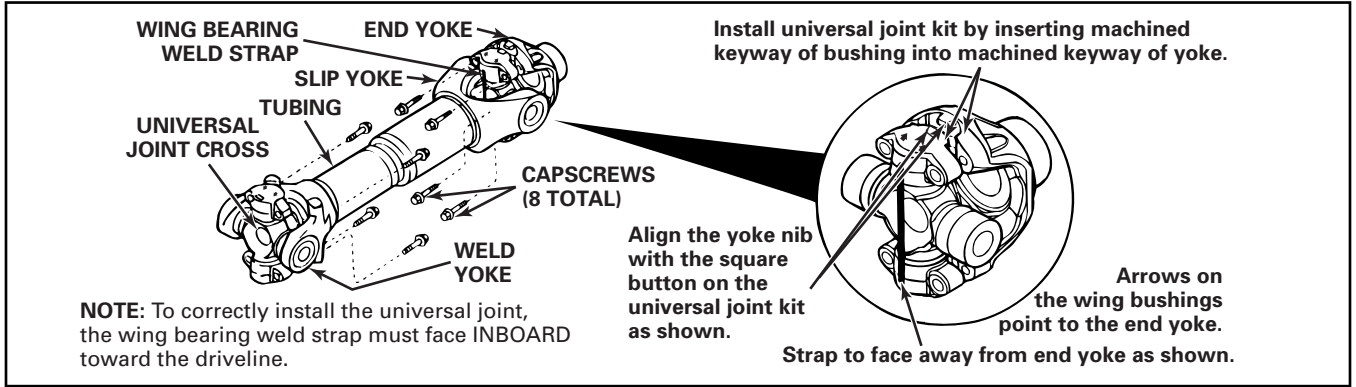
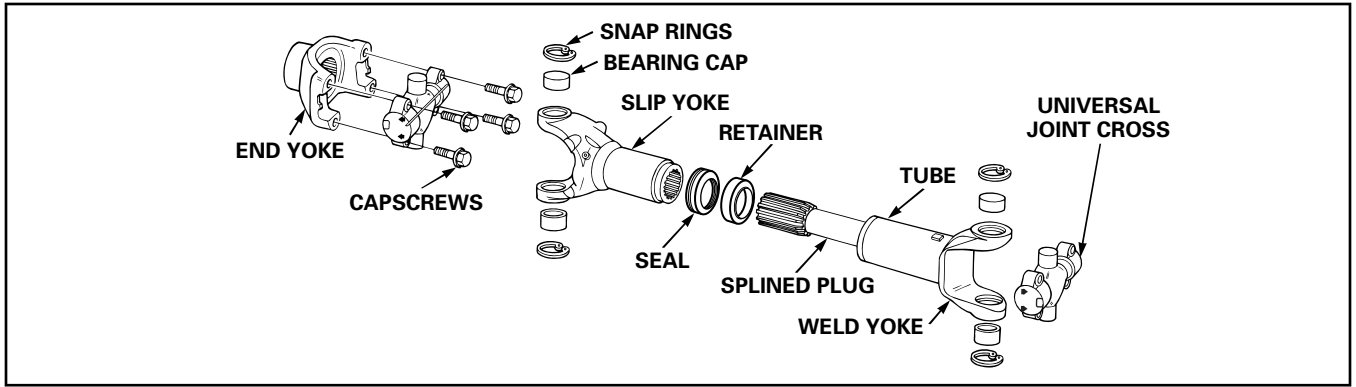
1. Check that the universal joint is fully seated in the end yoke before you install the capscrews. **Figure 17.**




2. If necessary, tap the universal joint with a brass hammer to ensure it is fully seated.
3. Use a torque wrench to alternately tighten the capscrews to the correct specification. Refer to the torque specification table below. 
4. Remove the safety stands and lower the vehicle.

Torque Specifications


Driveline Series	Thread Size	Torque lb-ft (N·m)
RPL Permalube™ Generation II	1/2-inch-20	115-135 (155-183)



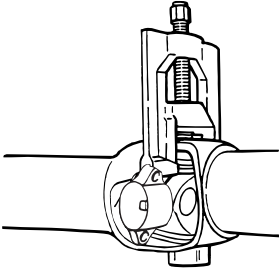
Special Tools



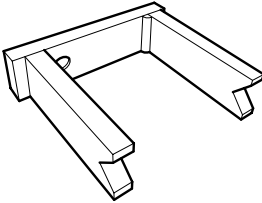
**YOKE BEARING CUP
INSTALLATION
(PRESS ASSEMBLY) ①
TOOL NUMBER J-42368-3**



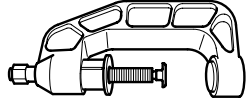
**BEARING CUP
BUSHING RECEIVER ①
TOOL NUMBER J-42368-2**



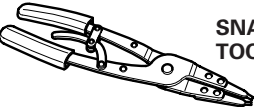
**UNIVERSAL JOINT PULLER ②
TOOL NUMBER 10102**



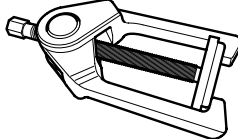
**BRIDGE ①
TOOL
NUMBER
J-42368-1**



**UNIVERSAL JOINT PRESS TOOL ②
TOOL NUMBER 10707**



**SNAP RING PLIERS ①
TOOL NUMBER J-44676-1**



**YOKE BEARING
CUP INSTALLER ①
TOOL NUMBER
J-44516**

① To order this tool, call SPX Kent-Moore at 800-328-6657.

② To order this tool, call Tiger Tools at 800-661-4661.



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