

[2009 Chevrolet Express - AWD](#) | [Express, Savana \(VIN G/H\) Service Manual](#) | [Driveline/Axle](#) | [Propeller Shaft](#) | [Specifications](#) | **Document ID: 831996**

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Center Bearing to Frame Hanger Bolts	40 N·m	30 lb ft
Propeller Shaft Hanger to Frame Bolts	52 N·m	38 lb ft
Universal Joint to Axle Retaining Bolts	25 N·m	18 lb ft

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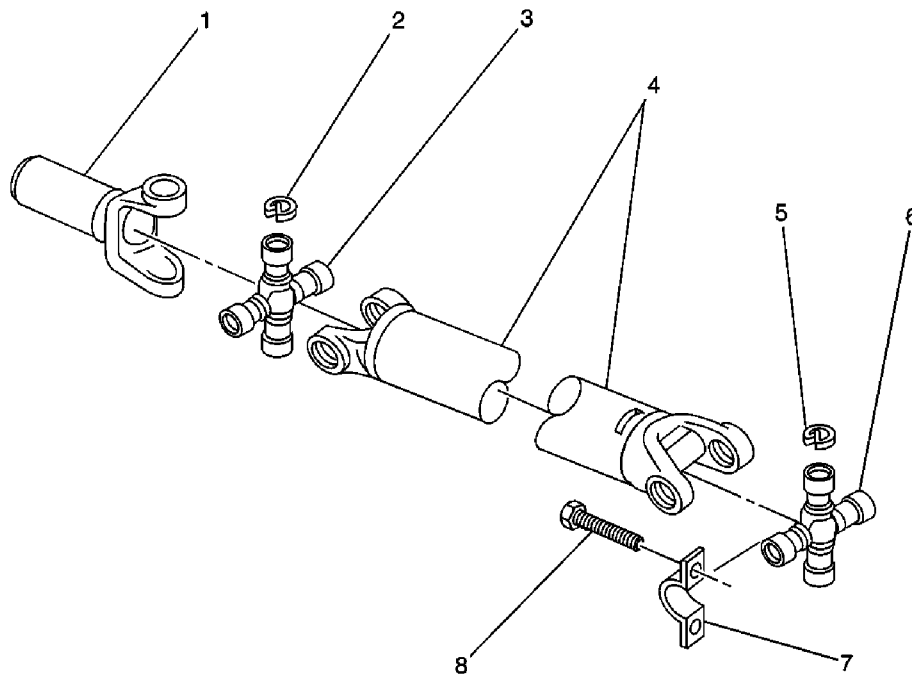
[2009 Chevrolet Express - AWD](#) | [Express, Savana \(VIN G/H\) Service Manual](#) | [Driveline/Axle](#) | [Propeller Shaft](#) |
[Specifications](#) | **Document ID: 831998**

Adhesives, Fluids, Lubricants, and Sealers

Application	Type of Material	GM Part Number
Outer Tube Splines	Lubricant	12345879 (Canadian P/N 10953511) or equivalent

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One-Piece Propeller Shaft



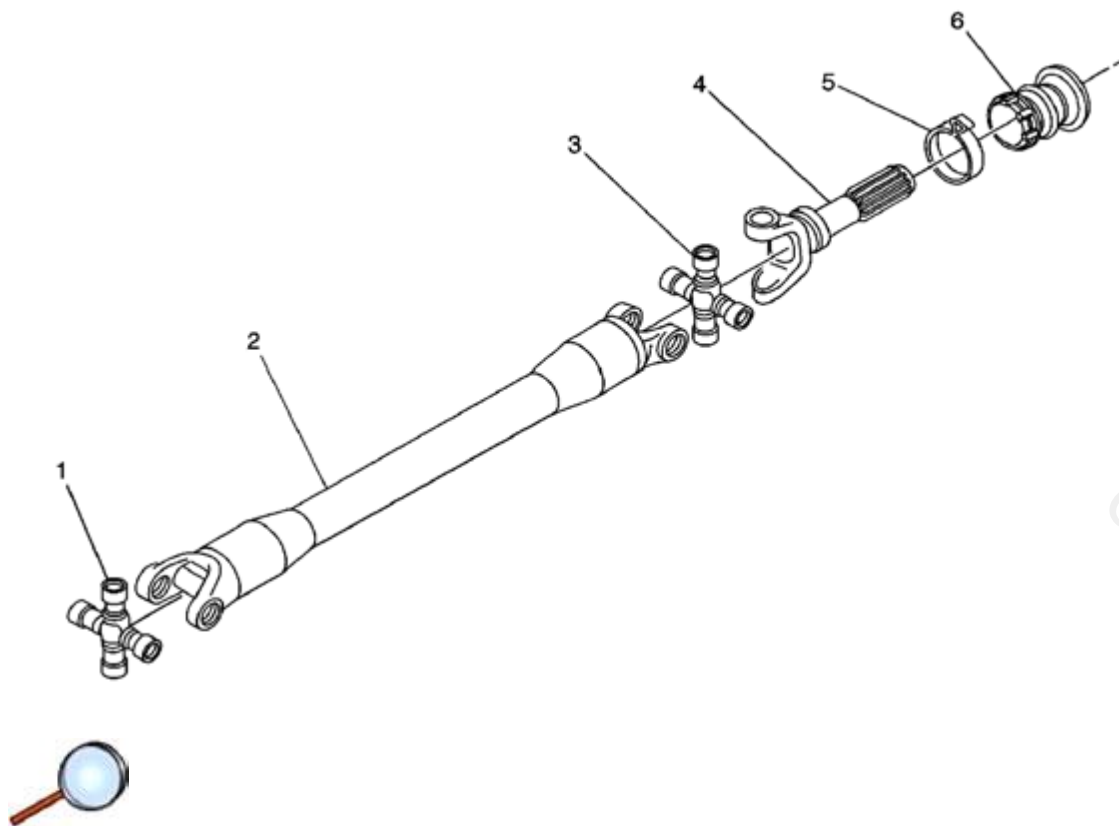
- (1) Propeller Shaft Slip Yoke
- (2) Propeller Shaft Universal Joint Spider Bearing Retainer Ring
- (3) Propeller Shaft Universal Joint
- (4) Propeller Shaft Tube
- (5) Propeller Shaft Universal Joint Spider Bearing Retainer Ring
- (6) Propeller Shaft Universal Joint
- (7) Propeller Shaft Bearing Retainer
- (8) Propeller Shaft Bearing Retainer Bolt

Two-Piece Propeller Shaft



- (1) Propeller Shaft Slip Yoke
- (2) Propeller Shaft Universal Joint Spider Bearing Retainer Ring
- (3) Propeller Shaft Tube
- (4) Propeller Shaft Universal Joint Spider Bearing Retainer Ring
- (5) Propeller Shaft Universal Joint
- (6) Propeller Shaft Outer Tube
- (7) Propeller Shaft Boot Clamp (81.5 mm)
- (8) Propeller Shaft Outer Tube Bushing
- (9) Propeller Shaft Boot
- (10) Propeller Shaft Boot Clamp (81.5 mm)
- (11) Propeller Shaft Rear Inner Tube
- (12) Propeller Shaft Universal Joint Spider Bearing Retainer Ring
- (13) Propeller Shaft Universal Joint
- (14) Propeller Shaft Bearing Support Bracket
- (15) Propeller Shaft Universal Joint

Front Propeller Shaft

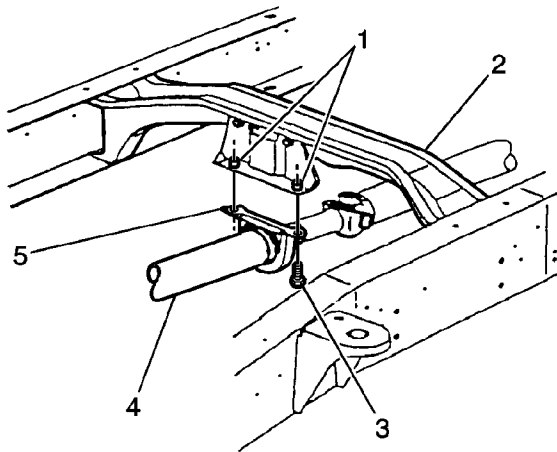


- (1) Propeller Shaft Universal Joint
- (2) Propeller Shaft Tube
- (3) Propeller Shaft Universal Joint
- (4) Propeller Shaft Slip Yoke
- (5) Propeller Shaft Rear Slip Yoke Boot Clamp - Front
- (6) Propeller Shaft Rear Slip Yoke Boot

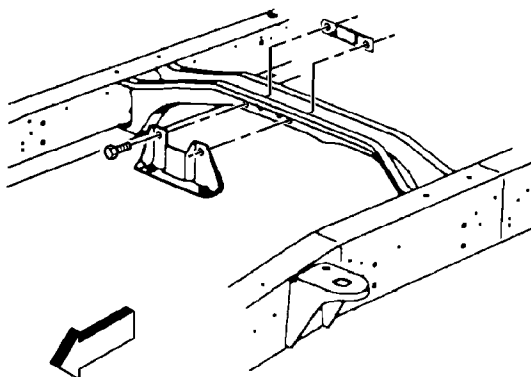
Driveline Support Replacement

Removal Procedure

1. Raise the vehicle. Refer to [Lifting and Jacking the Vehicle](#).
2. Support the propeller shaft with safety stands.

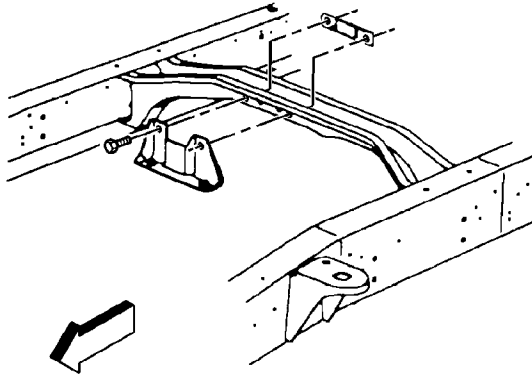


3. Remove the center bearing bolts (3).



4. Remove the propeller shaft hanger bolts.
5. Remove the propeller shaft hanger.

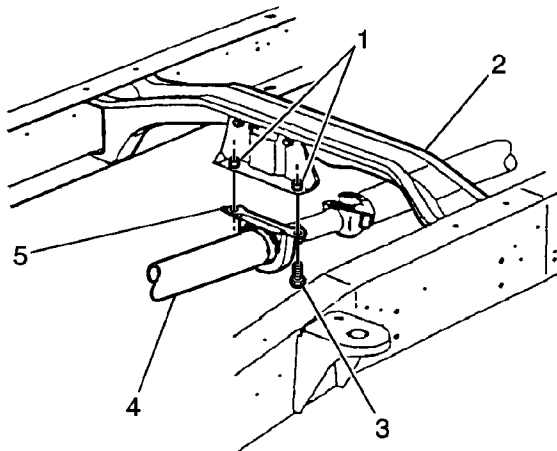
Installation Procedure



1. Install the propeller shaft hanger.

Caution: Refer to [Fastener Caution](#) in the Preface section.

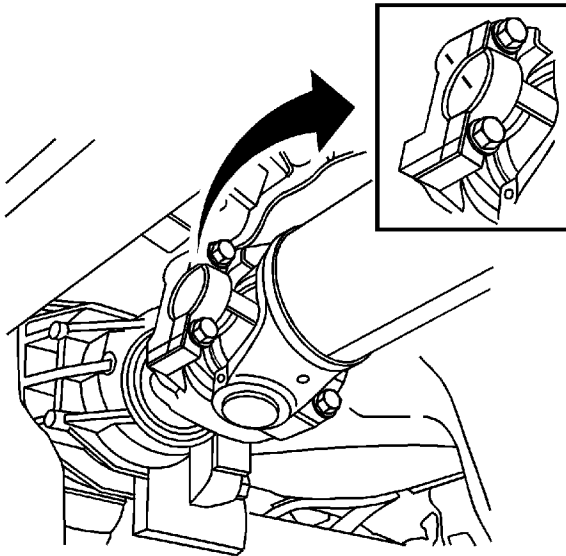
2. Install the propeller shaft hanger bolts and tighten to **52 N·m (38 lb ft)**.



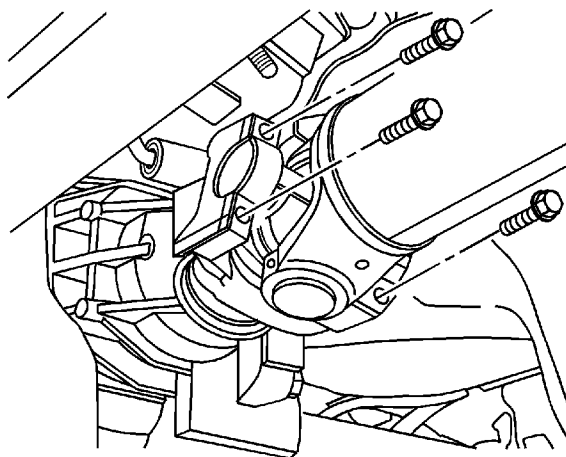
3. Install the center bearing (5) to the propeller shaft hanger (1).
4. Install the center bearing support bolts (3) and tighten to **40 N·m (30 lb ft)**.
5. Remove the safety stands.
6. Lower the vehicle.

Front Propeller Shaft Replacement

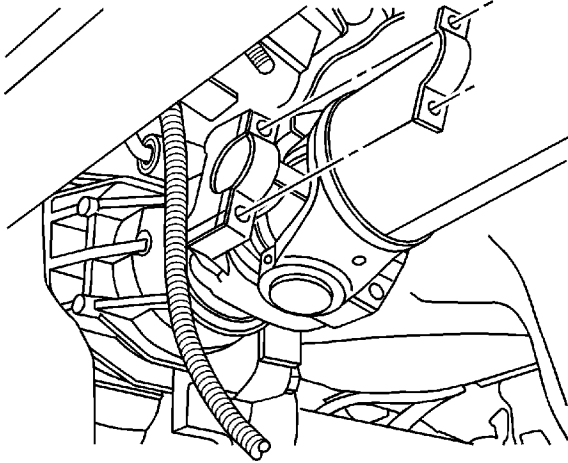
Removal Procedure



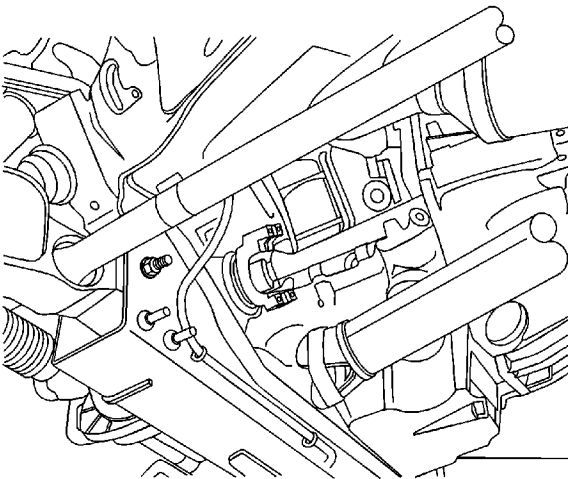
1. Raise the vehicle. Refer to [Lifting and Jacking the Vehicle](#).
2. Mark the relationship of the front propeller shaft U-Joint to the differential yoke.



3. Remove the front propeller shaft retainer bolts.

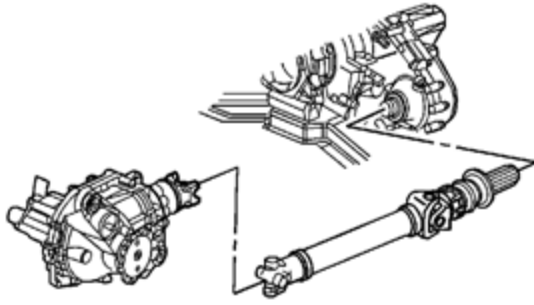


4. Remove the U-Joint retainers.
5. Remove the front propeller shaft from the front differential.



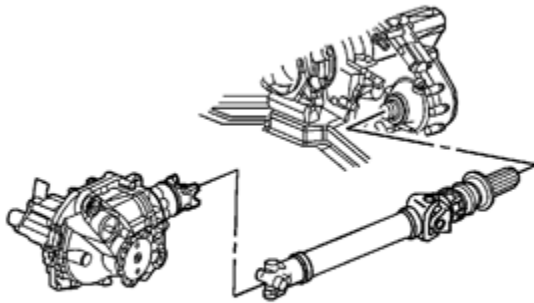
Note: The following procedure is to ensure that the U-Joint bearings and caps DO NOT become separated. This will prevent the loss of the needle bearings inside the bearing cap.

6. Tape the U-Joint bearing caps together.

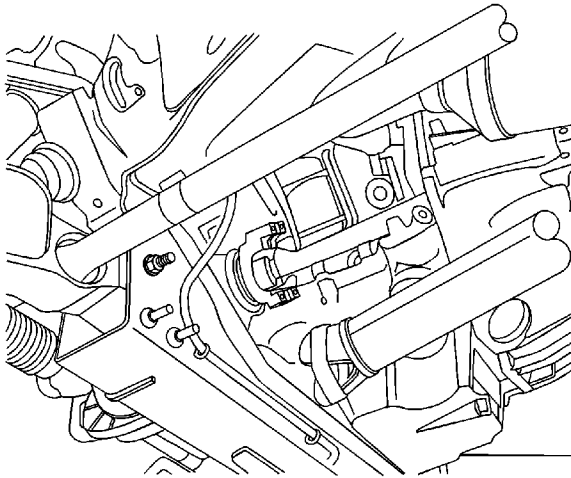


7. Remove the front propeller shaft from the transfer case.

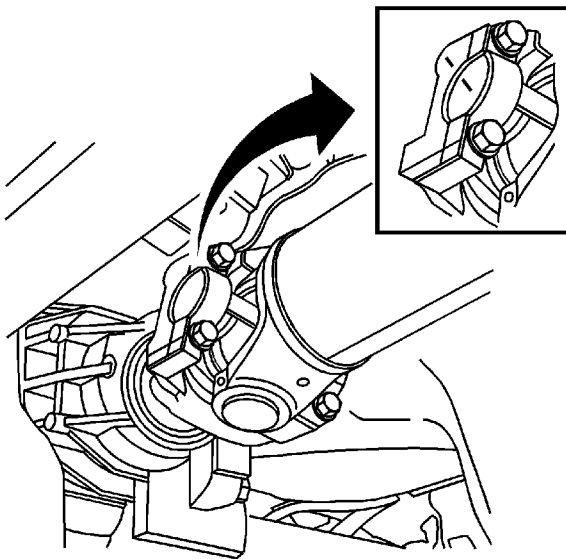
Installation Procedure



1. Install the front propeller shaft in the transfer case.

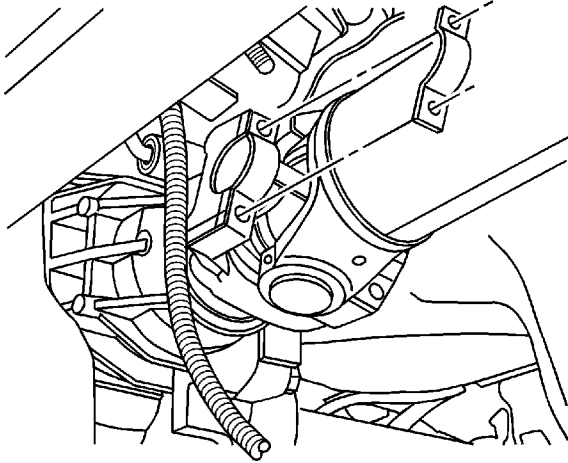


2. Remove the tape from the propeller shaft U-Joint.



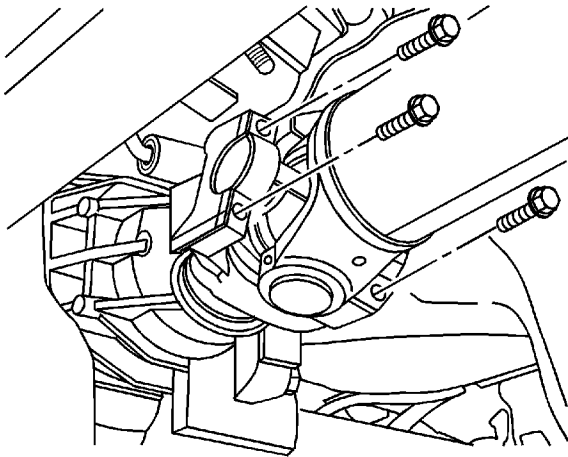
Note: Ensure that the alignment marks on the U-Joint and the yoke are aligned for proper installation.

3. Install the front propeller shaft in the front differential yoke.



4. Install the propeller shaft retainers.

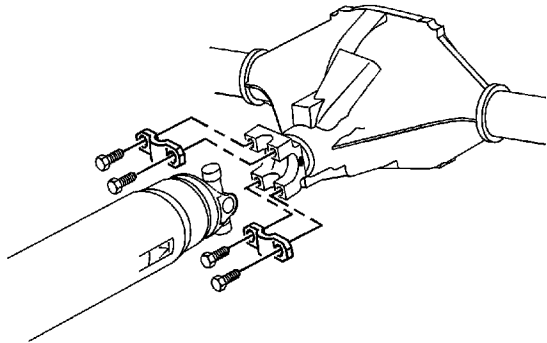
Caution: Refer to [Fastener Caution](#) in the Preface section.



5. Install the propeller shaft retainer bolts and tighten to **25 N·m (18 lb ft)**.
6. Check the fluid level of the front differential. Refer to [Front Axle Lubricant Level Inspection](#).
7. Inspect the fluid level of the transfer case.
8. Lower the vehicle.

One-Piece Propeller Shaft Replacement

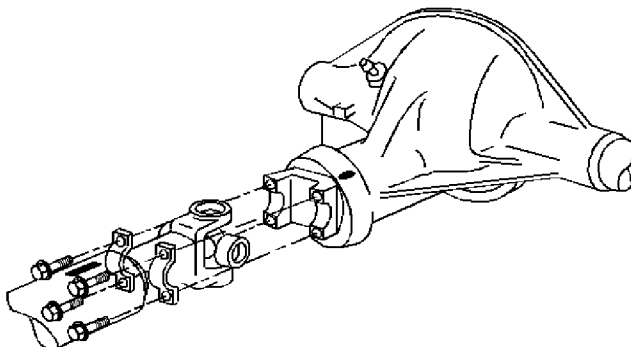
Removal Procedure



1. Raise the vehicle. Refer to [Lifting and Jacking the Vehicle](#).

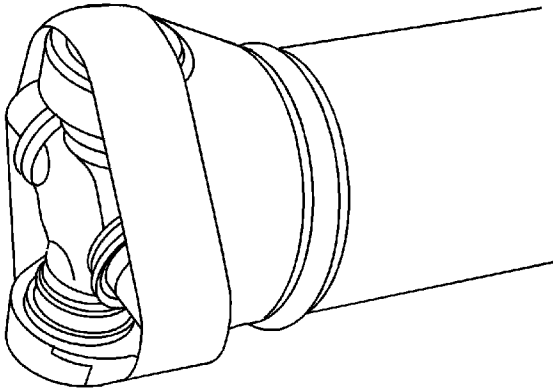
Note: The following service procedure is to ensure that the U-Joint will be properly PHASED when installed.

2. Mark the relationship between the propeller shaft and the yoke.



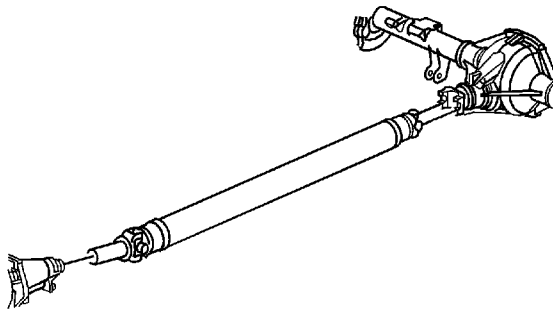


3. Remove the retainer bolts.
4. Remove the retainers.



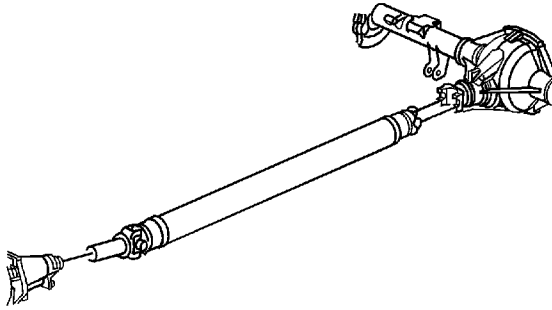
Note: The following service procedure is to ensure that the U-Joint bearing caps DO NOT become separated from the U-Joint cross and prevent the lose of the needle bearings inside the bearing cap.

5. Tape the U-Joint bearing caps together.

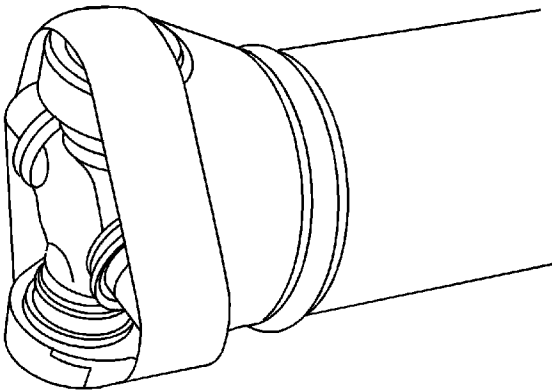


6. Remove the propeller shaft from the transfer case if 4WD, or transmission if 2WD.

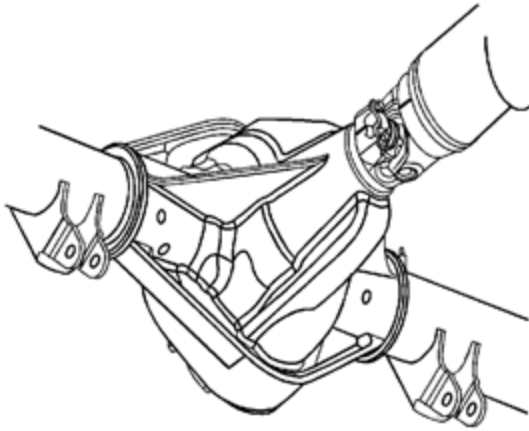
Installation Procedure



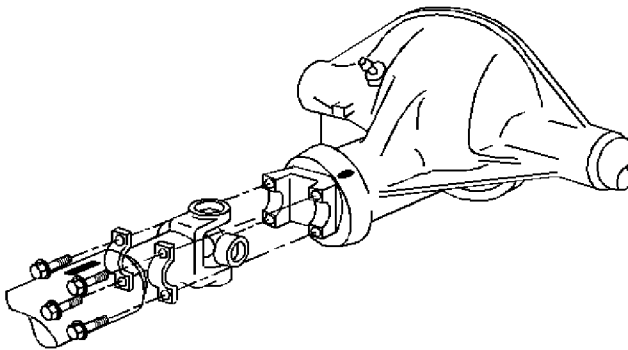
1. Install the propeller shaft the transfer case if 4WD, or transmission if 2WD.



2. Remove the tape from the U-Joint.



3. Align the reference marks.
4. Install the propeller shaft in the yoke.



5. Install the U-Joint retainers.

Caution: Refer to [Fastener Caution](#) in the Preface section.

6. Install the retaining bolts and tighten to **25 N·m (18 lb ft)**.
7. Lower the vehicle.

Two-Piece Propeller Shaft Replacement

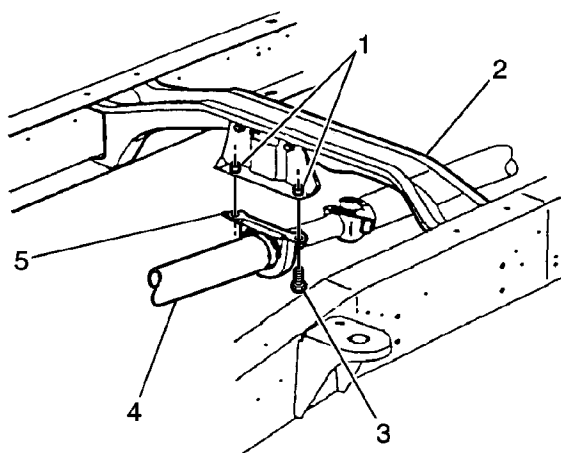
Removal Procedure

Note: Two piece propeller shafts are system balanced. Service kits are available as follows.

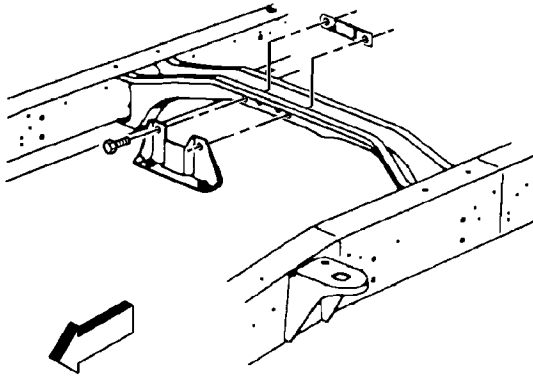
- Propeller shaft universal joint kit
- Slip yoke kit
- Propeller shaft slip yoke boot kit

Service to other parts of the two piece propeller shaft is by assembly only.

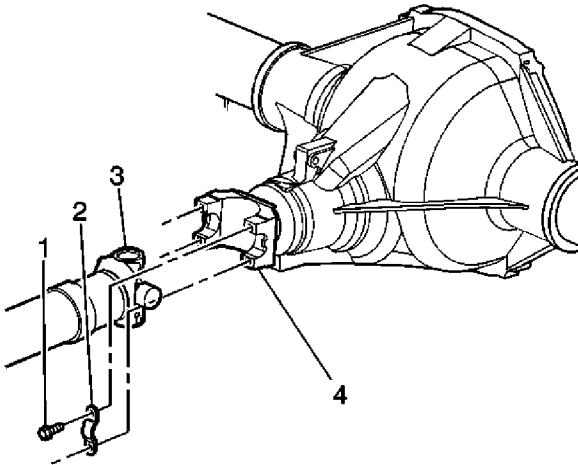
1. Raise the vehicle. Refer to [Lifting and Jacking the Vehicle](#).
2. Support the propeller shaft with safety stands.



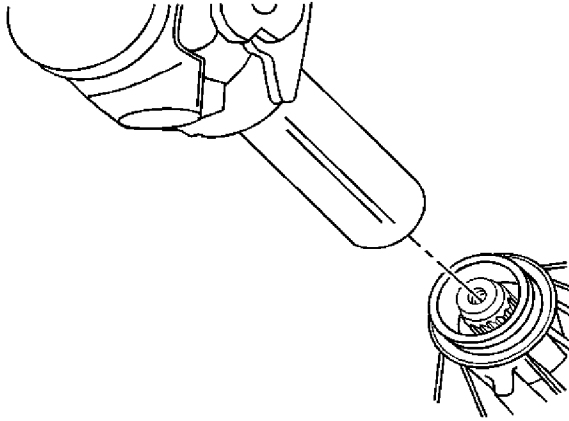
3. Remove the center bearing bolts (3).
4. Remove the center bearing from the bracket.



5. Remove the propeller shaft hanger bolts.
6. Remove the propeller shaft hanger.

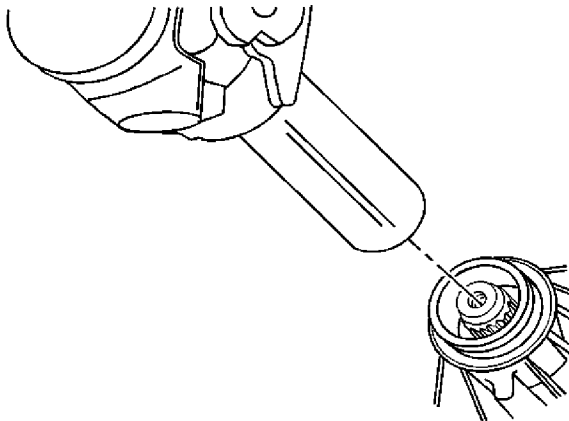


7. Remove the bolts (1) and the yoke retainers (2) from the rear axle pinion yoke (4).
8. Disconnect the propeller shaft (3) from the rear axle pinion yoke (4).

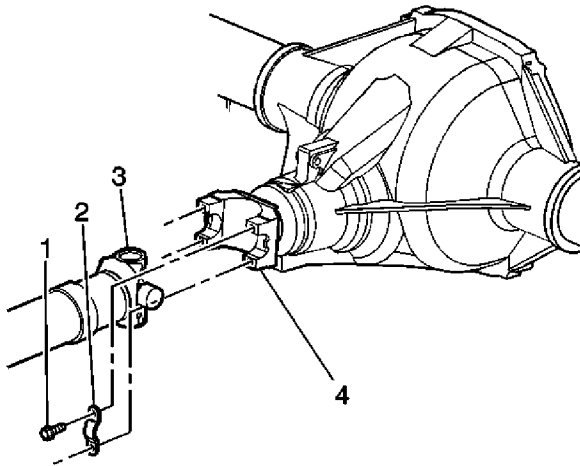


9. Remove the propeller shaft by sliding it rearward from the transmission.

Installation Procedure



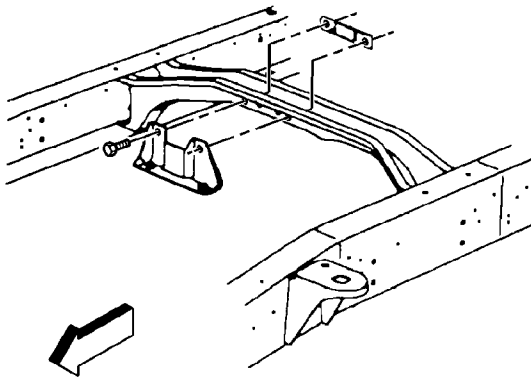
1. Install the propeller shaft to the transmission.



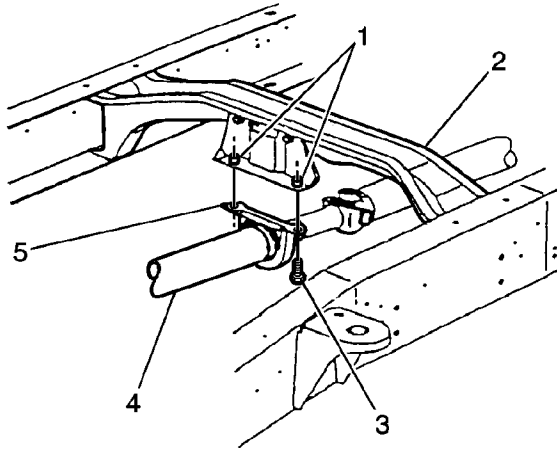
2. Connect the propeller shaft (3) to the rear axle pinion yoke (4).

Caution: Refer to [Fastener Caution](#) in the Preface section.

3. Install the bolts (1) and the yoke retainers (2) to the rear axle pinion yoke (4) and tighten to **25 N·m (18 lb ft)**.



4. Install the propeller shaft hanger.
5. Install the propeller shaft hanger bolts and tighten to **52 N·m (38 lb ft)**.



6. Install the center bearing to the bracket.
7. Install the center bearing bolts (3) and tighten to **40 N·m (30 lb ft)**.
8. Remove the safety stands and lower the vehicle.

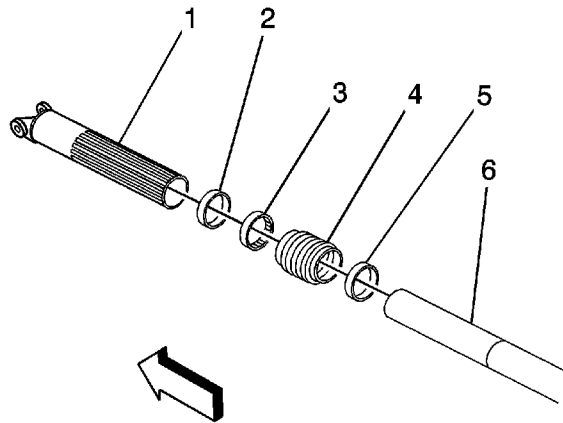
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Propeller Shaft Boot Replacement

Special Tools

[J 43218](#) Clamp Pliers - Narrow Jaw

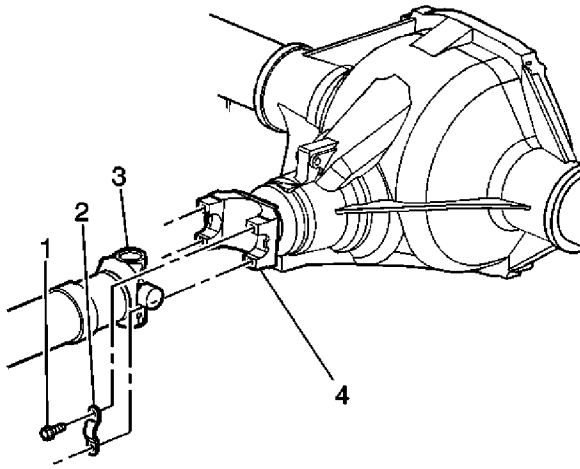
Removal Procedure



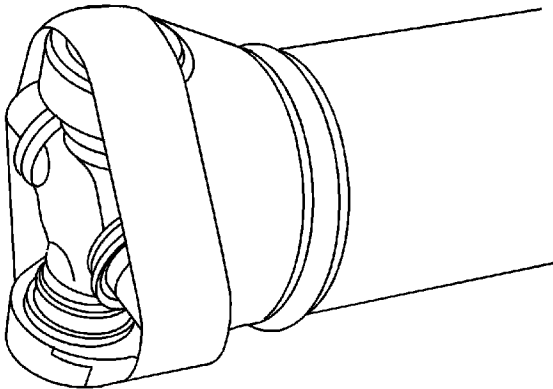
1. Raise the vehicle. Refer to [Lifting and Jacking the Vehicle](#).
2. Place an alignment mark between the rear inner tube (6) and the rear axle pinion yoke.

Note: The splines of the propshaft are not keyed.

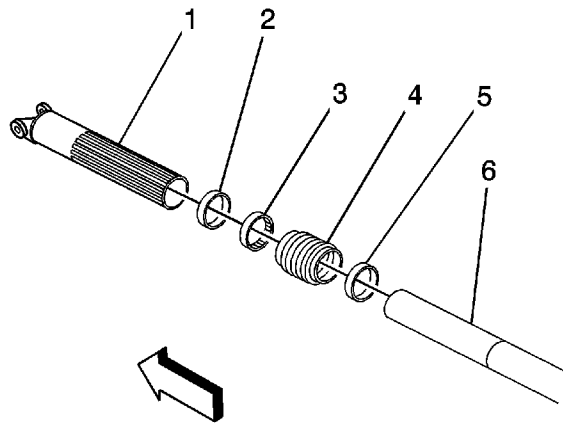
3. Place an alignment mark between the outer tube and inner tube.
4. Remove the clamps (2, 5) from the propeller shaft boot. Use a side cutter or other suitable tool. Discard the clamps.
5. Support the outer shaft (6) with a suitable stand as necessary.



6. Remove the bolts (1) and the yoke retainers (2) from the rear axle pinion yoke (4).
7. Disconnect the propeller shaft (3) from the rear axle pinion yoke (4).

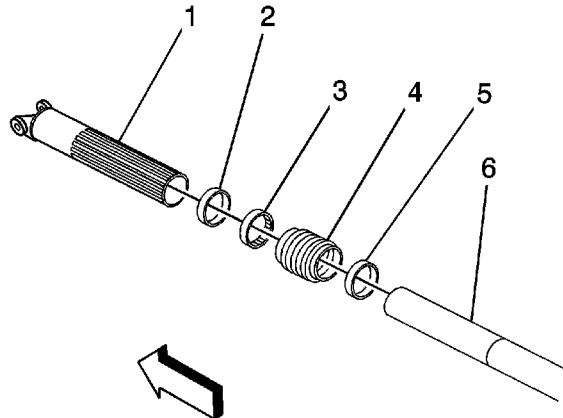


8. Wrap the bearing caps with tape in order to prevent the loss of the needle bearings.



9. Slide the rear inner tube (5) out of the outer tube (6) and remove the propeller shaft.

Installation Procedure



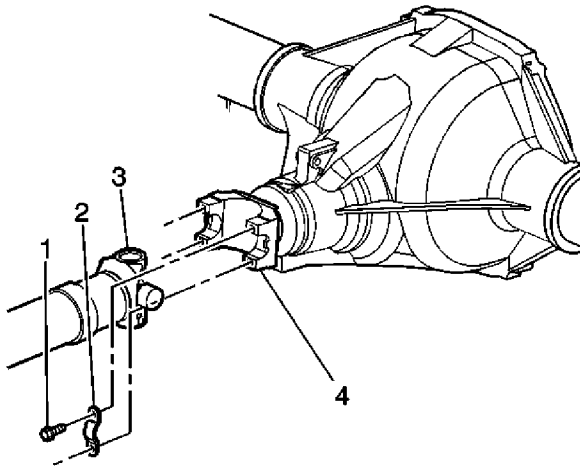
1. Clean the splines of the rear inner tube (6) and the outer tube (1).
2. Inspect the outer and inner splines for damage. Replace the propeller shaft assembly if necessary.
3. Apply grease, GM P/N 12345879 (Canadian P/N 109535511) or equivalent, to the splines of the rear inner tube (6).
4. Install the bushing (3) on the outer tube (1). The flanged end of the bushing should be toward the rear of the vehicle.
5. Install the 81.5 mm clamp (5) onto the rear inner tube (6). The size is stamped on the

clamp.

6. Install the 86.5 mm clamp (2) on the large diameter end of the boot (4). The size is stamped on the clamp.
7. Slide the boot (4) onto the rear inner tube (6), small diameter end toward the rear of the vehicle.
8. Install the 81.5 mm clamp (5) onto the boot (4).

Note: The rear inner tube and outer tube splines are not keyed. It is important to observe the alignment marks made during removal during the installation process.

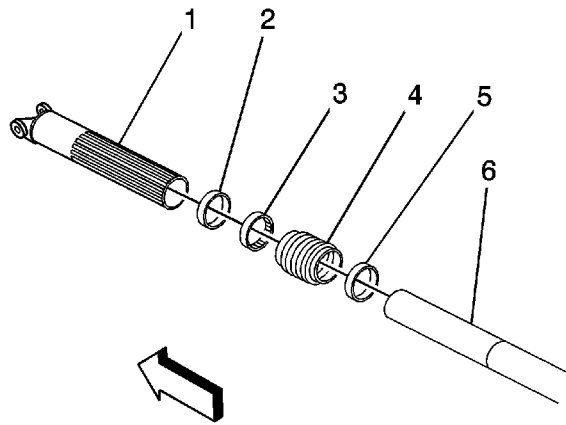
9. Utilizing the alignment marks made during removal, reassemble the rear inner tube to the outer tube.
10. Wipe off the excess grease from the tubes.



11. Install the propeller shaft (3) to the rear axle pinion yoke (4). Align the shaft and the yoke using the marks made during removal.

Caution: Refer to [Fastener Caution](#) in the Preface section.

12. Install the yoke retainers (2) and the bolts (1) and tighten to **25 N·m (18 lb ft)**.
13. Using the [J 43218](#) or equivalent, crimp the outer tube clamp.



14. Adjust the boot (4) length so that it is 124-134 mm (4.88-5.28 in) from end to end.
15. Using the [J 43218](#) or equivalent, crimp the rear inner tube side clamp.
16. Lower the vehicle.

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Yoke Replacement

To replace the propeller shaft slip yoke, refer to [Universal Joint Replacement](#).

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Universal Joint Replacement

Special Tools

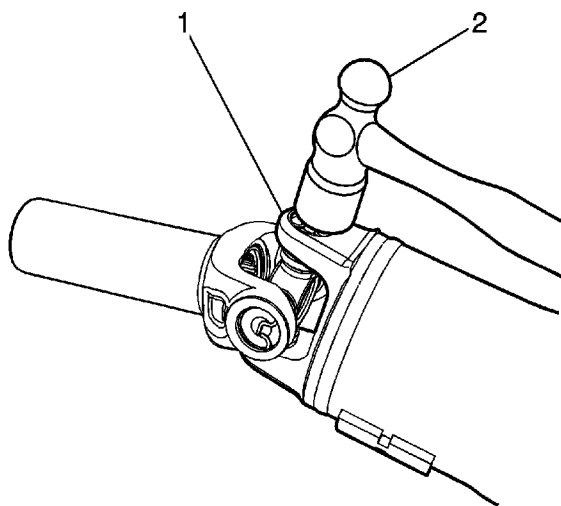
- J-9522-3 U-Joint Bearing Separator
- J-9522-5 U-Joint Bearing Spacer Remover

Removal Procedure

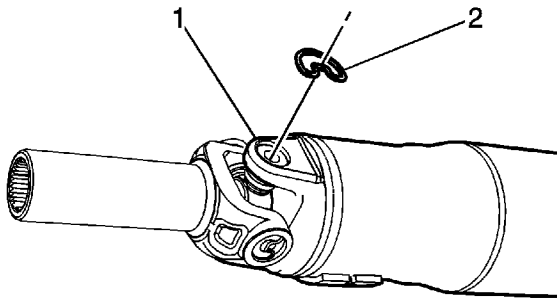
Caution: Never clamp propeller shaft tubing in a vise. Clamping propeller shaft tubing in a vise could dent or deform the tube causing an imbalance or unsafe condition. Always clamp on one of the yokes and support the shaft horizontally. Avoid damaging the slip yoke sealing surface. Nicks may damage the bushing or cut the lip seal.

Note: The following service procedure can be used for either the external retaining ring or the nylon injected ring.

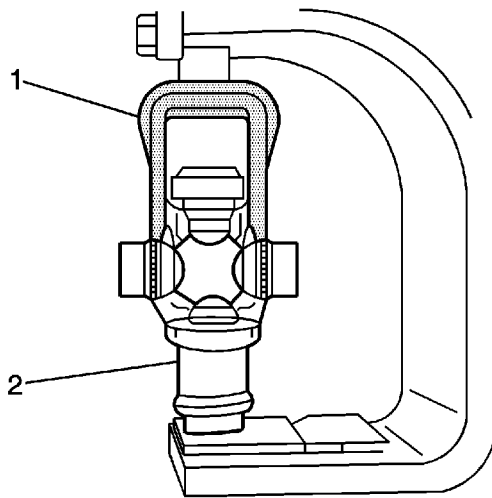
Note: If replacing the propeller shaft slip yoke, proceed to step 10.



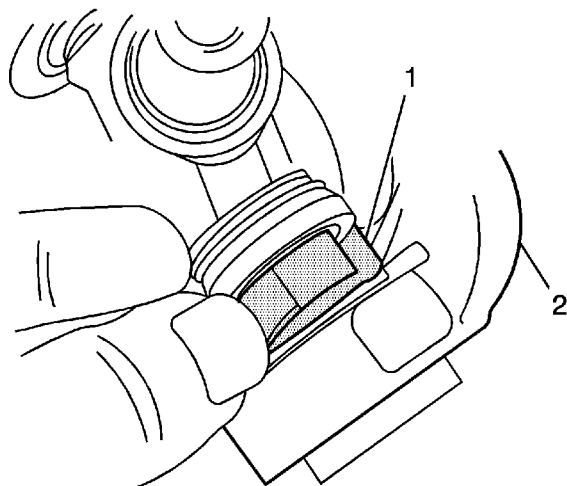
1. Using a hammer (2), tap the yoke (1) lightly in order to relieve the pressure from the universal joint retaining ring.



2. Using a pair of pliers, remove the retaining ring (2) from the yoke (1).
3. With the aid of an assistant, support the propeller shaft so that it level with the press.



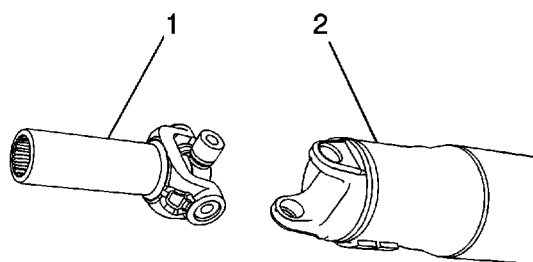
4. Using the appropriate size socket (2), support the universal joint opposite of the J-9522-3 U-Joint Bearing Separator .
5. Using the J-9522-3 Separator (1) and the press, remove the universal bearing from the yoke.
6. If you are unable to completely remove the universal bearing with the J-9522-3 Separator , proceed to step 7.



7. Position the J-9522-5 U-Joint Bearing Spacer Remover (1) on the universal joint.

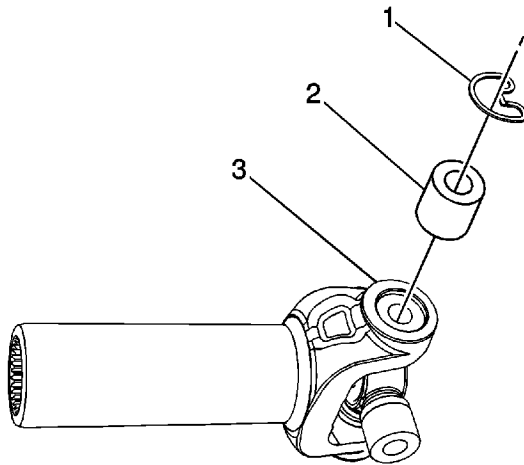
Note: The following procedure is also used for the breaking of the nylon injected ring for those universal joints that are equipped.

8. Using the J-9522-3 Separator , J-9522-5 Remover and a press, remove the universal bearing from the yoke.
9. Rotate the propeller shaft and repeat steps 1-8 to remove the opposite universal joint.

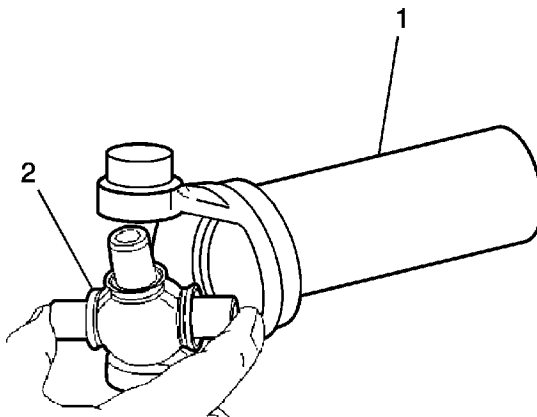


Note: If the slip yoke is found to be damaged, replace the slip yoke and use a NEW universal joint. DO NOT re-use the old universal joint.

10. Remove the slip yoke (1) from the propeller shaft (2).



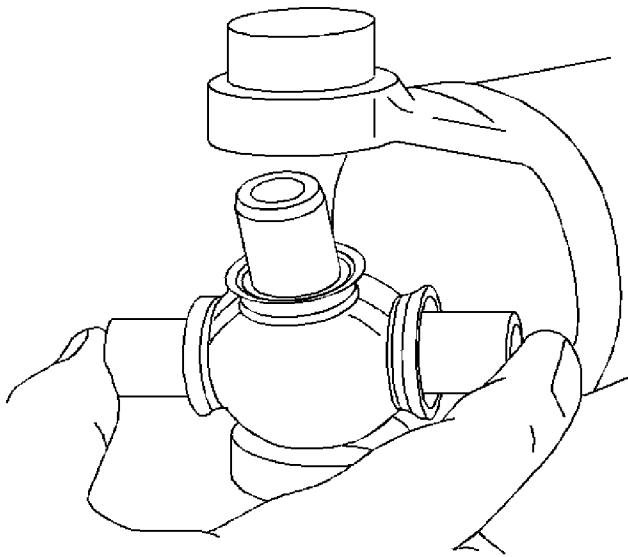
11. Remove the retaining ring (1) from the slip yoke (3).
12. Using the J-9522-3 Separator , J-9522-5 Remover and a press, remove the universal bearing (2) from the yoke (3).



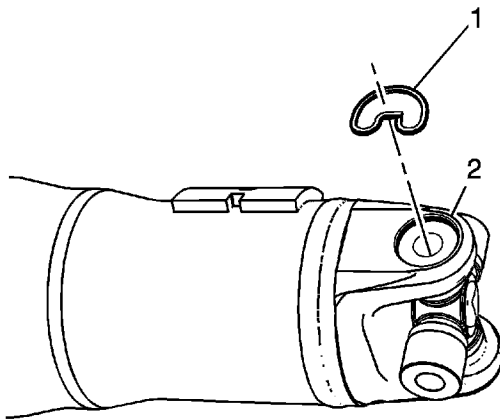
13. Remove the spider (2) from the slip yoke (1).
14. Thoroughly clean the slip yoke and the propeller shaft yoke of any contaminants that could prevent the retaining rings or the bearing cups from being properly installed.

Installation Procedure

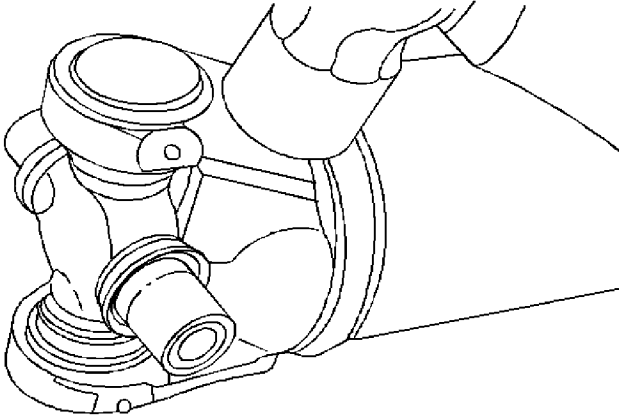
Note: If replacing the propeller shaft slip yoke, proceed to step 8.



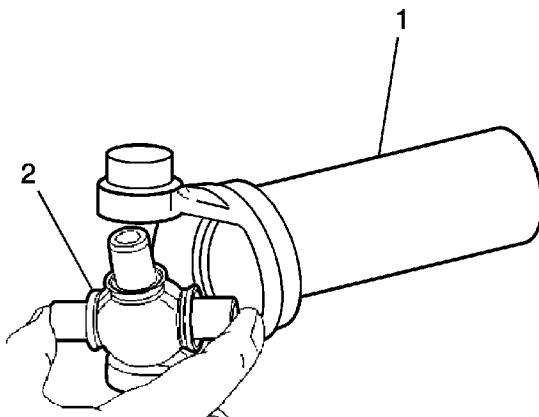
1. Position the universal bearings in either side of the yoke on the propeller shaft.
2. Install the universal joint spider until it is seated in the universal bearing.
3. Press the universal joint spider until the bearing is even with the yoke.



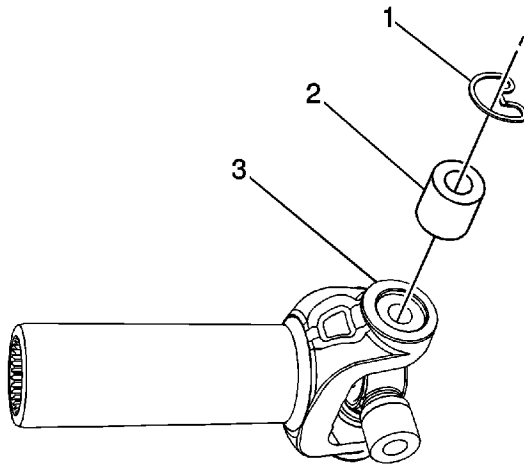
4. Install the retaining ring (1) in the yoke (2).
5. Rotate the propeller shaft and repeat steps 1-4 for the opposite universal bearing.



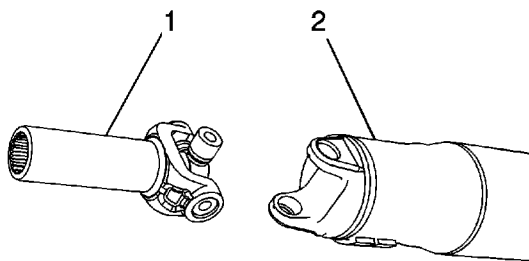
6. Rotate the universal joint to ensure that the universal joint moves freely. If not, use a hammer and lightly tap the yoke to seat the universal bearing against the retaining ring.
7. Install the other two universal bearings and wrap them with electrical tape or equivalent to hold the bearing in place until the propeller shaft is installed in the vehicle.



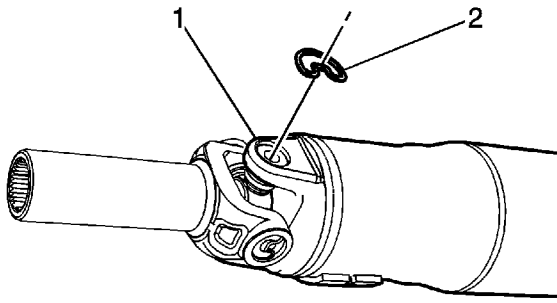
8. Position the universal spider (2) in the slip yoke (1).



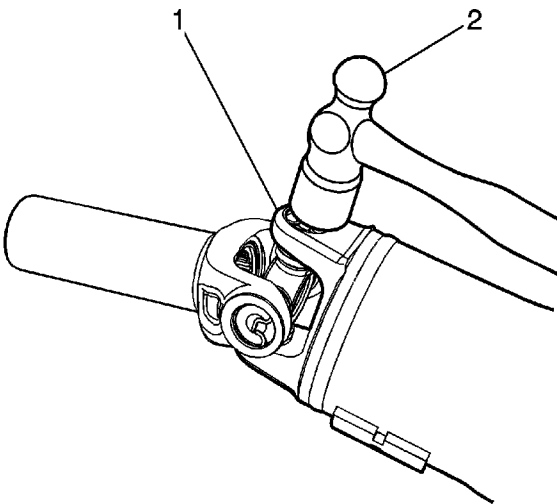
9. Install the universal bearings (2) in either side of the slip yoke (2).
10. Fully seat one of the universal spiders in the universal bearing.
11. Press the universal bearings (2) into the slip yoke (2) until it is even with the yoke.
12. Install the retaining ring (1) in the slip yoke (3).
13. Rotate the slip yoke and repeat steps 3-5 for the opposite universal bearing.



14. Position the slip yoke (1) in the propeller shaft (2).
15. Position the universal bearing (1) in the yoke of the propeller shaft (2).
16. Center the universal spider in the universal bearing.
17. Press the universal bearing into the yoke.



18. Install the retaining ring (2) in the propeller shaft yoke (1).
19. Rotate the propeller shaft and repeat steps 8-11 on the opposite universal bearing.



20. Rotate the universal joint to ensure that the universal joint moves freely. If not, use a hammer (2) and lightly tap each of the yokes (1) to seat the universal bearing against the retaining ring.