

2000-03 DRIVELINE/AXLE

Propeller Shaft - Repair Instructions - X5 (4.4L/M62)

PROPELLER SHAFT GENERAL

26 00 ... PROPELLER SHAFT DEFLECTION ANGLES

IMPORTANT: Specifications on propeller shaft deflection angles for E53 are only possible on request from the manufacturer with the vehicle identification number of the problem vehicle.

PROPELLER SHAFT ASSEMBLY

26 11 000 REMOVING AND INSTALLING COMPLETE PROPELLER SHAFT

Necessary preliminary tasks:

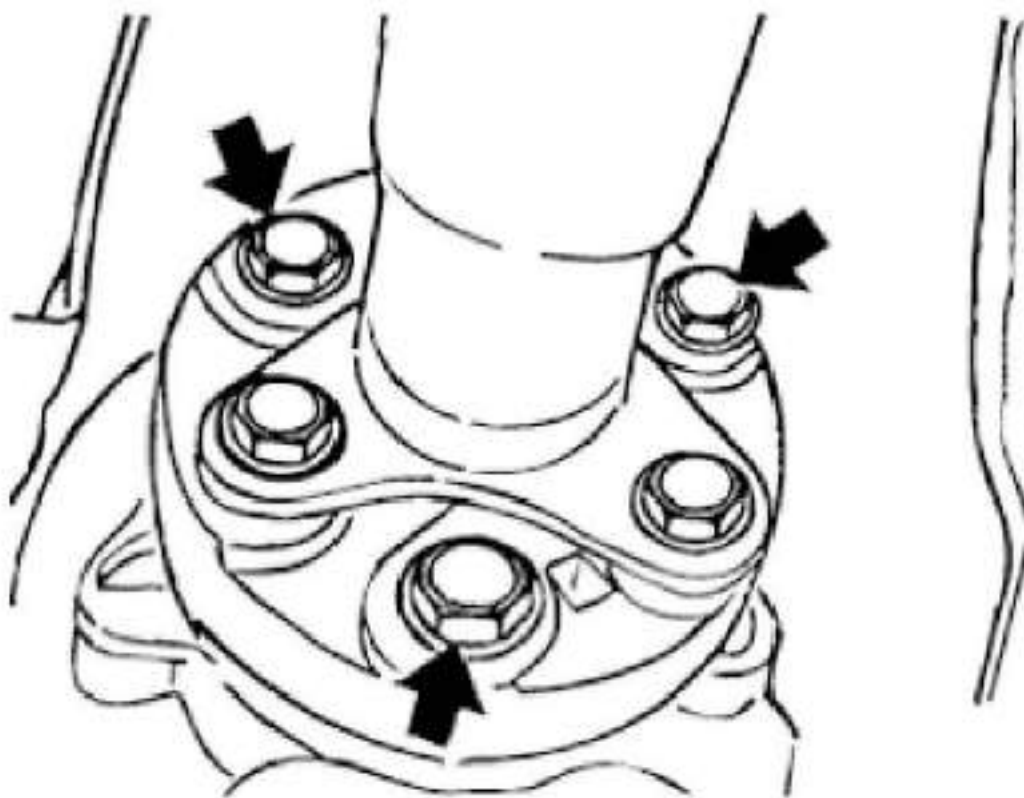
- Remove exhaust system. See **EXHAUST SYSTEM COMPLETE**
- Remove heat shield at rear.

Unfasten screws.

Tightening torque, see 26 11 1AZ in **PROPELLER SHAFT - TIGHTENING TORQUES - X5**

Installation:

Replace self-locking nuts.



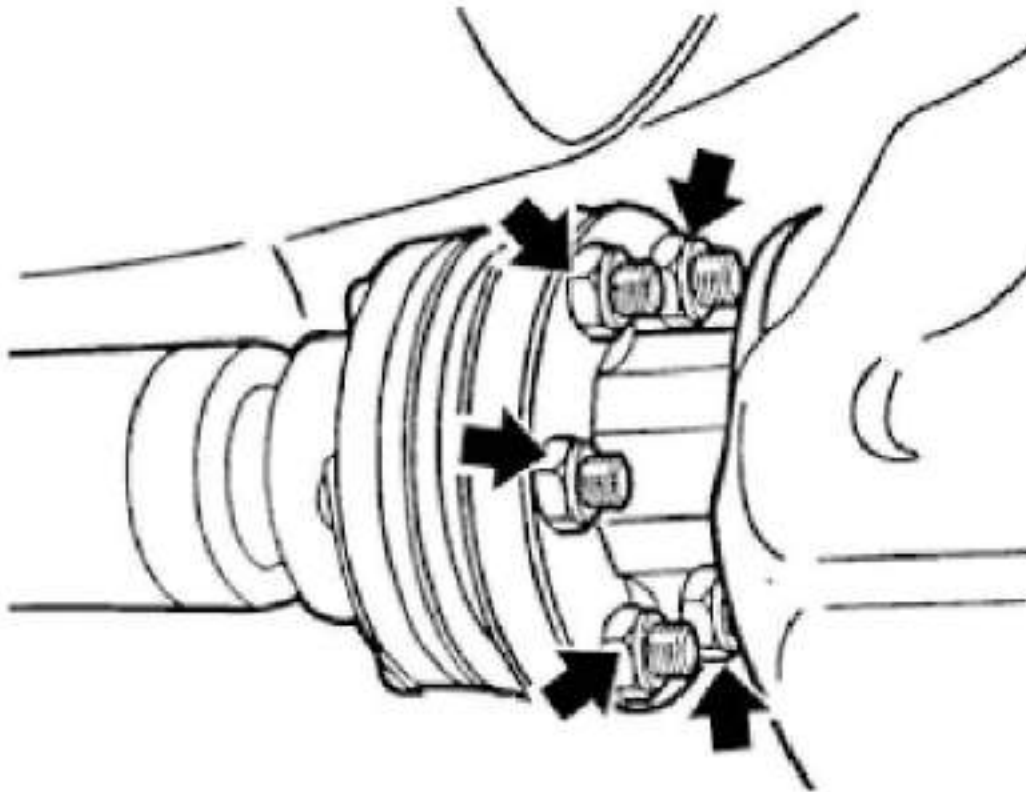
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Fig. 1: Replacing Self-Locking Nuts

Courtesy of BMW OF NORTH AMERICA, INC.

Unscrew nuts.

Tightening torque, see 26 11 4AZ in **PROPELLER SHAFT - TIGHTENING TORQUES - X5** .

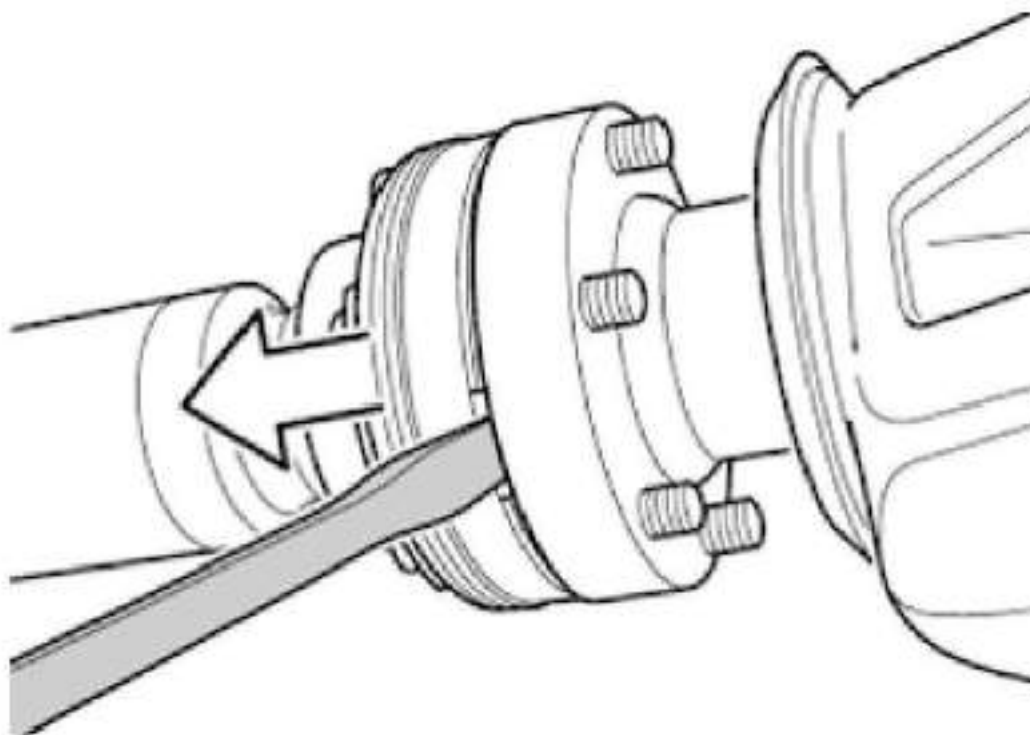


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Fig. 2: Removing Nuts

Courtesy of BMW OF NORTH AMERICA, INC.

With a screwdriver, press constant-velocity joint (at the disassembly grooves) off input flange.

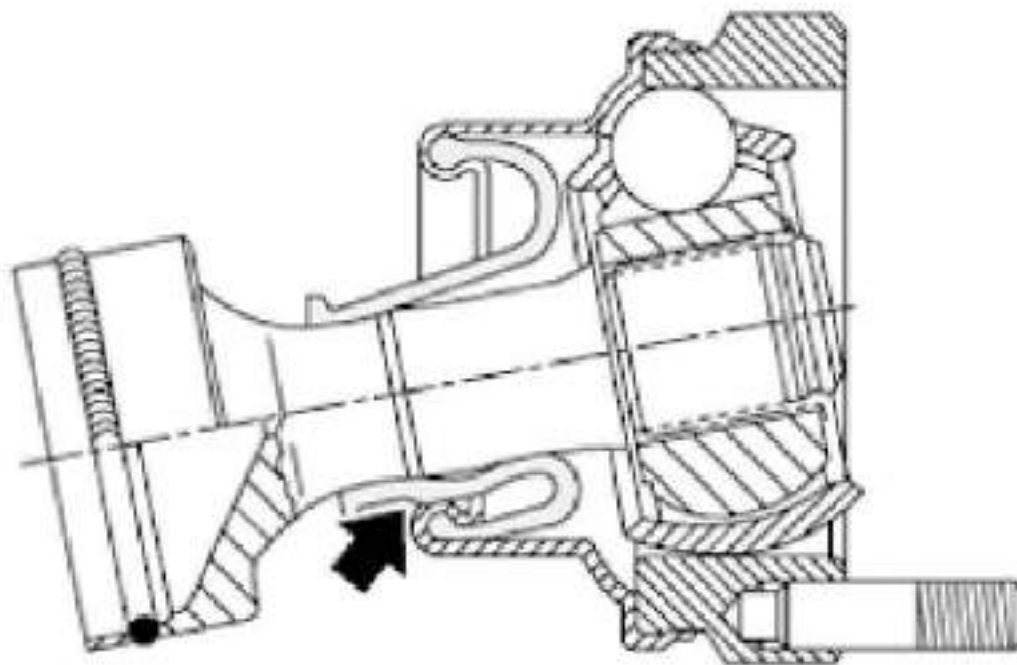


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Fig. 3: Pressing Constant-Velocity Joint Off Input Flange With A Screwdriver
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Do not let propeller shaft fall into joints.

Joints and rubber sleeve on constant-velocity joint can be damaged.

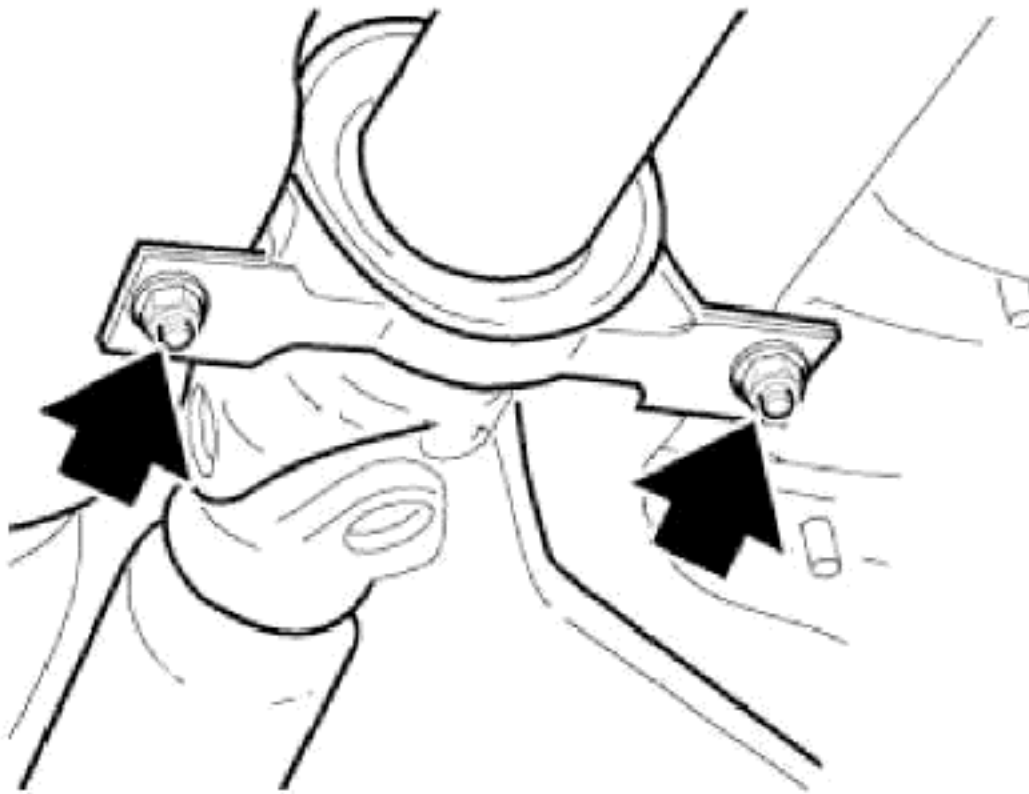


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Fig. 4: Jointing And Rubber Sleeve On Constant-Velocity
Courtesy of BMW OF NORTH AMERICA, INC.

Brace propeller shaft on center mount and loosen nuts.

Tightening torque, see 26 11 6AZ in **PROPELLER SHAFT - TIGHTENING TORQUES - X5** .



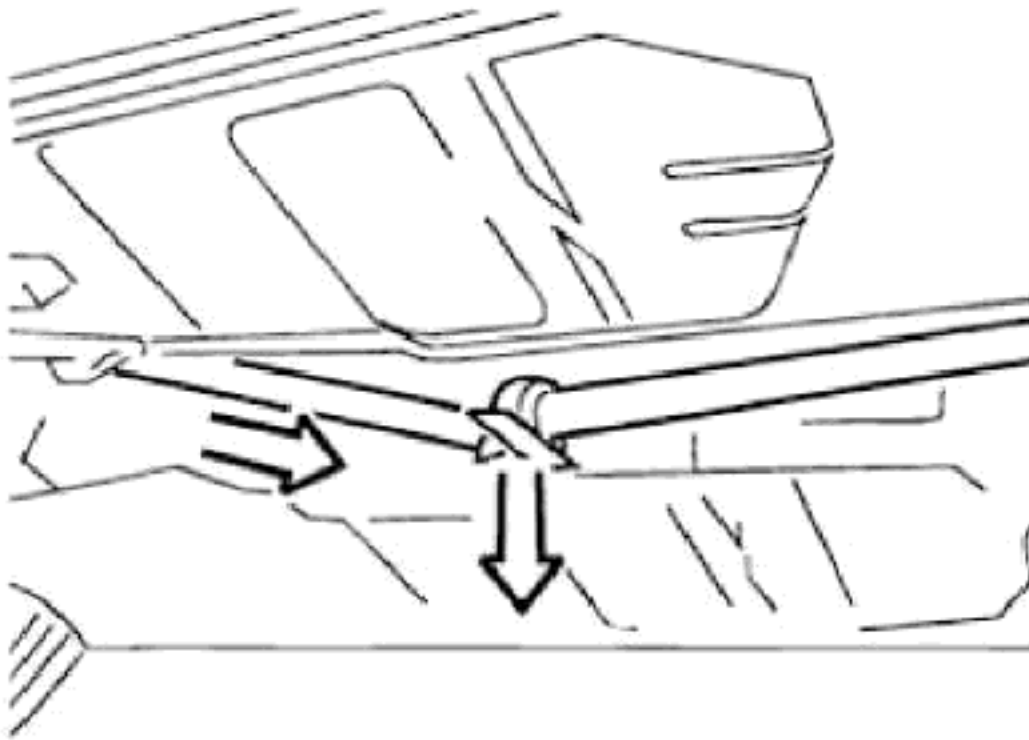
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Fig. 5: Loosening Nuts Of Propeller Shaft
Courtesy of BMW OF NORTH AMERICA, INC.

Bend propeller shaft downwards on center bearing.

Remove propeller shaft from transmission output flange and remove constant-velocity joint from final drive.

NOTE: **Protect constant-velocity joint from dirt with transport cap.**



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Fig. 6: Removing Propeller Shaft From Transmission Output Flange
Courtesy of BMW OF NORTH AMERICA, INC.

Top up grease fill.

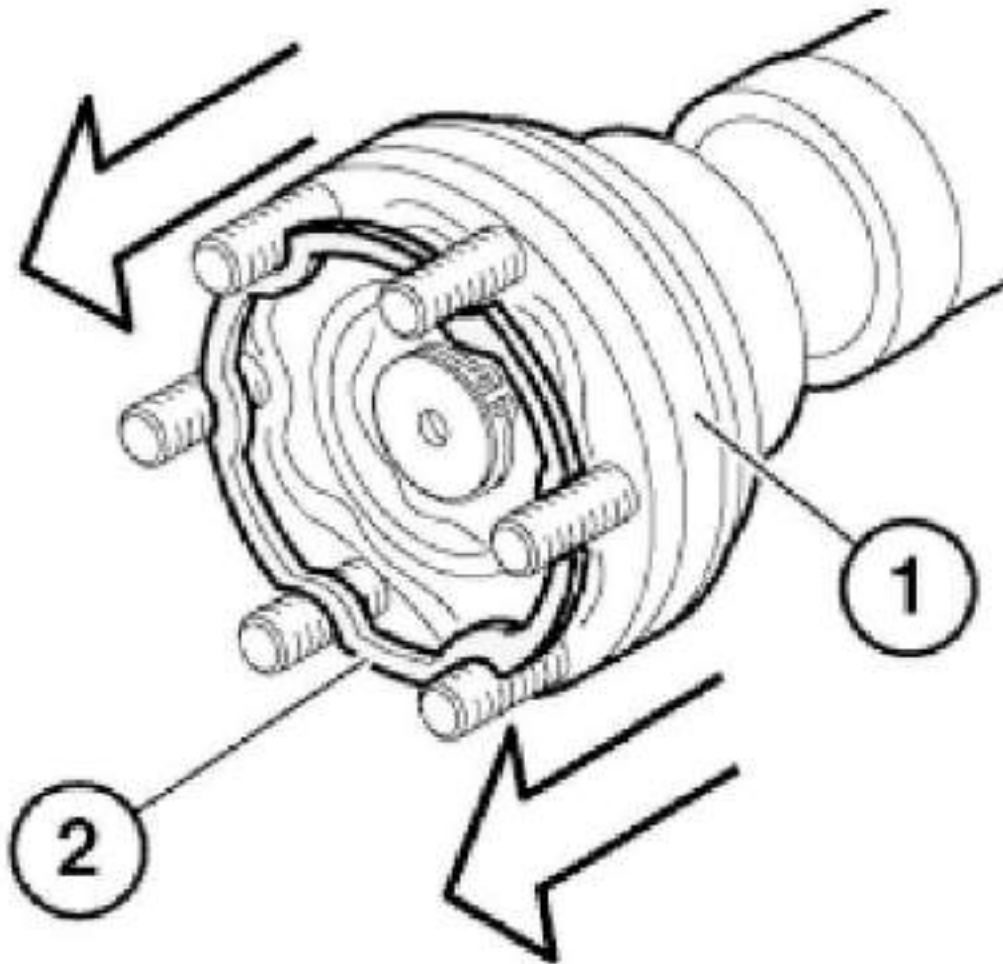
Pull out constant-velocity joint (1) up to stop.

Coat sealing faces of constant-velocity joint and input flange with grease.

Replace seal (2).

Use new nuts.

Attach propeller shaft with constant-velocity joint pulled apart to drive flange of final drive.



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Fig. 7: Pulling Out Constant-Velocity Joint And Seal
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: The constant-velocity joint must not be compressed during assembly because the grease fill can force away the sealing ring, leading to leakage from the constant-velocity joint.

Alternately tighten 2 opposing nuts to draw constant velocity joint evenly into the input flange.

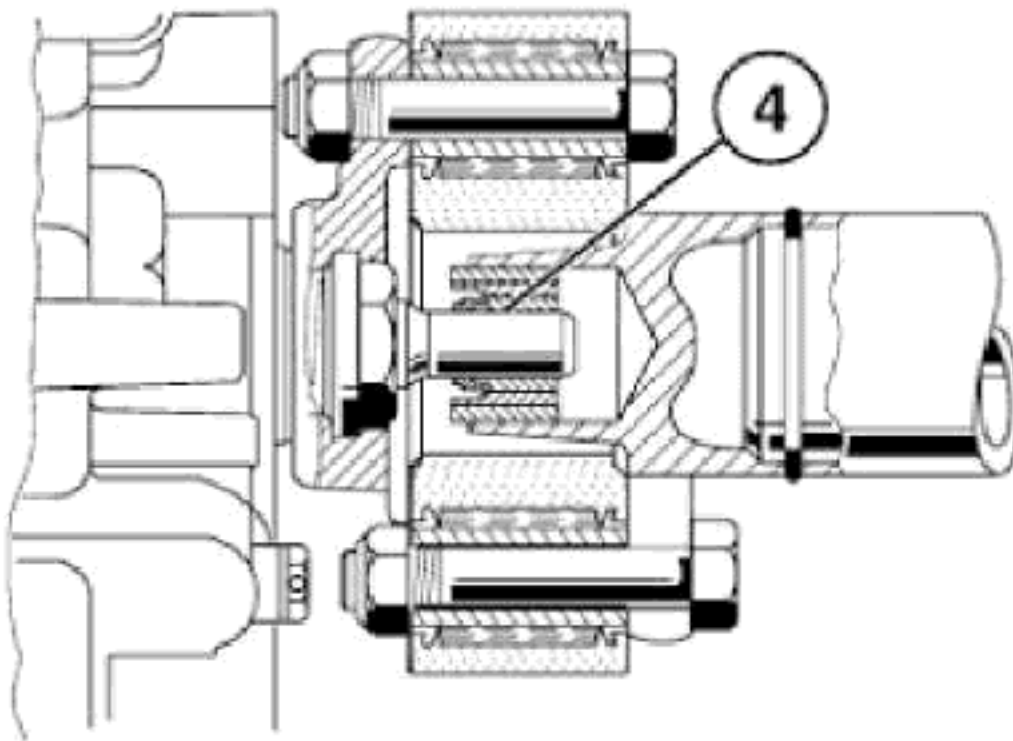
Then tighten down the remaining nuts.

Tightening torque, see 26 11 4AZ in **PROPELLER SHAFT - TIGHTENING TORQUES - X5** .

Check centering mount (4).

Replace damaged centering mount.

Grease centering mount.



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Fig. 8: Checking Centering Mount

Courtesy of BMW OF NORTH AMERICA, INC.

26 11 051 REPLACING JOINT DISK FOR PROPELLER SHAFT

Remove propeller shaft, refer to **26 11 000 REMOVING AND INSTALLING COMPLETE PROPELLER SHAFT** .

Unfasten screws and remove joint disk.

Installation:

The screw connection may only be tightened by means of the nut.

Tightening torque, see 26 11 1AZ in **PROPELLER SHAFT - TIGHTENING TORQUES - X5** .

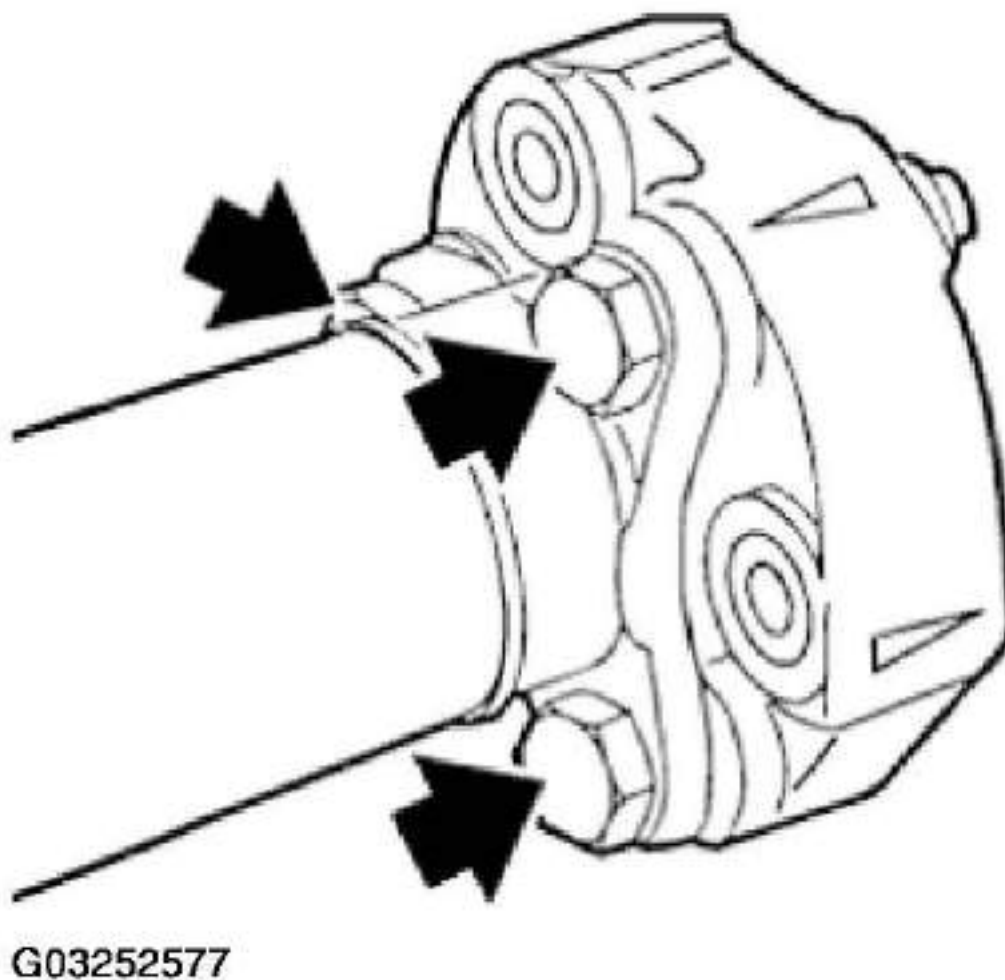


Fig. 9: Removing Joint Disk

Courtesy of BMW OF NORTH AMERICA, INC.

Joint disk must be fitted in such a way that arrows point to flange arms.

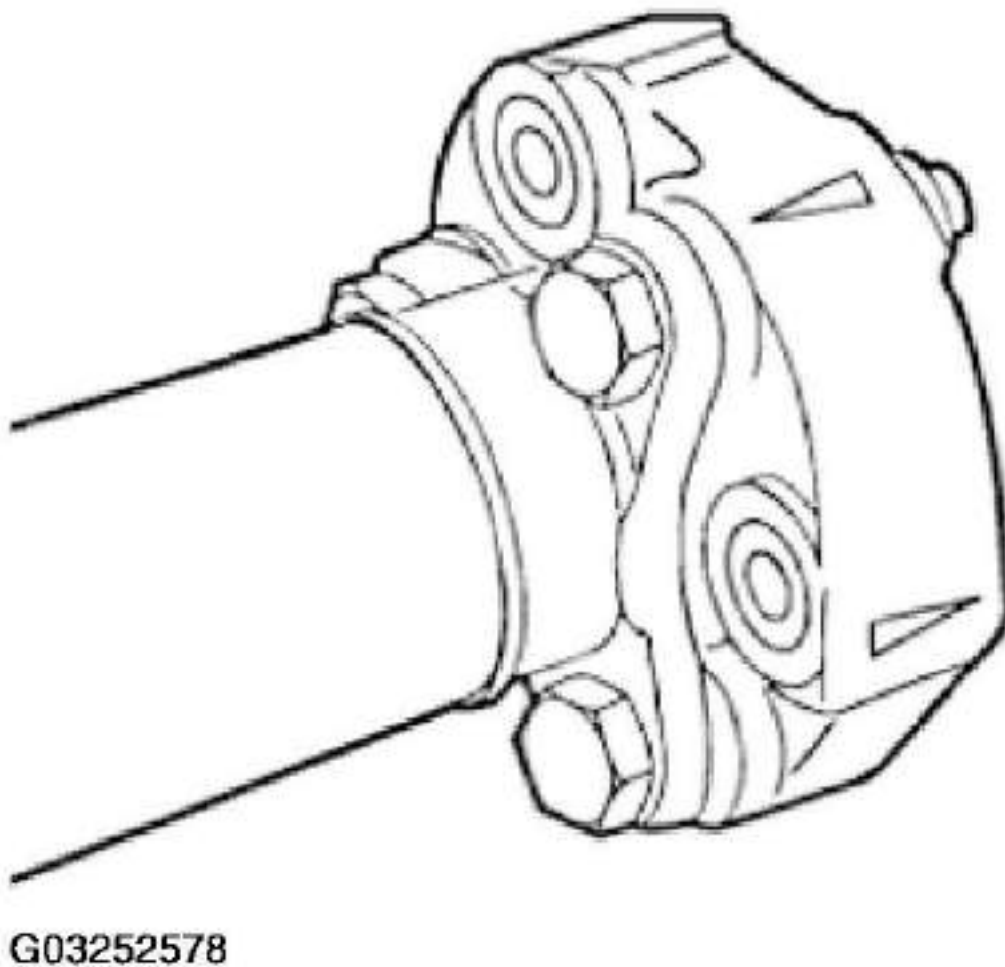


Fig. 10: Identifying Arrows Point To Flange Arms
Courtesy of BMW OF NORTH AMERICA, INC.

26 11 090 REMOVING AND INSTALLING/REPLACING CENTERING MOUNT FOR PROPELLER SHAFT

Special Tools Required

- 00 5 500
- 11 1 310
- 11 2 030

Necessary Preliminary Task:

- Remove propeller shaft. See **26 11 000 REMOVING AND INSTALLING COMPLETE PROPELLER SHAFT**.

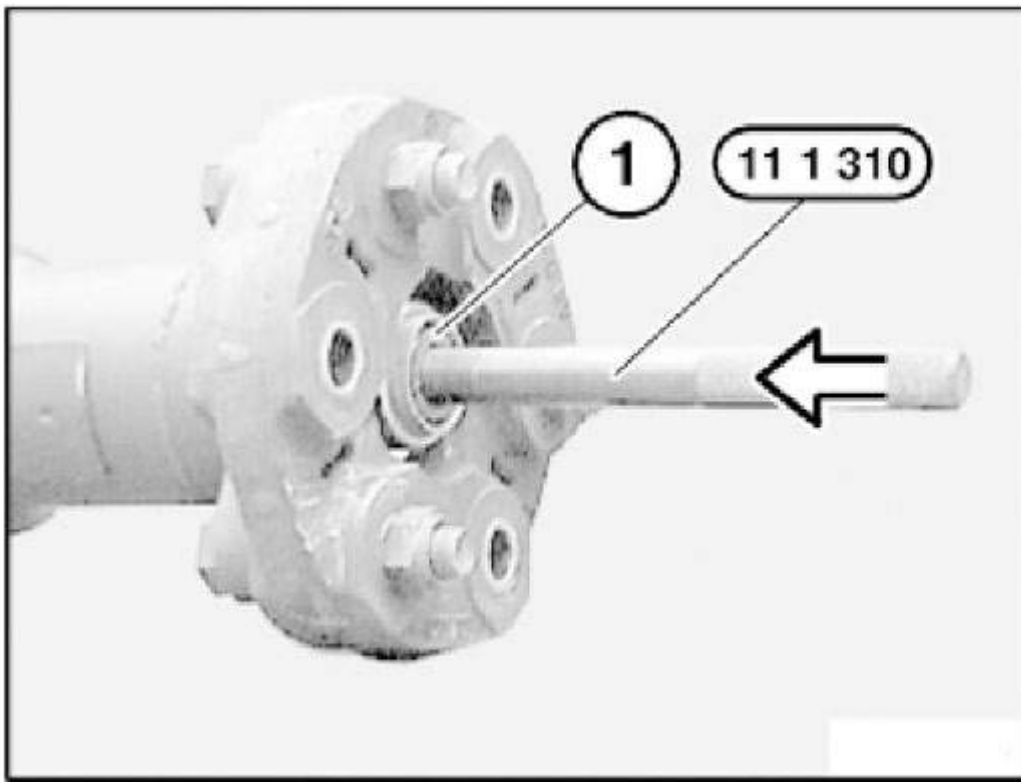
Fill centering bore (1) completely with viscous grease.

Drive special tool 11 1 310 with a plastic hammer into centering bore.

The centering mount (1) is forced out of the propeller shaft by the pressure on the grease filling.

If necessary, top up grease repeatedly.

NOTE: To drive out the mount, you can also fill the centering bore with water instead of grease.



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Fig. 11: Filling Centering Bore Completely With Viscous Grease
Courtesy of BMW OF NORTH AMERICA, INC.

2001 BMW X5 30i

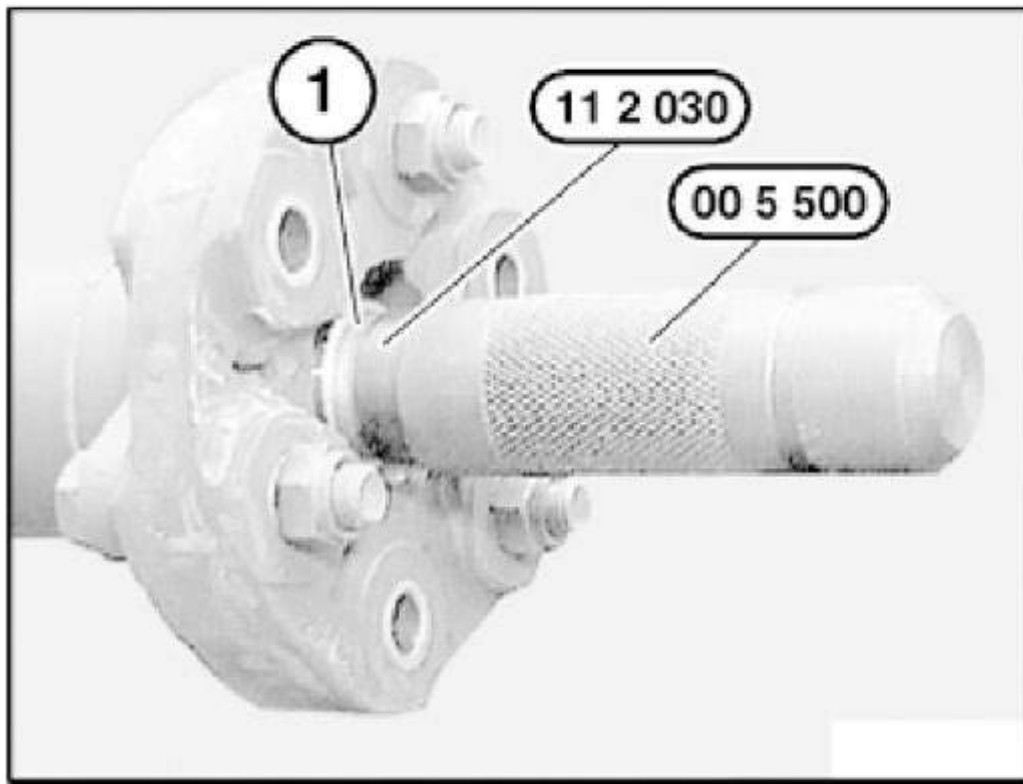
2000-03 DRIVELINE/AXLE Propeller Shaft - Repair Instructions - X5 (4.4L/M62)

Installation:

Remove grease/water from mount bore.

Drive in centering (1) with special tools 11 2 030 and 00 5 500 into propeller shaft (observe protrusion).

Grease centering mount.

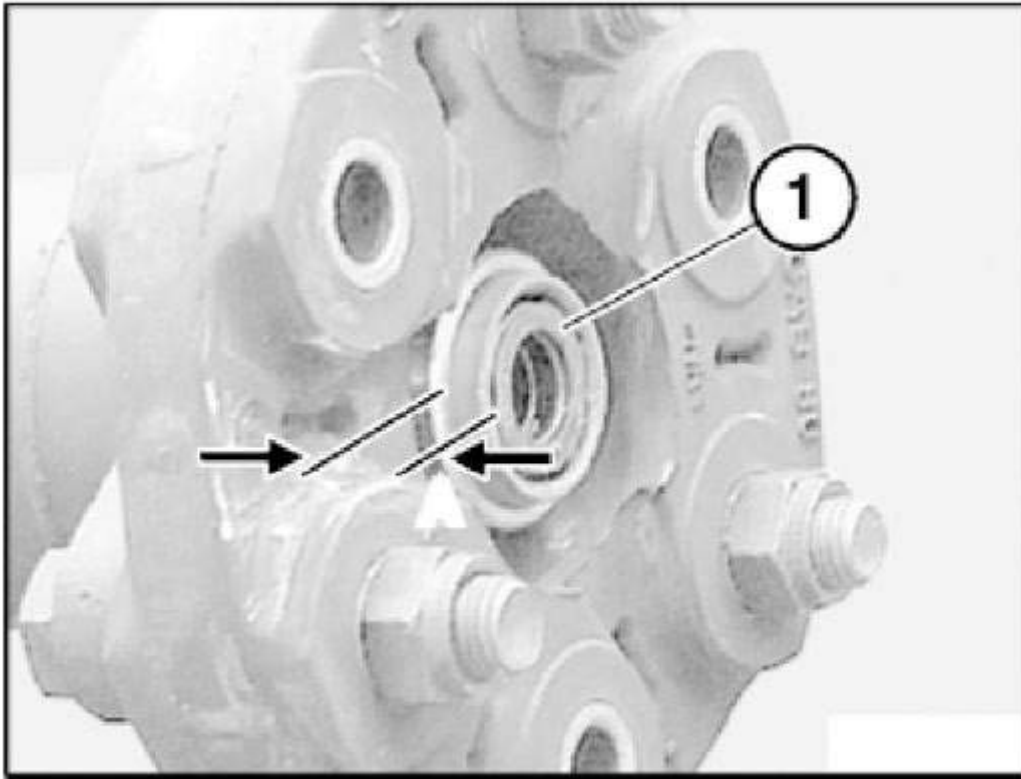


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Fig. 12: Driving In Centering With Special Tools 11 2 030 And 00 5 500 Into Propeller Shaft
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Observe protrusion A = 4+2 mm of centering (1).



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Fig. 13: Identifying Observe Protrusion
Courtesy of BMW OF NORTH AMERICA, INC.

26 11 160 REPLACING CONSTANT-VELOCITY JOINT FOR PROPELLER SHAFT

Special Tools Required

- 23 1 040
- 24 1 040
- 26 1 070
- 26 1 110

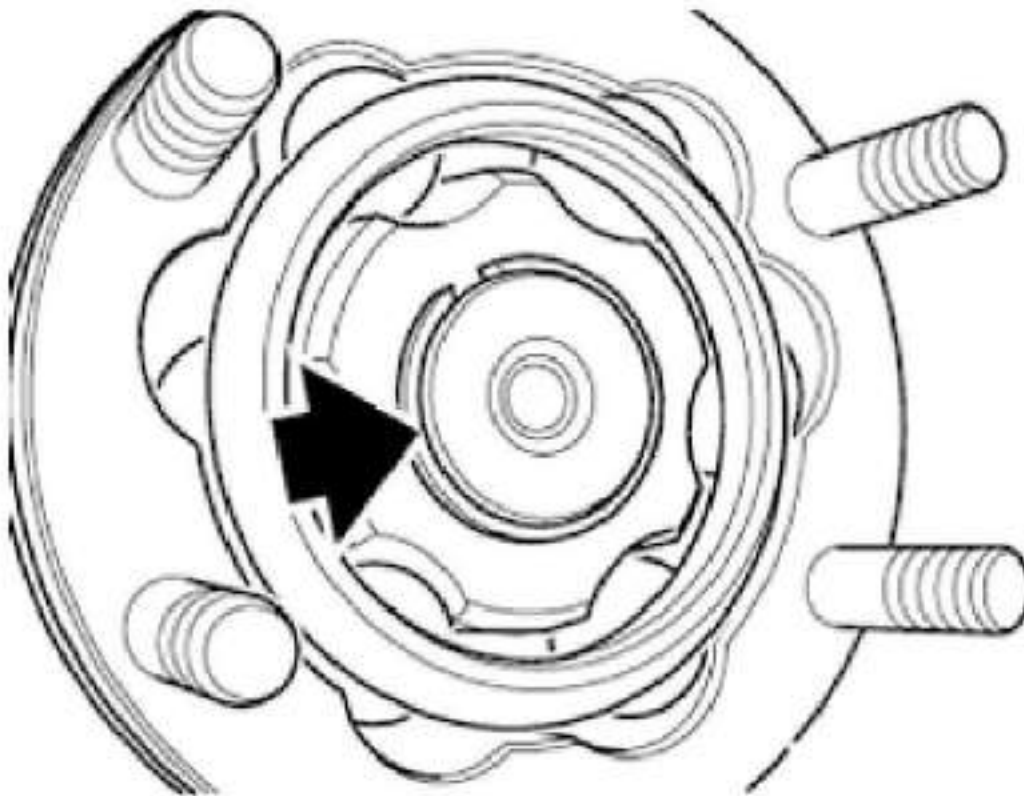
Removal

Remove propeller shaft. See **26 11 000 REMOVING AND INSTALLING COMPLETE PROPELLER SHAFT** .

Lift out retainer.

Installation:

Replace retaining ring.



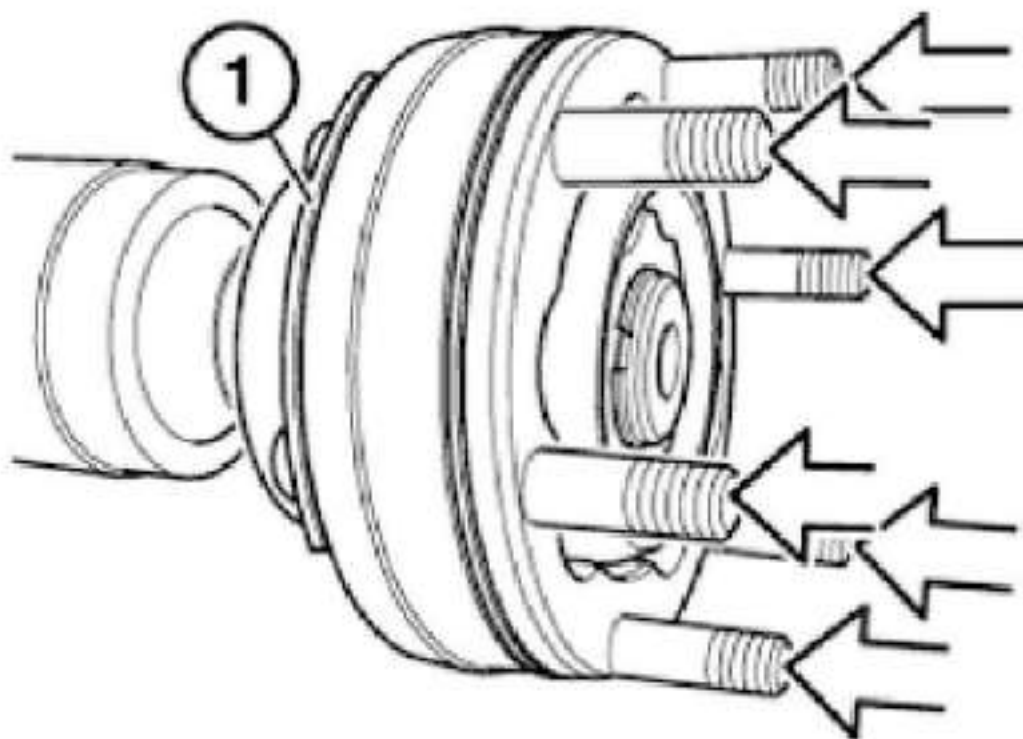
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Fig. 14: Replacing Retaining Ring

Courtesy of BMW OF NORTH AMERICA, INC.

Drive out knurled pin.

Install shims (1).



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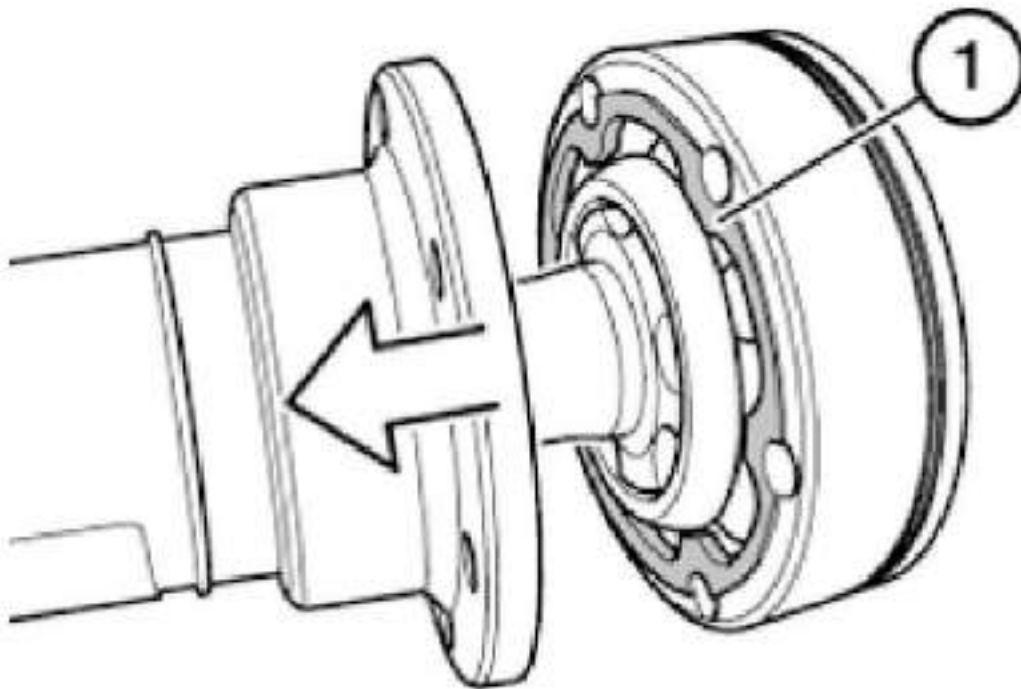
Fig. 15: Installing Shims

Courtesy of BMW OF NORTH AMERICA, INC.

Press gaiter off constant velocity joint.

Inject new grease into constant velocity joint from rubber gaiter and flange sides.

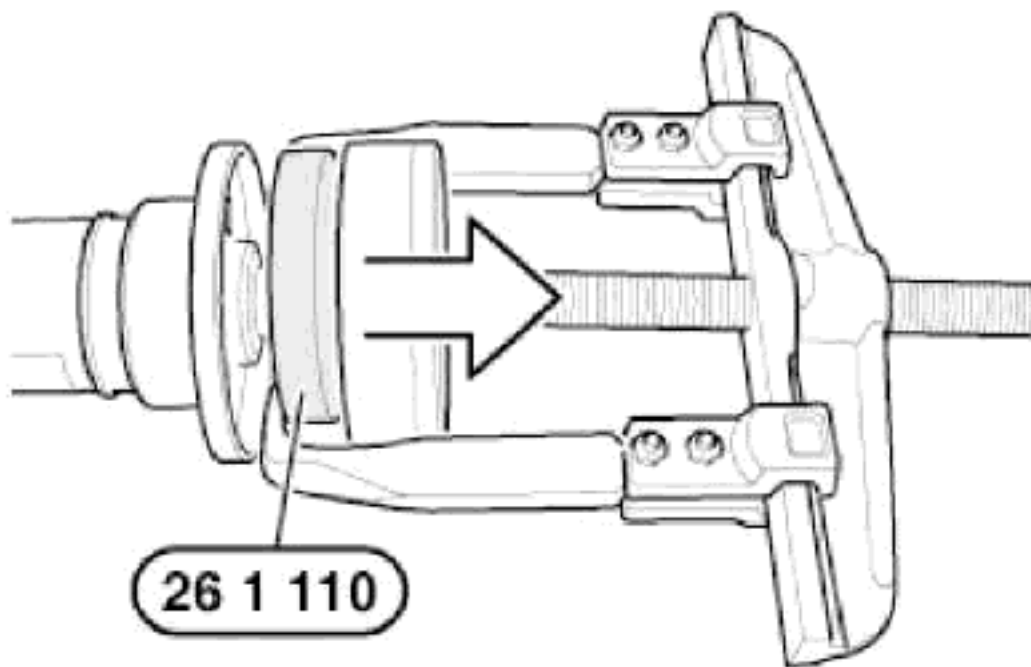
Insert sealing washer (1) in constant velocity joint.



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Fig. 16: Inserting Sealing Washer In Constant Velocity Joint
Courtesy of BMW OF NORTH AMERICA, INC.

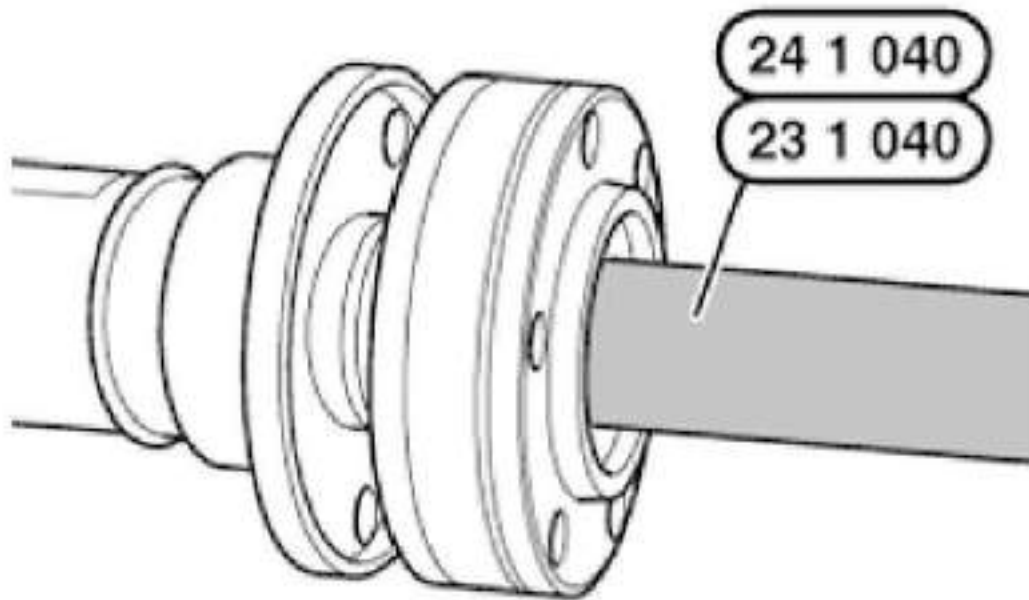
Detach constant velocity joint with special tool 26 1 070 or 26 1 110.



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Fig. 17: Detaching Constant Velocity Joint With Special Tool
Courtesy of BMW OF NORTH AMERICA, INC.

Drive on constant velocity joint with special tool 23 1 040 or 24 1 040 as far as it will go.



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Fig. 18: Driving On Constant Velocity Joint With Special Tool
Courtesy of BMW OF NORTH AMERICA, INC.

Shoulder (1) for sealing washer must point to gaiter.

Toothing must be free from grease.

Thread locking: apply Loctite 648.

IMPORTANT: Keep Loctite out of ball paths.

Clean toothing and apply a light coating of oil.

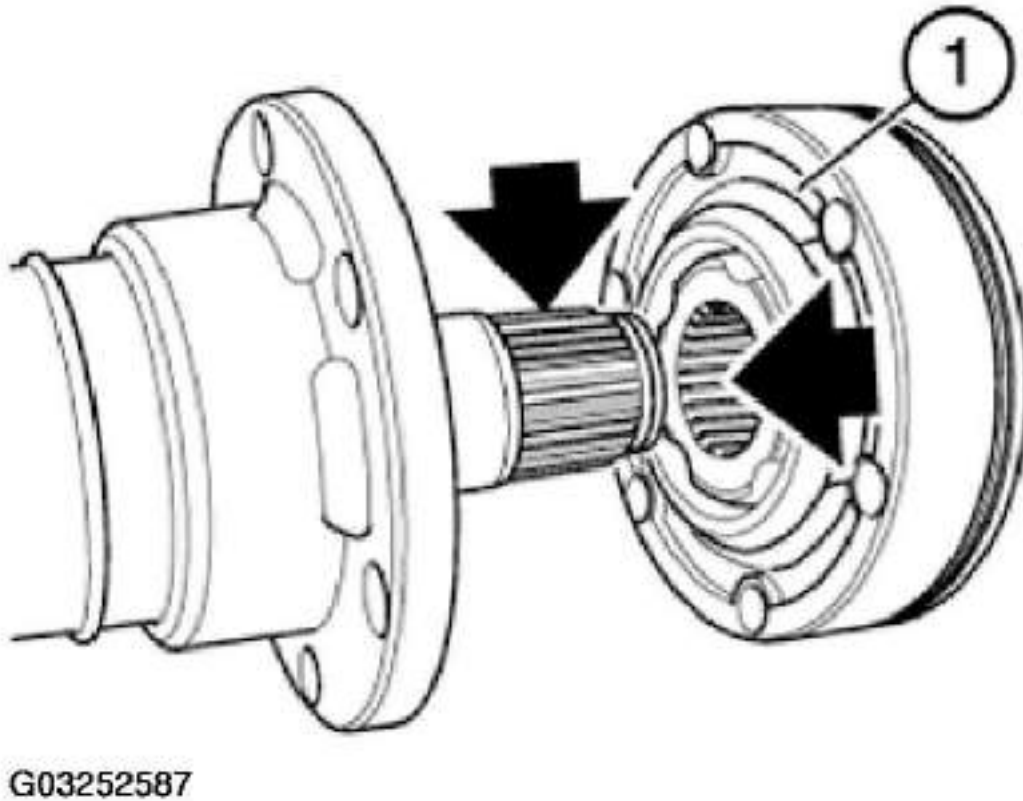


Fig. 19: Installing Sealing Washer

Courtesy of BMW OF NORTH AMERICA, INC.

26 20 000 REMOVING AND INSTALLING FRONT PROPELLER SHAFT

IMPORTANT: Do not move car by means of engine power once drive shaft has been removed.

Necessary preliminary tasks:

- Remove reinforcement plate.

Important notes on installation are described in this work step.

Unfasten screws.

Installation:

Replace self-locking nuts.

Tightening torque, see 26 11 7AZ/8AZ in **PROPELLER SHAFT - TIGHTENING TORQUES - X5** .



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Fig. 20: Replacing Self-Locking Nuts
Courtesy of BMW OF NORTH AMERICA, INC.

Push propeller shaft back.

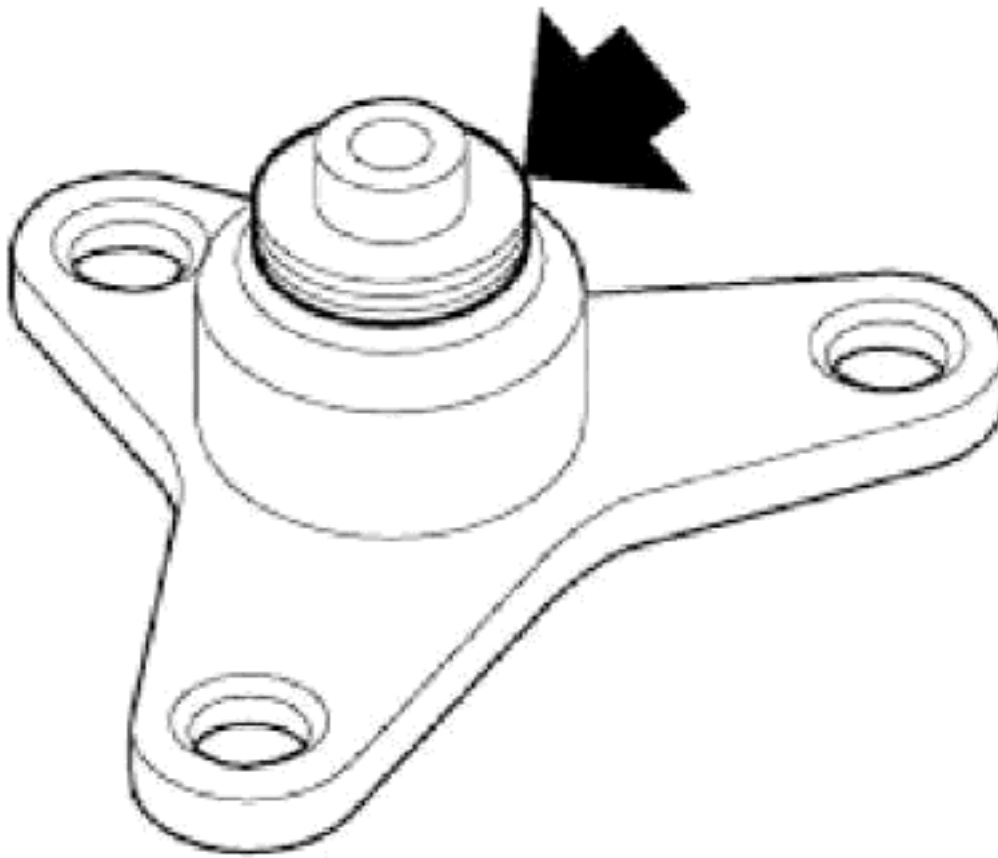
Remove flexible disk with centering flange.



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Fig. 21: Removing Flexible Disk With Centering Flange
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: Check sealing ring and replace if necessary.

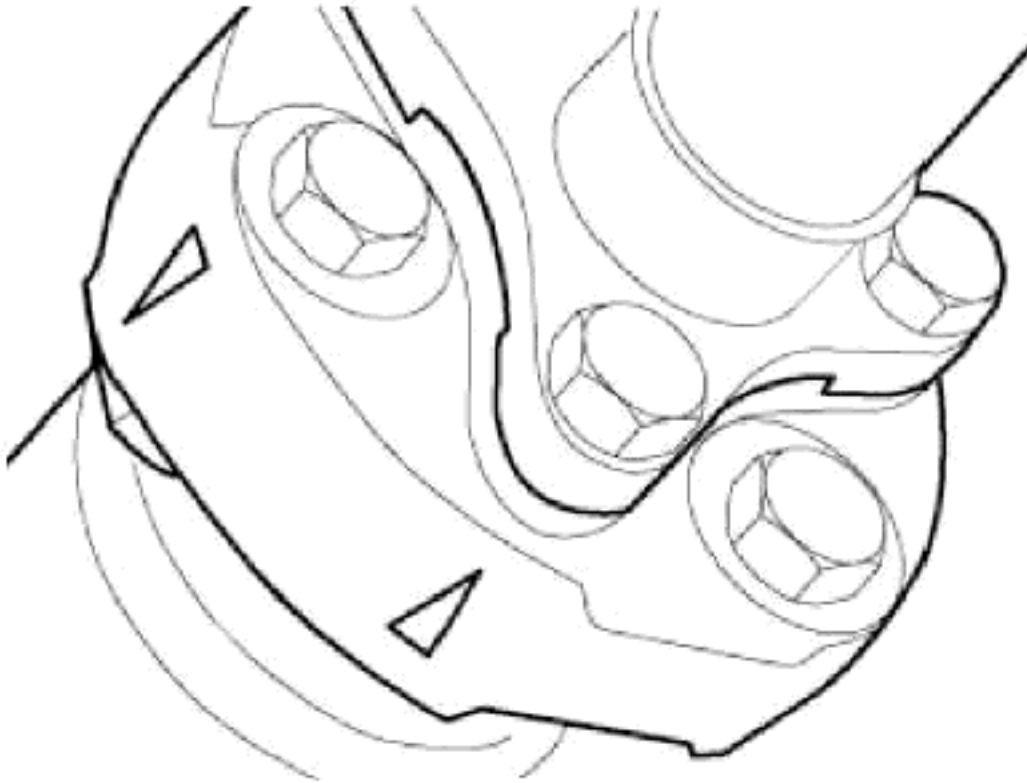


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Fig. 22: Checking Sealing Ring

Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: Fit flexible disk must in such a way that arrows point to flange arms.

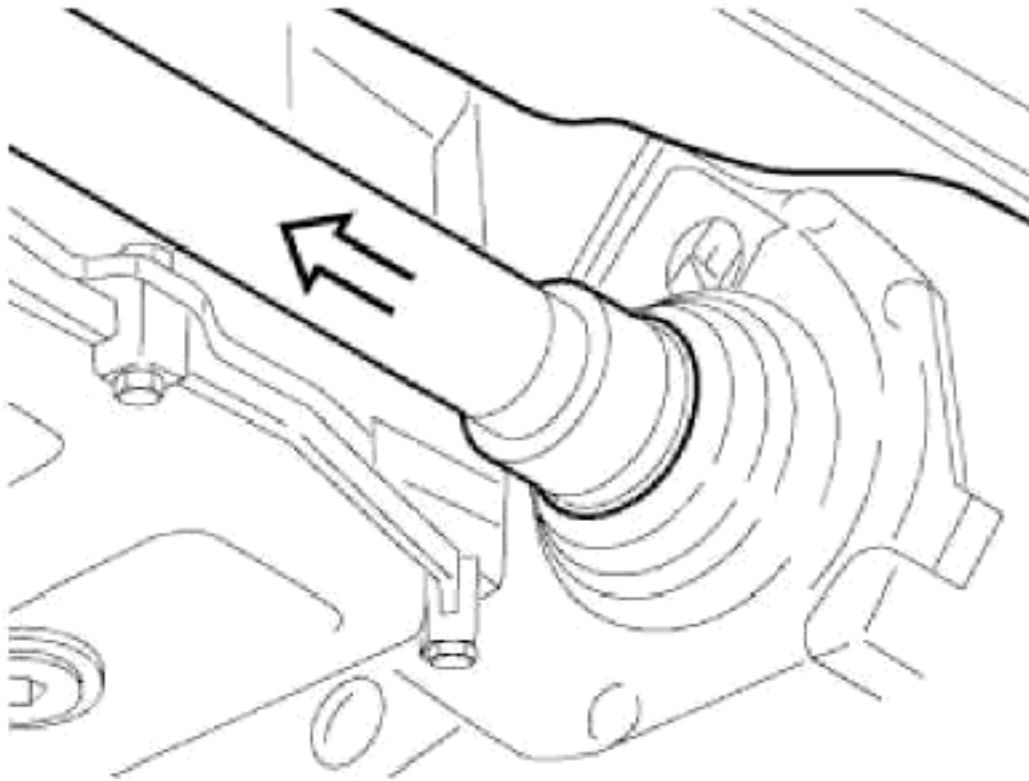


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Fig. 23: Fitting Flexible Disk Must In Such A Way That Arrows Point To Flange Arms
Courtesy of BMW OF NORTH AMERICA, INC.

Detach propeller shaft from transfer box.

NOTE: **Apply a thin coat of grease to splines.**



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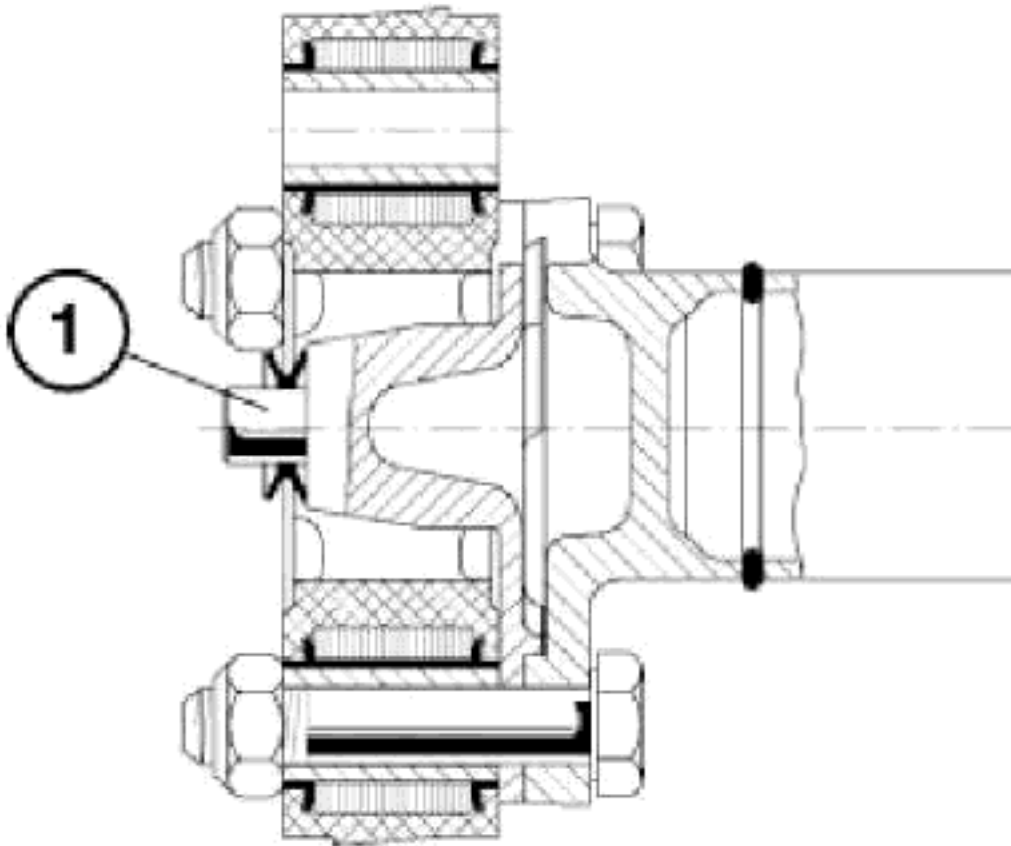
Fig. 24: Detaching Propeller Shaft From Transfer Box
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Check centering mount (1).

Replace a damaged centering mount.

Grease centering mount.



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Fig. 25: Checking Centering Mount

Courtesy of BMW OF NORTH AMERICA, INC.

26 20 051 REPLACING JOINT DISK FOR FRONT PROPELLER SHAFT

Replace joint disk for front propeller shaft, refer to **REMOVING AND INSTALLING FRONT PROPELLER SHAFT** .

CENTER CONSOLE ASSEMBLY

26 12 001 REPLACING COMPLETE PROPELLER SHAFT CENTRE BEARING (CONSTANT-VELOCITY JOINT)

Special Tools Required

- 00 7 500
- 24 0 090
- 24 1 050
- 33 1 307

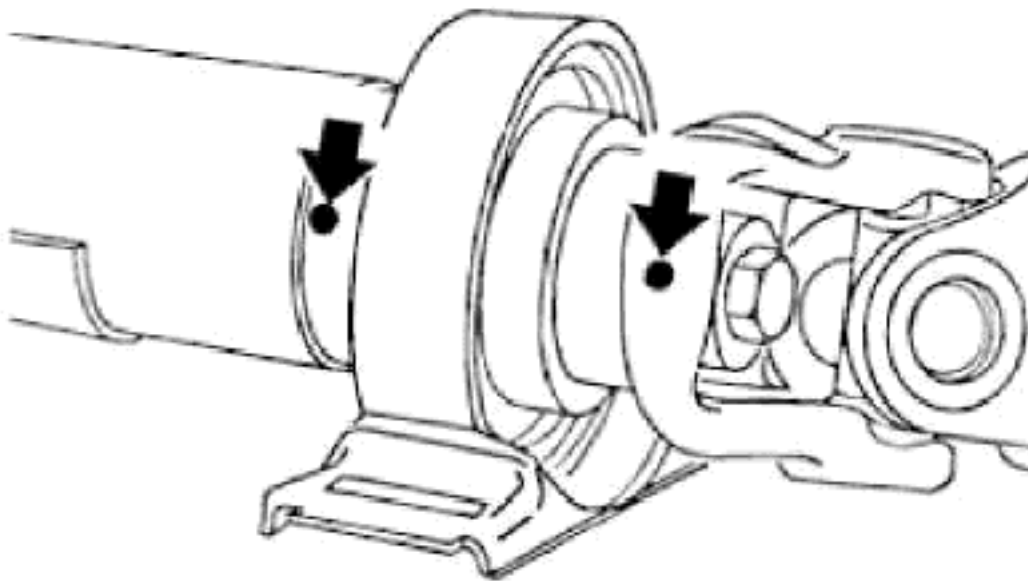
Removal

Remove propeller shaft. See **26 11 000 REMOVING AND INSTALLING COMPLETE PROPELLER SHAFT** .

IMPORTANT: Propeller shaft is balanced as a unit.

Mark front propeller shaft relative to rear propeller shaft with paint stick.

Marking by means of engraving which causes surface damage (e.g. centre mark) is not permitted.



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Fig. 26: Marking Front Propeller Shaft Relative To Rear Propeller Shaft With Paint Stick
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Pull propeller shaft apart.

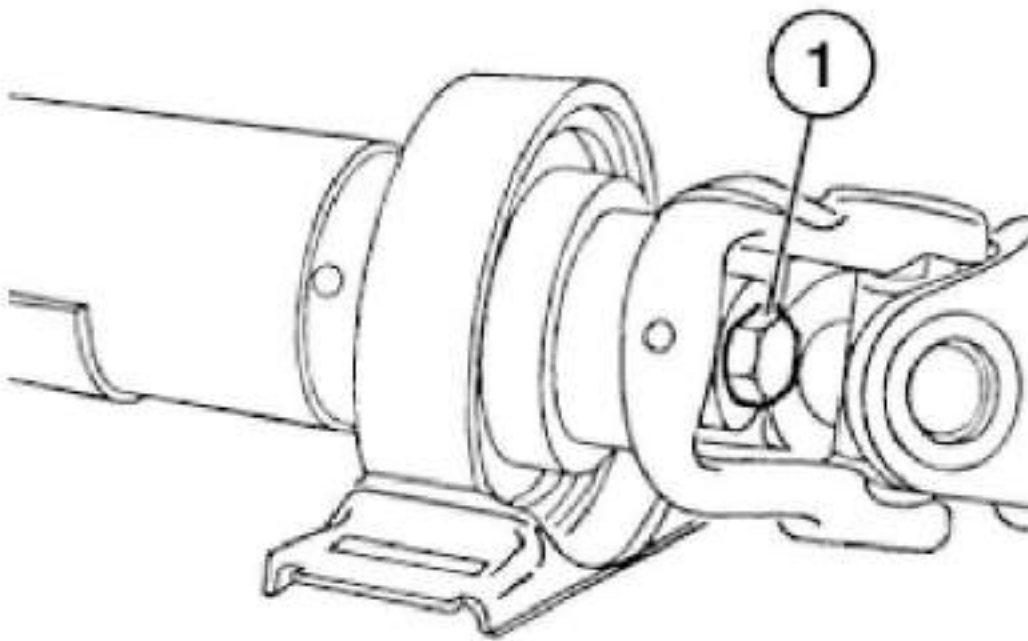
Installation:

Thread free from grease.

When pushing shaft together, make sure that markings match up.

Insert bolt (1) with thread-locking liquid, refer to BMW Parts Service.

Tightening torque, see 26 11 5AZ in **PROPELLER SHAFT - TIGHTENING TORQUES - X5**

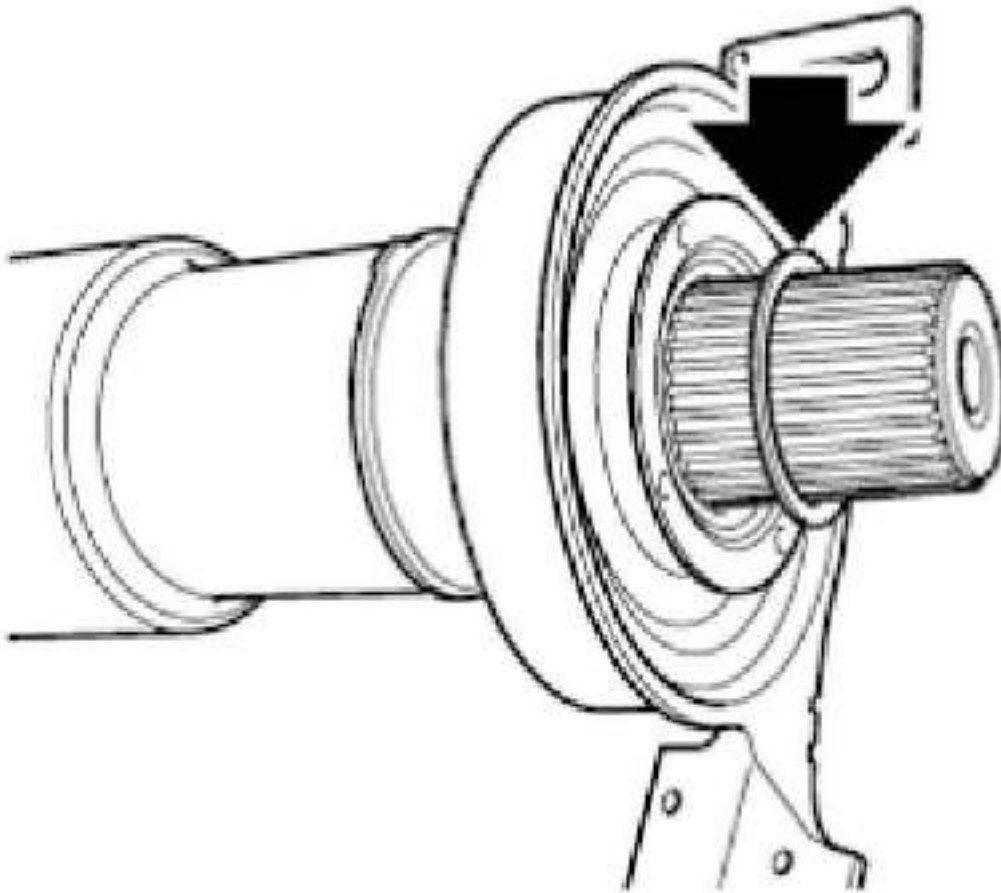


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Fig. 27: Releasing Screw

Courtesy of BMW OF NORTH AMERICA, INC.

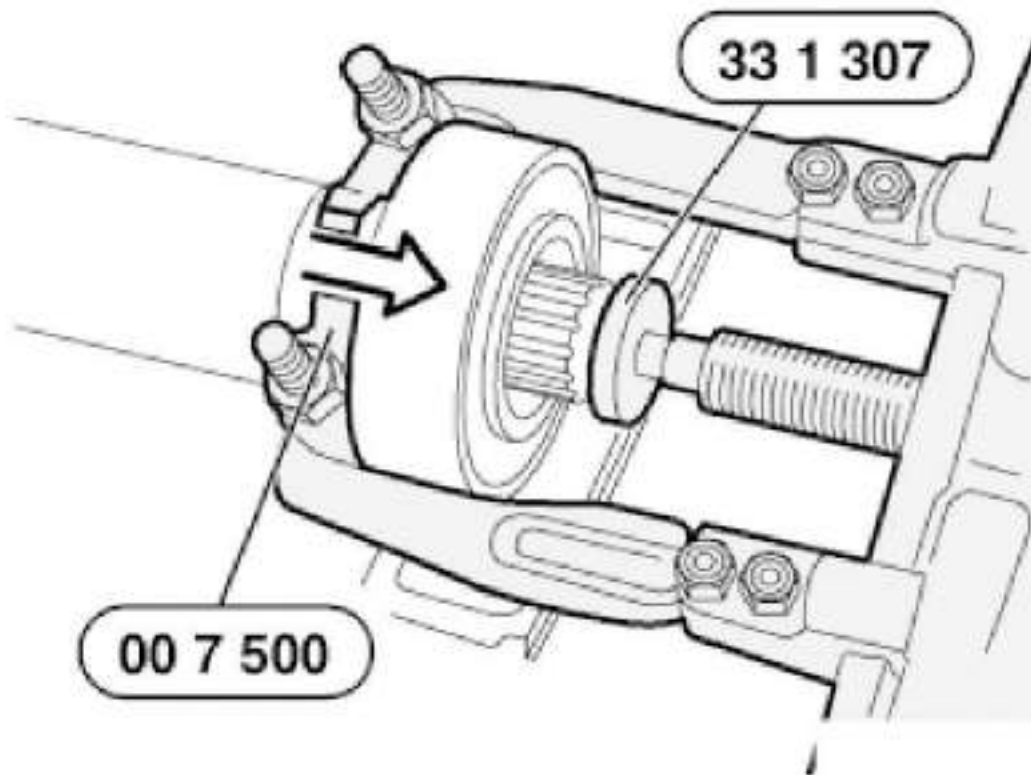
Remove shim and dust gaiter.



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Fig. 28: Removing Shim And Dust Gaiter
Courtesy of BMW OF NORTH AMERICA, INC.

Pull off centre bearing with special tool 00 7 500 / 33 1 307 and commercially available puller.

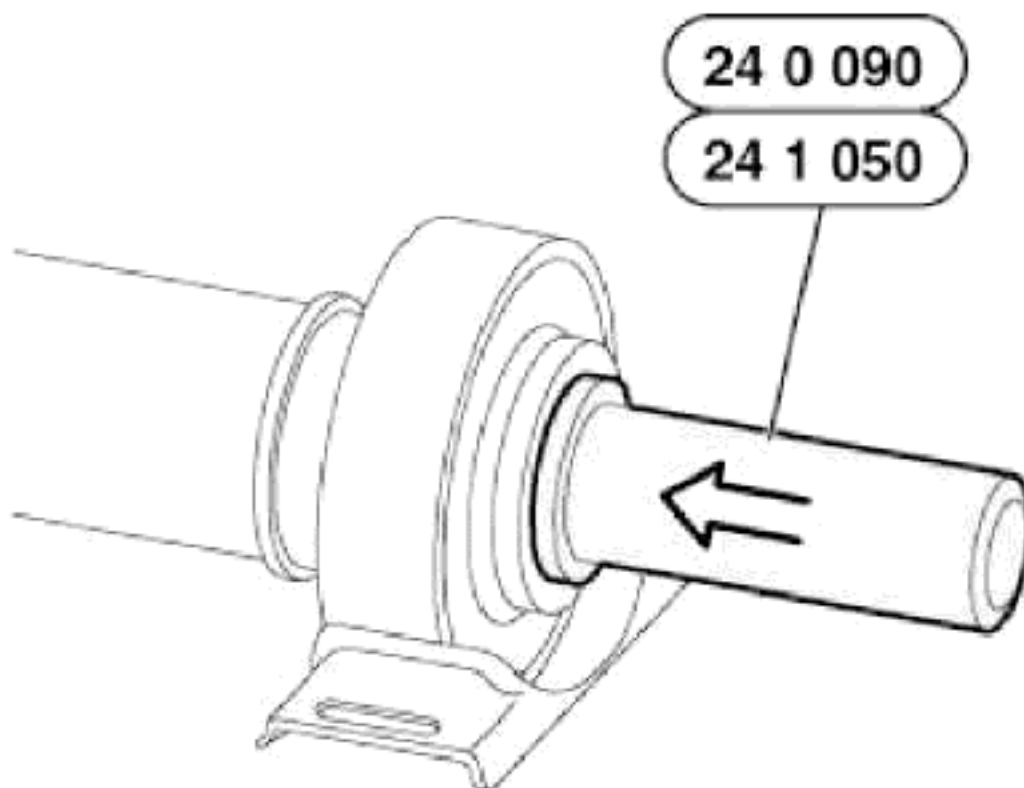


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Fig. 29: Pulling Off Centre Bearing With Special Tool
Courtesy of BMW OF NORTH AMERICA, INC.

Drive new centre bearing firmly home with special tool 24 0 090 or 24 1 050.

NOTE: **Bearing inside diameter 30 mm, use special tool 24 0 090.**
 Bearing inside diameter 35 mm, use special tool 24 1 050.



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Fig. 30: Driving New Centre Bearing Firmly Home With Special Tool
Courtesy of BMW OF NORTH AMERICA, INC.