

---

# **PROPELLER SHAFT**

---

# PROPELLER SHAFT

## CONTENTS

25109000044

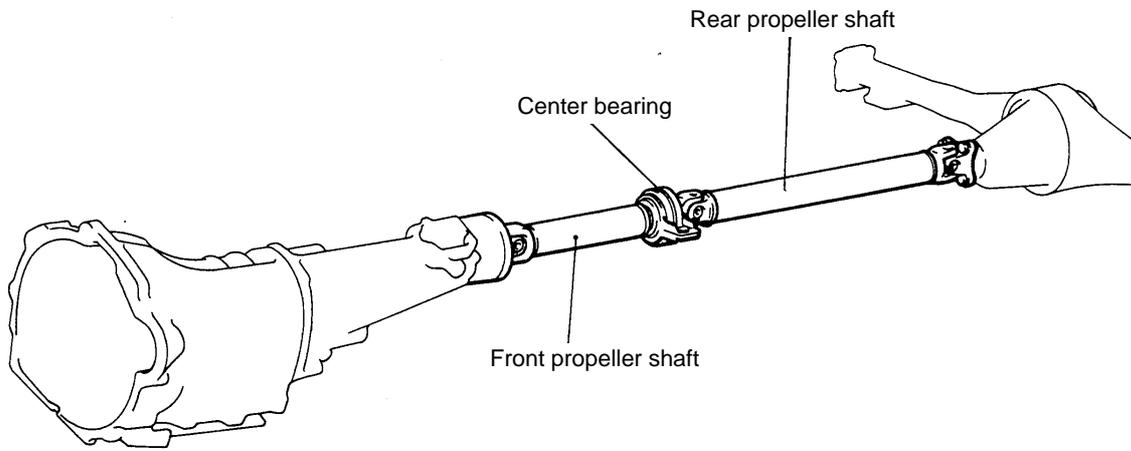
GENERAL INFORMATION .....	2	SPECIAL TOOLS .....	3
SERVICE SPECIFICATIONS .....	2	PROPELLER SHAFT .....	4
LUBRICANT .....	3		



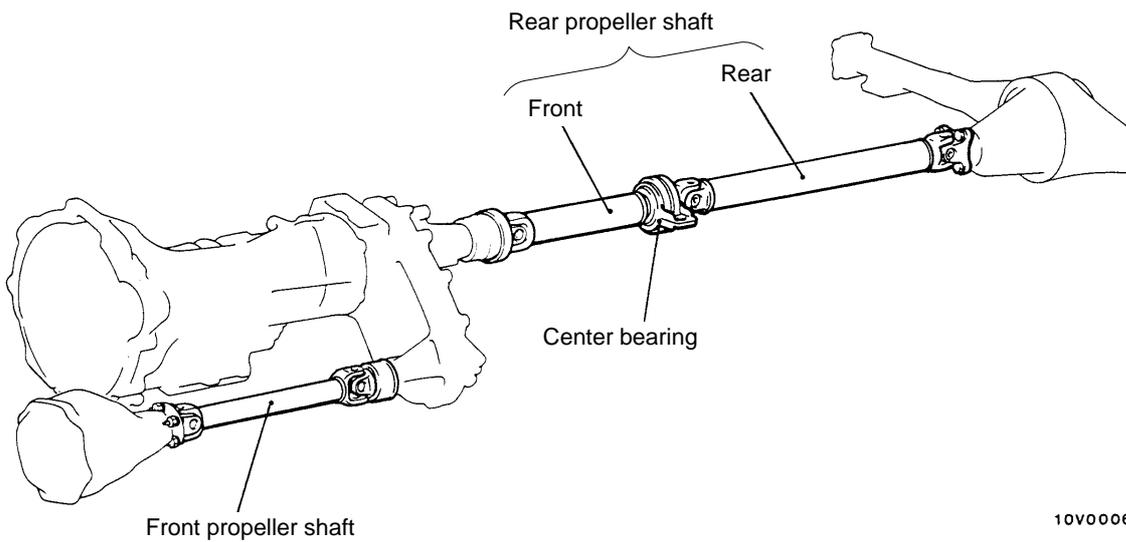
**GENERAL INFORMATION**

25100010039

For 2WD and 4WD, the rear propeller shaft is a 3-joint type with intermediate bearing. For 4WD, the front propeller shaft is a 2-joint type.



10W0023



10V0006

00004947

**SERVICE SPECIFICATIONS**

25100030042

Items	Standard value	Limit
Clearance between snap ring and groove wall of yoke mm	0.03 or less	–
Front propeller shaft runout mm	–	0.6
Rear propeller shaft runout mm	–	0.6

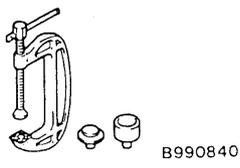
**LUBRICANT**

25100040045

Item	Specified lubricant	Quantity
Sleeve yoke	Hypoid gear oil SAE 75W-85W conforming to API GL-4 or higher	As required

**SPECIAL TOOLS**

25100060041

Tool	Number	Name	Use
 <p>B990840</p>	MB990840	Universal joint re- mover and installer	Disassembly and reassembly of the universal joint
	MB991410	Collar	

**PROPELLER SHAFT**

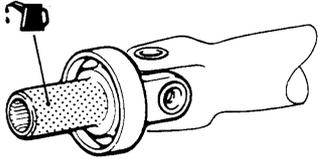
**REMOVAL AND INSTALLATION**

**Pre-removal Operation <4WD>**

- Set the Transfer Shift Lever to "2H"
- Front Under Cover Removal
- Transfer Gear Oil Draining  
(M/T: Refer to GROUP 22 – On-vehicle Service.)  
(A/T: Refer to GROUP 23 – On-vehicle Service.)

**Post-installation Operation <4WD>**

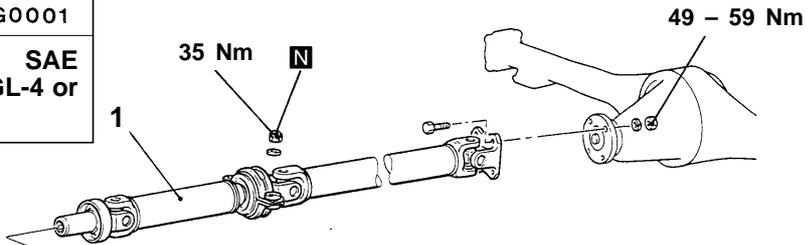
- Transfer Gear Oil Supplying  
(M/T: Refer to GROUP 22 – On-vehicle Service.)  
(A/T: Refer to GROUP 23 – On-vehicle Service.)
- Front Under Cover Installation



10G0001

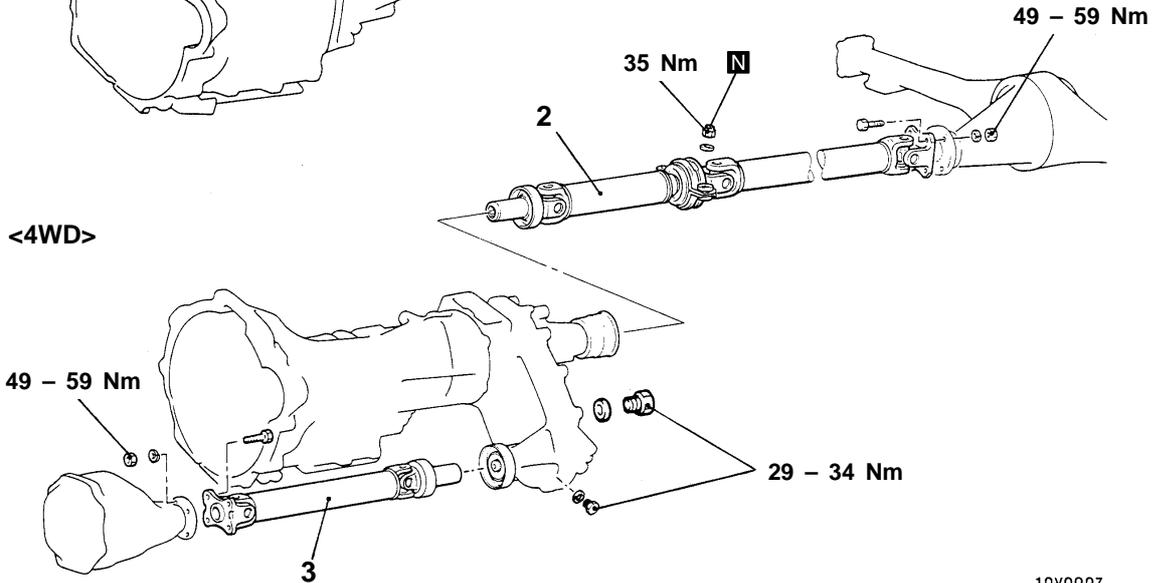
**Gear Oil: Hypoid gear oil SAE 75W-85W conforming to API GL-4 or higher**

<2WD>



10V0008

<4WD>



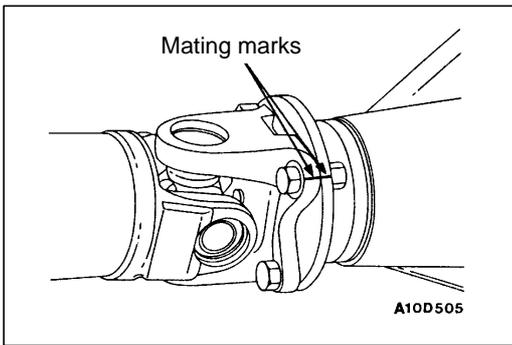
10V0007

00004948

**Removal steps**

- ◀A▶ ▶A◀ 1. Propeller shaft assembly
- ◀A▶ ▶A◀ 2. Rear propeller shaft assembly

- ◀A▶ ▶A◀ 3. Front propeller shaft assembly



**REMOVAL SERVICE POINT**

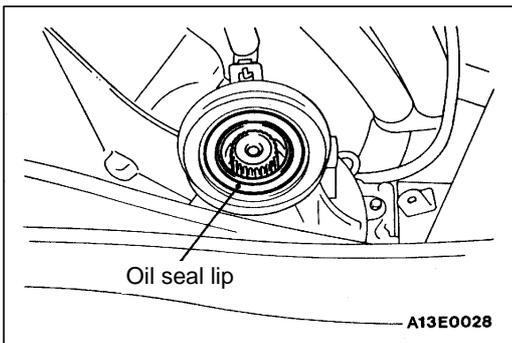
- ◀A▶ PROPELLER SHAFT ASSEMBLY/REAR
- PROPELLER SHAFT ASSEMBLY/FRONT
- PROPELLER SHAFT ASSEMBLY REMOVAL

- (1) Make mating marks on the differential companion flange and flange yoke and remove the propeller shaft.
- (2) Use the plug as a cover so that no foreign material gets into the transmission or transfer.

**INSTALLATION SERVICE POINT**

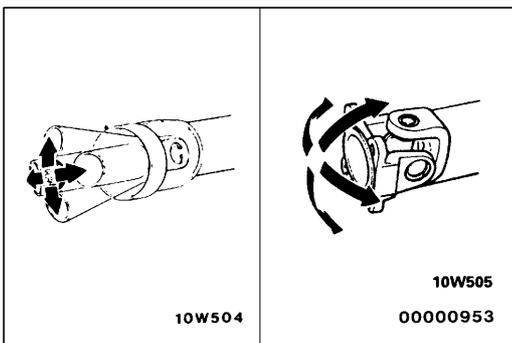
- ▶A◀ PROPELLER SHAFT ASSEMBLY/FRONT
- PROPELLER SHAFT ASSEMBLY/REAR
- PROPELLER SHAFT ASSEMBLY INSTALLATION

Align the mating marks that were made during removal, and then install the propeller shaft assembly to the companion flange.



**Caution**

- (1) Tighten installation bolts after removing oil and grease from threads to prevent them from loosening due to lubrication.
- (2) Be careful not to damage the lip section of the transfer case oil seal when installing the propeller shaft.



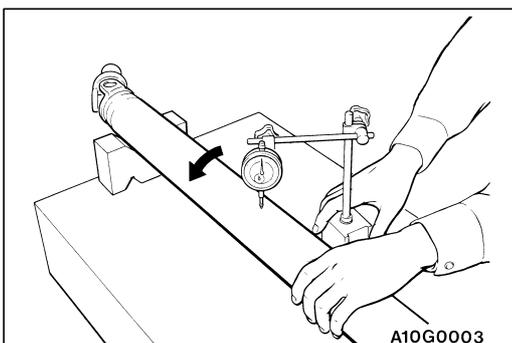
**INSPECTION**

25100110043

- Check the sleeve yoke, center yoke and flange yoke for wear, damage or cracks.
- Check the propeller shaft yokes for wear, damage or cracks.
- Check the propeller shaft for bends twisting or damage.
- Check the universal joints for smooth operation in all directions.
- Check the center bearing for smooth movement.
- Check the center bearing mounting rubber for damage or deterioration.

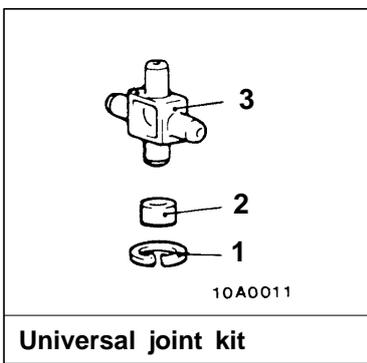
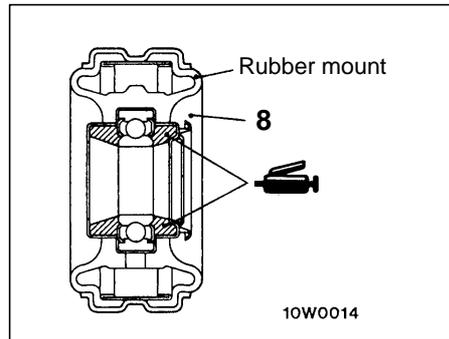
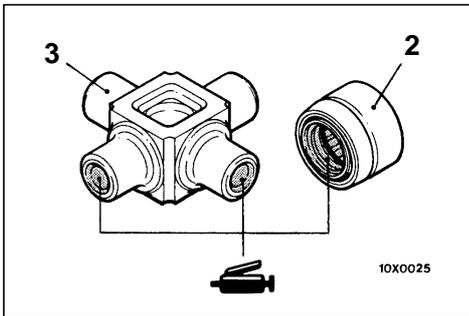
**PROPELLER SHAFT RUNOUT**

Limit: 0.6 mm

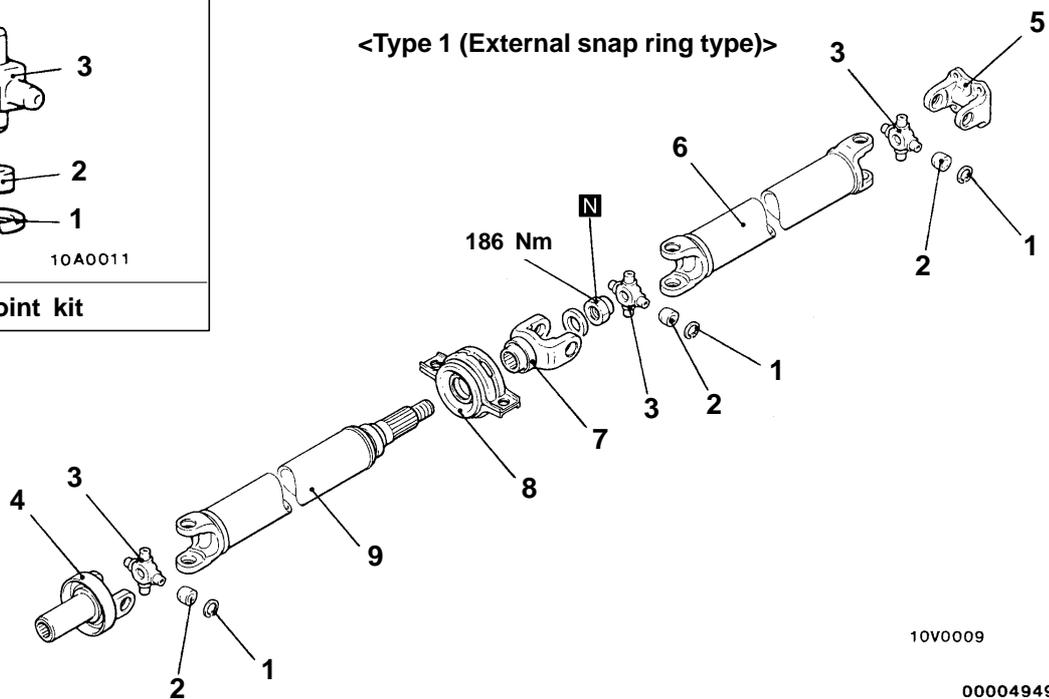


DISASSEMBLY AND REASSEMBLY

<2WD>



<Type 1 (External snap ring type)>



10V0009

00004949

Disassembly steps

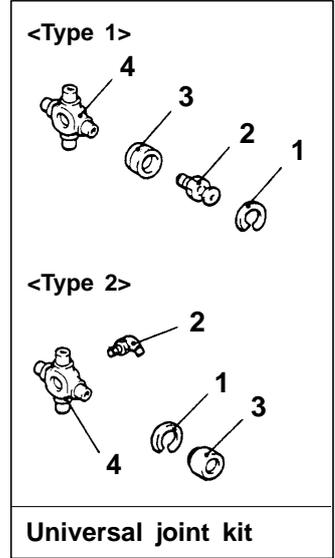
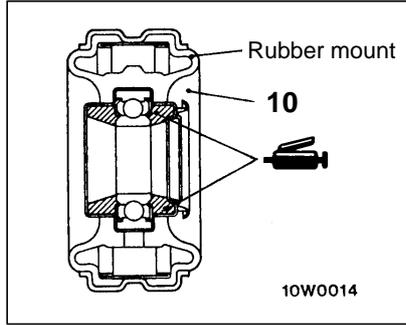
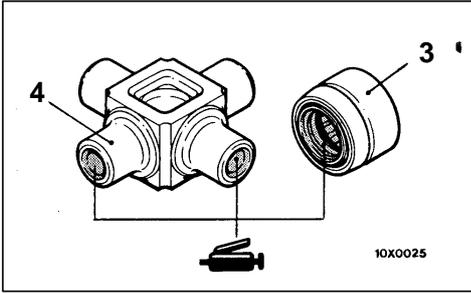


1. Snap ring
2. Journal bearing
3. Journal
4. Sleeve yoke
5. Flange yoke

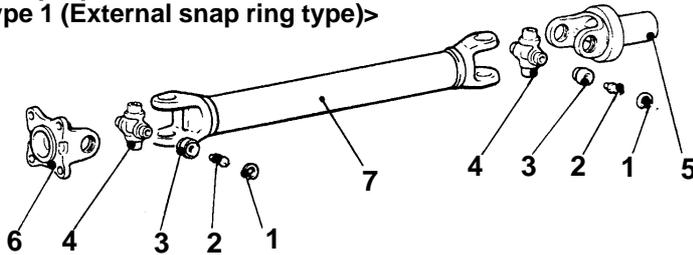


6. Propeller shaft (rear)
7. Center yoke
8. Center bearing assembly
9. Propeller shaft (front)

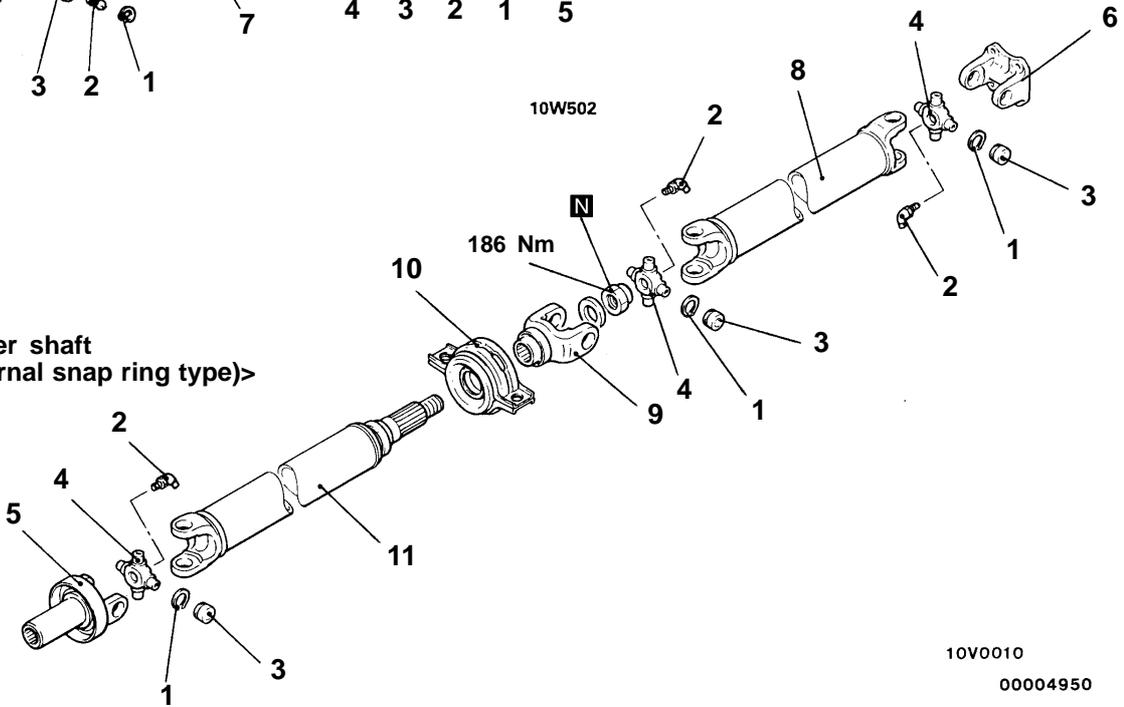
<4WD>



Front propeller shaft  
<Type 1 (External snap ring type)>



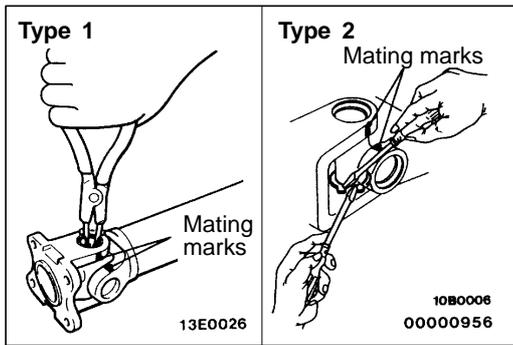
Rear propeller shaft  
<Type 2 (Internal snap ring type)>



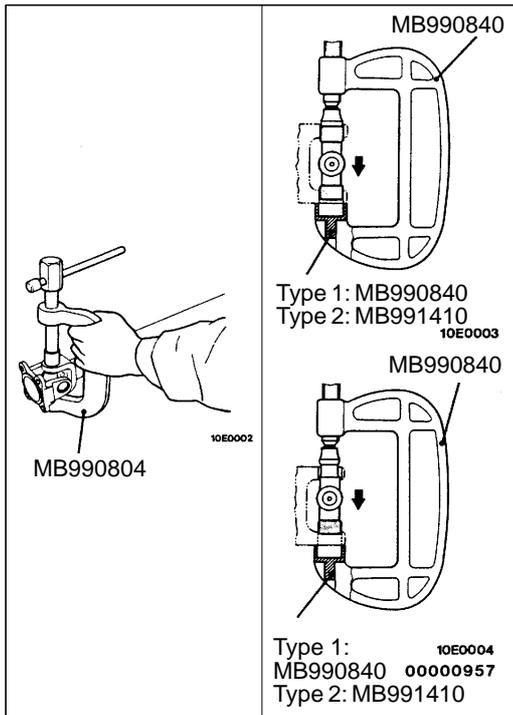
**Disassembly steps**

- ◀A▶ ▶C▶ 1. Snap ring
- ◀B▶ ▶B▶ 2. Grease fitting
- 3. Journal bearing
- 4. Journal
- 5. Sleeve yoke
- 6. Flange yoke

- ◀C▶ ▶A▶ 7. Front propeller shaft
- ◀D▶ ▶A▶ 8. Propeller shaft (rear)
- 9. Center yoke
- 10. Center bearing assembly
- 11. Propeller shaft (front)

**DISASSEMBLY SERVICE POINTS****◀A▶ SNAP RING REMOVAL**

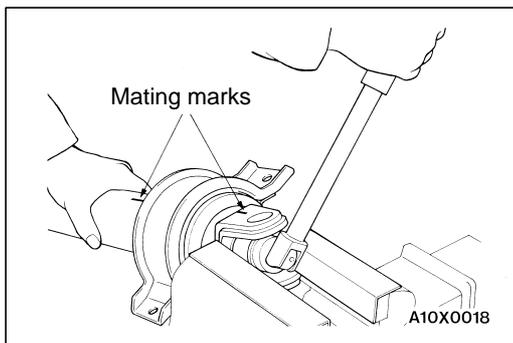
Make mating marks on the yokes of the universal joint that is to be disassembled.

**◀B▶ JOURNAL BEARING REMOVAL**

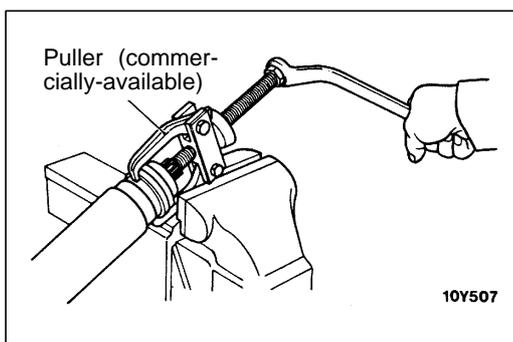
- (1) Use the special tool to press in the journal bearing on one side, and take out the journal bearing on the opposite side.
- (2) Insert the special tool in the other side and press the journal to remove the first journal bearing that was pushed.

**Caution**

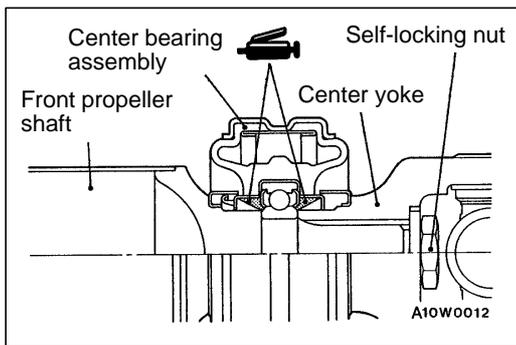
**Do not tap the journal bearings to remove them, as this will upset the balance of the propeller shaft.**

**◀C▶ CENTER YOKE REMOVAL**

Place a mating mark on the center yoke and front propeller shaft, and then remove the center yoke.

**◀D▶ CENTER BEARING ASSEMBLY REMOVAL**

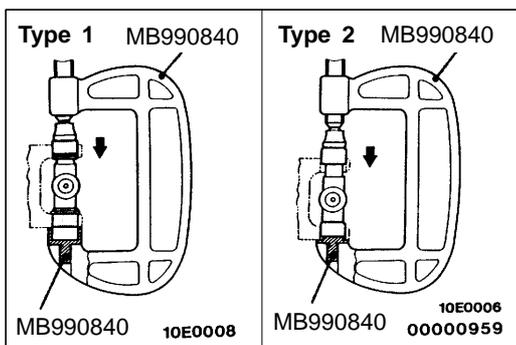
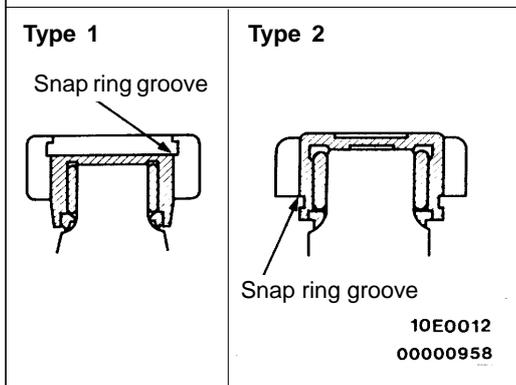
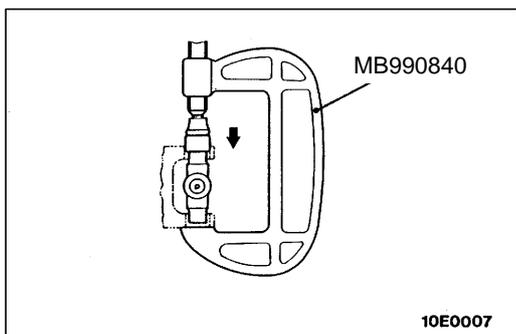
After removing the rubber mount, use a commercially-available puller to remove the center bearing.



**REASSEMBLY SERVICE POINTS**

**►A◄ CENTER BEARING ASSEMBLY/CENTER YOKE INSTALLATION**

- (1) Install the center bearing assembly to the front propeller shaft as shown in the illustration.
- (2) Align the mating marks on the center yoke and front propeller shaft.
- (3) Press-fit the center bearing assembly with the center yoke while tightening the self-locking nut.



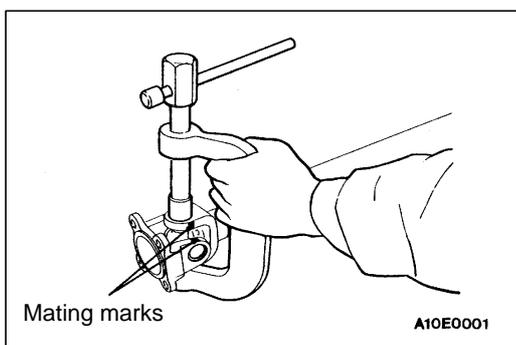
**►B◄ JOURNAL BEARING INSTALLATION**

- (1) Use the special tool to press the journal bearing into the yoke until the snap ring groove is fully visible.

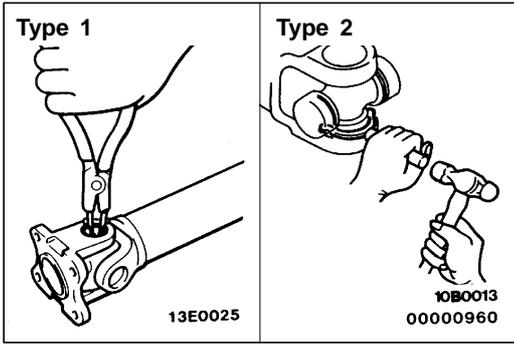
- (2) Use the special tool to press the opposite side journal bearing into the yoke.

**Caution**

**Be careful when pressing the journal bearings, as if they are pressed at an angle, the inside of the journal bearings will be damaged by the journal.**

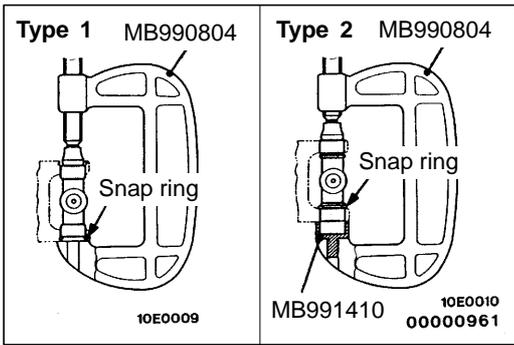


- (3) Align the mating marks on the yoke and propeller shaft, and install the propeller shaft journal bearings in the method described in (1) and (2) above.

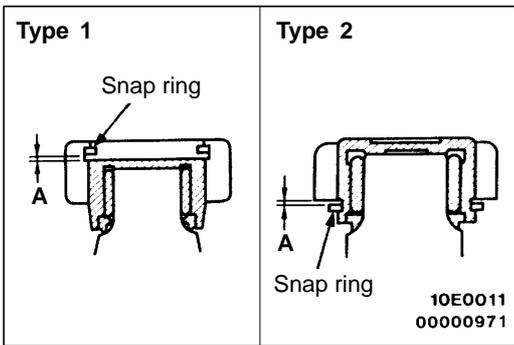


▶C◀ SNAP RING INSTALLATION

(1) Install a snap ring to one side of the journal.



(2) Use the special tool at the opposite side of the installed snap ring to press in the journal bearing towards the snap ring.



(3) Install the snap ring on the opposite side, and measure the clearance of the snap ring groove with a thickness gauge.

**Standard value (A): 0.03 mm or less**

**Caution**

**Always use snap rings of equal thicknesses on both sides.**

(4) If the clearance exceeds the standard value, adjust by changing the thickness of the snap ring.

Thickness mm Type 1	Thickness mm Type 2	Identification color
1.28	1.50	–
1.31	1.55	Yellow
1.34	1.60	Blue
1.37	1.65	Purple