

---

# PROPELLER SHAFT

## CONTENTS

E25AA--

<b>SPECIFICATIONS</b> .....	<b>2</b>	<b>SPECIAL TOOLS</b> .....	<b>2</b>
Service Specifications .....	2	<b>PROPELLER SHAFT</b> .....	<b>3</b>
Lubricants .....	2		

**SPECIFICATIONS****SERVICE SPECIFICATIONS**

E25CB--

Items	Specifications
Standard value Clearance between snap ring and groove wall of yoke	mm (in.) 0.06 (0.0024) or less
Limit Propeller shaft runout	mm (in.) 0.6 (0.024)
Front propeller shaft	0.6 (0.024)
Rear propeller shaft	0.6 (0.024)

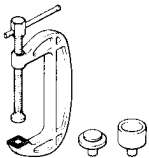

**LUBRICANTS**

E25CD--

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

**SPECIAL TOOLS**

E25DA--

Tool	Number	Name	Use
	MB990840	Universal joint remover/installer	Disassembly and reassembly of universal joint
	MB991410	Colar	

**PROPELLER SHAFT**

**REMOVAL AND INSTALLATION**

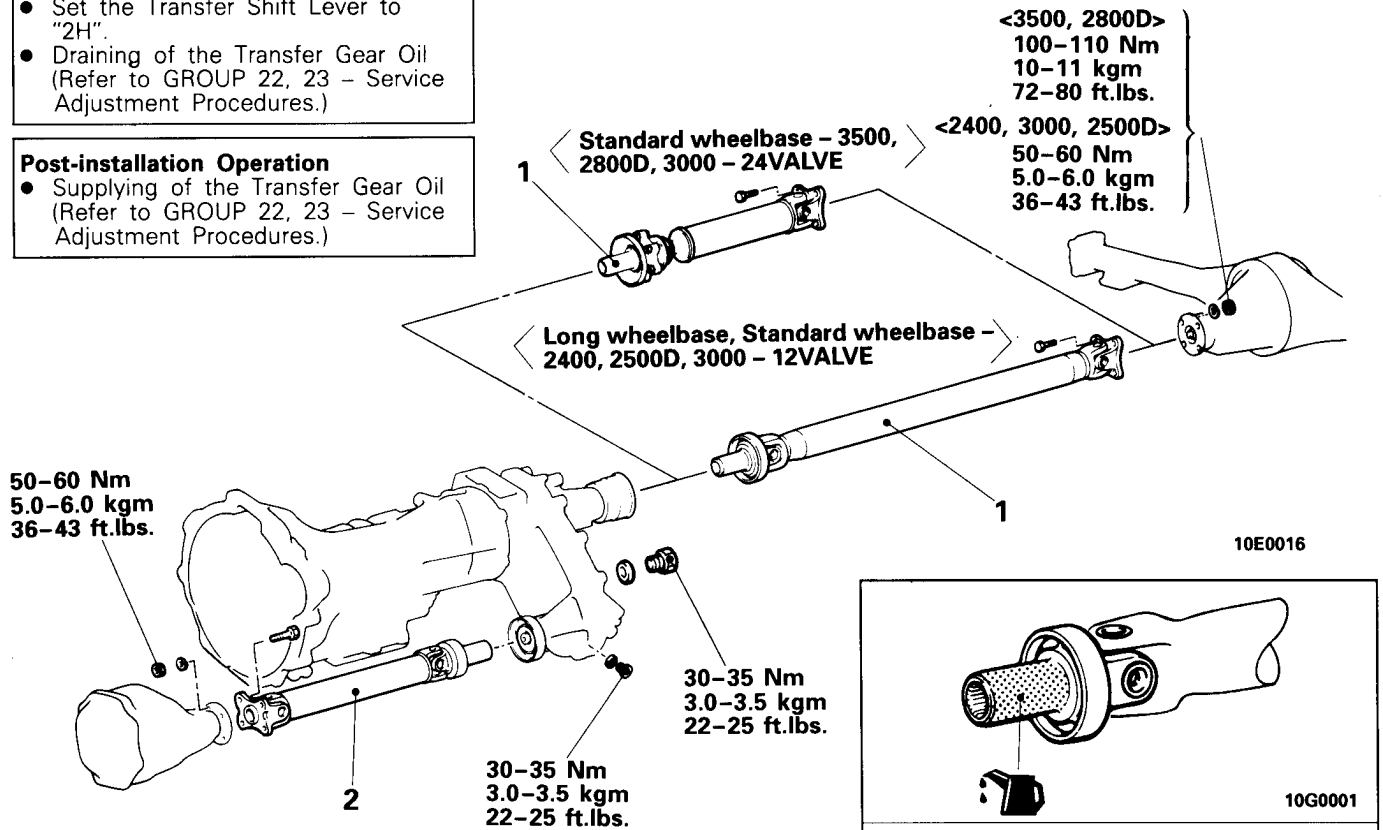
E25GA--

**Pre-removal Operation**

- Set the Transfer Shift Lever to "2H".
- Draining of the Transfer Gear Oil (Refer to GROUP 22, 23 – Service Adjustment Procedures.)

**Post-installation Operation**

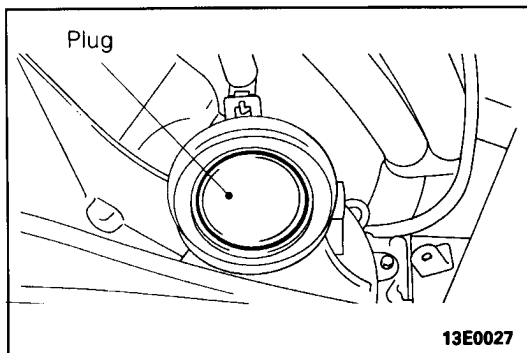
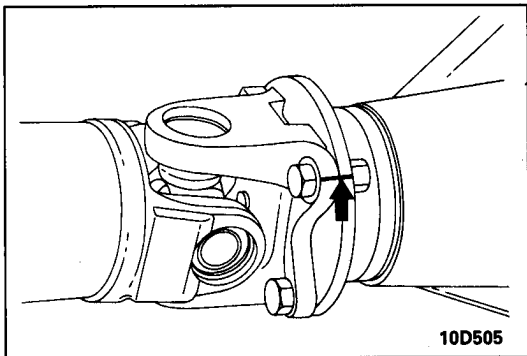
- Supplying of the Transfer Gear Oil (Refer to GROUP 22, 23 – Service Adjustment Procedures.)



**Removal steps**

- ◄◄ ◄◄ 1. Rear propeller shaft
- ◄◄ ◄◄ 2. Front propeller shaft

**Gear oil: Hypoid gear oil API GL-4, SAE 75W-90 or 75W-85W**

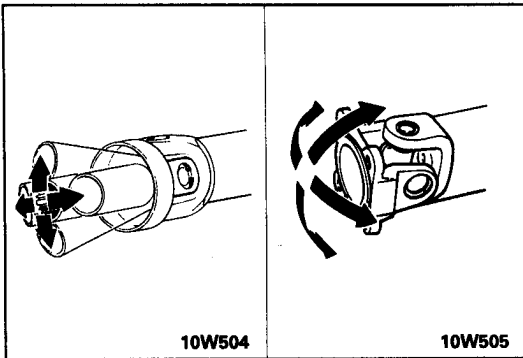


**SERVICE POINTS OF REMOVAL**

E25GBAG

**1. REMOVAL OF REAR PROPELLER SHAFT/2. FRONT PROPELLER SHAFT**

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

**INSPECTION**

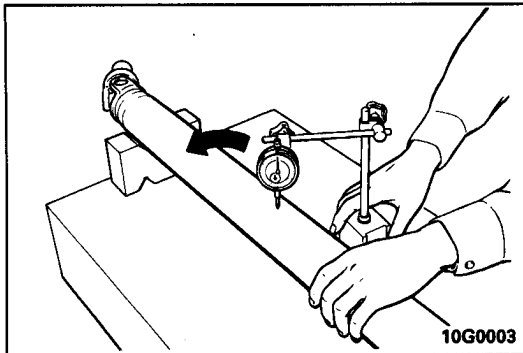
E25GCAH

- Check the universal joints for smooth operation in all directions.
- Check the sleeve 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.

**PROPELLER SHAFT RUNOUT**

Measure the propeller shaft runout with a dial indicator.

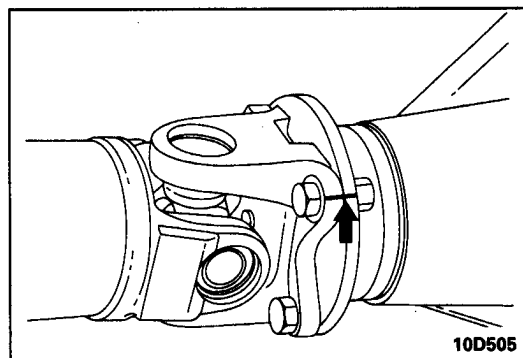
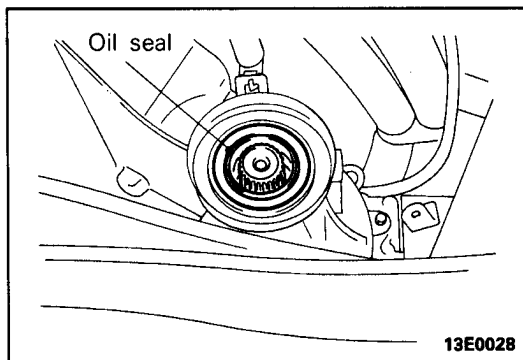
<b>Limit: Front propeller shaft</b>	<b>0.6 mm (0.024 in.)</b>
<b>Rear propeller shaft</b>	<b>0.6 mm (0.024 in.)</b>

**SERVICE POINTS OF INSTALLATION**

E25GDAI

**2. INSTALLATION OF FRONT PROPELLER SHAFT/1. REAR PROPELLER SHAFT****Caution**

**Be careful not to damage the oil seal lip section of the transmission and transfer.**



Install the propeller shaft to the companion flange so that the mating marks are aligned.

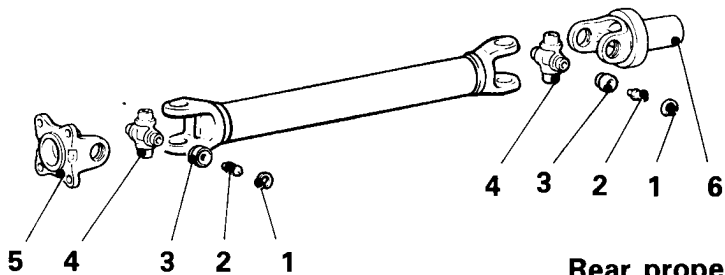
**Caution**

**If the threads of the bolts and nuts are stained with oil or grease, they can become loose. Completely remove oil or grease from the threads before tightening the bolts and nuts.**

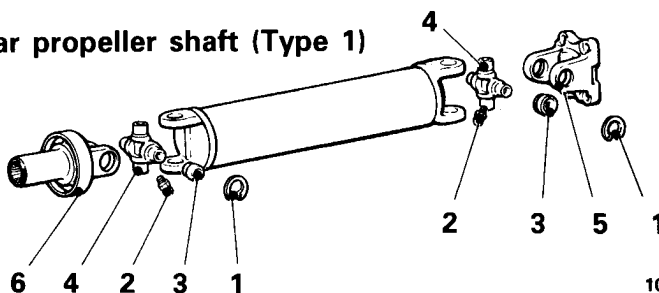
DISASSEMBLY AND REASSEMBLY

E25GE--

Front propeller shaft

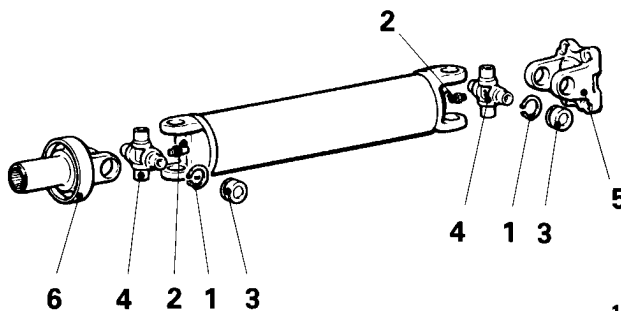


Rear propeller shaft (Type 1)



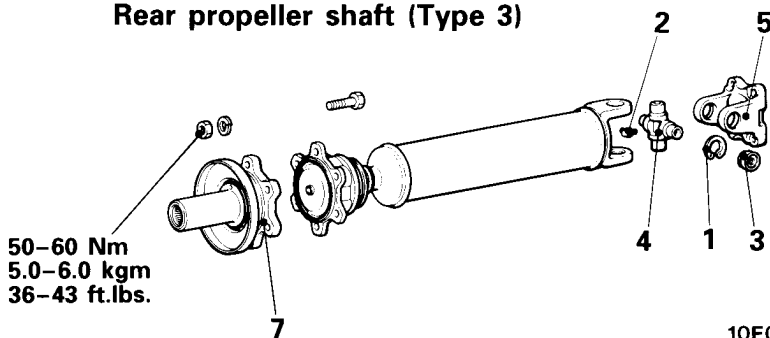
10W502

Rear propeller shaft (Type 2)

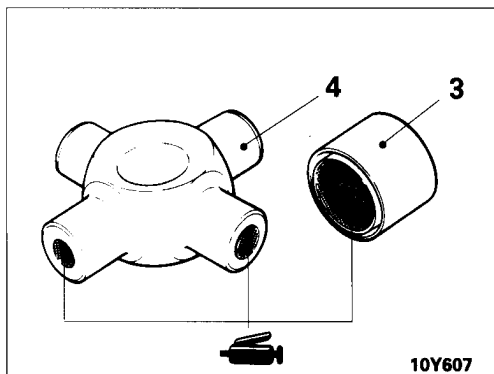


10W508

Rear propeller shaft (Type 3)



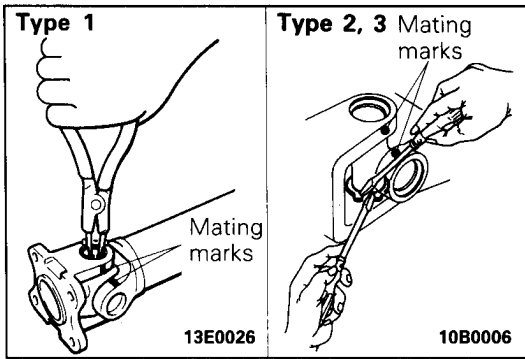
10E0013



**Caution**  
Do not apply grease excessively. Otherwise, faulty fitting of bearing caps and errors in the selection of snap rings may result.

Disassembly steps

- ◀◀◀◀ 1. Snap ring
- ◀◀◀◀ 2. Grease fitting
- ◀◀◀◀ 3. Journal bearing
- ◀◀◀◀ 4. Journal
- ◀◀◀◀ 5. Flange yoke
- ◀◀◀◀ 6. Sleeve yoke
- ◀◀◀◀ 7. Sleeve flange

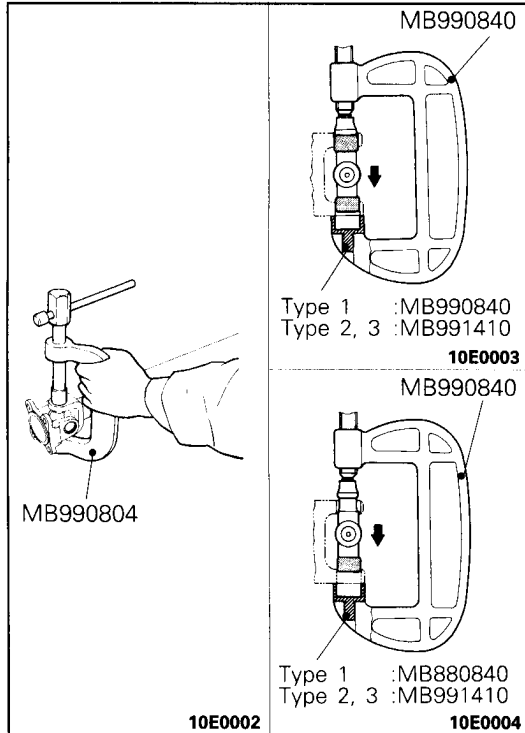


**SERVICE POINTS OF DISASSEMBLY**

E25GFAL

**1. REMOVAL OF SNAP RING**

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



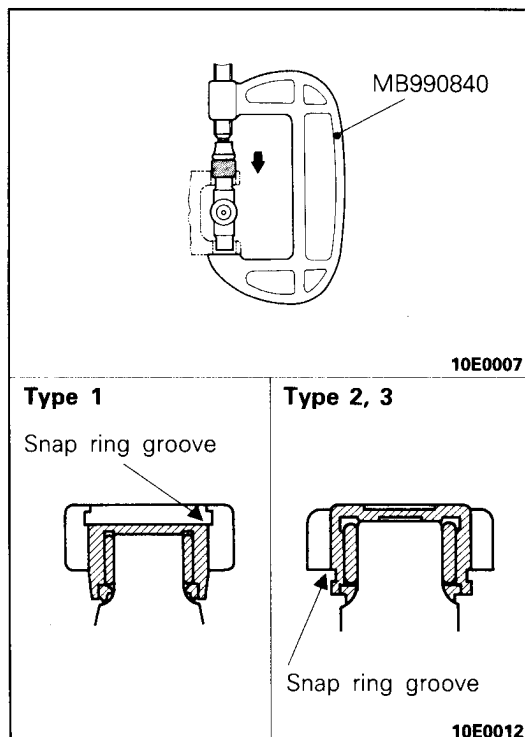
**3. REMOVAL OF JOURNAL BEARING**

(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.**

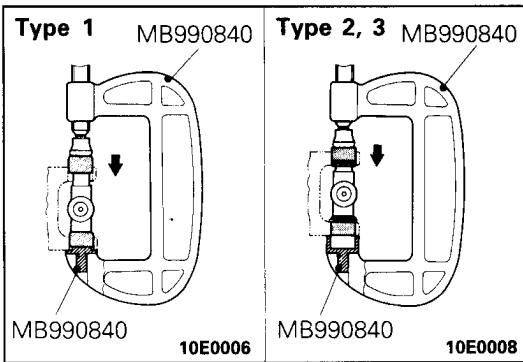


**SERVICE POINTS OF REASSEMBLY**

E25GHAK

**4. INSTALLATION OF JOURNAL/3. JOURNAL BEARING**

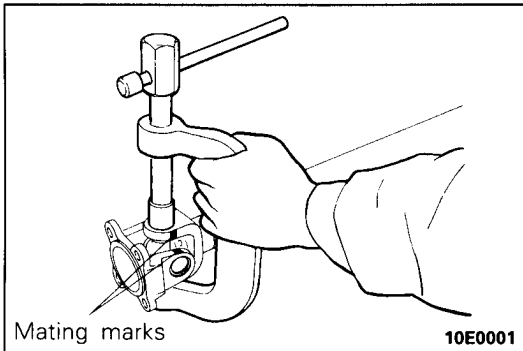
(1) Fit the journal onto the yoke.  
 (2) Use the special tool to press the journal bearing into the yoke until the snap ring groove is fully visible.



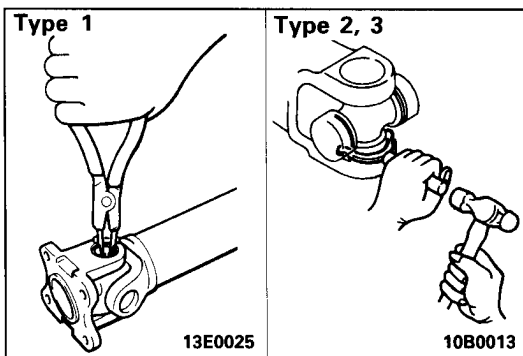
- (3) Use the special tool to press the opposite side journal bearing into the yoke.

**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.**

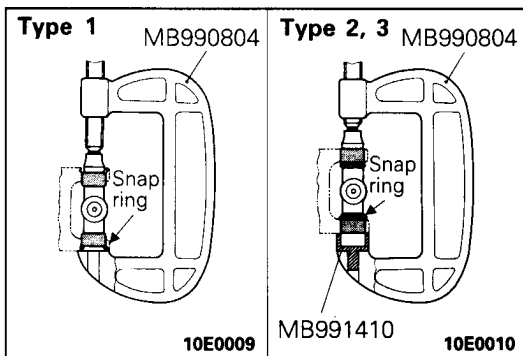


- (4) Align the mating marks on the yoke and propeller shaft, and install the propeller shaft journal bearings in the method described in (2) and (3) above.

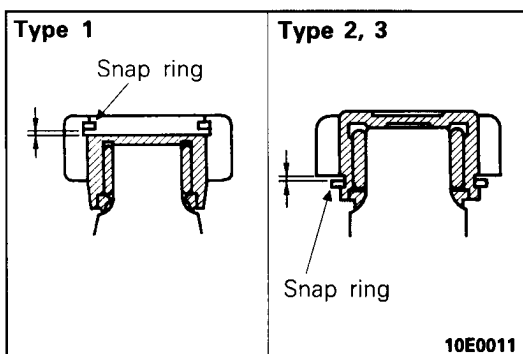


**1. INSTALLATION OF SNAP RING**

- (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: 0.06 mm (0.0024 in.) 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.

	Snap ring thickness mm (in.)	Identification colour
Front propeller shaft Rear propeller shaft (type 1)	1.28 (0.050)	–
	1.31 (0.052)	Yellow
	1.34 (0.053)	Blue
	1.37 (0.054)	Purple
Rear propeller shaft (type 2)	1.50 (0.059)	–
	1.55 (0.061)	Yellow
	1.60 (0.063)	Blue
	1.65 (0.065)	Purple