PROPELLER SHAFT AND UNIVERSAL JOINTS

CONTENTS

GENERAL SPECIFICATIONS

mm (in.)

Propeller shaft		
Type		Two-joint type
Length x O.D.	Front	665 x 50.8 (26.2 x 2.0)
	Rear	598 x 75.0 (23.5 x 3.0)
Universal joint		
Type		Cross type
Bearing		Lubricated needle roller bearing
Journal O.D.		14.7 (.58)

SERVICE SPECIFICATIONS

mm (in.)

Service limits		
Propeller shaft runout (Dial indicator reading)		
	Front	0.5 (.02)
	Rear	0.6 (.024)
Journal end play		0.06 (.0024)

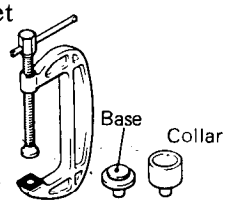
TORQUE SPECIFICATION

Nm (ft.lbs.)

Flange yoke attaching bolts	50-60 (36-43)

LUBRICANTS

	Specified lubricant	Quantity
Universal joint	Multipurpose grease, SAE J310a, NLGI grade #2EP	As required
Sleeve yoke surface	Hypoid gear oil, SAE 80, 75W-85W conforming to API GL-4	As required

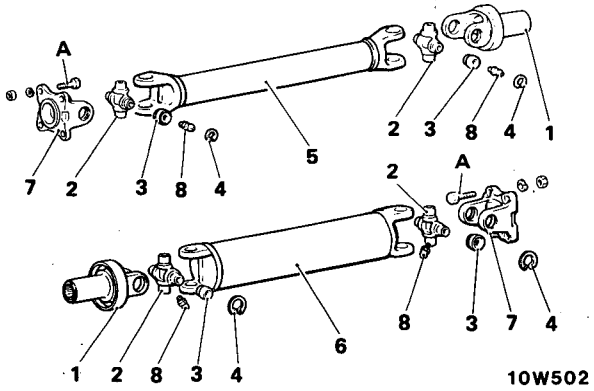
Tool (Number and name)	Use
MB990840 Universal joint remover and installer set 	Removal and installation of journal bearing

TROUBLESHOOTING

Symptom	Probable cause	Remedy
Abnormal noise	Universal joint bearings worn, damaged or broken Sleeve yoke loose in transmission Universal joint yokes worn or broken	Replace
	Companion flange bolts loose	Torque to specifications
Vibration	Universal joints worn, damaged or broken Sleeve yoke loose in transmission Propeller shaft bent, distorted or damaged Universal joint yokes out of phase	Replace
	Companion flange bolts loose	Torque to specifications

COMPONENTS

1. Sleeve yoke assembly
2. Journal
3. Journal bearing
4. Snap ring
5. Front propeller shaft
6. Rear propeller shaft
7. Flange yoke
8. Grease nipple



	Nm	ft.lbs.
A	50-60	36-43

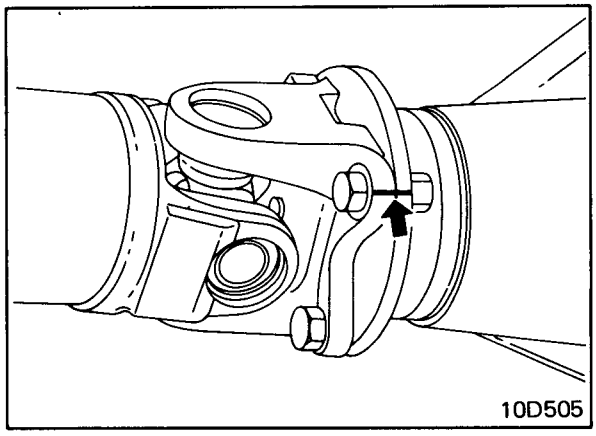
REMOVAL

1. Place the free wheel hubs in the FREE position and set the transfer lever to "2H".
2. Make mating marks on the flange yoke and the differential companion flange. (10D505)
3. Detach the propeller shafts from the front and rear differential carrier assemblies.
4. Remove the propeller shafts.

Caution

Be careful not to damage the lip of the transmission oil seal or the lip of the transfer oil seal.

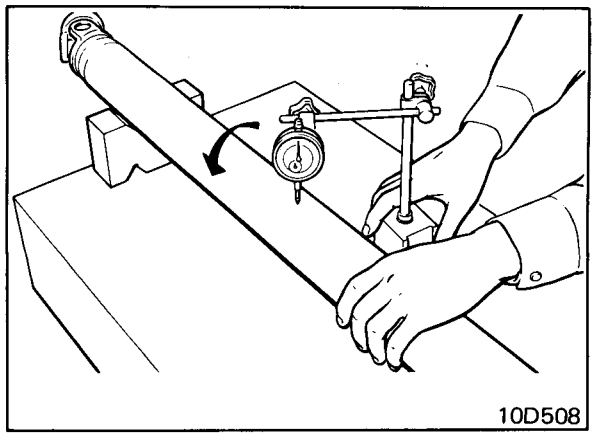
Do not allow foreign matter to enter the transmission or transfer.



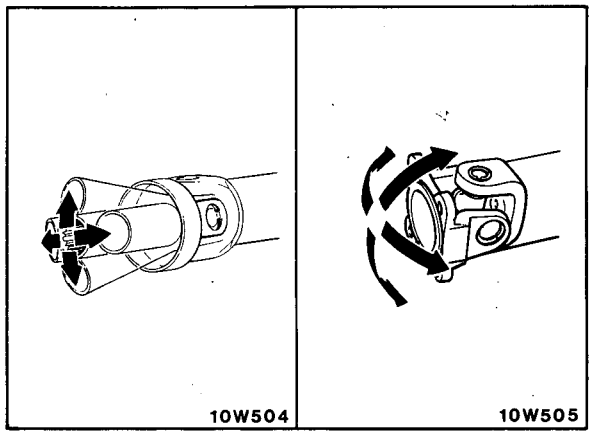
INSPECTION

1. Check sleeve yoke and flange yoke for wear, damage or cracks.
2. Check propeller shaft yokes for wear, damage or cracks.
3. Check propeller shaft for bends, twisting or damage. (10D508)

Propeller shaft runout (Dial indicator reading)	
[Service limit]	Front 0.5 mm (.02 in.)
	Rear 0.6 mm (.024 in.)

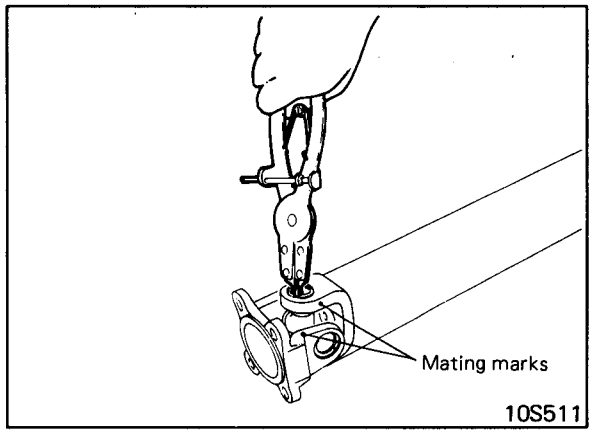


4. Check universal joints for smooth operation in all directions.



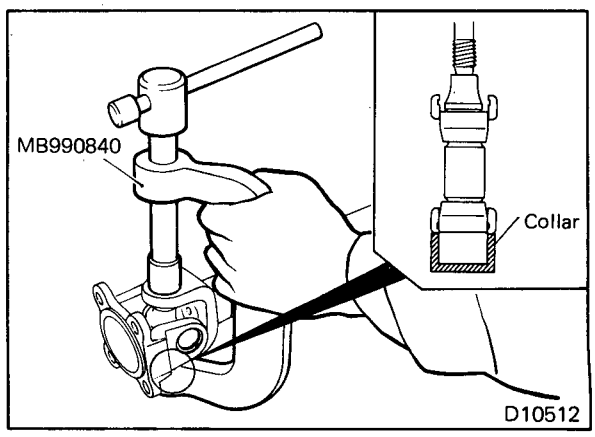
UNIVERSAL JOINT REPLACEMENT

1. Make mating marks on the yokes of the universal joint that is to be disassembled. (10S511)
2. Remove the snap rings from the yoke with snap ring pliers. (10S511)

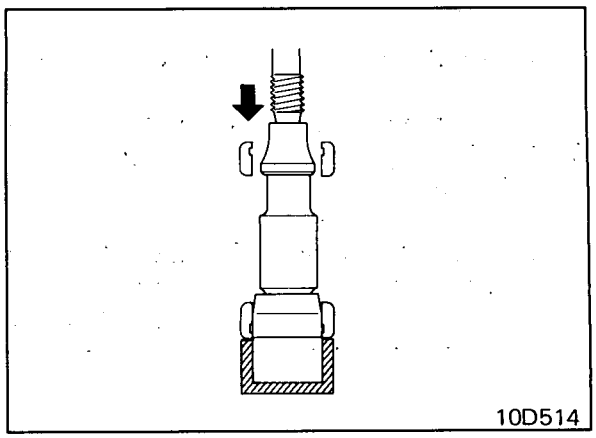


3. Remove the journal bearings from the propeller shaft yoke with the special tool. Use the collar as illustrated.

NOTE
If the journal bearings are hard to remove, strike the yoke with a plastic hammer.



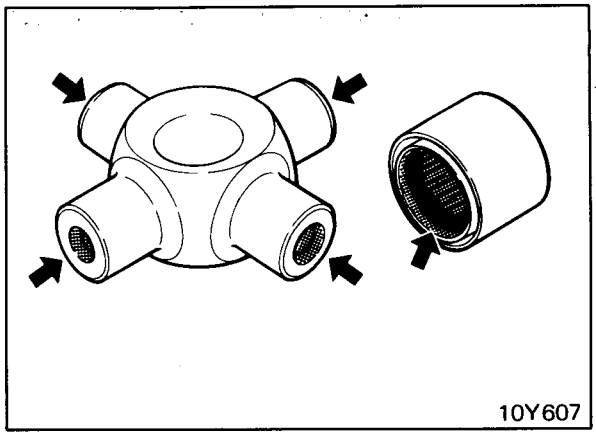
4. Press the journal shaft using special tool to remove the remaining bearing. (10D514)
5. Separate the universal joint from the yokes.



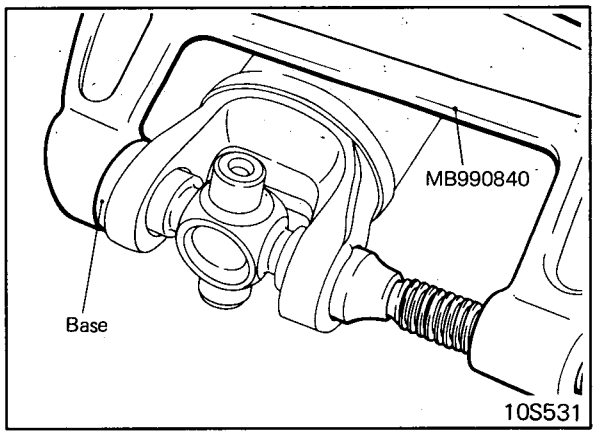
6. Apply the specified multipurpose grease to the following parts of universal joint kit:
   (1) Shafts and grease sumps of journal
   (2) Dust seal lips
   (3) Needle roller bearings

Specified multipurpose grease	SAE J310a, NLGI grade #2EP

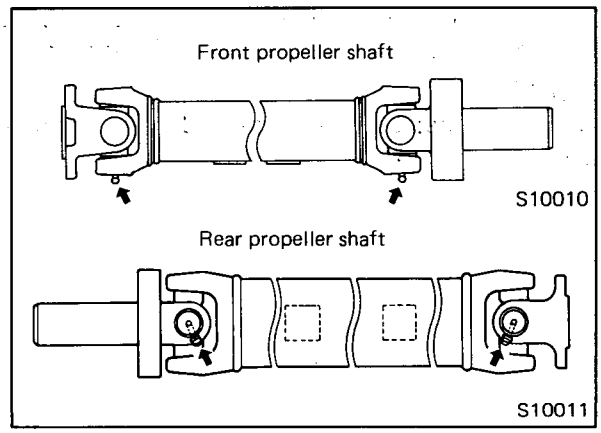
Caution
Use of excessive amounts of grease may result in difficulty in assembling unit and incorrect selection of snap rings.



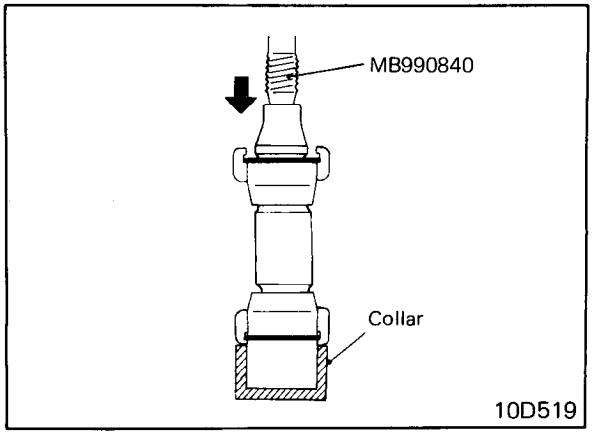
7. Press the journal bearings to the yoke with the special tool and base as illustrated. Be sure to align the mating marks on the yokes.



8. When attaching the universal joint journals to the propeller shaft, be sure that the grease nipples face in the same direction for the front propeller shaft, and that they face each other (as shown in the figure) for the rear propeller shaft.



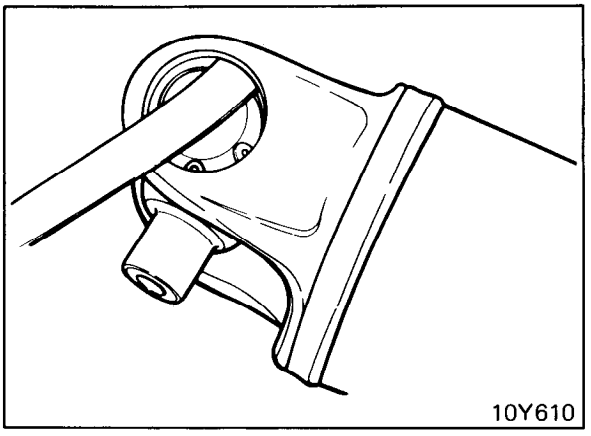
9. Install snap rings of the same thickness onto both sides of each yoke. Press the bearing and journal into one side with the special tool. (10D519)



10. Measure the clearance between the snap ring and the groove wall of the yoke with a feeler gauge. (10Y610)

Journal end play [Service limit] .....
0.06 mm (.0024 in.)

If the clearance exceeds the service limit, the snap rings should be replaced.



INSTALLATION

1. Apply hypoid gear oil to the sleeve yoke and install the propeller shaft into the transmission.

Specified hypoid gear oil .....
SAE80, 75W-85W conforming to API GL-4

2. Align the mating marks on the flange yoke and the differential companion flange.
3. Install bolts and torque to specifications.

Flange yoke bolt tightening torque .....
50-60 Nm (36-43 ft.lbs.)