

GROUP 10

PROPELLER SHAFT

CONTENTS

SECTION 1 GENERAL	1	2. Disassembly and Reassembly	2
1. Removal and Installation	1	2-1 Disassembly	2
1-1 Removal	1	2-2 Inspection	2
1-2 Installation	1	2-3 Reassembly	2

SEC. 1 GENERAL

The propeller shaft is different in length and sleeve yoke between a manual transmission and an automatic transmission. Otherwise, the propeller shafts of these models are identical.

Needle bearings employed are maintenance-free, sealed-for-life type. They do not require lubrication except when they have been disassembled.

1. Removal and Installation

1-1 Removal

Remove the flange yoke bolts connecting the flange yoke to the differential pinion flange, and

remove the propeller shaft by drawing it out at its sleeve yoke end.

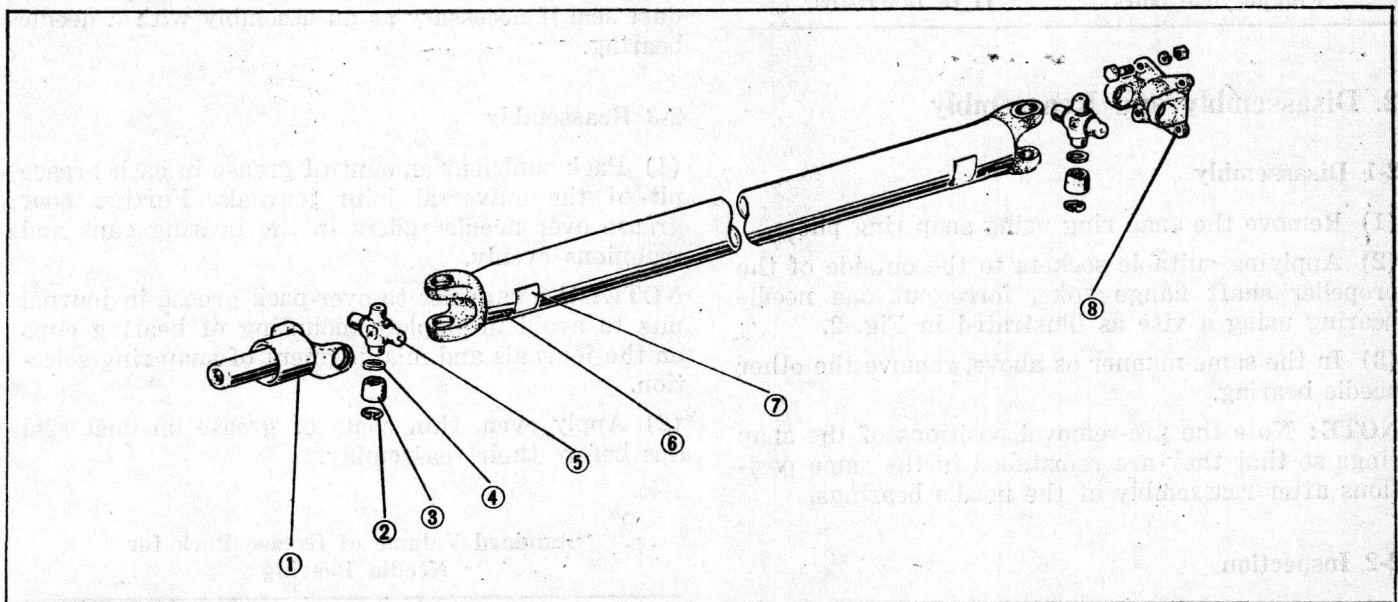
NOTE: Since the propeller shaft sleeve end is pulled out from the transmission extension housing with the transmission still mounted, overflow of the transmission oil, damage of oil seal lip or entrance of dust may result if the vehicle is raised higher toward its front end. Use extreme care in removing the propeller shaft.

1-2 Installation

After having inserted the sleeve yoke end in the transmission extension housing, tighten the flange yoke bolts to the torque as specified.

Propeller Specifications

Description	Dimensions	Remarks
Propeller shaft (Length × O.D. × I.D.)	47 × 2.75 × 2.63 in.	Manual transmission
	49.6 × 2.75 × 2.63 in.	Automatic transmission
Universal joint		
Type	Cross shaft type	
Bearing concealed	Grease-packed needle bearing	
Journal O.D.	0.57760 to 0.57831 in. (14.671 to 14.689 mm)	



- | | | |
|--------------------|-----------------------------|---------------------------------|
| (1) Sleeve yoke | (4) Dust seal | (7) Balance weight |
| (2) Snap ring | (5) Universal joint journal | (8) Propeller shaft flange yoke |
| (3) Needle bearing | (6) Propeller shaft | |

Fig. 1 Propeller Shaft Components

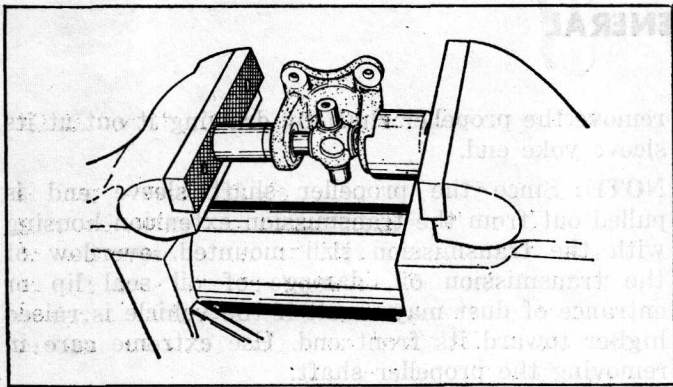


Fig. 2 Removing a Needle Bearing

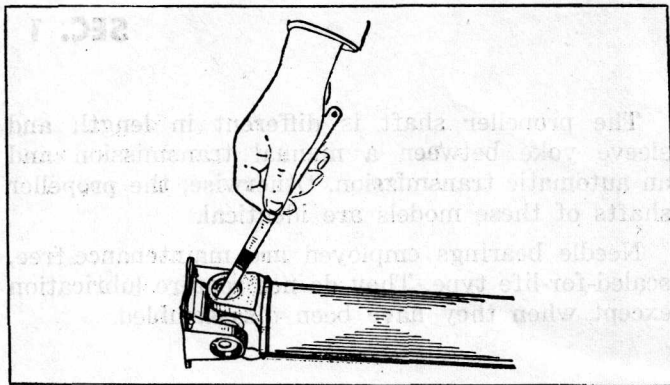


Fig. 4 Measuring for Snap Ring Selection

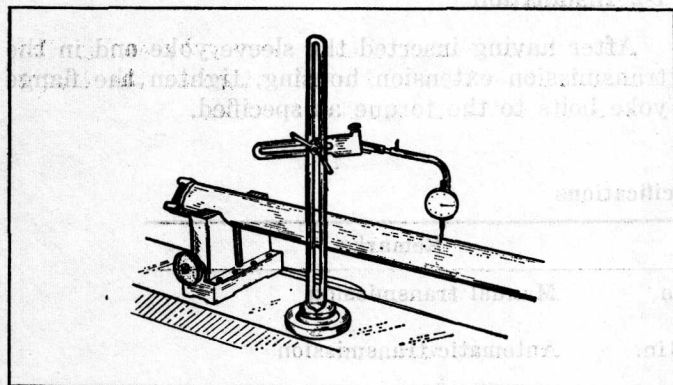


Fig. 3 Checking Propeller Shaft Bend

shaft check the amount of bend. If the bend exceeds the standard dimension or the propeller shaft indicates cracks over the tubing or on yoke weld seams, replace the propeller shaft. (Fig. 3)

Description	Standard dimension	Remarks
Propeller shaft bend	Within 0.012 in.	Within 0.023 in. of dial indicator reading

(2) If the universal joint journals indicate impressions of needle rollers, dent pitting or rust, replace both the universal joint journals and needle bearings as an assembly.

(3) Check the dust seals for the needle bearings for deformation, wear and damage, and replace the dust seal if necessary as an assembly with a needle bearing.

2-3 Reassembly

(1) Pack sufficient amount of grease in each grease pit of the universal joint journals. Further coat grease over needle rollers in the bearing cups and trunnions evenly.

NOTE: Use care not to over-pack grease in journal pits to avoid incomplete mounting of bearing cups on the journals and misjudgment of snap ring selection.

(2) Apply even, thin coats of grease on dust seal lips before their reassembly.

Standard Volume of Grease Pack for Needle Bearing

Description/ Recommended brand	Volume	Remarks
Wheel bearing grease, SAE J310a Multi-purpose Grease or equivalent	0.02 oz.	Per each bearing

2. Disassembly and Reassembly

2-1 Disassembly

- (1) Remove the snap ring using snap ring pliers.
- (2) Applying suitable sockets to the outside of the propeller shaft flange yoke, force out one needle bearing using a vise as illustrated in Fig. 2.
- (3) In the same manner as above, remove the other needle bearing.

NOTE: Note the pre-removal positions of the snap rings so that they are reinstalled in the same positions after reassembly of the needle bearings.

2-2 Inspection

(1) Inspection of Propeller Shaft Bend and Other Defects

Mount the propeller shaft on V blocks placed approximately 2 in. from the shaft ends, and using a dial indicator pointing the center of the propeller

(3) In the similar manner as provided for the removal of needle bearings, install the needle bearings on the universal joint journals using suitable sockets and a vise to reassemble each universal joint.

(4) Upon installation of the needle bearings, install snap rings selected from four thicknesses so that snap ring and bearing clearance meets the standard value. (Fig. 4)

NOTE: Select snap rings of the same thickness or closer thicknesses on each pair of yokes in order to

provide adequate balancing with the propeller shaft.

Kinds of Snap Rings

Part No.	Thickness	Color code
MA180905	0.0504±0.0006 in.	—
MA180906	0.0516±0.0006 in.	Yellow painted
MA180907	0.0528±0.0006 in.	Blue painted
MA180908	0.0539±0.0006 in.	Purple painted

Descriptions	Standard values	Remarks
Clearance between bearing cup and snap ring	0 to 0.001 in. (at one side)	With the snap rings installed retaining a set of opposed bearings, force one bearing toward the other to allow maximum clearance between the bearing cup face and the snap ring, and measure the maximum clearance.
Out of balance of propeller shaft by dynamic test	0.18 oz.	Check the out of balance with both universal joints assembled with the propeller shaft.
Fitness of needle bearing cup and yoke bore	0.0012 T to 0.0008 L in.	