

PROPELLER SHAFTS AND UNIVERSAL JOINTS

The drive from the transmission to the front and rear axles is accomplished through a propeller shaft and two universal joints. Fig. 1.

The splined slip joint at one end of each shaft allows for variations in distance between the transfer case and the front and rear axle units due to spring action.

The slip joint is marked with arrows at the spline and the sleeve yoke. Note markings to facilitate proper assembly so the yokes of the universal joints at front and rear of shaft are in the same plane when assembled, Fig. 2.

The propeller shaft connecting the transfer case with the front axle has the "U" bolt type universal joint at both ends.

The rear propeller shaft is equipped with the "U" bolt type joint at the rear where it attaches to the rear axle. The front universal joint is the snap ring type.

These universal joints are the Needle Bearing type and are so designed that correct assembly is a very simple matter. No hand fitting or special tools are required.

The journal trunnion and needle bearing assemblies are the only parts subject to wear, and when it becomes necessary to replace these parts, the propeller shaft should be removed from the vehicle.

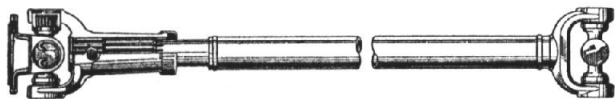


FIG. 1—PROPELLER SHAFT ASSEMBLY

Disassembling of Snap Ring Universal Joints

To remove snap rings pinch ends together with a pair of pliers. If the ring does not readily snap out of the groove tap the end of the bearing lightly, this will relieve pressure against the ring. See Fig. 3.

Drive on the end of one bearing until the opposite bearing is pushed out of the yoke. Turn the joint over and drive the first bearing back out of its lug by driving on the exposed end of the journal shaft. Use a soft round drift with a flat face about $\frac{1}{32}$ " smaller in diameter than the hole in the yoke, otherwise there is danger of damaging the bearing.

Repeat this operation for the other two bearings, then lift out journal assembly, sliding to one side and tilting over the top of the yoke lug.

Wash all parts in cleaning solution and if parts are not worn, lubricate with a good grade of semi-fluid lubricant, see Lubrication Chart, Page 12. Make sure the reservoir in each journal trunnion is filled. Put the rollers in the race and fill the race about one-third full. It is advisable to install new gaskets, No. 2, Fig. 4 on the journal assembly.

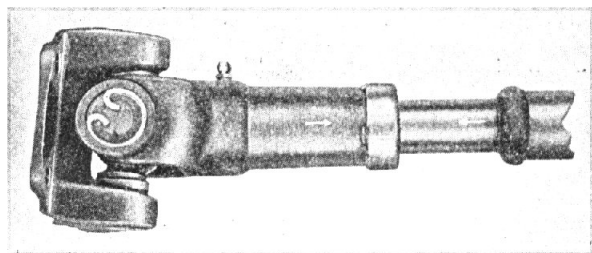


FIG. 2—ARROW MARKING

Reassembling of Snap Ring Universal Joints

Reassembling is merely a reversal of the dismantling operation. Hold the bearing in a vertical position to prevent needles from dropping out of bearing race when installing in joint.

When assembled, if joint appears to bind tap the lugs lightly with a hammer which will relieve any pressure on the bearings at the end of the journal.

When inserting the spline of the propeller shaft into the universal joint be sure that the arrows on the propeller shaft and yoke sleeve are in line. See Fig. 2.

Disassembly of "U" Bolt Type Universal Joint

Removal of the "U" Bolts at axle and transmission end yoke allows the complete propeller shaft assembly to be removed.

After removing "U" bolt slide sleeve yoke (slip joint) towards the shaft which will allow the bearing race to come out from behind the shoulders on end yoke. Care should be taken to hold bearing races in place to avoid losing the rollers.

Now remove snap lock ring, No. 1, Fig. 4 in the sleeve yoke at front and stud ball yoke at rear end of shaft by pinching ends together with a pair of pliers. If a ring does not snap readily out of the groove, tap the end of the bearing lightly, which will relieve the pressure against the ring.

Drive on the end of one bearing until the opposite bearing is pushed out of the yoke. Turn the universal joint over and drive the first bearing out by driving on the exposed end of the journal assembly. Use a soft round drift with a flat face about $\frac{1}{32}$ " smaller in diameter than the hole in the yoke, otherwise there is danger of damaging the bearing.

Now lift out journal assembly by sliding to one side and tilting over the top of the yoke lug. Clean all parts and if parts are not worn, repack with a good grade of semi-fluid lubricant, see Lubrication Chart, Page 12. Make sure the reservoir in the end of each trunnion is filled. With the rollers in the race, fill the race about one-third full. It is advisable to install new gaskets on journal assembly.

Reassembling of "U" Bolt Type Universal Joint

Reassembling is merely a reversal of the dismantling operation.

Be sure to hold the bearing in a vertical position to prevent the needles from dropping out of the bearing race.

When assembled, if joints appear to bind tap the lugs lightly with a hammer which will relieve any pressure on the bearings at the end of the journal.

When assembling the bearings into the end yoke the use of a "C" Clamp over the extreme ends of the bearing races to draw the bearings into correct position will greatly facilitate seating them inside of the bearing shoulders on the end yokes. "U" bolt, torque wrench reading, 15-18 ft. lbs.

When inserting the propeller shaft spline into the universal joint be sure that the arrows on the propeller shaft and yoke sleeve are in line. See Fig. 2.

Lubrication

Do not use grease in the needle bearings.

At each 1,000 mile lubrication job, lubricate the Universal Joints, using a hand gun. See Lubrication Chart for oil specifications.

The sliding spline shaft should be lubricated with a good grade of grease or oiled every 1,000 miles, or every time the chassis is lubricated. A hydraulic pressure fitting is provided for this purpose on the side of the sleeve yoke.

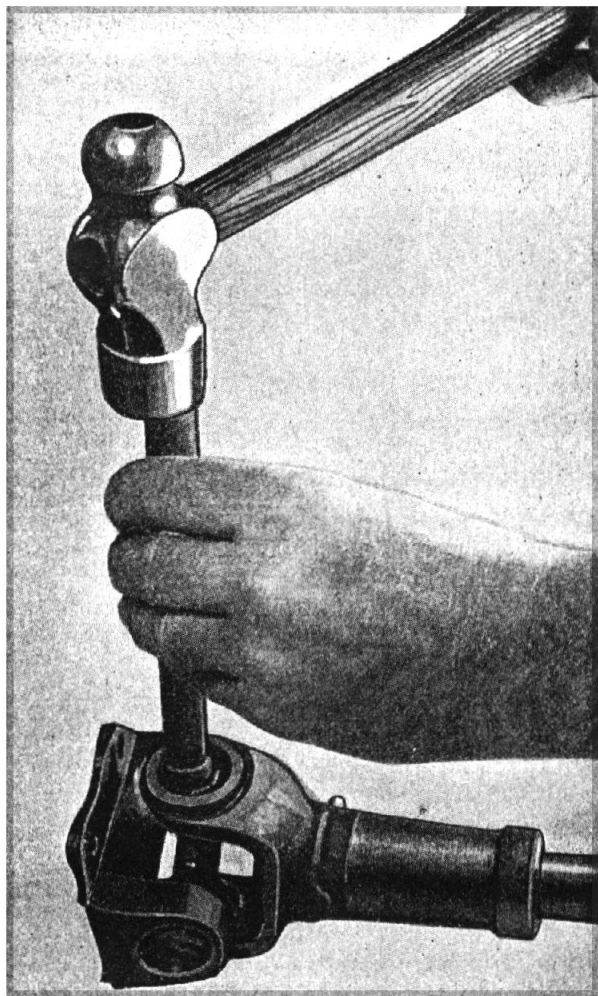


FIG. 3—REMOVING UNIVERSAL JOINT BEARING

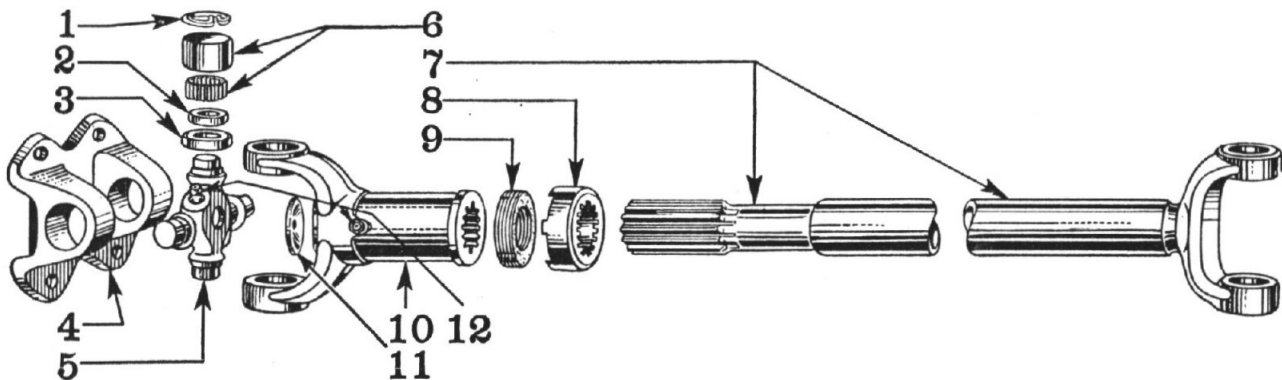


FIG. 4—PROPELLER SHAFT—REAR

No.	Willys Part No.	Ford Part No.	Name	No.	Willys Part No.	Ford Part No.	Name
1	A-945	O1Y-7096	Universal Joint Bearing Snap Ring	7	A-1429	GPW-4605	Propeller Shaft Tube Assembly—Rear
2	A-941	O1T-7078-A	Trunnion Gasket	8	A-942	GP-7077	Dust Cap
3	A-940	O1Y-7083	Trunnion Gasket Retainer	9	A-943	GP-7097	Cork Washer
4	A-950	GP-4866	Universal Joint Flange Yoke	10	A-935	GP-7092	Universal Joint Sleeve Yoke Assembly
5	A-1426	GPW-7084	Universal Joint Journal Assembly	11	A-937		Sleeve Yoke Plug
6	A-1425	GPW-7099	Universal Joint Bearing Race	12	638792	353043-S7	Hydraulic Fitting

PROPELLER SHAFT AND UNIVERSAL JOINT SPECIFICATIONS

Propeller Shaft

Make..... Spicer
 Shaft Diameter..... 1¼"
 Length (Front)..... (Joint center to center) 21¹¹/₁₆"
 Length (Rear)..... (Joint center to center) 20¹/₃₂"

Universal Joint Front Drive..... Front

Make..... Spicer
 Type..... U Bolt and Snap Ring
 Model..... 1268
 Bearings..... Needle Roller Spicer 98-851

Universal Joint Front Drive..... Rear

Make..... Spicer
 Type..... Snap Ring and U Bolt
 Model..... 1261
 Bearings..... Needle Roller Spicer 98-851

Universal Joint Rear Drive..... Front

Make..... Spicer
 Type..... Snap Ring Slip Joint
 Model..... 1261
 Bearings..... Needle Roller Spicer 98-851

Universal Joint Rear Drive..... Rear

Make..... Spicer
 Type..... U Bolt and Snap Rings
 Model..... 1268
 Bearing..... Needle Roller Spicer 98-851

Lubricant..... See Lubrication Chart, Page 12