

Replacing a Universal Joint

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I've never had good luck removing drive shafts and this was no different. I was installing my nice new rear Detroit locker which requires removal of the drive shaft. Removing the drive shaft means you have to unbolt the U-joint end cap clamps. Every time I do this I always end up dropping one of the caps and spilling the needle bearings; and this was no exception. Since I was putting in a brand-new differential I figured it couldn't hurt to replace the universal joint.

The bearing caps use a 8mm socket. You will also need an 11/16 socket and a 1 1/8 socket. The U joints are Spicer 5-213X or equivalent. 15.00 ea. New joints come with a grease fitting and new snap rings.

The Universal joint or U-joint is made up of the cross, end caps with needle bearings and the grease fitting. I use the terms U-joint and cross interchangeably in the directions. The end cap is also called the bearing cup.

Note exactly which side of the cross the grease fitting is on before you take the U-joint apart. If you put it on wrong it may be difficult or impossible to get a grease gun on the fitting. On the rear drive shaft the grease fitting points toward the center of the truck.



Cross shown with end caps removed. Remove the grease fitting



Remove the 2 bearing caps from the cross.

Remove the 2 snap rings from the drive shaft yoke ends.

Support the drive shaft so it's sitting level with the 1-1/8 socket facing open side up on the bottom. Place the 11/16 socket on top of the bearing cap and tap it down until the cross contacts the bottom of the drive shaft yoke.

You can press the bearing out in a vise that has a very wide opening jaw. My vise wouldn't open

wide enough so I used the big hammer technique.



Showing the end cap pushed down from the top

Showing the cross pushed down as far as it will go pushing the cap out the bottom



You will have to grab the bearing end caps with a big pliers and pull / rotate them the rest of the way out. Turn the assembly over and press the other side out. Pull the cross out of the drive shaft. You will end up with all the needle bearings sticking to the cross.

Clean up the drive shaft. Carefully remove all 4 of the bearing caps from the new U-joint and stick the cross into the drive shaft yoke. **Screw the grease fitting into the cross and make sure that it is facing the same direction it was when you took the joint apart.** Pack grease into the caps to hold the needle bearings in place. Put the first end cap in the bottom section of the yoke (open side facing up) letting the cross fall into it as far as it can. I put it in the bottom so the needles have less of a chance to fall out. Make sure the cap is lined up square and the needles are all standing straight up. Tap or press in a vise on the opposite side of the yoke to push the cap up into the yoke.

Hold the cross in the end cap you just seated and turn the drive shaft 180 degrees and carefully install the other bearing end cap the same way. Take the 11/16 socket and tap or press the end caps into the yoke so the snap ring groove is exposed. If the end cap doesn't want to seat it means that one of the needle bearings has probably fallen out of its place in the cap. Take the joint apart and fix it.

Once the caps are in place make sure that the cross rotates freely in the yoke. It will be tight but you should be able to rotate back and forth with your hand. If you can't, take it apart and see why.

Install the snap rings on both sides using pliers to squeeze the ring. Make sure the snap rings are seated all the way in the grooves.



This shows the snap ring groove and snap ring. Shown is the cross with the end cap removed showing the grease path within the joint.



Do not put the last 2 end caps on yet. Reinstall the drive shaft. I was doing the rear which meant that I had to slip the yoke back into the output side of the transercase. It took some massaging with a pry bar to get the shaft lined up and pushed into the transercase.



Line the differential yoke up with the cross on the drive shaft by either turning the shaft (tcase has to be in N) or turning the diff. Place the last 2 bearing end caps on the cross and carefully assemble the joint. Put the straps back over the end caps and bolt them in place. I used some locktite blue. The book says to tighten them to 18 ft lbs.

Pump grease into the joint until you see it coming out the end caps and your're finished.



This shows the grease fitting sticking out the correct way.