

## Jerry McMurry's U-Joint Instructions

First off, you will unbolt the four bolts that hold the outer bearings to the wheel hub. They should be cross-drilled bolt heads with safety wire in them. If no safety wire, then after you get the bolts out, drill them thru the head from side to side so you can put safety wire in later. When you get them unbolted, lower the driveshaft and move it toward the back, and you will be pulling the outer half of the driveshaft out of the inner half of the drive shaft by pulling it apart at the splines. MARK THE RELATIVE LOCATIONS OF THE TWO PARTS OF THE DRIVESHAFT so that when you put the splines back together it goes back the same way (here's hoping it was done right in the first place -- more on that later).

Just after you remove the four bolts, you might want to put duct tape around the U-joint to keep the just-freed ends of the driveshaft from falling off the cross. Not that it would matter much, but it is less messy this way. Then free the outer part of the drive shaft and carry it over to your workbench. It is convenient if you have a big old vise to clamp it into to work on it. You will find some snap rings that hold the round bearing cups into the yoke. Some U-joints have snap rings on the outside or the Y yoke, and other have them on the inside snapped into a groove on the inner ends of the cups. I don't remember which way this is on the Cortez. But get the snap rings off -- one for each cup.

Clean out all the rust and crud on the outer edges of the holes in the yoke because the cup has to slide outward. Pay attention and look for knicks or dents in the metal of the yoke that would prevent the cup from sliding outward. Now to get the cup out, you will have to hammer on the cross to force the cup out one side. If that does not work, then hammer on a small wrench socket that fits inside the hole in the yoke to force the cup inward and that will force the cup on the other side outward. When it goes far enough you should be able to get the cup out. Then you hammer with some kind of punch of something to keep from hitting the yoke, and knock the cross back the other way to force the other cup out.

Once you get both cups out, the cross can be rotated out too. Now the insides of those holes where the cups were need to be cleaned up very well. Use silicon carbide sandpaper and remove all the rust and file off any dents. You want the new cups to go in nice and smoothly, because if you have to hammer or jerk the cup, the needles will all fall out and some get lost. You must just barely start a cup in each side, and then put the cross in, and then slide the cross sideways so that it goes into the cup, and keeps the needle bearings in place while you push the cup in. There is the danger here that one of the dang needles will fall over inside the cup and end up lying across the end of the cross. This is why it is important that the cups move in pretty easily; just so the needles don't get knocked out of place. Once both cups are all the way in, the put the new snap rings in place. NOTICE: if the cups do not go in all the way, it will be because one of the needles fell over and is lying at 90 degrees to the rest of them.

Correct alignment of U-joints on each end of a drive shaft. The two yokes, one on each end of a driveshaft should be parallel to each other. In other words the whole driveshaft should look like this: >====< with the <-things representing the yokes on the ends of the driveshaft, and the == indicating the splined parts.