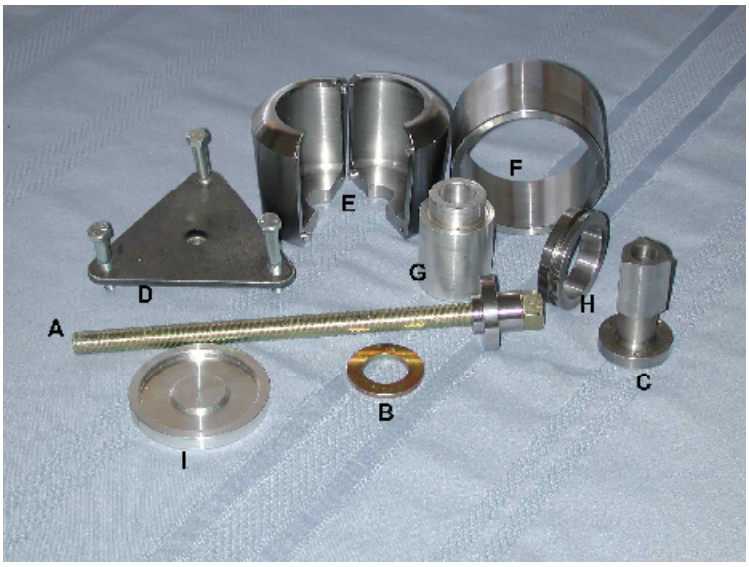
CHANGING THE BEARINGS

The GMC front wheel bearings should be changed, or inspected and regreased, every 25,000 miles. The TZE Bearing Tool offers two easy methods to accomplish this.

TZE BEARING TOOL KIT

The bearing puller tool kit comes with the following parts:

A. Threaded rod
B. Thrust washer
C. Splined nut
D. Hub separator plate and three bolts. Note that the bolts are of different lengths to ensure a fit with the knuckle.
E. Split cup
F. Locking sleeve
G. Bearing guide
H. Centering ring
I. Seal tool



TZE BEARING TOOL INSTRUCTIONS

NOTE:

If the bearing has spun on the hub, or otherwise seized to the hub, you will not be able to remove the bearing with this or any other puller. You will need to have the bearing cut off the hub and the hub will need to be replaced or rebuilt.

For the sake of clarity all photographs in this manual are taken with the brake rotor removed from the hub. When you are working on the bearings you will not be able to see what is happening as clearly as it is shown in the photographs below. Since we used clean, un-greased bearings, the real job of pulling the coach's bearings will be messier than this.
You may want to consider using rubber gloves.

TO REMOVE THE BEARINGS

Separate Hub and Knuckle

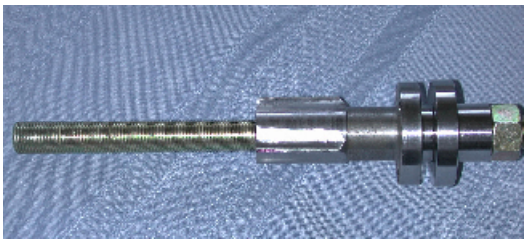
- Remove the 3 bolts from the bearing retainer.
- Install the splined nut onto threaded rod and insert into center of the hub.
- Place the triangular plate over the hub and bolt down with three bolts
- Turn the threaded rod counter clockwise to press the hub out of the knuckle
- Remove the triangular plate and lift the knuckle off the hub.

Remove Bearings from Hub

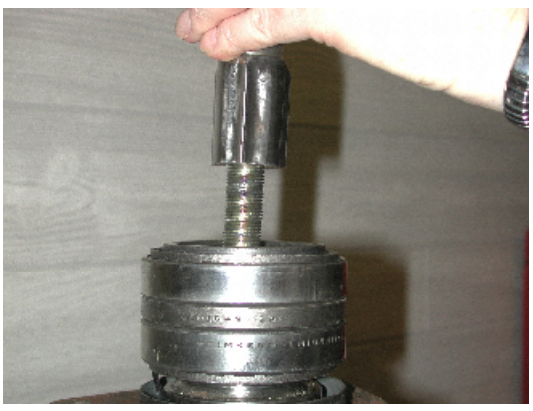
- Push the seal down as far as possible. In the picture to the right, a pen indicates the gap between the seal and the bearing.

- Oil the threaded rod and grease the thrust washer

- Turn the splined nut completely onto the threaded rod

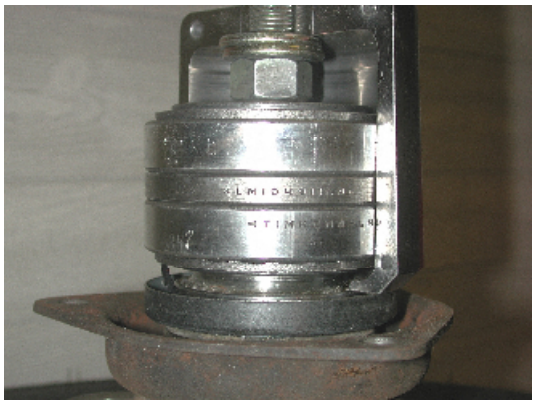


- Insert the threaded rod and splined nut into top of hub as shown



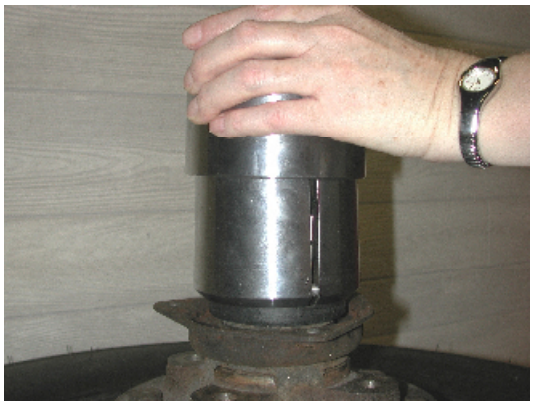
- Place the split cup around bearing. Check the Problems Section of this manual if you have trouble getting the split cup to fit between the seal and the bottom of the bearing.

The picture to the right shows the first side of the split cup which has been placed around the bearing

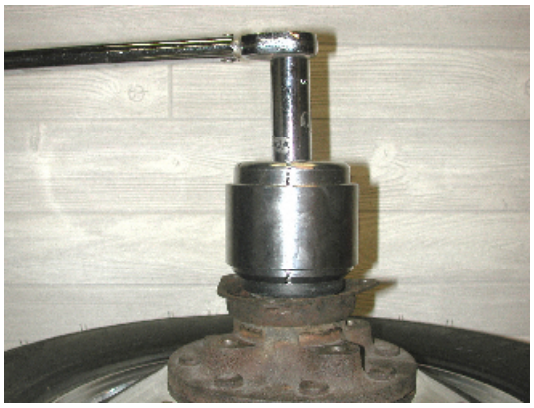


- Slip the locking sleeve over the split cup.

The picture to the right shows both portions of the split cup in place around the bearing and the locking sleeve being slipped over the split cup.



- Turn the nut on threaded rod counter clockwise to remove the bearing



- Remove locking sleeve from split cup and disassemble bearing tool. It may be necessary to tap the side of the locking sleeve sharply to loosen its grip on the spilt cup assembly. Use a soft face hammer or a screw driver handle to tap the side of the locking sleeve.

PREPARE FOR REASSEMBLY

- Since it is vitally important to keep the new bearings perfectly clean, this would be a good time to clean your work area.

- Grease the bearings. Use the best quality grease. Some people recommend RedLine CV synthetic grease and others use Mobil1 synthetic. Check the GMC manual for recommendations.

- The bearings are a matched set. Each bearing set is numbered and each separate bearing is identified. It is important to keep the bearing and its matched race together. The spacer must have the same number as the bearings and should have .0095 scribed onto it.

- The spacer below is .0095 and is part of bearing set 813. The bearings that go with this spacer will have 813 or 813A scribed on them. Make sure you keep the "**A**" bearing with the "**A**" race.

- The bolts holding the bearing retainer can be difficult to re-install. It helps to cut slots in the threaded end of the bolts as shown below so that a screwdriver can be used to thread the nuts back.

TO RE-INSTALL THE BEARINGS

There are two methods which may be used to re-install the bearings.

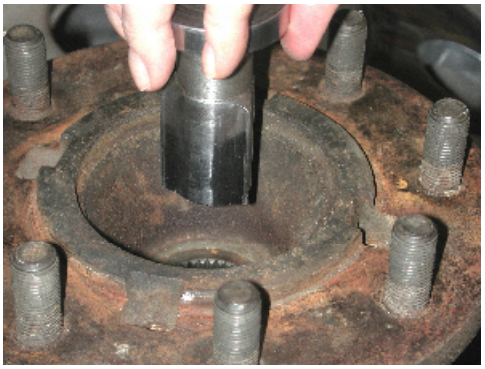
The first method presses the bearings onto the hub and then presses the hub into the knuckle. If the knuckle has not been removed from the coach this is the only option.

If the knuckle is off the coach a simpler method can be used. The second method installs the bearings in the knuckle first and then presses the knuckle and bearings onto the hub.

Re-installing the Bearings using the First Method

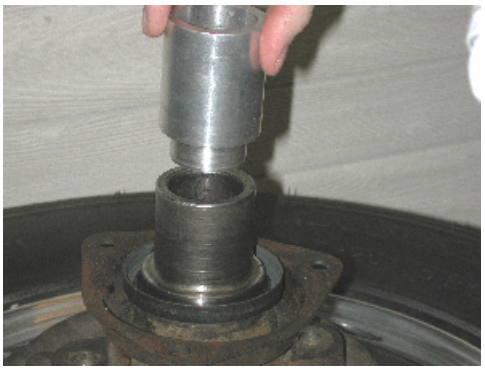
This is the only method that can be used if the knuckle has not been removed from the coach.

- Remove the splined nut from the threaded rod and insert it into the bottom of the hub



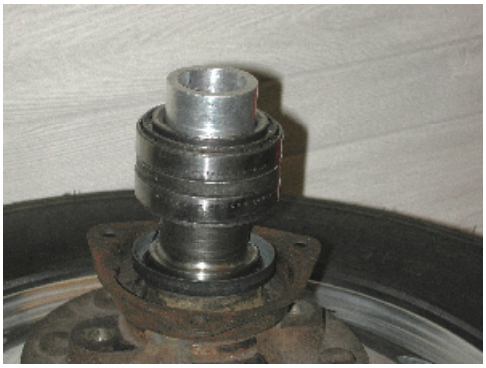
- Place the bearing retainer, cupped side up onto the hub
- Place the seal open-side up onto the hub and push it down over the ridge on the hub.

- Insert the bearing guide into the top of the hub.

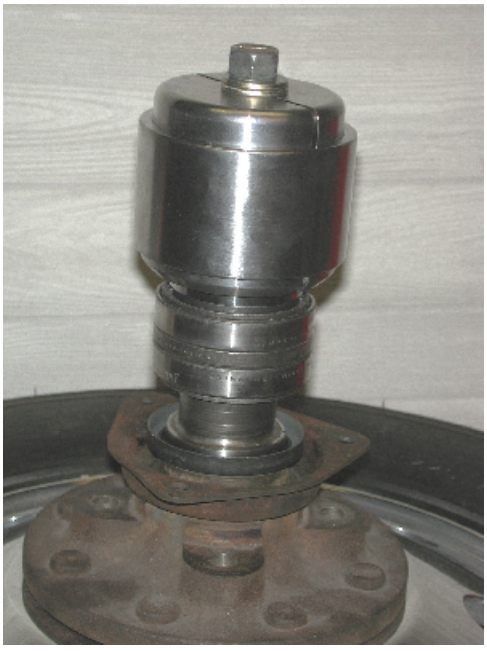


- Assemble the bearing tool using the centering ring. The thicker flange of the ring is placed at the outer edge of the split cup.

- Place the greased bearing over the bearing guide.



- Place the assembled bearing puller on top of the bearing.
- Oil the threaded rod and place the greased thrust washer on top of the bearing tool.
- Carefully insert the threaded rod and thread it into the splined nut. The nut is held in place by magnets so some care is required to prevent the nut from being knocked out.



- Turn the threaded rod clockwise to press the bearing onto the hub. When the bearings are completely pressed on, significant additional force will be required to turn the bolt, if you can turn it at all.

- Remove the threaded rod from the hub, leaving the splined nut in the hub.

- Place the knuckle over the hub and bearings. The knuckle should go on fairly easily but may need to be pressed on.

  If that is the case, then:

  1. Place the triangular plate over the knuckle.

  2. Carefully insert the threaded rod through the plate and thread it into the splined nut.

  3. Turn the threaded rod clockwise to press the knuckle onto the hub.

- The three bolts must now be reinstalled and tightened to clamp the bearing retainer to the knuckle. There is no easy way to do this. You could try holding them with a loop of wire while you use a screwdriver to thread them into the holes.

- Install the inner seal into the back of the knuckle. Drive the seal in using the seal tool. The tool ensures the seal is set to the proper depth.

Re-installing using the Second Method

This method can only be used if the knuckle has been removed from the coach.

Before beginning the installation:

- The knuckle needs to be warmed. This can be done with a heat lamp or by leaving out in the hot sun.

- The bearing races need to be chilled. Coat them lightly with grease to protect them from moisture and put them in the freezer. It may be helpful to use two containers, one marked with an "**A**" to hold the "**A**" race.

I install the "**A**" race first, remembering this slogan: the "**A**" race first because the "**A**" bearing gets installed **A**fter the bearing retainer is installed.

- Slide the “**A**” race into the knuckle with the open side toward the back of the knuckle. Then slide in the spacer, then the other race.

- Drop the greased bearing into the race (not the “**A**” bearing)

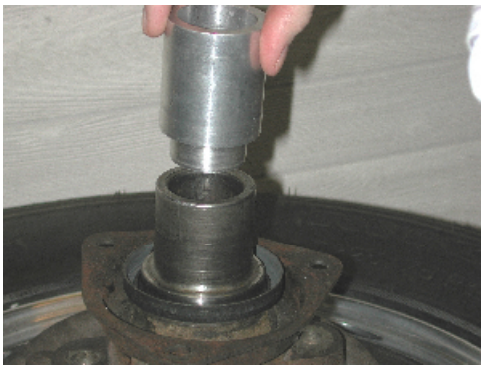
- Insert the seal. You may need to use a seal tool to drive the seal into the knuckle.

- Attach the bearing retainer and torque the bolts to 35 ft-lbs.

- Flip the knuckle over and drop the greased “**A**” bearing into the knuckle

- Insert the splined nut into the bottom of the hub

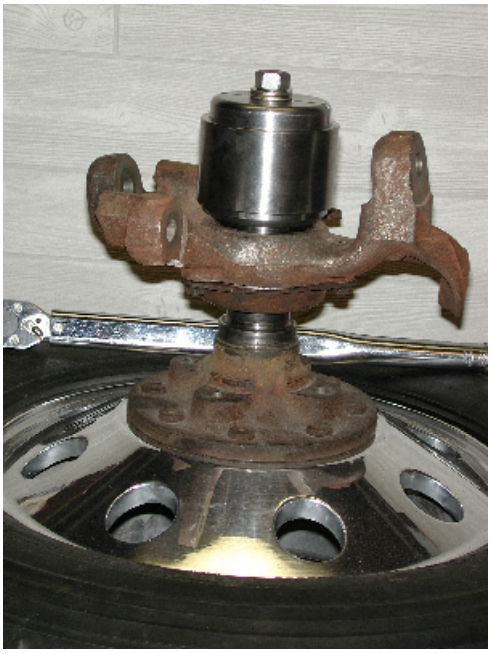
- Insert the bearing guide into the top of the hub



- Place the knuckle and bearings onto the hub. They will easily slide down over the bearing guide.

- Assemble the bearing tool with the centering ring. Note that the thicker flange of the centering ring is placed at the outer edge of the split cup.

- Place the bearing tool on the knuckle. The centering ring will sit on the bearing.
- Place a greased thrust washer on top of the bearing tool.
- Carefully insert the threaded rod through the bearing tool and thread into the splined nut.
- Turn the threaded rod clockwise to press the bearing onto the hub. When the bearings or completely pressed on there will be a sudden increase in the force required to turn the bolt.



- Remove the threaded rod and bearing tool.
- Install the inner seal into the back of the knuckle. Drive the seal in using the seal tool. The tool ensures the seal is set to the proper depth.

ADDITIONAL INFORMATION

This manual shows the TZE Bearing Tool Kit at the time of printing. Further production runs may change the appearance of some of the pieces of the tool.

For further information, or if additional help is required, contact Darren Paget at (403) 807-1136

PROBLEM SECTION

QUESTION

I can't get the split cups to fit between the seal and the bottom of the bearing.

RESOLUTION

Sometimes the seal cannot be pushed down far enough to allow the split cup to fit between the seal and the bottom of the bearing. Since the seal will be replaced, it does not matter if we destroy it to get it out of the way. Insert the splined nut into the front of the hub. Set the split cup halves onto the seal. Insert the threaded rod into the splined nut and turn it down onto the split cup to bend the seal down and out of the way.