Assembling the 928MS Aluminum Torque Tube

These instructions will help you assemble your aluminum torque tube and prepare it to be put into the car. We do not discuss how to remove and replace the torque tube here—that is in the 928 Workshop Manual.

There are several other bits of maintenance that you may also want to do at the same time: replacing the front shifter ball cup, the rear shift linkage joint, install a short shifter, and replace the shifter bushings. Contact us if you need any of these parts.

Start by removing the stock torque tube from your 928, and laying it on the ground next to the aluminum TT.

There are parts inside your stock torque tube that are needed in this aluminum torque tube assembly.

Mark the end of the driveshaft that faces front now—in a few moments you will remove that drive shaft from the old torque tube and it is easy to lose track of which end goes toward the clutch if you do not mark it now.

Also measure the distance from end of driveshaft to end of torque tube and WRITE IT DOWN so you can duplicate that when assembling the aluminum TT.

Remove the drive shaft from the old torque tube. You should be able to drive it out with a brass or lead hammer. If no such hammer is available, use a block of wood over the end of the driveshaft before hitting it. A section of 2x4” about 12” long works well. The point is to not knurl or damage the driveshaft splines in any way.

Once the driveshaft is out, remove all 3 bearing pillow blocks. One way to do this is to stand the driveshaft up on end, and drive a 2x4” straight down from a ladder.

Depending on the year of your torque tube, you may also have a mass dampener inside your torque tube. Drive it out also and set it to the side.
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There is a driveshaft collar inside each of the old bearings that we need.

Place the used bearing on the workbench face down. Note that the collar inside the bearing is peened over in 3 or 4 places. Use a screwdriver and a hammer to straighten the spots where it is folded over as shown.

Then drive the collar through the bearing with a socket.

Place the collar into the new bearings provided. It is best to start it from the side with the snap ring as shown.

Tap the collar down into the new bearing gently as shown.
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Then flip the bearing over, and peen the collar out as before to lock.

After you have all three bearing blocks assembled, place them in the freezer while we prepare the torque tube to receive them.

Your TT was shipped with small set screws in threaded holes along the length of the tube. Remove them and save them.

Warm the torque tube gently with a propane torch or similar device. The bearing blocks are in the freezer, and the net between the two will provide about .005” clearance.

Set the TT upright onto a block of wood, and have the 2X4 ready to tap the bearing blocks down into the tube. Plan to drive all 3 bearing blocks in from the same end, and orient them in the same direction. Note the small groove around the outside of each bearing block.

Drop the first bearing block into the tube and tap it down with the 2x4 while an associate views the threaded holes in the sides. When the small groove appears in the center of the threaded hole, stop and lock it in place with the set screws. Repeat until all 3 bearing blocks are installed and locked.

The small screws are just a little insurance to keep the bearings from walking… there were none in the stock TT. The expansion of the bearing blocks when they get warm will do the most of the work to hold them in place.
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Now you can install your driveshaft into the new TT. Install it in the same direction as before and tap it gently in place until the distance from the end plate as the same as the dimension you wrote down on page 1.

Transfer the shift linkage from the old TT to the new one and secure it in place with two 10mm nuts.

This is a great time to service the shifter ball cup, the shifter, the shifter bushings, or the rear coupling if you want to.

Wrap the shift knob with tape so it does not get scratched while putting the TT in place.

Then its time to put the TT back into the car.

In this photo, the engine was out of the car so we assembled the bell housing onto the TT before installing it.

That is not necessary—the aluminum TT also goes in and out very well with the engine and bell housing in place.