

DIY Power Steering Gear Creak Fix

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One of the first things I noticed on my "new-to-me" 2003 Mustang GT (after the initial rush wore off) was that there was a quite noticeable creaking emanating from the steering gear when the wheels were turned when stopped, or at low speeds. Turning to the web I discovered [Ford's TSB 05-14-3](#) which referenced the exact symptom and described the fix as replacing the *power steering gear tube brackets* with updated parts (Ford p/n E5DZ-3K620-A).

Being basically cheap (my grandfather was Scottish) I decided to see what I could do to fix the problem for free--so, armed with this clue I crawled under the 'Stang and while observing the steering rack as my reluctant assistant (she's always a bit hesitant in these sorts of things) turned the steering wheel back and forth the problem became obvious. The rack is mounted on two tubular studs (the *tube bracket* as Ford calls it) with rubber "doughnut" isolation bushings. The tubes are fastened to the front cross member, and the rubber bushings preloaded, by long bolts passing through the tube brackets--much like a stud mounted shock absorber--as my wife twisted the wheel I could see the rack assembly shifting nearly 1/8", from side to side, in the rubber mounts; in synchronization with the creaking.

Upon disassembly the fix also became obvious. The *tube brackets* were too long, preventing proper preloading of the rubber bushings, make them not so long and the creaking would be gone...

Tools & materials:

18 mm deep socket (1/2" drive preferably)

15 mm deep socket (3/8" drive is OK, a 3" extension would also work)

Vise-Grip pliers (to remove the tube bracket, I used an 8" curved jaw set)

1/4" x 6" flat-blade screwdriver (to pry out the front rubber bushing)

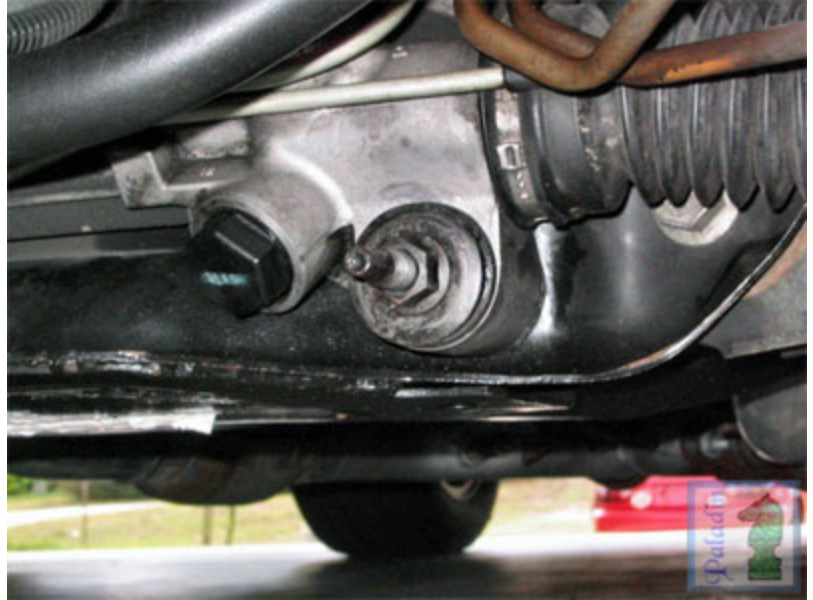
torque wrench to fit the 18 mm socket (capable of 52 lb/ft, not 100% essential, but very highly recommended)

hacksaw or grinder, flat mill cut file and/or Metalite cloth (to shorten the tube bracket)

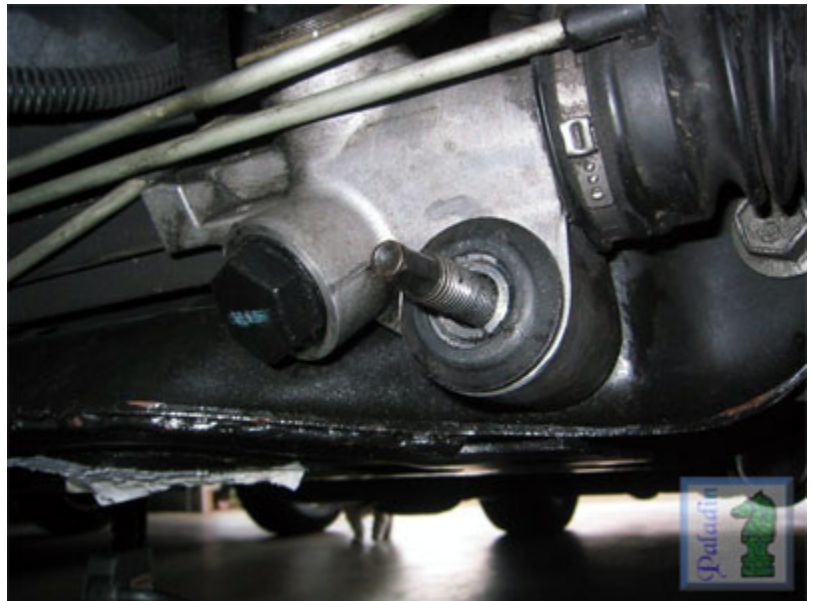
Teflon or silicone grease (to lube the rubber doughnuts on assembly)

The photos and narrative below describe the removal, modification, and reinstallation of the tube brackets.

This shows what we're after under the front-end. This is the driver's side power steering rack mounting, the passenger side is identical. Remove the 18 mm nut (you'll have to hold the bolt from behind--it's a long bolt. 7" or so, but access is easy). Just feel up into the front cross member where you'd expect the end of a 7" long bolt to be and you'll find it--use the 15 mm socket to hold the bolt. Access to the bolt heads is slightly different on each side, however they're both easy to find and access.



This photo shows the bolt and cup washer removed. Now pull the bolt out, to the rear, and then use a screwdriver to remove the front doughnut--pry around its sides and top and bottom. It will pull out easily once you broken the suction.



This is what you'll see with the rubber bushing out. Grab the tube bracket with the Vise-Grips (tightly, but don't crush it) and with some twisting and turning and pulling you'll be able to pull it out toward the front (hint, once you've got it pulled forward a bit you can wedge the screwdriver in at the back to provide some leverage).



This is the steering rack mounting after removal of the tube bracket.



This shows the tube brackets and front bushings as removed.



Now it's time to shorten the tubes--you can shorten either end, I removed material from the larger diameter end because that's the end that got a bit chewed up when I removed them.



Having a metal lathe, I turned off 0.120" (a bit less than 1/8")--however as long as you keep the cut reasonably square there's no reason you can't use a hacksaw or a bench grinder. Taking off 0.120" made a big difference in the bushing preload (with absolutely no ill effects), however if I were doing it again I might only take 0.100" or so.

Reassembly is the reverse of disassembly.

Don't worry about the tube brackets not going in all the way when you insert them by hand, the pinch bolt will pull them in the rest of the way. I used a Teflon based grease on the OD and ID of the rubber bushings, this is probably not essential but it won't hurt and provides some added "anti-creaking" protection. DO NOT USE petroleum based grease as it may damage the rubber bushings!

NOTE: You must properly torque the mounting bolts to 52 lb. ft. using an accurate torque wrench!!!

If you do not have a torque wrench you should seriously consider getting one (the \$20, sometimes on sale for \$14, unit from Harbor Freight is fine for shade-tree use), however if you insist then make sure the bolts are pretty darned tight-- by way of reference, 52 lb .ft. is about as tight as you can reasonably get something with a standard length 3/8" ratchet.