

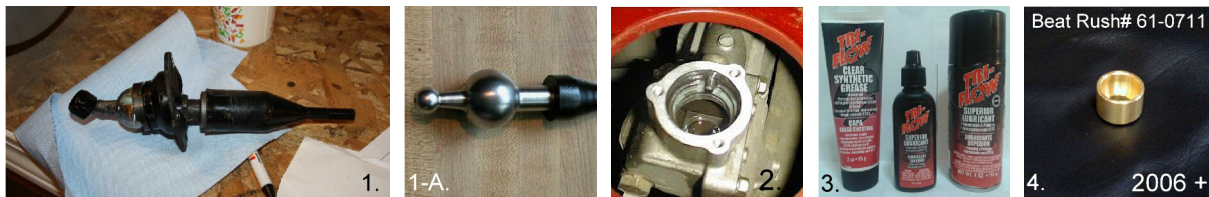
Shifter Maintenance

For All Year Miatas

This article pertains to all Miatas with a Manual Transmission. Most of this covers all years, and the last section covers a tip for the NC (2006+) Miatas. I have written before on how to check & replace the oil in the turret, and how to check & replace the rubber boots above the shifter turret, so I will just focus on the shifter shaft in this article, and how to keep the Tranny shifting smoooooothly.

If you will look in picture 1 below. I will point out the 3 main parts of the shifter. The long black tube to the right in picture 1 is the shifter shaft, This is what sticks up out above the top of the transmission turret. The part in the middle is the large “ball” that rotates in a socket when shifting (Pict 1 and 1-A). You will see a large black flange on top of the middle ball in picture 1. The flange is what is used to attach the shifter assembly to the top of the transmission turret. The NA and NB Miata have a metal flange with a small rubber boot on it. This boot can dry out and crack after several years allowing dirt to get into the tranny turret. The NC is different having a hard plastic flange as seen in picture 1.

At the lower (left) end of the shifter (Pct 1) is a round ball with a black plastic cup on it. You can see in picture 1-A a plain shifter shaft bottom end ball. This plastic cup at the bottom in picture 1 fits down into the turret. See picture #2. This is the turret from a NA and NB Miata, but the NC turret looks very similar. Looking down into the turret, you will see a round socket where this plastic bushing fits down into.



Grease on the large ball can help keep the shifter working smoothly. The round ball in the center is metal, and it rotates inside 2 plastic “rings”. You can see a glimpse of the narrow gray ring resting on the top of the ball in picture 1. There is another one (white ring) down inside the turret in picture 2.

Regular grease can melt, or dry out over time. Tri-Flow makes Lubricants with PTFE (Teflon) in it. I have found this works extremely well where metal is rubbing on plastic. See picture 3. Not all lubricants work well on Plastic. The Tri-Flow tube on the left is a clear synthetic grease with Teflon in it. It states on the tube it is Non-Melting. The bottle in the middle is a thin lubricating oil with Teflon in it, and to the right is a Spray Can of the oil with Teflon in it. I use all 3 often. Teflon repels dirt, so I use it anywhere I need lubrication around dirt. Here is where I bought mine: <http://store.triflowlubricants.com/> You might also check your local Hardware store.

Use the grease on the center round ball as seen in pictures 1 and 1-A. Wipe out the inside of the turret and put grease down in there around the edge. The main thing is to get a good layer of this grease on the entire center ball (top and bottom). This will keep this part of the shifter shaft moving smoothly.

Here is a tip to make the 2006+, 6 speed manual tranny shifting noticeably better. The earlier 6 speed transmissions (as mine did) have a reputation of the shift feeling “mushy” when shifting into the next gear, instead of a nice crisp shift. Picture #4 is a Brass replacement “cup-bushing” for the bottom of the shifter shaft. This replaces the black plastic cup seen in picture 1. It works by firmly transferring the shift pressure from the turret to the shifting mechanism inside the tranny. As the plastic bushing absorbs pressure, the brass doesn’t. So the quick transfer of the firm pressure makes it shift noticeably better.

No part of any car is totally maintenance free. So a little preventative maintenance to the shifter shaft can make the driving experience a lot more enjoyable!

Zoom-Zoom..... Shifting Smoothly! Bill Latsha