



IRELAND ENGINEERING

Motorsports

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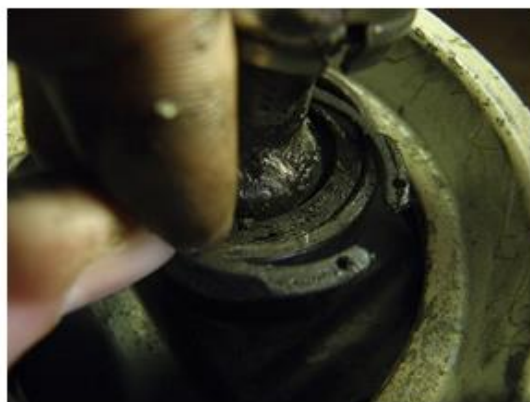
Step by step instructions: BMW 2002 Shifter Upgrade.

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Photos are from an early style 2002.

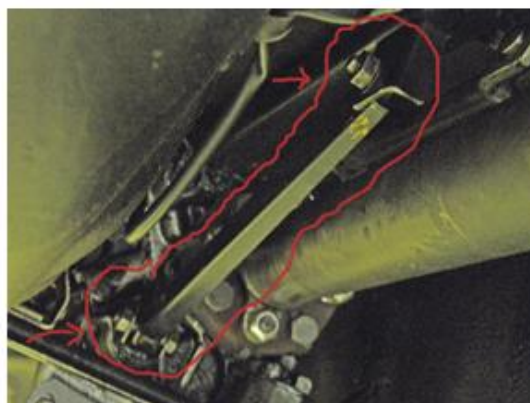
Kit includes new shift lever, proper selector rod, nylon cups, transmission-to-selector rod coupling, and a shift knob.

- 1) Get in car and remove shift knob, shift boot, and any foam. This is to expose the top of the pivot cup.
- 2) Use circlip pliers to remove the circlip from the top of the shift tower. This will allow the original shifter to be removed after the linkage is disconnected under the car.



- 3) Jack the car up properly (the usual disclaimer applies, we are not responsible for a sloppily jacked car, if you have questions please call.)

- 4) Remove the shifter plate support bracket as highlighted in picture. NOTE there is a good chance bushings on the lower section are shot, these bushings are not sold individually through bmw, you will need to fab some new bushings or replace the support bracket.



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5) Unbolt the drive shaft from the guibo (Remember to tighten down the guibo with a hose clamp before loosening the bolts), unbolt the center support and swing the driveshaft out of the way.

NOTE: While it is possible to complete the installation without doing this step it is highly recommended that you do so for the sake of your fingers and sanity.

6) Remove shift tower by removing the two allen bolts bolting the plate to the transmission as highlighted in the picture on the right.

NOTE: shift tower removal is not mandatory unless you are replacing the shift tower mounts OR you have problems with the dowel in #8.



7) Using an allen wrench, remove the set screw at the bottom rear of the original shift lever. Press out and withdraw the clevis pin which retains the shift lever from the original linkage rod. (see picture on left.)



8) At the forward end of the shift linkage is the selector rod coupler. There is a cylindrical metal spring which covers the outside of the coupler. You will need to pry away and remove this spring to access the dowel which connects the coupler to the transmission. The dowel slides vertically out of the coupler, and can be pushed out using a suitable drift. See pictures on right.

9) Now that everything is out of the car you can start reassembly using your new hardware.

Assemble the linkage and selector rod joint together using the following supplied pieces.

selector rod joint

steel dowel

linkage rod

nylon shim

retaining clip

It should resemble the photo when finished.



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10) (Optional) Replace shift plate bushings and foam insulator and reinstall shifter tower.



14) mount selector rod coupler to the transmission selector shaft using the provided steel dowel pin. make sure to slide circular spring clip into groove over dowel.

15) insert short shift lever from inside the car. The bend in the new shift lever should be oriented such that the top of the lever is oriented back and toward the driver's seat.

16) Slide linkage rod into the selector rod coupler and into the base of the shifter simultaneously

17) Reattach shift tower support rod.
See picture of installed rod.



18) Install shifter boot. The top of the short shift gear lever is a larger diameter than the original gear lever, so you will need to open up the diameter of the hole in the top of your shift boot. If using a rubber shift boot, you can just trim about 1/4" of material from the top of the boot. If using a leather shift boot, you can just remove a couple of stitches from the sewn seam at the top of the shift boot.

19) reassemble the drive shaft using new mounting hardware for the guibo (8 bolt guibo-uses eight M10 x 1.5 x 61mm hex bolt and M10 x 1.5 steel locking nuts; 6-bolt late-style flex disk uses six M10 x 1.5 x 50mm hex-bolts and M10 1.5 steel locking nuts.) Do not forget to remove steel band or hose clamps from guibo after installation. Remount drive shaft center bearing, preloading center bearing by flexing the center bearing mounting flange forward 2mm before tightening.

20) Now go out to your favorite driving road and enjoy some crisp shifting.