

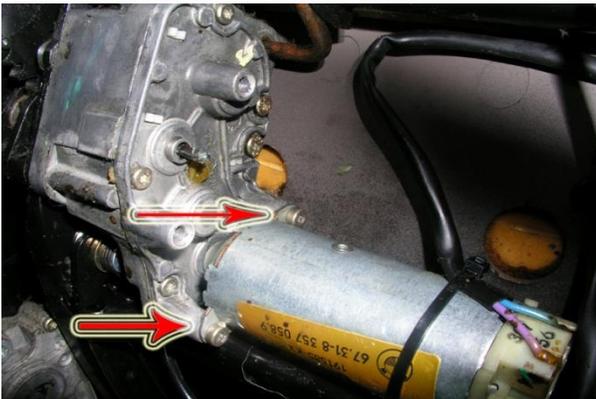


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## E36 FAQ seat gear replacement

This How to is a combination of Jeff Caplan and Dale Murry's notes/photos. Many thanks for your words and photos. Please use this as a guide and not an all inclusive FAQ.

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**!!!NOTE: The new gear was designed using an original gear that was not damaged. The gear has to fit tightly on the shaft to help ensure the life of the gear. If it fits loosely this will damage the gear very quickly. The original gears generally crack and become very loose on the shaft, these are damaged gears and not what you should go by when comparing to the new gear. We have been manufacturing and selling these gears to consumers, repair shops and resellers since 2005. Please follow the instructions when installing and you will have a working seat again!!!**

1. Raise seat to its highest position before starting. At this point you want to **disconnect the battery** so as not to turn on the SRS light when disconnection wiring. Remove seat from vehicle. There are two bolts on the front tracks of the seat, and two on the back. All four need to be removed. Then, disconnect the electrical wires connecting to the seat - three in my case. (NOTE: I found it easier to lift the seat off the bolts and tilt it sideways to get a better grip on these.)

2. Remove back plastic cover piece - 1 screw. This will expose the motors and gearbox.

3. Prop seat so that it is facing perpendicular to the way it would normally face - i.e. the back portion of the seat is facing the ground. I used a couple of boxes to keep the seat standing up, but you can position it so that it balances itself on the tracks if you do it right (you'll see what I mean...)

4. Now, you'll need to remove the two motors connected to the gearbox. Remove the two screws holding each of the motors on. 3 of these are at an angle you can get to with a torx screwdriver, 1 you will need an allen wrench to get out.

*-Tip: pull the screw out of the bracket that holds the two motors together, it was found being able to separate them made it easy to get them out of the way and to access the screw on the bottom motor without a right angle torx key.*

*Time savers: a flexible hex drive in a cordless is also handy, as is a right angle ratcheting hex bit driver.*

Start with the upper motor first as one of the second motors screws are behind the first. Tug hard; they are screwed on pretty tight. Once the screws are removed, just pull the motors away from the transmission and they should come



right off.

5. Now, it's time to remove the transmission plate. There are 6 screws holding the plate onto the transmission. You should be able to get to four of these with the screwdriver, one may need the allen wrench. Unscrew these, and remember where they go, since the back two are much longer than the others.

6. Once the screws are out, *there is a slot between the screw and cover plate on the top screw of the case cover that provides a perfect place to do the first pry.* Now gently pry the case evenly around the edge in small increments until it comes off.

*Tip: -The round sleeve bearings on the opposite end of the shaft of the gear comes off, don't drop/lose them when removing the shaft.*

Inside, you will see the gears and mechanisms. Alleviate pressure off the seat back, and gently pry that gear out. You will likely find many broken pieces of the plastic gear.

*Tip: do not mix up the gear shafts or the worm gears that the new gears mesh with as they are different helical angles and cannot be swapped. If accidentally swapped they will destroy the new gear and could possibly cause other damage.*

7. Clean out the entire box to assure you get all the broken parts out.

### Installing the new gear onto the shaft

8. The new gear has a tapered fit onto the shaft. The original gear was tight on the shaft before it became broken. This is necessary to not have any play between the gear and the shaft. Place the new gear onto a block of wood or other solid surface with no bounce, with the larger side of hole facing up (you will feel four small tabs sticking up around the hole, these go towards the shaft). Place the shaft into the hole and tap into the gear. **Only tap on the shaft and not on the gear.** Once the shaft has bottomed out move to a bench vise and open the jaws just wide enough for the shaft to fit through. Tap the shaft through the gear just enough to install the c-clip.

{alternative way to install gear onto shaft: place a 1/4" drive 5 mm socket on the end of the gear and place the socket, gear and shaft into an open bench vise. Start to carefully tighten the vise, ensuring that the parts are lined up. Continue to tighten just until the shaft has protruded enough to install c-clip.}

9. Lubricate the round sleeve bearing on the opposite end of the shaft with lithium grease. Now, push that gear back in the housing. You may have to wiggle it around a little to get the metal piece in

10. Re-pack the case with a lithium based grease.

11. Now, just reassemble the transmission and seat in reverse order.





**!!!NOTE: If you remove the large gear there is a plastic thrust washer that is generally stuck to the bottom of the gear with grease. Remove the washer and align with the four screw heads inside of the housing. Reinstall the gear. If you do not have the washer aligned properly you will not be able to secure the cover as it will not sit flush!!!**

