GM Truck FWD/AFT Adjustment Brass Gear Set

Installation Procedure



Tools Used

- Drill with ½" bit
- Dremel
- Ratchet + 15mm and 11mm sockets (12 point)
- 7mm driver
- Hammer
- 15mm box and 15mm tube wrench
- Screwdriver
- Headlamp
- Torx T20 and T50 drivers
- JB weld or equivalent 2-part structural epoxy
- Silicone dielectric grease or equivalent (suitable for plastic, nonpetroleum based), not pictured



Bottom of driver seat

- Prior to starting the project, if the seat will go up/down, raise it to the highest level to provide more room while working on it. This will be a good time to also replace the gears for the seat <u>height</u> adjustment, but those instructions are not included here; these instructions are only for the <u>fwd &</u> <u>back</u> gears.
- 2. Using 11 and 15mm sockets, remove the 4 nuts/bolts securing the seat to the vehicle. This will require prying the plastic covers off and also removing the 15mm nut that attaches the seat belt to the seat frame. Once the screws/nuts are removed, tilt the seat back and disconnect the connector underneath. There is a white retainer that needs to be flipped up in order to separate the connector. Remove the seat entirely from the vehicle. Lay on its back, with the bottom of the seat facing towards you. Loosen the top two bolts attaching the cushion to the frame. It is not necessary to remove them.
- 3. Locate the front main cross member which the seat drive units are connected to. Grind the rivet heads off of both ends of this bar with the Dremel. Do not cut into the seat bar itself, just remove the rivet heads.



- 4. Pry off the side brackets from each end of the cross member bar.
- 5. Remove the bracket on the bottom right side of the frame to loosen that side of the frame using T20 torx driver.



6. Rotate the top of the outside frame toward you to allow you to release the bottom of the spiral lead screw from the structure.





Pry bracket off and rotate black frame toward you

Retaining Rings

Gear Box

- 7. Slide off the washers, bushings, and seat fwd/aft gear boxes.
- 8. Twist off the large nut housing from the lead screw and remove the metal bracket surrounding the gear box.





9. There are retaining rings at the front and back of each gear box. Use a thin flat head screw driver to remove the retaining rings.

10. The gear box will now open, revealing a black plastic drive spur gear and worm gear. Using a cutter such as a Dremel tool, remove the spur gear which is over-molded onto the long spiral drive shaft. It is OK to cut slightly into the underlying steel long spiral shaft. Completely remove the plastic spur gear, including the black plastic pieces on the top and bottom of the steel ring, and clean off any burrs or sharp edges using sand paper. You will re-use the OEM worm gear as this gear does not typically fail.



11. Slide the supplied brass bushing with hat section first onto the long spiral shaft at the far end. Slide the brass spur gear onto the shaft from the short end. Test fit and make sure they sit concentric to the long spiral shaft (within reason, we're not needing .001 inch concentricity here as the gears don't spin very fast). There is a metal button inside the gear housing that needs to be placed at the top of the spur gear



- 12. Before bonding, scuff bond surfaces and then thoroughly clean to ensure a robust bond. Wipe gear housings free of grease and debris from broken gears. Do not use harsh chemicals on plastic housings.
- 13. Use a 24 hour epoxy, such as JB 24 hour weld (NOT the 5 Min version) to bond both halves of the brass gear onto the spiral lead screw. Try to keep it upright with no weight on the gears so they do not get knocked out of place. One method is to wrap the screws in a towel and place into a tall thin glass. Allow to cure for 24 hours. Make sure you wipe off any excess epoxy from gear teeth as it will dry very hard.
- 14. While you are waiting, re-size the hole to 1/2" on the side brackets which the seat frame bar was riveted into. This will fit the steel repair bushings. You can remove any sharp burrs and apply some black primer to the cut areas to protect the seat structure from corrosion.



- 15. Once the gears are dry, install the spiral lead screw into the gearbox. Apply a liberal amount of grease to the gears, and replace retaining rings on front and back sides.
- 16. Apply a small amount of grease inside the steel bushings, taking care that no grease gets on the outside which would inhibit the bonding process in the next step. Reinstall all components, except for the metal washers (they are no longer needed), onto the main cross bar as they were removed placing the previously cut frame rail ends into the steel bushings. The bushings may not seat flat against the frame.



- 17. Use epoxy such as 24 hour JB Weld (not the 5 minute version) to bond the steel repair bushing into the ½" hole that was drilled where the rivet was removed. Allow to fully cure. If you have access to welding equipment you could also weld the frame bar to the steel bushing but make sure the bar in the bushing can rotate as it needs to rotate for the seat height mechanism. Once cured, apply to the spiral lead screw.
- 18. Tighten the bolts to the seat cushion and reinstall seat into vehicle.

Repair bushing