

# GMC Yukon Denali XL

## Engine Mounts, Transmission Mount & Sway Bar Bushings/Links

July 24, 2024

194,554 miles

### Preparation:

- Buy new set of exhaust manifold heat shield bolts. The current bolts are likely heavily corroded from heat cycling.
- Buy new nuts for the transmission mount.
- Buy blue Threadlok 'lipstick' style thread locker. It's more convenient than the liquid.
- Get under truck and apply thread penetrant to everything that you will be loosening. I had lots of problems with the exhaust manifold heat shield bolts. Spray those a couple of times.

- ☐ Chock both rear tires.
- ☐ Set parking brake.
- ☐ Open all four windows and unlatch back glass hatch.
- ☐ Remove cable from negative battery terminal; ensure cable can't contact the negative terminal.
- ☐ Remove engine top cover.
- ☐ Remove air intake snorkel.
- ☐ Jack up front of vehicle and place on jack stands.
- ☐ Remove the front tires.

- ☐ Remove both front fender liners.
- ☐ Remove the lower engine shield four bolts. 15mm
- ☐ Remove steering shaft above motor mount:
  - ☐ Ensure steering wheel is locked or use bungee or other method to prevent rotation.
  - ☐ Mark alignment on shaft and steering column.
  - ☐ Mark alignment of steering shaft coupling to steering gear.
  - ☐ Undo the bolts top and bottom. 15mm top, 11 mm bottom.
  - ☐ Push steering shaft upward off of the steering rack.
  - ☐ At the upper end push down/forward to remove it from the steering column.  
I used a pneumatic hammer which made it very easy to remove.
- ☐ Remove exhaust manifold heatshields – six bolts drivers side, five bolts passenger side. 10mm. OMG these are rusted and frozen into place. Use lots of penetrant and let it soak it. Rotate the bolt about ¼ turn, apply penetrate then tighten it back up. Do this time and time again to get them out without shearing them in half.
- ☐ Remove the three mount-to-frame bolts – 15mm - on both the driver and passenger side. I bought a very VERY long 1/2 inch extension and I was able to get them from above using an impact wrench. You can also get at some of these through the fenders.
- ☐ Remove the nuts holding the transmission mount to the cross member.
- ☐ ~~Remove the starter via 2 bolts. Leave cables attached but tuck starter out of the way or zip tie so that cables are not strained.~~ I did not have to do this.
- ☐ Jack up the engine/drivetrain at the location of the drain plug using a 2" x 4" or two between the jack and the oil pan. ENSURE that the top of the engine does not contact the body at the firewall in the engine compartment.

## REMOVE MOTOR MOUNTS:

- ☐ DRIVER SIDE: Remove the four top bolts – 15mm - on the motor mounts. The motor mount heat shield can be bent to make access easier. I started by opening the metal up to expose more of the bolts.
  - ☐ On the driver side I was able to get at these four bolts from the fender using some deep sockets, a 1/2 inch swivel head ratchet, and a 1/2 inch "Flex Head Stubby Ratchet".
  - ☐ Remove the driver side mount by compressing the metal shield and pulling it out the top where the steering shaft used to be. I was able to remove it in one piece.
- ☐ PASSENGER SIDE: Remove the four top bolts – 15mm - on the passenger motor mount.
  - ☐ Removing the passenger motor mount was the most difficult task. I had to remove the two nuts on the mount to take heat shield apart and make it easier to remove.
  - ☐ I was able to get at three bolts from the fender using some deep sockets, a 1/2 inch swivel head ratchet, and a 1/2 inch "Flex Head Stubby Ratchet".
  - ☐ The bottom right bolt I had to use my very VERY long 1/2 inch extension to get at it from under the steering rack. If you get on your back you can thread the needle of the steering rack, cross member and differential where you can see the last bolt.

## REPLACE TRANSMISSION MOUNT:

- ☐ ~~Remove the four bolts holding the transmission cross member in place and remove the cross member. Prying may be required. MAKE SURE THAT THIS STEP IS NECESSARY.~~ I did not to do this. The bolts could not be removed because they

would either interfere with the exhaust catalytic converter (right side) or the transfer case (left side). Instead I raised the transmission using my floor jack and a 2" x 4" for load spreading and padding.

- ☐ Remove and replace the transmission mount.
  - ☐ **Torque mount-to-transmission bolts to 49 ft lb.**
  - ☐ It might be possible to loosely install the transmission mount-to-crossmember nuts at this time or may have to wait to install them after the engine mounts are installed and the engine lowered.
  - ☐ You will wait to torque the transmission mount-to-crossmember nuts later, after the engine mounts are installed and the engine lowered.
- ☐ ~~If removed, reinstall transmission cross member and **Torque to 70 ft lb.**~~

#### INSTALL MOTOR MOUNTS:

- ☐ DRIVER SIDE: Drop the mount down through the steering shaft 'hole'. May need to tilt it aftward to get in position to put mount post into the frame. Install the driver side mount onto the side of the block with the four bolts. **Torque to 37 ft lb.**
- ☐ PASSENGER SIDE: It may be necessary to remove the heat shield and bracket from the mount before inserting it into the frame/engine area. Reassemble once inserted and before mounting to engine. Torque = snugged up firmly. Install the passenger side mount onto the side of the engine block with four bolts and **Torque to 37 ft lb.**
- ☐ Lower the drivetrain slowly and carefully protecting your fingers and making sure that the mount posts insert into their frame holes. I had to raise and lower the engine a couple of times while shoving it back and forth to get it to line up and drop the posts into their hole on the frame.
- ☐ Install three mount-to-frame bolts on each side. Starting with the middle bolts then the outer two bolts **Torque to 48 ft lb.**

- ☐ Reinstall the starter **Torque to 37 ft lb.**
- ☐ Reinstall exhaust manifold heatshields Torque to 80 **INCH-LBS** (6.5 ft-lbs).
- ☐ If you didn't do it above, torque the transmission mount-to-cross member nuts to **41 ft lb.**

#### REPLACE SWAY BAR BUSHINGS AND LINKS

- ☐ Unbolt both sway bar bushing clamps.
- ☐ Remove and replace bushings on sway bar. Ensure that the bushing split faces aft.
- ☐ Reinstall sway bar bushing clamps. **Torque to 37 ft lb.**
- ☐ Unbolt both sway bar end links
- ☐ Replace end links. THE SPACER MAY GET REUSED. **Torque to 17 ft lb**
- ☐ Reinstall the steering shaft. Apply anti-seize to the mating parts.
  - ☐ ENSURE THAT ALIGNMENT MARKS ARE OBSERVED TOP AND BOTTOM!
  - ☐ Install upper nut and bolt first. **Torque to 37 ft lb.**
  - ☐ Install steering shaft coupling bolt at the steering gear and **Torque to 35 ft lb.**

#### LET'S FINISH THIS PROJECT!!!

- ☐ Reinstall the fender liners.
- ☐ Reinstall the lower engine shield - four bolts **Torque to 15 ft lb.**
- ☐ Mount both front wheels.
- ☐ Lower car to floor.

- ☐ Lug nuts **Torque 140 ft lb.**
- ☐ Reinstall negative battery terminal cable.
- ☐ Reinstall air intake snorkel.
- ☐ Reinstall engine top cover.
- ☐ Remove chocks from rear tires.
- ☐ Close back glass hatch.
- ☐ Release parking brake.
- ☐ Test drive.