

# Z1 OFFROAD ENGINE MOUNTS INSTALLATION MANUAL



This Installation Manual is intended for the following models:	
2005-2015	Nissan Xterra (VQ40)
2005-2021	Nissan Frontier (VQ40)
2022+	Nissan Frontier (VQ38)
2004-2014	Nissan Pathfinder (VQ40)

## PROLOGUE:

Study these instructions completely before proceeding to assembly. The installer must have a thorough knowledge of automotive systems operation. If unfamiliar with any of the concepts outlined in this instruction, we recommend the installation be completed by a qualified professional.

## WARNING!

Extreme caution should be taken when performing maintenance or performance upgrades to your vehicle. Please observe and abide by any Warning or Caution labels placed on the various components and tools used when servicing your vehicle. If you have any questions regarding installation or the various components included with the Z1 Off-Road Engine Mounts, consult with a Professional Mechanic, or contact Z1 Off-Road for more information.

## **PARTS INCLUDED:**

Item	Quantity	Description
1	2	Main Bracket
2	2	Mount Surface
3	2	Mount Sleeve
4	2	Mount Washer
5	2	Upper Bushing
6	2	Lower Bushing

## **TOOLS REQUIRED:**

- Hydraulic Jack
- (4) 2-Ton (or greater) Jack Stands
- Ratchet
- Ratchet Extensions
- Ratchet Universal Joints
- Assorted Metric Sockets
- Assorted Metric Wrenches
- Torque Wrench
- Wooden Block
- Engine Hoist (Optional)

## **SAFETY REQUIREMENTS:**

- Always wear safety glasses and any necessary protective garments. If using any fluids, chemicals, or solvents, a respirator is recommended.
- Always use properly rated jack stands when working under your vehicle.
- Always keep limbs and parts away from moving drivetrain parts.
- Always turn the ignition to the OFF position and disconnect the NEGATIVE battery terminal.
- Only operate drivetrain in safe space and well-ventilated areas.

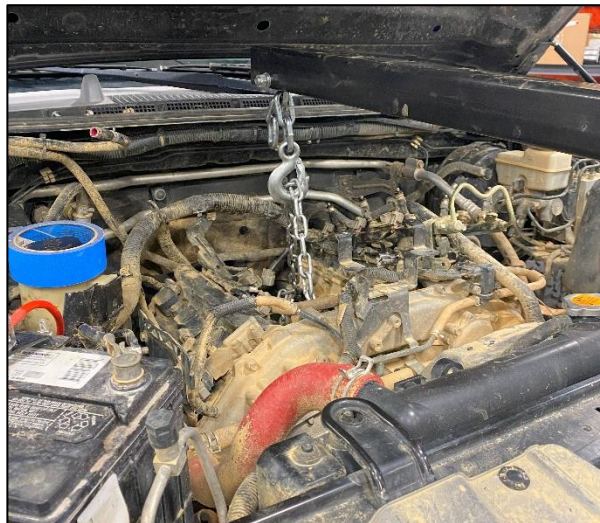
## **BEFORE YOU BEGIN:**

Remove contents from the Z1 Off-Road Motor Mounts and verify that ALL necessary hardware is present.

There are multiple ways to support the engine with the mounts removed. What you are comfortable with and what tools you have access to will determine what the best way is for you to support the engine.

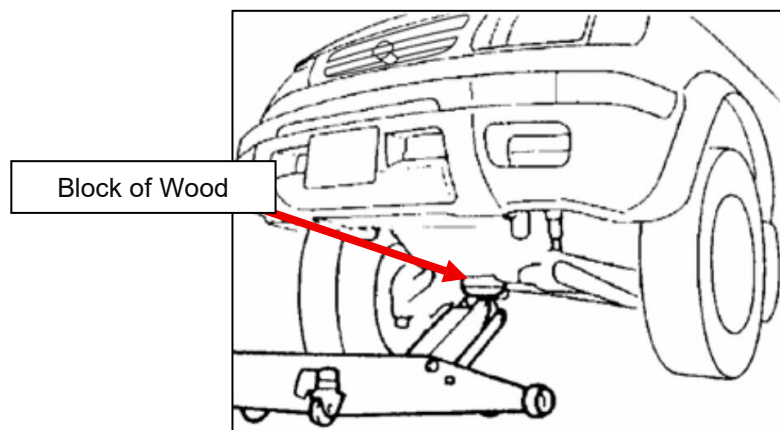
## PROCEDURE:

1. Place the transmission in Park position (or in Reverse gear if equipped with a manual transmission). Apply the parking brake.
2. Loosen the lug nuts on all wheels but do not remove them.
3. Raise and support the vehicle with a jack and jack stands. Refer to the Vehicle's Owner's Manual for proper jacking points.
4. Remove all (4) four wheels and lug nuts.
5. Open and support the hood of the vehicle.
6. Support the engine. There are (2) two main ways to do this and what tools you have available and what you are most comfortable with will determine what you should do:
  - a. Remove the Air Intake and Engine Manifold and use an Engine Hoist to secure the Engine. Refer to the Factory Service Manual for Intake Manifold removal if you decide to go this route. *Figure 1.*



*Figure 1*

- b. Use a jack and a block of wood on the bottom of the Oil Pan at the rear of the engine to secure the motor. **MAKE SURE A BLOCK OF WOOD IS USED, DAMAGE TO THE OIL PAN CAN OCCUR OTHERWISE.** *Figure 2.*



*Figure 2*

7. Ensure the Motor is supported and remove the (2) bolts on the top of each Motor Mount. You will need long extensions and potentially a U-Joint. The Passenger Side may need to have the Air Intake disconnected to gain access to the bolts. *Figure 3.*

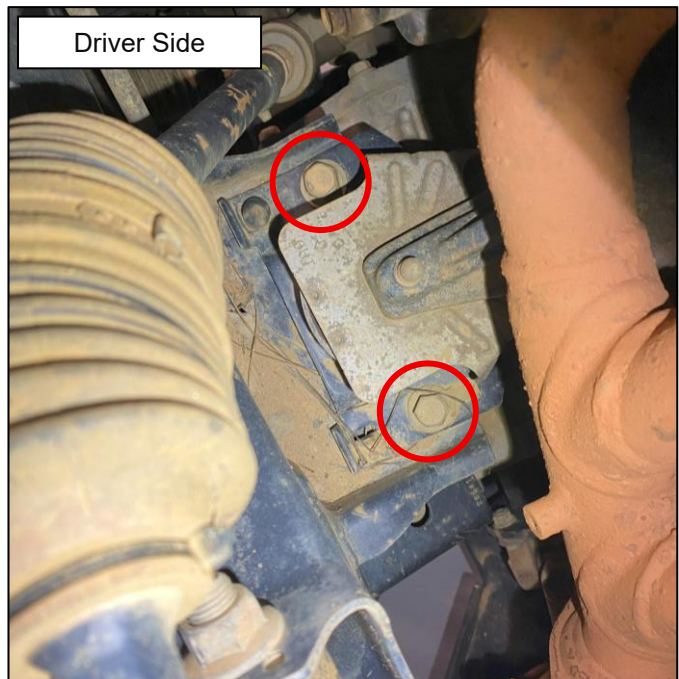
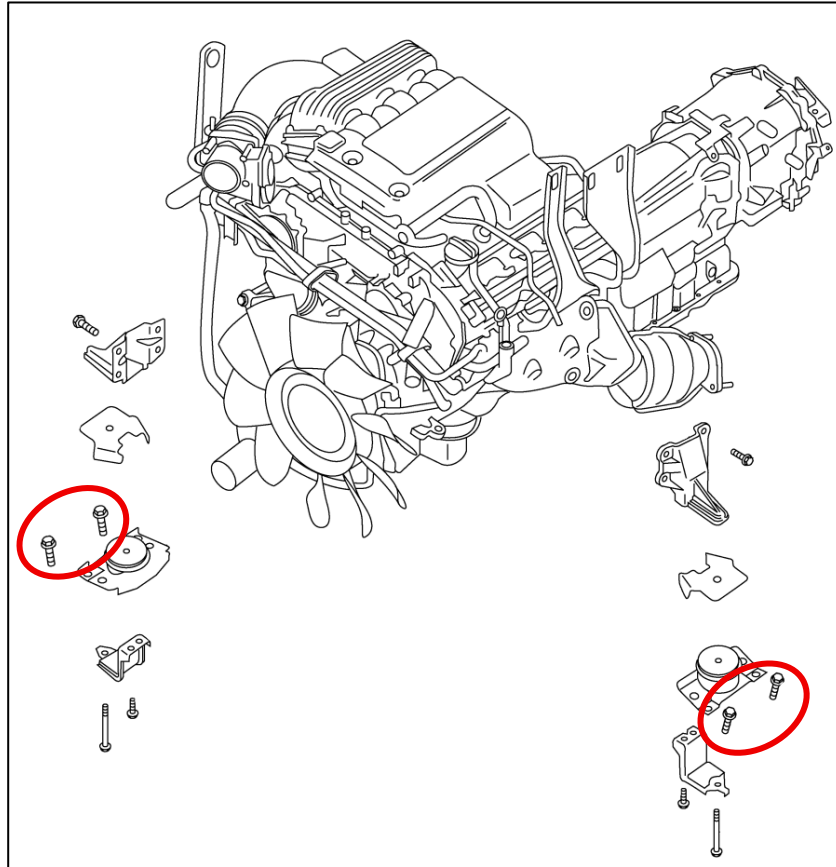


Figure 3

8. Remove the (1) one bolt on the bottom of each Motor Mount. *Figure 4.*

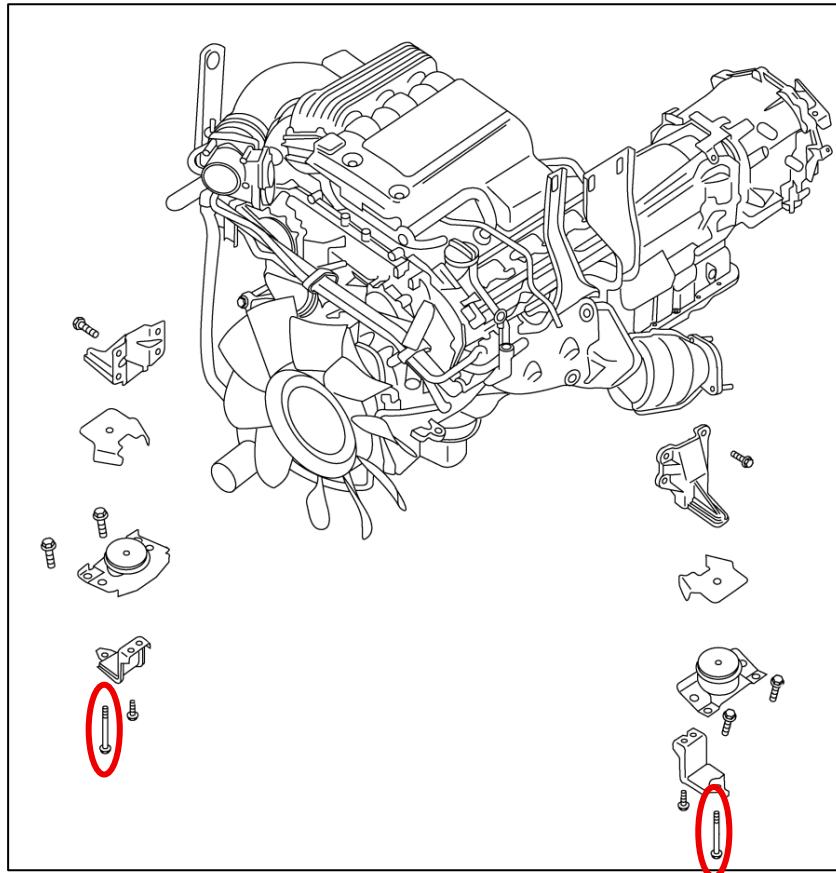


Figure 4

9. Remove the (2) two bolts securing each Mounting Bracket to the Engine. If you have an AWD Vehicle, it is difficult to access these bolts on the Driver Side of the vehicle due to the Transfer Case. Use Universal Joints and extensions to access and remove these bolts. *Figure 5.*

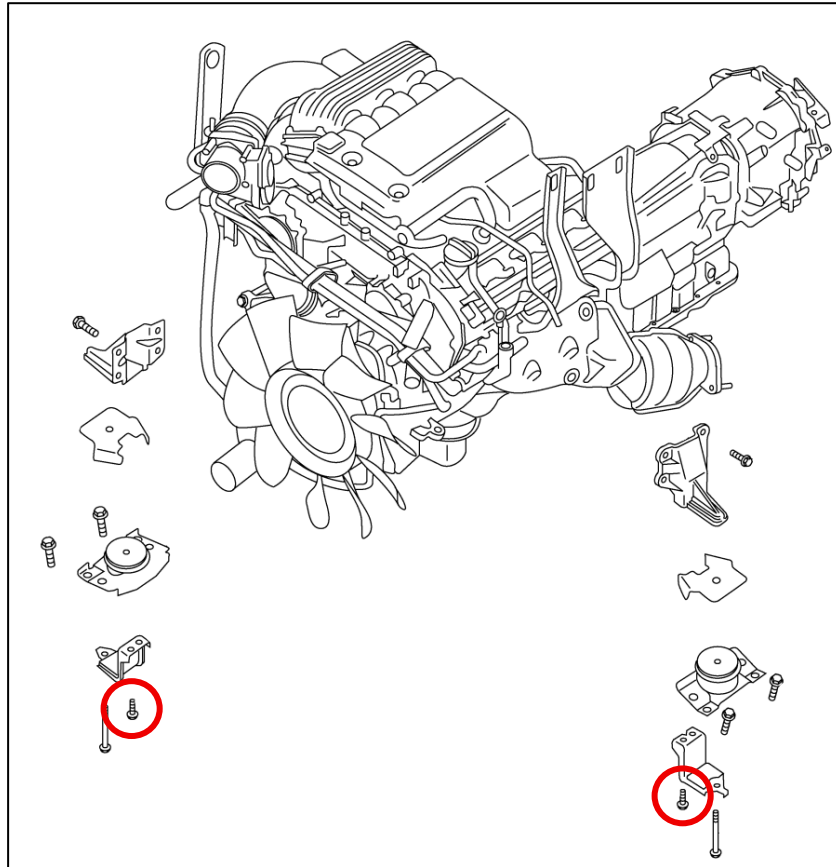


Figure 5

10. Remove the OE Motor Mounts from the vehicle.
11. Remove the Heat Shield on the top of each motor mount. They will not be reused and can be discarded.
12. Locate all included materials and assemble the new Z1 Off-Road Motor Mounts as shown below. *Figure 6.*



*Figure 6*

13. Install the new Motor Mounts into the vehicle. The Mounts are not side specific; however, they will need to be oriented correctly to line up with the Upper Mount Bolts. If they do not align correctly, they will need to be spun 180°. Loosely secure with the bolt removed in *Step 8. Figure 7.*



*Figure 7*

14. Reinstall the Mounting Brackets onto the vehicle to support the Motor Mounts.
15. Reinstall the (2) two Upper Bolts on each side of the Motor Mounts.
16. Torque the (2) two Mounting Bracket Bolts to **36 ft-lbs.**
17. Torque the (3) three Motor Mount Bolts to **65 ft-lbs.**
18. Reinstall any components removed to access the bolts.
19. Reinstall the wheels and lug nuts.
20. Safely remove the vehicle from jack stands.

**END**

**Additional Technical Support:**  
Contact Z1 Off-Road at [info@z1offroad.com](mailto:info@z1offroad.com)  
Or call 678-839-8019 between 9am and 6pm ET