

Z1 VQ40 PLENUM SPACER INSTALLATION MANUAL



This Installation Manual is intended for the following models:	
2005-2015	Nissan Xterra
2005-2019	Nissan Frontier 4.0L
2005-2012	Nissan Pathfinder 4.0L

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 VQ40 Plenum Spacer, consult with a Professional Mechanic or contact Z1 Off-Road for more information.

PARTS INCLUDED:

Item	Quantity	Description
1	1	VQ40 Plenum Spacer
2	7	M6 x 65mm Flanged Bolts
3	3	Upper Plenum Gasket

TOOLS REQUIRED:

- Ratchet
- Ratchet Extension(s)
- E6-Torx Bit (external star)
- Flat-head Screwdriver
- 10mm Socket/Wrench
- 12mm Socket/Wrench
- Pliers

SAFETY REQUIREMENTS:

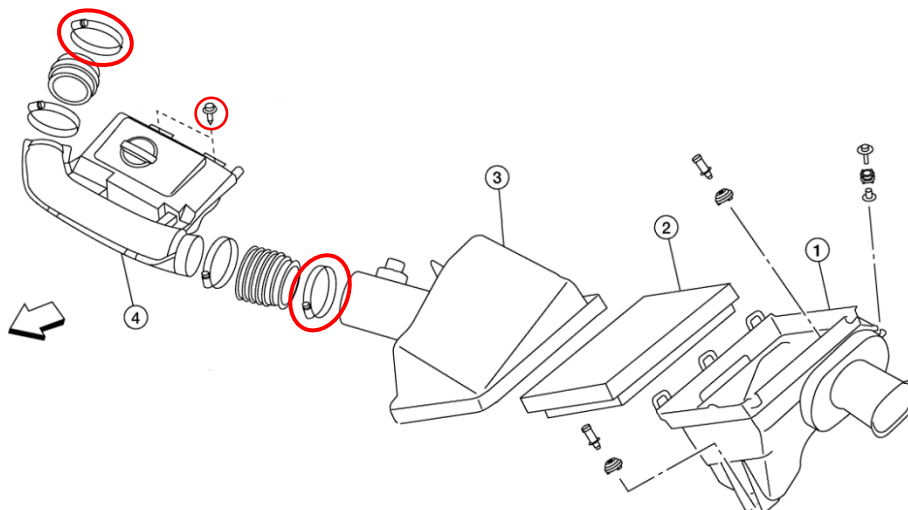
- Always wear safety glasses and any necessary protective garments. If using any fluids, chemicals, or solvents, a respirator is recommended.
- Always use properly rated jack stands when working under your vehicle.
- Always keep limbs and parts away from moving drivetrain parts.
- Only operate drivetrain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

BEFORE YOU BEGIN:

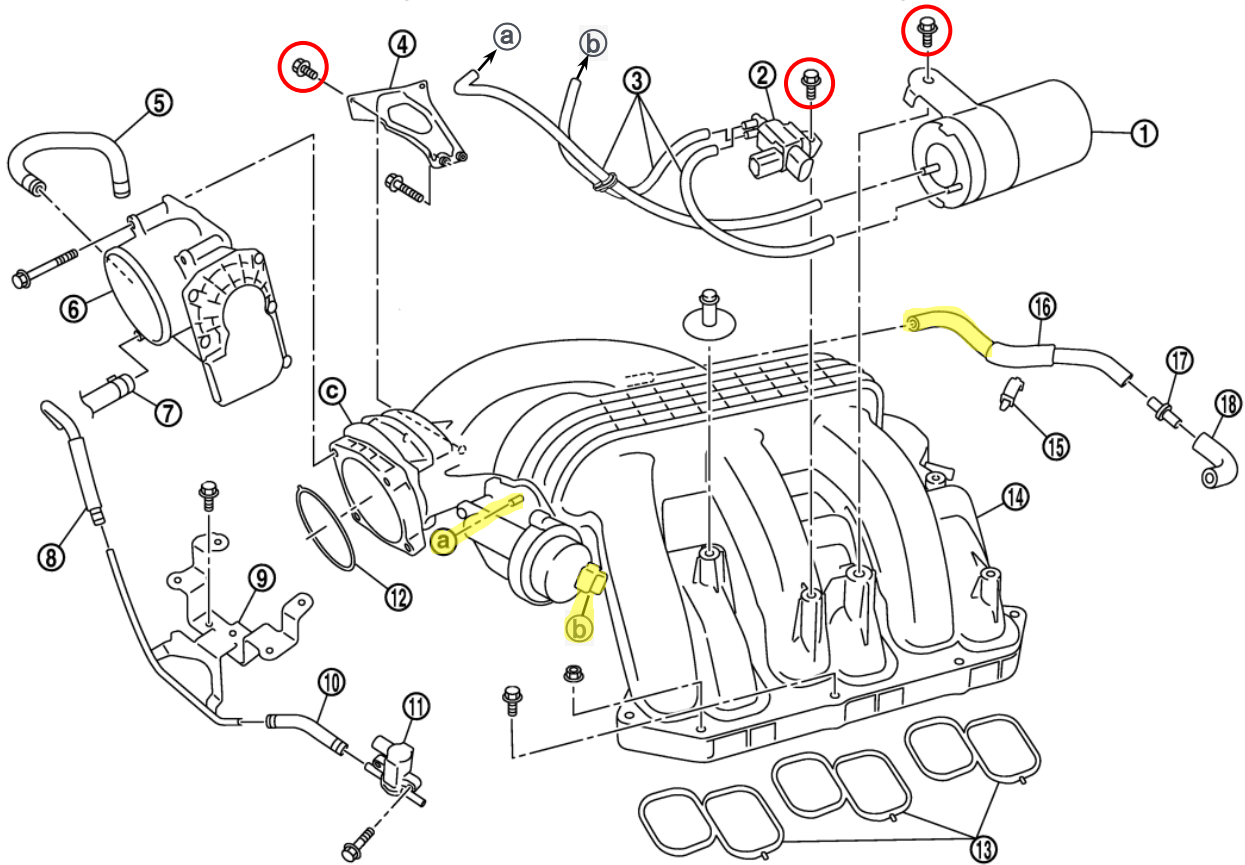
Remove contents from the Z1 Off-Road VQ40 Plenum Spacer Kit and verify that ALL necessary hardware is present.

PROCEDURE:

1. Assure the car's ignition is in the OFF position and the NEGATIVE (-) battery terminal is disconnected.
2. Place the transmission in Park position (or in Reverse gear if equipped with a manual transmission). Apply the parking brake.
3. Unlatch and raise vehicle's hood. Apply hood prop.
4. Remove engine cover. Remove PCV hose connecting to air intake tube.
5. Loosen (2) hose clamps and remove (2) bolts on air intake tube (circled below). Remove air intake tube and set aside.



Use the diagram below as reference for the following steps:



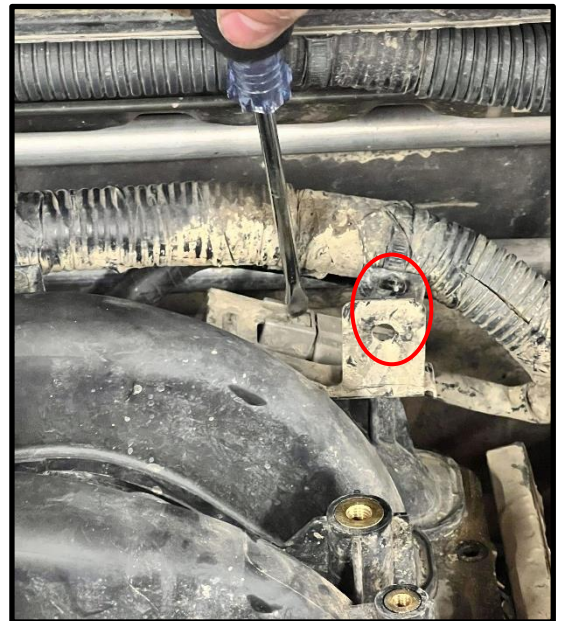
6. Remove the bolts on the intake manifold support bracket (4) securing it to the intake manifold (circled above). You can remove the bracket completely if you'd like, it will no longer be used as the mounting holes on the plenum will move up once the spacer is in place.
7. Remove the (2) bolts securing the VIAS control solenoid valve (2) and vacuum tank (1) to intake manifold (circled above).
8. Remove EVAP hose (a) & (b) from front of intake manifold (highlighted above).

Note: Take note of where each hose was connected as to not mix them up when reinstalling.

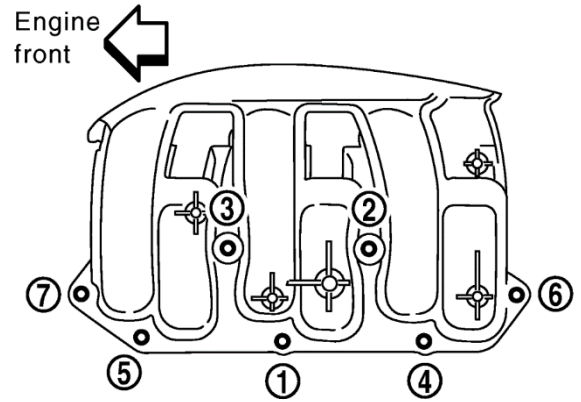
9. Remove EVAP hose (16) from left side of intake manifold (highlighted above).

Note: This step is optional as the manifold will lift up enough to slide the Z1 Intake Manifold Spacer in without removing this hose. However, if you would like to remove the manifold this hose must be removed first.

10. Disconnect electrical connection at back of intake manifold (as shown).
11. Using pliers, remove the (2) clips holding the large wiring harness to the bracket at the back of intake manifold (1 clip circled at right).
12. Remove (1) bolt securing the bracket from the previous step to the intake manifold.

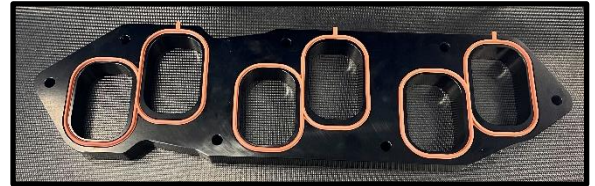


13. Loosen (7) nuts and bolts on intake manifold in reverse order as shown in diagram at right.
14. Using an E-6 Torx bit, remove the (2) studs from the intake manifold.
15. Locate Z1 Intake Manifold Spacer (IMS) and (3) upper plenum gaskets.
16. Install gaskets into Z1 IMS (as shown).
17. Carefully lift up on intake manifold and rotate up and out of the way to provide room to slide the Z1 IMS in place.



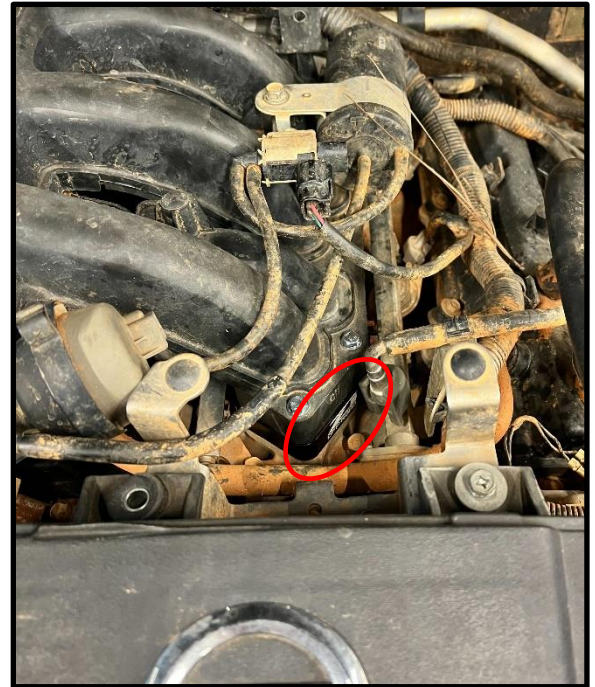
Note: Be careful when the intake runners are open to not drop any tools or dirt/debris inside the engine.

18. Position the Z1 IMS between the upper and lower intake manifolds making sure the gaskets are in place on both sides.



Note: The Z1 Off-Road logo will be on front right side and visible from the front of the vehicle (circled at right).

19. Using the (7) supplied M6 bolts, secure the upper intake plenum to the lower intake plenum in numerical order as shown in image at top right of page. Torque to 8ft-lbs.
20. Follow steps #4-12 in reverse order to reinstall previously removed components.
21. Start vehicle. While at idle check for any leaks or faulty operation of the Z1 VQ40 Intake Manifold Spacer.
22. Lower hood of vehicle.
23. Perform a final test drive of vehicle.



END

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