

Installation Procedure

1992-1994 Nissan Maxima SE 3L DOHC VE30DE

Disclaimer: These spacers should only be installed by a qualified mechanic. If you decide to do the install yourself, please read everything and make sure you understand everything before beginning. NWP Engineering is not responsible for the content of these instructions. This write-up is to be used only as a guideline to help you during the installation process. Refer to the correct Factory Service Manual for the most accurate and up to date information. NWP Engineering shall have absolutely no liability relating to the use, non-use, improper use, installation or removal of this product. This product is not intended for use on public roads and is not DOT approved. Please use common sense and ask a qualified mechanic if you have any questions. Also, feel free to contact us if you need help!

CAUTION: Make sure engine is cool before starting work.

Note: Spray PB Blaster on all the EGR fittings and let it soak before you begin.

Tools/Materials Needed: 3/8" Ratchet, 10mm and 12mm socket, 6mm allen wrench or 6mm hex-head socket, Flathead and Phillips screwdriver, pliers, 14mm open ended wrench, medium/large adjustable wrench, PB Blaster or equivalent, Permatex Ultra Black RTV Silicone Gasket Maker (598B) or equivalent or intake plenum and throttle body gaskets.

Estimated Labor Time: 2-3 hours



1) Remove intake midpipe, Mass Air Flow Sensor, and Air Filter Housing.

2) Remove breather tube running across upper intake manifold.

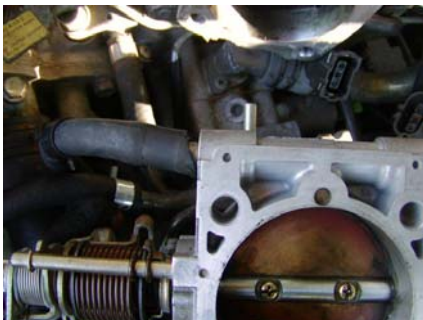
3) Disconnect Throttle Position Sensor connectors.

4) Remove all vacuum hoses on the throttle body and upper intake manifold.

5) Disconnect throttle cables from throttle body.

6) Disconnect throttle cables from upper intake manifold with a 14mm open ended wrench and get them out of the way.

7) Remove the four allen head bolts on the throttle body.

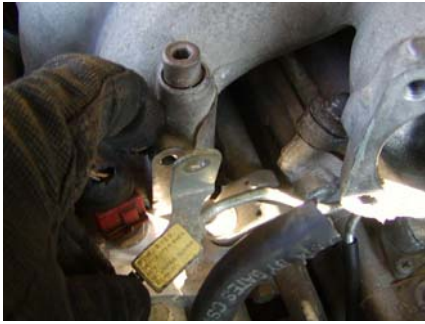


8) Remove coolant hoses from the throttle body and remove throttle body. There is no reason to drain any coolant. Just keep the detached hoses elevated.



9) Disconnect the large breather hose from the upper intake manifold and turn it out of the way.

10) Remove the vacuum hoses that are connected on the upper intake manifold behind throttle body.



11) Remove the two 10mm bolts holding the metal vacuum line to the upper intake manifold. There is one bolt on each side of the throttle body. This is the metal vacuum line that connects to the fuel pressure regulator.

12) Unbolt the EGR solenoid and power valve actuator solenoid bracket from upper intake manifold.



13) Now, go on the other side of the engine bay and remove the vacuum hose on the power valve actuator.

14) Remove the three 10mm bolts holding the ground cables to the upper intake manifold.

15) Remove both intake manifold support brackets on the backside of the manifold. These eight bolts will require a 12mm socket.

Note: You can leave these brackets in place, but you will not be able to reconnect them to the intake manifold once the spacers are installed.

16) Remove the two 12mm bolts on the backside of the upper intake manifold near the PCV valve. It is holding on the breather hose and power valve vacuum hose.

17) Disconnect the brake booster breather hose from the upper intake manifold.



18) Remove the blow-by hose from the upper intake manifold.

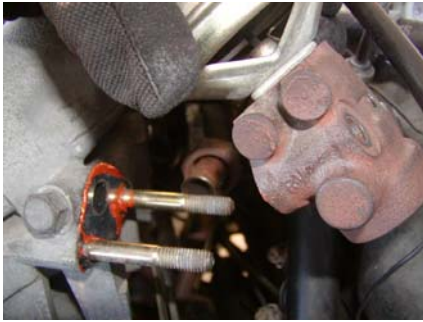
19) Remove the vacuum hose just above the blow-by hose.

20) Remove the vacuum hose from the top of the EGR valve.

21) Unscrew the large upper fitting on the EGR valve with a large adjustable wrench. Feel free to use a cheater bar. 😊



22) Remove both 12mm nuts on the EGR valve.



23) Remove EGR valve.

24) Unplug the 3 coil pack connectors.

25) Remove the six 10mm bolts on the coil packs.

26) Place the coil pack wiring out of the way so you can easily remove the upper intake manifold.

27) Remove the 3 coil packs.

28) Remove the 6 allen head bolts on the upper intake manifold.

29) Remove the upper intake manifold carefully. **Do not scratch the mating surfaces!!**



30) Stuff lint free paper shop towels in the intake ports on the

lower intake manifold!



CAUTION: If you drop something down in one of these ports, you've got a BIG problem!



31) Remove the lower fitting on the EGR tube. You can use a 22mm open ended wrench or an adjustable wrench.

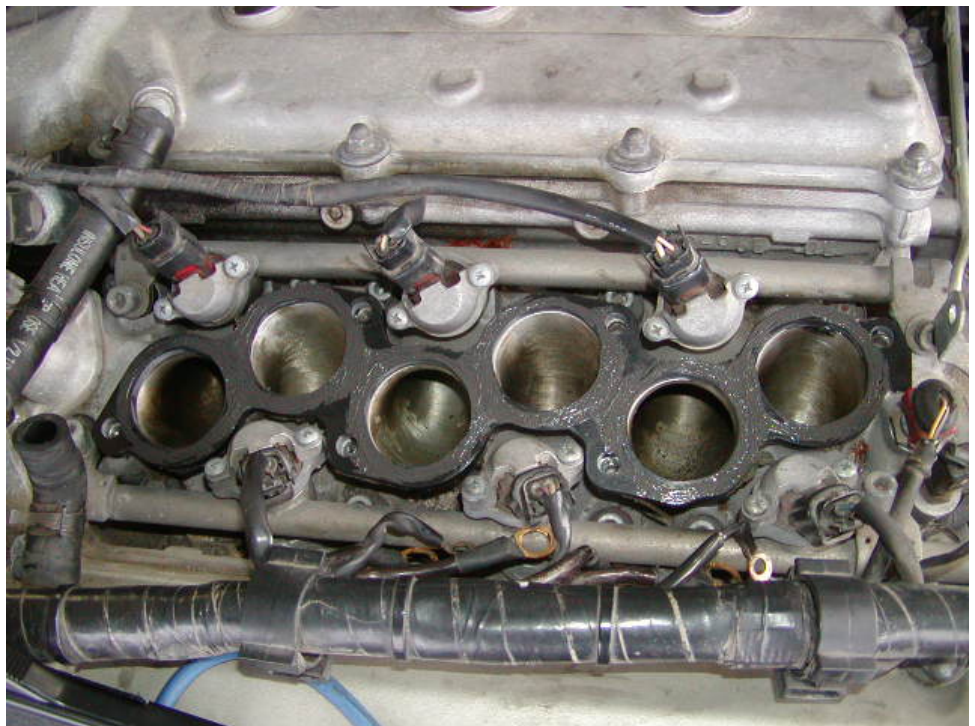
32) Install the exhaust manifold block plug. You can put a little Red or Ultra Copper Permatex RTV Silicone Sealant (101BR) on the threads to make sure you get a good seal and to ensure it doesn't rattle lose.



33) Apply Black RTV (598B) to both sides of the upper intake manifold spacer. Apply some on your finger then put a small amount around each port.

Note: If you apply too much, the RTV will squeeze out and obstruct the intake ports when you torque down the manifold bolts.

34) Carefully place the upper intake spacer on the lower intake manifold on the motor. Push it down firmly. If any RTV squeezes out, remove it from the intake port so it doesn't obstruct airflow. Make sure you line it up properly with the intake ports. If you have done any port work to your manifold, some minor porting on the spacers may be necessary.



CAUTION: Wear a suitable respirator or mask when porting or sanding these spacers! If inhaled, the dust can hurt you!

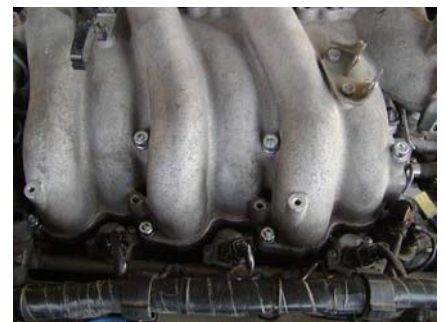
Note: The RTV sealant will not only make an airtight seal, it will also hold the spacer perfectly in place while you install the upper intake manifold.



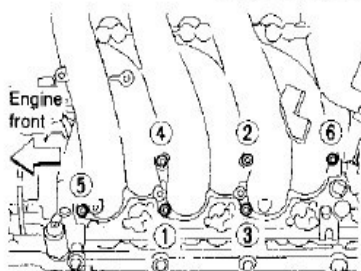
35) Lets install the EGR Block Plate now. Remove the 2 EGR studs from the upper intake manifold. Use the 2 nuts together to remove the studs as shown. Before installing the EGR Block Plate, put some Black RTV around the EGR port on the upper intake manifold.

36) Now you're ready to install the upper intake manifold.

37) Use the lengthened bolts provided to snug down the upper intake manifold.



Intake manifold collector tightening procedure



Tighten in numerical order.

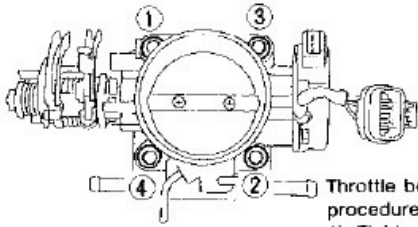
38) Use the torque procedure shown to properly torque down the upper intake manifold. The proper torque for the upper intake manifold is 13–16 ft-lbs.

39) On the throttle body spacer, apply a very small amount of RTV on one side.



40) Stick it to the upper intake manifold and line it up properly to the port.

Throttle body tightening procedure

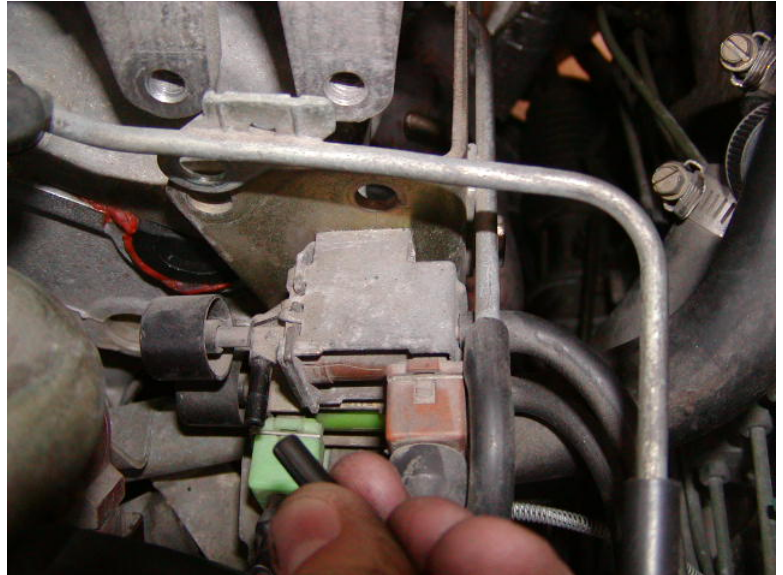


Tighten in numerical order.

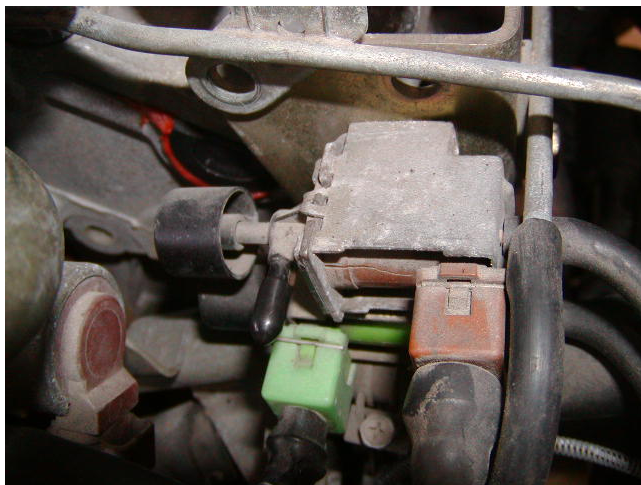
Throttle body bolts tightening procedure

- 1) Tighten all bolts to 9 to 11 N·m (0.9 to 1.1 kg-m, 6.5 to 8.0 ft-lb).
- 2) Tighten all bolts to 18 to 22 N·m (1.8 - 2.2 kg-m, 13 to 16 ft-lb).

41) Install the throttle body and follow the torque procedure shown.



42) Now we need to plug up the EGR solenoid. If the vacuum hose is still attached to the port shown in the picture, remove it.



43) Install the vacuum cap to the fitting on the EGR solenoid as shown in the picture.

44) Take the throttle body coolant bypass fitting and install it between the two coolant hoses that were installed on the throttle body coolant fitting.



45) Once installed, it should look like the picture shown to the right. Make sure you use hose clamps.

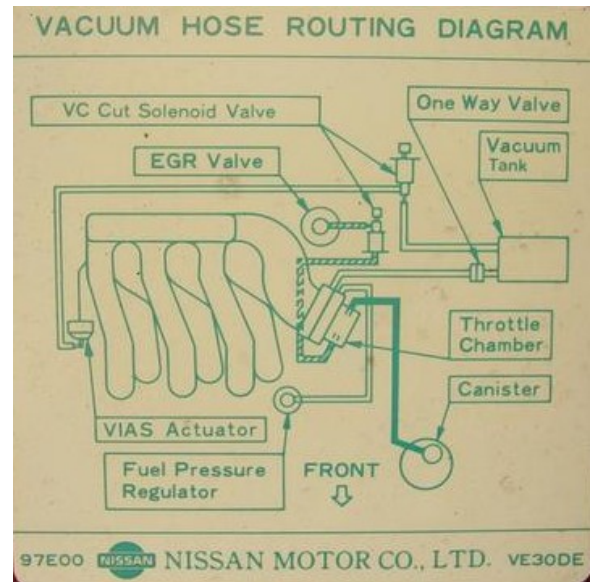
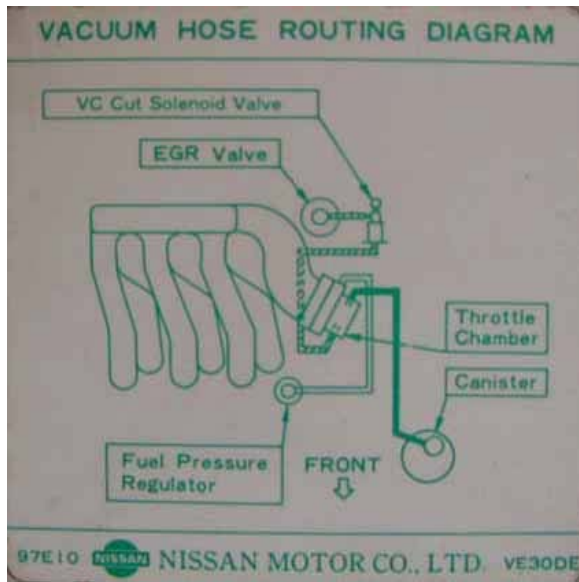


46) Attach the throttle and cruise control cables and tighten them up using a 14mm open ended wrench.

47) Use the following vacuum diagrams to help you attach the vacuum hoses if you forgot.

(Left Pic: VE30DE Automatic)

(Right Pic: VE30DE Manual)



48) That's it! Just put everything back together following the directions in reverse order.

