

Z1 MOTORSPORTS VQ35DE 75MM THROTTLE BODY UPGRADE KIT INSTALLATION MANUAL



This Installation Manual is intended for the following models:

2003-2006	Nissan 350Z
2003-2007	Infiniti G35 Coupe
2003-2006	Infiniti G35 sedan
2003-2008	Infiniti FX35

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 Motorsports VQ35DE 75mm Throttle Body Upgrade Kit, consult with a Professional Mechanic or contact Z1 Motorsports for more information.

Parts Included:

Item	Quantity	Description
1	1	Wiring Harness
2	1	Throttle Body Adapter
3	1	Gasket, Throttle Body Side (Larger Gasket)
4	1	Gasket, Intake Manifold Side (Smaller Gasket)
5	4	Socket Head Bolt, M6x1.0, 20mm
6	4	Socket Head Bolt, M6x1.0, 55mm
7	1	Z1 75mm Throttle Body

TOOLS REQUIRED:

- Ratchet
- Ratchet Accessories
- Screwdriver
- 5mm Allen Bit

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 Motorsports VQ35DE 75mm Throttle Body Upgrade 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 intake piping from vehicle.
5. Remove factory throttle body from intake manifold by removing (4) socket head bolts.

Note: Do not touch or move the "butterfly valve" (the large plate at the center of the throttle body) during any part of installation.

6. Install throttle body adapter by bolting adapter to intake manifold using supplied 20mm bolts. Be sure to install the "intake manifold side" gasket between adapter and intake manifold. Torque to 7ft-lbs.

7. Install 75mm throttle body using (4) supplied 55mm bolts. Be sure to install the “throttle body side” gasket between throttle body and adapter. Torque to 7ft-lbs.
8. Plug the green connector on the adapter harness into stock wiring harness.
9. Plug the black connector on the adapter harness into the 75mm throttle body.
10. Reinstall intake.

Note: Be sure to tighten all clamps. Assure the MAF is plugged in if removed during step 4.

11. Perform the Accelerator Pedal Released Position Learning, Throttle Valve Closed Position Learning, and Idle Air Volume Learning procedures by following the steps provided in your [Factory Service Manual \(FSM\) starting on page 91](#). This can be found in the “EC” section of your vehicles FSM, under the “Basic Service Procedures” section. Please note this process involves doing a timed “Pedal Dance” inside of the car and may take a couple of tries to get correct.

- a. Accelerator Pedal Released Position Learning

Description:

Accelerator Pedal Released Position Learning is an operation to learn the fully released position of the accelerator pedal by monitoring the accelerator pedal position sensor output signal. It must be performed each time harness connector of accelerator pedal position sensor or ECM is disconnected.

OPERATION PROCEDURE:

- i. Make sure that accelerator pedal is fully released.
- ii. Turn ignition switch ON and wait at least 2 seconds.
- iii. Turn ignition switch OFF and wait at least 10 seconds.
- iv. Turn ignition switch ON and wait at least 2 seconds.
- v. Turn ignition switch OFF and wait at least 10 seconds.

- b. Throttle Valve Closed Position Learning

Description:

Throttle Valve Closed Position Learning is an operation to learn the fully closed position of the throttle valve by monitoring the throttle position sensor output signal. It must be performed each time harness connector of electric throttle control actuator or ECM is disconnected.

OPERATION PROCEDURE:

- i. Make sure that accelerator pedal is fully released.
- ii. Turn ignition switch ON.
- iii. Turn ignition switch OFF and wait at least 10 seconds.
 - Make sure that throttle valve moves during above 10 seconds by confirming the operating sound.

c. Idle Air Volume Learning

Description:

Idle Air Volume Learning is an operation to learn the idle air volume that keeps each engine within the specific range. It must be performed under any of the following conditions:

- Each time electric throttle control actuator or ECM is replaced.
- Idle speed or ignition timing is out of specification.

Preparation:

Before performing Idle Air Volume Learning, make sure that all of the following conditions are satisfied. Learning will be cancelled if any of the following conditions are missed for even a moment.

- Battery voltage: More than 12.9V (At idle)
- Engine coolant temperature: 70 – 100°C (158 – 212°F)
- Park/neutral position (PNP) switch: ON
- Electric load switch: OFF

(Air conditioner, headlamp, rear window defogger)

On vehicles equipped with daytime light systems, if the parking brake is applied before the engine is started, the headlamp will not be illuminated.

- Steering wheel: Neutral (Straight-ahead position)
- Vehicle speed: Stopped
- Transmission: Warmed-up

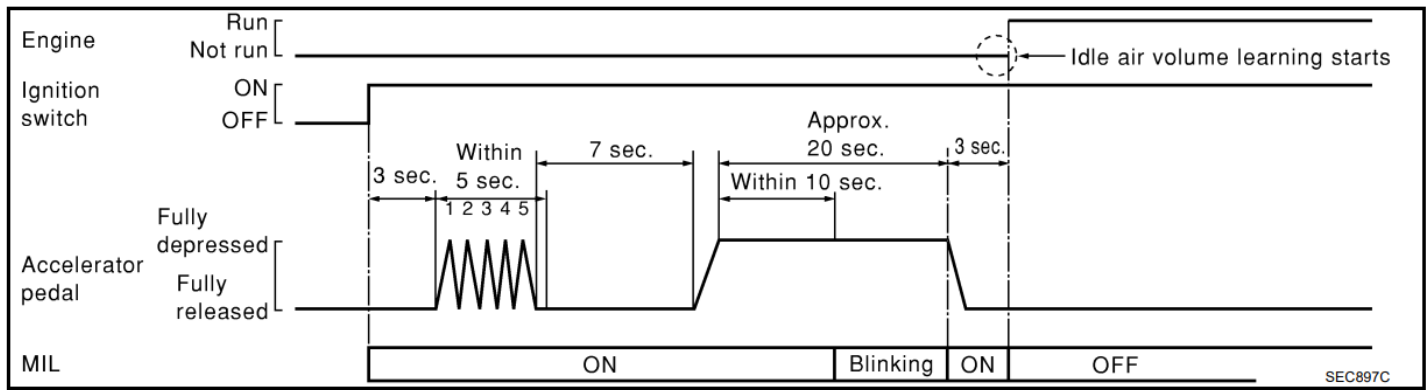
For A/T models and M/T models, drive vehicle for 10 minutes.

OPERATION PROCEDURE:

NOTE:

- It is better to count the time accurately with a clock.
- It is impossible to switch the diagnostic mode when an accelerator pedal position sensor circuit has a malfunction.
 - i. Perform "Accelerator Pedal Released Position Learning" (should have been completed in steps above).
 - ii. Perform "Throttle Valve Closed Position Learning" (should have been completed in steps above).
 - iii. Start engine and warm it up to normal operating temperature.
 - iv. Check that all items listed under the topic PREPARATION (mentioned above) are in good order.
 - v. Turn ignition switch OFF and wait at least 10 seconds.
 - vi. Confirm that accelerator pedal is fully released, turn ignition switch ON and wait 3 seconds.
 - vii. Repeat the following procedure quickly five times within 5 seconds.
 - Fully depress the accelerator pedal.
 - Fully release the accelerator pedal.
 - viii. Wait 7 seconds, fully depress the accelerator pedal and keep it for approx. 20 seconds until the MIL stops blinking and turned ON.
 - ix. Fully release the accelerator pedal within 3 seconds after the MIL turned ON.
 - x. Start engine and let it idle.

xi. Wait 20 seconds.



xii. Rev up the engine two or three times and make sure that idle speed and ignition timing are within the specifications.

ITEM	SPECIFICATION
Idle speed	A/T: 650±50 rpm (in P or N position) M/T: 650±50 rpm (in Neutral position)
Ignition timing	A/T: 15±5° BTDC (in P or N position) M/T: 15±5° BTDC (in Neutral position)

xiii. If idle speed and ignition timing are not within the specification, Idle Air Volume Learning will not be carried out successfully. In this case, find the cause of the incident by referring to the DIAGNOSTIC PROCEDURE below.

DIAGNOSTIC PROCEDURE:

If Idle Air Volume Learning cannot be performed successfully, proceed as follows:

- i. Check that throttle valve is fully closed.
- ii. Check PCV valve operation.
- iii. Check that downstream of throttle valve is free from air leakage.
- iv. When the above three items check out OK, engine component parts and their installation condition are questionable. Check and eliminate the cause of the incident. It is useful to perform [EC-156, "TROUBLE DIAGNOSIS - SPECIFICATION VALUE"](#) (pg. 156).
- v. If any of the following conditions occur after the engine has started, eliminate the cause of the incident and perform Idle Air Volume Learning all over again:
 - Engine stalls.
 - Erroneous idle.

12. Perform a final test drive of the vehicle.

END

Additional Technical Support:
 Contact Z1 Motorsports at info@z1motorsports.com
 Or call 770-838-7777 between 9am and 6pm ET