

Installation Instructions: VQ35DE Twin Plenum

Part Number: 20000063

Applications: 2003-07 Nissan 350Z all & 2003-07 Infiniti G35 all

Disclaimer and Warranty

A vehicle modified with Cosworth competition and or racing performance products will not meet the legal requirements for operation on public roads and highways. It is the purchaser's responsibility to check and comply with all local, state and federal laws prior to operating vehicle. Installation and use of performance products may also affect and void warranty and insurance policies. In general, Cosworth Performance Parts carry no warranty. Cosworth, LLC and Cosworth Ltd. shall not be liable for direct, indirect, incidental or consequential damage or injury to persons or property that might be claimed as a result from the installation, improper installation, and failure of part including claims for delay, loss of profits or labor. There are no warranties expressed or implied.

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Parts List

ITEM #	QTY.	DESCRIPTION	COSWORTH PART #
1	1	Cosworth VQ35DE Twin Plenum casting	Not Available
2	1	RH Plenum Carbon Cap	ZK0005
3	1	LH Plenum Carbon Cap	ZK0006
4	18	Socket Cap Screw, M6x1.0x16, stainless steel	20001131
5	4	Socket Cap Screw, M6x1.0x12, stainless steel	20001132
6	2	Socket Cap Screw, M6x1.0x140, stainless steel	20001133
7	2	Socket Cap Screw, M6x1.0x120, stainless steel	20001134
8	1	Socket Cap Screw, M6x1.0x80, stainless steel	20001135
9	1	Socket Cap Screw, M6x1.0x70, stainless steel	20001136
10	2	3/8" barb to 1/4" NPT 90° adapter	ZK0038
11	1	1/4" barb to 1/8" NPT 45° adapter	20000059
12	1	5/16" barb to 5/15" barb 90° hose adapter	20001139
13	1	Throttle body gasket, single layer stainless	20001315
14	1	Lower intake manifold gasket, single layer stainless	20001314
15	1	PRV check valve	20001316
16	1	2' Rubber brake booster hose	20001317
17	2	Spring clamp for brake booster hose, high pressure	20001318
18	1	RH Plenum cap O-Ring	20001319
19	1	LH Plenum cap O-Ring	20001320
20	2	1/8" NPT Allen head plug	PP1120

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General Information

Congratulations, you are the new proud owner of a Cosworth VQ35DE Twin Plenum upper intake manifold. Your new plenum is designed by the very same engineers who design plenums for F1, ALMS, Champ Car, Formula Atlantic, WRC, and other forms of professional motorsports. Your plenum features special length and diameter intake runners for power band tuning, air horns for increased velocity, carbon end caps for serviceability, and all while working with a stock or stock configuration engine. Your plenum is designed to increase horsepower and torque on both normally aspirated and turbo/supercharged applications.

It is strongly recommended that this plenum is installed by an experienced tuning shop or mechanic. To maximize horsepower and torque gains, we recommend having your engine professionally tuned by an experienced tuning shop also. Your Cosworth plenum is intended for light duty motorsports such as autocross, club racing, time trials, and track days and is not legal for use on pollution controlled vehicles that will be operated on a US highway. Please check your local laws for your local regulations.

Specific applications (350Z and G35) – since this plenum is designed to replace the factory Nissan plenum, it is designed to be a direct bolt-in replacement for factory plenum. Therefore, the disassembly procedures depicted in your Nissan factory service manual must be followed during the removal of the factory plenum. When installing the Cosworth plenum, you must follow the directions in this installation manual very carefully.

Your Cosworth VQ35 plenum is designed for use with the 287hp and 300hp rear wheel drive engines. The plenum is not designed for use on any front wheel drive VQ35DE applications. Cosworth does NOT provide technical support for any other configuration other than intended.

Please take a few minutes to inspect and count the parts to ensure there are no signs of damage or missing parts. Pay special attention to the flat, machined surfaces. If the parts are damaged, please contact the shipping company to make a claim. If you are missing parts and the box was obviously torn or opened, then contact the shipping company to make a claim. If you are missing parts and the box was fully sealed in Cosworth packaging, please contact Cosworth for replacement parts.

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Installation Tips

Fuel Rails and Injectors

The Cosworth Twin Plenum is designed to for use with either the factory fuel rails or the Cosworth fuel rail system. In both cases, there will be no interference issues with stock fuel injectors (Bosch EV6) or stock height fuel injectors. If injectors other than the Bosch EV6 style are used, such as Denso, Rochester, Lucas, RC Engineering, Siemens, etc., and the fuel rails are spaced higher than the factory position, then the Cosworth plenum will also have to be spaced higher to clear the fuel rails. Spacing the manifold higher can be achieved by stacking multiple factory gaskets and/or using an aftermarket phenolic spacer type gasket.

Strut Tower Bars

The Cosworth Twin Plenum is designed to work with the factory strut tower bar when using a single layer lower intake manifold gasket. Whenever the plenum is spaced higher to clear taller fuel injectors, the strut tower bar will need to be spaced higher using washers. Cosworth does not provide support for aftermarket strut tower bars as it is impossible to predict the fitment of all strut tower bars available.

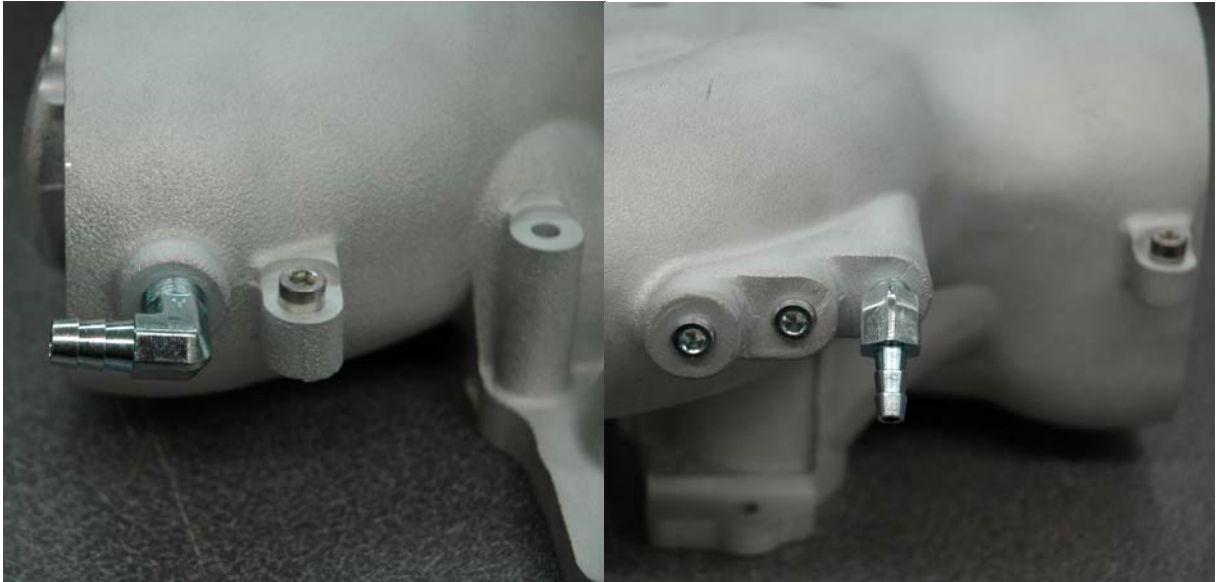
Intake Systems

The Cosworth Twin Plenum is designed for use with the factory intake tube and air box. If you have an aftermarket intake system that is designed to directly replace the factory intake tube and air box, you should not have any problems. Whenever a plenum is spaced higher to clear taller fuel injectors, some adjustment may be required. Cosworth does not provide any support for aftermarket intake systems as it is impossible to predict the fitment of all intake systems available.

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Installation

1. Prepare the Cosworth plenum for installation first by installing fittings **#10, 11, and 20** in the plenum. Use Teflon tape or pipe sealing paste to ensure a positive seal on all pipe threads. Orientate the fittings as shown in the images below. Optionally, the plugged pipe threads at the rear of the plenum can be used for additional pressure or vacuum sources.



2. Inspect the inside of the plenum to ensure it is clean of debris, dirt, or other foreign matter.
3. Install the RH plenum cap o-ring **#18** and then the RH carbon plenum cap **#2** using the supplied socket cap screws **#4**. Hand tighten all socket cap screws first and then proceed to torque screws to 72 inch-pounds in a cross pattern starting from the center of the cap and outwards.

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4. Install the LH plenum cap o-ring **#19** and then the RH carbon plenum cap **#3** using the supplied socket cap screws **#4**. Hand tighten all socket cap screws first and then proceed to torque screws to 72 inch-pounds in a cross pattern starting from the center of the cap and outwards.
5. Install black rubber brake vacuum hose **#16** and spring clamp **#17** on to 90° fitting located on the bottom side of the plenum adjacent to the throttle body flange.
6. As per the factory service manual, remove the factory strut tower bar, plenum cover, plenum, etc.
7. Install the 5/16" barb 90° fitting to bypass the coolant hose connections that previously connected to the factory lower intake plenum. These coolant hoses are located underneath the throttle body.
8. Remove the throttle body from the factory plenum assembly and clean its sealing surface thoroughly with a solvent. Install the throttle body on to the Cosworth plenum using the factory bolts and the supplied new throttle body gasket **#13**. Ensure all sealing surfaces are clean.
9. Remove the factory lower intake manifold gasket and clean the manifold's sealing surface making sure surfaces are all clean of dirt and oil. Take extra care during this step to ensure nothing is dropped in to engine. Then install the supplied new lower intake manifold gasket **#14** in place.
10. Install the Cosworth plenum on to the lower intake manifold. Use the appropriate length socket cap screws **#6, 7, 8, 9** to secure the plenum to the lower intake manifold. Reuse the two M6 nuts from the front and rear end of the factory plenum flange. Ensure that the plenum does not interfere with anything underneath before hand tightening socket cap screws. If the plenum is clear of all objects underneath, then proceed to torque the socket cap screws in a cross pattern from the center and outwards to 72 inch-pounds.
11. Run the brake booster vacuum hose **#16** to the factory brake booster vacuum pipe located on the RH side of the firewall. See below in figure 1. Clamp this hose securely with spring clamp **#17**.

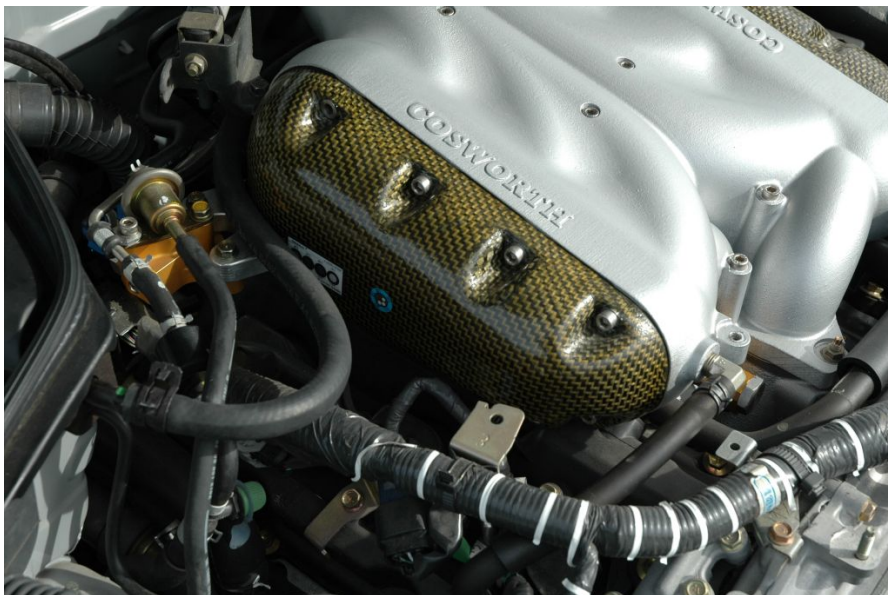


Figure 1

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12. Bolt the fuel rail distribution manifold to the aluminum fitting on the RH plenum end cap using the factory screws. If installing the Cosworth VQ35DE fuel rail system at the same time, then use the socket cap screws provided with the fuel rail system. See figure 1 on previous page.
13. Connect the factory PCV hose to the front RH fitting of the Cosworth plenum. See figure 1 on previous page.
14. Mount the fuel purge solenoid on the tab located on the rear of the RH side of the Cosworth plenum using the a supplied socket cap screw #5. Connect the factory hose from this solenoid to the ¼" 45° barb fitting #11 at the rear of the plenum. See figure 2 below.



Figure 2

15. On the front LH side of the plenum there is a metal bracket that holds the wiring harness in place. Use a supplied socket cap screw #5 to bolt this bracket to the tab at the front of the plenum.
16. Connect the throttle body coupler from the main engine harness to the throttle body.
17. Connect the intake tube back on to the throttle body.
18. Remove the plastic cover located at the rear LH side of the engine bay labeled "BRAKE FLUID". Underneath this cover is the brake booster vacuum hose. Cut this hose dead center and insert the supplied check valve #15 with the arrow pointing toward the engine and away from the brake booster. Be sure to install the supplied spring clamps #17 on both sides of the cut before inserting the check valve. on See figure 3 on the next page.

Installation Instructions: VQ35DE Twin Plenum



Figure 3

Warranty

In general, Cosworth competition and/or performance parts carry no warranty. Cosworth LLC and Cosworth Limited shall not be liable for direct, indirect, incidental or consequential damage or injury to persons or property that might be claimed as result from the installation or improper installation and failure of part, including claims for delay, loss of profits or labor. There are no warranties expressed or implied.