



# IMPORTANT! WARRANTY AND INSTALLATION INSTRUCTIONS

Please Forward All Information to Consumer

Be sure to review the enclosed instructions prior to beginning the installation process. If you have any questions about the enclosed parts or instructions, or if you encounter a problem during installation: **CALL TECHNICAL SUPPORT:** 440.891.0999 or 800.486.0999

### COLOR INSTRUCTIONS ARE AVAILABLE BY PART NUMBER ON: VOLANT.COM





# **RECOMMENDED TOOLS & SUPPLIES**

- Straight blade screwdriver
- Phillips head screwdriver # 2 head
- 3/8" drive ratchet with extensions
- 10 mm socket
- 10 mm open/closed box end wrench

- 13 mm socket
- 13 mm open/closed box end wrench
- 1/2" socket
- 1/2" open/closed box end wrench
- Slip joint pliers



#### 2008-2018 Nissan Frontier/Xterra – 4.0 L V6 Closed Air Box Intake Part #: 12540



#### Please take time to read and understand these installation instructions.

VOLANT recommends that the installation of this system be performed by a qualified service center or professional installer who has the necessary equipment, tools, and experienced personnel. However, if you decide to perform this installation yourself, the use of an additional person may be required.

**WARNING:** Never work on a hot engine bay. Allow time for the vehicle to cool.

Check that this air intake complies with your Federal, State, and Local laws. *We recommend saving your stock system.* 

This warranty does not extend to damaged or defect in the finish of a product or to any product, that in the opinion of VOLANT Performance, has been misused, damaged by accident or negligence, altered or modified in any way, faulty installation or installed contrary to VOLANT installation instructions, or repaired by an unauthorized service facility.

Full warranty available on http://www.VOLANT.com

**IMPORTANT!!** Please confirm all parts are present according to the bill of materials below before beginning the installation!

If something is missing call Tech Support at 440.891.0999 or Toll Free: 1.800.486.0999



PREASSEMBLED MATERIALS					
VOLANT Closed Air Box	1	VOLANT Air Duct	1	VOLANT Air Filter w/ clamp	1
VOLANT Filter Adapter	1	VOLANT Filter Box Lid (Clear)	1	1/4"-20 Truss Head screws	5
1/4" Rubber washers	5				
HARDWARE KIT 3-1/4" x 3" Sleeve	1	3-1/2" x 3" Hump Sleeve	1	#056 Stainless Steel Clamps	4
3-1/4" x 3" Sleeve	1	3-1/2" x 3" Hump Sleeve	1	#056 Stainless Steel Clamps	4
6 mm x 25 Bolts	1	8 mm X 20 Bolts	2	3/8" Flat Washers	2
3/8" Lock Washers	2	1/4" Flat Washers	1	1/4" Lock Washers	1
4 mm x 12 Sensor screws	2	5/8" Straight Fitting	1	5/8" x 3-1/2" Breather Hose	1
18" Vinyl Trim w/ Sponge	1	CARB Compliance Label	1		



FACTORY INTAKE

Locate the vehicle's battery and disconnect the negative battery cable. This may reset the computer and clear old air flow data to help prevent CEL errors. It is advisable to write down memory settings before disconnecting the battery. Some radios may require an anti-theft code to be entered when power is restored, which can be found in the owner manual or by contacting an authorized NISSAN dealer.

Please contact VOLANT Technical Services at 440.891.0999 or 800.486.0999 if you have questions.

#### **REMOVAL INSTRUCTIONS**



 Locate the Mass Air Flow (MAF) sensor on the factory air inlet tube. Disconnect the wiring harness. Remove the 2 Phillips head screws. Gently lift out the MAF sensor and remove the factory gasket. Place the MAF sensor in a clean, secure location to be reinstalled later. (NOTE: Before reinstalling, it is suggested to clean the MAF sensor with an aerosol MAF cleaner.)



**2.** Locate the two bolts holding the engine cover, and remove them. Remove the engine cover by lifting straight up, and set aside.



**3.** Loosen the clamp holding the rubber sleeve connecting the factory air tube to the throttle body. Wiggle the sleeve to loosen. Do not remove yet.



**4.** Locate and disconnect the PVC valve breather tube from the valve cover. Set it aside for reinstallation.

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REMOVAL INSTRUCTIONS



#### FACTORY INTAKE



**5.** Unclip the top to the air filter box, and remove the top and air tube from the throttle body. Using the pliers, remove the clamp holding the breather hose from the bottom of the filter box.



7. At this point, inspect the throttle body assembly. While not necessary, while it is accessible, it is a good idea to be certain the throttle plate and housing's interior are clean and the plate moves freely. It may be advisable to use a high quality throttle body cleaner to assure the assembly is very clean.

This concludes the removal of the factory intake.



**6.** Remove the panel air filter from the air filter box. Using a 13 mm socket, remove the bolts holding the factory air box to the inner fender well. Pull the box straight up from the engine compartment.



**VOLANT INTAKE** 

#### **INSTALLATION INSTRUCTIONS**



 Open the VOLANT Closed Air Box. Remove the 5 – 1/4" Truss screws and rubber gaskets, and place them in a dish, and set aside. Remove packing and the VOLANT Pro-5 Air Filter and clamp inside. Set the filter and clamp aside.



**3.** Carefully lower the VOLANT Closed Air Box into the factory location, taking care to not damage the horn assembly.



 With the front of the box (pointed end) toward you, attach the 18" trim sponge seal on the rectangular opening on the right side of the box. Be certain to begin and finish the installation with the ends on the bottom. Trim off any excess material.



4. Secure the box with the provided fasteners and washers. Use a 6 mm x 25 bolt and the 1/4" lock washer and flat washer in the hole in the square ledge at the rear of the box. Use an 8 mm x 20 bolt with 3/8" lock and flat washers in the holes in the floor of the box. WARNING – DO NOT OVERTIGHTEN fasteners! Overtightening may alter the reliability of the VOLANT Closed Air Box system. (NOTE: You may need assistance to maneuver the box while aligning the bolts in the factory mounting holes.)

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### **INSTALLATION INSTRUCTIONS**

VOLANT INTAKE

- **5.** Once the VOLANT Closed Air Box is securely installed, attach the 3-1/2" "hump" hose to the top hole on the left side of the box, using a #56 stainless steel hose clamp.
- **6.** Attach the 3-1/4" sleeve hose to the throttle body opening, and secure with a #56 stainless steel hose clamp.



- **7.** Slide the straight end of the VOLANT air tube into the "hump" hose and loosely tighten the #56 stainless steel hose clamp.
- **8.** Insert the curved end of the VOLANT air tube into the sleeve hose on the throttle body. Loosely tighten the #56 stainless steel hose clamp.

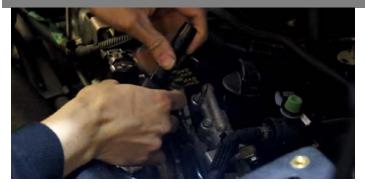
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**INSTALLATION INSTRUCTIONS** 



#### VOLANT INTAKE



**9.** Attach the supplied 5/8" straight fitting onto the supplied 5/8" x 3-1/2" hose. Attach the 5/8" x 3-1/2" hose to the nipple on the air tube. Next, attach the factory breather tube onto the straight fitting, making certain the PCV valve is seated correctly in the valve cover grommet. Secure the spring clamp on the factory hose, using the pliers, onto the fitting.



**10.** Carefully slide the supplied MAF gasket onto the sensor. Slide the MAF and gasket to the horizontal hole on the back of the air tube. Attach the MAF with the 2 4 mm x 12 Sensor screws with the #2 Phillips heads screwdriver. Do not overtighten. Reconnect the MAF wiring harness to the sensor.



**11.** Move the VOLANT Air Tube assembly until it appears to be level and the two hoses are straight, with no bending. Tighten all of the #56 hose clamps snugly.



**12.** Loosen the clamp on the VOLANT Pro-5 air filter. Lower the filter into the air box, and slide the open end onto the tube. Push the filter until it is in contact with the side of the box. Tighten the clamp snugly.

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### **INSTALLATION INSTRUCTIONS**



#### VOLANT INTAKE



14. Install the clear VOLANT cover on the top of the box, using the 5 – 1/4" truss screws and rubber washers. Use the #2 Phillips head screwdriver and gently snug the screws in place. (Representative Stock Photo – Actual appearance may vary)



**16.** Reconnect the battery cable to the negative terminal.

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**13.** Your 12540 VOLANT Closed Air Box Intake system comes with 3 color strips – white, red, blue. You can use the color of your choice behind the "VOLANT" logo on the clear air box cover. Clean the underside of the cover with dishwashing detergent and warm water, using a soft cloth. Dry thoroughly, then remove the adhesive backing on the color strip and apply carefully to the underside of the cover.



**15.** Reinstall the engine cover pressing the back half posts into their holes, then reinstalling the 2 bolts at the front.

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### **INSTALLATION INSTRUCTIONS**



**17.** Finally, place the CARB Compliance Label from the small hardware bag in a visible spot on the top of the radiator bulkhead. Clean the bulkhead before applying the label.



**INSTALLED VOLANT 12540 KIT** 

Check that this air intake complies with your Federal, State and Local laws. We recommend saving your stock system.

#### **BEFORE ROAD TESTING**

- **1.** Start engine, leaving the transmission in park and securing the parking brake.
- 2. Make sure to look and listen for any unusual noises or air leaks. Repair problems if needed.
- **3.** Once completed it will be necessary to check periodically, after a few heat cycles, for realignment and tightening of all connections.

#### **PRO-5 CARE AND CLEANING**

Check the Pro-5 cotton reusable filter periodically and remove any excessive dirt build-up by tapping the filter on the ground and brushing off the loosened dirt. Clean the filter by using the **VOLANT #5100** blue oil two- stage cleaning kit to thoroughly clean and re-oil the filter. Re-oil every 10,000 miles without cleaning to improve filtering in sand and dirt. Clean only when dirt is very excessive or 50,000 miles.

#### **CLEAR COVER CLEANING**

To clean the clear cover of your VOLANT Closed Air Box, remove the Truss Head screws and the rubber washers. Set the screws and washers aside. Gently clean both sides of the cover with dishwashing detergent and warm water, using a soft cloth. Dry thoroughly with another soft cloth. Reinstall using the Truss Head screws and rubber washers.

Reference for Replacement Filters: Pro-5 Filter Part # 5120 or PowerCore® Filter Part # 61513

VOLANT INTAKE