

# Z1 FRONTIER / PATHFINDER SNORKEL INSTALLATION MANUAL



This Installation Manual is intended for the following models:	
2005-2020	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 Frontier / Pathfinder Snorkel Kit, consult with a Professional Mechanic or contact Z1 Off-Road for more information.

## **PARTS INCLUDED:**

Item	Quantity	Description
1	1	Main Snorkel Body
2	1	Fender Inlet Tube
3	1	Snorkel Inlet Scoop
4	1	Rubber Inlet Adapter
5	1	Upper Bracket
6	3	SEMS Screw – Bracket to Snorkel Body
7	3	Aluminum Rivet – Bracket to A-Pillar
8	4	Mounting Stud – Snorkel Body
9	4	Fender Washer
10	4	Nylon Lock Nut
11	2	Worm Gear Clamp
12	1	Self-Adhesive Foam
13	1	Template

## **TOOLS REQUIRED:**

- Ratchet
- Hole Saw and/or Air Saw
- Assorted Drill Bits
- Assorted Wrenches & Sockets
- Assorted Allen/Hex Bits
- Rivet Install Tool
- Silicone/RTV Sealant
- Flat-Head Screwdriver

## **SAFETY REQUIREMENTS:**

- Always wear safety glasses and any necessary protective garments. If using any fluids, chemicals, or solvents, a respirator is recommended.
- Always keep limbs and parts away from moving drivetrain parts.
- Only operate drivetrain in safe space and well-ventilated areas.

## **BEFORE YOU BEGIN:**

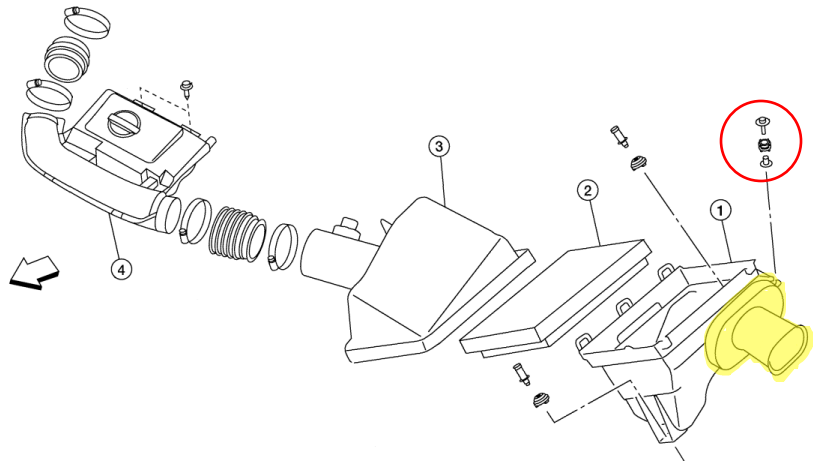
Remove contents from the Z1 Off-Road Frontier / Pathfinder Snorkel Kit and verify that ALL necessary hardware is present.

Thoroughly read these instructions to understand all that is involved with installing this kit prior to beginning the procedure. These instructions outline how we proceeded on our test vehicles and should be used as a guide. They are not the only way of completing this installation.

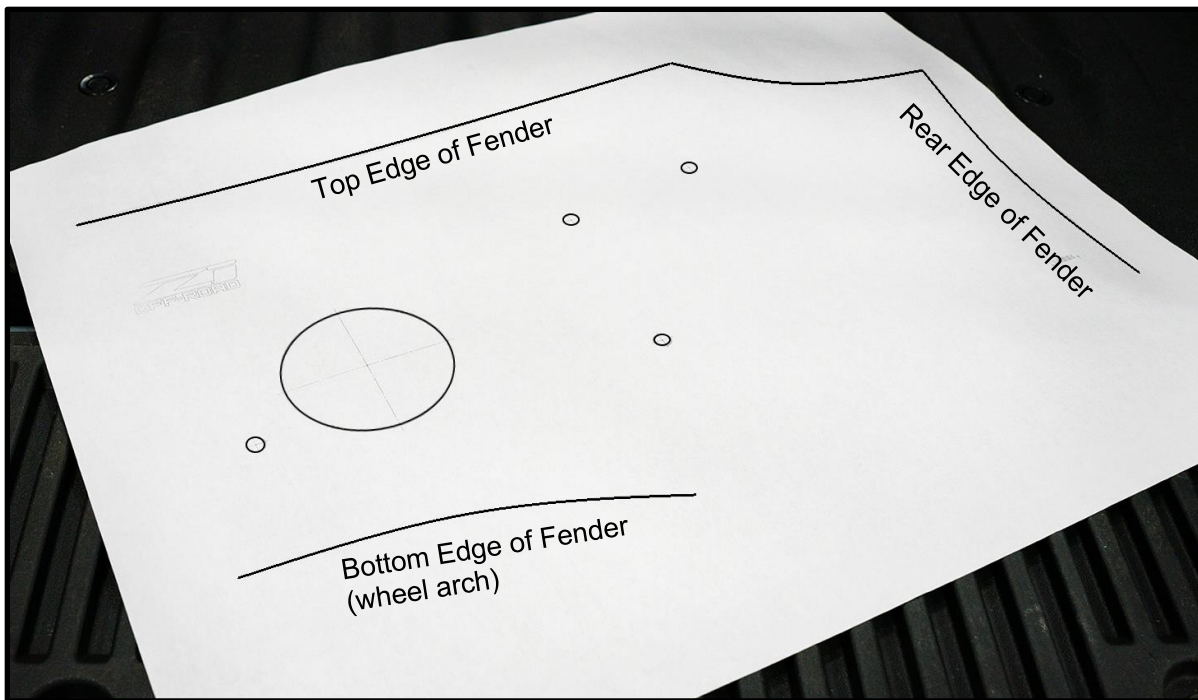
## **PROCEDURE:**

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. Remove the wheel well guard protector by removing the plastic clips and fasteners inside the wheel arch.
4. Unclip and remove the factory air box lid (3) and air filter (2).
5. Remove the rear bolt securing the air box (1) to vehicle (circled at right). Pull up to remove the air box.
6. With the air box removed, use a flathead screwdriver to unclip the factory inlet pipe going into the air box (highlighted in yellow at right). Remove the inlet pipe.
7. Place masking tape on the fender. It is recommended to cover the entire area you will be working over to prevent damage to the paint.
8. Locate Z1 Snorkel Body and template. Cut edges off template. Check the template against the snorkel body. Align the template with the fender using the top and rear edges, tape template at top and rear of fender. Pull the template tight to the bottom edge of the fender and tape in place. Check snorkel body against template on fender. Refer to image below.



Note: Once the template is pulled tight to the bottom edge of the fender, certain areas of the template will be “floating” and not touching the fender due to the fender’s contoured shape.

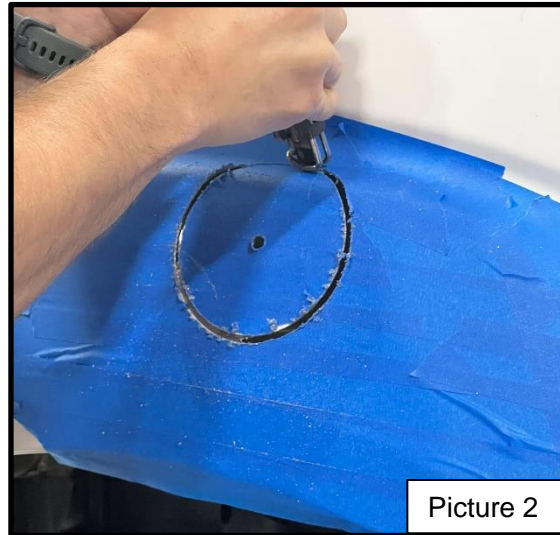
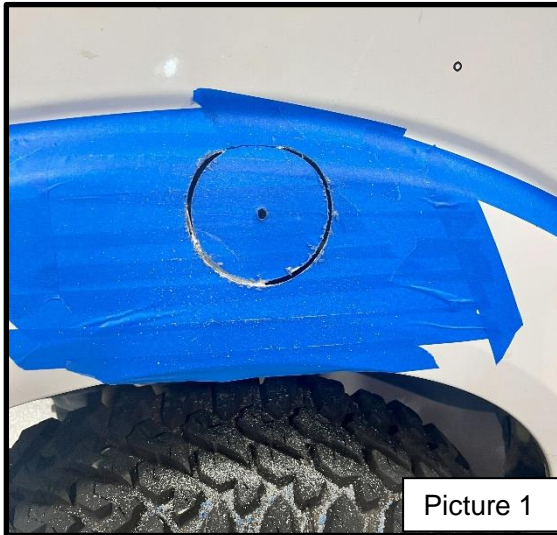


9. Once you are satisfied with the alignment, mark and center punch the main large hole, where the snorkel body outlet will go through the fender. Mark the outer holes with just a marker for now (a sharpie can be used and cleaned off later with rubbing alcohol or an alcohol based cleaner if needed).



10. Outline the large hole with a marker. Cut the main large ~4" hole. Remove any burrs from the hole.

Note: This hole can be cut using many tools. We found it best to start with a 4" hole saw and aim to cut most of the right side of the hole and the top left side (picture 1). It is recommended to not go all the way through at the bottom, as it provides support when cutting the top. Then using an air saw, cut the top section out (picture 2). Finally, while supporting the material cut the remaining section.



11. Locate and install the (4) mounting studs into snorkel body. Do not over torque studs.

12. Carefully place the snorkel's outlet into the large hole and check your fender marks made in step #9 against the mounting studs on the snorkel body.

Note 1: They do not need to lineup *perfectly*. Provided in this kit are 4 oversized washers that will be used on the inside of your fender. Because of these washers, the holes for the mounting studs *can* be drilled to 16mm. This will allow for variance in the fender, template, and marked holes. You can outline a 16mm circle around each mark and see if your studs will fit in that area.

Note 2: If the marks are significantly off, there are a few methods on how to remark your holes. The following instructions is how we completed this installation and what worked well for us.

1. Remove the studs and position the snorkel body outlet into the fender in what you believe to be the best position. Taking note of how the snorkel body fits around the contour of the fender, as well as how the top portion lines up with the A-Pillar.
2. Carefully outline the snorkel body's position on the fender.



3. Remove snorkel body and reinstall the studs. Slowly and carefully position snorkel body into fender in the same position as marked in previous step.
4. Remark the location of the studs on the fender. This can be done by either outlining each stud with a marker, or using a paste (grease, paint, toothpaste) on the ends of each stud and lightly contacting the fender.

13. Once you satisfied with the alignment, center punch and drill the (4) small holes.

Note: A unibit (step) drill bit works great. If your marks line up perfectly, you may need to only drill the small holes out to 13/32" (~10mm), however the supplied washers allow you to drill them out to 5/8" (~16mm) to allow for variance in the components and vehicle.

14. Remove any burrs present from all holes.

15. Locate the fender inlet tube. Position the inlet tube under the fender with the larger hole exiting through the main hole cut in the fender and the smaller hole into the opening towards the air box and engine bay (as shown).

16. The large hole of the inlet tube may be protruding from the fender too much and interfere with the snorkel body preventing it from mounting flush with the fender. If this is the case, mark the protruding section and cut flush with the fender (as shown).

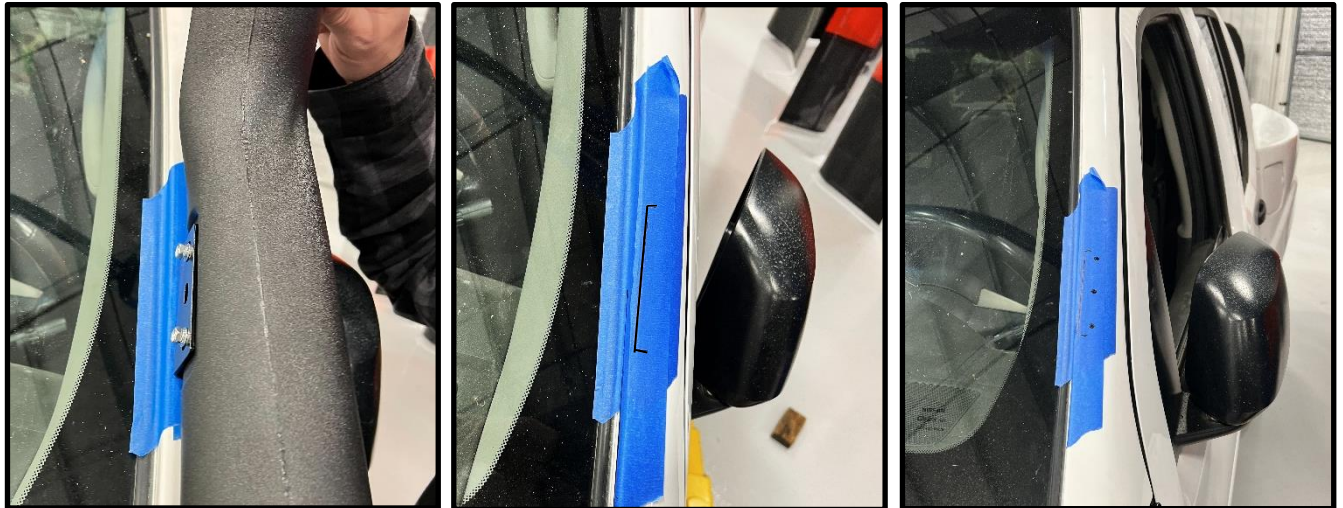


17. We found that the self-adhesive foam isn't necessary and will require some trimming for a perfect fit. Without trimming, the main snorkel body would not sit flush. We opted to install without it. If you would like a perfect fit with the foam, the following pictures show where we had to trim.





18. Place masking tape on the A-Pillar.
19. Attach the upper bracket to the top of the snorkel body with the supplied SEMS screws.
20. Carefully position snorkel body onto fender. Secure studs on backside of fender with supplied washers and nylon lock nuts.
21. Mark the inside edge, top, and bottom of the upper bracket's location on the masking tape on the A-Pillar (as shown).
22. Remove nuts from studs and remove snorkel body from fender. Remove bracket from snorkel body. Align bracket with marks made in previous step. Mark and center punch the A-Pillar for the mounting holes on the bracket (as shown).



23. Pilot drill the hole, then drill out to fit supplied rivets.

Note: To protect your airbags and interior, it is recommended to drill through a piece of wood or spacer so that only ~5mm of the drill bit is poking through.

24. Remove any burrs present from all holes.
25. Apply a small amount of sealant to each hole and to each rivet (as shown). Secure bracket to A-Pillar with rivets (as shown). Remove any excess sealant with a paper towel or rag.



26. Locate rubber inlet adapter.

27. Position smaller opening of adapter inside factory air box inlet where OEM inlet pipe was removed in step #6 (as shown).
28. Place a clamp over the larger end and position it over the fender inlet tube coming through the fender (as shown). Tighten hose clamp.



29. Apply a generous amount of sealant of your choice to seal the factory air box to rubber inlet adapter.

Note: The factory air box has several places where water can seep in. If you want an 100% sealed intake system, apply sealant to any joins, seams, grommets, and drain holes.

30. Apply a generous amount of sealant to the outer surface of main snorkel body outlet and to the inner surface of fender inlet tube. Position main snorkel body onto fender. Secure with washers and nylon lock nuts.
31. Secure top of snorkel body to bracket on A-Pillar.
32. Locate upper snorkel inlet scoop. Position scoop on top of snorkel body. Secure with supplied clamp.
33. Reinstall factory air filter, air box lid, and air box mounting screw.
34. Reinstall wheel well guard protector.
35. Inspect vehicle for loose tools/items.
36. Lower hood of vehicle.
37. Perform a final test drive of vehicle.

**END**

**Additional Technical Support:**

Contact Z1 Off-Road at [info@z1offroad.com](mailto:info@z1offroad.com)  
Or call 678-839-8019 between 9am and 6pm ET