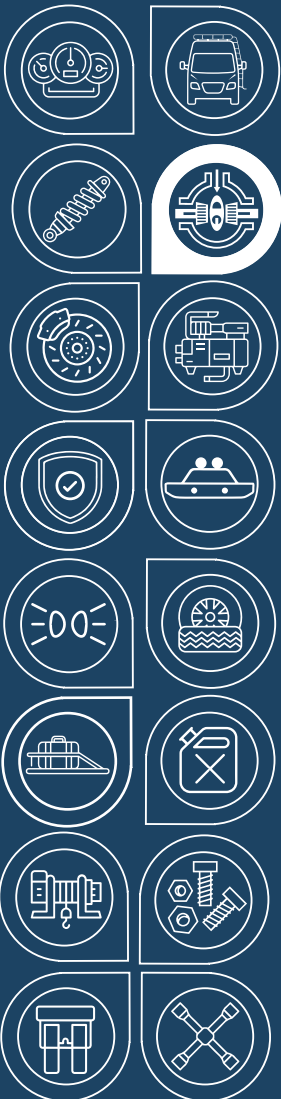




**AGILE  
OFFROAD**  
SMARTER THAN DIRT



# INSTALLATION GUIDE

ARB Differential Breather Kit for INEOS  
Grenadier by Agile Offroad

AO-A1G-1

# INSTALLATION GUIDE

## ARB **DIFFERENTIAL BREATHER** KIT ULTIMATE PROTECTION FOR YOUR DRIVETRAIN

ARB Differential Breather Kit for INEOS Grenadier by Agile Offroad



A differential / axle breather serves the important purpose on a 4X4 of venting the air pressure in your drivetrain assemblies such as differentials, gearbox and transfer case to atmosphere. When these assemblies heat up under normal operation the air inside them expands, increasing the pressure, and needs to be vented to atmosphere. Likewise, when the assembly cools down the air inside contracts, creating a vacuum. Many drivetrain assemblies are fitted with a breather from the factory. The factory breather is usually a one-way valve mounted directly to the axle housing or remotely on a short tube. The problem with the factory breathers arises particularly when driving through water crossings. In this scenario the drivetrain assembly will cool rapidly creating a vacuum. This sucks the one-way valve tightly shut, causing air to be instantly drawn into the assembly through the axle/shaft seals. However because the seals are probably still below water, then water will be drawn into the drivetrain contaminating the oil and possibly damaging drivetrain components or your Air Locker. The contaminated oil will then need to be changed. The ARB Differential Breather Kit is designed to eliminate these shortcomings by providing a high flow, zero backpressure, zero vacuum breather system. This is achieved with a central high flow air filter and manifold that will allow up to four drivetrain assemblies to be vented to one central location on the vehicle that will be above the water level at all times. This kit is intended to replace your factory breathers or add new breathers and it contains enough fittings and tubing to connect at least two drivetrain assemblies. More tubing and fittings can be purchased separately to connect up to four to the central manifold. The ARB Differential Breather Kit is unique in that it uses 8mm tubing (where most other kits use 6mm tubing). The larger size tubing is essential in 4X4 applications where off camber driving can cause oil to enter and block smaller breather lines.

### SKU

AO-A1G-1

### PARTS INCLUDED

Aluminum Manifold

AO Grenadier Manifold Bracket

Air Filter Assembly

4 x 8mm-1/8"BSP Push in Fittings

3 x 1/8"BSP Plugs

26' x 8m Polyethylene Tubing

2 x Self-Tapping Screws

25 x Zip Ties

2 x M6 x 1 x 30mm Bolts

2 x M6 x 1 Flange Nuts

### TOOL NEEDED

10mm Socket/Wrench

13mm Deep Socket

14mm Deep Socket

3mm Allen Wrench

T30 Torx Bit

Zip Tie Cutters

### INSTALLATION TIME

1-2 Hours

## INSTALLATION GUIDE



**1.** Assemble the ARB manifold using two of the supplied 1/8" BSP push in fittings and two of the supplied 1/8" BSP plugs. Fully tighten fittings using a 13mm deep socket and a 3mm Allen wrench. Refer to the photo for fitting orientation.



**2.** Assemble the manifold and mounting bracket using two of the supplied M6 x 1.0 x 30mm bolts and M6 flange nuts.



**3.** Fully tighten the manifold and bracket assembly using a T30 Torx bit and a 10mm socket/wrench. Torque to 6.5 ft lbs.



**4.** Install the supplied filter.



**5. Front Axle:** The factory differential breather is located on the driver's side of the center section.



**6.** Use a 14mm deep socket to remove the factory breather.



# INSTALLATION GUIDE



**7.** Clean the threads as necessary.



**8.** Install one of the supplied 1/8" BSP push in fittings. Use a 13mm deep socket to tighten fitting.



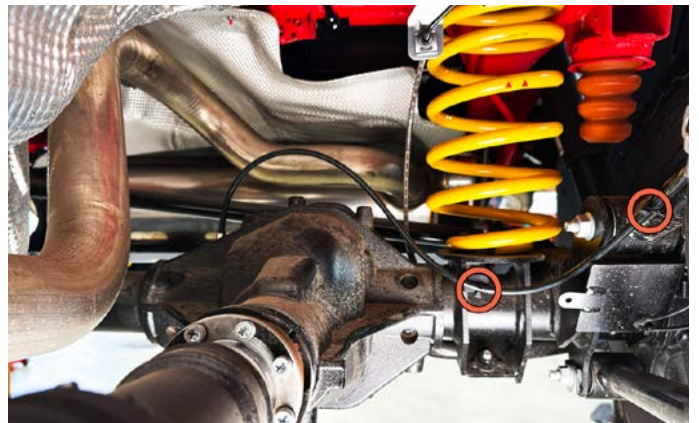
**9.** Install supplied tubing to fitting.



**10.** The front axle will require approx. 70" of tubing. Route the tubing as shown from the differential to the master cylinder located in the engine compartment. Secure the tubing at regular intervals using the provided zip ties. **NOTE: Avoid routing the tubing alongside hot areas and avoid the steering shaft.**



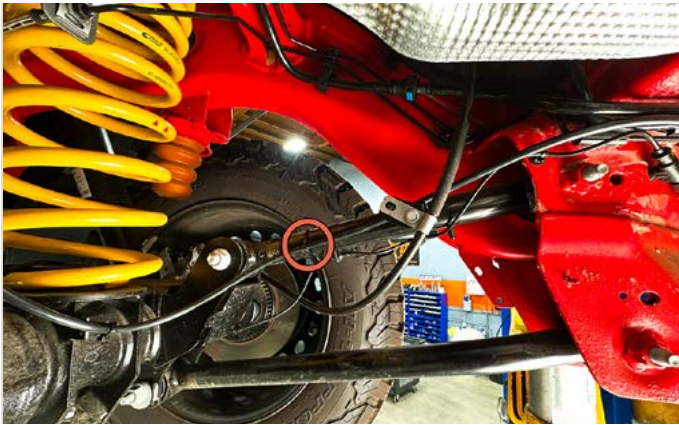
**11. Rear Axle:** The factory differential breather is located on the passenger's side of the center section. Use a 14mm deep socket to remove the factory breather. Clean the threads as necessary and install one of the supplied 1/8" BSP push in fittings. Use a 13mm deep socket to tighten fitting.



**12.** The rear axle will require approx. 155" of tubing. Install the supplied tubing to fitting and start routing the tubing as shown. Secure tubing to the differential spring bracket and control arm as shown.



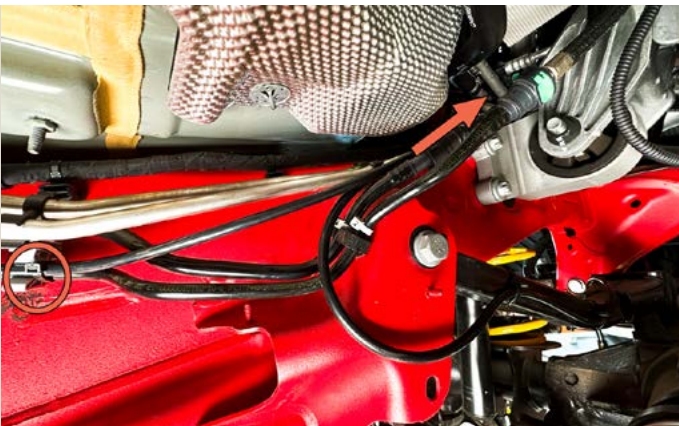
# INSTALLATION GUIDE



**13.** Continue routing the tubing from the control arm to the frame.



**14.** Secure the tubing to the existing brake line as shown.



**15.** Route the tubing as shown to the master cylinder located in the engine compartment following the previous routed front diff tubing. Secure the tubing at regular intervals using the provided zip ties.

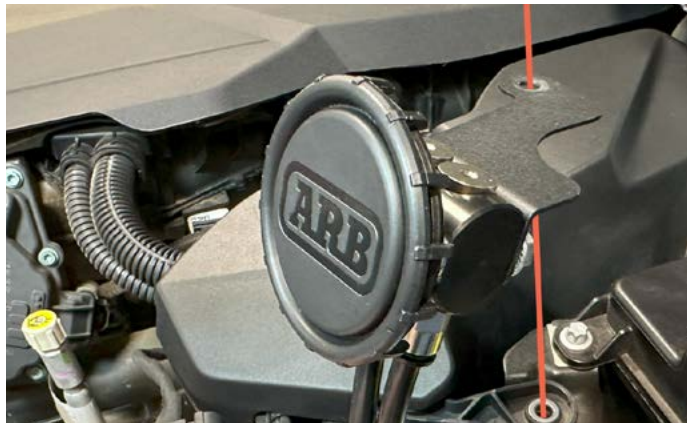
**NOTE: Avoid routing the tubing alongside hot areas and avoid the steering shaft.**



**16.** Cut the tubing at the master cylinder location leaving enough slack to properly install the filter and manifold assembly.



**17.** Use a T30 Torx bit to remove the bolt next to the master cylinder.



**18.** With the tubing lines connected to the filter and manifold assembly, mount the assembly using the previously removed bolt.



**19.** Torque bolt to 6.5 ft lbs. NOTE: Inspect the tube routing making sure there is no interference with the steering shaft. Secure tubing as necessary.





INEOS  
GRENADIER



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OFFROAD



Interior



Exterior



Suspension



Air Locker &  
Drivetrain



Steering &  
Brakes



Air  
Compressors



Armor &  
Protection



Bumpers



Lighting



Wheels &  
Tires



Storage &  
Racks



Water &  
Fuel Tanks



Winches &  
Recovery



Replacement  
Parts &  
Accessories



Electrical



Tools



[agileoffroad.com](http://agileoffroad.com)



[info@agileoffroad.com](mailto:info@agileoffroad.com)



619-328-1297