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Fitting the BigJimny Breather Kit

October 2013

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Suzuki have fitted the Jimny with automatic Breather vents. These small spring loaded caps, let the axles, transfer box and gearbox “breathe”. The air inside these parts expands and contracts with the heat of driving and when you plunge the transmission into cold water the air contracts and if it was not for these sprung loaded breathers, water would be pulled in the transmission.

However, they are very simple affairs that are affected by mud and grit, therefore this breather kit replaces the breathers with a more efficient system.

Some kits simply push hoses over the stubs of the breathers and secures them with a clamp. In my opinion these can pull off as the transmission moves around, therefore my kit is a more secure version. It uses threaded fittings for a more secure solution.

Before purchase or fitting you should note the following:

1. This kit requires drilling of the axles and transmission cases. It is best if this is done at the same time as an oil change to remove any swarf from the drilling (see the picture later).
2. The Transfer Box and Gearbox **CANNOT** be drilled with the boxes in place, this kit requires the boxes to be lowered to drill them. Therefore this kit can be fitted in stages (with careful planning). You can fit the axle breathers first and then add in the others as you work on the transmission at later date.
3. This kit fits both standard Jimnys and those fitted with a RockLobster (SJ) Transfer box.

The pictures below show how the kit can be extended to the Transfer Box and Gearbox at a later date. The first installation connects the rear axle to the front axle via a long pipe and a tee-piece. From the tee-piece a breather pipe rises up to a high point at the front of the car (inside a snorkel is good!)

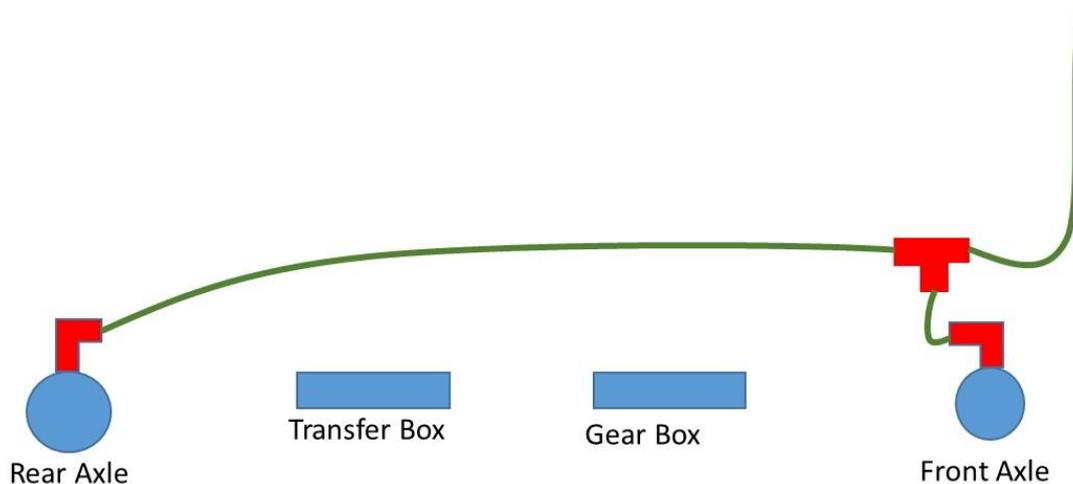


Figure 1. Initial Installation

Later, as work demands, the long pipe can be cut and the additional tee-pieces inserted to connect to the Transfer Box and Gearbox as required.



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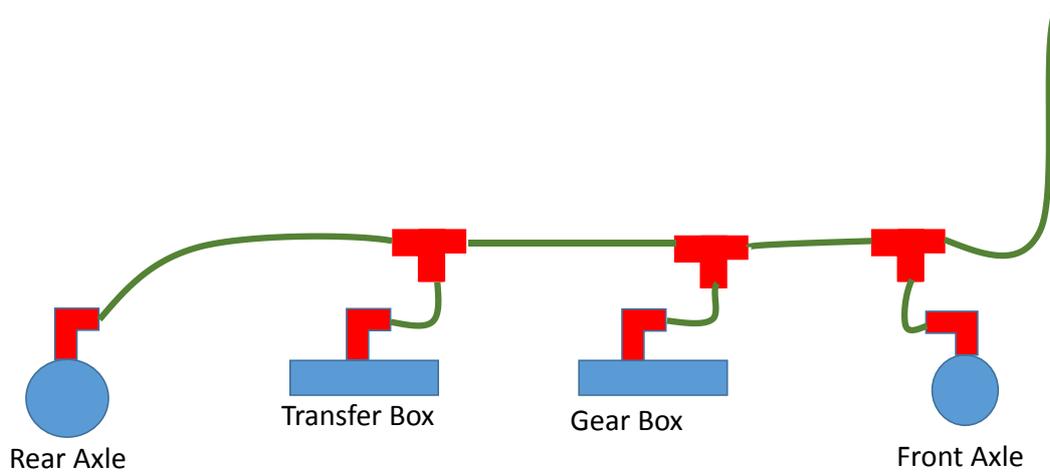


Figure 2. Advanced Installation

The key components of the kits are (contents vary between kits):

- 2 x Threaded connectors for axle (6mm pipe push fit)
- 2 x Threaded connectors for transmission fitting (6 mm pipe push fit)
- 1 x Tap for Axle Connectors
- 1 x Tap for Transmission Connectors
- 10 metres of pipe.
- Cable Ties to secure pipe

The principle for each part of the installation is the same therefore I will not repeat myself for each install, I will just show relevant pictures showing the general principles.

The breather caps are small spring loaded devices located on the top of the differentials and the transmission boxes (the transmission ones cannot be reached without removing the transfer box or gearbox).

The picture below shows the cap fitted to the rear axle.



Figure 3. Breather cap



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Simply prise the cap off using a screwdriver.

The axle breathers can just about be fitted with the axle in place. Jack the car up USING THE CHASSIS RAILS and secure it using axle stands so you can work underneath, this allows the axle to drop enough to access the breather.

The axle breathers do not need drilling. Use the supplied 1/8 BSP Tap, tap a thread into the top of the breather. The picture below shows a tap inserted into the tap tool.



Figure 4. Tap Tool

Make sure that you carefully tap enough thread into the axle. If not you may well damage the breather elbow when you screw it into the axle.

The picture below shows the tap being using on a transfer box, but the principle is exactly the same for the axle



Figure 5. Using the tap tool

Gently turn the elbow into the tube, again the picture shows this being carried out on a Transfer box, but the principle is the same for the axle.



Figure 6. Fitting the elbow

The transmission boxes are a similar process, but they need some drilling first. The elbow fitting is 7mm, therefore you need to tap a hole that is slightly smaller, the tap has a size stamped on the side of it. I would experiment slightly with increasing sizes of drill until the tap works.

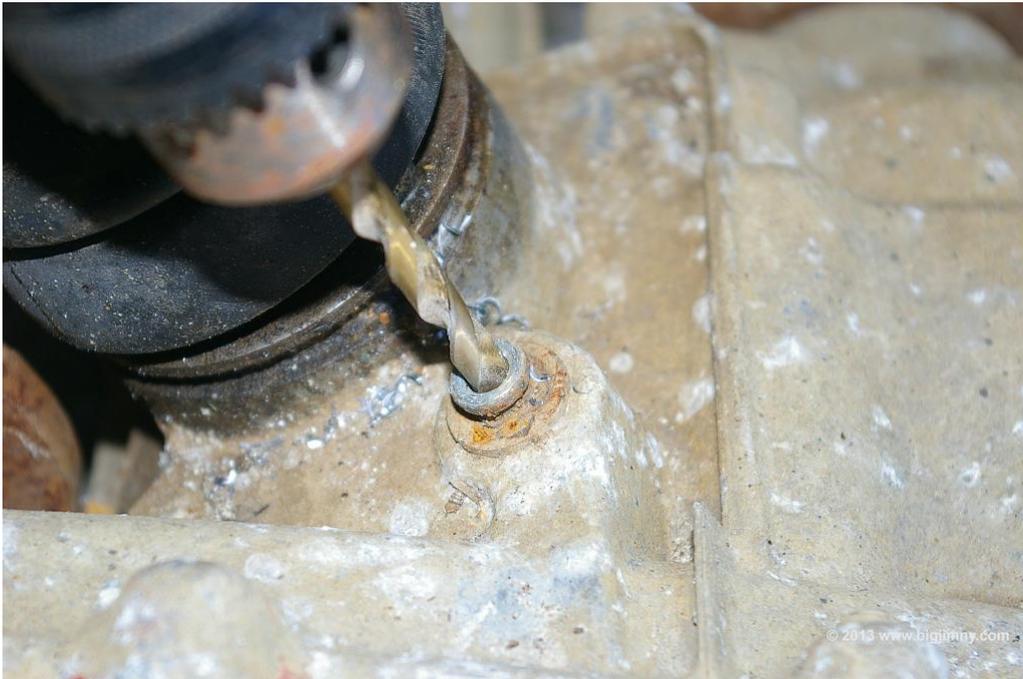


Figure 7. Drilling the Transmission box

Once the hole is drilled you can tap and fit the elbow as described in the previous pictures.

It should be noted that drilling and tapping produces swarf, this can fall inside the axle or box. It is a minimal amount but I would recommend changing the oil after the process has been completed.

Now fit the pipe, it just push fits into the elbows. You can configure it as you like, the kit is designed for a single run of pipe from rear to front with Y connectors to add in the other breather pipes on the way. The Y connectors can be simply inserted into the cut tube later as you add in the other breathers



Figure 8. Standard Jimny transfer box



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Figure 9. SJ transfer box

NOTE: The colour of the pipe supplied may vary.

Use the cable ties to run the pipes away from sources of heat and where they will be protected from impact. Remember to leave enough slack in the pipes leading to the axles to allow for flex. The best way to run it to the axles is along the leading or trailing arms from the axle, some Jimny models even have threaded holes in the arms (for the original vacuum pipes) which you could use to secure the pipe.