

Instructions to fit the Snorkel Kit S002D

for the Jeep Grand Cherokee WJ / WG Diesel

1.0 Introduction

Airflow Vector Pty Ltd thanks you for your purchase and the trust you put in our products.

We strive to supply our customers with the highest quality equipment based on the most efficient design and best styling. We are confident that you will enjoy using our Snorkel system.

It should improve the power of your vehicle as well as reduce its fuel consumption.

When the

1.1 General instructions

Follow carefully the instructions listed on these pages and use the template provided, do not over tighten bolts. Do not use silicone on any connections, use mastic.

Ensure that safe work practices are followed when installing your Airflow Snorkel. Protective ear and eye wear should be worn at all times when using power tools.

1.2 Disclaimer

It is highly recommended that installation is undertaken by a qualified mechanic or panel beater. Airflow Vector will not be held responsible for any damage incurred through incorrect fitment of the templates and workmanship. It is the responsibility of the fitter to ensure that particular care is taken when assembling the Snorkel kit to the vehicle as it may cause damage to the windscreen and or electrical components. Safe work practices must be used at all times when undergoing installation.

We guarantee Airflow Vector's kits against manufacturing defects as long as proof of purchase can be established.

All models produced by Airflow Vector are verified to suit right hand drive vehicles according to Australian specifications. Variations in vehicle specifications may occur in other markets.

If you're in doubt about the product suitability, please forward a photograph of the engine bay, air filter housing and of the vehicle at frontal/side position to info@airflowvector.com

2.0 List of Components



S002D Kit content				
Ref	Designation	Qty	Length	Unit
SP198	Snorkel Jeep WJ	1		
SP063	Air Ram 3.5"	1		
SK145	Bolt kit	1		
SP013	TPR Hose 90mm	1	100	mm
SP018	Hose clamp 80/100mm	3		
SP205	Relocation bracket	1		
SP209	Air box plug	1		
SP210	Air box connector	1		
SD002D	Template	1		
SD002DE	Booklet in English	1		

Fasteners included		
Ref	Designation	Qty
SP043	A Pillar bracket	1
SP026	Screw Plug Nylon	2
SP029	Screw Self Tap 10gx5/8 Z/P	4
SP023	Washer Spring 1/4 x 1/4 Z/P	1
SP025	Washer Panel 1/4 x 1.1/4 x 16g Z/P	5
SP024	G/Bolt M6 x 12mm Z/P	3
SP027	Flange Nut M6 Z/P	7
SP022	Stud M6 x 25mm Z/P	5
SP112	Pop rivet Bulbex	8
SP170	Plastic bag 75x125mm	1

Ensure that all parts listed are included in the parcel before starting any work.

The total expected time of installation is around 5 hours.

2.1 List of tools and additional parts required

Masking tape, clear tape, black mastic, hammer, centre punch

Assorted screw drivers, sockets and spanners, pop rivet gun

90mm hole saw

Assorted drill set, wet / dry sand paper, ½ round file, small square file,
Zinc rich primer

3.0 Detailed Instructions



3.1 Prior starting any work, ensure that the configuration of the air box is as shown. If it is not, the fitting of this kit will not be possible. Contact your dealer for further assistance



3.2 Disconnect the air outlet from the air box



3.3 De-assemble the air box and remove it from the engine bay



3.4 Protect the air intake by placing a rag inside



3.5 Remove the air intake and discard it



3.6 Remove the splash guard and store it with its fasteners



3.7 Unfasten the plenum chamber mounting plate (keep the screws)



3.8 Disconnect the hoses and remove it from the engine bay



3.9 Remove all the elements from the mounting plate



3.10 Mark the holding tag as shown...



3.11 ... and cut it off



3.12 Increase the size of the two holes to 6.5 mm and elongate the bottom one



3.13 Mark the mounting bracket as shown...

3.14 Part to keep



3.15 ... and cut it off

3.16 Cover the raw edge with zinc rich paint



3.17 Grind away the ribs inside the air box...



3.18 ... to achieve this result.



3.19 Using the air box connector SP210 as a template drill a 5mm the pilot hole in the air box



3.20 Using the 90mm hole saw, drill at SLOW speed a 90mm hole in the air box



3.21 To ensure proper fitting, place temporarily the SP210 from the inside of the air box.



3.23 Using a 4mm bit, drill 4 holes through the air box and the SP210

3.22 Trim as required



3.24 Remove the SP210 and apply some mastic as shown



3.25 Re-install it inside the air box



3.26 Pop rivet it in place



3.27 Remove the excess mastic for a smooth finish



3.28 Insert the air box plug SP209 flush in the unused air intake



3.29 Using a 4mm bit, drill on three sides, about 120° apart around the air intake and through the SP209

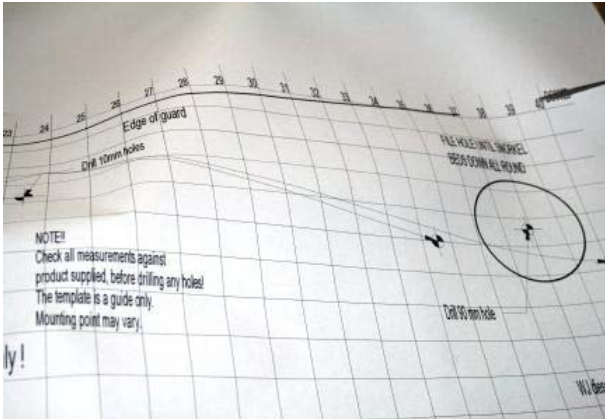


3.30 Apply some mastic inside the air intake

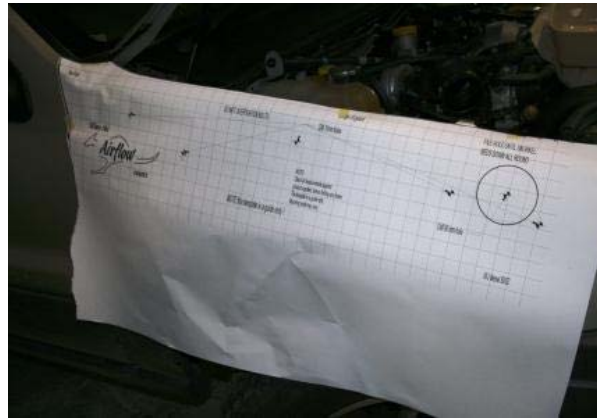


3.31 Insert the air box plug SP209 and rivet it in place

3.32 Let the air box cure while installing the snorkel



3.33 Cut around the template following the guard lines



3.34 Line up the template to the edge of guard

3.35 Following a left to right sequence, tape it to the guard



3.36 Centre punch all marked holes



3.37 Using a 5mm bit, pre-drill all holes (5 snorkel mounting holes, 1 hole saw hole)



3.38 When pre-drilling the snorkel hole, ensure that the hole goes through the inside panel as well.



3.39 Cover with masking tape
 3.40 Using a 10mm bit, drill the 5 fixation holes (not the snorkel hole)



3.41 Using the 90mm hole saw, drill at LOW SPEED the snorkel hole



3.42 Continue through the inside panels



3.43 This is what needs to be achieved



3.44 File the edge of the hole to remove any bur.



3.45 Paint ALL raw metal surfaces with Zinc rich primer (5 snorkel fixing holes, 1 air intake hole including inside panels)



3.46 Peel off the door rubber seal



3.47 Fit the five studs SP022 (20mm must protrude) and secure them with a locking compound

3.48 Fit the "A" pillar bracket SP043 with the washer SP023 and bolt SP024
Do not over tighten fixings to avoid damage to the snorkel

Note: This Snorkel is fitted with a second "A" pillar location to be installed if one intends to use the Collector Pre-Cleaner instead of the Air Ram. If required, please contact us to obtain the Bolt Kit SK203



3.49 Pre fit the snorkel to the guard to allow the marking of the "A" pillar bracket

3.50 Mark two holes of the "A" pillar bracket onto the paint

3.51 Remove the snorkel



3.52 Centre punch the 2 holes

3.53 Using a 4mm bit, pre-drill the two holes



3.54 Using a 7mm bit, drill the two holes for the "A" pillar position



3.55 File the holes with a square file to suit nylon plugs SP026



3.56 Fit the two square plugs SP026 (you may need to trim the bottom part of the plugs to allow their insertion)



3.57 Secure the "A" Pillar bracket SP043 with the screws SP029



3.58 Refit the rubber seal and mark the location of the bracket on the rubber seal



3.59 Using a scalpel, cut the rubber seal along the marks



3.60 Refit the rubber seal



3.61 Secure the snorkel with washers SP025 (x5) and nuts SP027 (x5) to the guard
Do not over tighten fixings to avoid damage to the snorkel

When the



3.62 Secure the snorkel on the "A" pillar bracket with bolt SP024 fitted with spring washer SP023
Do not over tighten fixings to avoid damage to the snorkel



3.63 Secure the relocation bracket SP205 with the top screw retrieved from step 3.8

3.64 Mark the base of the bracket



3.65 Remove the bracket SP205
 3.66 Punch the location



3.67 Using a 5mm bit, drill the location



3.68 Secure the plenum chamber on the bracket SP205 using the bolts SP024 (x2) and the nuts SP027 (x2)



3.69 Using the self tapper screw SP029, secure the base of the bracket to the engine bay



3.70 Install the plate modified in step 3.13 under the bracket SP205 and secure it together with the regulator



3.71 Resecure the solenoid to the plate and reconnect all the hoses



3.72 Please wear gloves
 3.73 Use only **NON SILICONE** BASE black mastic as sealant
 3.74 Smear sealant inside both ends of the hose SP013



3.75 Slide one hose clamp SP018 at each end
 3.76 Connect the TPR hose to the snorkel SP198



3.77 Re-secure the air box inside the engine bay



3.78 Tighten the two hose clamps SP018



3.79 Re-install the air filter inside the air box



3.80 Close the air box



3.81 Re-connect the top hose to the air box and secure the hose clamp



3.82 Refit the splash guard



3.83 Slide the hose clamp SP018 on the air ram SP063 then slide it on the snorkel SP198

3.84 Ensure that the top of the snorkel matches the top of the slot cut in the Air Ram



3.85 Drill the hose clamp next to the worm drive



3.86 Secure the Air Ram with the self tapping screw SP029

Important note: Do not turn the Air Ram away from the direction of travel because it will lessen the positive pressure necessary for proper operation. **In extreme situation, at speed above 25km/h (15m/h) a vacuum may be generated causing irreversible engine damage**

Note: The content of this manual may be modified from time to time to ensure that improvements brought to our kits are described accurately. Before starting the installation, try to obtain the latest version of the instruction manual from our web site www.airflowvector.com



3.87 Polish with silicone cleaner

4.0 Improvement program

We strive to produce documentation and kits free of mistakes, however, should you discover any error or omission, please let us know by quoting the initials shown in the box below.

Furthermore, if you think that a step of this procedure could be improved, please send us at info@airflowvector.com your suggestions indicating the procedure name, its release date, the step details and the photo if necessary.

We appreciate your support.

This kit has been carefully packed by	
Date	Initials