



## VW B6 Passat 2.0T FSI TWINtercooler Fitting Instructions



Please thoroughly read through and familiarize yourself with these instructions in their entirety prior to beginning any part of the installation process.

If these instructions are unclear in any way, then please see the following link:  
<http://www.forgemotorsport.co.uk/content.asp?inc=media>

### Tools required:

Access to a vehicle lift or a floor jack and axle stands

7mm socket, 10mm socket, socket extensions, flat head and phillips screwdrivers

T25 torx bit, T30 torx bit

13mm wrenches and an 8.2mm or 8.5mm drill bit and drill.

Overalls, gloves, safety footwear and protective eyewear are also recommended.

- Raise the vehicle on a vehicle lift or axle stands, open hood/bonnet, and remove the 4x T30 torx screws from the top edge of the front bumper.
- Remove the 5x T25 torx screws from the leading edges of both front fender liners.
  
- Remove the 4x 10mm nuts that secure the front bumper to the front end. 2 of these nuts are located behind the front side of each of the fender liners just underneath each of the headlights (towards the front of the car). These are fairly difficult to reach by hand, so use one or more socket extensions and possibly a flashlight.



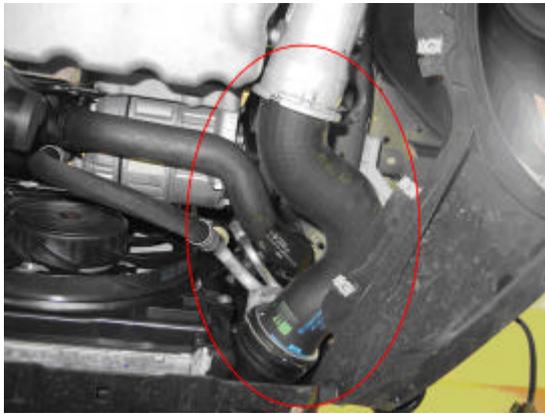
- Remove all of the T25 torx screws from the underside of the front bumper and bumper lip as well as the lower under tray.



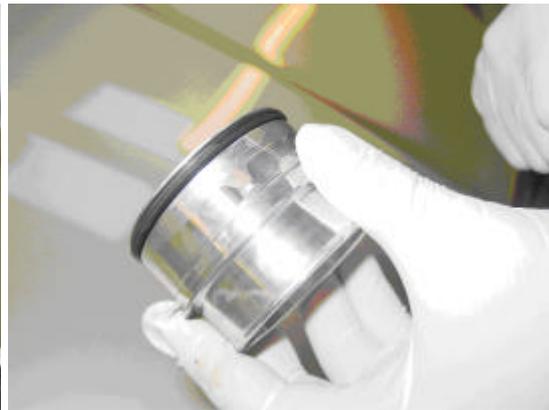
- Near to each wheel well, lightly pull the bumper edge outwards from the fenders on each side to disengage the clips holding the bumper in place.



- The bumper can now be lifted clear of the front end. Be sure to disconnect the wiring connectors to the fog lights and external temperature sensor if your vehicle is so equipped as the bumper is being moved away from the vehicle.
- Then remove both plastic air guides located behind the bumper and work them out from behind the bumper support. You may need to loosen or even remove the bumper support to remove these panels. They have one or more plastic push in clips that need to be removed.
- Remove both lower OEM intercooler hoses; each of these are held in place via a spring clip and/or a hose clamp. Pry the clip away with a flat end screwdriver to aid removal of the metal hose end fitting. These hoses will not be reused, however, the seals and clips are required later so remove them ends and set them aside.



- Remove the doubled o-ring seals from the original intercooler hoses and fit these to the included corresponding new aluminium hose couplings as pictured below.



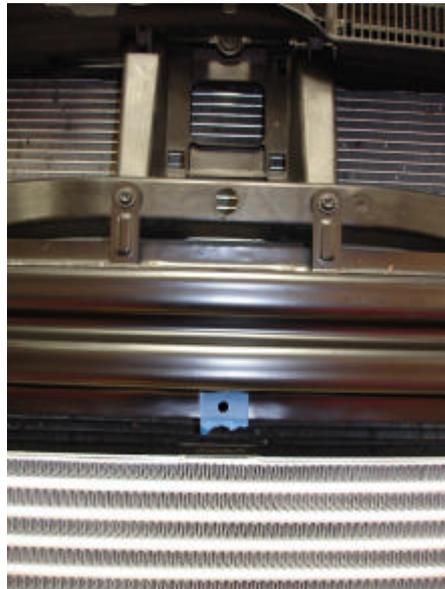
- Fit the new hose couplings into their respective fittings on the original intercooler and the turbo outlet pipe on the right side running alongside the engine. Make sure the spring clips are located securely to prevent these couplings from being blown out of the fixings under boost.



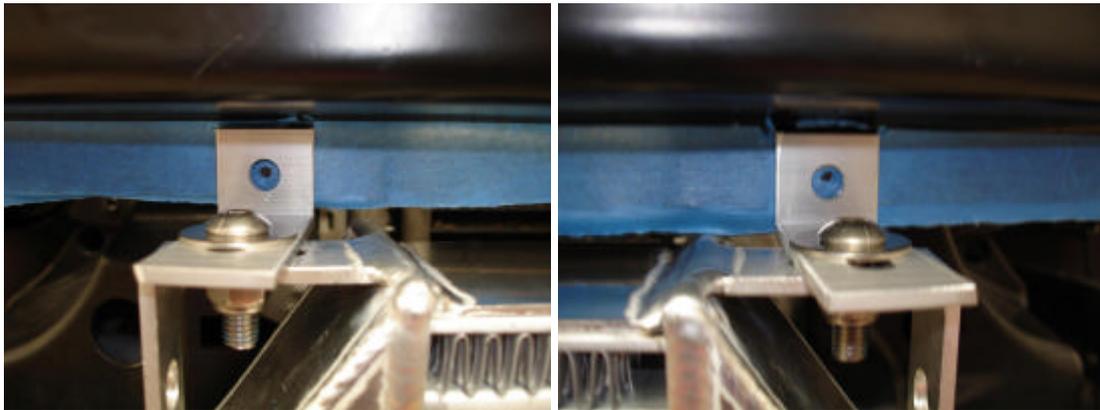
- Remove the horns from their brackets and then remove each bracket from the car and refit the horns as per the pictures below with the new supplied brackets so they are now positioned higher. This is to allow extra space for the routing of the new hoses. If you do not wish to use the new supplied brackets, you may also just bend the OEM brackets to reposition the horns.



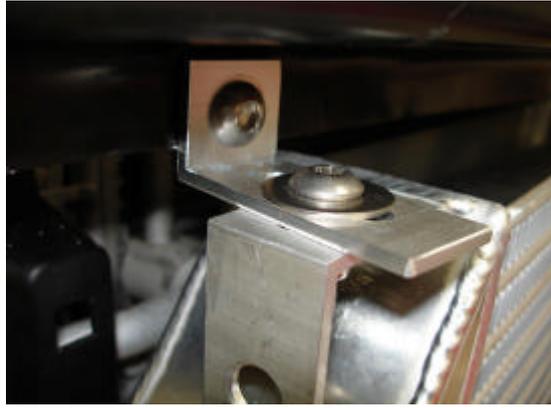
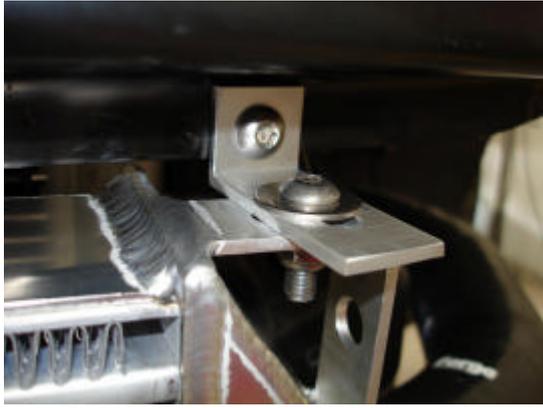
- At the lower lip of the front bumper support, find and mark the centreline of the overall width of the support as per the photo below. This is just a reference point to be used later. To more easily mark this and the other reference points, you may want to use masking tape onto which you can draw the points themselves.



- Measure between 13.5 and 14 inches to both the right and left of the previously marked centreline and mark those points as well. Use the same distance for both sides.
- For this step, you may choose to support and hold the intercooler itself up to the bumper support, making sure it is centrally located. Position the shorter side of the “L”-shaped mounting brackets such that they provide a reference for where you will need to drill the mounting holes.
- We would recommend marking and drilling these holes as close to the center of the lower lip of the bumper support as possible. The longer legs of the “L”-shaped brackets have slotted holes to allow for fine adjustments to the positioning of the intercooler at the final stage of installation later on.



- Using your powered drill and drill bits, at the marked points, drill an 8.2mm or 8.5mm hole through the lower lip of the bumper support and de-bur the edges. Make sure all of the shavings from the drilling are cleaned away and none of the scrap has been allowed to enter the new intercooler or the hoses as this may lead to issues once the engine is started.
- The drilling process is the most difficult and time consuming part of this installation process. Take your time and use drilling or cutting/tapping fluid if available to aid in keeping the temperature of the drill bit ideal and in speeding up the process. Please do not rush this step at the possibility injury or breaking drill bits.
- Attach the “L” shaped brackets as pictured below using the supplied 13mm nuts and bolts. Then mount the intercooler into place also securing the end tank brackets to the bumper support mounted brackets but only assemble the nuts and bolts loosely at this stage. They will be tightened later on.



- Depending upon the clearance available when reinstalling the front bumper later on, you may choose to mount the intercooler end tank brackets either on top of or below the long end of the "L" shaped brackets. If mounting below and the fitment of the front bumper is not ideal, you may need to go back and mount the intercooler end tank brackets on top of the "L" shaped brackets. This will change the installed height of the intercooler by about 6 mm (1/4 inch) up or down depending upon the needs of your application and the front bumper clearance required.
- Now fit the new supplied silicone hoses to join together all of the metal and OEM couplings and the new intercooler. A small amount of trimming may be required on the hoses at the connections to the Forge supplied intercooler. The hoses are slightly oversized intentionally. Once you are satisfied with the fitment, then loosely secure all of the hoses with the supplied hose clamps.



- If your car is equipped with the DSG transmission, you may need to trim the middle connection on the driver's side hose that connects to the outlet of the OEM intercooler. (see the arrow above) The overall width of the hose at this point may be too wide for the space permitted by the extra size of the DSG transmission casing and trimming may be necessary to prevent rubbing of the hose on the transmission. This may not be required on all cars, but be sure to make straight cuts maintaining the existing angle to the end of the hose connection.



- With the Forge supplied intercooler loosely mounted, and the hoses also attached, position the intercooler at its final mounting position and secure all nuts, bolts, and clamps securing both the intercooler to the bumper support as well as the hoses to their respective connections. The hose clamps can be tightened with either a 7mm socket or a flat head screw driver.
- The external temperature sensor, if your vehicle is so equipped, can be clipped into the provision provided (hole) on the driver's side end tank bracket of the Forge supplied intercooler just above the hose connection.
- With the intercooler and the hoses mounted securely, you can now reattach the front bumper and under tray in the reverse order that they were removed ensuring that all electrical connections are reconnected. (fog lights, temp sensor, etc.)
- Should the intercooler itself or the hoses come in contact with rear side of the front bumper at any place, some readjustment to the fitment of the intercooler via the slotted brackets may be required. In a worst case scenario, some minor trimming to the back side of the bumper or the bumper grills may be necessary though we did not need to do so during our fitment of the final production version of this kit.

As always, with any questions or concerns about this product or anything else, please feel free to contact your local or preferred Forge Motorsport dealer/installer, or you may contact us directly.

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