

## **MK2 Audi TT-S TWINtercooler Installation Instructions**



**Please thoroughly read through and familiarize yourself with these instructions in their entirety prior to beginning any part of the installation process of any component. Please also ensure that the vehicle and engine have cooled down sufficiently to avoid possible skin burns or other injury.**

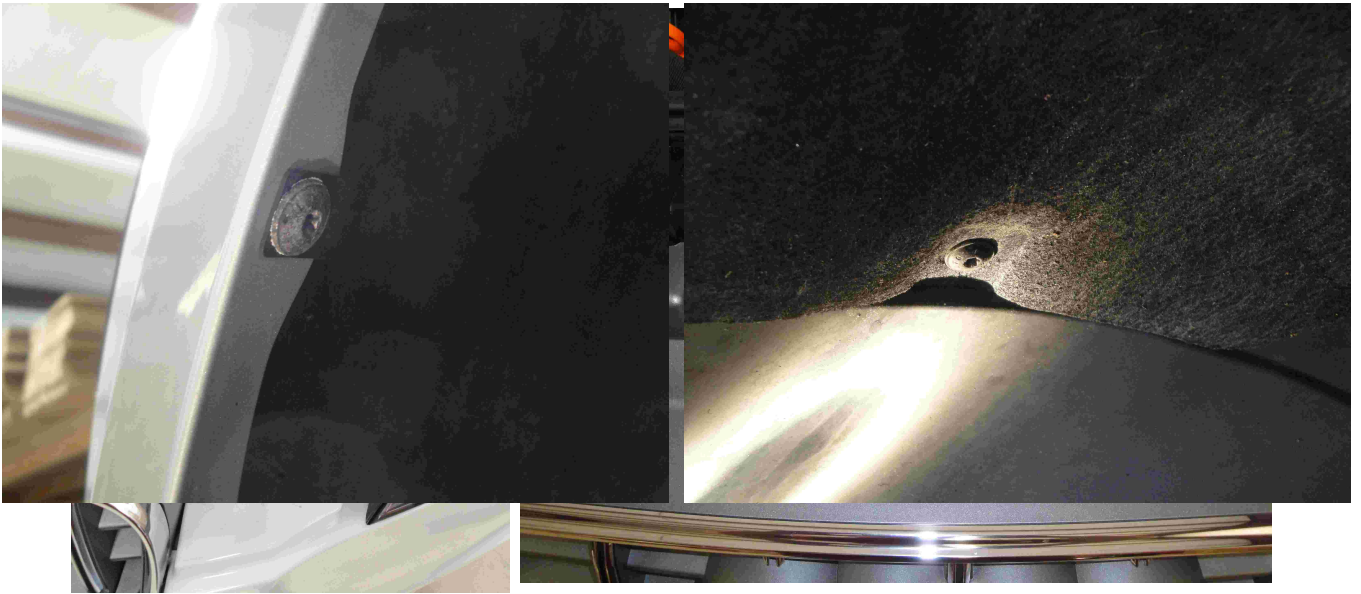
### **Tools required:**

Access to a vehicle lift or a floor jack and axle stands to support the vehicle  
7mm socket, flat head and phillips screwdrivers  
T25, T30, and T45 torx bits  
8.5mm drill bit and power drill  
Tape measure  
Dremel power tool with cut-off wheel  
Xacto knife or clean sharp razor blade for hose trimming  
Gloves and protective eyewear are also recommended

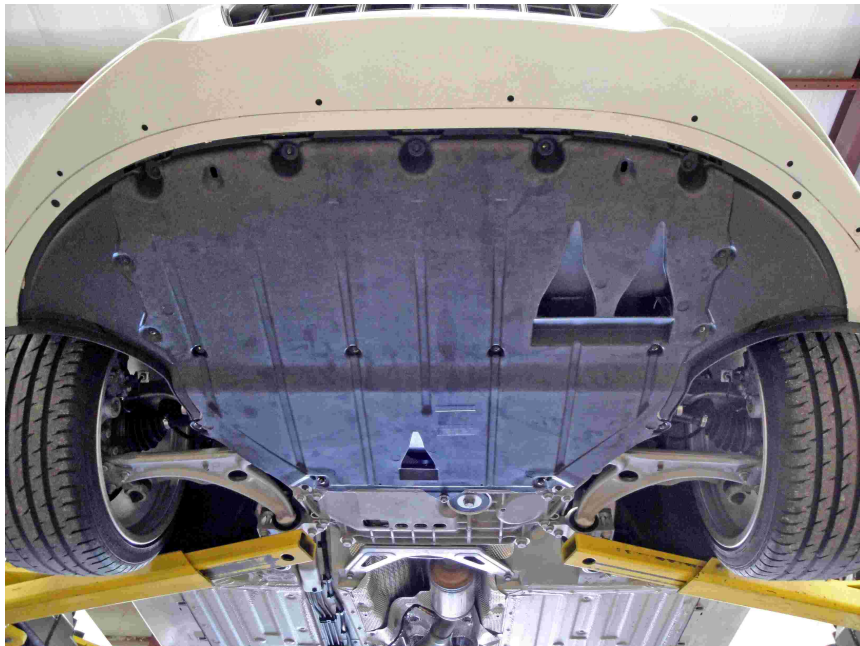
**Raise the vehicle on a lift or with a jack and axle stands, open hood/bonnet, and remove the two plastic covers inboard of the headlights. Be careful to ensure the clips do not break.**



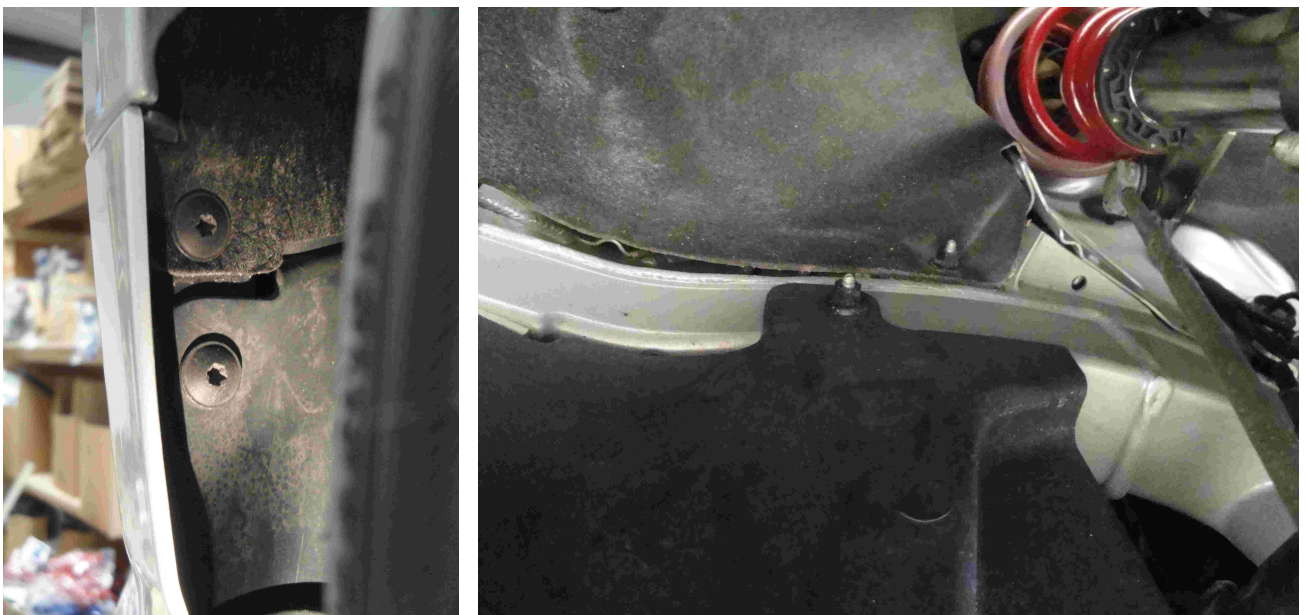
**You can now remove the torx screws underneath each of these panels, as well as the screws located at the upper center portion of the grill next to the hood latch mechanism.**



**Remove all of the torx screws from the lower under tray in order to remove it. There are 19-21 screws total.**



**Now you will remove the corner pieces to the undertray which also extend upwards into the wheel wells as the lower part of the fender liners. There is a 10mm nut securing the back section to the frame and multiple torx screws securing them to the bumper. There are also 2 torx screws securing the fabric portion of the fender liner that need to be removed.**

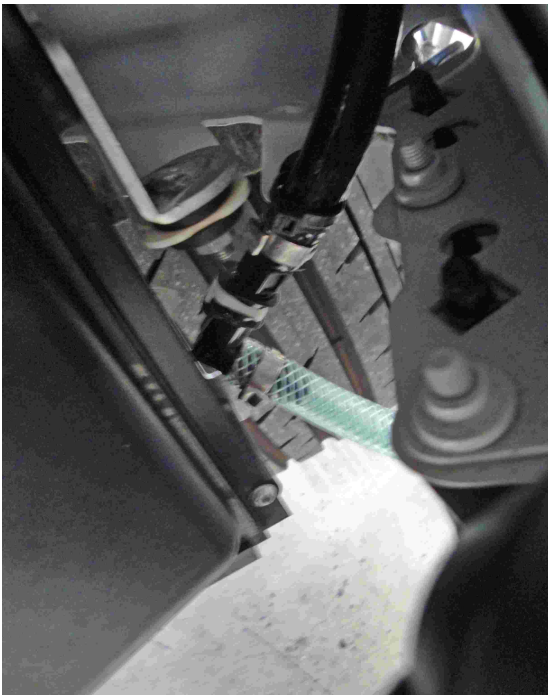




**You will now need to pull back the fabric portion of the fender liner to expose the 2 nuts securing the bumper to the fenders. Remove these.**



**The bumper now needs to be slid forward to be lifted clear of the front end. Be sure to disconnect the wiring connectors to the fog lights. If your vehicle is equipped with headlight washers, you will also need to disconnect the washer fluid hose by releasing the small white clip and either plug the end of the hose or allow the fluid to drain into a container to be refilled later. This process is much easier with a friend assisting you.**



**You will now remove the styrofoam cushion from the bumper support. It slightly wraps around the support, but is flexible enough to break loose. If your vehicle is equipped with the homelink transponder, this will be attached to the foam, and will need to be released.**

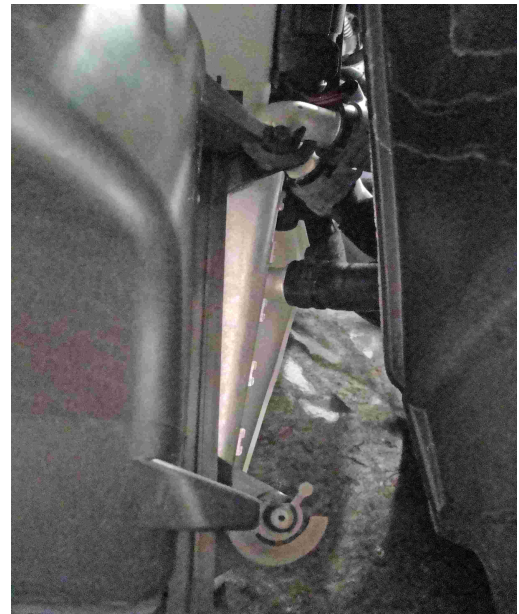
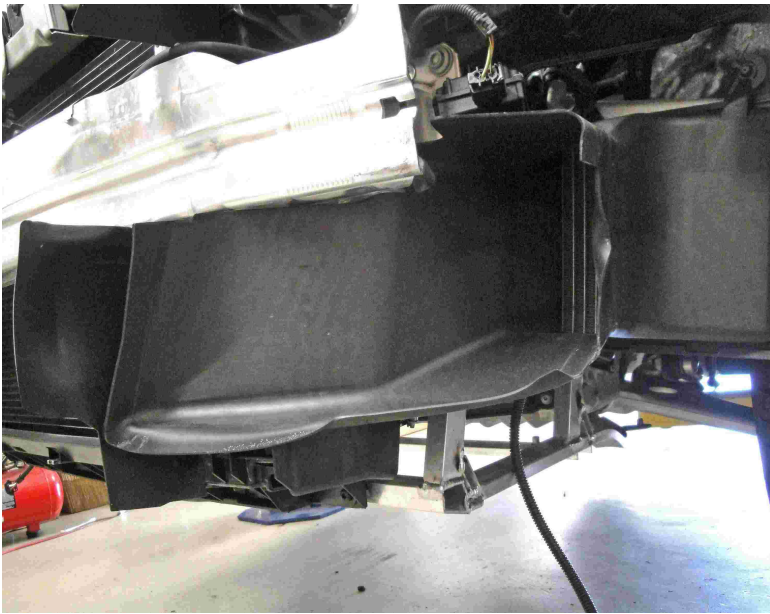


**You will also remove both black plastic air guides and work them out from behind the bumper support. They have two plastic push in clips that need to be disconnected to remove them. This can be done with a flat blade screw driver. The external air temperature sensor is attached to one of these. Release the clip securing the sensor as it will need to be repositioned later.**

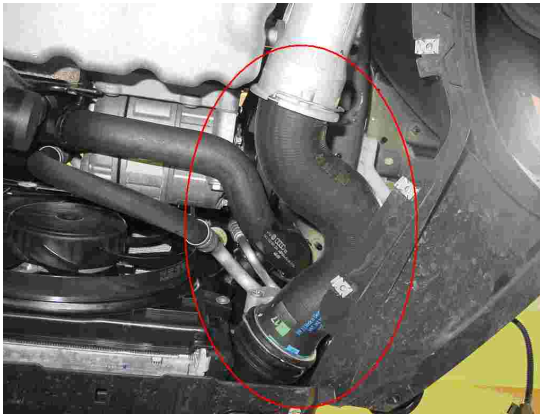


**You will also need to remove the plastic air scoop for the secondary radiator to make room for the TWIntercooler hoses. If you so choose, you may modify this scoop yourself to retain some of it, however, removing it entirely is the easiest solution, and we have seen no problems from it. There are two round clips securing this piece to the secondary radiator that need to be released.**

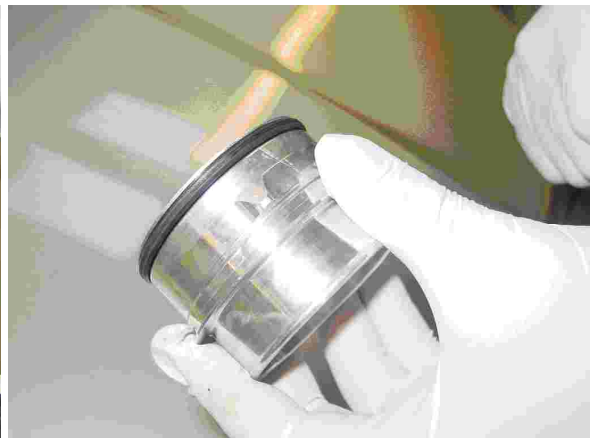




Now remove both OEM lower intercooler hoses. Each of these are held in place via a spring clip and/or a hose clamp. Pry the clip away with a flat blade screwdriver to aid removal of the metal hose end fitting. These hoses will not be reused, however, the rubber o-ring seals and clips are required later so remove them and set them aside.

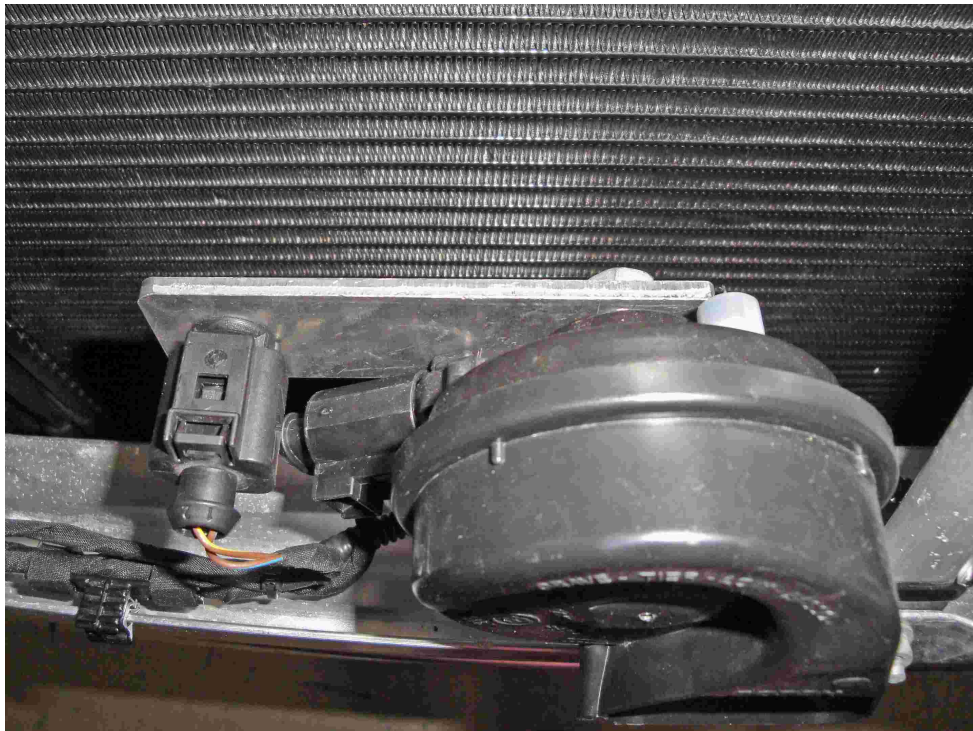


Remove the o-ring seal from the metal coupler end of the original intercooler hoses and fit them to the included corresponding new aluminium hose couplings as pictured below.



Fit the new aluminium hose coupling into it's respective fitting on the turbo outlet pipe running alongside the engine. Make sure the spring clip is affixed securely to prevent this coupling from being blown out of the pipe under boost.

The external temperature sensor will now need to be repositioned using the sensor relocation bracket supplied with the kit. We use the nut that secures one of the horns on top of the bumper support as the location which to reposition the bracket and sensor, however, you may use any other location you deem suitable within reach of the sensors wiring harness.

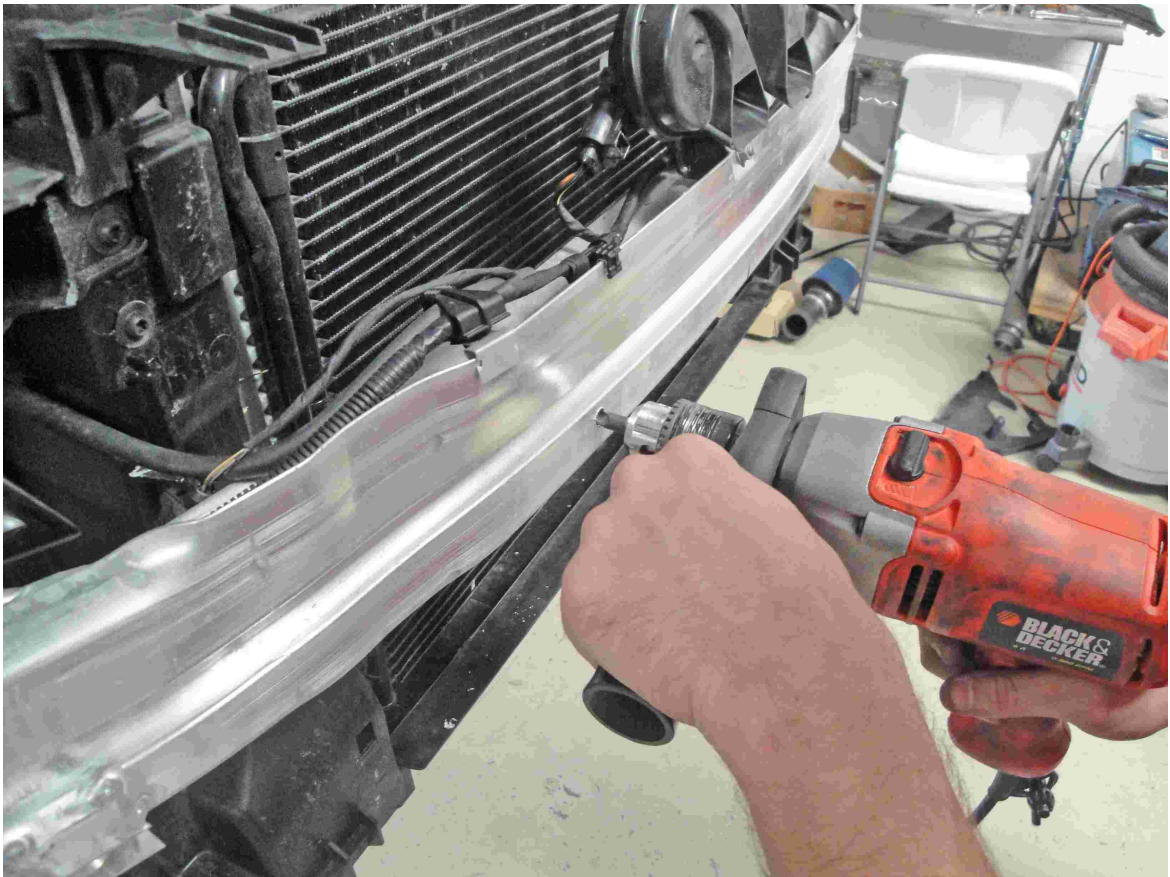


You will now position the Forge intercooler core in place below the front bumper support. The top of the Forge core will need to be centered and as high as possible, flush up against the horizontal bottom of the bumper support. You may wish to use a stationary object like a box or a friend to support the core while you work. To centralize the core, use your tape measure to measure the overall length of the bumper support, and use a marker to mark the midway point. Then position the slots in the mounting tabs for the core equidistant on either side of the center mark. This should result in a centralized position of the core. **DO NOT** use the vertical support bar at the top of the bumper support as a reference for the centerline of the support, as this bar is slightly offset to one side. Please use the overall length of the support.

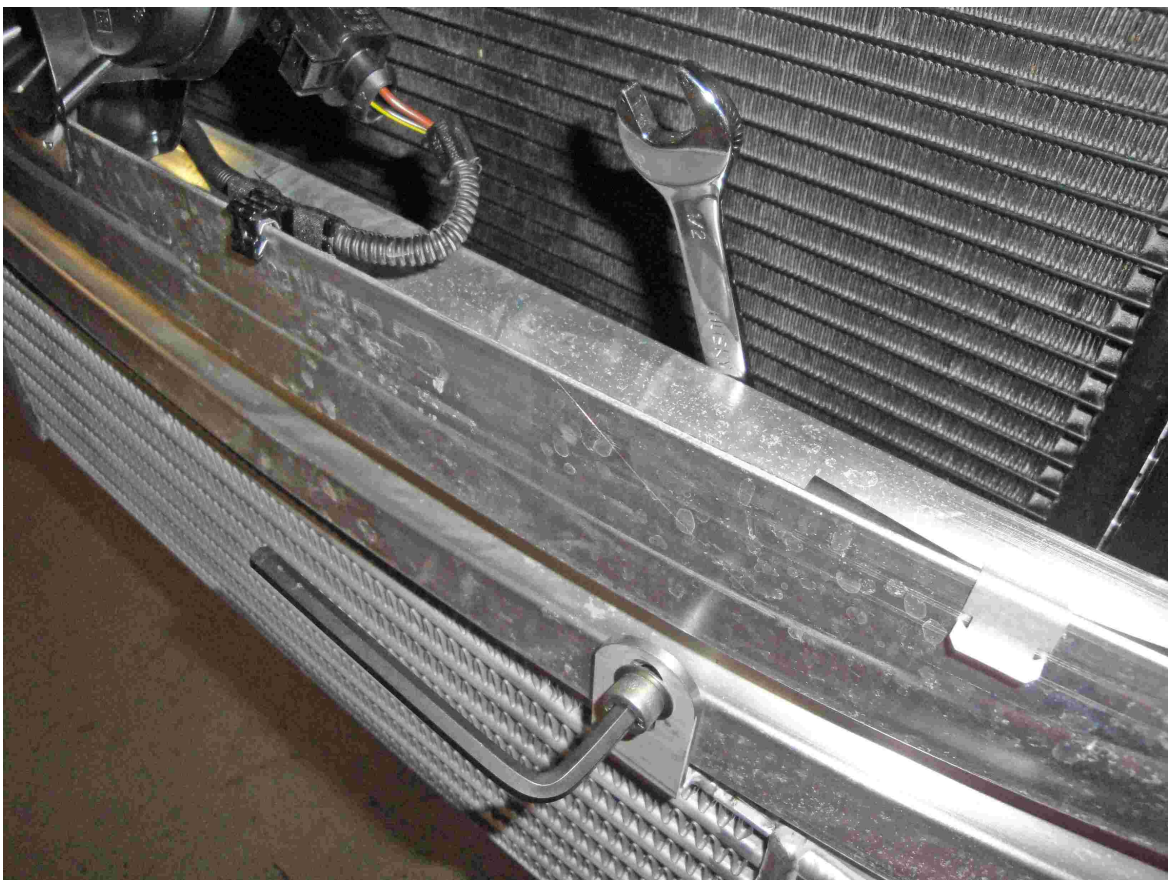


With the markings in place for the core mounting tabs, remove the core and use your power drill and 8.5mm drill bit to drill holes through the bumper support at these two markings. The support is hollow, so holes will need to be drilled through both the forward and rearward walls of the support. Please exercise caution to ensure that the drill bit does not extend so far out of the bit holder so as not to damage the AC condenser when the rear wall of the bumper support is punctured.





**With the mounting holes drilled, position the Forge intercooler core in place again and secure it using the supplied hardware. Ensure that the core is tucked up flush against the underside of the bumper support to provide maximum clearance when refitting the bumper cover.**



**With the core now fitted, you will install the supplied silicone hoses to join together all of the intercooler and piping connections. The aluminium supports underneath the car, while obtrusive, should not prevent fitment of the hoses.**

Some trimming will likely be required on the hoses as they are slightly oversized. This is done intentionally since the hoses are used on the same engine in multiple different vehicle applications. Once you are satisfied with the fitment, then secure all of the hoses with the supplied hose clamps using a 7mm socket or flat blade screw driver.



If your car is equipped with the DSG transmission, the middle connection on the driver's side hose that connects to the outlet of the OEM intercooler will likely require more trimming. 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 extra trimming may be necessary to prevent rubbing of the hose on the transmission casing. This may not be required on all cars, but if so for your particular vehicle, please be sure to make straight cuts maintaining the existing angle to the end of the hose connection.



With the intercooler core and the hoses mounted securely, and the clamps tightened, you can now reinstall the styrofoam cushion onto the bumper support. There will be two protrusions on the underside of this foam piece that will now conflict with the Forge core. Cut or break these extensions off, and refit the remainder of the styrofoam cushion. Be sure to refit the homelink transponder if your vehicle was equipped with it.



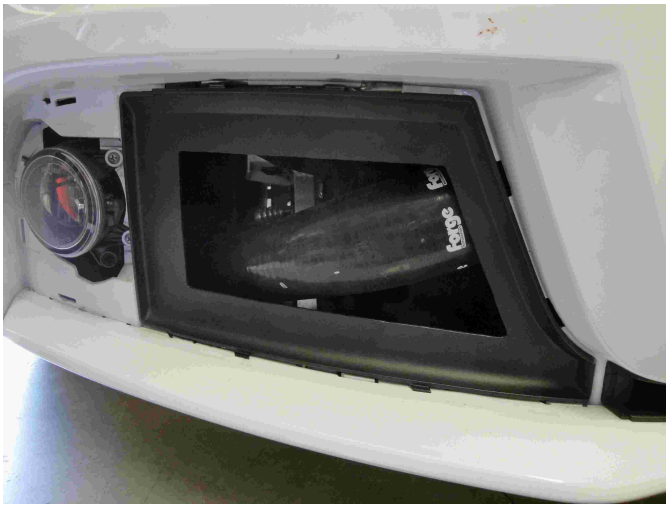
Prior to reinstalling the bumper cover, pull the side grills and backing plates out from the outer edges of the bumper. These simply clip into place and are easily removed with little force. With these pieces removed, take a look at the inside edge of the side grill opening for the passenger side of the vehicle (UK driver's side). There will be a small section of bumper material that needs to be trimmed in order not to conflict with the hoses upon reinstallation. This section is shown below during and after removal. You may wish to trim the same amount of material from the driver's side of the bumper as well, however, we have not specifically found this to be necessary.



With the bumper itself now trimmed, you will now need to trim the passenger side (UK driver's side) grill backing panel to match the other side to allow for clearance for the hose. Obviously the driver's side panel has an opening to allow airflow to the secondary radiator, while the other side is blank, so the goal is to cut a matching hole into the blank panel.

Carefully measure and use masking tape to mask off the outer edge of the blank panel in a shape that matches the hole in the open panel. Using a Dremel tool with a plastic cutting wheel, cut along the inside edge of the tape to cut the hole into the blank panel. Once the cutting is complete, try to smooth the edges of the cut with some sand paper or a brush and you can then refit the backing panels and grills onto the bumper cover for reinstallation. The panel should not conflict with the TWINtercooler hose at all.





**When reinstalling the bumper cover, ensure that all connections are reconnected. (fog lights, side marker lights, headlight washer fluid, etc.) Secure all previously removed nuts, bolts, and screws in the reverse order that they were removed for both the bumper as well as the undertray and fender liners. If you have any difficulty refitting the bumper over the newly installed intercooler, readjusted the mounted position of the core and/or the hoses as necessary and reattempt. Everything should realign rather easily.**

**As always, with any questions or concerns about the installation of 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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