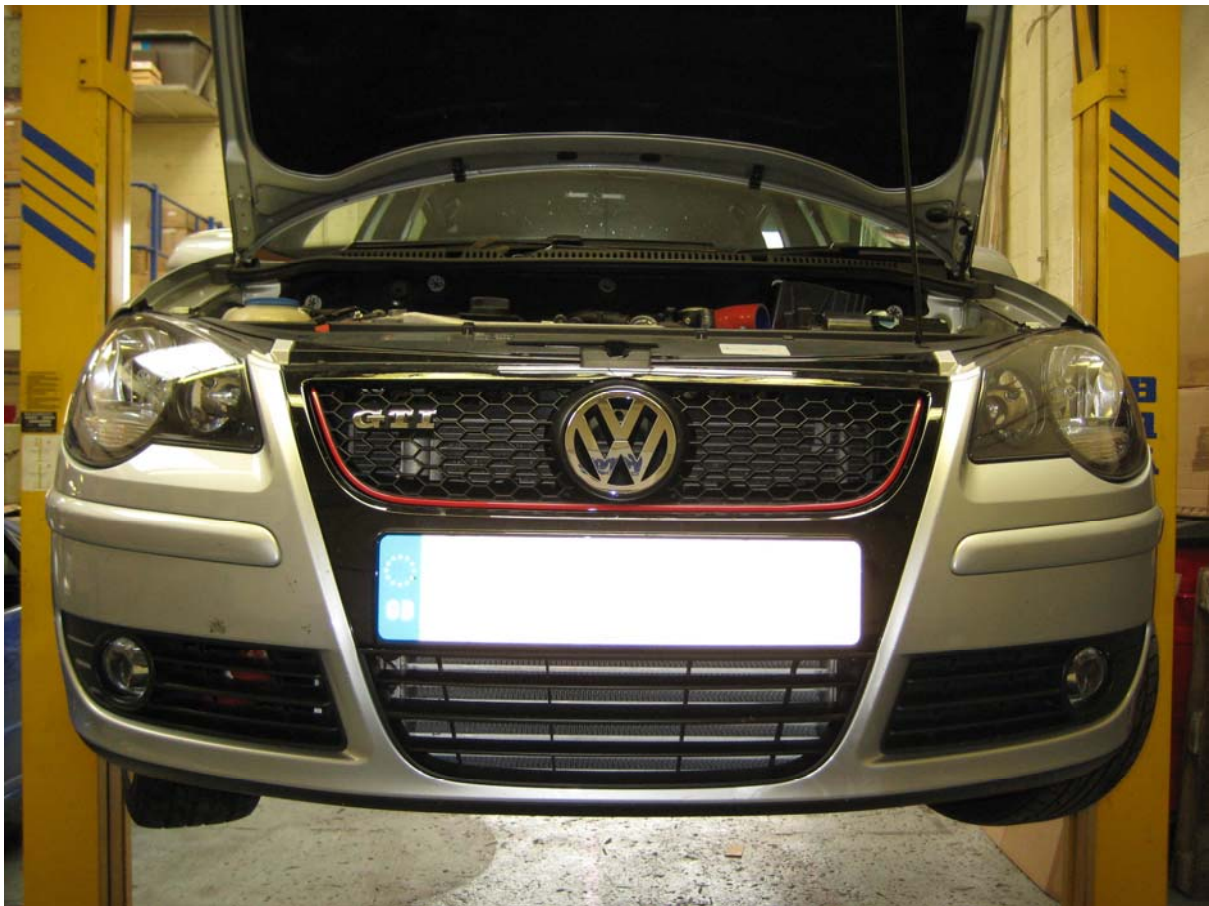




VW POLO 1.8 GTI FRONT MOUNTING INTERCOOLER KIT



Tools needed :

Axle stands, trolley jack, T20, T25 and T30 torx head screwdrivers/bits, 10mm spanner, 10mm socket, 13mm socket, ratchet, 100mm extension, 7mm hose clip driver or 7mm socket or flat bladed screwdriver, 3mm allen key, possibly a long ¼" extension and ¼" drive T25 bit

KIT CONTENTS



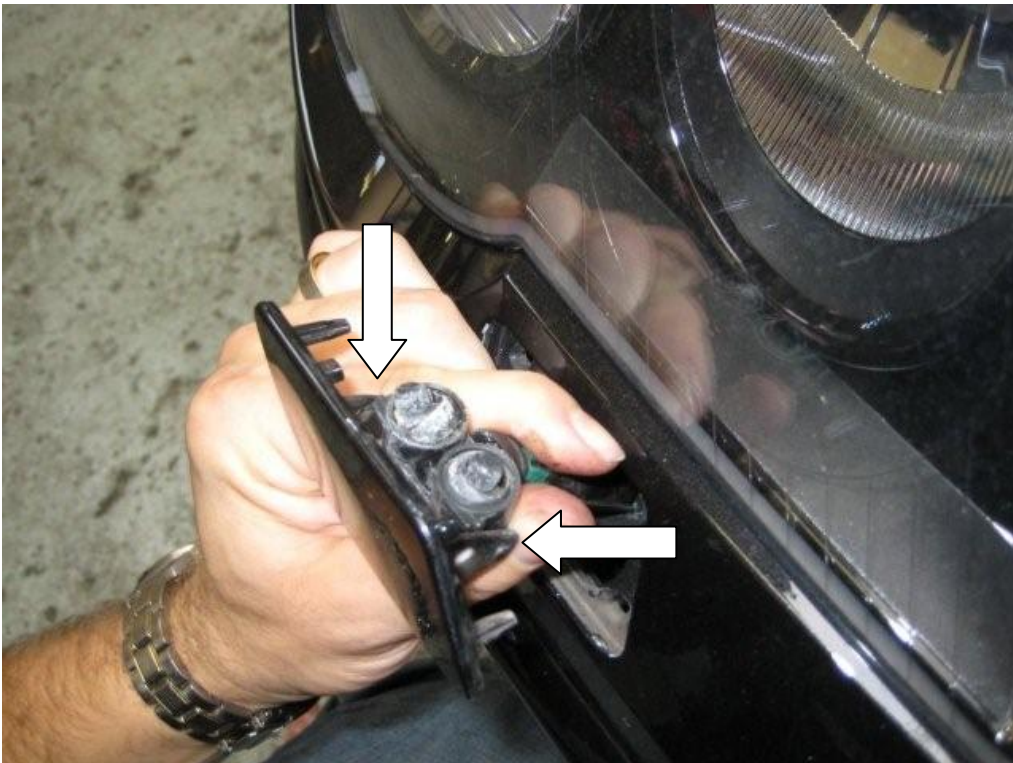
- 1x Forge modified crash bar
- 1x Forge intercooler
- 8x 45-60mm jubilee clips
- 2x M5x16 pan head 3mm allen screws
- 1x M6 cotton reel
- 1x M6 plain washer
- 1x M6 nyloc nut
- 4x M6x16 hex head bolt
- 4x M6 penny washer
- 3x silicon pipes
- 1x MAP sensor adaptor
- 1x MAP sensor aluminium T-piece 100mm long
- 1x 75mm long 50mm aluminium joiner
- 1x 360mm long aluminium joiner with bracket

BUMPER REMOVAL

1. If your car DOES NOT have headlamp washers, skip straight to point 2.
At the front of the car, work your fingers under both edges of the washer covers and pull the covers and mechanism upwards. They are heavily sprung.



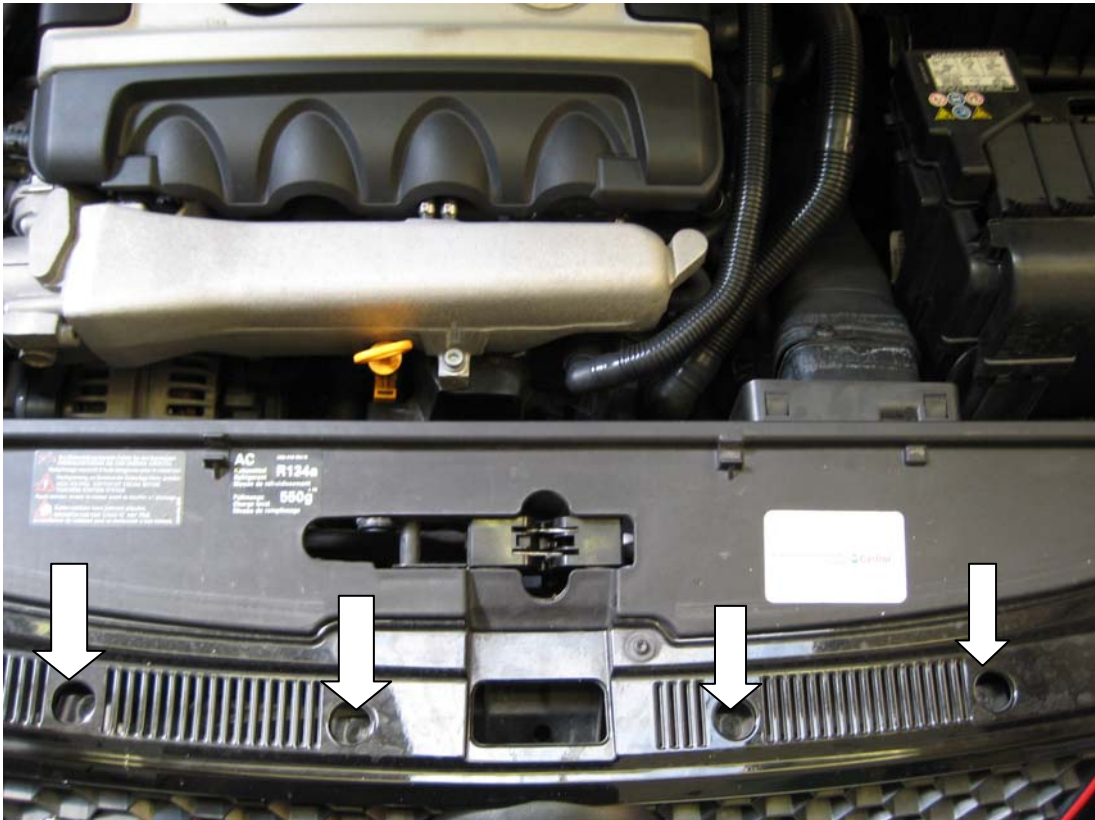
Once pulled out, simply pull the cover off by pulling it off the mounting lugs, one on each side – this is easy as the plastic is very flexible.



Now let the mechanism slide back into the bumper, and remove the T25 screw holding the mechanism to the back of the bumper.



2. Open the bonnet, locate the four T25 screws that hold the top of the grille in place and remove them.



Locate the four clips holding the lower edge of the grille in place and slide a flat bladed screwdriver though the honeycomb section on to the top of the clip and lever it up gently to remove its grip. Repeat for all four clips, then remove the grille.



3. Remove both fog light covers at the bottom of the bumper, but note the drivers side one is retained by one phillips head screw (the passenger side has no screws). They can be removed by simply grasping the cover through the slats and pulling.



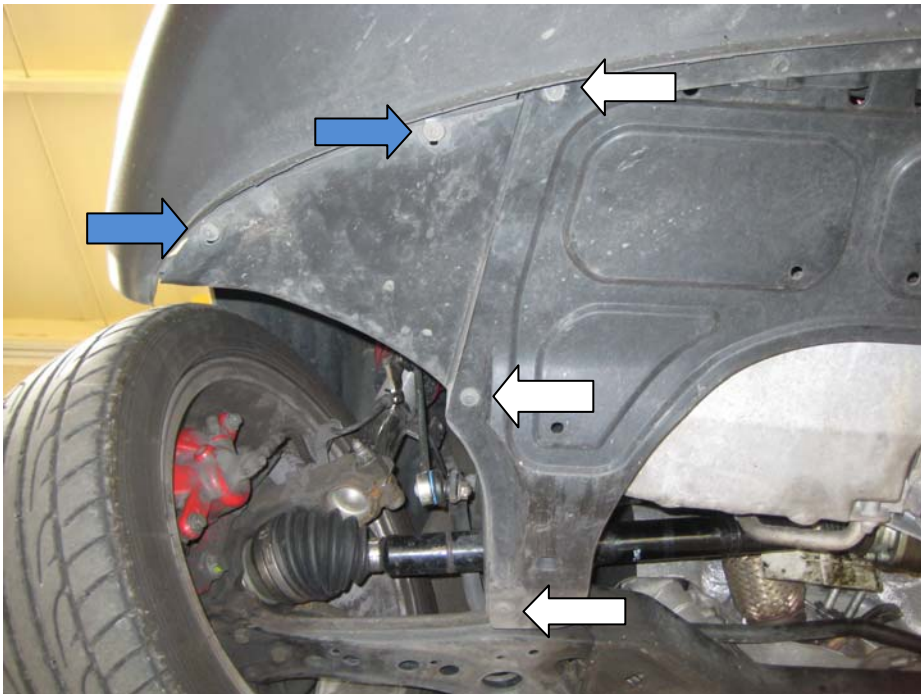
4. Jack the front of the car up and place it on axle stands. Please refer to your handbook as to the safe jacking and axle stand locations for your car.
5. Working in each wheel arch, remove the four T25 pan head screws along the edge of each arch.



Now remove the single T25 screw that holds the edge of the bumper to the edge of the wing. This is very awkward to get at, though we had success with a ¼" drive T25 socket on a long ¼" extension.



6. Working under the front of the car, remove the three T25 pan head screws on each side (shown in white below) that hold the undertray in place, and pull the undertray clear by pulling it towards the rear of the car.

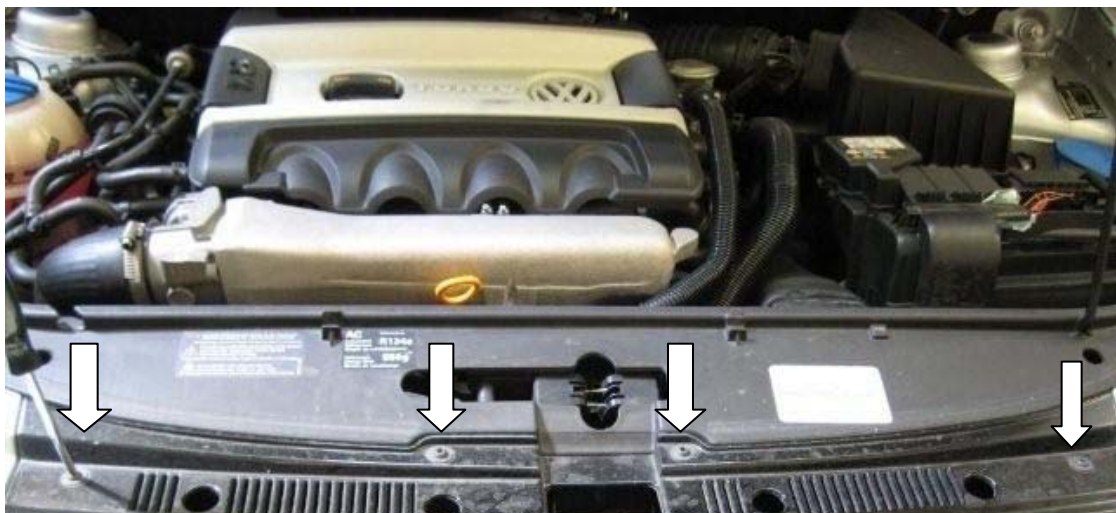


7. Still under the front of the car remove the two T25 pan head screws on each side of the car that hold the bottom of the arch liner to the bumper, shown in blue above.

8. Under the front edge of the bumper, remove the four push in clips that hold the bumper to the bottom of the radiator assembly. These clips need to have the centres worked out in order to release them, they can then be pulled out of the bumper.

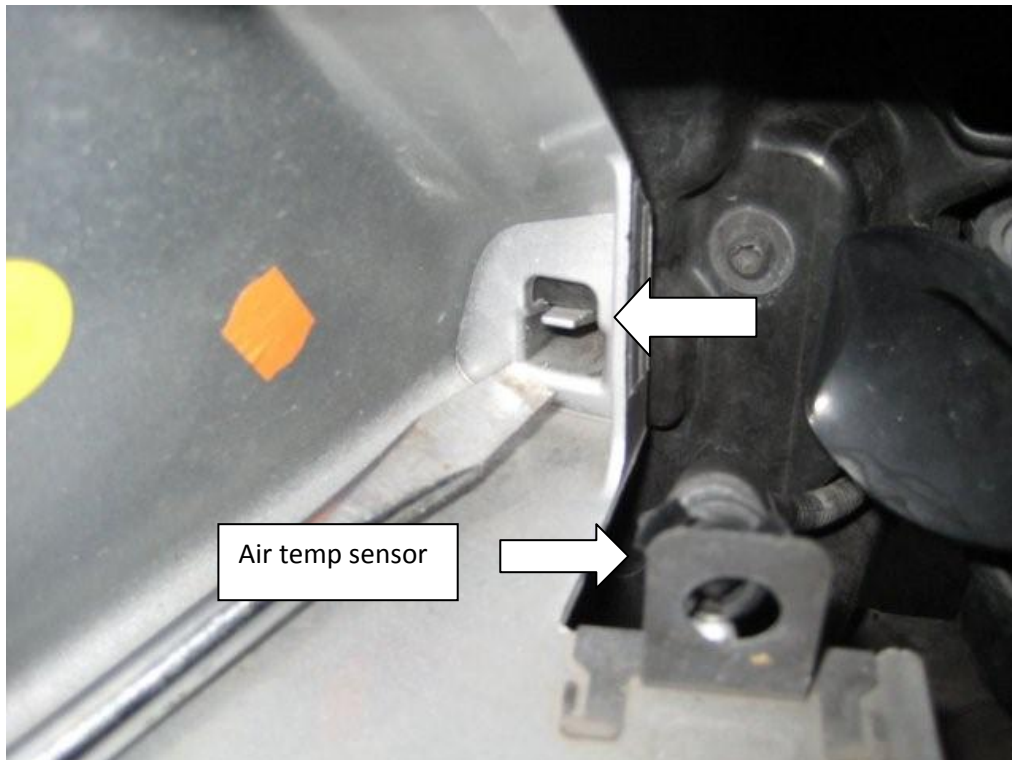


9. Back under the bonnet, remove the four T30 screws holding the top of the bumper to the slam panel. At this point the bumper can be quite loose, so be careful.



10. Back on the front of the bumper, behind where the foglight grills were, on the passenger side remove the external temperature sensor from the bumper by pushing the three clips in and pushing it back through the metal ring its housed in (see pic over page)

11. In each foglight recess is a clip holding the bumper to the radiator plastic housing. Using a flat bladed screwdriver, push the top of the clip downwards which will force the clip from the recess.



12. Finally undo the two T30 screws that were uncovered when you removed the grille, then standing in front of the bumper, grasp inside the wheel arch and pull the bumper towards you (NOT outwards). Repeat for both sides until the bumper is loose, then reach down behind the bumper and disconnect the foglight wiring (if applicable) by squeezing the rear of the connector and removing it downwards.

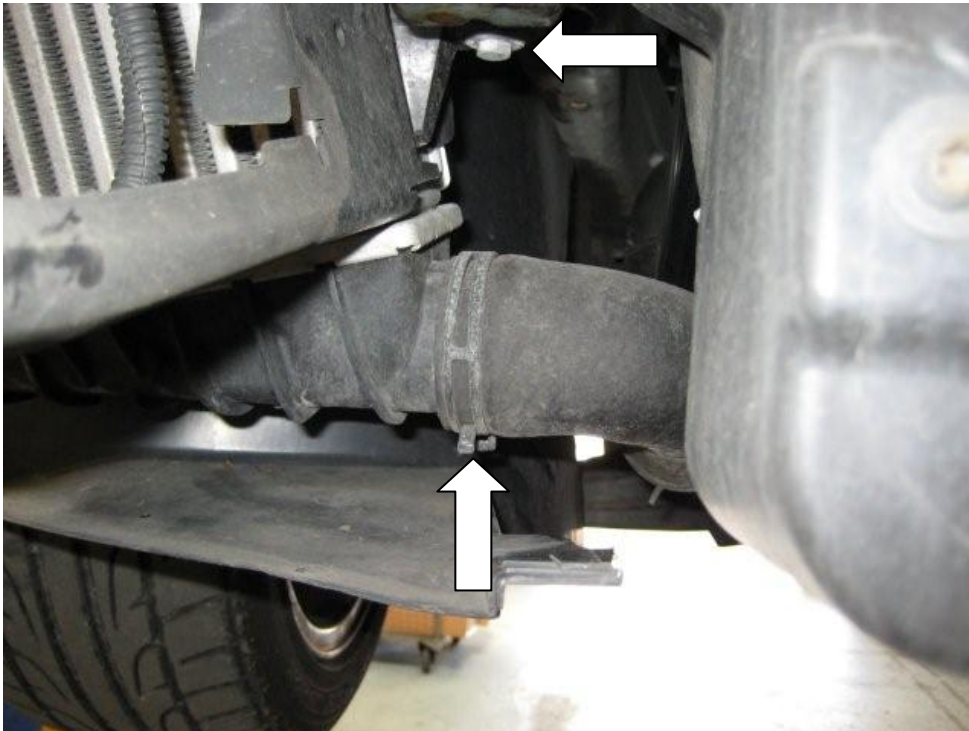


INTERCOOLER REMOVAL

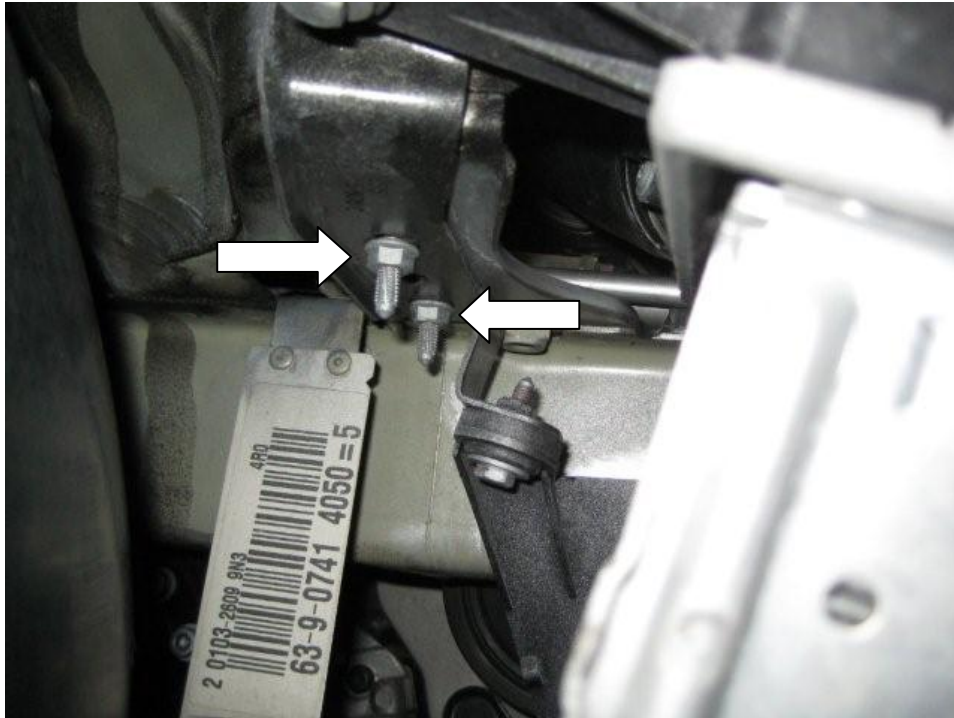
13. Working in the engine bay, disconnect the electrical connection to the MAP sensor from the top of the intercooler, and move the 50mm hose clip up the inlet pipe and out of the way so that the hose can be removed from the top of the intercooler.



14. Move the hose clip from the lower intercooler hose, and remove the hose from the intercooler. Also remove the 10mm bolt holding the intercooler bracket to the chassis just above the lower pipe.



15. Working behind the intercooler, locate the two 10mm nuts holding the rest of the intercooler to the chassis, and remove them. The intercooler can now be removed from the car complete with brackets and air deflector.



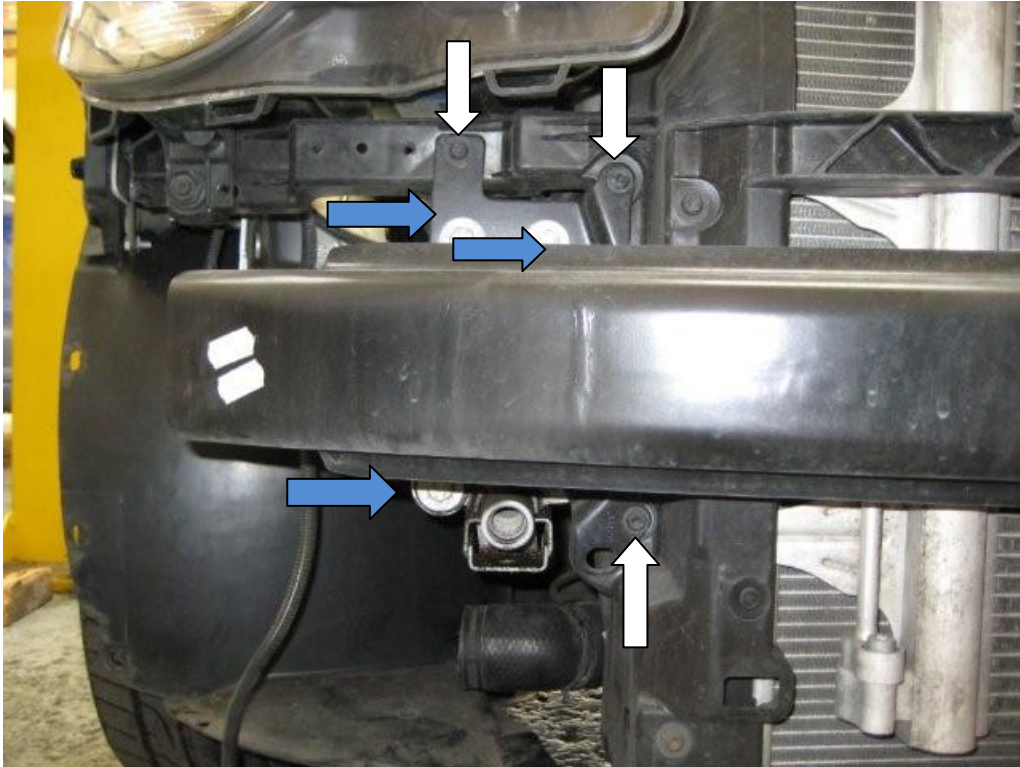
16. Using a Pozi drive screwdriver, remove the screws holding the MAP sensor to the top of the intercooler and withdraw it. It is a tight fit as it is secured with a rubber o-ring. Take care not to damage the sensor or the o-ring during removal. Keep this safe, as it will be used during re-assembly.

17. We now need to remove the stock crash bar and replace it with the Forge supplied (genuine VAG) modified crash bar. It is **IMPERATIVE** that during the swap of the crash bars the whole front end of the car is supported on a trolley jack or similar. This is because of the highly unusual way in which the front of the Polo is built, whereby the headlights, slam panel, radiator and air con condenser are all located to the body via three screws which also pass through the crash bar. Swapping crash bars without supporting the front end will result in the front end dropping by approximately 25mm, which although it doesn't break anything will change your headlight alignment and mean that none of the bolts will line up during reassembly, and the bumper won't fit back on. However if you follow our instructions on how to do it, and how to rectify the problem if it does go wrong, all will be fine.

18. Using a trolley jack and a piece of wood, position it under the lower edge of the radiator/air con heavy duty plastic cowling, and raise the jack so that its taking the weight of the parts WITHOUT deforming the plastic.



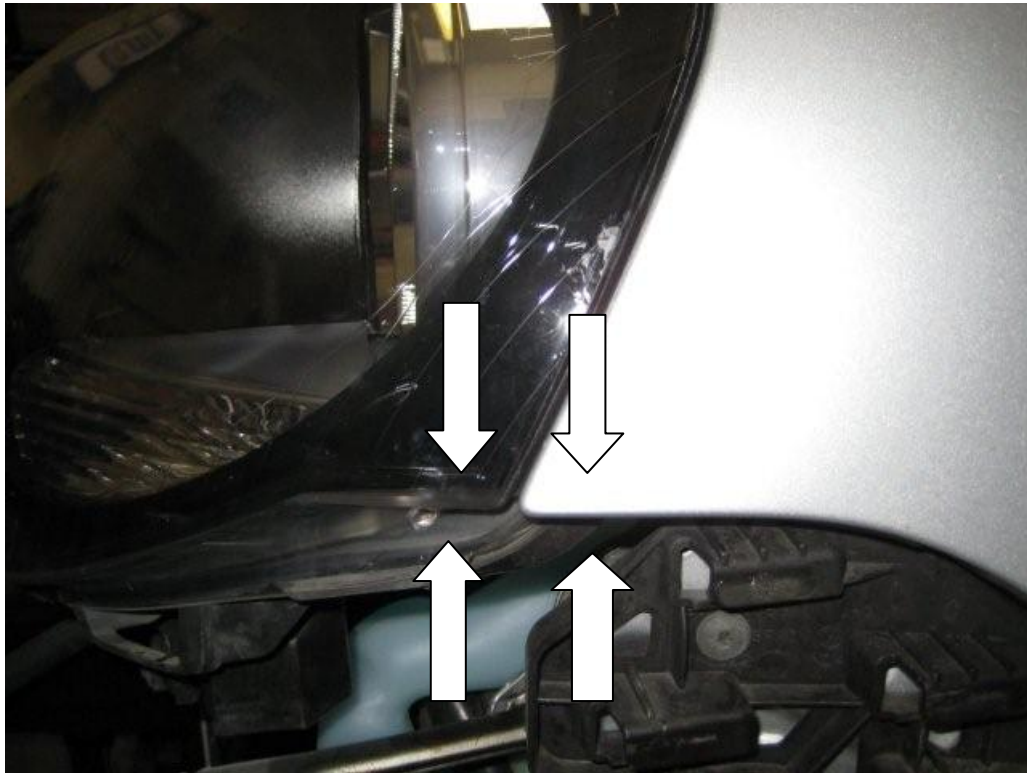
19. From the front of the car, locate the three T25 screws at each side that pass through the crash bar mounts, and remove them (shown by white arrows below) Note that two of the screws have a standard metric thread, the other is a self-tapper, and which holes they come from. TAKE CARE to note if the front of the car moves as the screws are released. If it does, the jack under the front needs to be lifted slightly.



20. Now remove the three 13mm bolts holding the crash bar to the chassis on each side, shown by blue arrows above. On the passenger side, there is an additional 14mm bolt that needs to be removed which holds the horn to the crash bar. Once the crash bar is free, immediately replace it with the Forge modified crash bar supplied with the kit. Refit the 13mm bolts first, followed by the T25 screws, adjusting the jack if necessary to get the front of the car at the right height. Refit the horn.



21. To ensure nothing has moved, looking from both sides of the car, the straight part of the bottom of the headlight should line up with the straight part of the bottom of the wing. Adjust if necessary, and fully tighten all the bolts and screws.

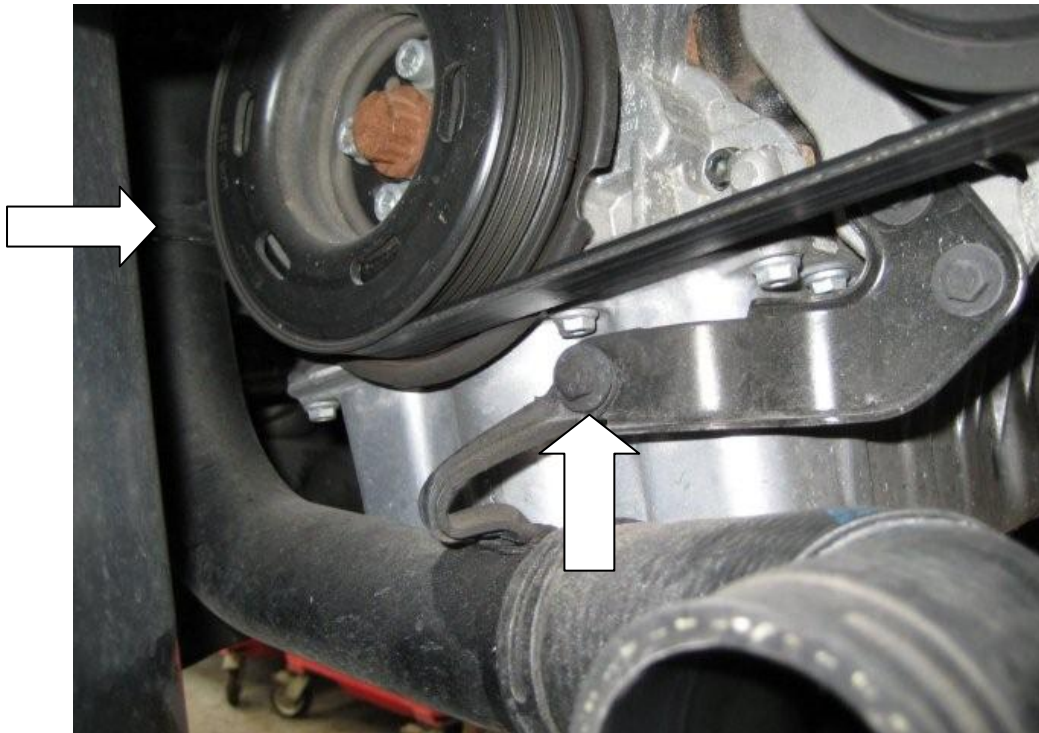


22. Mount the intercooler behind the new crash bar by using two of the M6x15mm hex head bolts and two M6 penny washers on the front brackets. With the intercooler secure, use the remaining two M6 bolts on the top mounts and attach them loosely. Now push the intercooler from underneath so that its as high as it will go in the front brackets, then tighten them, followed by the top brackets.

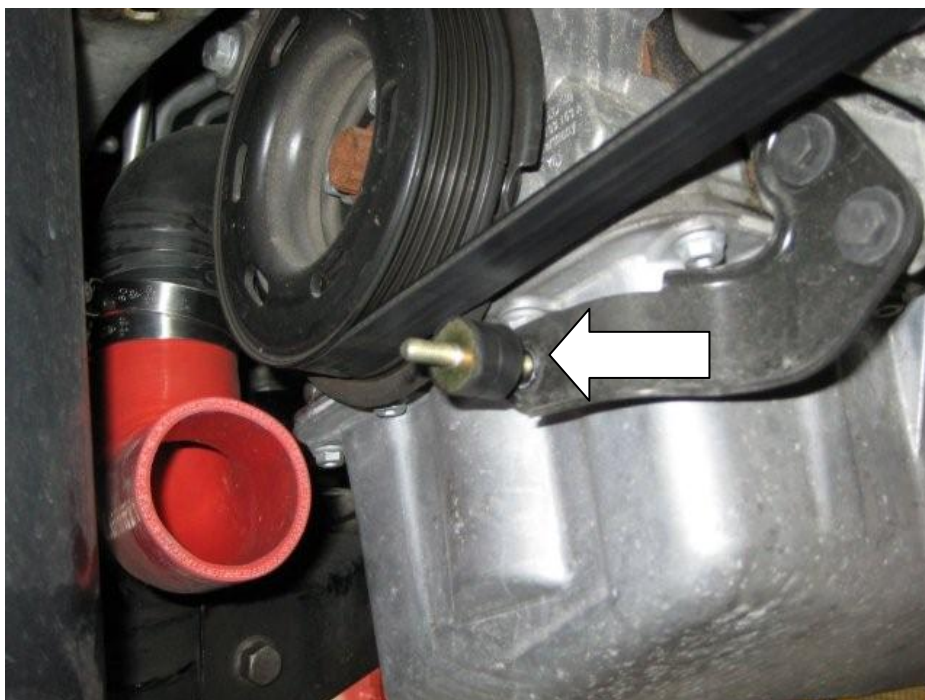


23. Working on the drivers side of the car, locate the outlet from the turbo where it comes down behind the block, remove the hose clamp and pull off the hose. Undo the

10mm retaining bolt on the plastic bracket that holds the intercooler lower pipe to the block, and remove the lower intercooler pipe from the car.



24. Find the Forge 75mm long hose joiner and insert into the Forge 50mm 90 degree bend. Insert the hose joiner half of its length, and tighten with a supplied jubilee clip. Add a second jubilee clip loosely, and fit the 90 degree bend to the existing turbo outlet, facing the front of the car. Fit the supplied M6 cotton reel to the thread left by the lower intercooler plastic bracket.



25. Use the 370mm long aluminium hose joiner with bracket welded on, and the short silicon Forge hose joiner, and connect the two together loosely with a jubilee clip.



26. Put a jubilee clip on the 90 degree bend already fitted to the car, then offer up this 370mm joiner to it, passing the bracket on the joiner over the cotton reel already installed, and secure the joiner with the jubilee, then pull the silicon joiner towards the front of the car and join it to the lower intercooler pipe. You can now tighten all the clips when you're sure there is in equal amount of pipe inside each joiner, and that the clips will be inside the swaged ends of the pipe (to prevent them blowing off).

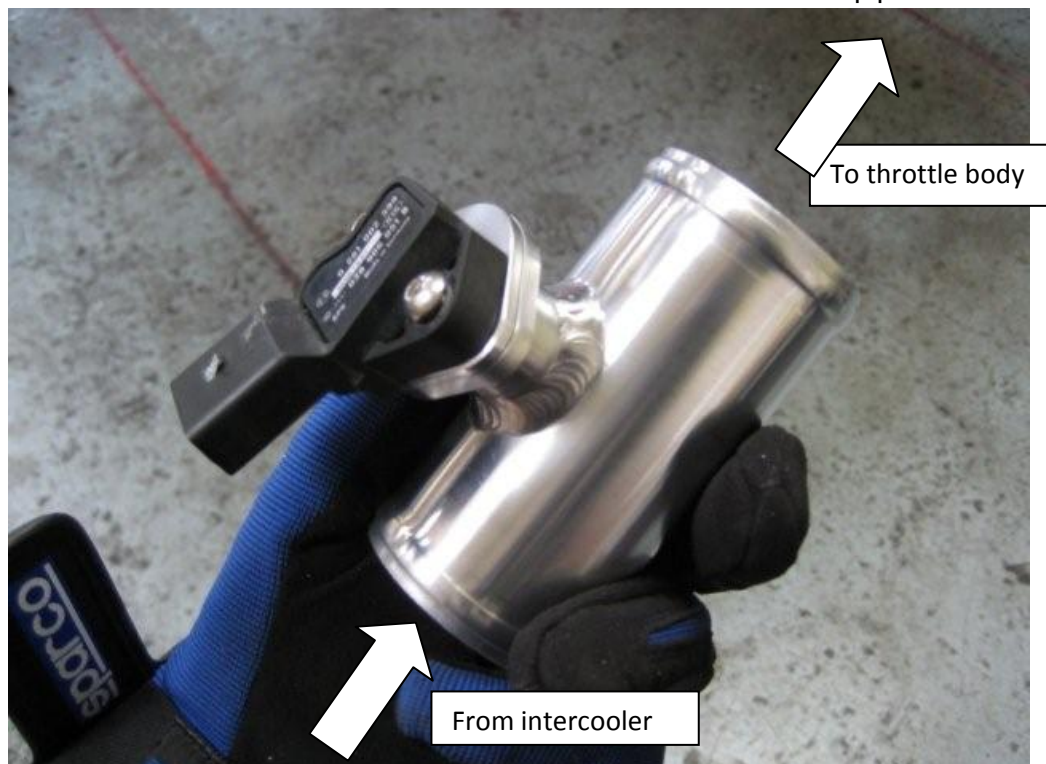


27. When you're happy with the location of the lower pipe, secure the bracket to the cotton reel using the supplied M6 nyloc nut and M6 small washer.

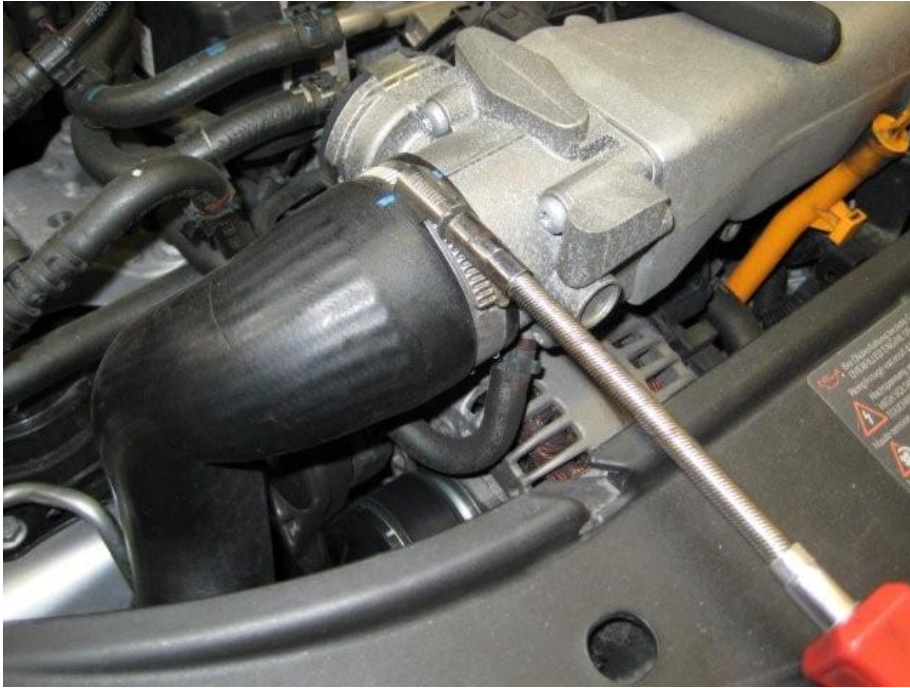
28. Dig out the MAP sensor you saved earlier and insert it into the MAP sensor adapter, and then insert the adapter into the MAP sensor housing pipe, and secure it with the two M5x16 pan head allen screws, using a 3mm allen head screwdriver.



NOTE – the orientation of the MAP sensor when fitted in the pipework



29. Working in the engine bay, undo the hose clamp that goes over the pipe on the throttle body, and loosen it so that the pipe is loose, but don't remove the pipe.



30. Insert the MAP sensor pipe you just assembled into the bottom end of this throttle body pipe, observing the orientation as noted earlier.
31. Get the long piece of custom silicon Forge pipework, and loosely connect the end with the shallow bend to the intercooler with a jubilee clip, and the other end with the tight bend to the MAP sensor pipe you just fitted with another jubilee.

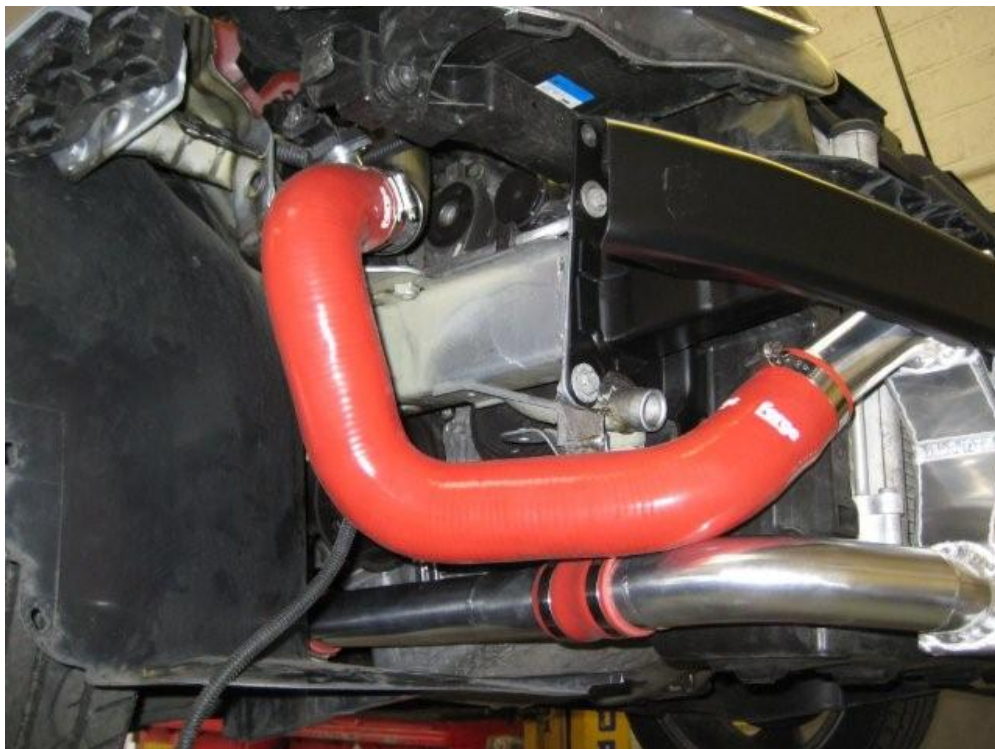


32. Reconnect the electrical connection to the MAP sensor, and tighten the jubilees in the engine bay when you're happy. By moving the throttle body hose more towards

the back of the car, you can alter the height of the silicon hose and MAP sensor to prevent them from knocking the inner wing.



33. The intercooler should now be installed on the car, secured to the bumper and fully piped in with all hoses secure and all clips done up tight. Before continuing, you can test fire the engine to ensure it runs with no errors (you may get a warning light on the dash about the front foglights being disconnected however).



34. Find the drivers side foglight cover you removed in step 5 and remove the air deflector from the rear of it – this will not be re-used – and cut off the top left retaining clip (if you're looking from the front).



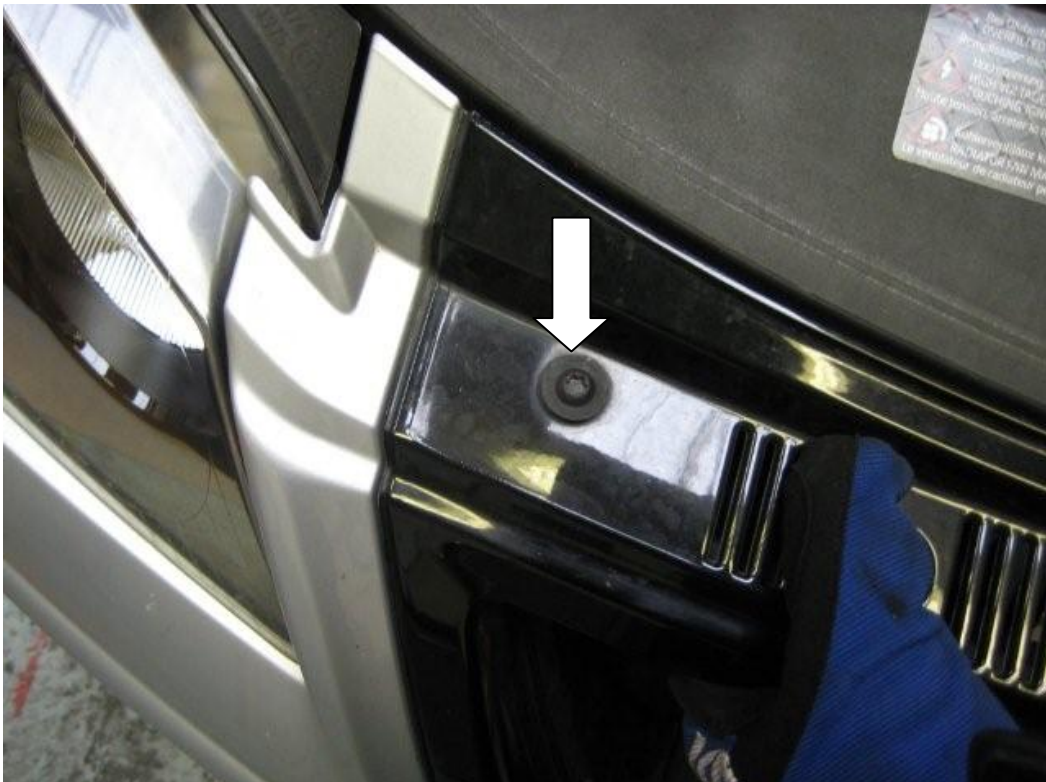
35. Now on the back of the bumper above the grill, remove the upper left and upper right corner as indicated below, and the top corner of the grill.



Repeat for both sides of the grill.

BUMPER REFITTING

36. Take the bumper and offer it up to the car. The bumper has to be pushed towards the back of the car in order for the clips on the sides to locate. You should be able to do one side at a time, and the bumper and wing should line up perfectly when pushed (if not find you probably didn't remove enough plastic in step 35). Secure the top of the bumper in the engine bay with one of the T30 screws you removed earlier, then repeat for the other side of the bumper.



37. Though it varies from car to car, you may need to cut a small section of plastic from the rear of the foglight cutout. This can only really be judged when the bumper is refitted to the car. Cut as appropriate (no cutting at all may be required).



38. Follow steps 10 to 1 backwards to fully screw the bumper back on to the car but don't yet reattach the foglight covers..
39. In the front foglight cutouts, locate the plastic tab that needs to be clipped in to the surround of the radiator. (continues over)



We found the easiest way to clip this back in was to use a large flat bladed screwdriver under the tab, push really hard on the end of the screwdriver to push the bumper back, then twist the head of the driver as the tab passes into the radiator surround. The tab should spring up and secure the bumper with a 'click'.

40. Refit the drivers side foglight cover ensuring its clipped in all the way round (can require some force), then do up the screw next to the light to hold it in place. Repeat on the passenger side, but don't forget to clip the air temperature sensor back into its metal clip on the bumper.
41. Lower the car to the ground and enjoy your new found performance !



ENGINEERED FOR PERFORMANCE

You may also be interested in the following products for the Polo GTI to compliment your new intercooler, available from your nearest Forge distributor :

FMPOLOTB – intercooler to throttle body hose (front left of engine bay) available in red, blue and black



FMINDIBFR4 – Turbo inlet pipe (rear of engine bay from airfilter to turbo) available in red, blue and black



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