



## VAUXHALL ASTRA VXR FMIC INSTALLATION INSTRUCTIONS



### **Tools needed :**

7mm, 8mm hose clamp driver

Stanley knife

Drill and 4mm,5mm, and 8mm HSS drill bits

8mm,10mm ,13mm socket, E10,E14 socket and suitable ratchet

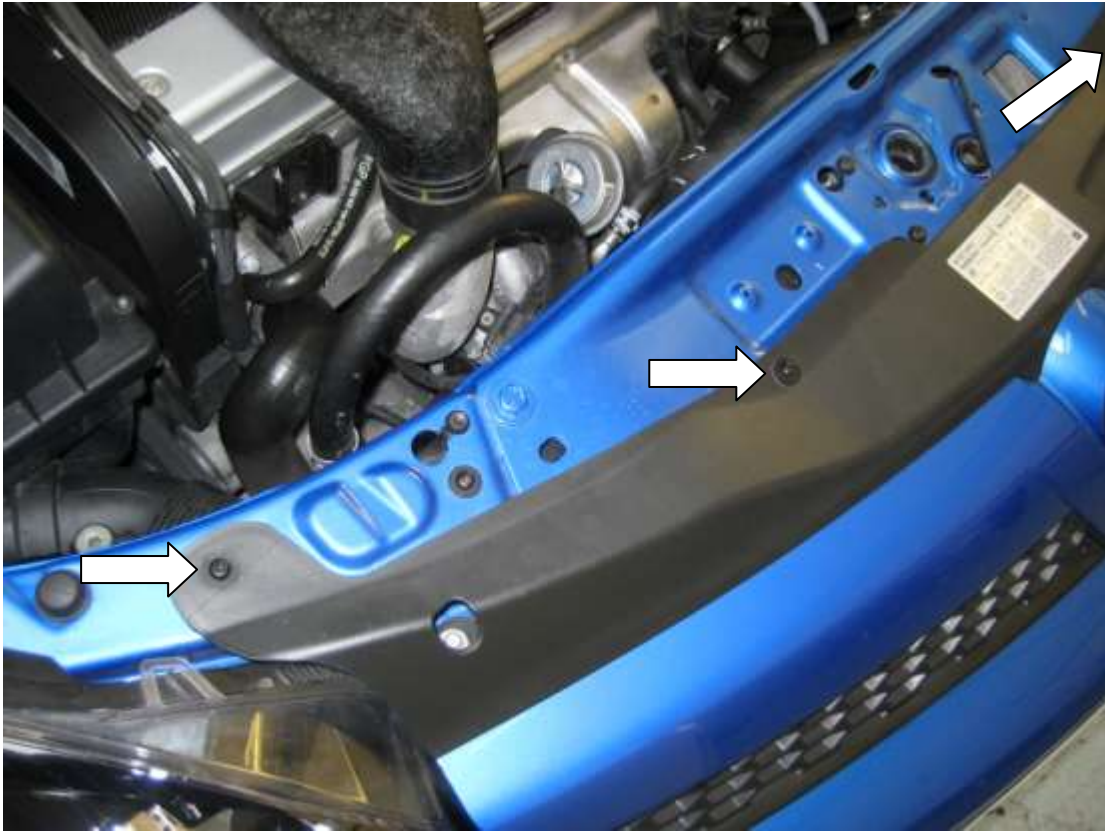
10mm spanner, 13mm spanner

T20 and T25 screwdriver

Plastic (nylon) hammer

No.3 Pozi screwdriver

1. Jack up the front of the car and secure it with axle stands, so that both front road wheels are off the ground and you can work underneath safely. Remove the grille by undoing the three T25 screws, and rocking the grille back and forth to remove it from the bumper.



2. Remove the two T20 screws in each wheel arch



3. Working under the car, remove the three fixings that hold the undertray to the chassis by prying out the central peg to loosen it and then removing the whole fixing.



4. Pull both sides of the bumper away from the fixings under the headlight by pulling hard from the wheelarch end.



5. Remove both foglight connections (if fitted) by reaching up behind the bumper and unclipping them by prising out the blue plastic tab.



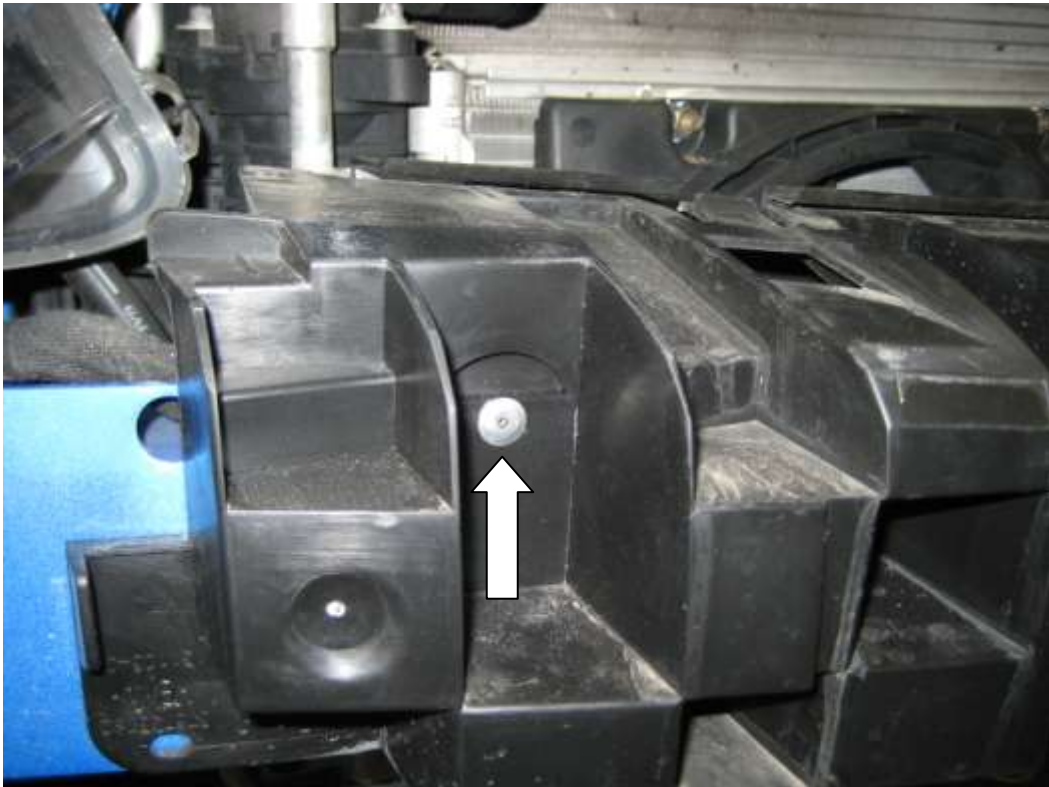
6. Unclip the top edge of the bumper by inserting a screwdriver into the two fixings at either end by the headlights and prising them out, and pushing the four clips downwards to loosen the top of the bumper.



7. If headlight washers are fitted, place a bucket under the washer bottle and squeeze the fitting on the hose attached to the bumper to remove it. Remove the air temperature sensor wiring from the back of the bumper grille. The bumper can now be withdrawn from the car while the washer bottle empties.



8. Remove both foam pieces from the ends of the crash bar (they just lift off), and drill out the two rivets with a 4mm drill bit to remove the plastic bumper reinforcement.



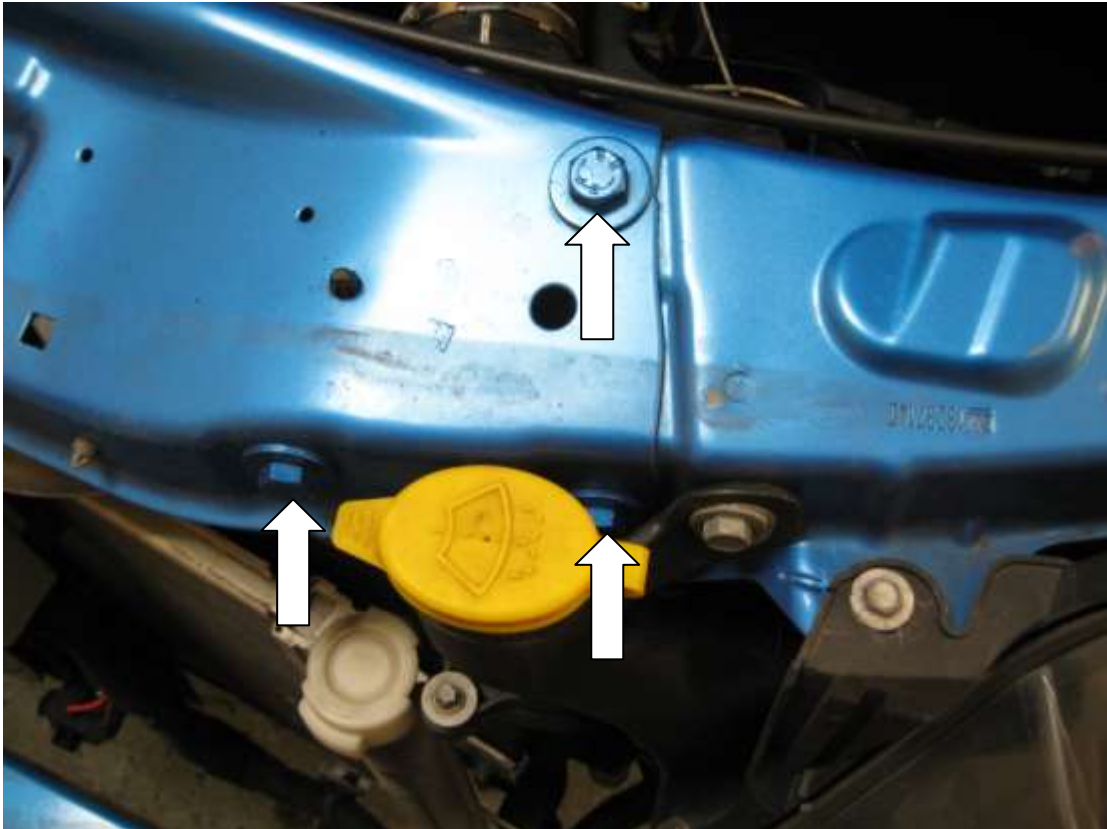
9. Remove both headlights by removing the three retaining bolts shown:



...then remove the wiring at the rear of the headlight unit by tilting it forward, and inserting a screwdriver into the red section of the connector and prising it outward to release the clip. Remove the headlights and store somewhere safe.



10. Undo the three 13mm bolts on each end of the slam panel (you may need to remove the single 10mm bolt holding the top of the washer bottle for access).



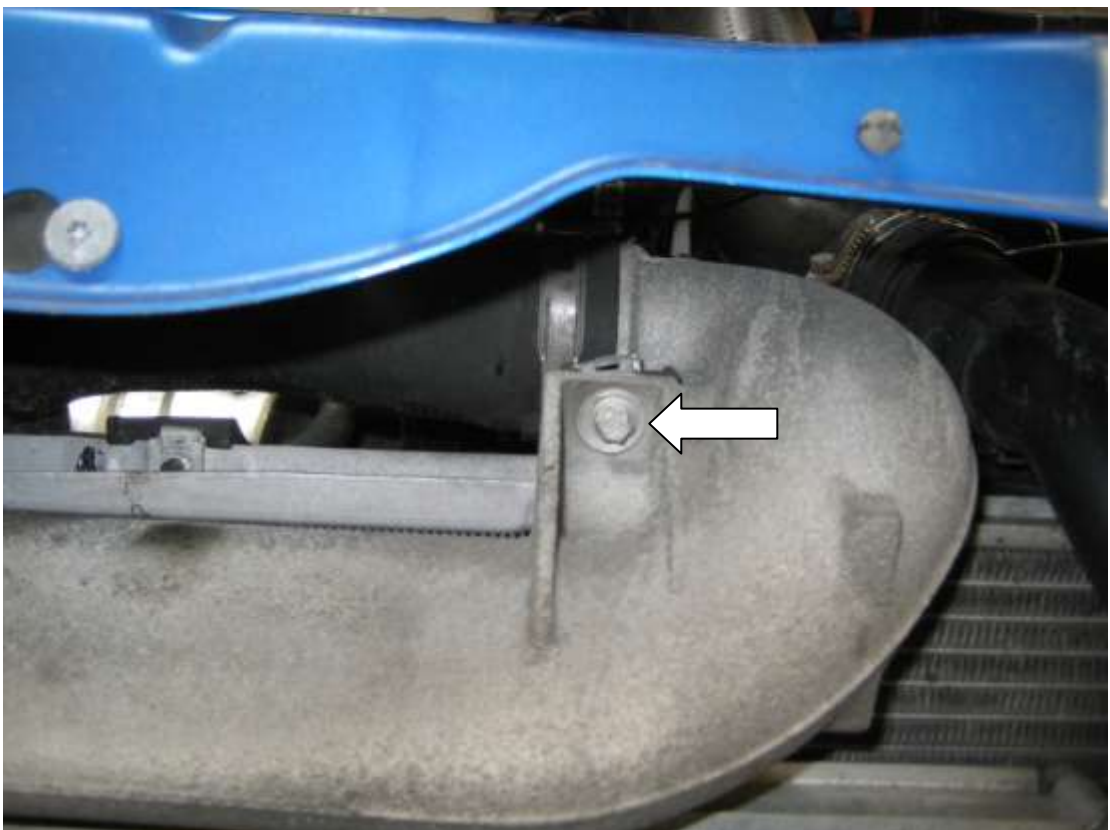
...then lift the slam panel up slightly and to the right to slide the air feed locating pins out so that the slam panel can be lifted up.



11. With the slam panel lifted up you can now undo the two hose clips holding the upper aluminium intercooler pipe to the intercooler on the drivers side....



...undo the retaining bolt holding the pipe to the top of the radiator on the passenger side, then undo the hose connecting to the turbo and remove the whole pipe run from the car.

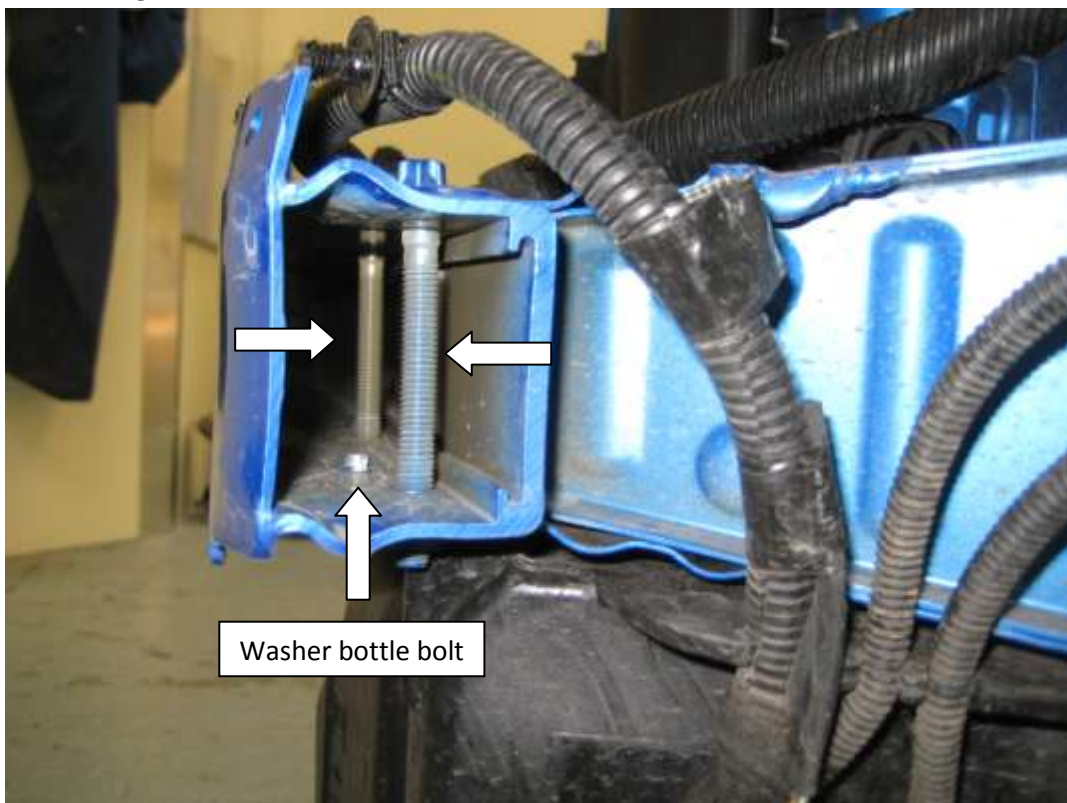




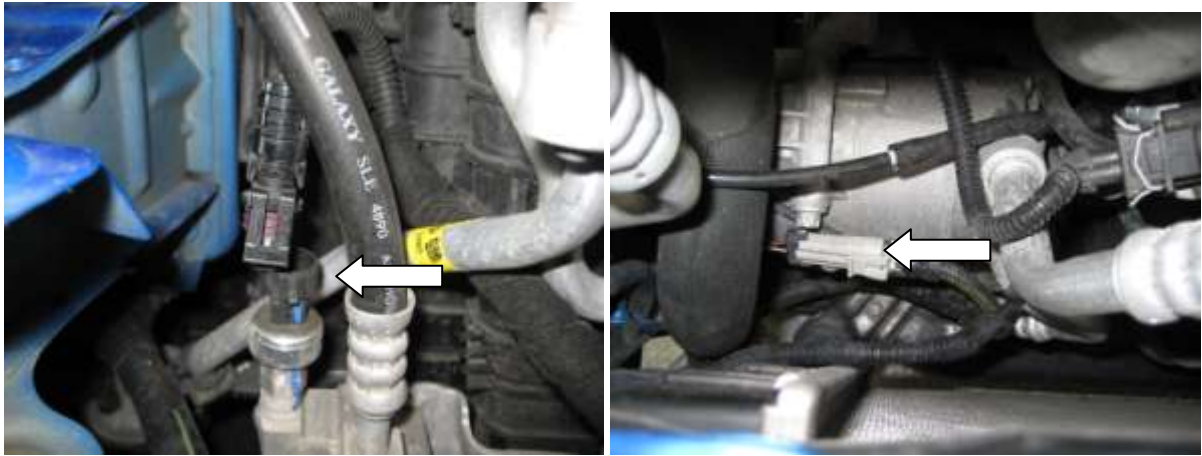
12. Using a plastic hammer ideally, lightly hit each of the clips holding the wiring harness to the crash bar along the front edge of the car.



13. Undo the four long bolts that pass through the crash bar (two each end) with an E14 socket on the top and 13mm spanner on the bottom. On the passenger side, also undo the 13mm bolt holding the washer bottle to the crash bar.



14. Undo the electrical connection on the pressure switch of the aircon system at the front drivers side of the condenser, and the electrical connection on the compressor in the engine bay (front left, low down).



15. Pull the wiring loom around the condenser, and unclip from the bottom of the condenser on the drivers side and the front edge of the condenser (two clips) on the passenger side.



16. Remove the two 13mm nuts holding the top edge of the condenser fan to the condenser, and lift up to remove the fan. There should be enough slack in the wiring to allow you to place the fan on the floor in front of the car.



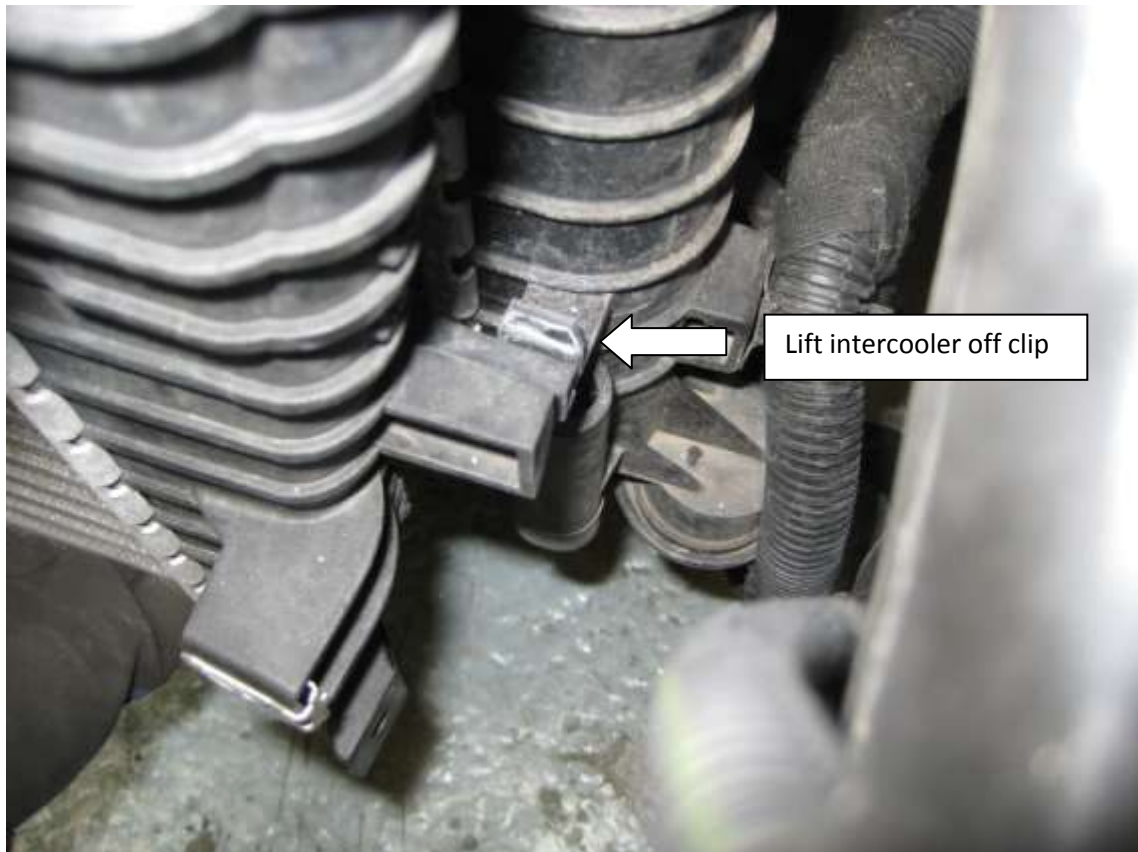
17. Unclip the lower aircon pipe from its bracket on the drivers side, then undo the four E10 bolts (you can use an 8mm socket) holding the condenser to the car and swing it outwards towards the drivers side 90 degrees to gain access to the intercooler. Once swung out, support it on a jack or similar. Be careful not to bend or damage the pipes.



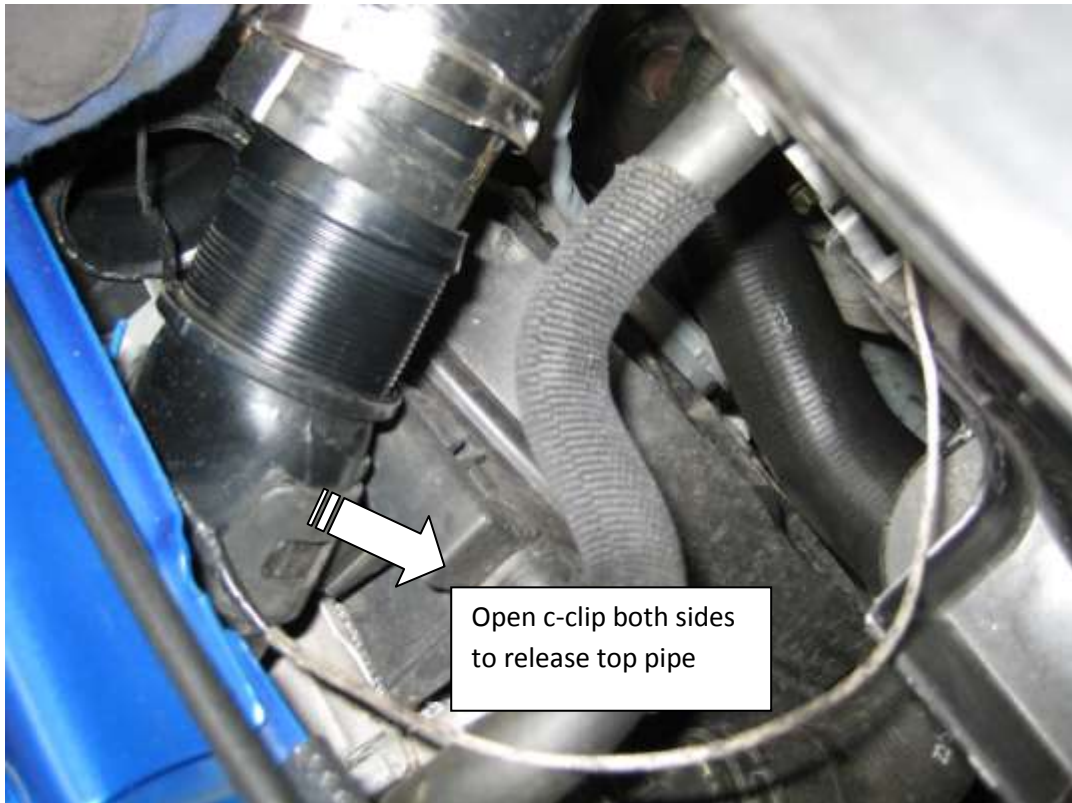
18. Undo the top left and top right screw holding the stock intercooler to the radiator.



19. Lift the intercooler slightly to release the bottom right clip from the radiator



20. Lift the slam panel slightly (should still be loose from section 10). Release the intercooler upper pipe from the top of the radiator by opening the c-clip at both sides, then lift and remove the intercooler from the car.



21. With the condenser still loose, drill an 8mm hole in the middle of the lower section of the bracket (shown by the red 'X' below)



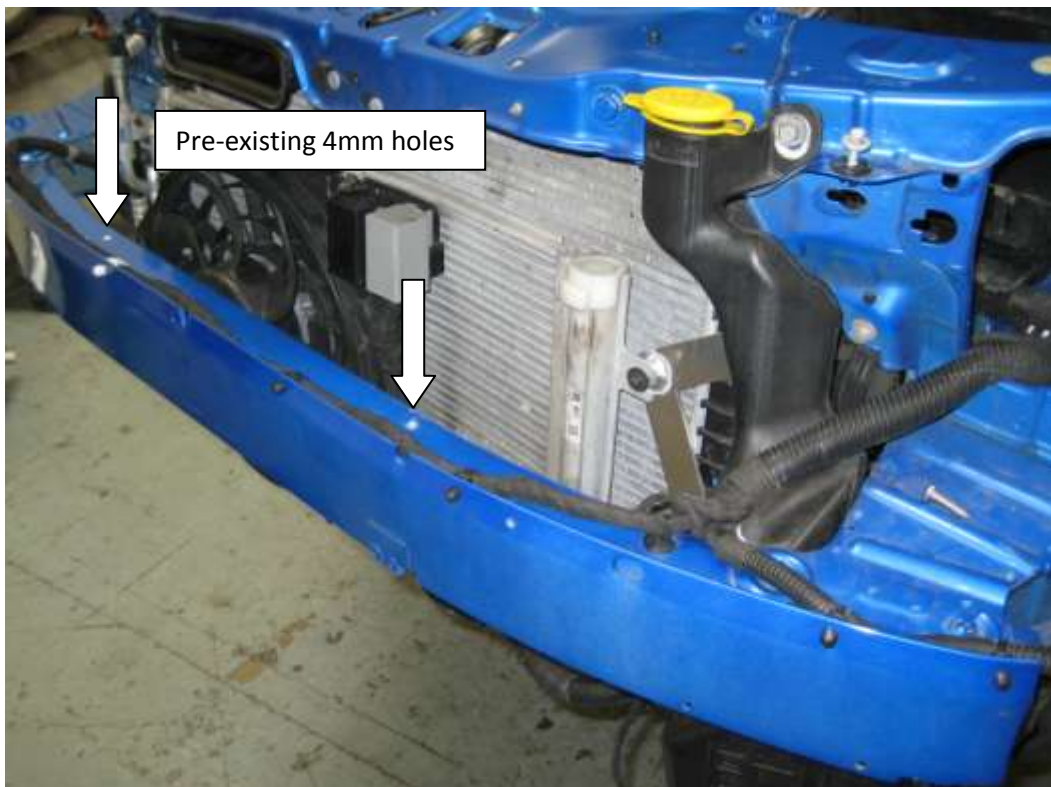
22. Drill the top right mount where the intercooler fitted to the radiator with a 5mm drill bit (no bigger), and use one of the supplied st/st self tapping screws in this location to remount the condenser to the car using the two supplied Forge brackets and the bolts you removed in section 17. Use the new hole you drilled for the lower left mount. The new brackets should push the condenser back against the radiator, and slightly to the left.



23. You can now remount the condenser fan removed in step 15, and reroute the electrical connections back to the pressure sensor and compressor.



24. Remount the crash bar to the car using the nuts and bolts removed in step 13, clip the wire back in and then drill out the two preexisting 4mm holes on the top face of the crash bar to 5mm – **NO MORE**.



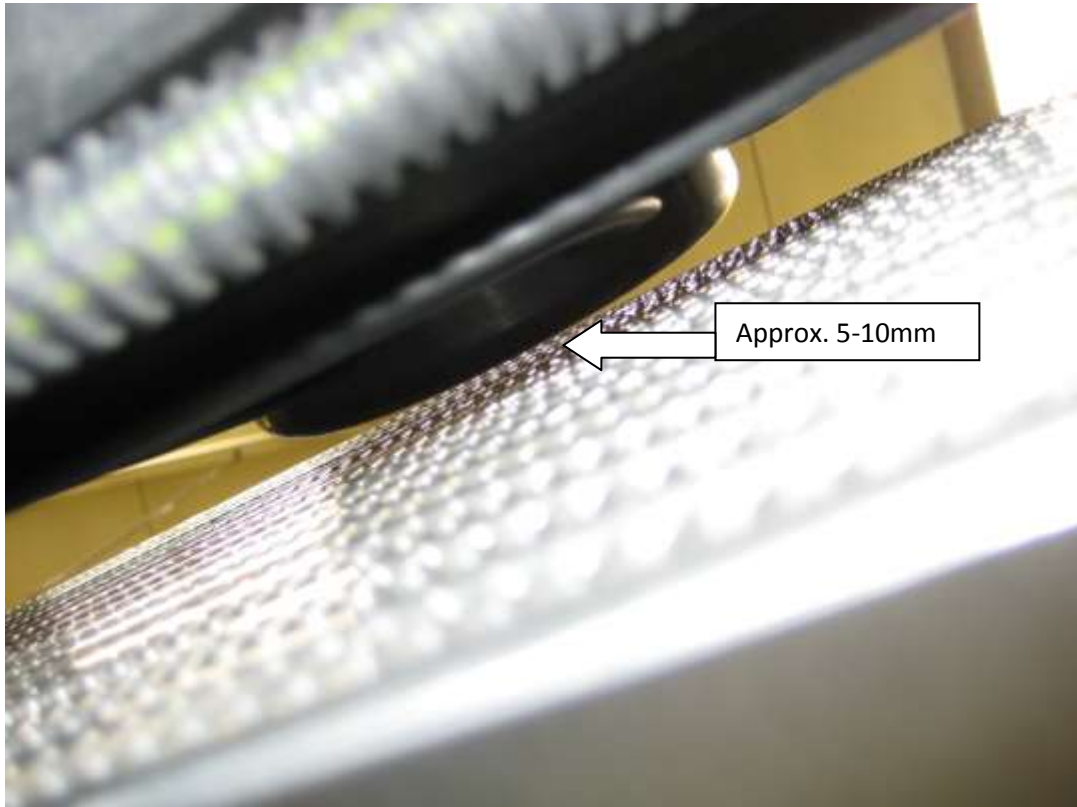
25. Offer up the intercooler to the crash bar and hang the brackets over the top, secure them with the two stainless steel screws provided, using a large PH3 screwdriver.



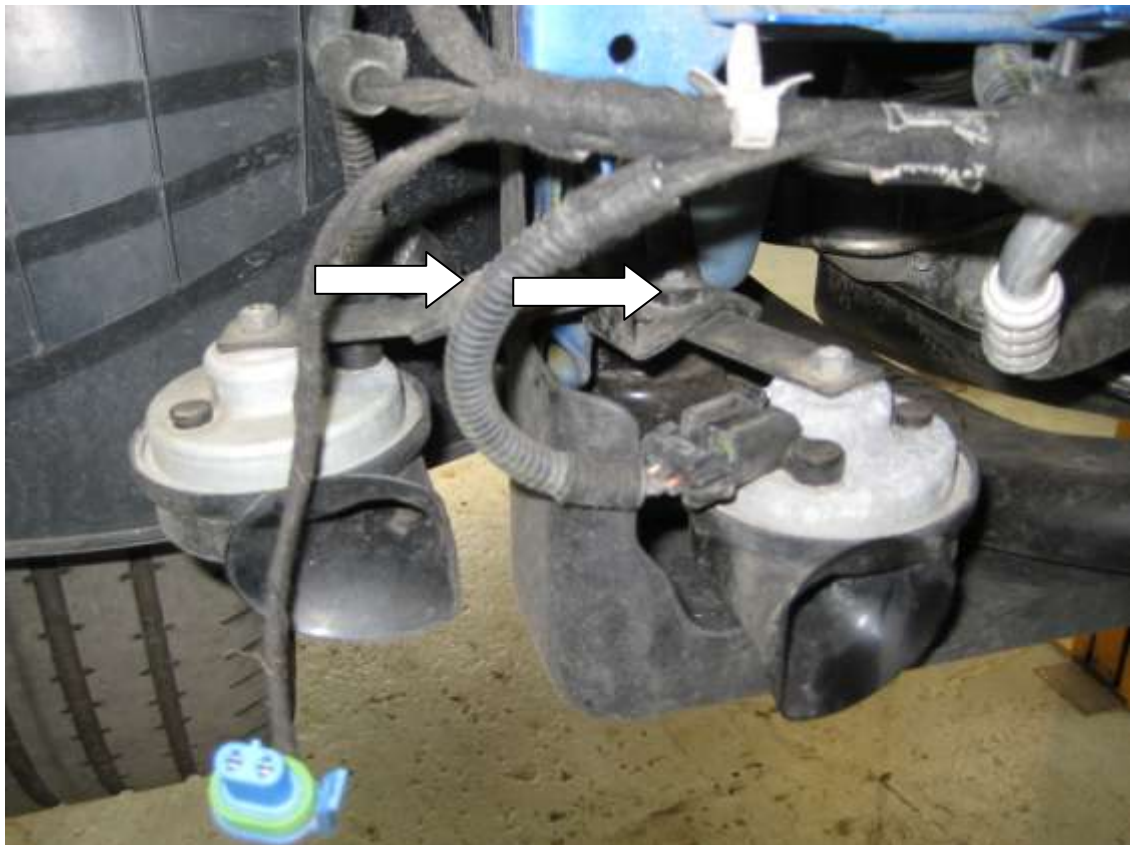
Mount the lower bracket to the intercooler, and to the car using the supplied M8x16 bolts, washers and nyloc nuts. Push the bottom of the intercooler towards the engine before tightening so that the intercooler sits at a slight angle, with about 5-10mm clearance to the condenser fan.







26. Undo the 13mm bolts holding both horns to the chassis, then take the horn on the right and flip it upside down so that it sits on top of the horn on the left. Use one of the bolts you removed to secure both horns together through the bracket.





27. Fit the 50-60mm reducer hose to the turbo with suitable jubilee clips, and into the free end insert the 90 degree aluminium bend so that the long leg points towards the horns. Don't tighten any clips yet.



28. Onto the end of the aluminium pipe, use a 90 degree silicon bend and suitable clips, and connect the other end to the inlet on the intercooler. When everything fits, and the aluminium tubes are all approx 25mm inside the silicon hoses, tighten all hoses with a 7mm hose clamp driver or socket.



29. On the exit of the intercooler, place the longer leg of the supplied 45 degree silicon elbow so that the short leg is pointing up at an angle, again with clips to suit.



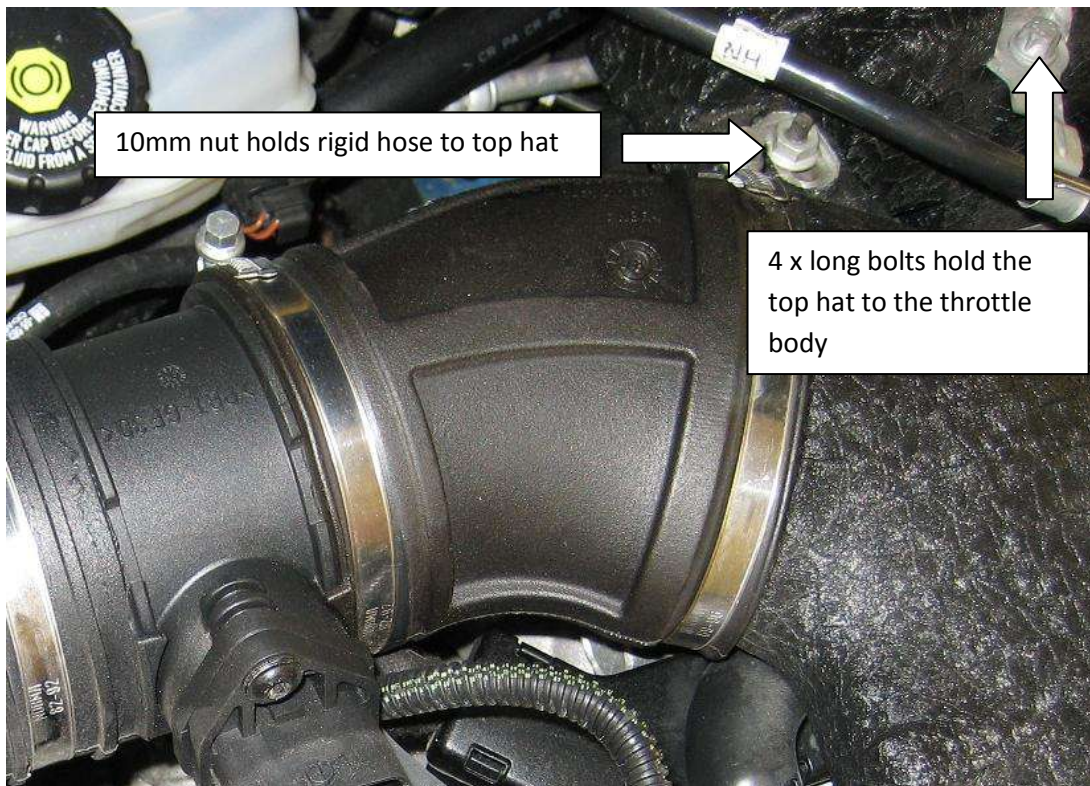
30. Put the supplied 90 degree bend with tag welded on the side into the silicon hose, and align the tag so that you can loosely screw in the bolt under the slam panel removed in step 11.



31. Remove the electrical connection to the MAP sensor in the OEM intercooler top hose, then remove the hose from the connection on the inlet manifold and remove from the car. Use an E10 socket to remove the MAP sensor from the OEM hose. It's a tight fit as it will be sealed in the hose with an o-ring.



32. Undo the 10mm nut that secures the airbox rigid hose to the 'top hat' on the top of the throttle body, then undo the four E10 bolts holding the top hat to the throttle body (they are very long). Remove the top hat from the throttle body. Now **remove the rubber damper** screwed into the front of the top hat.



33. Put a 60mm bellows silicon hose on the intercooler pipe under the slam panel, followed by the S shaped aluminium bend (shorter leg nearest the front of the car) and the other bellows hose, all with suitable hose clips.



34. Screw in two M6x80mm with spring washers on the two right hand bolt holes of the throttle body, so they are about 15mm from being screwed down fully. Push the flange of the last aluminium pipe under the bolt heads and washers through the cutouts in the side of the flange.



35. Use the last bracket and connect it to the rigid airbox pipework using the nut and rubber damper you saved from step 32, together with an M6 nut and washer, and orientate the bracket so that the other end locates over the front right bolt on the throttle body.



Bolt the remaining two M6x80 bolts and spring washers through the left hand holes in the flange, and through the bracket at the front. Tighten all the bolts down.



36. Retrieve the MAP sensor and screw you removed in step 31 and screw it to the boss supplied on the upper pipe. Reconnect the electrical connector.



37. Move the pipes around until you have approx 25mm of aluminium in each end of the silicon joiners, then tighten up all the hose clamps and the bolt under the slam panel.



38. Locate the wiring for the air temp sensor you removed in step 7 and pull it over the top of the intercooler to leave it in front. Reattach the plastic and foam bumper supports removed in step 4. On the back of the bumper, if headlight washer are fitted, locate the short length of hose that connects to the washer bottle, and remove it from the tee piece. Remove the connector by slicing the hose.





39. Remount the headlights following the instructions in step 9.
40. Mount the bumper to the car following steps 7 to 2 in reverse. If headlight washers are fitted, use the silicon hose and cable ties provided, connect one end of the silicon hose to the headlight washer tee-piece on the back of the bumper, and one end to the washer pump connector. Secure the connections with the cable ties, the route the hose under the intercooler and connect to the pump.



41. Connect the air temp sensor in front of the intercooler



42. Bolt back in the slam panel removed in step 10, and remount the grill removed in step 1. Your installation should now be finished ! Enjoy your new performance.



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