



MINI F56 COOPER S 2.0 TURBO & JCW 2.0 TURBO

OIL COOLER KIT - INSTALLATION INSTRUCTIONS



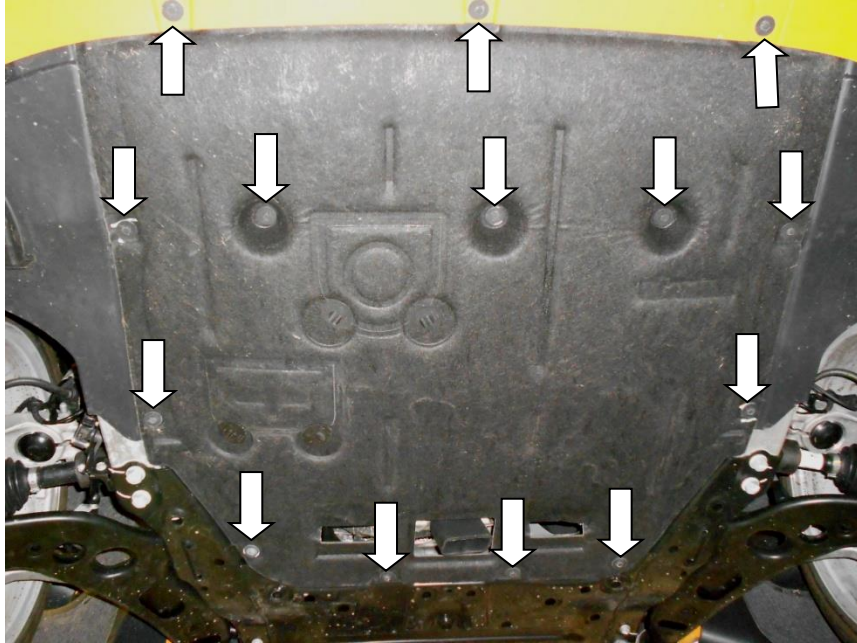
Please thoroughly read through and familiarize yourself with these instructions in their entirety prior to beginning any part of the installation process of any component. Please also ensure the vehicle and engine has cooled down sufficiently to avoid risking possible skin burns or other injury.

Tools Required:

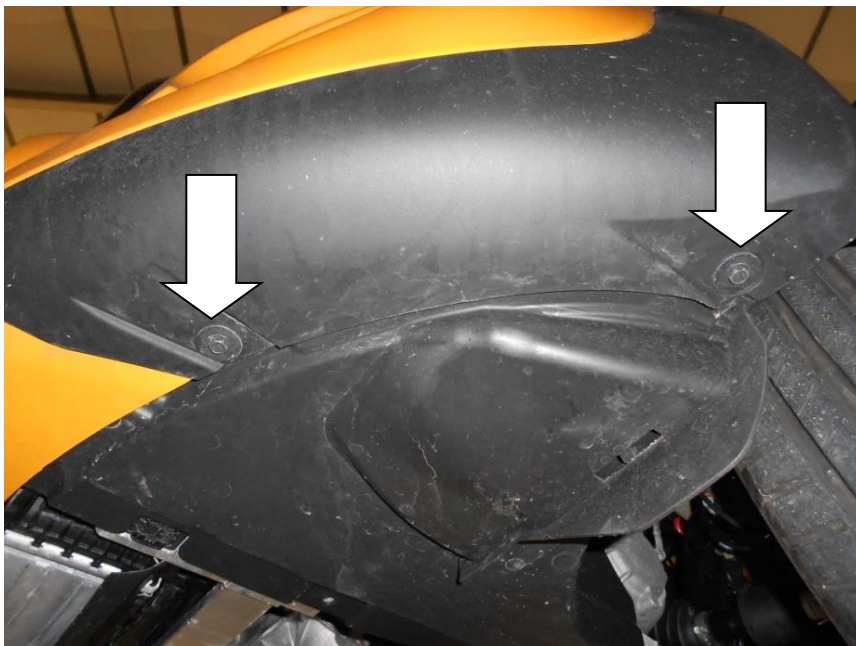
- Access to vehicle lift or floor jack and axle stands to support the vehicle.
- Flat-blade screwdriver.
- T27, T30 Torx Drivers.
- 8mm, 10mm, E11 Torx socket, extension bar and suitable ratchet.
- 10mm, 13mm Spanner.
- 2mm, 3mm, 5mm Allen key.
- 2mm drill bit, 8mm nut driver and battery drill.
- AN spanners or good quality large adjustable spanner.
- Safety eyewear, footwear, gloves and protective clothing are also recommended.

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1. Raise the vehicle on a ramp or suitable axle stands to allow access to the underside of the front of the car.
2. Using an 8mm socket undo the 14x bolts. Slide the under tray towards the back of the car to release it.



3. Using an 8mm socket and suitable ratchet undo 2x bolts in front of each wheel.

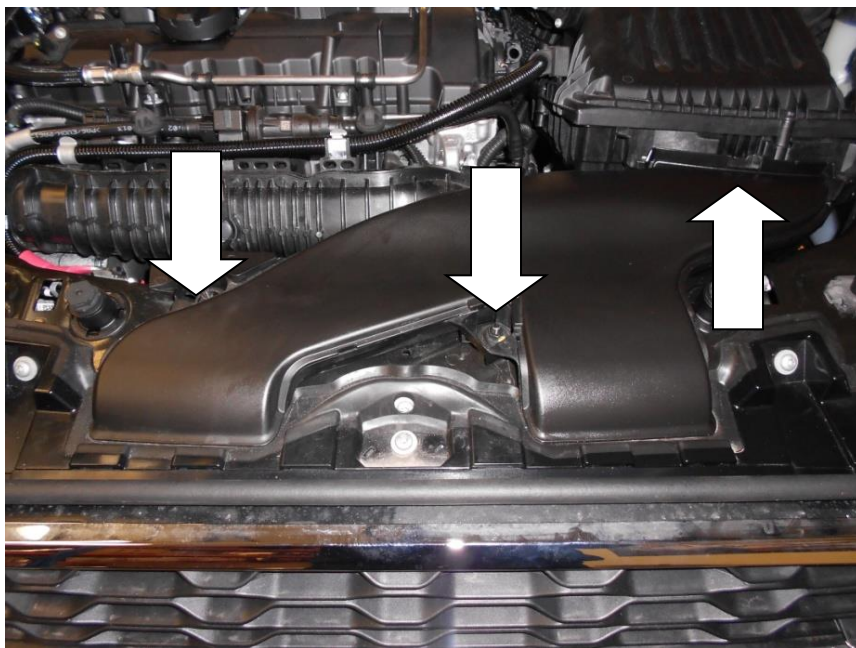


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4. Using 8mm socket and suitable ratchet undo the one screw inside each wheel arch. Rotate the access panel inside the wheel arch and unclip wiring to the back of the fog light on both sides.



5. Using a 10mm socket, extension bar and suitable ratchet undo 2x 10mm nuts. Unclip the scoop at the airbox and remove the intake scoop.



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6. Carefully unclip the plastic wheel arch cover at the front. Use suitable packing material (paper towel or bubble wrap) to hold the plastic cover away from the car. Using a T30 Torx driver undo x1 bolt, repeat the process for the other side.



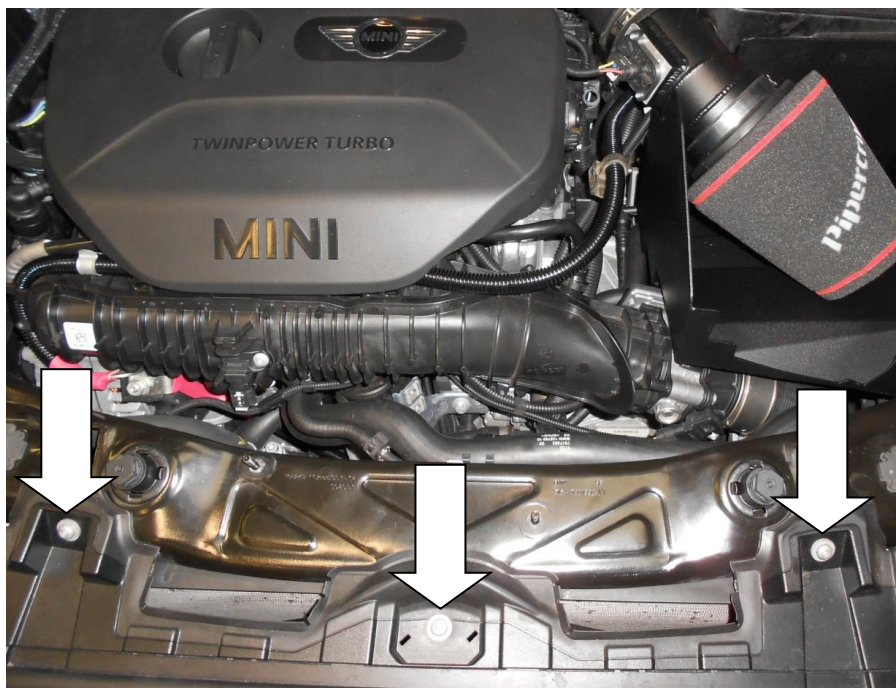
7. If your vehicle is fitted with optional spotlights, use a 3mm Allen key to loosen the horizontal bolt. Tilt the light forward, using a 2mm Allen key undo the bolt and remove the headlight. Note the next part requires 2 people as the wiring connectors can only be undone once the bumper has been removed from the vehicle.



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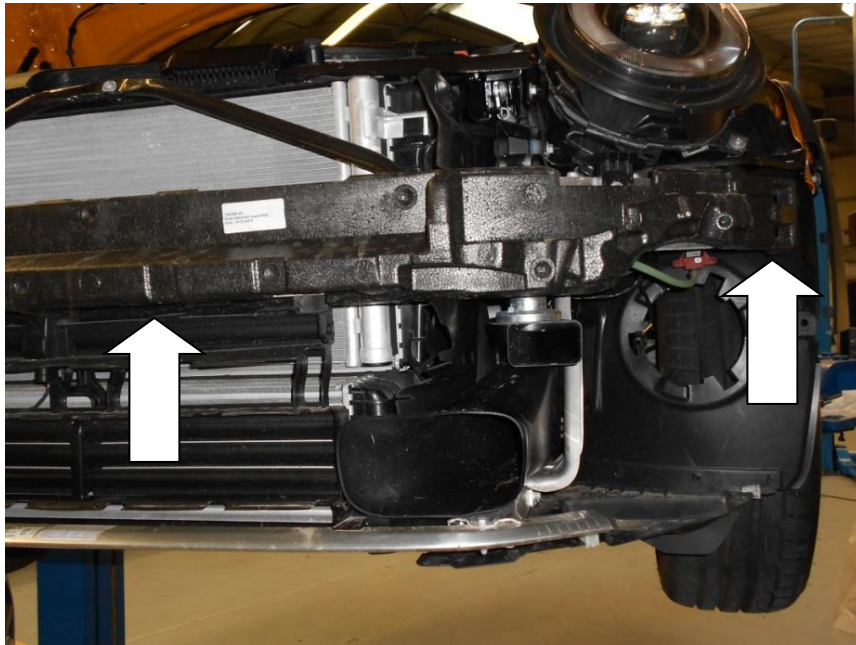


8. Undo the 3x T30 Bolts across the top of the bumper. You will require a second person to carefully pull the bumper forward and clear of the vehicle. Store in a safe place to prevent it from getting damaged while carrying out the rest of the installation.

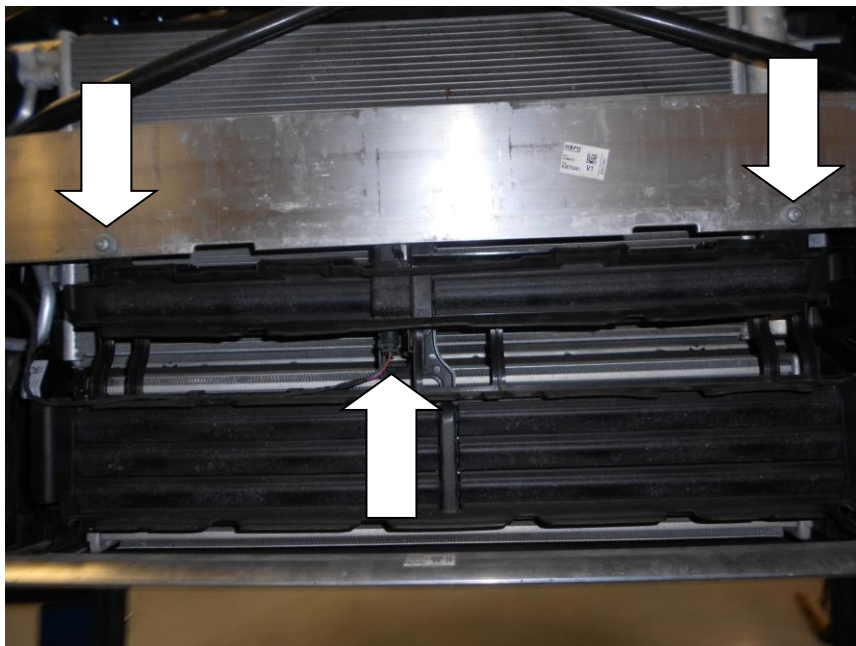


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9. Unclip the sensors at each end of the crash bar and remove the foam crash bar cover.
Note: DO NOT SWITCH ON THE IGNITION WITH THIS DISCONNECTED AS IT WILL CAUSE A WARNING LIGHT ON THE DASH WHICH CAN ONLY BE RESET AT A BMW DEALER.

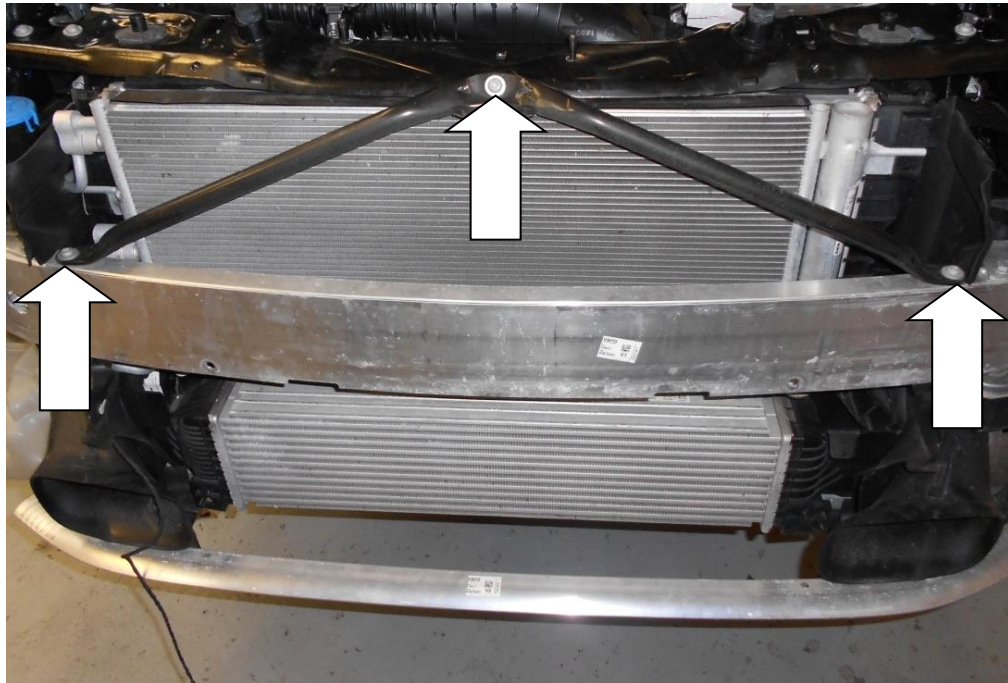


10. If fitted to your vehicle, unclip the wiring and using a T30 Torx driver undo the 2x bolts and remove the active air ducting. This part will not be refitted to the vehicle when the installation is complete.



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11. Undo 3x T30 Torx screws and remove the front brace.



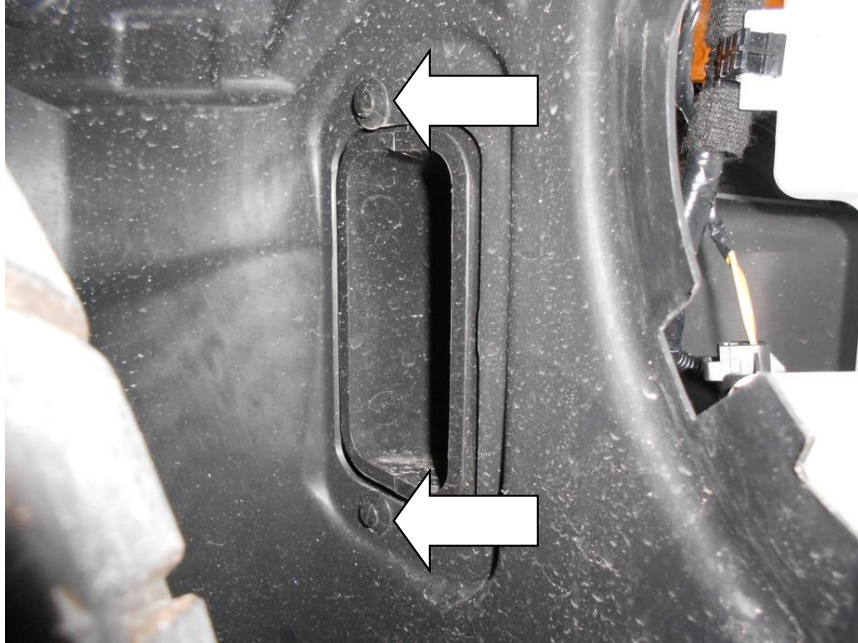
12. Unclip the wiring on both horns and disconnect the electrical connector located on the nearside of the crash bar.

13. Undo x2 T30 Torx bolts and remove the air guide, repeat the process for the other side.

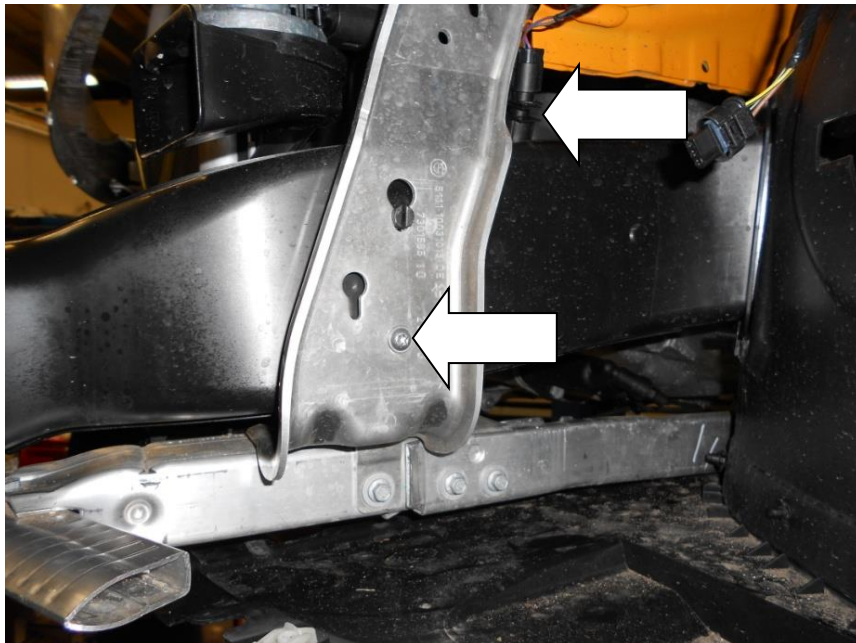


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14. From inside the wheel arch using a flat blade screwdriver or similar tool remove the 2x clips. Pull the centre out first before removing the body of the clip.

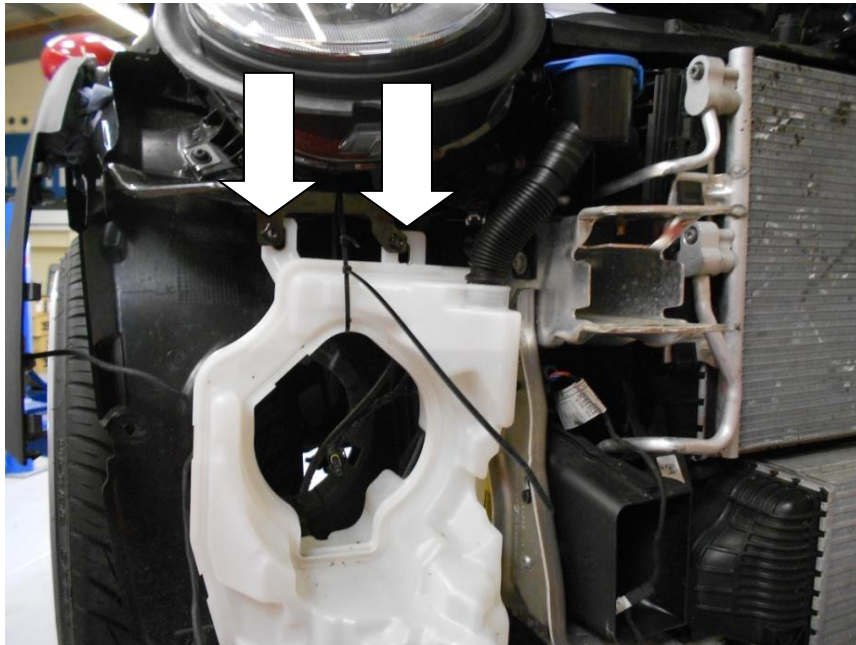


15. Using T27 Torx driver undo 1x screw and unplug the temperature sensor. Lift the duct upwards to release it and remove it from the vehicle.

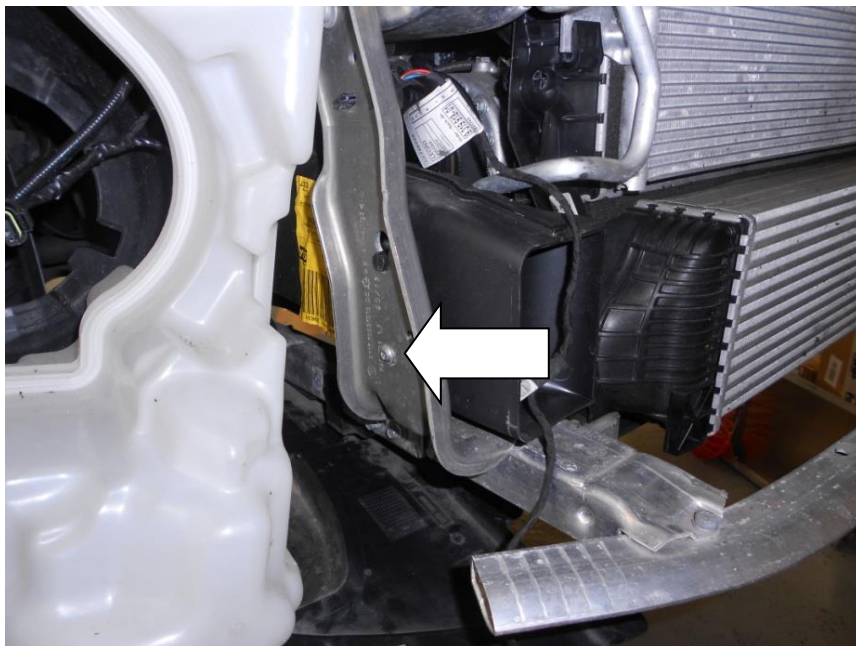


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16. To access the bolt for the other duct you need to move the washer fluid reservoir. Using a T30 Torx undo the 2x bolts and lift the reservoir up to release it from its bottom mounts. To support the reservoir, cable-tie it to the bracket above.

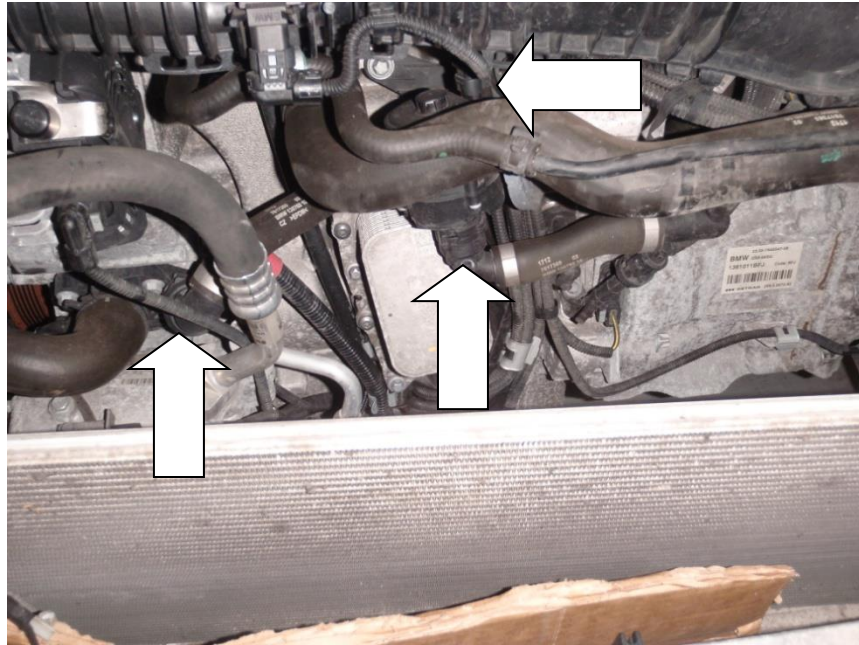


17. Using a flat blade screwdriver or similar remove the 2x clips inside the wheel arch. Using T27 Torx driver undo the one screw. Lift the duct upwards to release it and remove it from the vehicle.

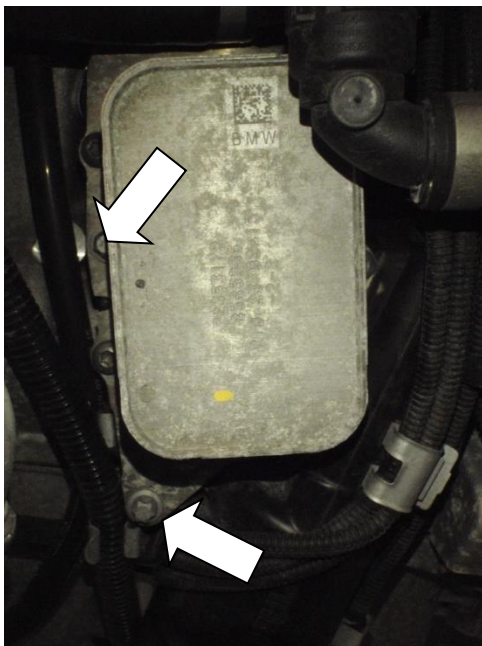


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18. Using suitable equipment drain the oil and coolant from the engine. This will reduce the amount of fluid lost as the coolant/oil heat exchanger is removed.
19. Moving to the front of the engine undo 1x mounting bolt, unclip the 1x wiring connector and disconnect the 2x hoses. This will allow better access to the bolts around the perimeter of the coolant/oil heat exchanger.

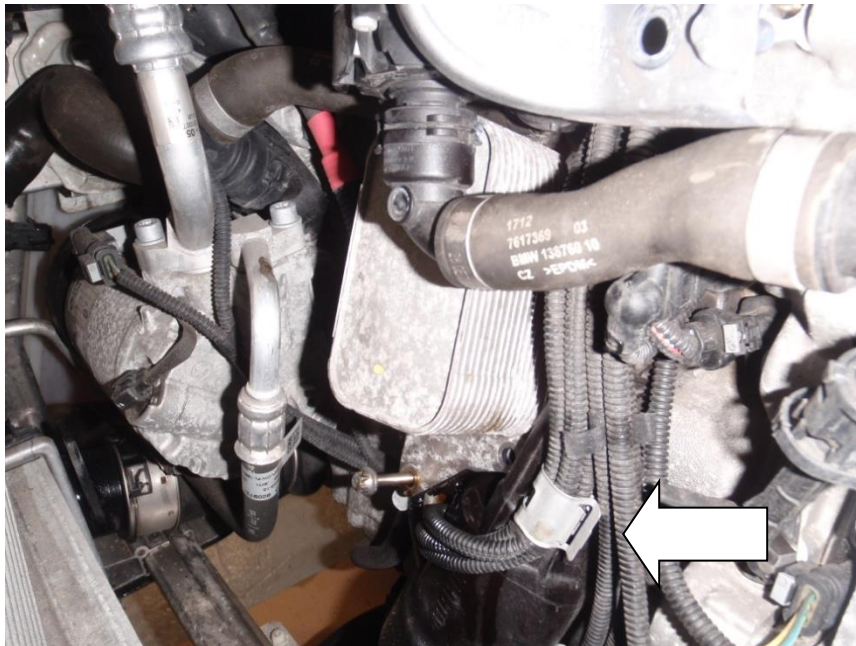


20. Using an E11 Torx socket and suitable ratchet undo the remaining 4 bolts.

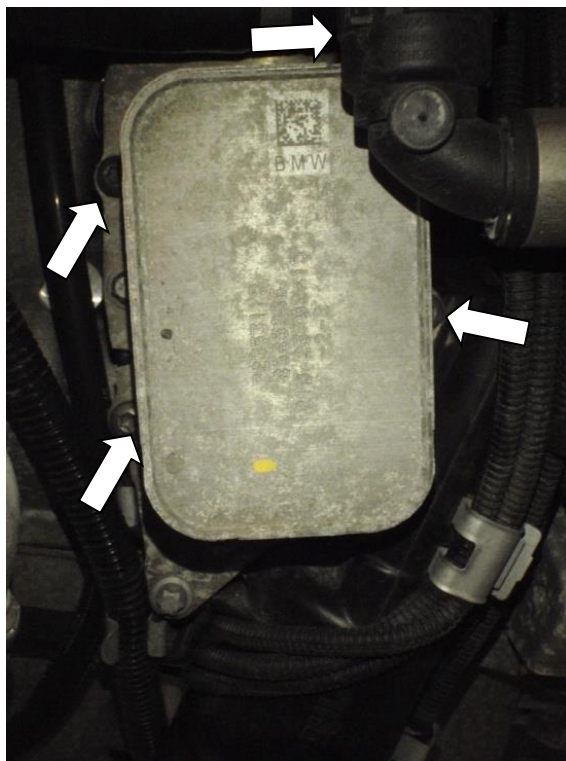


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21. Unclip the wiring from filter housing and pull the filter housing assembly away from the engine.

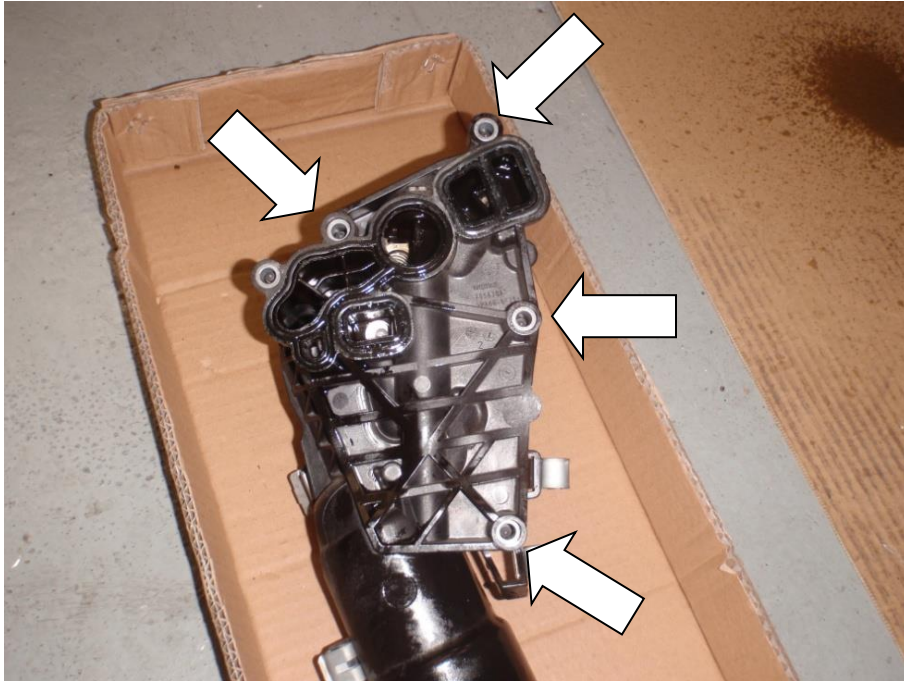


22. With the filter housing assembly removed from the car, using a T30 Torx driver, undo 4x remaining bolts around the perimeter of the water/oil heat exchanger.



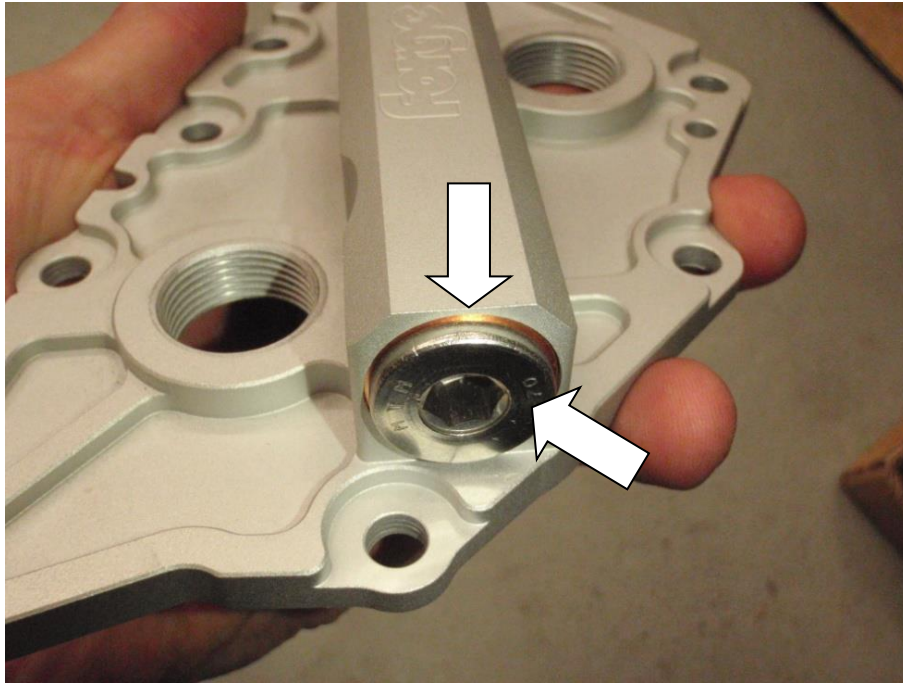
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23. Place the filter assembly upside down on a soft surface. Using a suitable drift, drive the 4x M6 bolts out of their metal collars. This will allow you to separate the coolant/water exchanger (metal part) from the plastic filter housing.

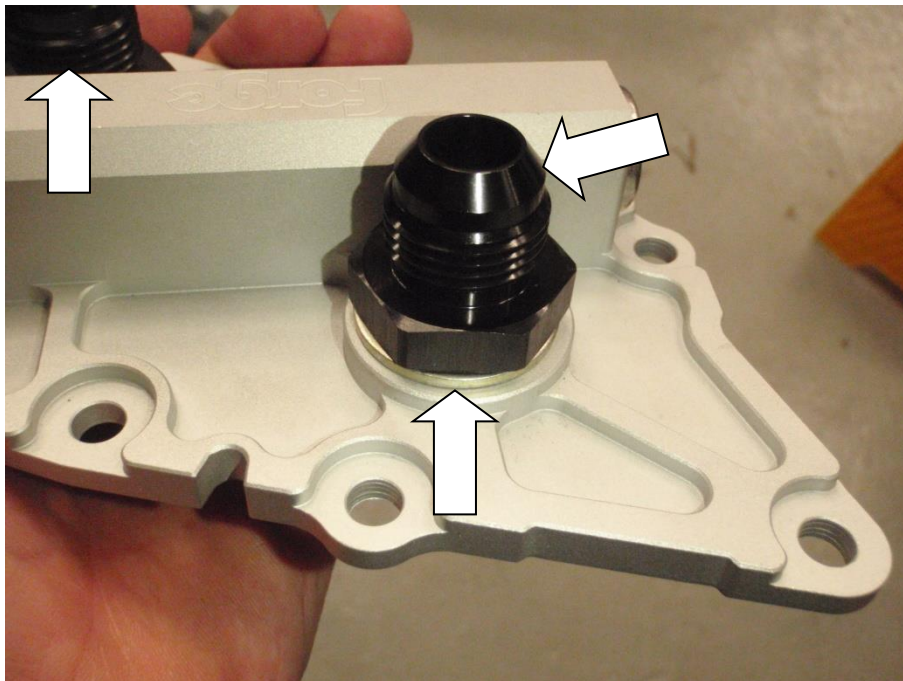


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24. Fit the one copper washer to the M16 blanking plug before fitting it to the adapter plate

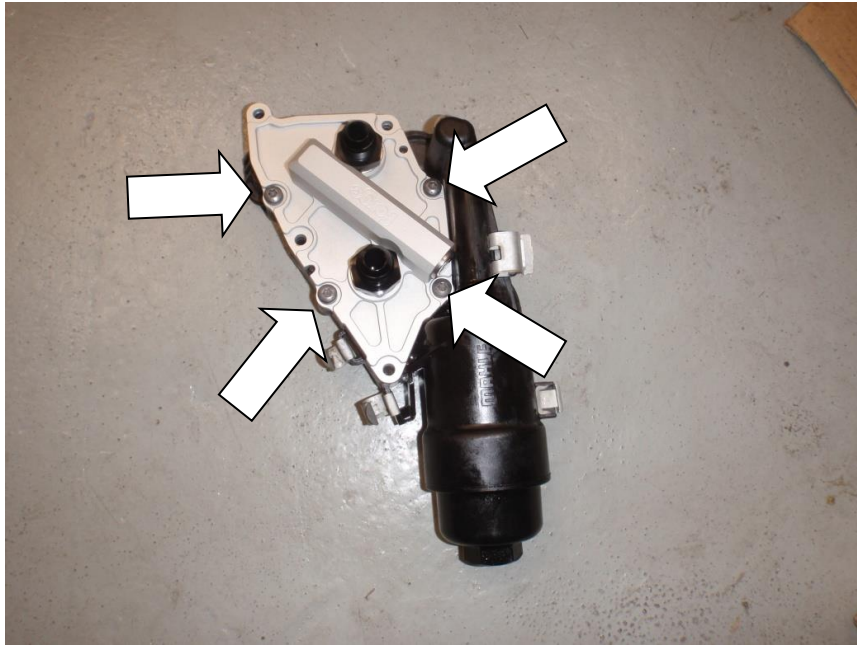


25. Fit the 2x Bonded washers and 2x M22 to AN-10 adapter to the adapter plate.



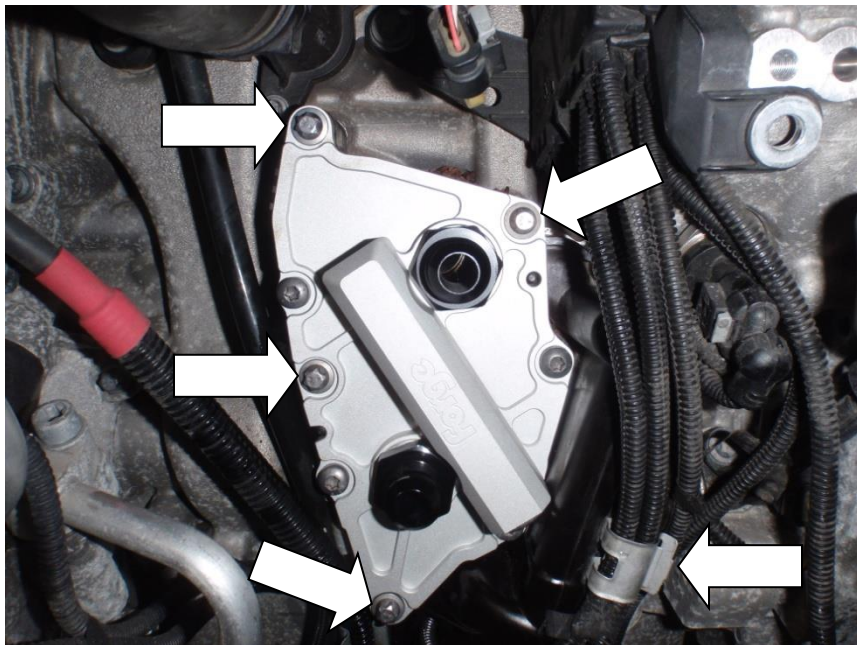
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26. Fit the oil cooler adapter to the plastic filter housing and secure in position with the 4x OEM short bolts.



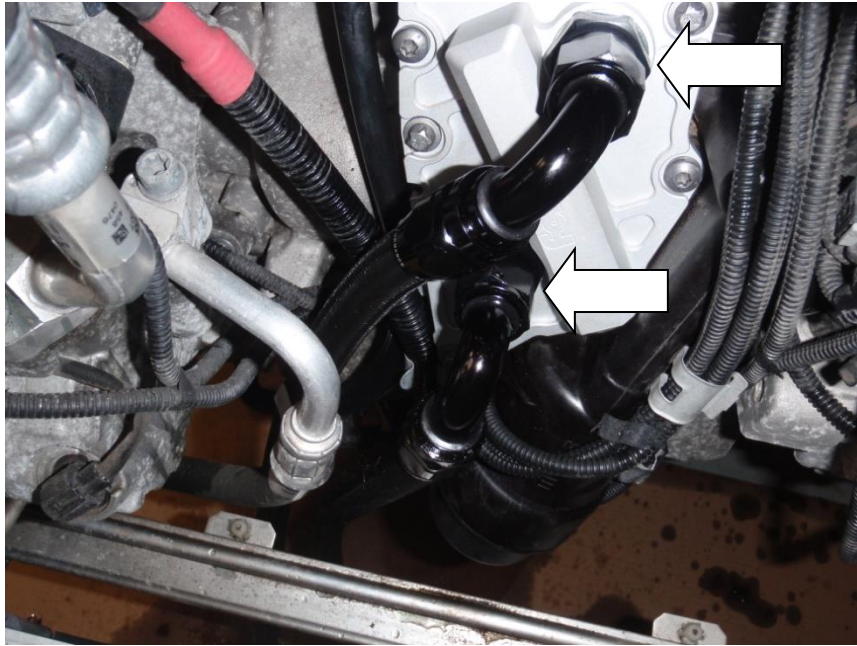
27. Before fitting the oil cooler adapter plate and filter housing assembly to the engine, ensure that the engine-mating surface is clean.

28. Using the remaining 4x long bolts, secure the assembly to the front of the engine. Clip the wiring back in position.

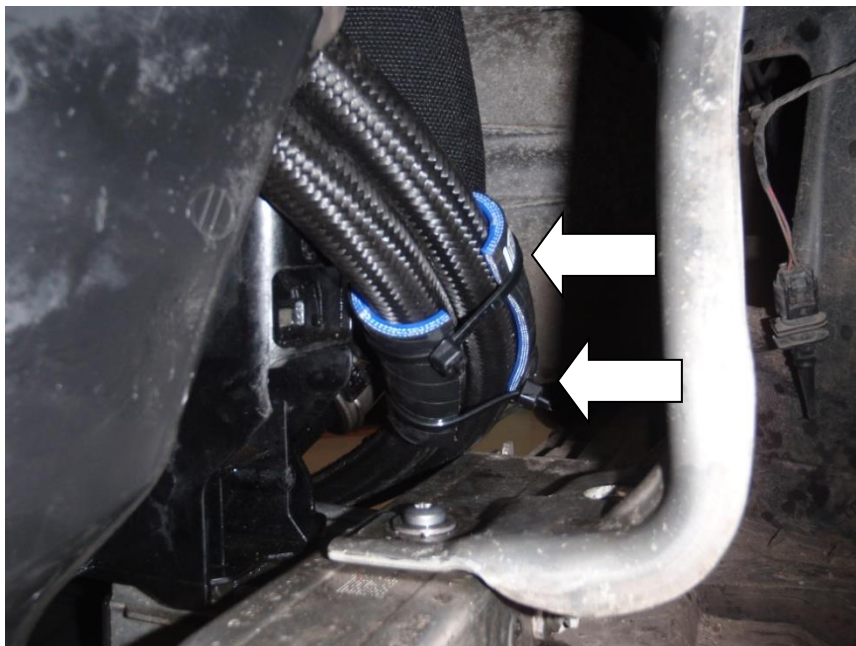


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29. Using the 2x oil lines provided, fit the AN-10 120° fittings to the 2x male AN-10 fitting on the adapter plate.

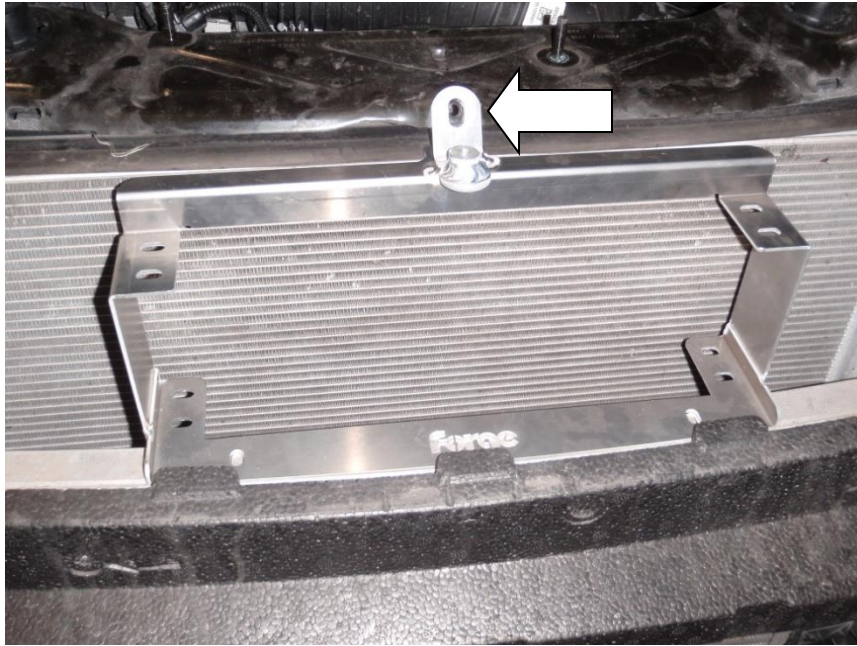


30. Feed the other end of the 2x oil lines between through the gap shown below on the near-side of the car. Use the silicone sleeve and cable ties provided to protect the two oil lines in the area that they pass the intercooler mounting bracket.



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31. Fit the oil cooler bracket provided to the front crash bar and secure the top bracket in place using one of the OEM bolts.



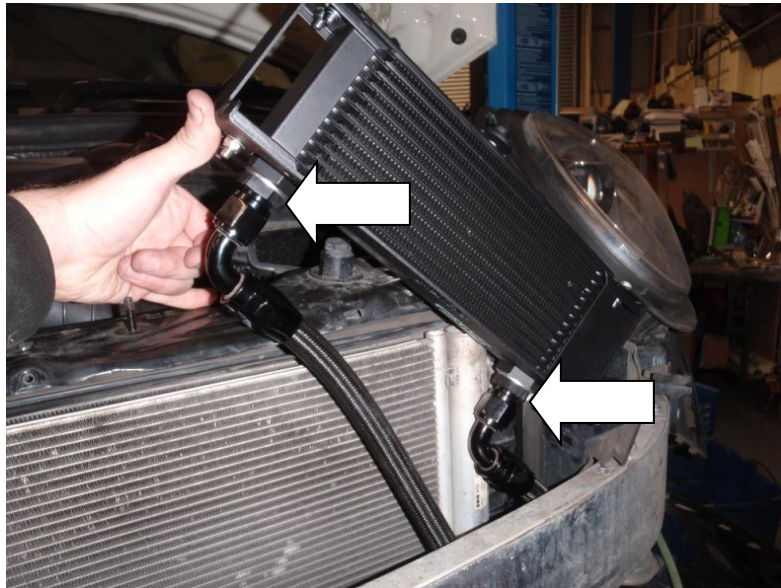
32. Using a scribe or marker pen mark the positions of the two holes in the base plate of the bracket on the crash bar.



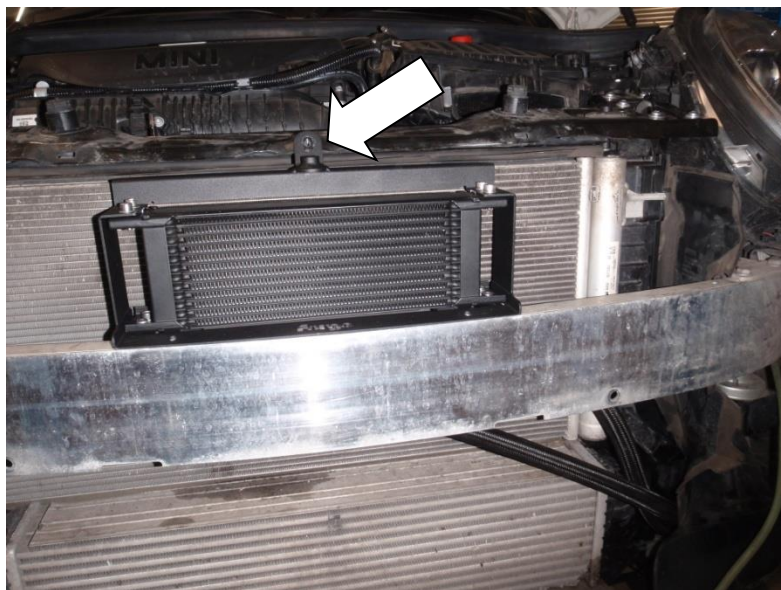
33. Using a 2mm drill bit, pilot drill a hole in the centre of the marked slots.

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34. Fit the 2x M22 to AN-10 adapters, to the inlet and outlet adapters on the oil cooler. Do not forget to install the bonded washer between the adapter and the oil cooler (see below).
35. Using the 8x Allen cap head M6 x 16mm bolts, 8x Nyloc nuts, 16x 6mm washers, secure the 13-row oil cooler to the mounting bracket.
36. Fit the 2x AN-10 90° Fittings to the 2x Male AN-10 Fittings on the oil cooler.

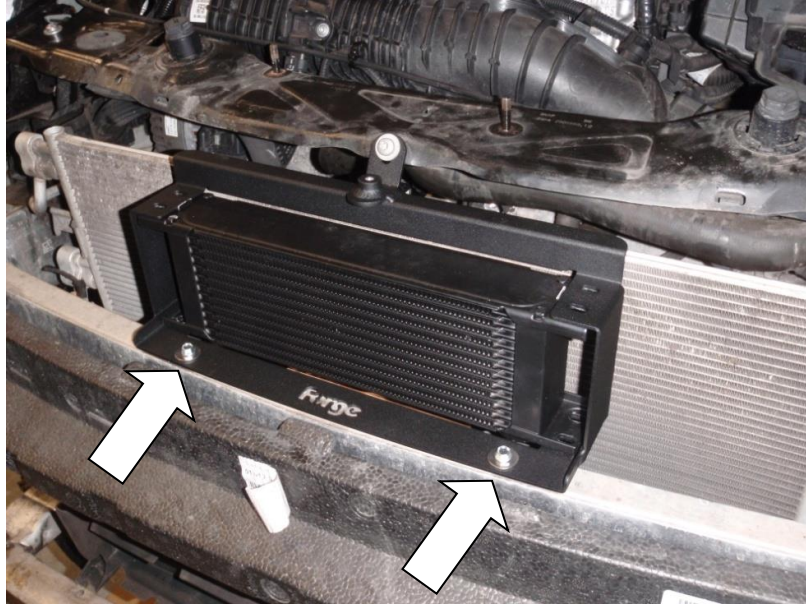


37. Place the oil cooler and bracket in position on the crashbar. Refit the OEM bolt to the top mounting tab. Ensure that your pilot holes are visible in the base plate of the bracket.

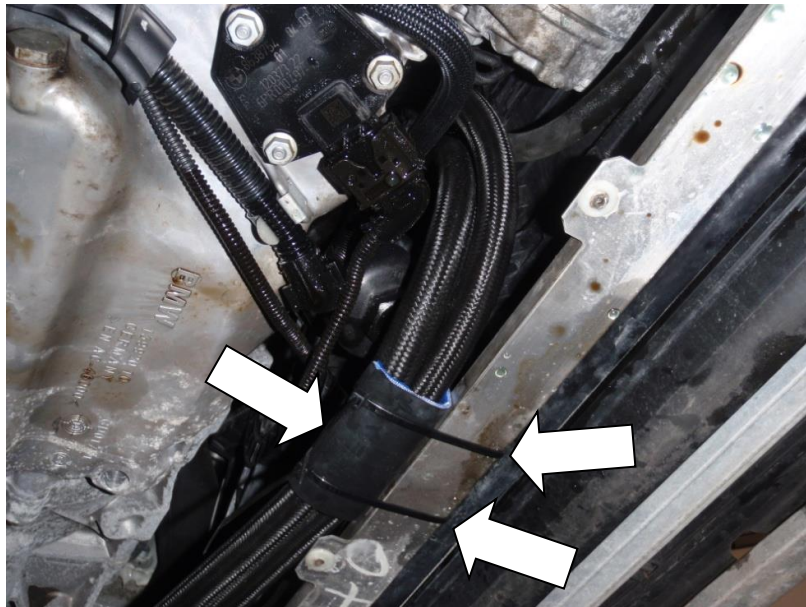


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38. Using a 8mm Nut driver on a battery drill install the 2x 5.5x25mm Tech-screws into the crash bar. These are self-tapping screws. Over tightening these screws runs the risk of pulling the thread out of the crash bar.

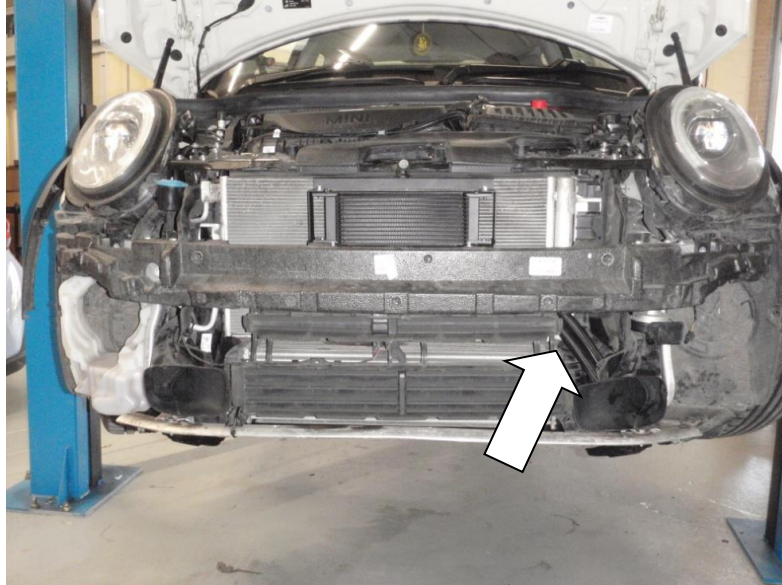


39. Use the remaining silicone sleeve and 2x cable ties to secure the oil lines as shown below.

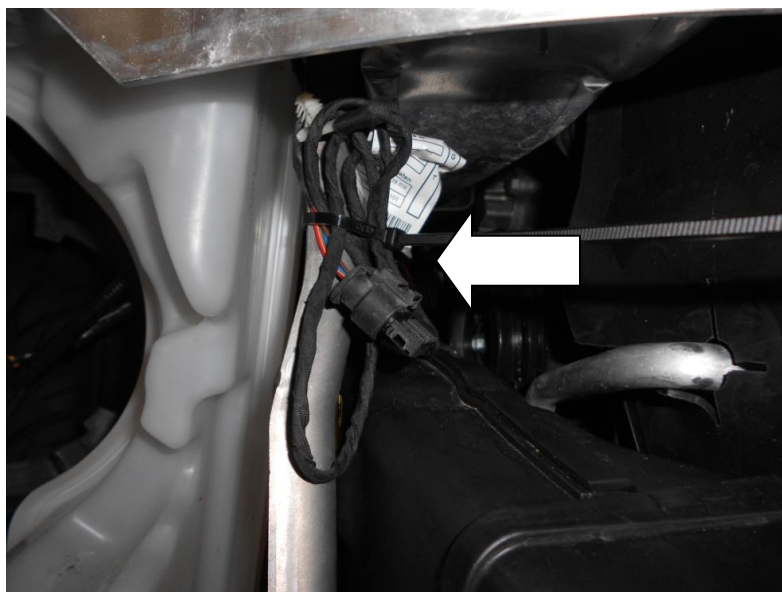


40. Use the remaining cable tie to tie the oil lines together just after the oil cooler.

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41. Following the manufactures guidelines to refill the engine coolant with the correct grade type and to the correct level.
42. Due to the increased internal volume of the both the oil cooler and oil lines when refilling the engine with oil add 0.5Ltr on to the standard oil capacity (i.e. 5.25Ltr + 0.5ltrs = 5.75Ltr). Bring the engine up to operating temperature and check the onboard engine monitoring system to show the current oil level, top up if necessary.
43. Follow steps 1 to 22 in reverse to reassemble your vehicle. The active air ducting (if fitted) in step 10, is not refitted as part of this installation. Use a cable tie or similar secure any loose wires.



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44. Your installation should now be complete. Enjoy Your New Performance!

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