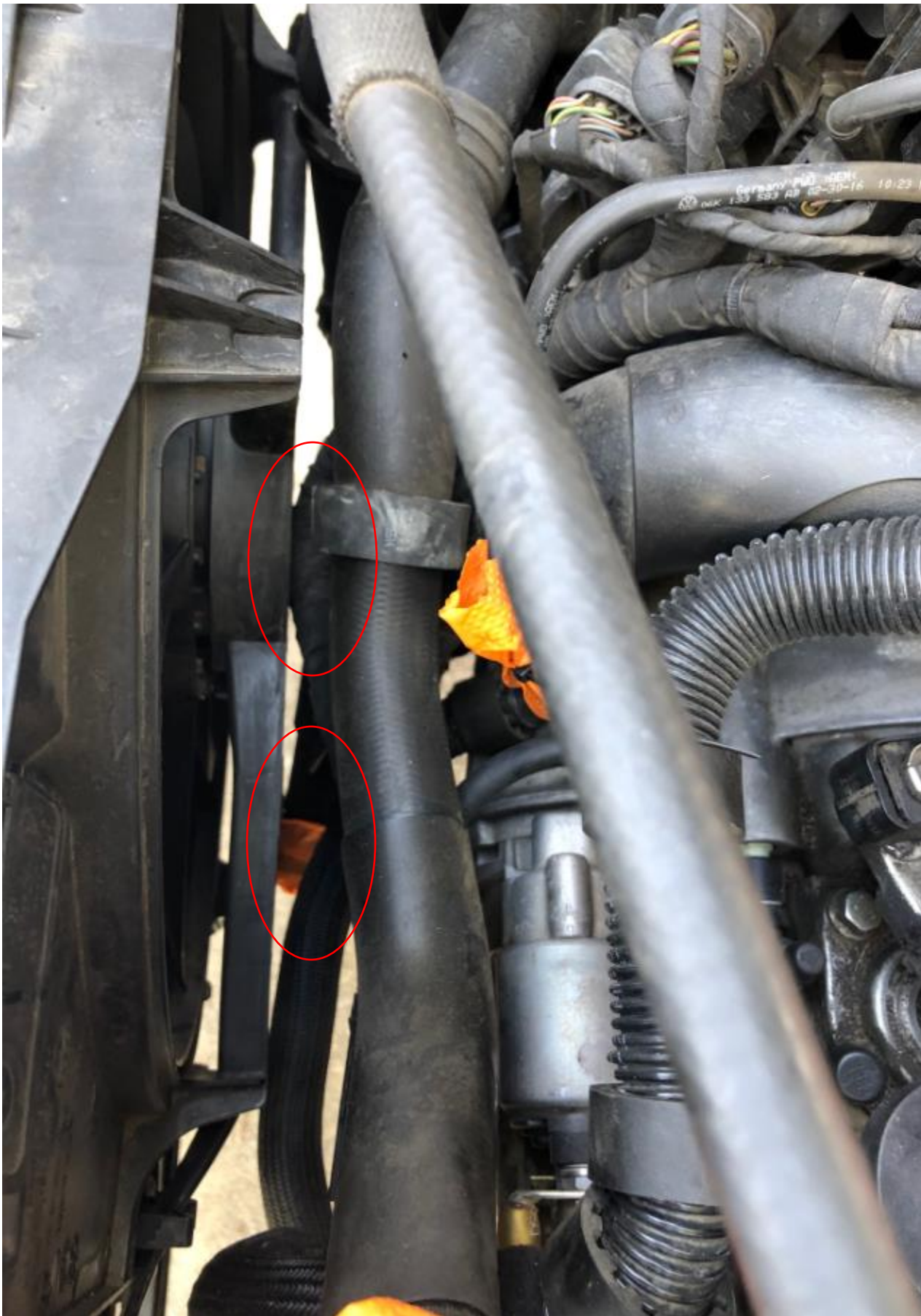


## Integrated Engineering IC & CSF Install

1. Placed the front cash structure into "service mode"
2. Installed the IE intercooler, CSF radiator & fan shroud
3. The plastic turbo intake tube interfered with the fan shroud when trying to bolt up the driver side crash structure. There was  $\frac{3}{4}$ " gap between the chassis rail and the crash structure

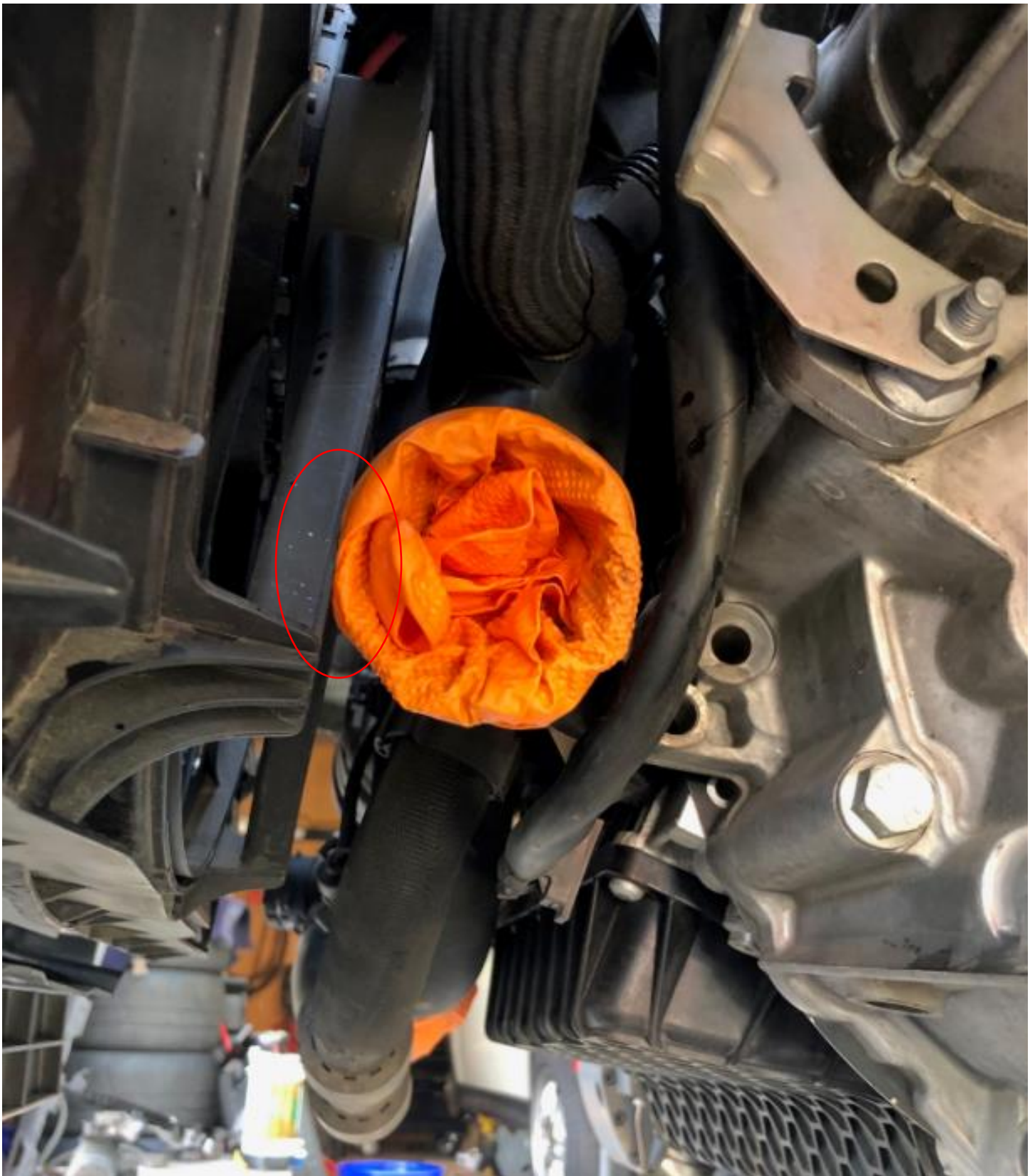


- 4.
5. The upper radiator hose is not connected to the radiator in this picture. The plastic tube is hitting the fan shroud.



6. The upper radiator hose is not connected to the radiator in this picture. The plastic tube is hitting the fan shroud. Engine harness is in its original location.





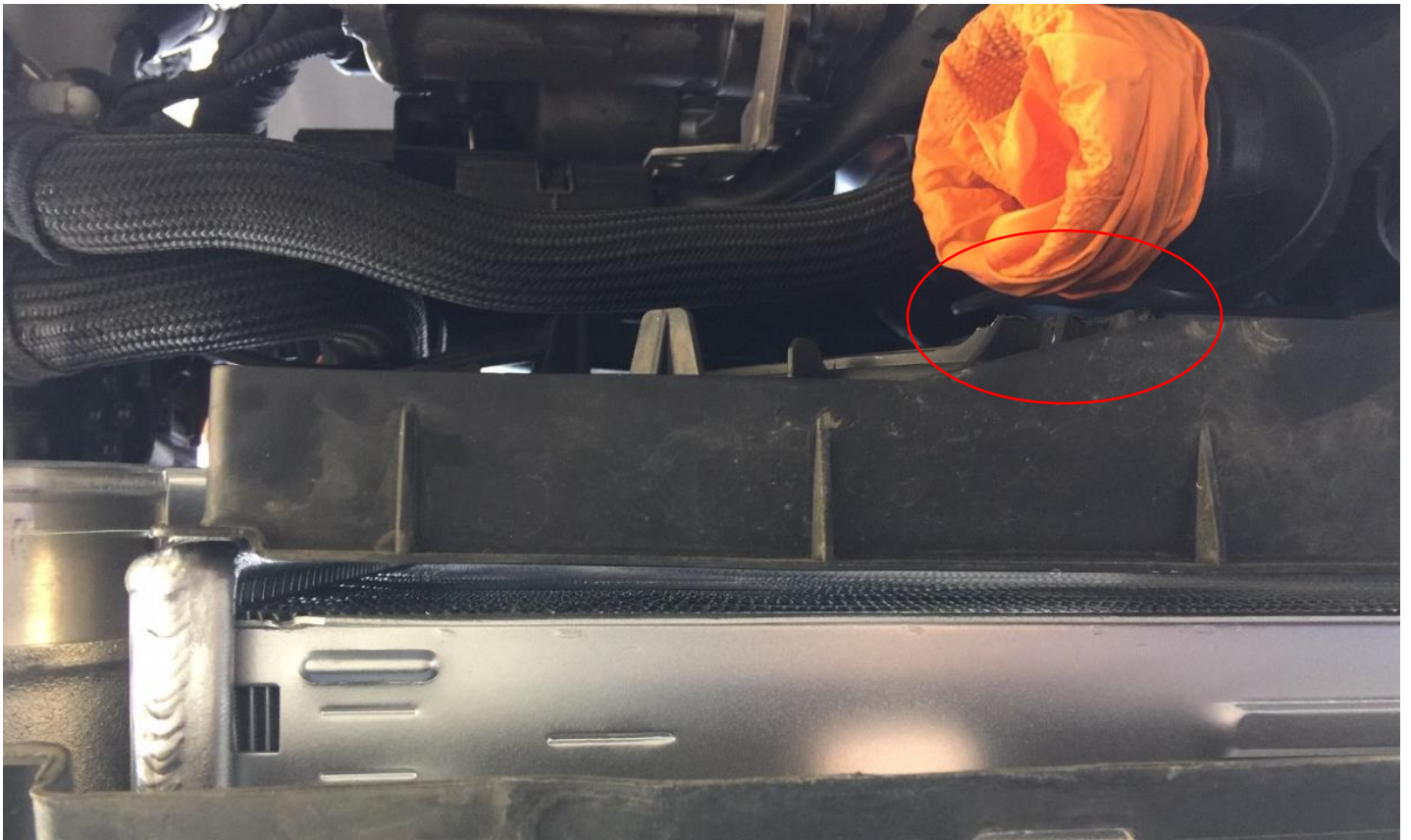
7. The plastic tube is hitting the fan shroud.

8. Removed the fan shroud and had to cut out the support brace in the 8 O'clock position



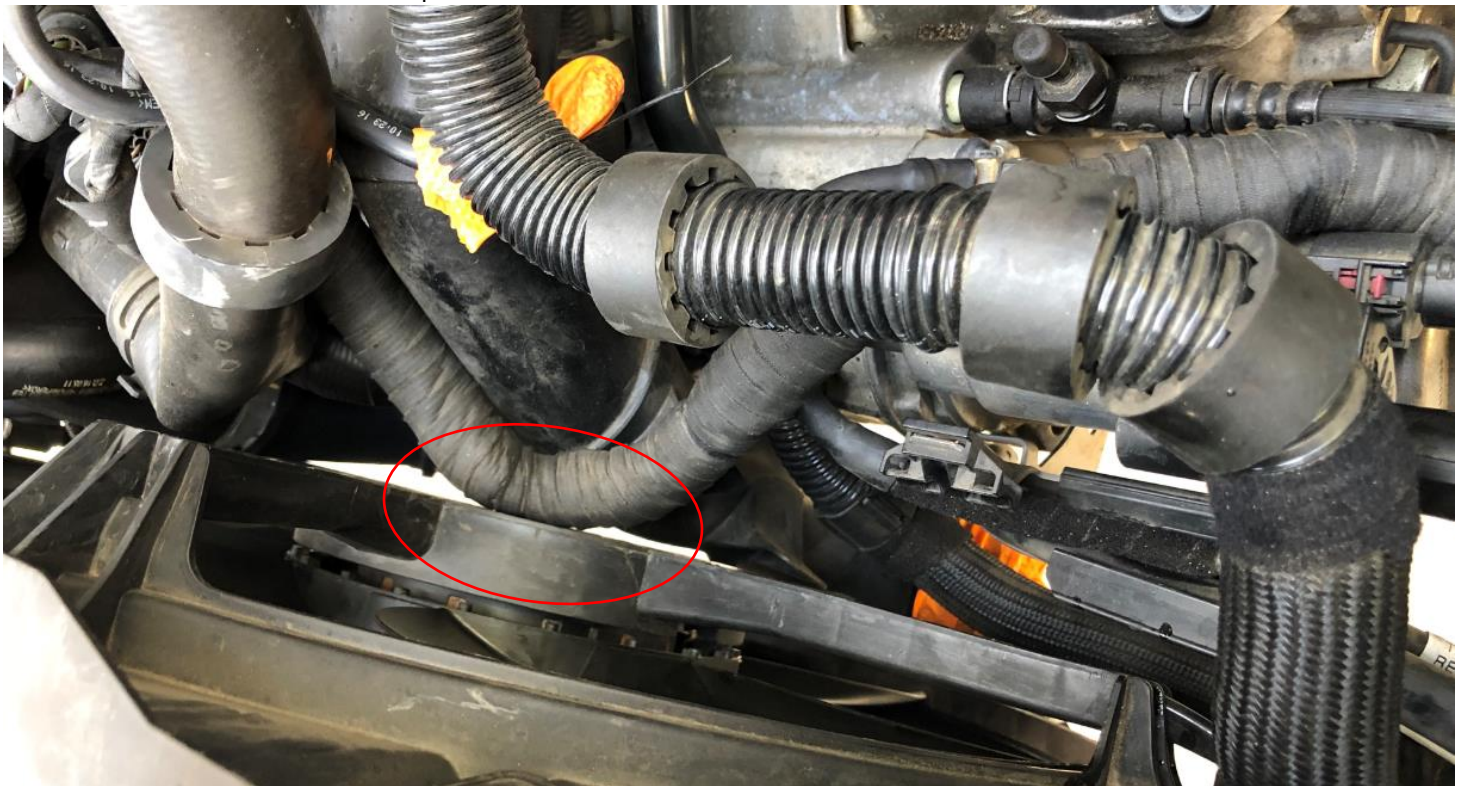
9.





10.

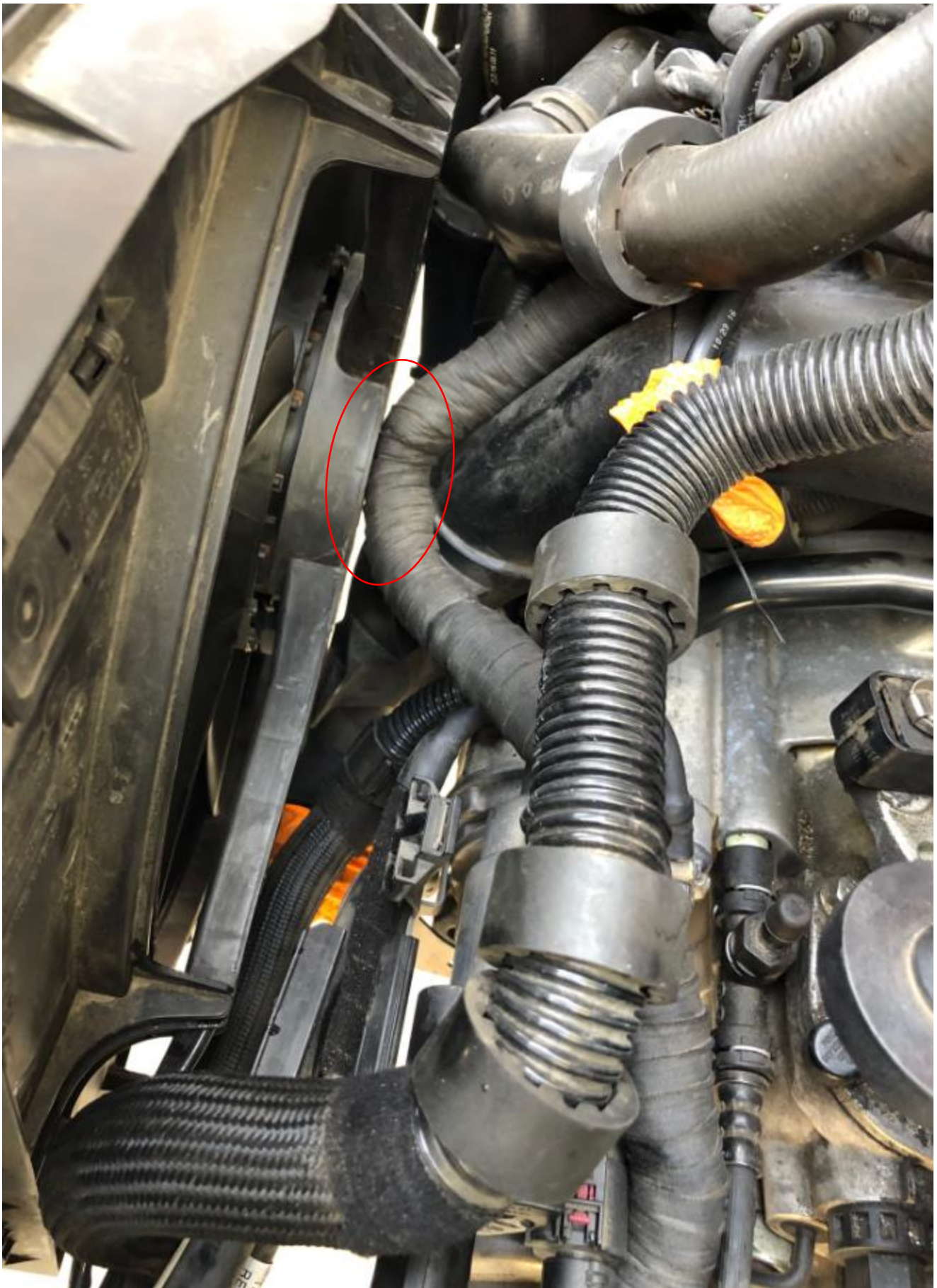
11. This allowed enough clearance to bolt up the crash structure to the driver side chassis rail  
12. The main engine harness was now touching the center of the radiator fan. I had to unclip the harness and re-routed it to provide better clearance.



13.

This picture is with the harness re-routed. I believe this can be improved

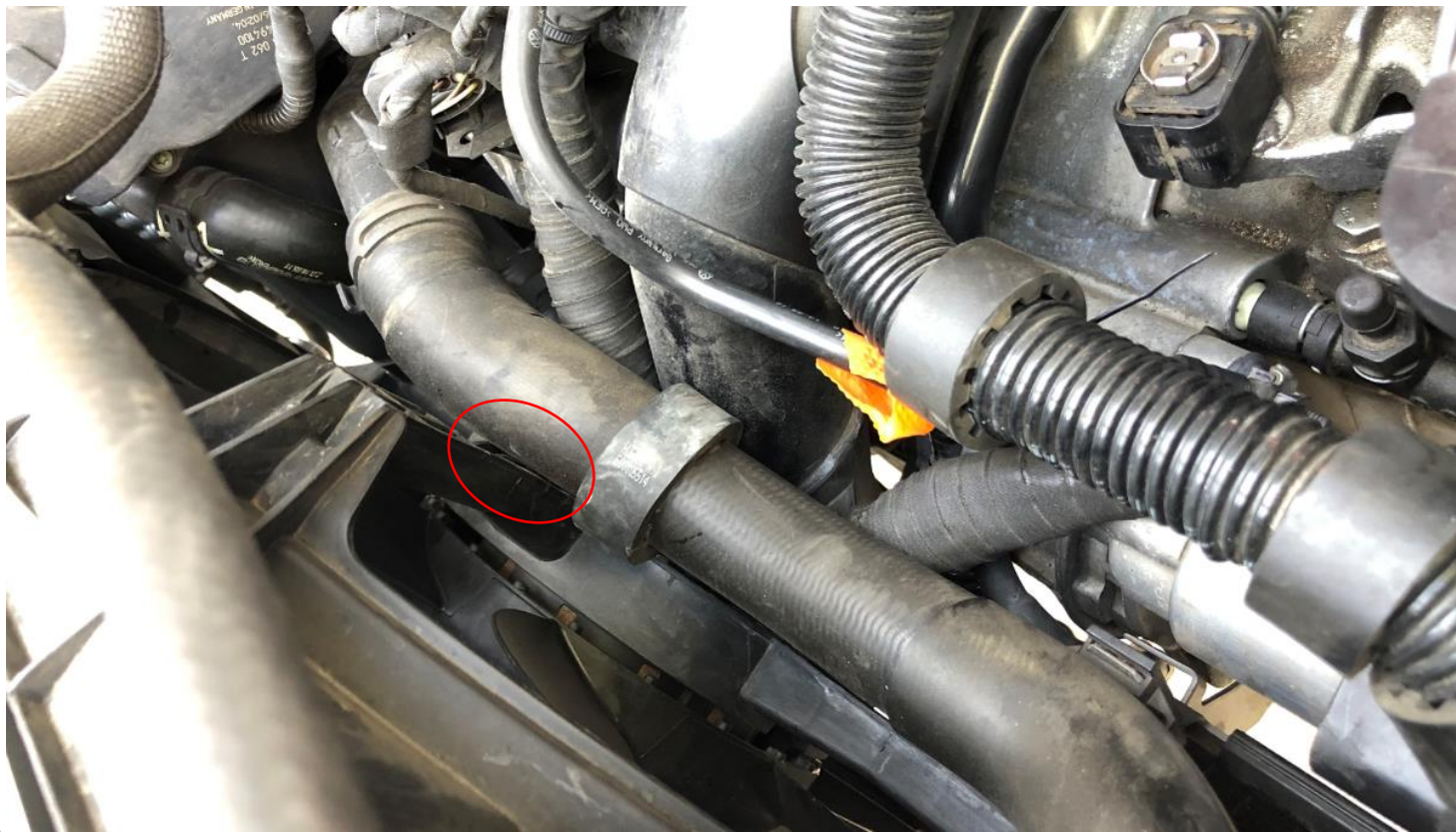




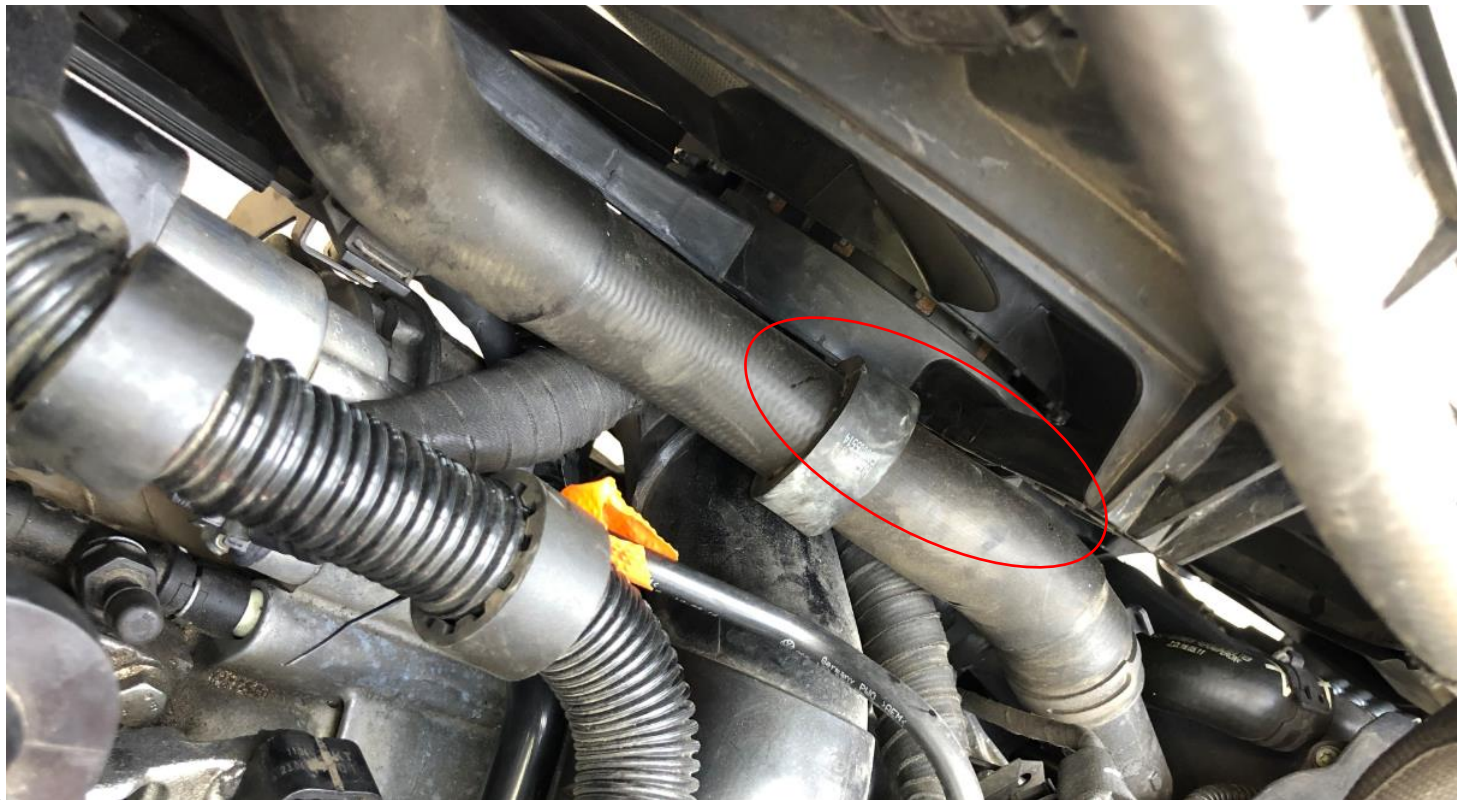
14. This picture is with the harness re-routed. I believe this can be improved for better clearance  
Top radiator hose moved to show harness interference.



15.The top radiator hose has 2mm clearance. Hose is coupled to the radiator here.



16.



17.



18. The plastic turbo intake tube is almost touching the fan shroud, even after cutting out one of the plastic braces.



19.

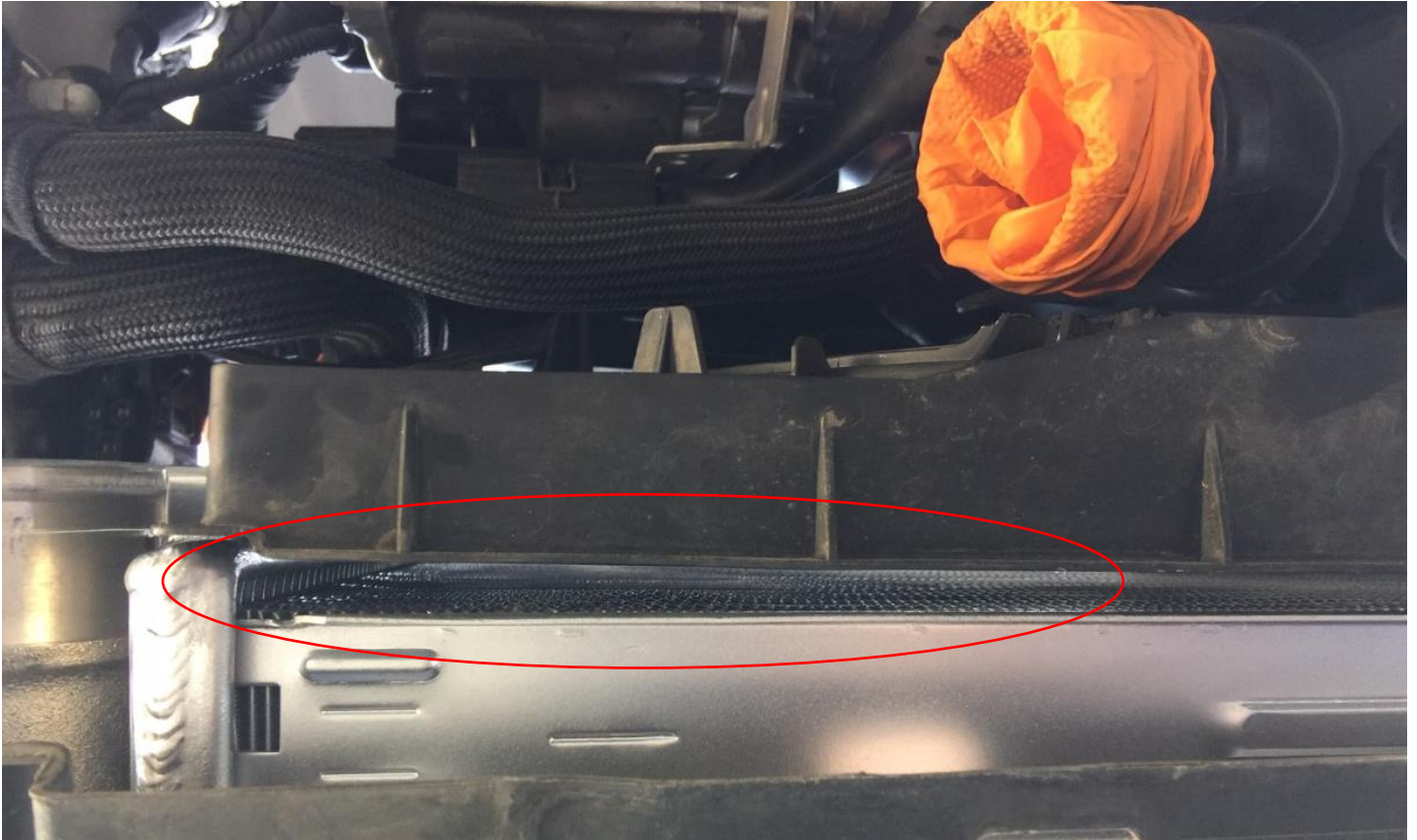


20.

The plastic tube to the intake manifold almost touches the shroud as well



## 21. RECOMMENDATION – 2017 Mk7 FWD GTi



22. If the header tanks were welding flush with the core (engine facing side) this would move the fan shroud closer to the core and free up 3/8" of much needed clearance. See the current gap between the core and fan shroud.

## 5/23/2020 AMS IC & CSF Install

Second attempt to get the CSF Radiator to fit with an aftermarket intercooler. This time with an AMS intercooler. The following photos are after installing the AMS IC & CSF radiator.

The only change made was to remove the IC charge pipe and re-route the main engine harness underneath it. Previously the harness was touching the center of the fan shroud (with a reroute higher up & over the top of the IC charge pipe). Another detail change was to shorten the RHS (passenger) frame rail to bumper mounting bolt as it came very close to the AC lines.

1. Engine Harness rerouted under the IC charge pipe & secondary air tube. Zip tied the harness over the starter solenoid.





3. Reposition the rub protection donut. Both IC plastic charge pipes no longer touch the fan shroud.



- 4.

5. Upper radiator hose clearance 12-15mm.



6.



7. IC charge pipe to the throttle-body & intake, no longer touches the fan shroud.



8.

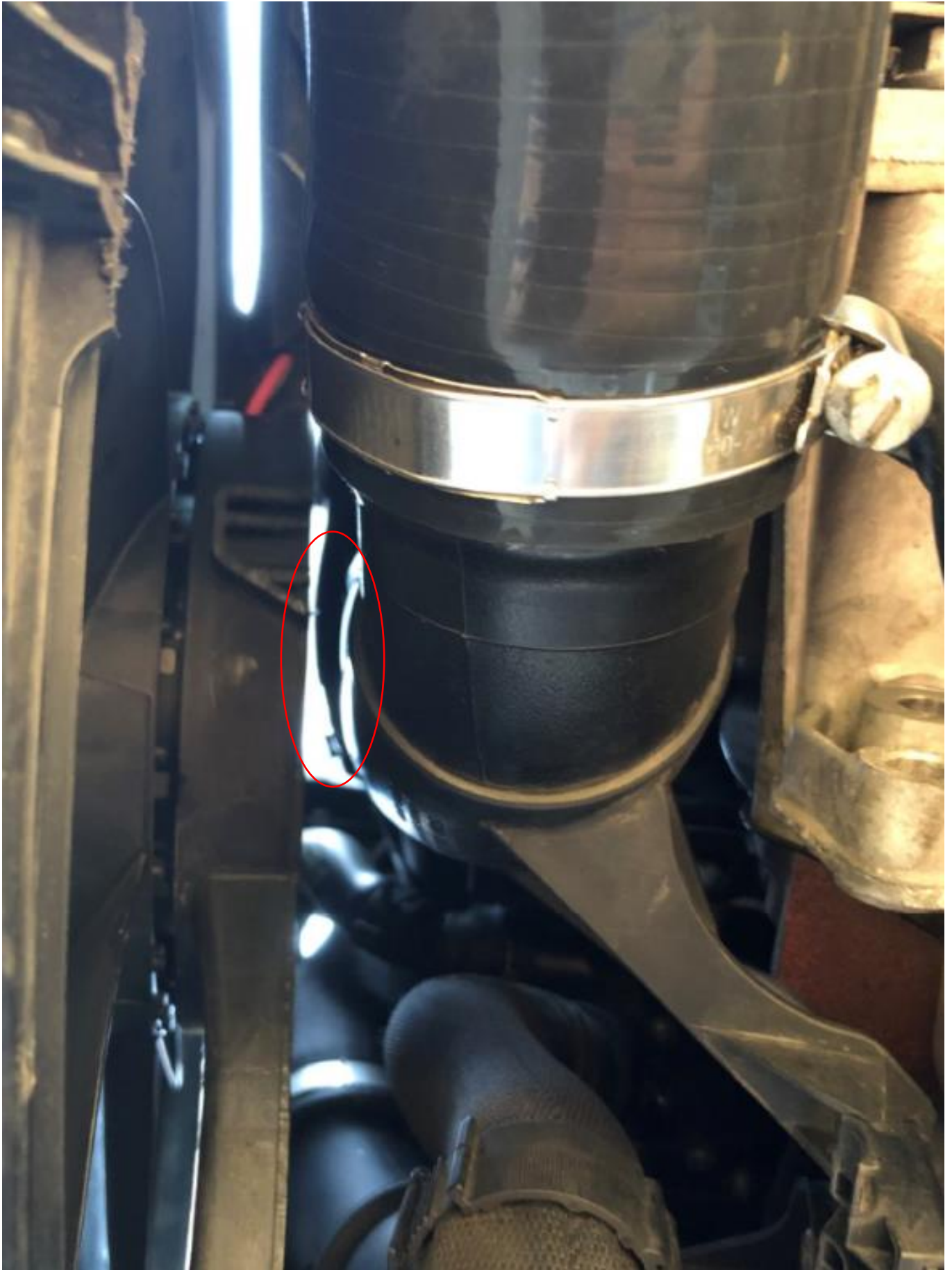
9. Lower IC plastic charge pipe no longer touches the fan shroud.



10.



11. Lower IC plastic charge pipe



12.

13. Lower IC Plastic charge pipe



14.

15. Shorten the chassis rail to bumper mounting bolt – lower inside corner to clear the AC line



16.



17. There is a big difference in the amount of clearance between the IE & AMS IC. Both units appear to be well made. There is only one way to install the IC. Its location is fixed by the mounting brackets in the radiator support. The photos illustrate the increased clearance with the AMS IC vs. the IE IC.
18. The upper CSF radiator clips to IC connection do not make for a tight connection. This should be a tighter more secure connection, similar to the secure connection with the stock radiator.