

7F2500 - Raptor Front Mount Intercooler

7F2500 – Raptor Front Mount Intercooler

Ford Raptor 2017 - 2018



Congratulations on your purchase of the COBB Tuning Raptor Front Mount Intercooler! The following instructions will assist you through the installation process. Please read them BEFORE beginning the install to familiarize yourself with the steps and tools needed. If you feel you cannot properly perform this installation, we HIGHLY recommend you take the vehicle to a qualified and experienced automotive technician.

IMPORTANT! Installing this kit will require custom tuning or utilizing an appropriate Stage Power Package map if you have a matching mechanical configuration. Please consult with COBB or an authorized ProTuner in your area if you have any questions!

Table of Contents

- Table of Contents
- Parts List
- Tools Needed
 - Sockets
 - 3/8"
 - Hand Tools
 - Misc.
 - Wrenches

- Body Panel Removal
 - Intercooler Removal
 - Intercooler Installation
 - Grille Shutter Removal
 - Links
-

Parts List

- Lower Intercooler Bracket
- Upper Intercooler Bracket
- Raptor Intercooler Assembly
- Raptor Hot-Pipe Y-Coupler
- Raptor Cold Pipe Assembly
- 3" 28 degree IC to BOV hose
- 3.5" - 3" Reducer
- (2) Raptor Stock Bumper Support Bracket
- BOV Recirculation Line
- (2) BOV Recirculation Line Replacement O-Rings
- Super-Lube
- (2) Vinyl Caps for Shutter Plugs
- Intercooler Fan Electrical Socket (Female)
- (4) Intercooler Fan Electrical Plug
- #56 Hose Clamp
- (4) #48 Hose Clamp
- (2) #44 Hose Clamp
- (2) #24 Hose Clamp
- (6) Black Zip Ties
- M6 x 20mm Stainless Bolt
- (3) Flanged Hex Nut 6mm
- (2) M6x18mm Fender Washer

This installation does involve cutting into the factory grill shutter assembly. The shutters will not be able to be re-installed with the COBB Front Mount Intercooler, or after the trimming is done. If you want to re-install them you'll need a new shutter assembly

Ford P/N FL3Z-8475-F

Tools Needed

Sockets

3/8"

- 3/8" ratchet
- 3/8" 12" extension
- 3/8" 6" extension
- 3/8" 8mm socket
- 3/8" 10mm socket
- 3/8" 13mm socket
- 3/8" 10mm deep socket
- 3/8" 13mm deep socket
- 3/8" 15mm deep socket

Hand Tools

- Phillips head screwdriver
- Flathead screwdriver
- Trim removal tool
- Needlenose pliers
- Razor Knife
- Air Saw or Dremel

Misc.

- Marking device similar to a paint pen or sharpie

Wrenches

- 8mm Ratcheting combination wrench
 - 10mm combination wrench
-

Body Panel Removal

1. Park your truck in a flat level area. Under most conditions you have enough clearance to do this with the car on the ground, however having access to a lift can make some parts slightly easier.
2. Using your trim tool, remove the two clips holding the inlet snorkel in place





3. Pull out the remaining seven clips holding the upper grille/radiator cover in place and remove it from the car, you'll probably need to lift up the snorkel gently to pull it free.



4. Remove the one clip on either side of the car holding the top of the headlight bezel in place.



5. Pop the headlight bezel free where it meets the center piece of the bumper. Gently pull outward on the top of the headlight bezel and pop it free of the clips. You should be able to leave it attached on the outside as completely removing them isn't needed.





6. Remove the three clips on either side holding the rubber radiator shroud in place on the grille shroud.



7. You can leave the clips holding it to the core support.
8. Remove the four 10mm bolts on the top of the grille using your socket.

These bolts, like many others go straight into metal (some into plastic). Make sure to avoid torquing these bolts too hard either when loosening or tightening these bolts as it's very easy to strip them out on accident.





9. Undo the two electrical plugs on the top center of the grille structure by depressing the clip then pulling them out.





10. Gently spread the retainer ring on the washer line and unplug the hose.





11. Using your trim tool again, remove the two clips holding the harnesses to the support.





12. Undo the two 8mm bolts on each lower corner of the grille using your extension and an 8mm socket.



13. Remove the front grille assembly and set it somewhere safe!



Intercooler Removal

1. Remove the 4 13mm bolts holding at the front and 2 15mm bolts in the rear of the skid plate in place, watch out for the brace in the rear and note the orientation it was in when removed as it will only fit in that way when you go to reinstall.





The clips with built in nuts found on the frame can fall off easily, so make sure not to lose them!

2. Reach up and undo the wiring to the fans by gently squeezing the clip before disconnecting them. Then disconnect harness from fan using your trim tool.



3. Disconnect electrical plug going to the electronic bypass valve.



4. Loosen up the 3 couplers on the front mount intercooler, then pull them free. If you can manage it easily you can also just remove them completely. In order to loosen them you'll either need a screwdriver or a socket (7mm/8mm depending on your vehicle)





© COBB Tuning



© COBB Tuning



5. Disconnect the bpv hose from the intake and the BPV itself by turning left 1/4 turn. Sometimes it will be stuck due to dirt or debris getting into the clip. Softening it with some wd40 or water can make this more simple.





6. Undo the two 15mm bolts holding the support for the intercooler core in place.



7. Remove the two wiring connectors on the fan and intercooler where they are attached.



8. Drop the intercooler and fans out of the frame rails and set somewhere safe.



9. Take out the two lower bolts for intercooler shutters using an offset 8mm wrench. There isn't a lot of room so a ratcheting wrench with an offset head that fits can be handy, otherwise you'll be in for a long haul!



10. Disconnect the front 3 trim clips to pull up the rubber radiator shroud





11. Undo the harness clips from shutter assembly so that the harness is free.



12. Unplug the shutter assembly



13. Unbolt the shutter assembly with a 8mm socket.



14. Remove shutter assembly by lifting up and pushing out to release the tension from the pins on the side



15. Remove the 8mm bumper supports



16. Follow up by taking out the 15mm bolts holding bracket in place



17. Remove bracket from car



Intercooler Installation

1. Loosely Install intercooler bracket using stock hardware with bumper support brackets. Make sure the tab end is pointing up. If you're running an aftermarket or frame-cut bumper you may not need these.





2. Using a shorter bolt, lock nut, and a washer on each side attach the bumper support loosely.





3. Tighten the bumper support bolts down to stock torque specs
4. Torque down the intercooler bracket.
5. Fold down the bottom rubber mat with clips.



6. Pressing down on the top, go up from underneath to mark out a circle.

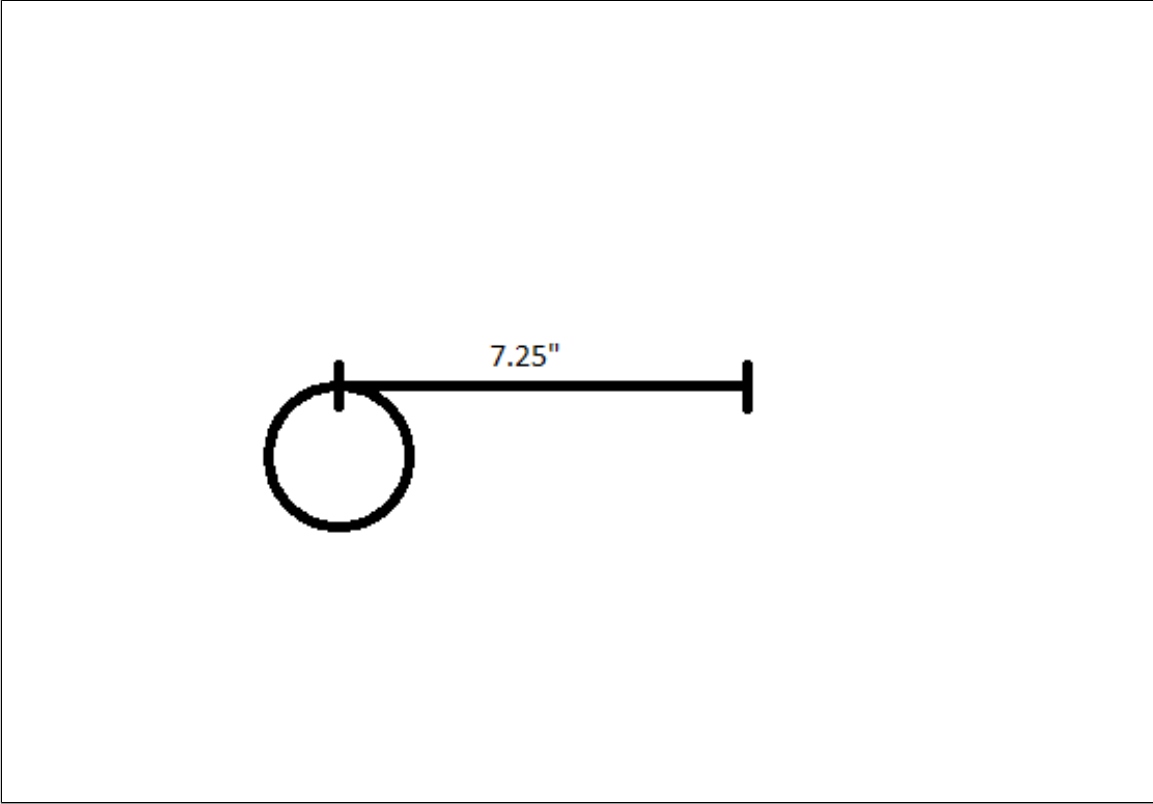




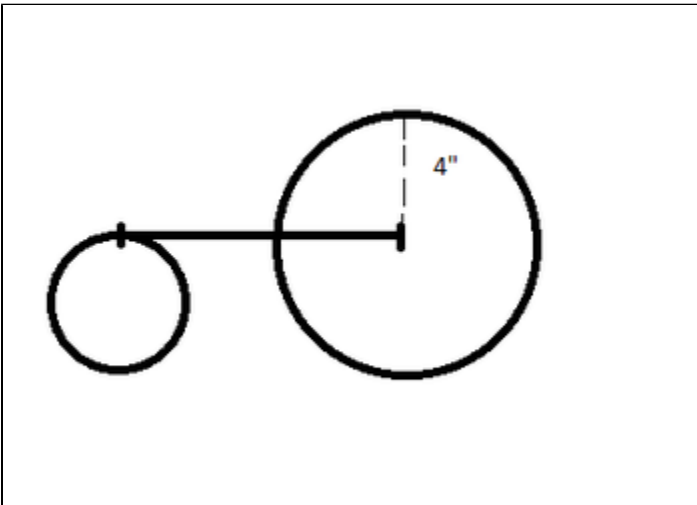
7. Cut out the circle carefully using a razorblade or sharp scissors. May need to cut on the outside of the drawn line to make things fit properly.



8. From one inch behind the center of your hole, measure 7.25" towards the closest side of the car then leave a mark.



9. Make a 4" circle around that hole to mark the cut



10. Cut and repeat on the other side.



11. Remove the two 10mm bolts on the hood bracket, mark above to keep latch aligned





12. Unloop the cable ferroule from the cable bracket.



13. Squeeze the plastic cable retainer and remove cable



14. Set the latch up on the radiator support and out of the way.

15. Remove the rubber bumpers from the stock intercooler and add them onto the new COBB unit





16. Install intercooler and wiggle to get the rubber mounts in place correctly.



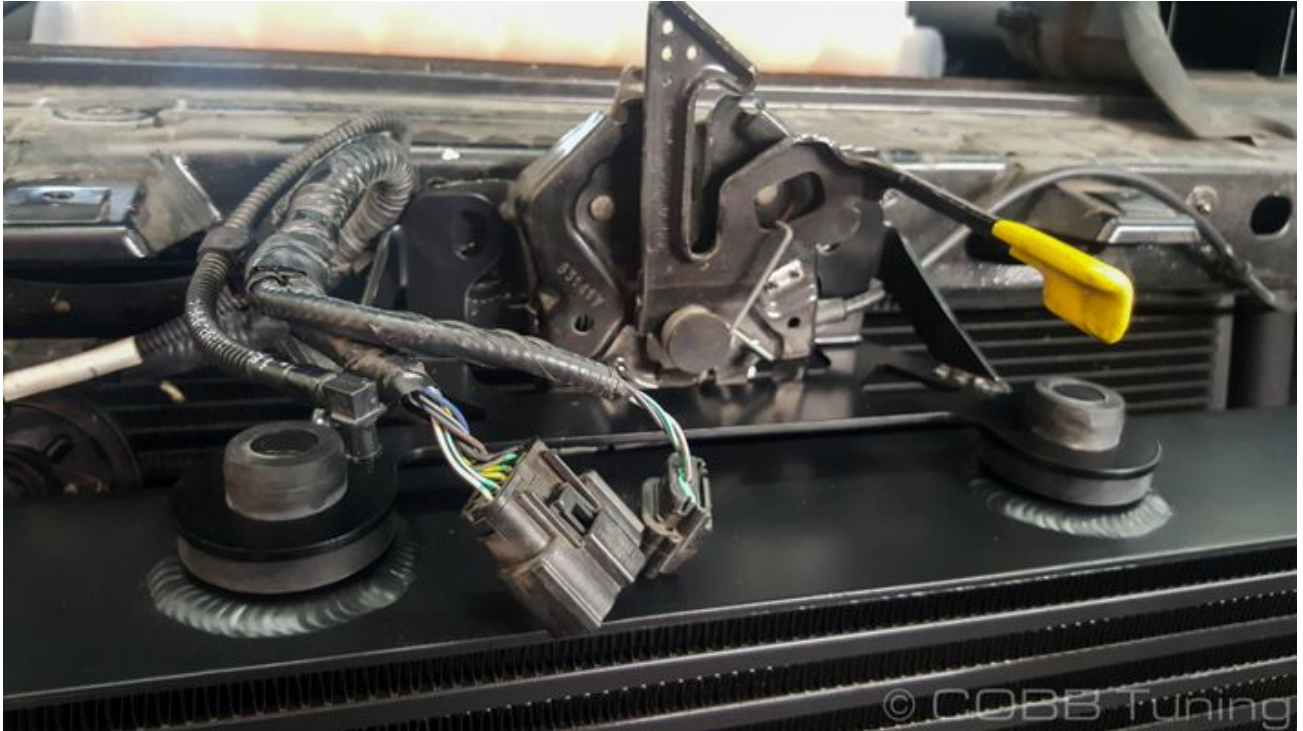
17. Pass your cable through the upper intercooler bracket.



18. Reinstall the cable onto the latch assembly.



19. Install the top mount bracket onto the intercooler mounts. Using the stock bolts do your best to line up the hood latch while pushing down on the bracket to keep it as low as possible.



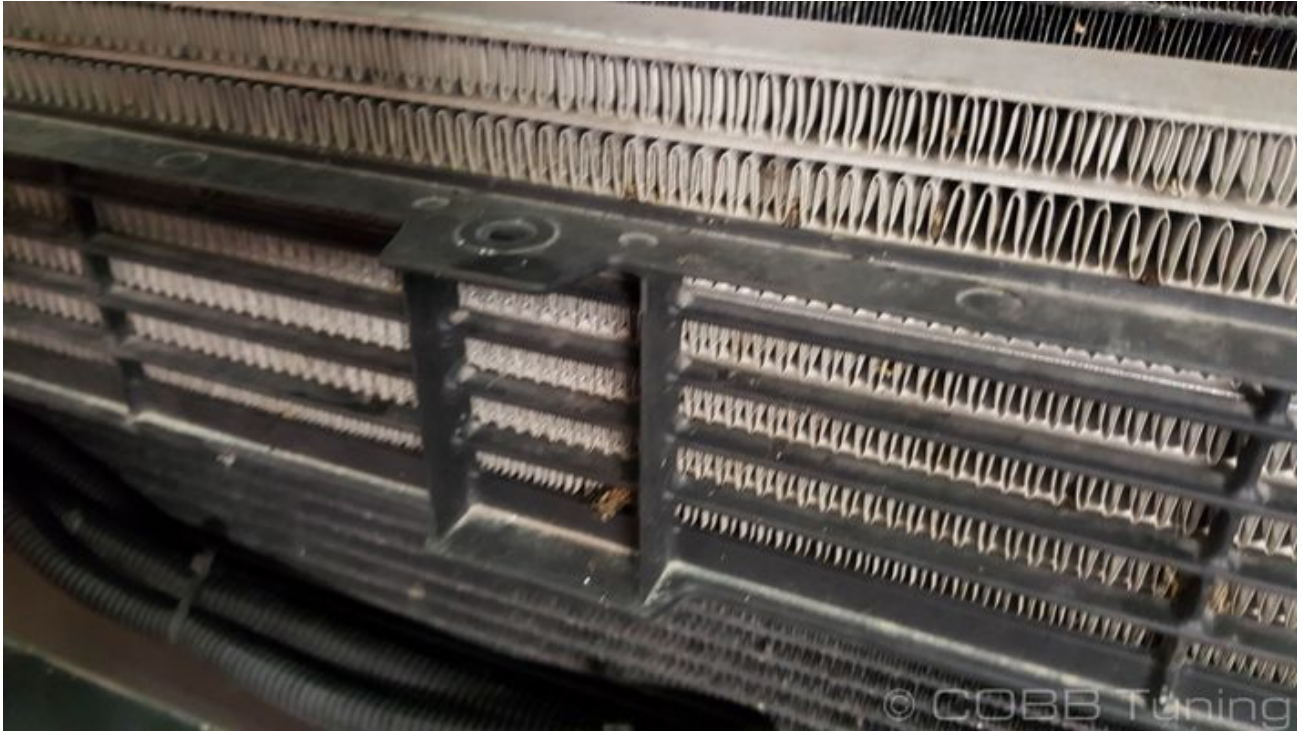
20. Check clearance with transmission cooler line. If it looks like it will touch loosen this bracket by adjusting the tab upwards and push the ac line further back and out of the way before crimping the tab back down.





21. Double-check clearance with the stock transmission cooler. If the lip sticking out is too close you may want to trim it down.





22. Remove your BPV from the intercooler core using an 8mm socket. Turn the BPV counter clockwise until it stops and then pull upward gently to remove.



23. After checking to make sure the o-ring isn't torn. Lubricate the o-ring with super lube then install the bpv by holding it at the shown angle and gently wiggling until it slides in, then turn clockwise until it stops



24. Using two washers, a lock nut and the longest bolt, attach the BPV to the bpv tube. Make sure the pbv is clocked all the way to the right (without forcing it) before tightening down hand tight with your wrenches (do not overtighten or the plastic will crack)



25. insert the terminal plugs into the provided connector



26. Install your connector into the stock fan connector and move up the red connector to lock it in place.



27. Ziptie the connector out of the way on the frame away from any heat sources.



28. Insert plastic caps into the lower and upper grille shutter connectors.



29. Cut out connectors from BPV hose carefully. Cutting a v shape allows a bit more space to relieve pressure on the fitting so you can pull it out properly.





30. Remove the o-rings from the inside of the connector.



31. Lube up and install the new o-ring as well as the ones on the rear of the connector.



32. Add two of the smaller clamps to each end of the bpv tube.



33. Install them into the tubes. Make certain the o-ring doesn't get pushed out as you install it into the hose.



34. Reinstall onto the turbo inlet tube



Make sure not to kink the hose as it may cause issues. Sometimes you can remove the kink by slightly changing the routing of the hose, or in some cases you may need to remove a small amount of material from the straight end.



35. add 1 48 and one 56 clamp to the expansion end



36. add 2 48 clamps to the 45 degree coupler



37. add the 45 to the intercooler and the large end of the expander to the rear intake tube before pushing the bpv pipe into place, rotating to allow clearance between it and the bracket above.



38. Add 2 44 and one 48 clamp to the y-coupler



39. Install onto the Intercooler and the two turbo inlet pipes





40. Connect the bpv tube to the bpv



41. Reconnect the BPV harness.



Grille Shutter Removal

1. Remove ambient air temperature sensor from grille by gently popping it out and unplugging the harness.





2. Pop out the grille shutters one by one with a pry tool.

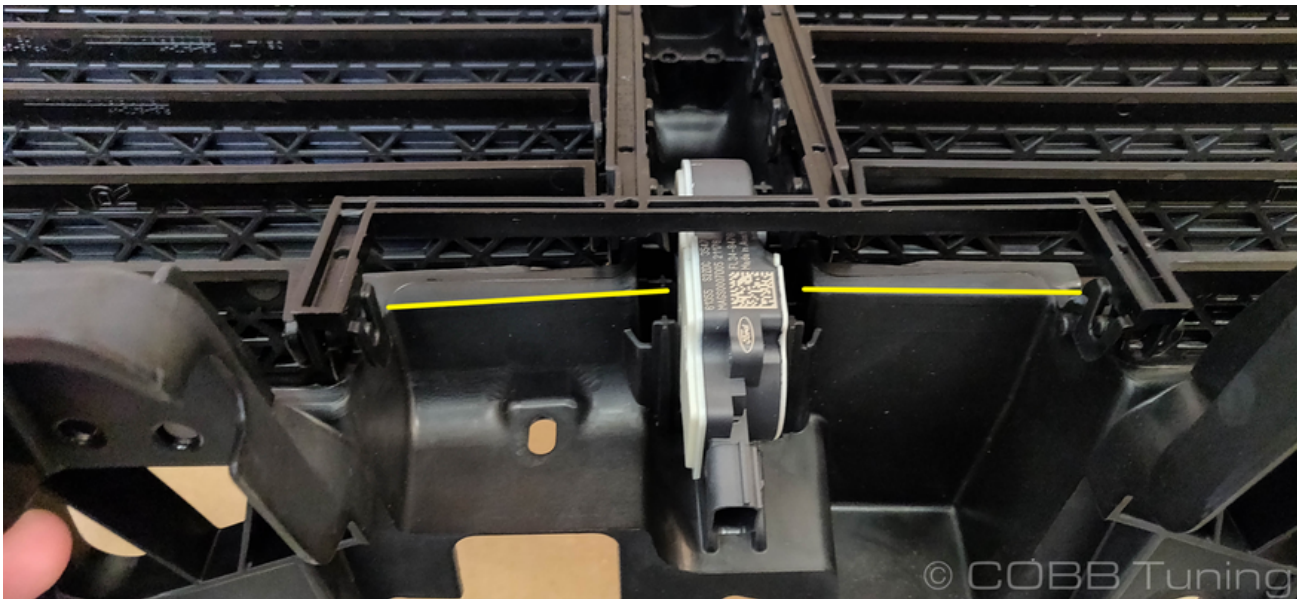
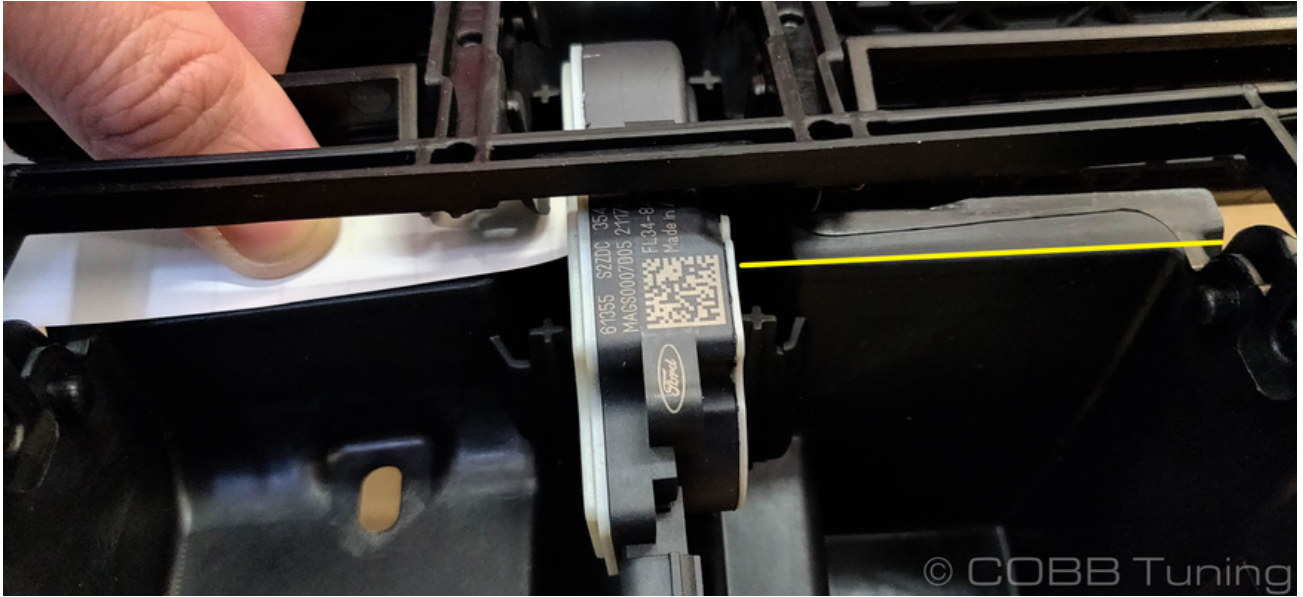




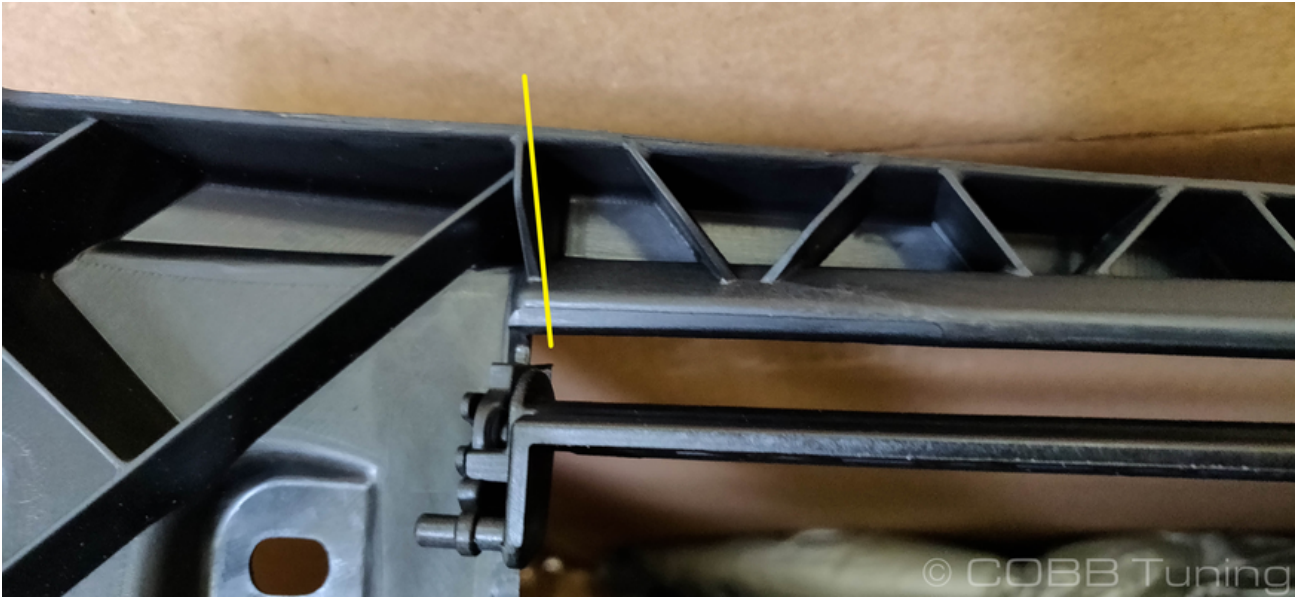
3. Remove the motor by pulling sideways on the flat end of the retaining clip by prying the clip away from the support.



4. Trim out the top edge along the line marked.



5. Trim the bottom edge up to the flat support fin shown in silver, do not cut through the fin itself.. Try not to go through it as it will add structural rigidity to what is left after.





© COBB Tuning



© COBB Tuning



6. Undo the bottom 3 plastic "nuts". These are designed to cut into the plastic pegs so sometimes turning them to the left while prying upward helps them come off cleanly.



7. Remove the single 8mm bolt in the middle.



8. Remove the center shutter assembly





9. Install on the ambient air temperature sensor onto the FMIC





10. Install the outer clips for the rubber shroud but leave the middle out for now.
11. Begin to carefully install the grille without scratching the headlight trims.
12. when it's in place, reach up through the rubber and install the wiring harness into the ambient air temperature sensor.
13. Reinstall the rest of the grilles clips and bolts along with the lower skid tray. Dont forget to check out all that free space!





Links

[Ford Raptor Map Notes](#)

Error rendering macro 'excerpt-include' : You can only link to a page or blog post.