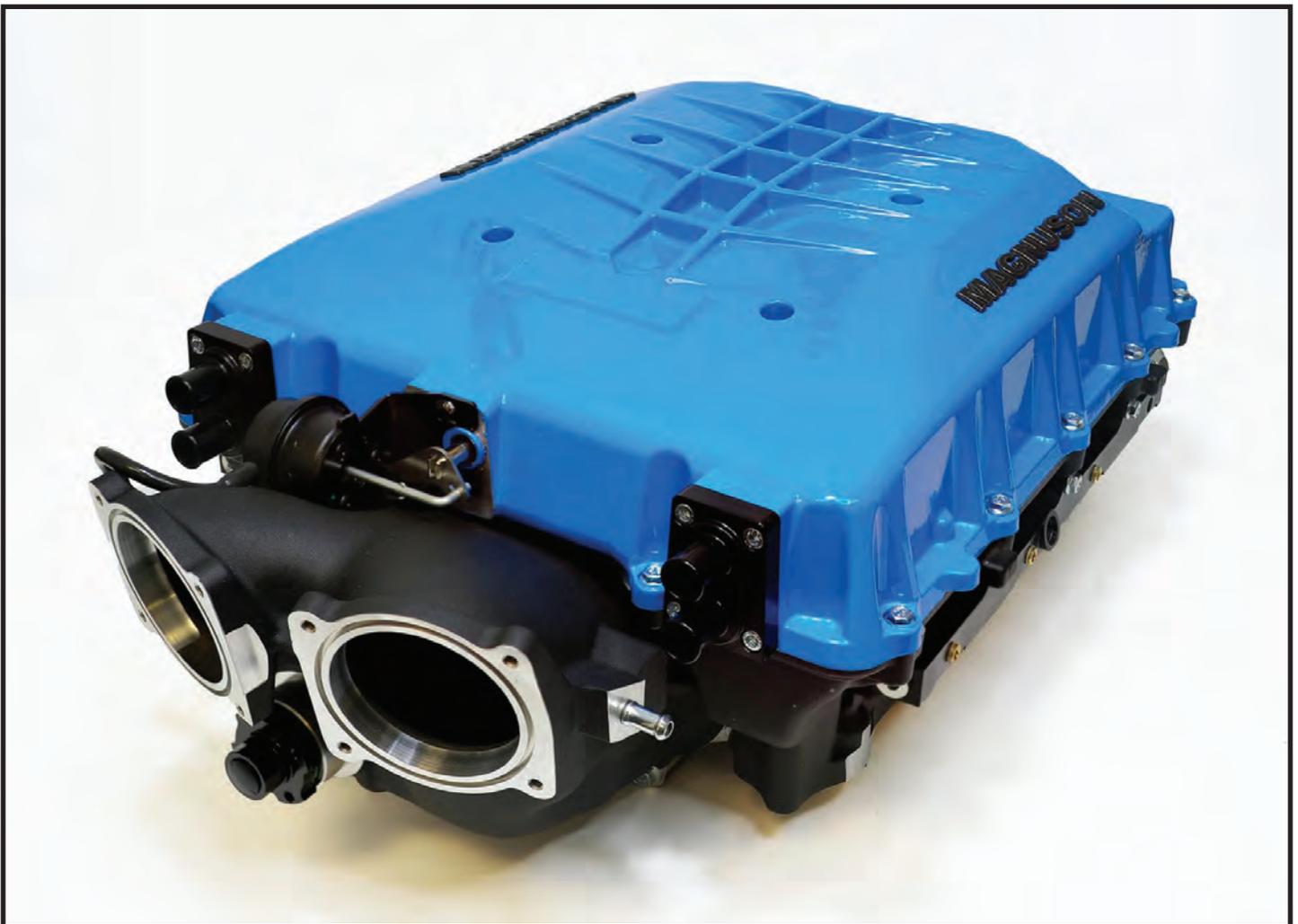


MAGNUSON

SUPERCHARGERS

Ford Coyote Hot Rod Kit Installation Manual

No Calibration Supplied



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(805) 642-8833 phone
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Important Note: Before installing this kit, please read through the installation procedure and verify that all items are present.

LIMIT OF LIABILITY STATEMENT

The information contained in this publication was accurate and in effect at the time the publication was approved for printing and is subject to change without notice or liability. Magnuson Superchargers reserves the right to revise the information presented herein or to discontinue the production of parts described at any time.

SAFETY PRECAUTIONS

STOP! CAREFULLY READ THE IMPORTANT SAFETY PRECAUTIONS and WARNINGS BEFORE PROCEEDING WITH THE INSTALLATION!

Appropriate disassembly, assembly methods and procedures are essential to ensure the personal safety of the individual performing the kit installation. Improper installation due to the failure to correctly follow these instructions could cause personal injury or death. Read each step of the installation manual carefully before starting the installation.

- Always wear safety glasses for eye protection.
- Place ignition switch in the OFF position.
- Disconnect the battery, and insulate the connections to prevent an electrical spark.
- Always apply the parking brake when working on a vehicle.
- Block the front and rear tire surface to prevent unexpected vehicle movement.
- If working with a lift, always consult vehicle manual for correct lifting specifications.
- Operate the engine only in well-ventilated areas to avoid exposure to carbon monoxide.
- Do not smoke or use flammable items near or around the fuel system.
- Use chemicals and cleaners in well-ventilated areas.
- Batteries produce explosive gases, which can cause personal injury. Therefore, do not allow flames, sparks or flammable substances to come near the battery.
- Keeps hands and any other objects away from the radiator fan blades.
- Keep yourself and your clothing away from moving parts when the engine is running.
- Do not wear loose clothing or jewelry that can get caught in rotating parts or scratch surface finishes.
- Allow the engine, cooling system, brakes and exhaust to cool before working on a vehicle. **WORK SAFELY!** Perform this installation on a good clean level surface for maximum safety and with the engine turned off.

Tools Required:

Metric wrench set
Metric 3/8" and 1/2" drive metric socket set (standard & deep)
3/8" and 1/2" drive ft-lb. and in-lb. torque wrenches
Metric Allen socket set 3/8" drive
Metric Allen wrenches
1-1/16" deep well socket
Phillips and flat head screwdrivers
Hose cutters
Safety glasses
Blue Loctite 242
Grinding tool

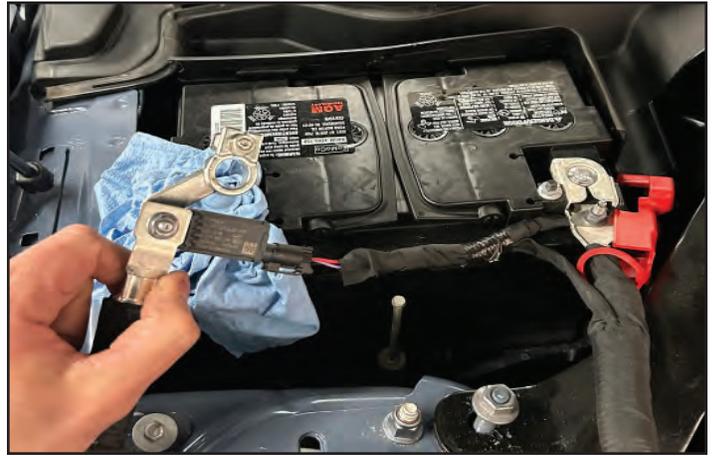
Contact Information:

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Ensure that you have the ability to recalibrate the ECU for your vehicle prior to installing this supercharger.

1. Disconnect the negative battery lead and insulate the ground post from connection with a rag or other appropriate insulator.

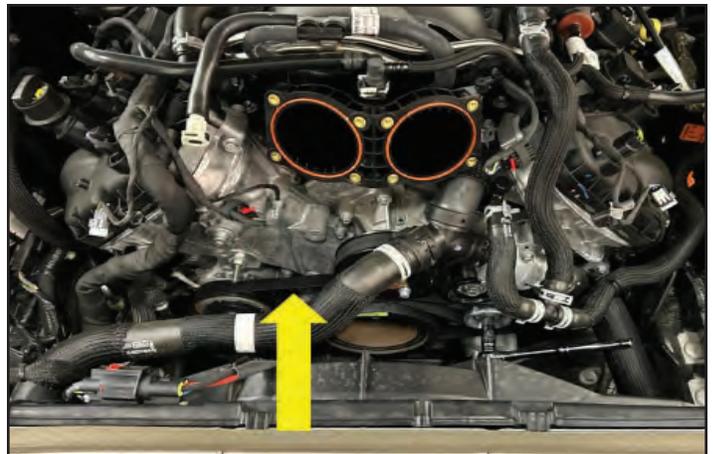


2. Remove the water pump / alternator belt. Rotate the tensioner counter-clockwise using a 15mm socket.

Save the belt, it will be reinstalled.



3. Cut the AC belt to remove it. It will be discarded.



4. Remove the water pump pulley bolts and pulley using a 10mm socket. They will be reused.

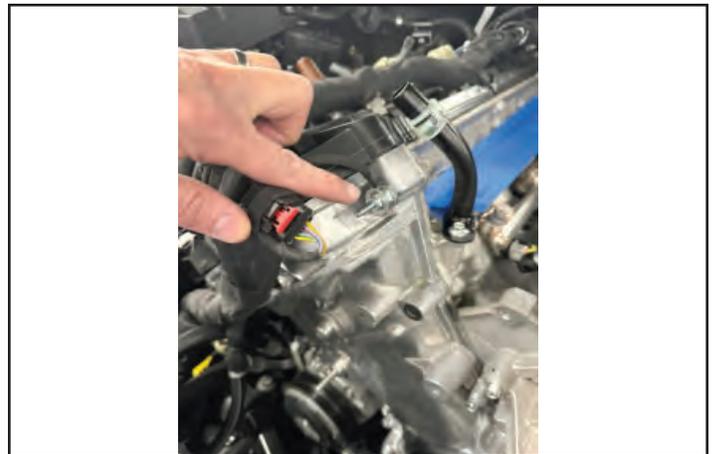


5. Using a 10mm socket, remove the bolt from the front cover (yellow arrow). It will be discarded.



Using a 13mm socket, remove the ground stud (red arrow) and relocate it to the yellow arrow location.

6. Transfer the ground to the new location as shown.



7. Cover the engine and engine bay, leaving only the area around the highlighted front cover boss exposed.



Using a tool of choice, remove 2 mm minimum from the boss shown. It needs to be equal or slightly below the idler bracket when installed. Clean up the debris but keep the engine covered.

8. Remove one water pump bolt (highlighted yellow) at the location shown.



Remove one front cover bolt (highlighted blue) at the location shown.

These will not be reused.

9. The cut from the previous step (highlighted blue) must be BELOW the front vertical surface of the idler bracket when mounted.

Test fit the bracket by holding it up to the front cover to determine if sufficient material has been removed.



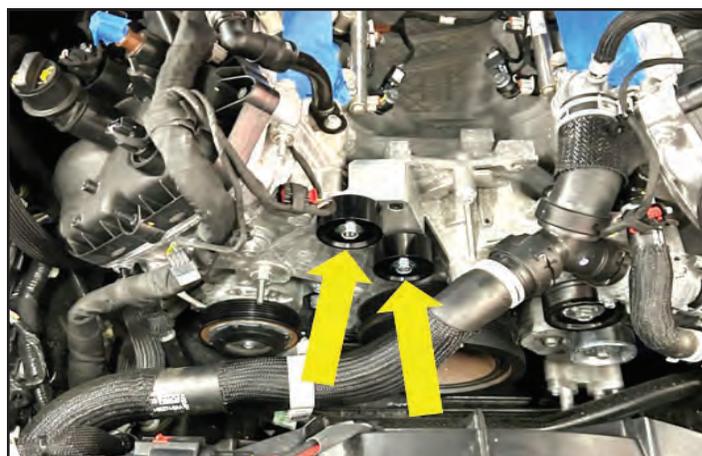
10. Remove the stud in the location shown. It will not be reused.



11. Locate the 4 socket head cap bolts M8x60mm. All engines, except the 2024 Mustang, will need to use the supplied 1/2" spacer behind the top left bolt (shown with red arrow). Install the idler bracket to the engine. Torque the bolts to 18 ft-lbs. using a 6mm Allen socket.



12. Install the 2 idlers on the idler posts as shown. Install and torque the M10x25mm bolts to 41 ft-lbs. using a 14mm socket.



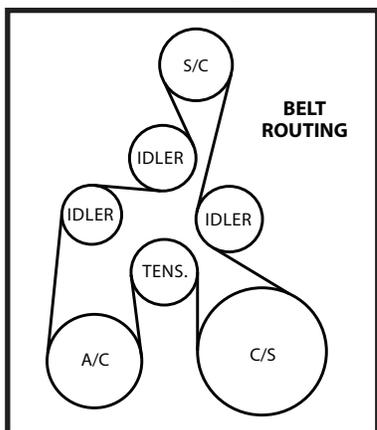
13. Install the provided tensioner in the location and orientation shown. Use the provided M8x60mm bolt. Torque the bolt to 18 ft-lbs. using a 12mm socket.



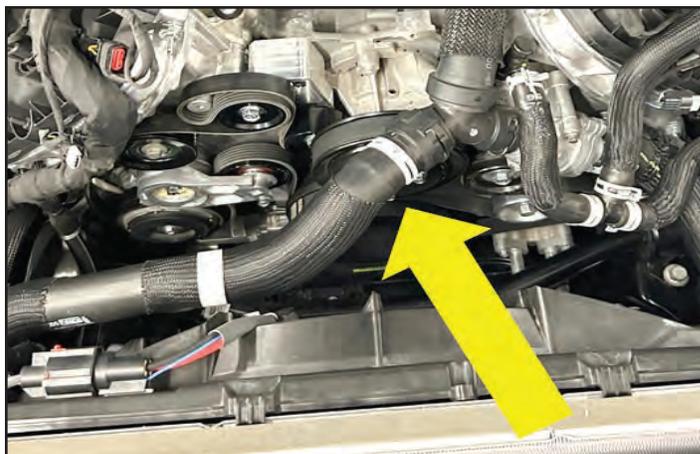
14. Install the ribbed idler pulley and supplied M8x29mm bolt into the location shown with the arrow. Torque the bolt to 18 ft-lbs. using a 15mm socket.



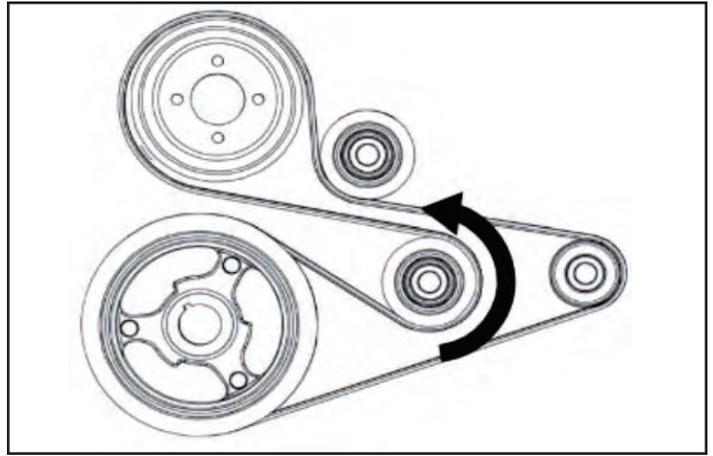
15. Your belt length is dependent on pulley size. We have found that K060710 works well with 84-90mm pulleys. Note: Since the supercharger is not installed yet, we recommend routing the lower section correctly and leaving the bulk of the belt at the upper idler pulleys as shown in the photo to the right.



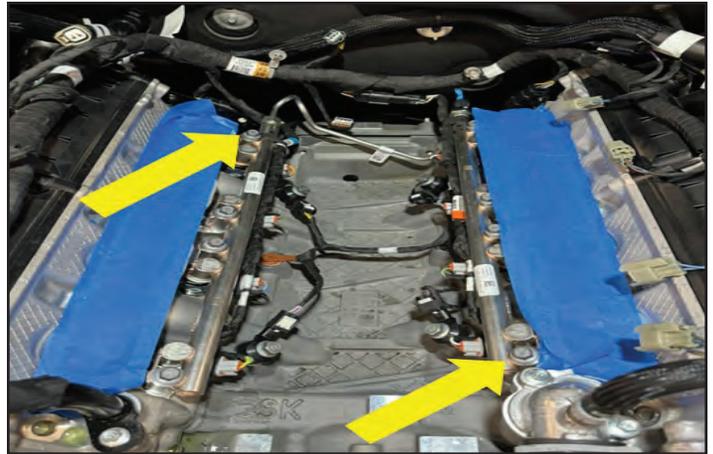
16. Reinstall the stock water pump pulley and bolts. Torque to 18 ft-lbs.



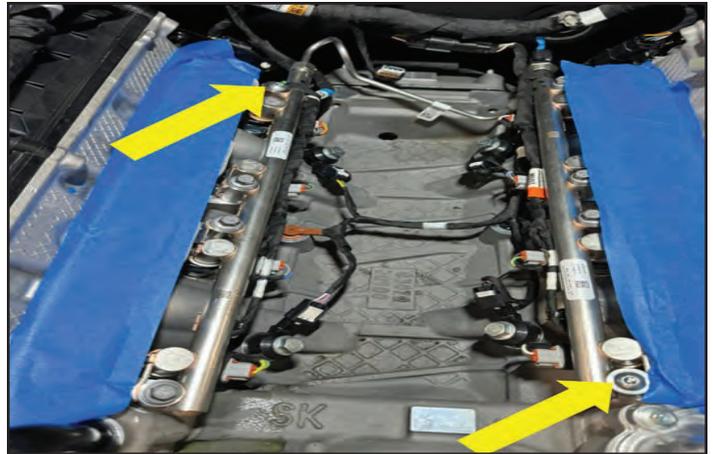
17. Reinstall the factory water pump/ alternator belt as shown. (15mm socket).



18. If your vehicle is equipped with DI fuel rails, remove the following 2 DI fuel rail bolts. They will not be reused. (10 mm socket)



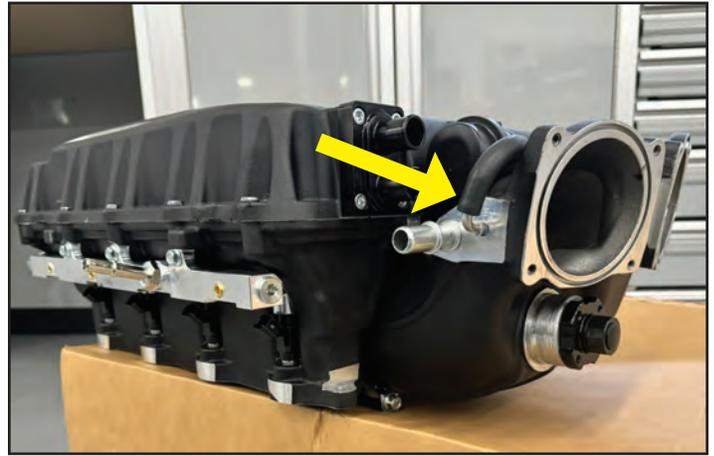
19. Replace bolts in the previous step with QTY 2 M8X45 mm button head cap screws. Install the bolts into the previous steps location. Torque to 18 ft-lbs.



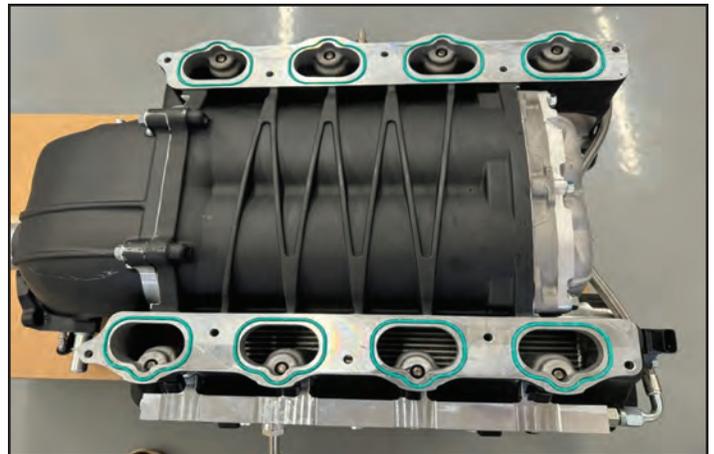
20. If equipped with the following hose, modify the coolant hose as shown. Remove $\frac{3}{4}$ " inch of hose from the bleeder hose as shown. Reinstall the hose onto the barb and reuse the factory constant tension clamp. **Verify clearance before installing the supercharger kit. It may require a custom hose to clear the supercharger inlet.**



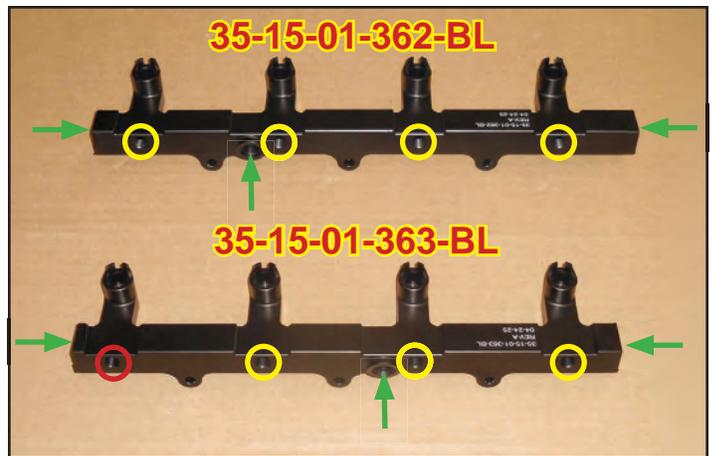
21. Unpack the supercharger assembly from the box. Remove the bypass hose from the port on the side of the inlet (arrow location).



22. Remove the intake manifold gaskets from the stock intake manifold and inspect install them on the supercharger manifold. If they are torn or damaged, they will need to be replaced.



23. Here are the two supplied fuel rails. The 35-15-01-363-BL has a unique M10x1.0-6H threaded port at the red circle location which is necessary if you are using a FORD fuel pressure sensor, and is designed to use a copper seal washer. The yellow circles indicate the 1/8" NPT ports on both fuel rails.



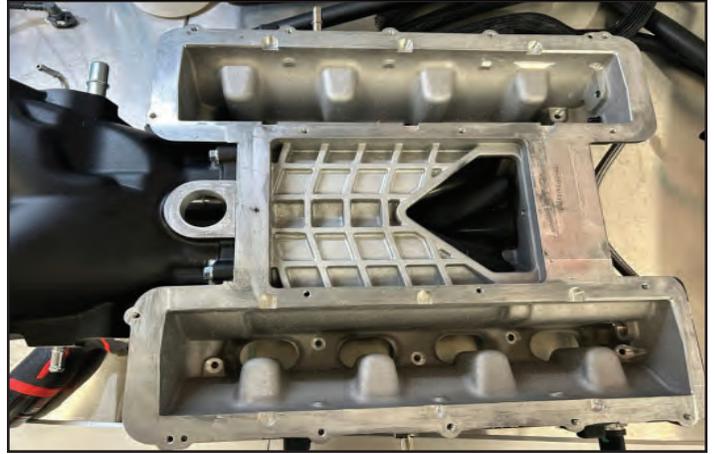
The green arrows indicate 9/16-18 UNF-2B threaded ports for ORB-6 connections.

Standard length injectors are required.

24. Remove the 18 lid bolts. (12) M6x20mm around the perimeter, (6) M6x55mm for down the center (10 mm socket).



25. Remove the supercharger lid.



26. Make sure the valley and intake ports are clean. Remove the tape from the intake ports. **Verify nothing is in the intake ports before proceeding.**



27. With a helper, install the supercharger manifold onto the intake ports. Route the electrical harness above the SAE quick connect fuel lines. Lift each side of the supercharger up and connect the fuel injector electrical connectors. 4 per side. **Connect the MAP sensor on the back of the supercharger.**



28. Gather the (7) M6x30mm and (3) M6x75mm supercharger to cylinder head bolts, and apply blue Loctite 242 to them.



29. Install the bolts from the last step with the 75mm bolts going into the yellow arrow locations. There are 5 bolts per side. Follow the torque sequence shown in the back of this manual and torque them to 89 in-lbs then to 142 in-lbs.



30. Connect the electrical connector on the fuel pressure sensor on the fuel rail. This location will vary depending on your application.



31. With the belt around the supercharger pulley, mount the pulley onto the input shaft. **Use blue Loctite 242** on the (4) M6x16mm supercharger pulley bolts.

Tighten the bolts by hand for now, they will be final torqued in the next step after the belt has been installed.

Use a 3/8" breaker bar and rotate the tensioner clockwise to route the belt back around the top idlers.



32. Torque the supercharger pulley bolts to 106 in-lbs.



33. Install the lid on the supercharger. Use the hardware removed earlier. Torque to 106 in-lbs. Torque sequence is at the back of this manual. Reinstall the bypass hose as shown below.



34. Install the throttle body gaskets removed from the factory intake manifold. New ones will need to be purchased if they are deformed or damaged.



35. Install the throttle bodies removed from the factory intake. They should be installed as shown. Torque the bolts to 106 in-lbs. (8mm socket)



36. Connect the electrical connectors to the throttle bodies and engage the locking tabs. Note: left hand side requires tape removal to spin the connector around (shown below).

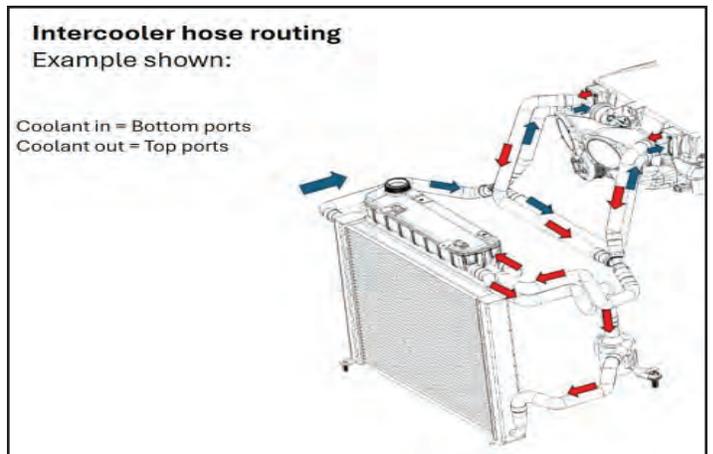


37. Connect your fuel supply lines to the fuel rails. The location and orientation of your fittings will depend on your specific application.



38. Route the intercooler hoses as shown here (Larger version at the back of this manual).

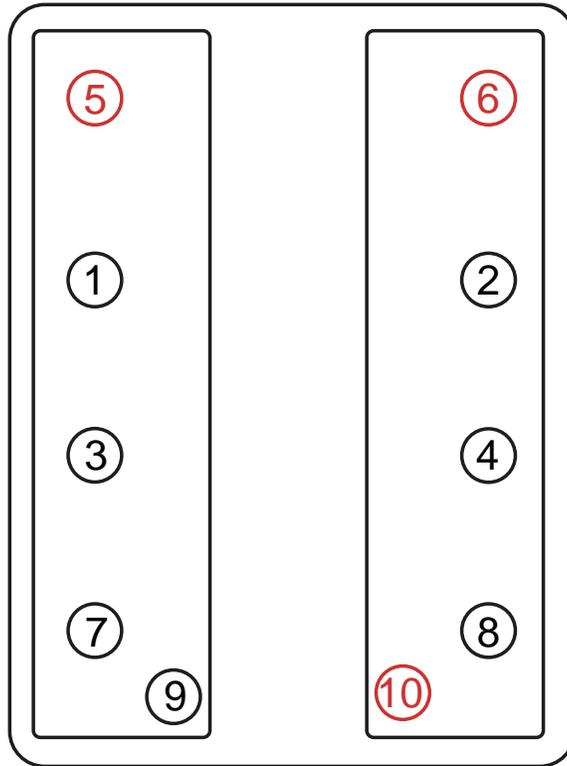
The cooled fluid from the upper hose barb on the Low Temperature Radiator (LTR) should enter through the bottom ports on the supercharger and exit through the top ports on the supercharger, through the reservoir, onto the pump, and then back to the lower hose barb on the LTR.



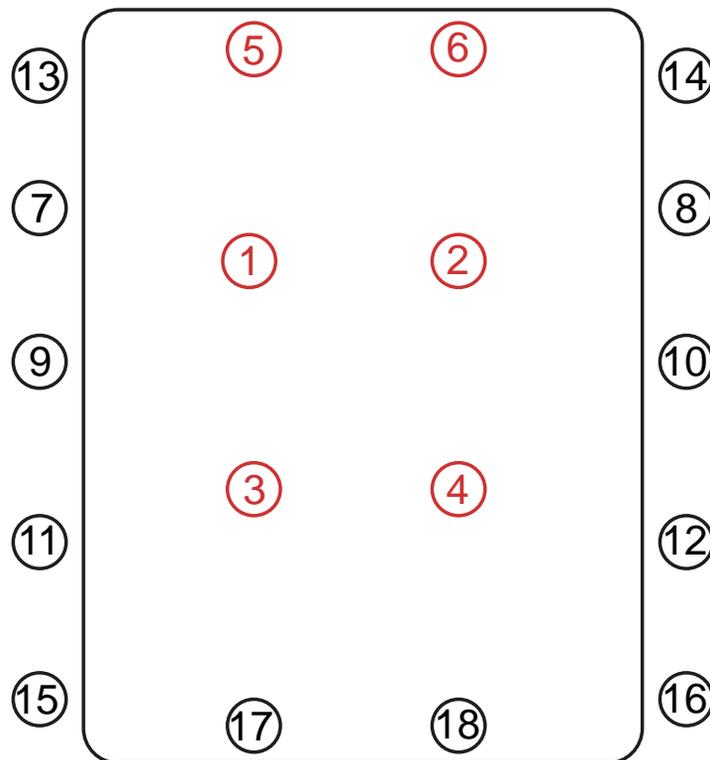
39. **Ensure that you have acquired a new calibration for your ECU prior to running your engine. Failure to do so will cause engine damage.**

Reconnect the negative battery lead.





Supercharger To Engine Torque Sequence
(Red circles indicate M6x75mm bolt locations)

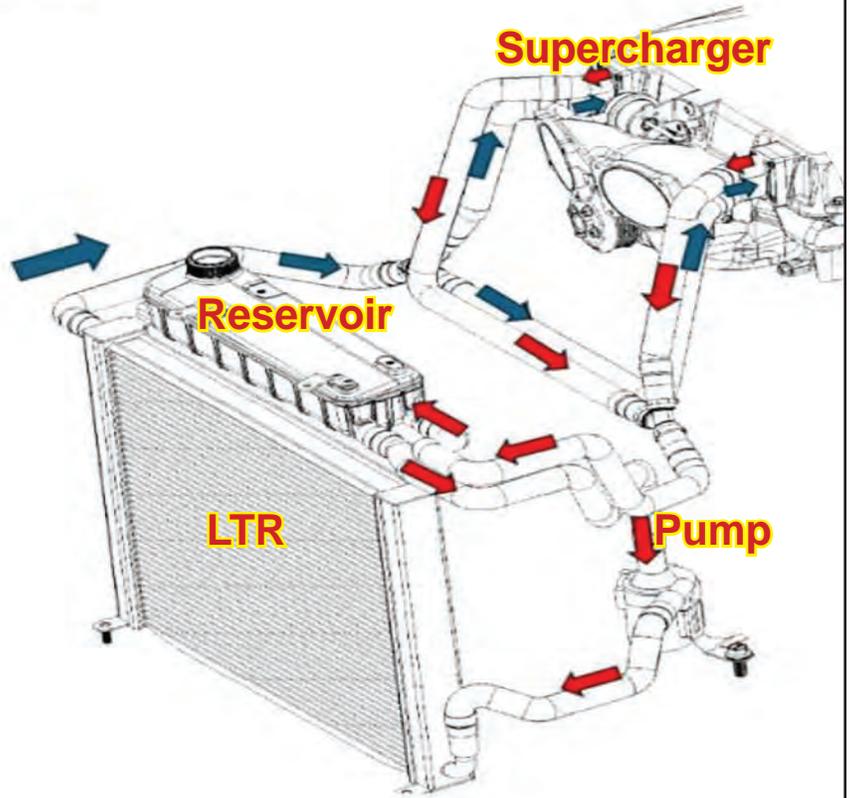


Supercharger Lid Torque Sequence
(Red circles indicate M6x55mm bolt locations)

Intercooler hose routing

Example shown:

Coolant in = Bottom ports
Coolant out = Top ports





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