Edelbrock Supercharger

2016-19 CHEVY CAMARO, 3.6L HFV6

Part #15995, 159950

WARNING!

The supercharger bypass valve is factory installed and adjusted intended to be vacuum operated only. DO NOT move the solenoid actuator lever by hand or adjust the stop point. Moving the lever manually will damage the solenoid and the system will not function properly. Damage to the bypass assembly from manual movement will not be covered under manufacture warranty.

INTRODUCTION

Thank you for purchasing the Edelbrock Supercharger for the Chevy Camaro HFV6. This Edelbrock Supercharger System utilizes Eaton's R1740 TVS Supercharger rotors housed inside a redesigned supercharger manifold. The manifold is Edelbrock's most advanced supercharger design to date and fits under the factory hood with no modifications. The supercharger retains a "blow-down" orientation which expels air downward through the intercooler core. Air pressure then builds in the plenum before being forced down through the intercooler resulting in incredibly low IATs to support more power.

The supercharger is 50-State emissions legal (pending), and includes a 3-year 36,000 mile warranty when applicable

Installation time: Approximately 8 hours.

TOOLS AND SUPPLIES REQUIRED

- Ratchet and Socket Set including but not limited to: 7mm, 8mm, 10mm (standard, deep and swivel), 11mm, 12mm, 13mm, 15mm, 18mm, Wrench Set including but not limited to: 8mm, 10mm, 15mm,
- Compressed Air
- Power Drill
- Drill Bit: 1.75" Hole Saw
- Torx Drives: T15, T30
- Panel Puller
- Razor Blade
- Flat Blade & Phillips Screwdrivers
- Coolant Drain Bucket
- 50/50 Coolant Mixture
- Side Cutters
- Torque Wrench
- Pliers OR Hose Clamp Removal Tool
- Blue Thread Retaining Compound
- O-ring Lube
- Masking Tape
- Shop Rags
- Non-Black Sharpie or equivalent
- Wire Ties

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IMPORTANT WARNINGS

Before beginning the installation, use the enclosed checklist to verify that all components are present in the box. Then inspect each component for damage that may have occurred in transit. If any parts are missing or damaged, contact Edelbrock Technical Support (800-416-8628), not your parts distributor.

WARNING: *Installation of this supercharger will result in a significant change to the performance characteristics of your vehicle. It is highly recommended that you take some time to familiarize yourself with the added power and how it's delivered. This must be done in a controlled environment. Take extra care on wet and slippery roads as the rear tires will be more likely to lose traction with the added power. It is never recommended to turn off your vehicles traction control system.*

Proper installation is the responsibility of the installer. Improper installation will void all manufacture's standard warranties and may result in poor performance and engine or vehicle damage.

Inspect all components for damage that may have occurred in transit before beginning installation. If any parts are missing or damaged, contact Edelbrock Technical Support, not your parts distributor.

Due to the complexity of the Edelbrock Supercharging system, it is recommended that this system only be installed by a qualified professional with access to a service lift, pneumatic tools, and a strong familiarity with automotive service procedures. To qualify for the drivetrain warranty, it is necessary to have this system installed by a Certified ASE Technician at a licensed business, GM Dealership, or an Authorized Edelbrock Installer. Failure to do so will void and/or disqualify any and all optional supplemental warranties offered with this system. Please contact the Edelbrock Technical Support department if you have any questions regarding this system and/or how your installer of choice will affect any warranty coverage for which your vehicle may qualify.

Any previously installed aftermarket tuning equipment must be removed and the vehicle returned to an as-stock condition before installing the supercharger.

Any equipment that directly modifies the fuel mixture or ignition timing of the engine can cause severe engine damage if used in conjunction with the Edelbrock Supercharger System. This includes, but is not limited to: OBDII programmers, MAF sensors, adapters and any other device that modifies signals to and/or from the ECU. Aftermarket bolt-on equipment such as underdrive pulleys or air intake kits will also conflict with the operation of the supercharger and must be removed prior to installation. Use of any of these products with the Supercharger could result in severe engine damage.

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IMPORTANT WARNINGS CONT'D

91 octane or higher gasoline is required at all times. If your vehicle has been filled with anything less, it must be run until almost dry and refilled with 91 or higher octane gasoline twice prior to installation.

Any failures associated with not using premium 91 octane gasoline or higher, will be ineligible for warranty repairs.

It is recommended that you check the Edelbrock Tech Center Website for any updates to this installation manual. Please refer to the lower right hand corner to verify that you have the latest revision of this installation manual before beginning the installation.

Tech Center: http://www.edelbrock.com/automotive_new/misc/tech_center/install/index.php

WARNING: Installation of this supercharger and charge air cooler may require removal and replacement of front grille, front bumpers, or other pieces which may be equipped with Advanced Driver Assistance Systems (ADAS). ADAS Systems include, without limitation:

- Forward Collision Warning
- Auto braking
- Lane Departure Warning
- Lane Keeping Assist
- Blind Spot Warning
- Rear Cross Traffic
- Rearview Camera
- And various other OEM ADAS Equipment

It is the responsibility of the installer to ensure that all necessary ADAS systems that require post-repair calibrations/targeting/aiming is performed by qualified repair facilities. Edelbrock assumes no liability whatsoever with respect to any damages or losses with respect to any ADAS systems.

Edelbrock Authorized Installer Disclaimer

Authorized installers of Edelbrock products are independent companies over which Edelbrock has no right of control. Edelbrock LLC makes no claims regarding the abilities, expertise or competency of individual employees of any authorized installer. Each authorized installer is an independent company and makes its own independent judgments. Edelbrock LLC specifically disclaims any responsibility to any party including third parties for the actions, or the failure to act, of individuals, agents or a company authorized in the installation of Edelbrock LLC products.

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INSTALLATION HARDWARE IDENTIFICATION GUIDE

(Parts Are Not To Scale)

BAG #1 - FEAD HARDWARE

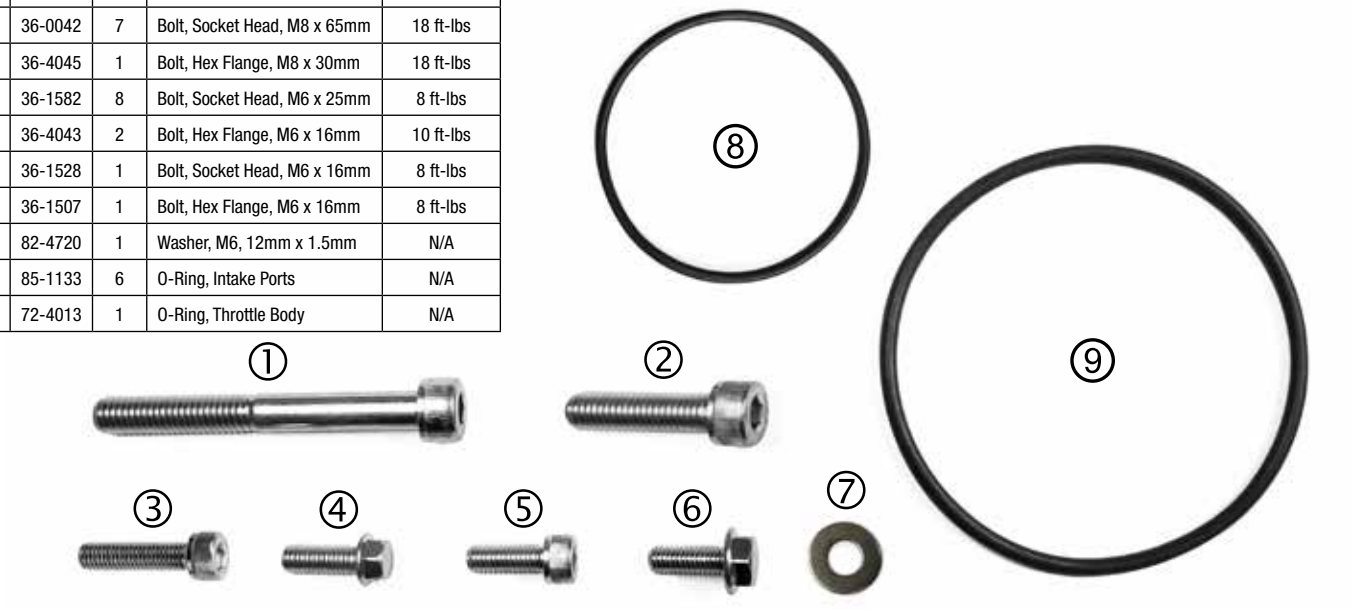
Item	P/N	QTY.	Description	Torque Spec
1	36-1544	1	Bolt, Socket Head, M6 x 45mm	12 ft-lbs
2	36-1582	1	Bolt, Socket Head, M6 x 25mm	12 ft-lbs
3	36-0042	1	Bolt, Socket Head, M8 x 65mm	22 ft-lbs
4	36-4011	1	Bolt, Hex Flange, M8 x 25mm	22 ft-lbs
5	36-1518	1	Bolt, Hex Flange, M8 x 30mm	22 ft-lbs
6	82-0120	2	Washer, M8, 24mm, 2.2mm	N/A

BAG #2 - INTERCOOLER HARDWARE

Item	P/N	QTY.	Description
1	36-1552	2	Bolt, Hex Flange, M6 X 10mm
2	36-1507	4	Bolt, Hex Flange, M6 x 16mm
3	36-1541	2	Nut, Hex, 6mm
4	46-2155	8	Hose Clamp, 3/4”

BAG #3 - MANIFOLD / RUNNER HARDWARE

Item	P/N	QTY.	Description	Torque Spec
1	36-0042	7	Bolt, Socket Head, M8 x 65mm	18 ft-lbs
2	36-4045	1	Bolt, Hex Flange, M8 x 30mm	18 ft-lbs
3	36-1582	8	Bolt, Socket Head, M6 x 25mm	8 ft-lbs
4	36-4043	2	Bolt, Hex Flange, M6 x 16mm	10 ft-lbs
5	36-1528	1	Bolt, Socket Head, M6 x 16mm	8 ft-lbs
6	36-1507	1	Bolt, Hex Flange, M6 x 16mm	8 ft-lbs
7	82-4720	1	Washer, M6, 12mm x 1.5mm	N/A
8	85-1133	6	O-Ring, Intake Ports	N/A
9	72-4013	1	O-Ring, Throttle Body	N/A



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BRACKET AND FEAD IDENTIFICATION GUIDE

(Parts Are Not To Scale)

Item	P/N	QTY.	Description
1	24-159954	1	FEAD Bracket
2	51-3996	2	Idler, 54mm, Smooth
3	38-0225	1	Wire Harness Bracket
4	38-0268	1	LTR Bracket, Passenger Side
5	38-0256	1	LTR Bracket, Driver Side
6	38-0241	1	Water Pump Bracket
7	38-0200	1	Surge Tank Bracket

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HOSE IDENTIFICATION GUIDE

(Parts Are Not To Scale)

Item	P/N	QTY.	Description
1	56-0009	1	Hose, Intercooler to Supercharger
2	56-0010	1	Hose, Intercooler to Water Pump
3	56-0007	1	Hose, Surge Tank to Water Pump
4	56-0008	1	Hose, Surge Tank to Supercharger

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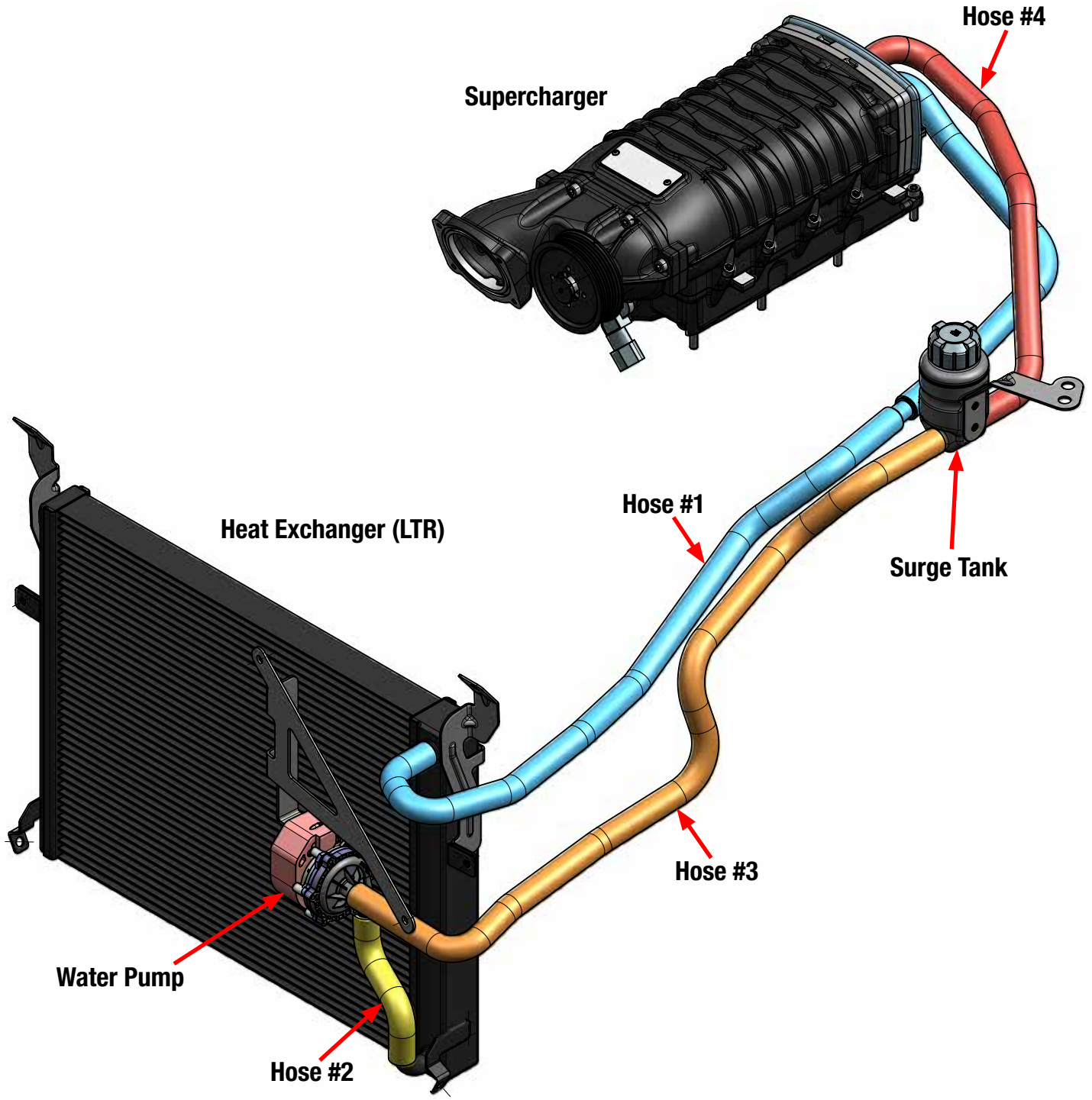
HOSE ROUTING DIAGRAM



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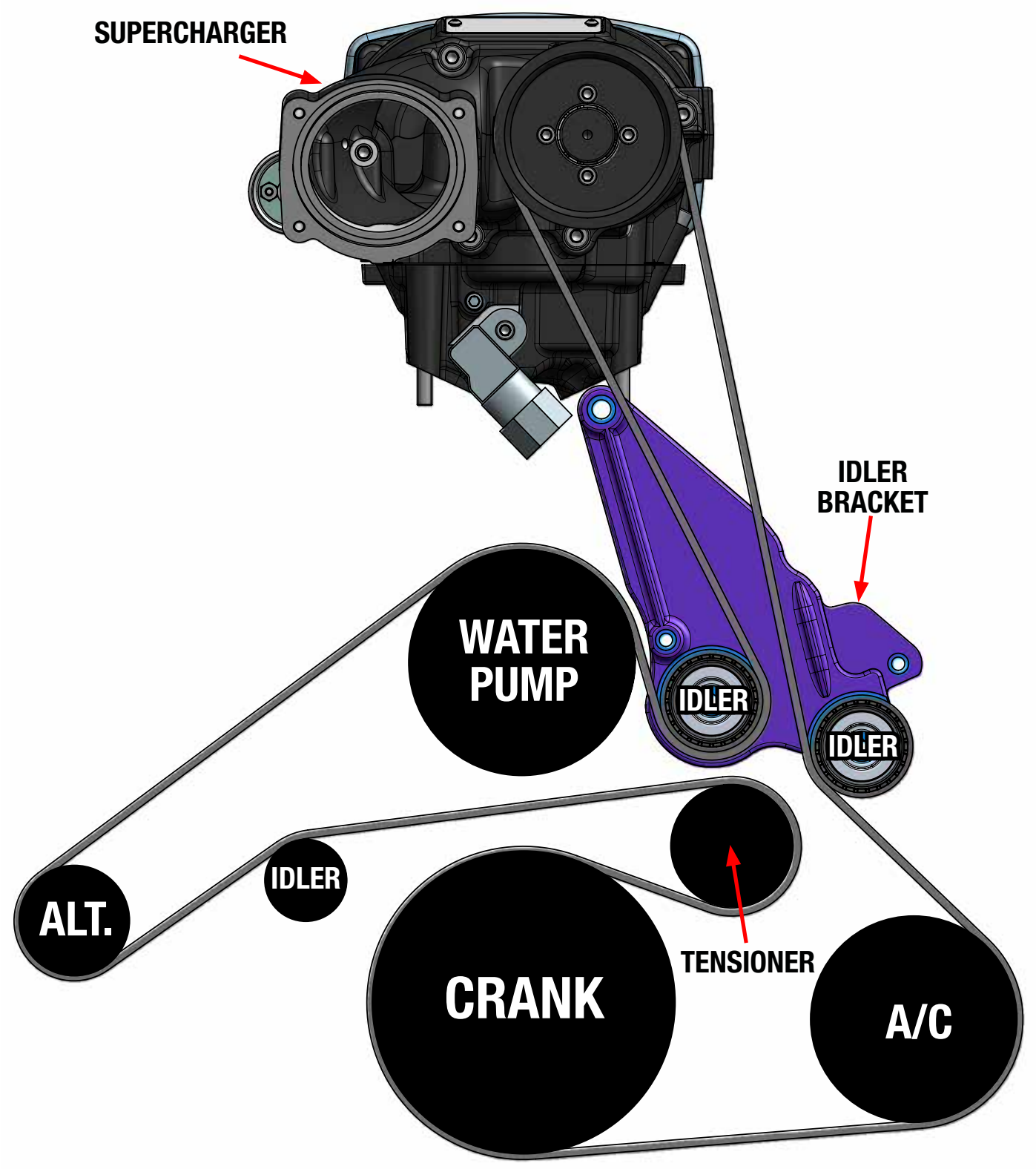
BELT ROUTING DIAGRAM



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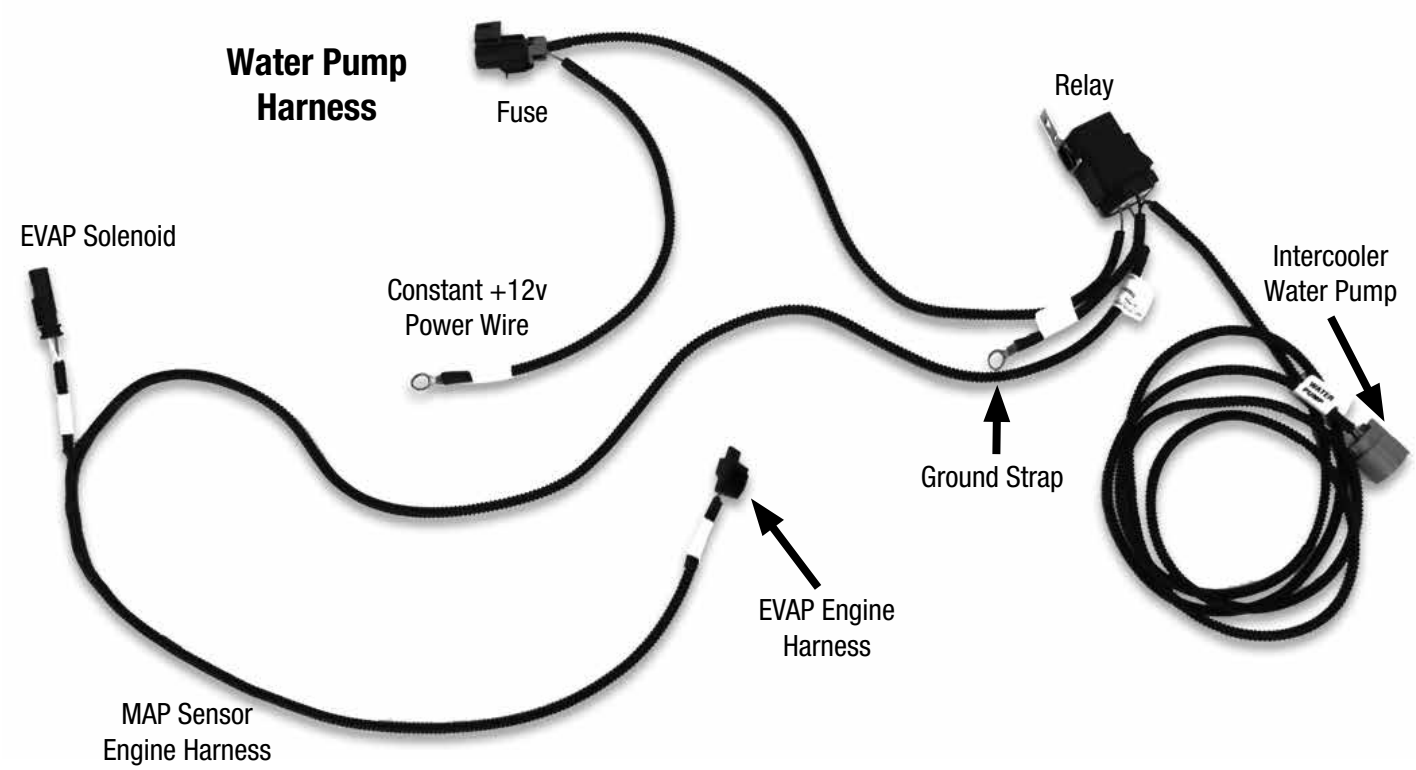
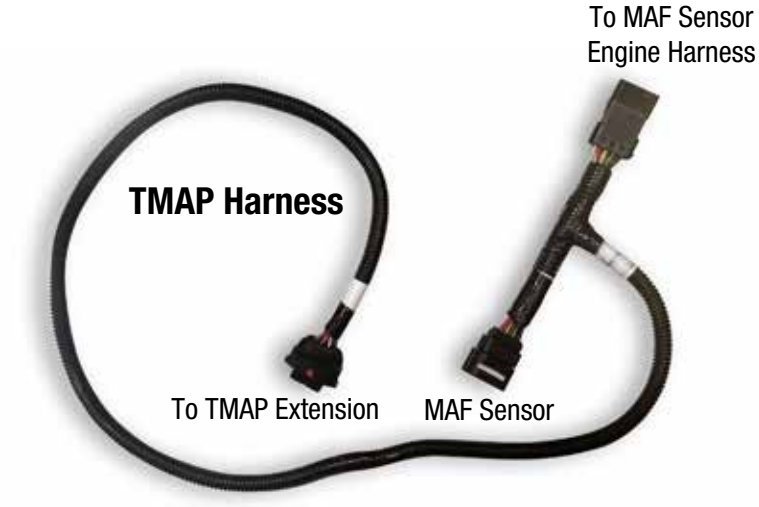
WIRE HARNESS GUIDE

(Parts Are Not To Scale)





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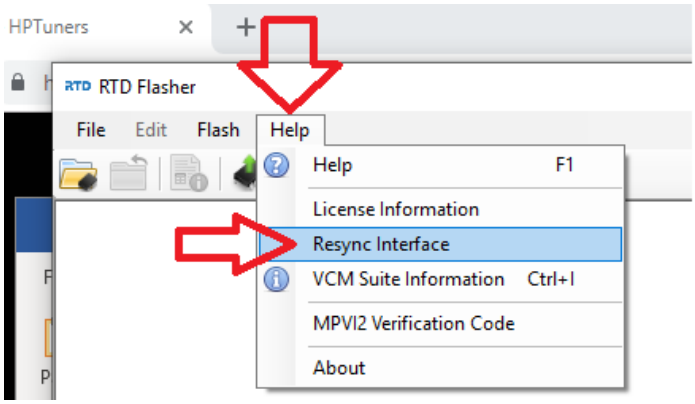
SUPERCHARGER INSTALLATION

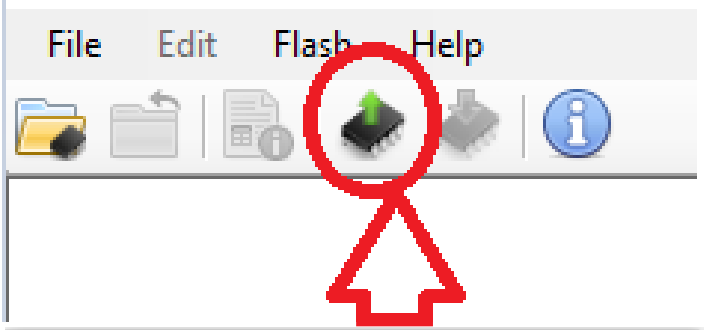
WARNING: Battery must be sufficiently charged before starting the PCM flashing procedure.

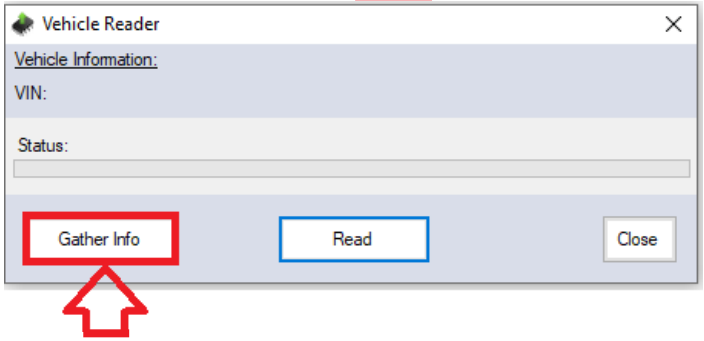
1. Create a new registration, then download and install the latest RTD Flasher from: www.hptuners.com/myaccount/. Connect your RTD device to your PC via the supplied USB cable.

2. Open RTD Flasher, select HELP, and then resync interface.

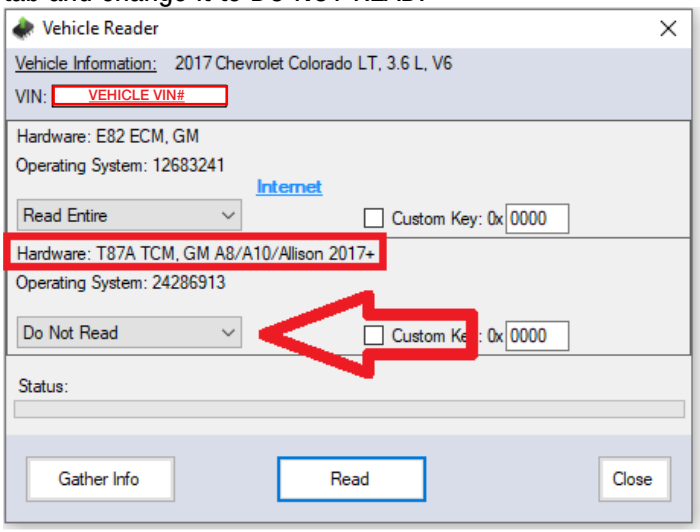


3. Your RTD is now ready to use and will have four (4) credits pre-installed. With the RTD Flasher program still open, plug the RTD into your vehicles OBDII port and turn the ignition ON without starting the engine. Select the READ VEHICLE icon then click GATHER INFO in the VEHICLE READER box.

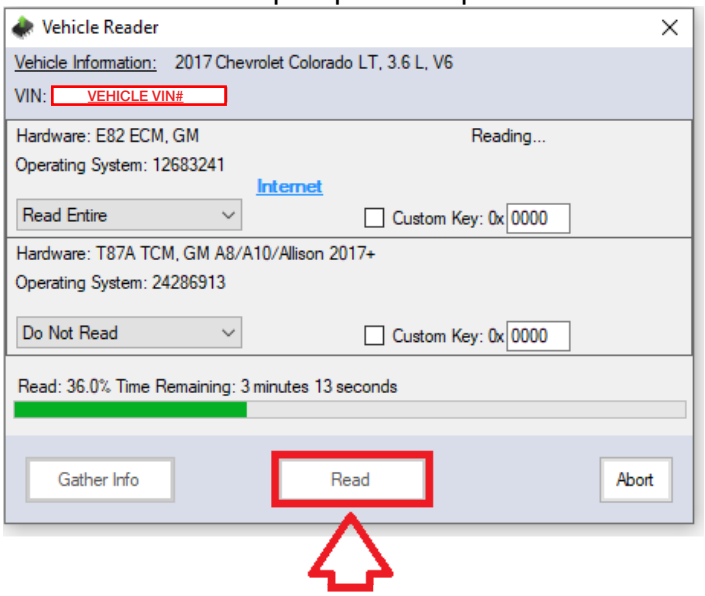




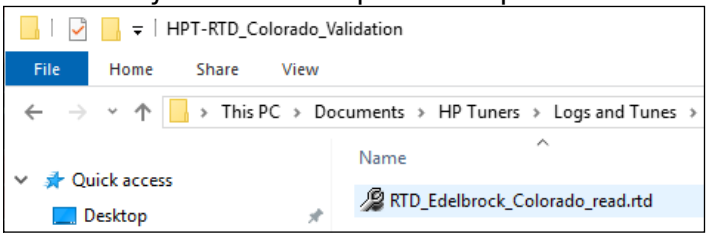
4. Under HARDWARE: T87A TCM, click the READ ENTIRE tab and change it to DO NOT READ.



5. Select READ to begin uploading your stock ECM calibration. Follow the prompts to complete the read.



6. Once the stock read is saved to your PC, email the file to calibration@edelbrock.com titled "Calibration Update Needed, 20xx Colorado Supercharger Kit ". Please allow up to 24hrs for your calibration update to be processed.



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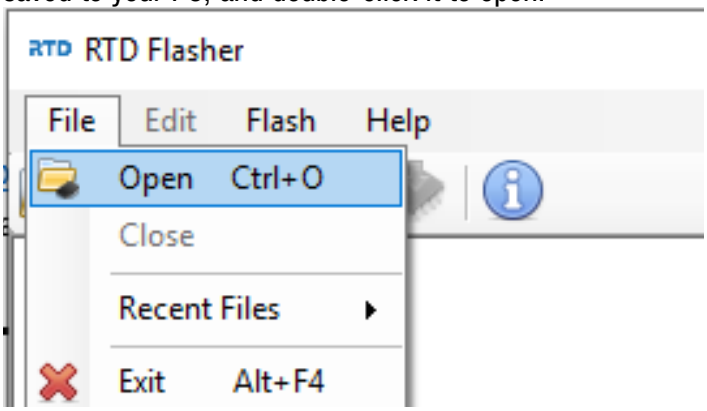
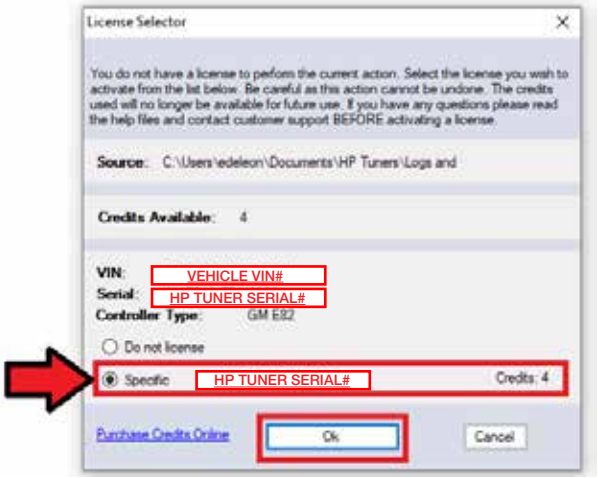
1. Once you receive the updated EFORCE file via email, save it to your PC. Open RTD Flasher, select FILE, OPEN, locate the updated EFORCE file you just saved to your PC, and double-click it to open.

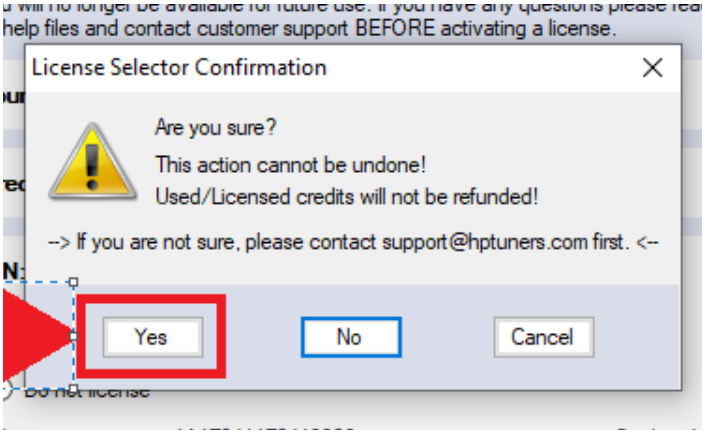


2. Select "SHOW LICENSE OPTIONS" at the bottom of the UNLICENSED FILE window.

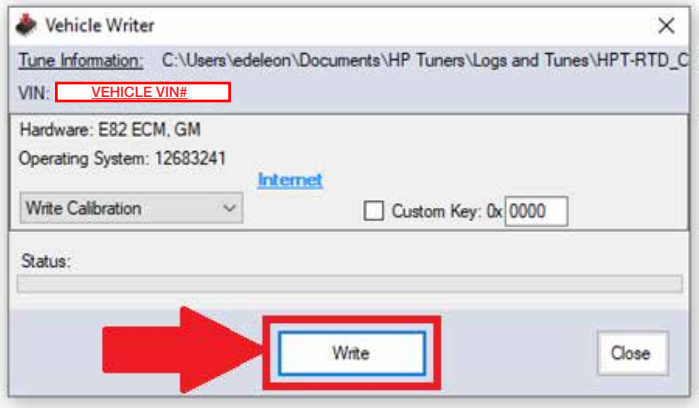
3. In the LICENSE SELECTOR window, select OK to apply the available credits for the EFORCE calibration.



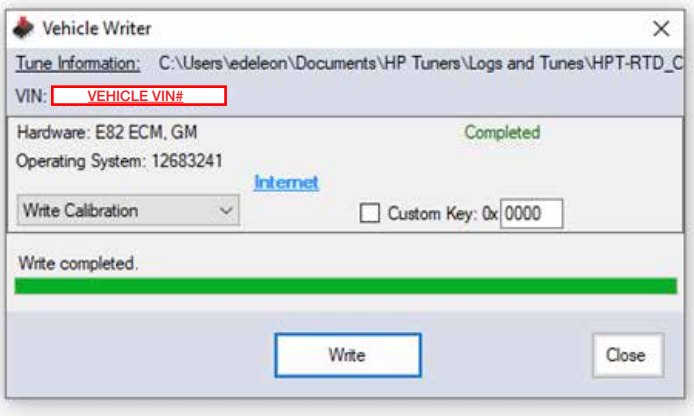
4. In the LICENSE SELECTOR CONFIRMATION window, select YES.



5. In the VEHICLE WRITER window, select WRITE to begin flashing the EFORCE calibration. Follow the prompts to complete the flash.



6. Once the flash is completed, click CLOSE, turn the ignition OFF and disconnect the RTD from your OBDII port. The engine is now ready to start once the supercharger installation is complete!



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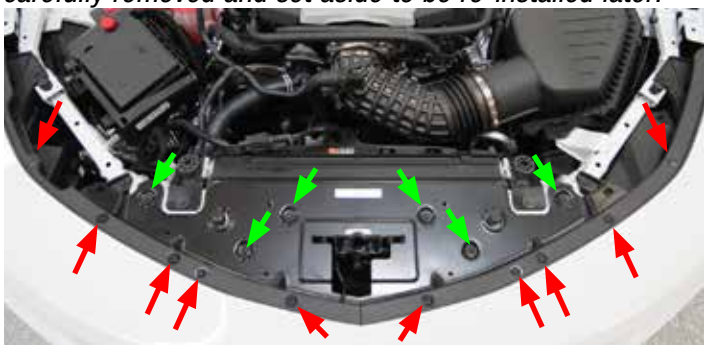
SUPERCHARGER INSTALLATION

1. Open the hood and access the battery via the trunk on the passenger side. Using a 10mm socket, disconnect the negative battery terminal. **Shield the connector from touching the battery terminal.**

2. Using a T-15 Torx driver, remove ten (10) screws securing the top of the fascia. Using a 10mm socket along with a T-30 Torx Driver, remove six bolts securing the radiator shroud. *NOTE: there's two small plastic spacers that can fall out when the bolts are removed. It should be carefully removed and set aside to be re-installed later.*



3. Using a 7mm socket, remove the bolts securing the bottom of the fascia.

NOTE: Although not required, removal of the front wheels will simplify the following procedures.

4. Use a T-15 Torx drive to remove six (6) screws securing the sides of the fascia; three (3) per side.

5. Use a 7mm socket to remove six (6) screws securing the corner of the fascia to the fender; three (3) per side.

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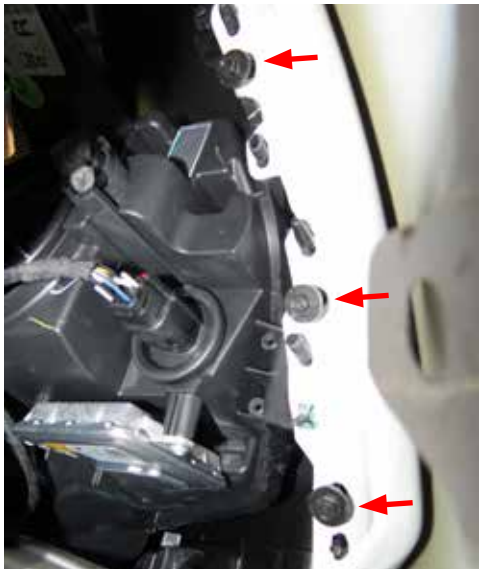
6. Pull back the wheel liner and remove eight (8) additional screws securing the fascia to the fender; four (4) per side. *NOTE: Fourth bolt not shown, location is above top bolt.*



7. Disconnect any necessary lamp and sensor harnesses and carefully remove the fascia.

8. Using a 10mm socket, remove the crash beam support braces.

9. Using a 10mm deep socket, unbolt the horn assemble from the crash guard. Unplug the horns and set aside.

10. Detach the wire harness from the crash guard but leave the harness on the vehicle. Using a 13mm socket and extension, remove the 4 bolts holding the crash guard to the chassis.

11. Using a 10mm socket, remove the 4 bolts on the upper radiator supports.

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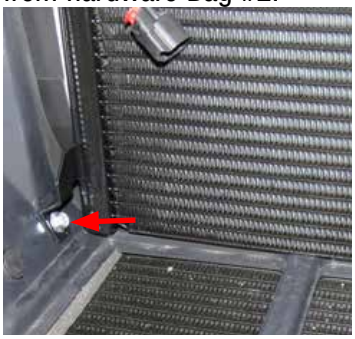
12. Install the LTR brackets underneath the upper radiator supports. Reinstall the radiator supports using the original 10mm bolts that were removed previously.

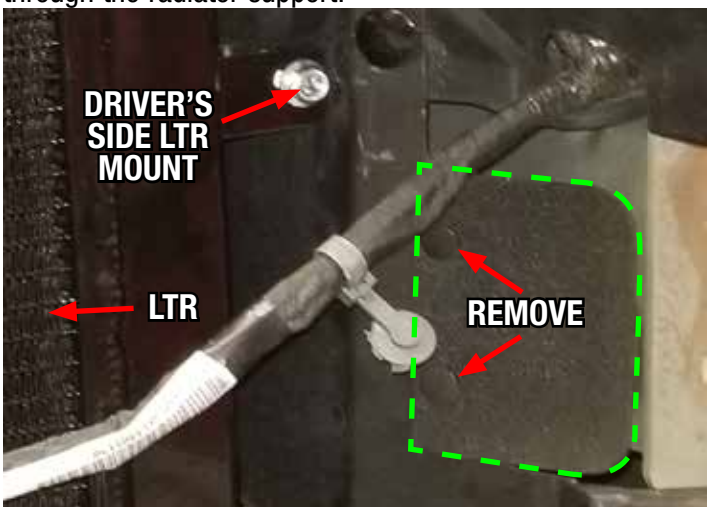
13. Place the LTR in front of the radiator and attach using the supplied M6 x 16mm bolts. from bag #2

14. To secure the bottom of the LTR, drill 1/4" holes through the plastic cowl using the mounting tabs as a guide. Do once on each side.

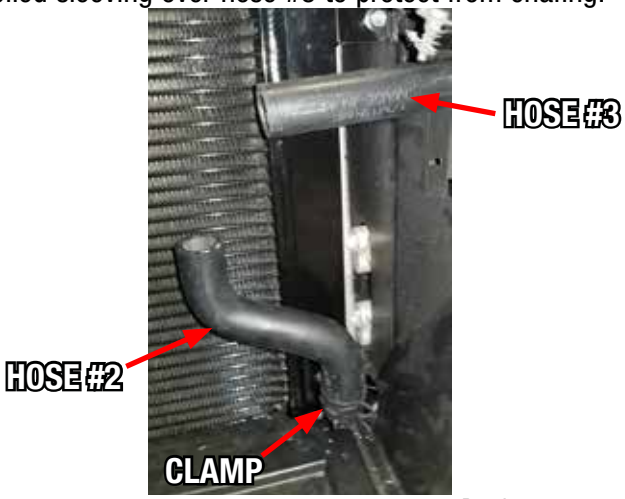
15. Secure the lower portion of the LTR to the air ducts using two (2) M6 x 16mm bolts and two (2) M6 locknuts from hardware Bag #2.



16. Remove this flap so the LTR coolant hose can pass through the radiator support.



17. Feed hose #3 through the opening where the flap was removed. Install hose #2 to the LTR as pictured. Install supplied sleeving over hose #3 to protect from chafing.



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18. Using the hose clamps provided, attach the water pump as pictured.

19. Install the rubber isolator onto the water pump backet as pictured below.

20. Install the insulator onto the pump. Attach the water pump harness and feed the harness through the radiator support towards the passenger side. Leave the bracket loose. We will come back to this once we reinstall the crash guard.

21. Uninstall the engine cover by removing the 1 bolt on the passenger side and removing the oil cap on the driver's side. Lift up on the cover and it should unsnap. Remove the air intake tube, sound tube, and PCV connection.

22. Remove the sound tube pictured here. Follow the tube back to the firewall and pull out.

23. Using the supplied plug, block off the hole left from the sound tube on the firewall.

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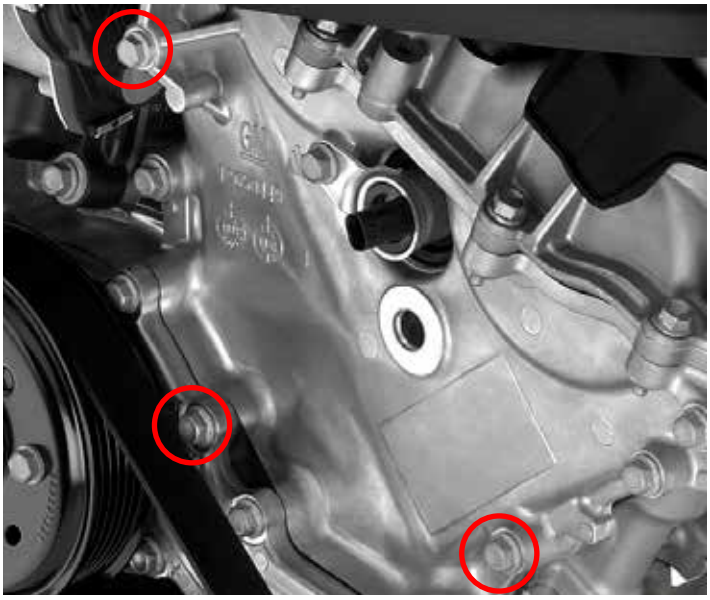
24. Unplug the EVAP solenoid and remove the hose. Using a 10mm socket, remove the EVAP and set aside. This will be reinstalled on the supercharger later. Unplug and uninstall the throttle body using a 10mm socket.

25. Uninstall the OEM MAP sensor located here. Set aside. This will be reinstalled.

26. Uninstall the intake manifold by loosening (8) 13mm bolts and (2) 10mm bolts in the back. NOTE: The back two 10mm bolts are underneath the winshield cowl.

27. Using a 15mm socket, turn the tensioner counter-clockwise and remove the belt from the FEAD.

28. These 3 positions are where the new FEAD will be attaching. Remove the 3 timing cover bolts as pictured in red.



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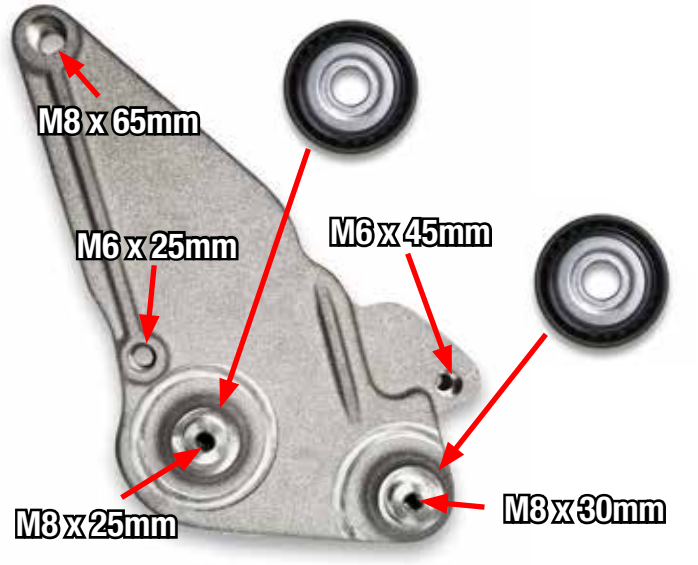
29. Mount the FEAD bracket to the engine using the supplied bolts from bag #1. Install the idler pulleys using the (2) M8 bolts from bag #1 using the supplied M8 washers.

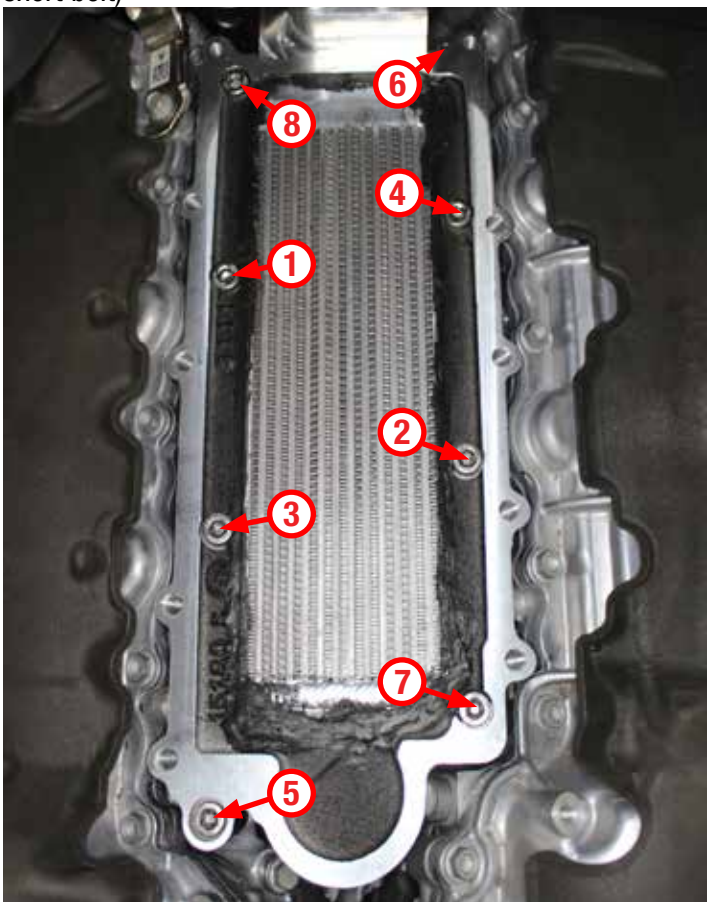


30. Using O-ring lube, install all six O-rings from bag #3 into the intake manifold as pictured.

31. Remove the intake port covering. Clean the sealing surface and check for any stubborn dirt or debris before proceeding.

32. Before attaching the TMAP extension, feed the cable up underneath the factory lines as pictured. **NOTE: You must connect the TMAP exentions before setting the intake down into the valley.**

33. From bag #3, install the (7) M8 x 65mm bolts, and the (1) M8 x 30mm intake bolt in the back. Use the following sequence to torque the bolts to 18 ft/lbs. (#6 bolt is the short bolt)



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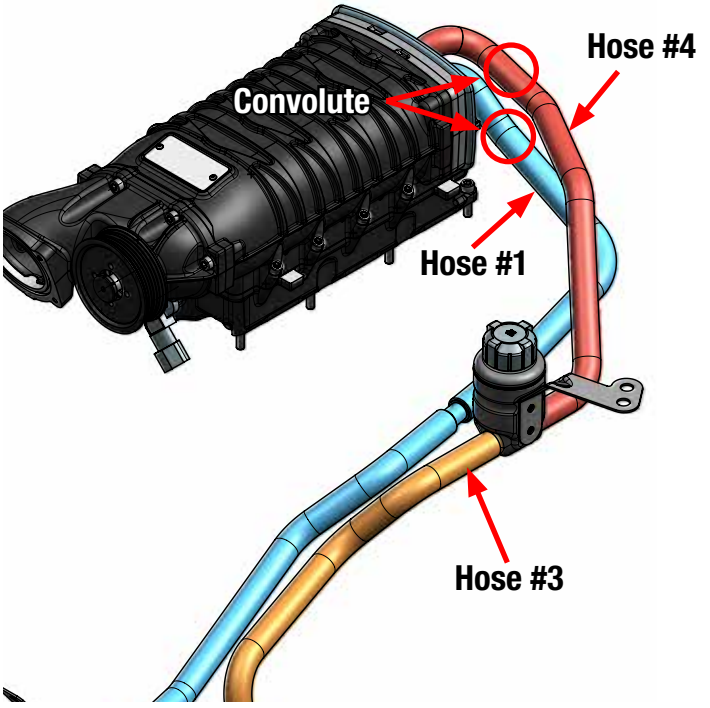
34. It is recommended to use copper sealant spray (or similar) on the bottom of the supercharger gasket to help keep it in place while positioning the supercharger.

35. Place the gasket on the intake manifold base. Be sure to align the gasket with the holes to ensure a perfect seal.

36. Install the factory MAP sensor to the underside of the supercharger nose using blue Loctite on the supplied M6x16 socket head bolt and M6 washer.

37. Using the supplied hose clamps from bag #1, attach the rear hoses to the supercharger's intercooler ports. Using the rest of the hose clamps, attach the surge tank as well as hose #3. Align clamps so they do not contact the supercharger. Place the supplied convolute tubing over hoses 1 and 4 to avoid chafing on the corner of the supercharger housing.



NOTE: Refer to the hose guide in the beginning of this manual to identify hoses.

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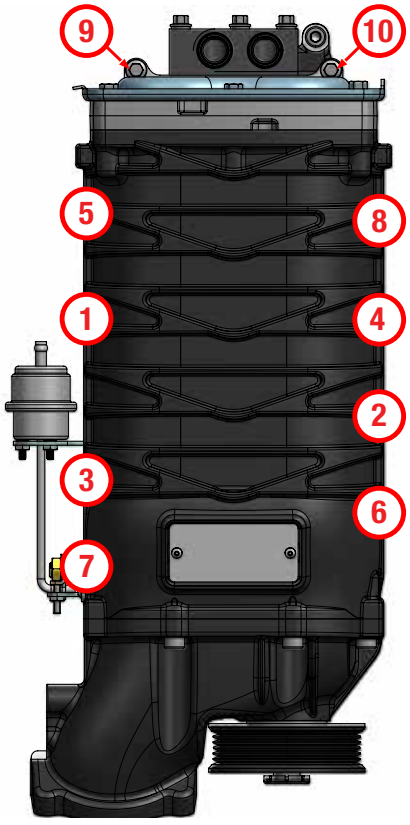
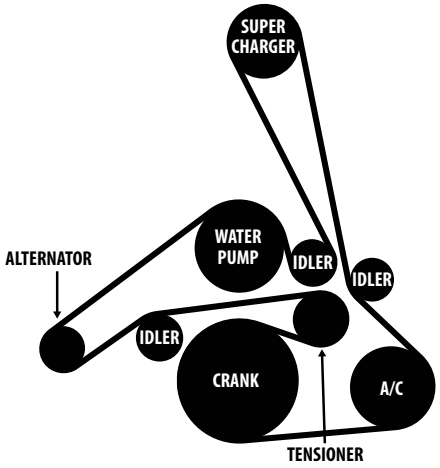
38. Carefully place the supercharger unit onto the intake manifold, taking care not to damage the gasket. 2 people are recommended.

39. Using the hardware from bag #3, install the (8) M6 x 25mm on the sides, and (2) M6 x 16mm in the rear. Torque bolts 1 through 10 in the following order to 9lb/ft. (or 12Nm) of torque using blue Loctite. Install OEM MAP sensor behind the throttle body. **NOTE:** Do not over-torque.



40. Using the supplied serpentine belt, install the belt as pictured.



41. Undo the two cowl support bracket bolts and insert the surge tank bracket as shown. Reinstall the bolts and attach the bottle to the bracket using the supplied M6 x 10mm bolts from Bag #2.

42. Using the MAP sensor extension, plug in the MAP sensor underneath the nose. Connect the other end of the extension to the harness.

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43. Bolt the throttle body to the supercharger nose using the factory bolts. Reconnect the ETC cable to the throttle body using the supplied ETC extension harness.

44. Bolt the EVAP solenoid to the supercharger nose as pictured. Connect the supplied EVAP extension cable and reconnect the new cable to the orginal EVAP connector.

45. Insert the supplied grommet and fitting in to the intake tube. Attach the intake tube using the supplied couplers and clamps. Reattach the OEM PCV hoses. Disconnect the MAF and plug in the supplied TMAP harness to the MAF. Connect the factory MAF plug into the harness. Connect the TMAP end of the harness to the TMAP extension which was installed earlier onto the intake manifold.

46. Connect the POWER terminal on the water pump harness to the power junction on the fuse box.

47. Remove the factory GROUND terminal nut attached to the chassis. Attached the GROUND connector on the water pump harness to the chassis ground and secure with the factory terminal nut. Remove the nuts securing the fuse box to the chassis. Gently remove the fuse box from the mounting studs and secure the relay to the mounting stud. Reinstall fuse box nuts.

48. Route the EVAP connectors on the supplied water pump harness towards the EVAP solenoid. Install the water pump harness in-between the mating connectors on the EVAP solenoid and factory harness. TIP: Note connector orientation..

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49. Route the water pump connector over and down towards water pump and connect to the water pump. Secure any extra length of harness between the headlight and front grill.

50. Secure water pump harness to existing harnesses.

51. Fill the radiator reservoir tank with GM recommended 50/50 coolant blend.

52. Fill the supercharger surge tank with a 50/50 coolant and water mixture. *NOTE: Please see "How to Prime the Edelbrock Intercooler Systems" at the end of these instructions for detailed instructions.*

53. Reconnect the battery and switch ignition to the ON position, **DO NOT START**. With the ignition switch on, check for any coolant or fuel leaks. Repair all leaks before proceeding.

Congratulations on the successful installation of your new Edelbrock Supercharger System. If you have any questions, please call our Technical Support hotline at 800-416-8628 and one of our technicians will be happy to assist you.

CAUTION: Check ADAS sensors as described under the "Important Warning" section in the beginning of this document.

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How to Prime the Edelbrock Intercooler Systems.

The electric water pump used on this Edelbrock Supercharger System has a built-in micro-processor that will vary pump cycle speed when air bubbles are present in the system. If a significant amount of air is trapped in the system, the pump may cycle at a slower speed and pulsations are likely to occur resulting in poor cooling performance.

For the best result, it is highly recommended to use a Radiator Cooling System Vacuum Purge and Refill Kit to properly evacuate the air from the intercooler system before filling with a 50/50 mixture of coolant and distilled water. If one is not available, the following procedure will be adequate.

1. Using the Lisle 24680 Spill-Free Funnel, or equivalent, secure the appropriate filler neck adapter to the surge tank.
2. Attach the funnel and fill with a 50/50 mixture of coolant and distilled water until the funnel is half full.
3. Turn the ignition to the ON position and listen for the pump's electric motor to cycle. Air bubbles will begin to purge from the system as the coolant level drops. Add coolant to the funnel as necessary. *NOTE: Do NOT let the coolant level in the funnel run empty as this may introduce air into the system.*
4. To build more pressure in the intercooler system, try squeezing the intercooler hoses while the pump is cycling. Building pressure in the system will help purge the trapped air from the intercooler system.
5. Cycle the ignition OFF and wait a few seconds for the pump to come to a stop.
6. Cycle the ignition ON again and repeat until the sound of the electric pump is continuous without any pulsation. *NOTE: During water pump start-up, it is normal for a slight pulsation to occur. Once the pump has reached its maximum cycle speed, no pulsations should be present.*
7. Periodically inspect the water pump flow after a few drive cycles and re-fill the intercooler system as necessary.
8. Several drive cycles may be required to completely purge the air from the intercooler system. During a drive cycle, the intercooler system will build up pressure as the supercharger temperature increases. Any residual air trapped in the system will gradually bleed out of the surge tank as the system reaches a pressure above 5psi.

WARNING: Always avoid removing the surge tank cap when the engine is hot. The hot coolant is under pressure and may spray out causing burns.

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