Installation Guide

FDFI 2650

Camaro 6.2L LT1 MY16 onwards

f HARROPPERFORMANCE HARROPTV W: HARROP.COM.AU P: 1300 HARROP E: SALES@HARROP.COM.AU

Important Information

Installing the supercharger indicates your acceptance of the responsibility and liability associated with the fitment and use of this product. Please ensure the owner and drivers of the supercharged vehicle are aware of their responsibilities and liabilities as indicated below.
Thank you for purchasing this supercharger which has been designed and made with pride. The owner and drivers of the enhanced vehicle must be aware that fitment of a supercharger may affect:
• The vehicle's factory warranty.
• Insurance cover and associated liabilities.
• Compatibility with emission and roadworthy certification.
• The validity of a driver's license for a supercharged vehicle.
• The handling & braking capability of the vehicle due to increased engine power & torque characteristics.
• The longevity of the engine.
• The vehicle will need to use premium unleaded fuel only (93 AKI/98 RON).
It is the owner's/driver's responsibility to accept any consequences and liabilities of using the supercharger and any subsequent effect it may have. Harrop Engineering shall not be liable and shall be 'Held Harmless' for any direct and/or indirect/consequential losses, costs, damages, expenses, injuries or liabilities whatsoever incurred by the owner/driver of the vehicle or other parties arising from this supercharger, its installation and/or its operation. It is recommended that vehicles have completed 1,500 km and have been driven, serviced and maintained in accordance with the vehicle manufacturer's handbook before fitting a supercharger. An engine should be deemed reliable and have delivered all reasonable expectations in line with the vehicle manufacturer's specifications prior to fitting a supercharger.

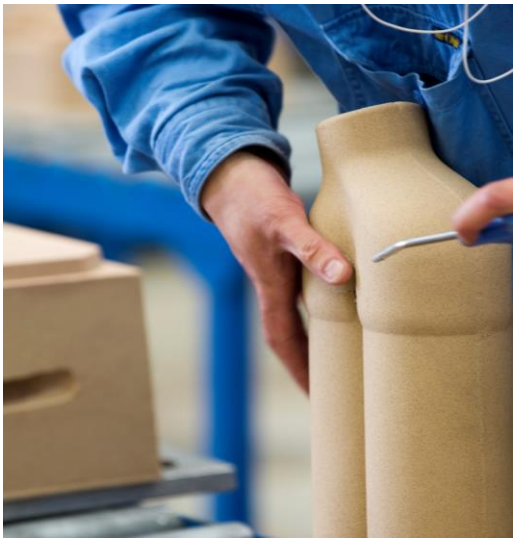
Warranty.
This supercharger is covered by a limited warranty on components and workmanship for a period of 36 months from the date of purchase, subject to the following:
• Installation must be completed by a qualified motor mechanic or technician who has undertaken appropriate training in fitting Harrop superchargers.
• The supercharger has not been modified or "overdriven" by fitting alternative drive pulleys.
• The supercharged vehicle has been tuned by an appropriately qualified and experienced technician.
• The supercharged vehicle has been driven in accordance with the conditions specified by the vehicle manufacturer's normal use of operation, driving care and vehicle service program.
• The supercharged vehicle has not been used for competitive racing.
No warranty shall apply where Harrop have determined improper fitment or handling, misuse in operation, neglect, or accident damage. Engine modifications made prior to or in conjunction with the supercharger fitment may invalidate the Harrop limited warranty. Any warranty claims must be made immediately & directly in writing to Harrop Engineering so that a determination can be made promptly. Involvement of a third party or an attempt to repair a perceived/actual fault may invalidate the warranty. To the extent of the law, the determination on any warranty claim & associated costs will be at the sole discretion of Harrop Engineering.

By installing the supercharger you acknowledge that all conditions pertaining to this supercharger and its operation have been read, understood and accepted

For 65 years Harrop Engineering has been at the forefront of designing, developing and manufacturing precision performance components. Today our innovative and logical approach is applied to low volume automotive OEMs and the performance aftermarket through a dedicated team of 65 staff. Core performance products include Superchargers, Engine Components, Brakes, Differentials and we are also the exclusive Australian Distributor for Forgeline Motorsport Wheels.

Harrop are also the preferred supplier of Eaton Supercharger and Traction Control technology including dual branded product designed and manufactured in-house. There are currently over 4,000 components in our portfolio and this is growing daily as we continually develop more Harrop Performance Products.
Our high profile car manufacturing customers have included Holden, HSV, FPV, Ford, Roush, Toyota, TRD and Lotus.
We also supply to race teams from categories including F1, NASCAR and V8 Supercars and an extensive range of drag, circuit and off-road competitors. Just as importantly, a large portion of our customers are performance enthusiasts and weekend warriors who are highly passionate about their ride.
Please take a moment to review the following pages and learn why Harrop is the first choice in Superchargers.
Thank you for choosing Harrop and enjoy your Harrop Enhanced ride.

- Team **HARROP**



Contents **Page**

References to left and right in the instructions are made to the vehicles side and NOT the installer

1) Disassembly

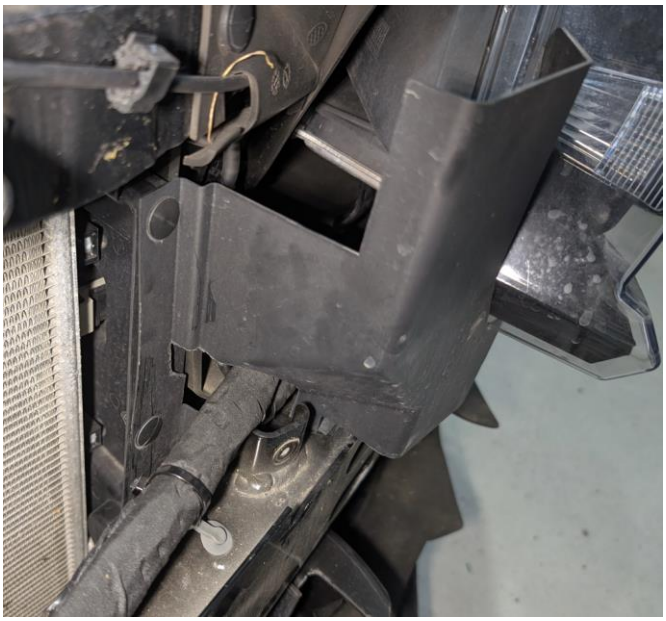
a. Disconnect the negative terminal from the battery.

b. Remove the front bumper.

c. Remove radiator support braces.

d. Remove the horn assembly from the vehicle.

e. Remove the infill piece next to the LH headlight.

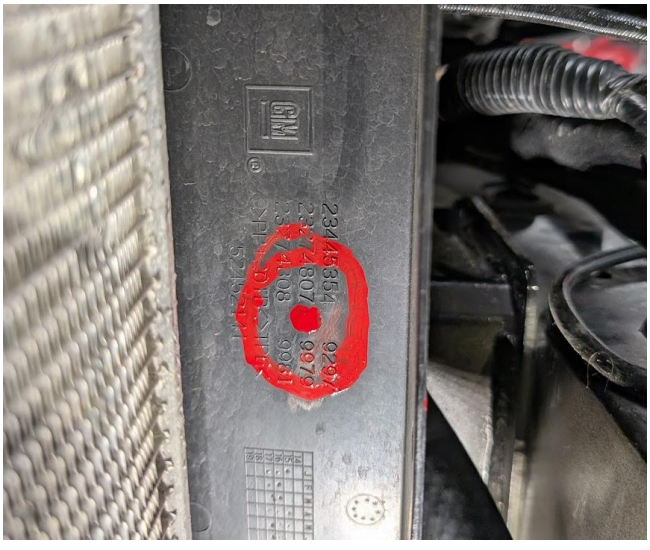


2) Low Temp Radiator Install

a. Remove the plastic clip closest to the radiator on both sides of the vehicle. LHS shown.

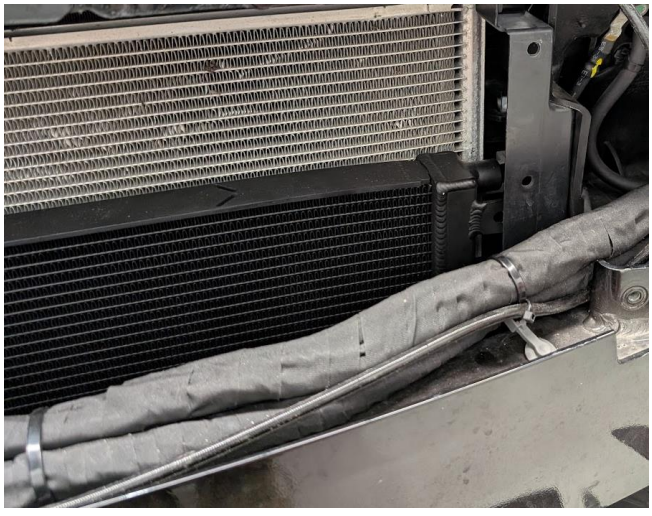
b. Cut off this flap on LHS hard plastic infill piece next to the radiator.

c. Drill Ø32mm hole in LHS hard plastic infill piece next to the radiator in the location shown.



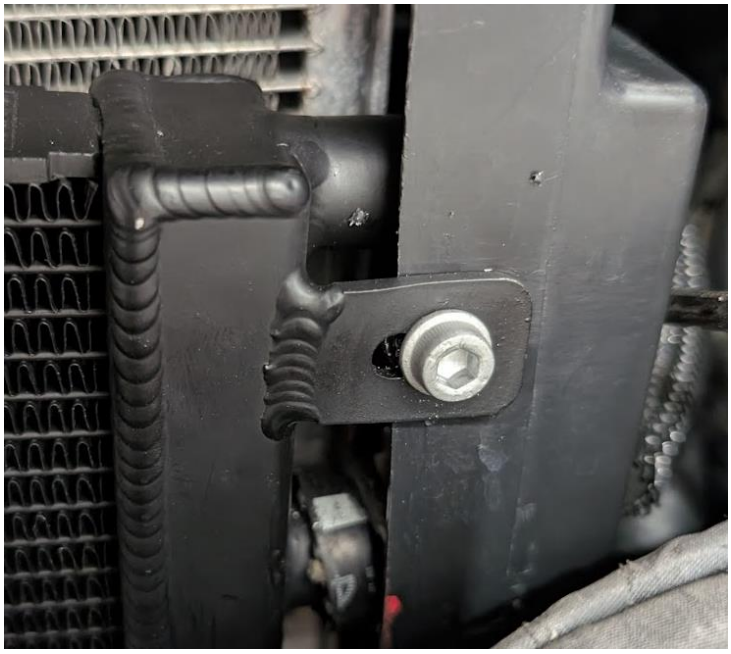
d. Remove the RHS infill piece.

e. Place intercooler radiator in place with the fittings in the correct orientation.



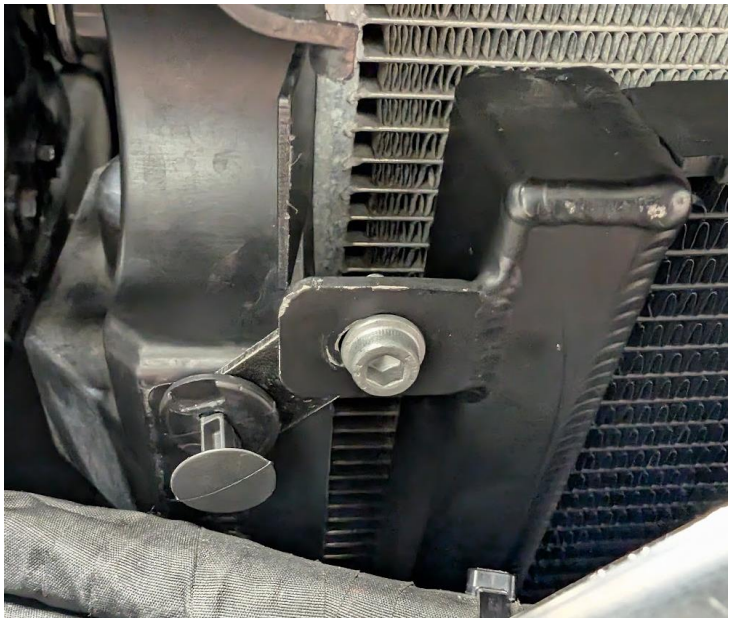
f. Fit the lower brackets to both sides of the radiator and to the car using supplied M6x16 flanged bolts and M6 flanged nuts. LHS shown.

g. Drill a 7mm hole in the LHS hard plastic infill piece and secure with supplied M6x16 flanged bolt and M6 flanged nut.



h. Fit the small bracket with 30mm hole centres between top RH bracket of the radiator and the RHS hard plastic infill piece with the small ole to the radiator ad the large hole to the car. Fasten to the radiator with the included M6x16 flanged bolt and M6 flanged nut.

i. Reinstall infill piece removed in step 2d with the clip going through the large hole in the bracket installed in the previous step. (Infill piece not shown in picture.)



3) Manifold Removal

a. Remove upper airbox and clean air tube.

b. Remove the sound tube up to the last join before it passes through the firewall.

c. Remove the coil covers.

d. Remove the intake manifold cover.

e. Remove the fuel purge solenoid from the intake manifold, retaining the line.

f. Remove the vacuum brake line, retaining the line.

g. Disconnect the line from the PCV valve.

h. Unplug the wiring from the throttle body.

i. Remove the flexible fuel line.

j. Remove the intake manifold.

k. Clean the head faces and mask the ports using masking tape.

l. Remove MAP sensor from the intake manifold.

m. Remove port orings from the intake manifold.

n. Remove throttle body and its oring from the intake manifold.

4) PCV Removal

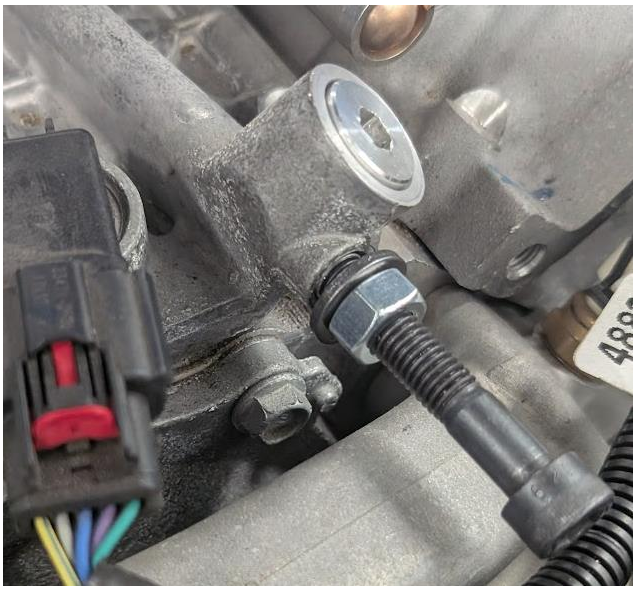
a. Remove the PCV valve.

b. Install the provided plug.

c. Install the M10 washer and nut on to the included M10x50 socket head cap screw.

d. Thread the socket head cap screw into the plug at the front of the valley plate.

e. While stopping the screw from spinning, tighten the nut into the valley plate, pulling out the plug.



f. Apply Loctite 680 to the small OD of the included PCV fitting and install it into the hole where the plug was just removed from. Tap the fitting in with a soft face hammer till it bottoms out.

5) Supercharger Installation

a. Remove the short hard line section of fuel hose running from the LH rocker cover to the high pressure fuel pump.

b. Install the fuel hose removed in step 3h as per image.

c. Remove ignition coils.

d. Install supplied spacers under each ignition coil with the supplied M6x45 button head cap screws.

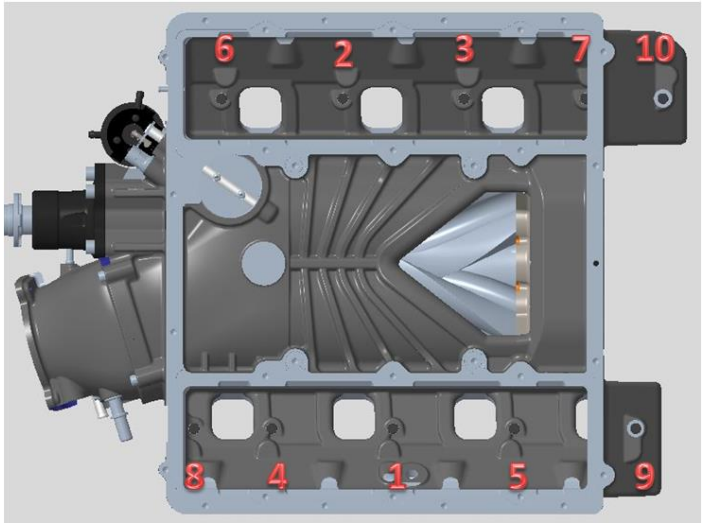
e. Remove the lid and intercooler cores from the supercharger

f. Install all 8 intake manifold port orings into the supercharger.

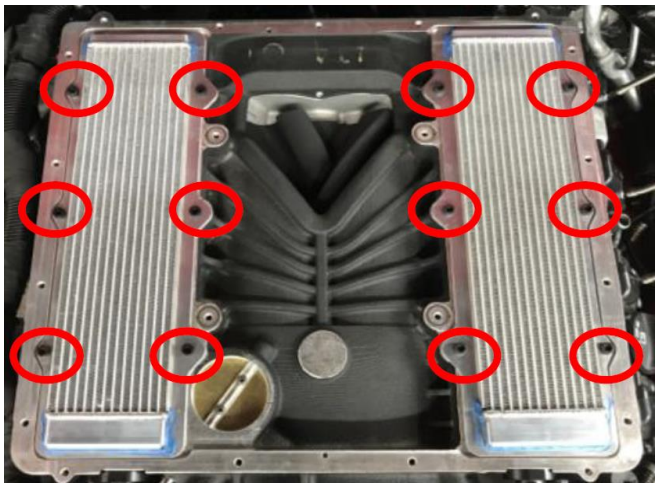
g. Assemble the supplied dowdy washers to the supplied socket head cap screws 8x M6x45.

h. Insert the M6x35 screws inside the manifold with a drop of oil under the dowdy washer. Insert the supplied M6x100 and M6x130 socket head cap screws into the supercharger manifold at the rear using a piece of tape to hold these up enough so they do not protrude out the bottom. (100mm long in the RH side and the 130mm long into the LH side).

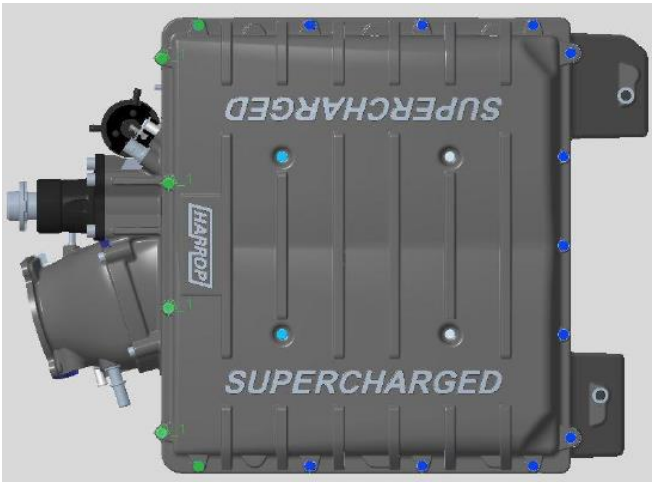
i. Remove the masking tape off the inlet ports on the heads and lift the supercharger manifold into place. Remove the supporting tape off the rear screws and get these started in the heads. With the remaining 8 screws apply Loctite 263 and screw these in. Tighten the screws in the sequence shown and torque to 10-12Nm.



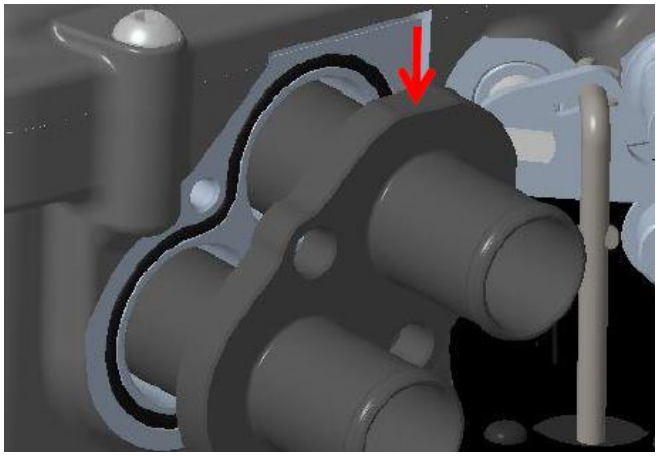
j. Install the intercooler cores into the manifold, note these are handed. Apply Loctite 263 to the screws and torque to 10-12Nm.



k. Installing the lid, check to ensure that there are 4 brown 'O' rings in the centre of the lower manifold where the white and cyan screws fit. The green screws are M6x20 button head screws, the blue are M6x20 socket head cap screws, the cyan coloured screws M6x35 socket head cap screws and the white are M6x45 socket head cap screws. Torque these to 10-12Nm.



l. Apply a lubricant to the intercooler hose fittings on the opposite side to the hose connection and insert them through the manifold into the cores. Note the fittings have flats machined on one side, orient these flats to face the top as they provide clearance for the lid. Using the screws supplied, secure the fittings and torque to 10Nm.



m. Install the MAP sensor removed in step 3k into the throttle body adaptor on the supercharger using the supplied M6x20. This sensor will not be wired in.

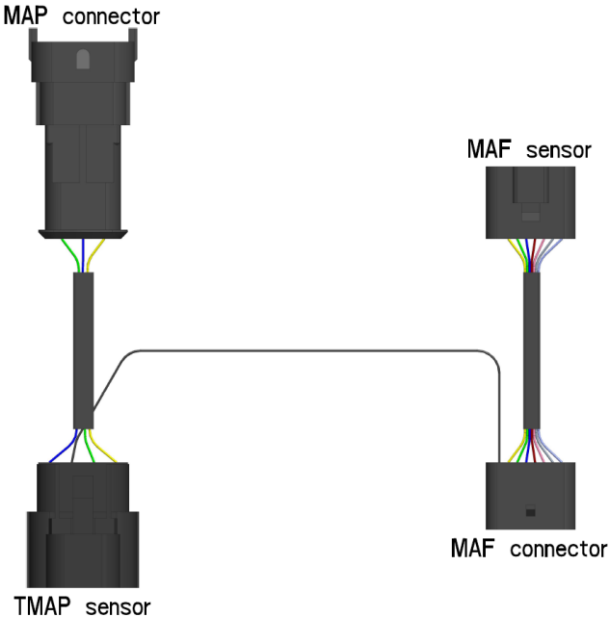
n. Install the fuel purge solenoid removed in step 3e into the throttle body adaptor, reusing the OEM bolt.

o. Install the throttle body and its oring removed in step 3m onto the throttle body adaptor reusing the OEM bolts. Connect its wiring harness.

6) Wiring

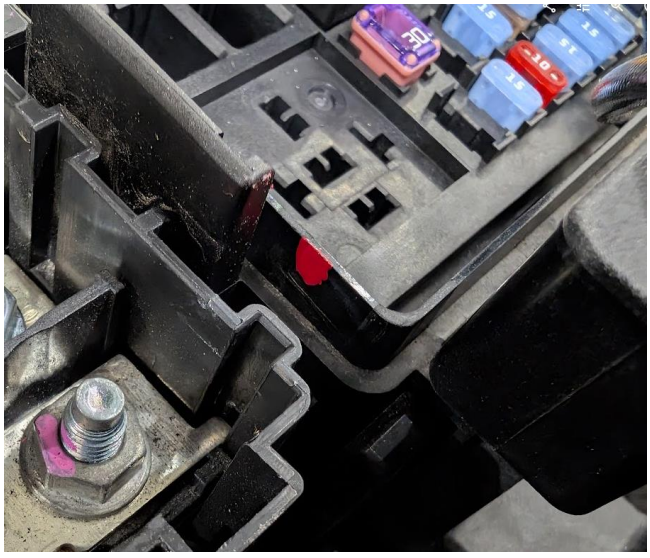
a. Connect the supplied purge extension harness between the vehicle loom and the fuel purge solenoid.

b. Connect the supplied MAP/MAF adapter harness as shown in the image, leaving the MAF sensor disconnected till the clean air tube is installed (image not to scale).



c. Drill the mounting hole for the relay to 7mm.

d. Open the top of the fuse box and trim the plastic shown in red in the image.



e. Trim the fuse box lid as shown to allow for wiring to pass through.

f. Remove the fuse from F57 and insert the fuse tap on the intercooler pump loom.

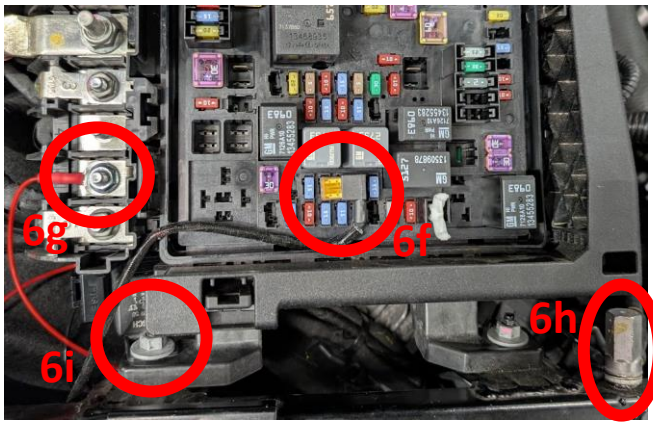
g. Connect the red terminal from the intercooler pump loom to the 12V post shown in the image.

h. Connect the black terminal from the intercooler pump loom to the ground post shown in the image.

i. Mount the relay using the fuse box mounting location shown in the image.

j. Run the wire for the intercooler pump along the front support bar in front of the radiators.

k. Connect the supplied horn extension loom to the horn connector and leave the end of the harness underneath the RHS headlight.



7) Vacuum Plumbing

a. Removing the quick connect ends from the fuel purge line removed in step 3e.

b. Assemble the ends to the 3/8” 1050mm long hose.

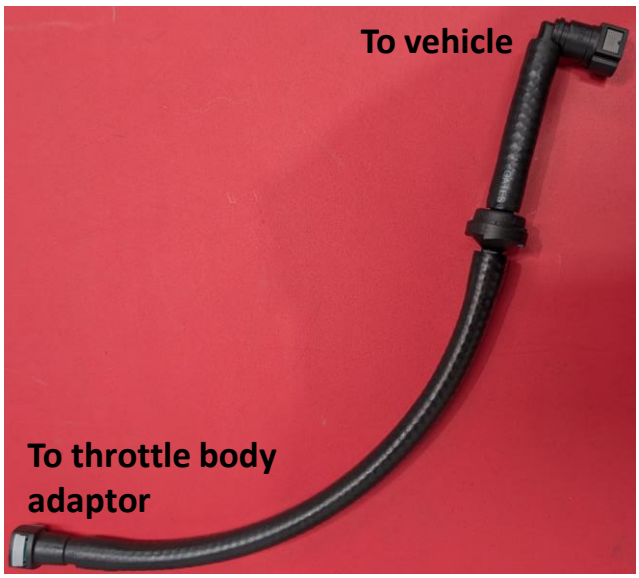
c. Remove the quick connect ends and the one-way valve from the vacuum brake line removed in step 3f.

d. Assemble the 90 degree fitting removed in the previous step to the 3/8” 90mm long hose.

e. Assemble the one-way valve to the 3/8” 90mm long hose with the arrows facing away from the 90 degree fitting from the previous step.

f. Assemble the 3/8” 300mm long hose onto the one-way valve.

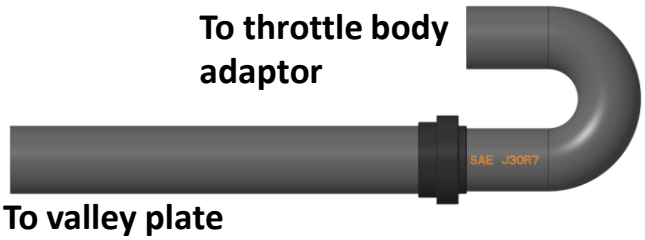
g. Assemble the supplied straight 11.8mm quick connect fitting onto the hose.



h. Connect the small end of the supplied PCV valve to the supplied U shaped hose and the other end to the supplied 3/8” 100mm hose.

i. Connect the fuel purge line and the vacuum brake line to their respective ports (see images on previous page).

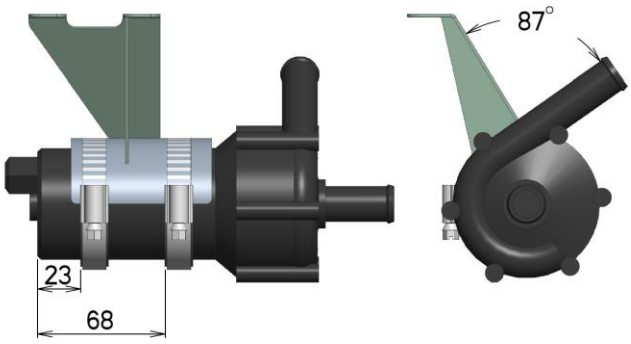
j. Connect the PCV piping to the vehicle with the U shaped hose connecting to the throttle body adaptor and the straight hose to the fitting installed in step 4f.



8) Intercooler Plumbing

a. Apply the 2 strips of supplied foam tape to the intercooler pump as per the image.

b. Mount the pump to the pump bracket as per the image.

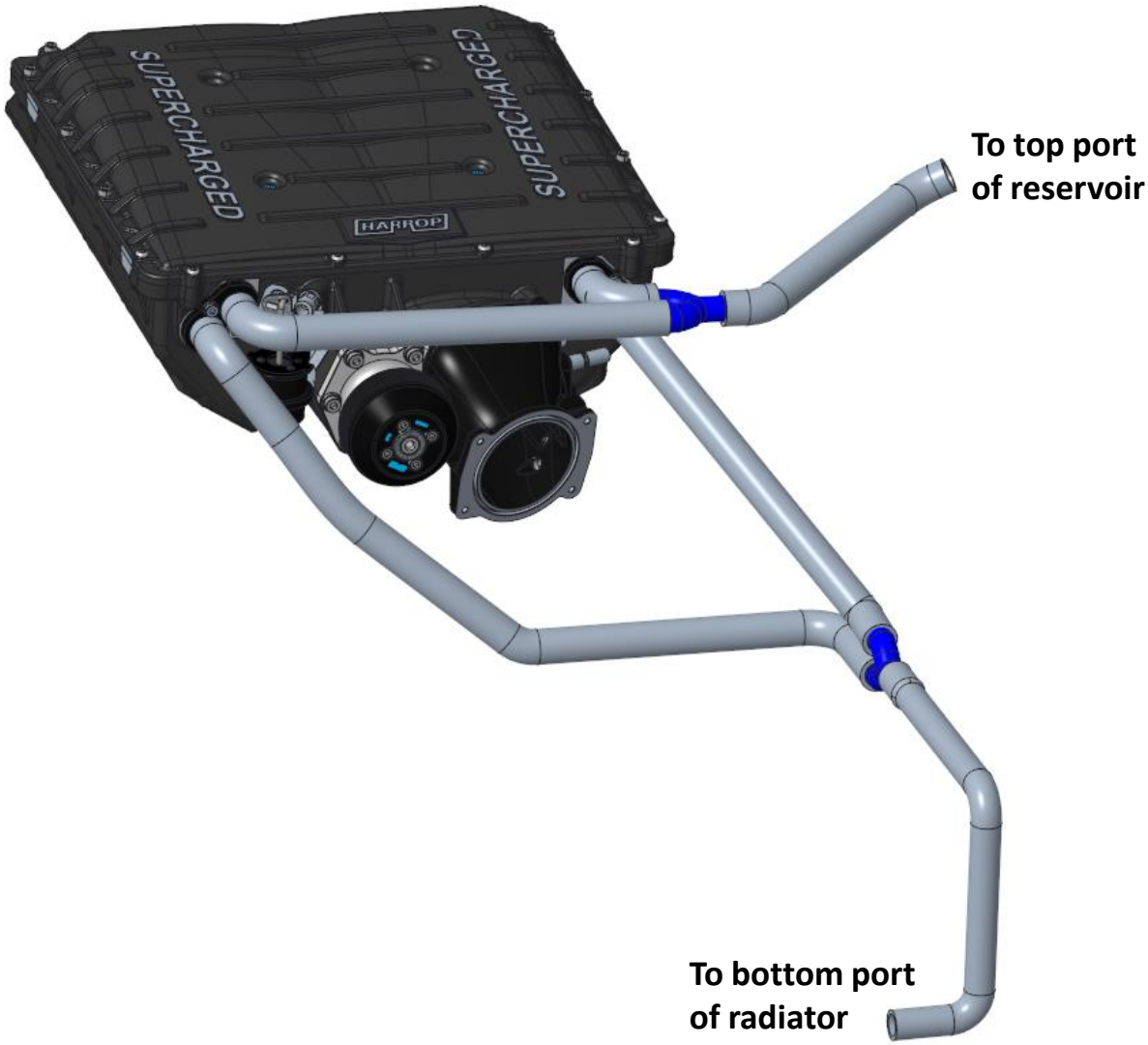


c. Mount the pump assembly to the vehicle using the 2 bolt in the LHS frame rail next to the AC compressor.

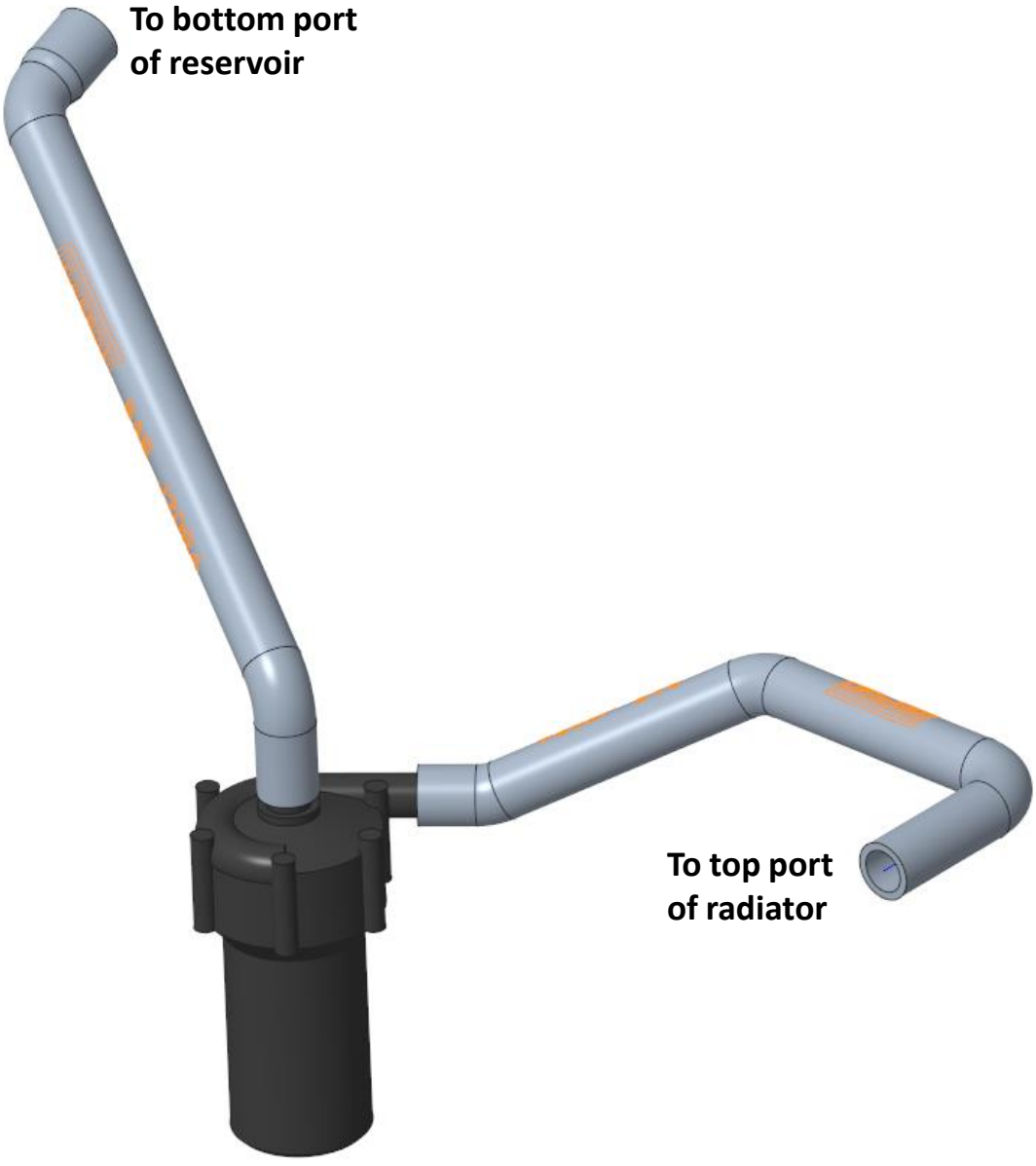
d. Connect the intercooler pump loom placed in step 6j to the pump.

e. Install the intercooler reservoir to the LHS shock tower.

f. Connect the hoses as per image below using the supplied yellow cobra clamps at all connections.



g. Connect the remaining hose as per the image, using the yellow cobra clamps at all joins.



9) Belt Drive

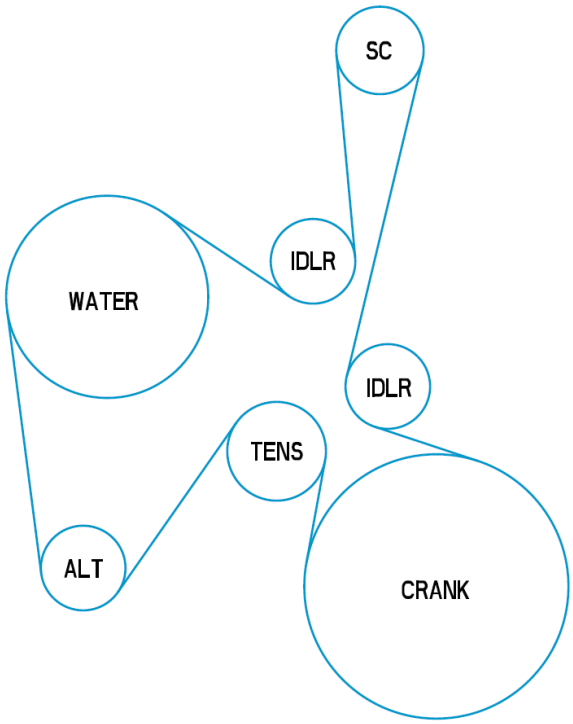
a. Remove the factory serpentine belt.

b. Install the large idler assembly onto the water pump with the included M10x35 zinc plated socket head cap screws. Torque to 34Nm.

c. Remove the bolt shown.

d. Install the remaining idler on its post using the supplied M8x130 zinc plated socket head cap screw. Torque to 18Nm.

e. Install the included 6PK2050 belt on the belt route pictured.

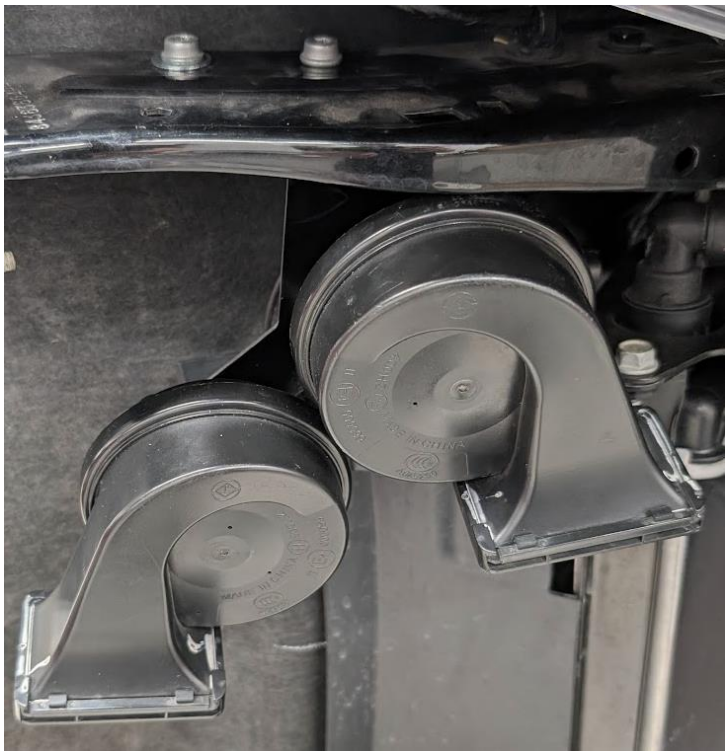


10) Horn Relocation

a. Install the horns on the supplied bracket with the factory nuts.

b. Mount the horn assembly underneath the RHS headlight using the supplied M6x16 zinc coated socket head flange screw and the M8x20 zinc coated socket head flange screw.

c. Connect the harness installed in step 6k.



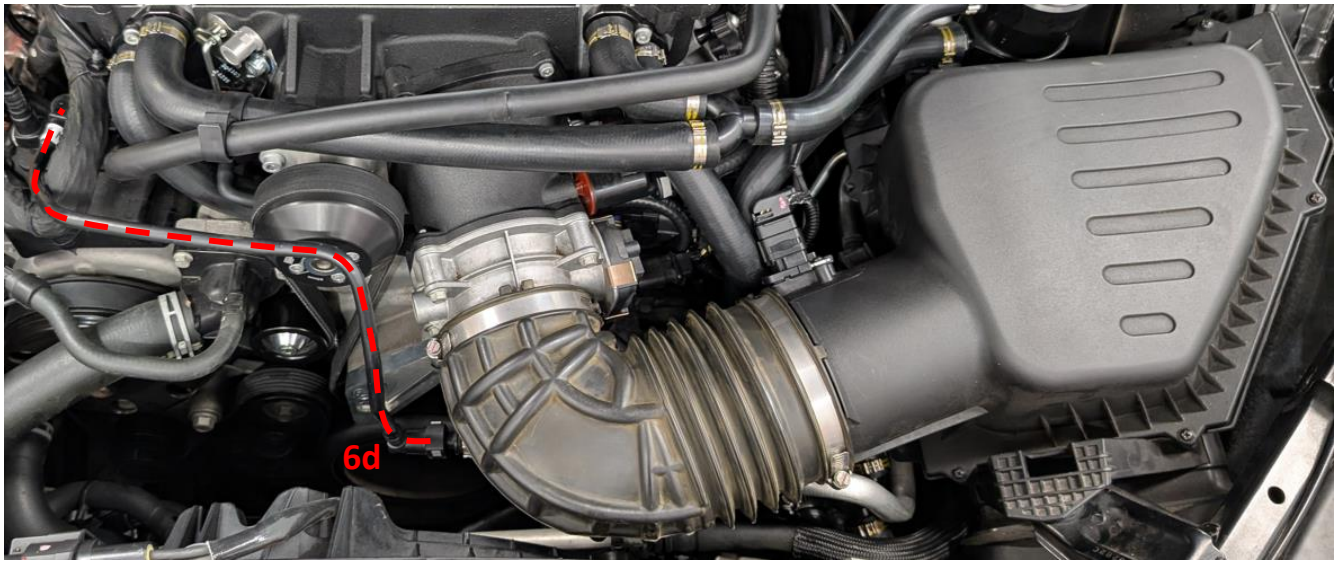
11) Refit Airbox

a. Fit the LT4 clean air tube to the airbox.

b. Reinstall the upper airbox, connecting the clean air tube to the throttle body. Ensure all hose clamps are tight.

c. Connect the MAF harness to the MAF sensor.

d. Connect the breather tube from the engine to the clean air tube.



12) Finalise Installation

a. Reconnect negative terminal to the battery.

b. Fill the intercooler system with GM6277M, mixed with distilled or deionised water in a 50% concentrate. Note: Filling with a noncompliant coolant will void warranty. Fill until the level comes to 25mm from the top, allow some time for the coolant to completely fill the intercooler radiator.

c. Cycle the ignition to pump coolant. Top up as necessary and check for leaks.

d. Refit the front bumper.

e. Make sure any components that were removed to aid installation have been re-fitted where necessary.

f. Clean a flat, visible surface under the hood and affix the supplied CARB EO sticker, indicating that this kit is emissions legal.

g. Affix the supplied fuel specification label to the inside of the fuel filler flap.

h. Flash the Harrop supplied PCM calibration file using the supplied tune deployment hardware.

i. Start the engine and check that the supercharger belt is running correctly and there are no vacuum or liquid leaks.

j. Road test the vehicle.

k. Check intercooler coolant level and top up if required.