



2016-Current Camaro 3.6 Supercharger Kit Installation Guide



LEGAL DISCLAIMERS AND IMPORTANT INFORMATION, PLEASE READ BEFORE INSTALLING THE SUPERCHARGER SYSTEM!!

- Use extra caution when driving any modified vehicle. Increased power may produce increased speeds that may make the vehicle unsafe or uncontrollable and result in serious injury or death. We do not condone speeding or breaking any traffic laws. It is the responsibility of the purchaser, owner or operator of the vehicle being modified with this supercharger system to understand all risks associated with increasing the horsepower of a vehicle and to obey all local traffic laws.
- Overkill and its partners are not liable for any damages as a direct or indirect result of installing this supercharger. The purchaser, installer or reseller of this supercharger system cannot, under any circumstances, hold the companies mentioned liable for any subsequent loss, damages, fines or penalties. It is the responsibility of the purchaser, owner or operator of the vehicle being modified with this supercharger system to understand all risks associated with increasing the horsepower of a vehicle.
- This supercharger system is NOT CARB approved and is not legal for use on any public roads in the state of California. This system has not undergone any approval for use on public roads. Despite all efforts to ensure no increased emissions from normal vehicle operation, this system may not meet your local emissions laws. It is the responsibility of the purchaser, owner or operator of the vehicle being modified with this supercharger system to understand and comply with all emissions laws associated with their vehicle.
- Use of 91 octane or higher is REQUIRED with this supercharger system. Do not use 87 octane, 89 octane, or E85 ethanol fuel. For all forms of racing or sustained high speed use, it is recommended to use a mixture of 100+ octane unleaded race fuel and the highest octane pump gas available. It is HIGHLY RECOMMENDED to use the computer tuning services provided by Overkill or the installer of this system to ensure the safe and proper operation of the engine with this supercharger installed. Your provided Autocal or HP Tuners can provide scans for the owner/operator of the vehicle to view. It is the responsibility of the purchaser, owner or operator of the vehicle being modified with this supercharger system to understand all risks associated with increasing the horsepower of a vehicle, and to understand for themselves how to identify unsafe and improper vehicle operation which may lead to engine damage.
- Installation of this system by a trained certified mechanic is HIGHLY RECOMMENDED. It is the responsibility of the purchaser, owner or operator of the vehicle being modified with this supercharger system to ensure the safe and proper installation of this system to avoid damage to any of its components which may not be covered under warranty due to installation error or abuse.

Installation Overview

- Step 1: Remove Front Bumper
- Step 2: Remove Air Filter Assembly
- Step 3: Remove Intake Manifold, Install MAP Sensor, Spark Plugs
- Step 4: Install Throttle Body Spacer and Reinstall Intake Manifold
- Step 5: Install Crankshaft Pulley
- Step 6: Install Tensioner To Mounting Plate
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Before you begin the installation, ensure that you have followed the included instructions to read the factory computer tuning from your vehicle and emailed it to willoverkill@gmail.com and waited to receive your new supercharged tunes back before attempting to install. This process may take several business days.

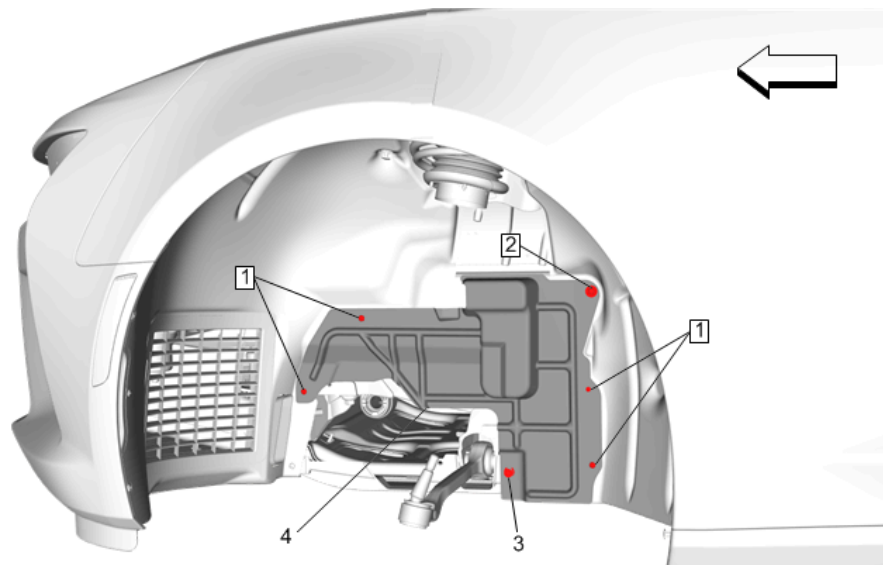
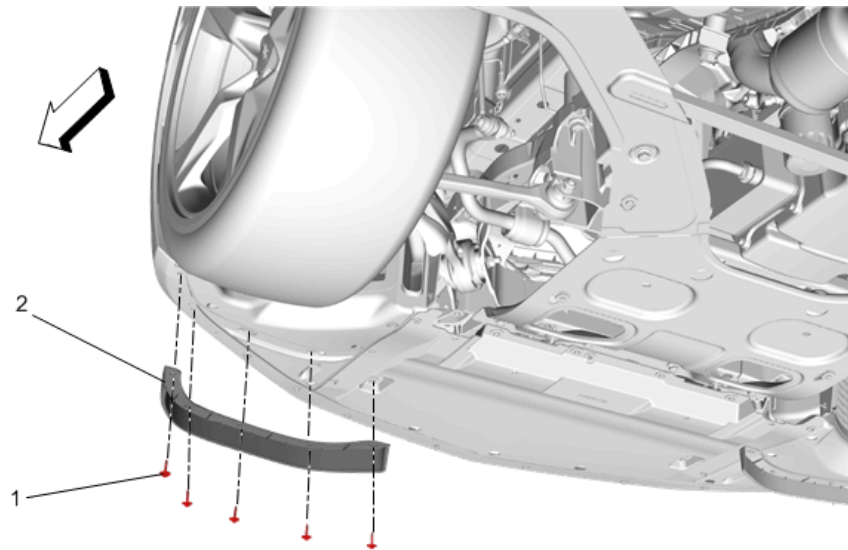
Disconnect your battery before starting the installation. Remove the negative battery terminal and place a clean towel on the battery post to prevent contact.

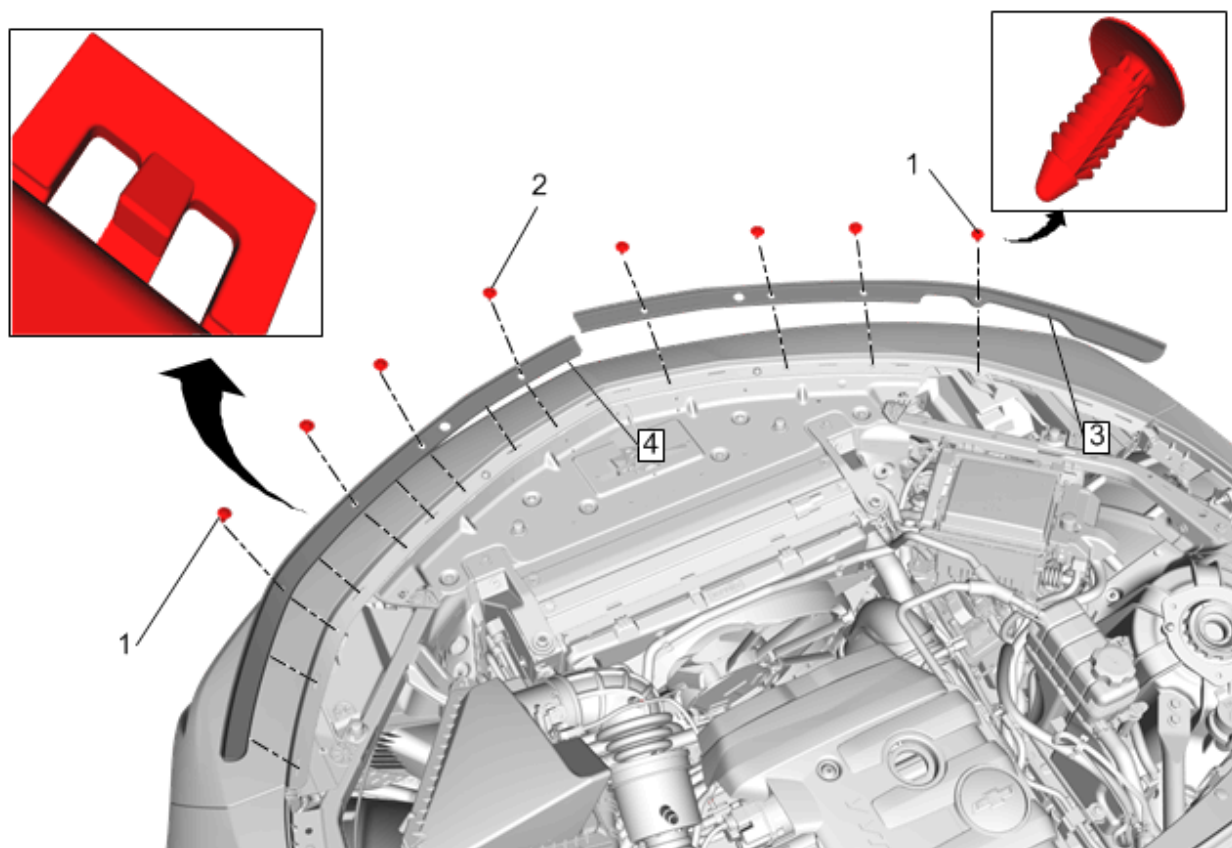
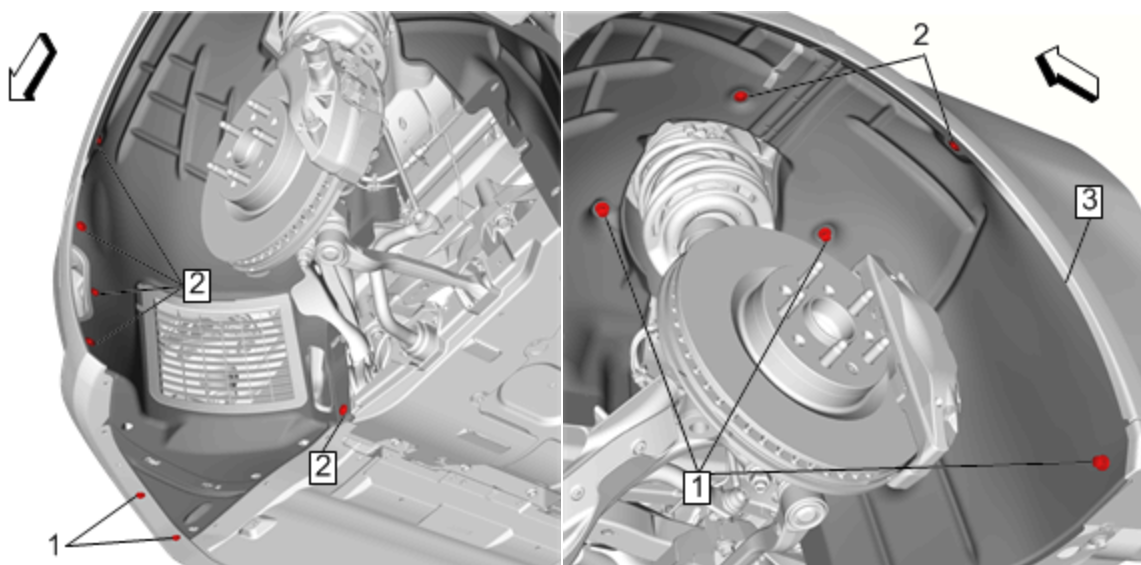
From your dealership, you will need 500ml to a quart of power steering fluid applicable to your year Camaro, plus a jug of Dexcool coolant, ideally premixed.

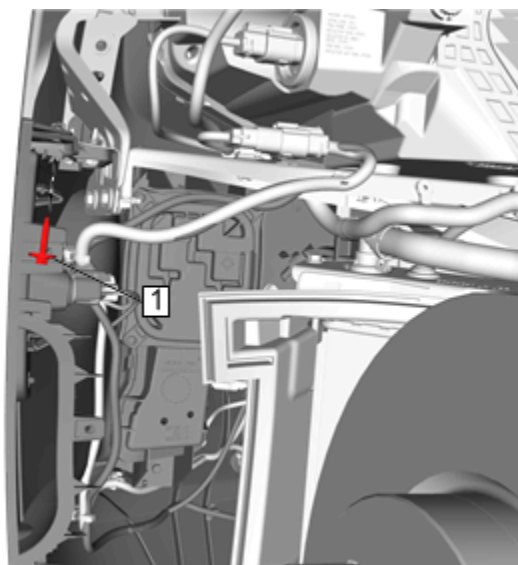
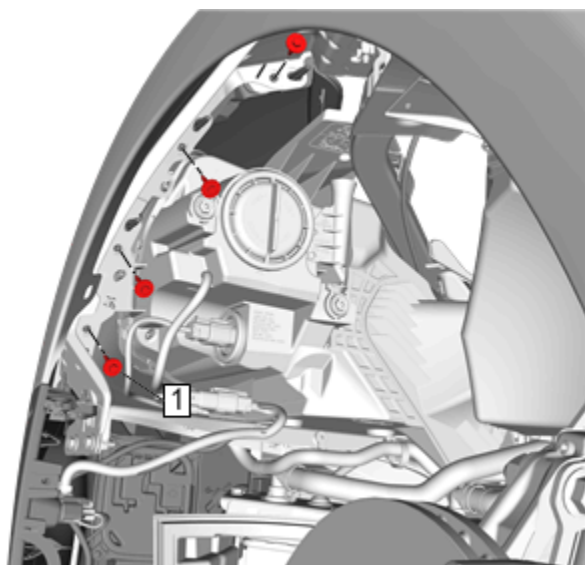
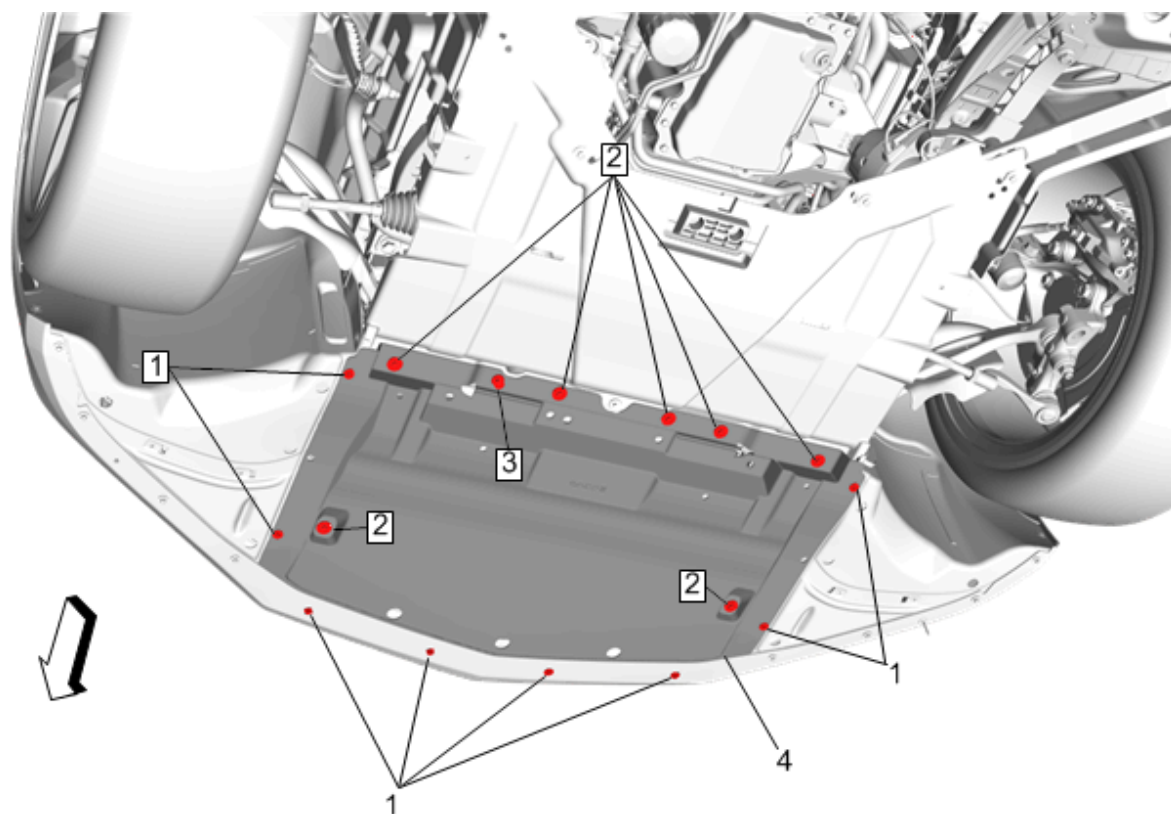
Recommended items to have: Blue Loctite, Dielectric Grease, WD40, Spark Plug Gapping Tool, Electrical Tape, A Sharp Razor Blade, Drill, 3.5" Hole Saw, Allen Socket and Torx Socket Bits for 3/8" Ratchet, Torque Wrench, Full Socket Set, Sturdy Scissors, Tub to catch oil that will drain, Zipties

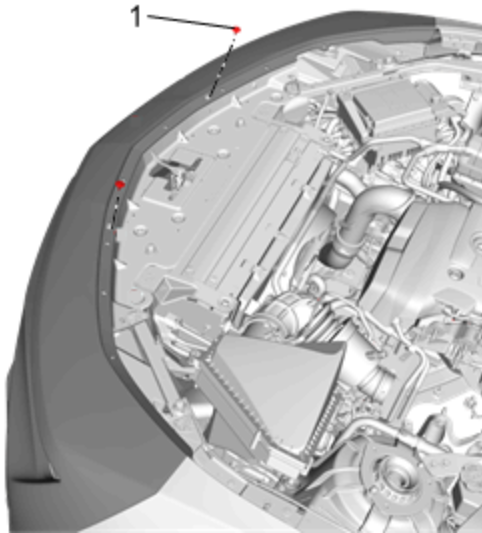
Step 1: Remove Front Bumper

Lets get the hard part out of the way and remove the front bumper and the inner fender skirts to give room to work. Everything will be held together with what will seem like a million screws, follow the location references in these following images to remove all the screws and trim parts required, and finally remove the front bumper fascia.





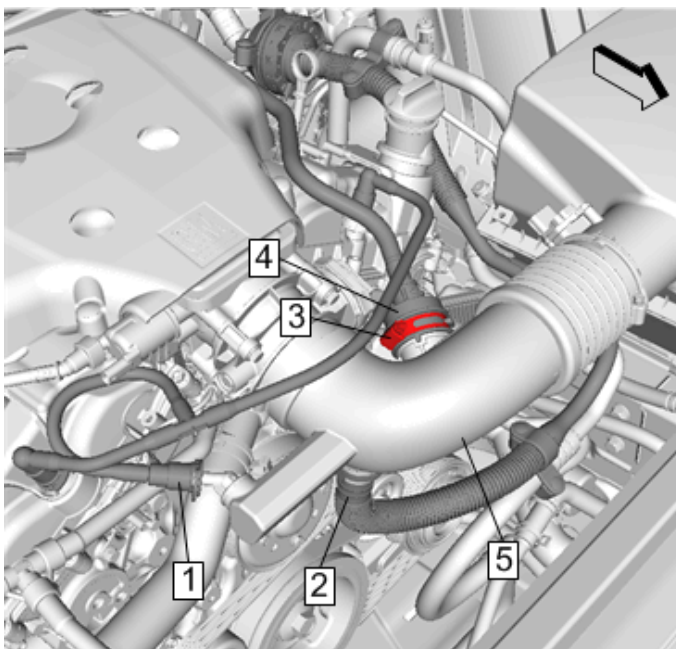




Step 2: Remove Air Filter Assembly

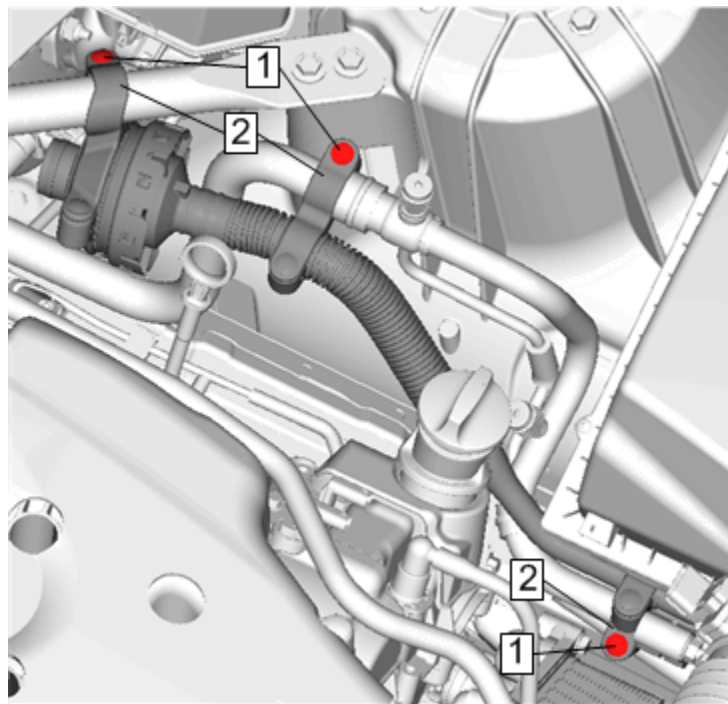
Onto an easier task, remove the factory air filter system, or whichever aftermarket system you may have. We'll outline the factory system, but refer to your aftermarket manufacturer's instructions as needed.

Unhook everything from the air ducting. Loosen the PCV breather tube's band clamp from the backside (#3/4), pinch the clip to remove the other smaller PCV hard line from the left side (#1) and the air resonator tubing from the bottom (#2), then loosen the clamps at the throttle body and air cleaner and remove the duct.



Unplug the MAF connector, remove the wiring from the air cleaner housing using an auto trim tool to remove the plastic Christmas tree fastener, and pull up on the air cleaner assembly to remove. You'll want to remove the two T20 torx screws and remove the MAF sensor from the cleaner assembly, you can do this later or now, just keep the sensor safe as it's fragile.

The air resonator tube needs to be disconnected at the diagonal brace by the driver's strut tower. Following the plastic tubing to a large round cylinder, you'll want to remove the plastic tube from the cylinder but leave the cylinder in place as this will prevent engine bay air from traveling back into the car interior. This will take a little persuasion, we've found some heat also helps but of course be careful not to damage or melt anything. Reference the following picture to remove the tube as it ran to the air ducting.

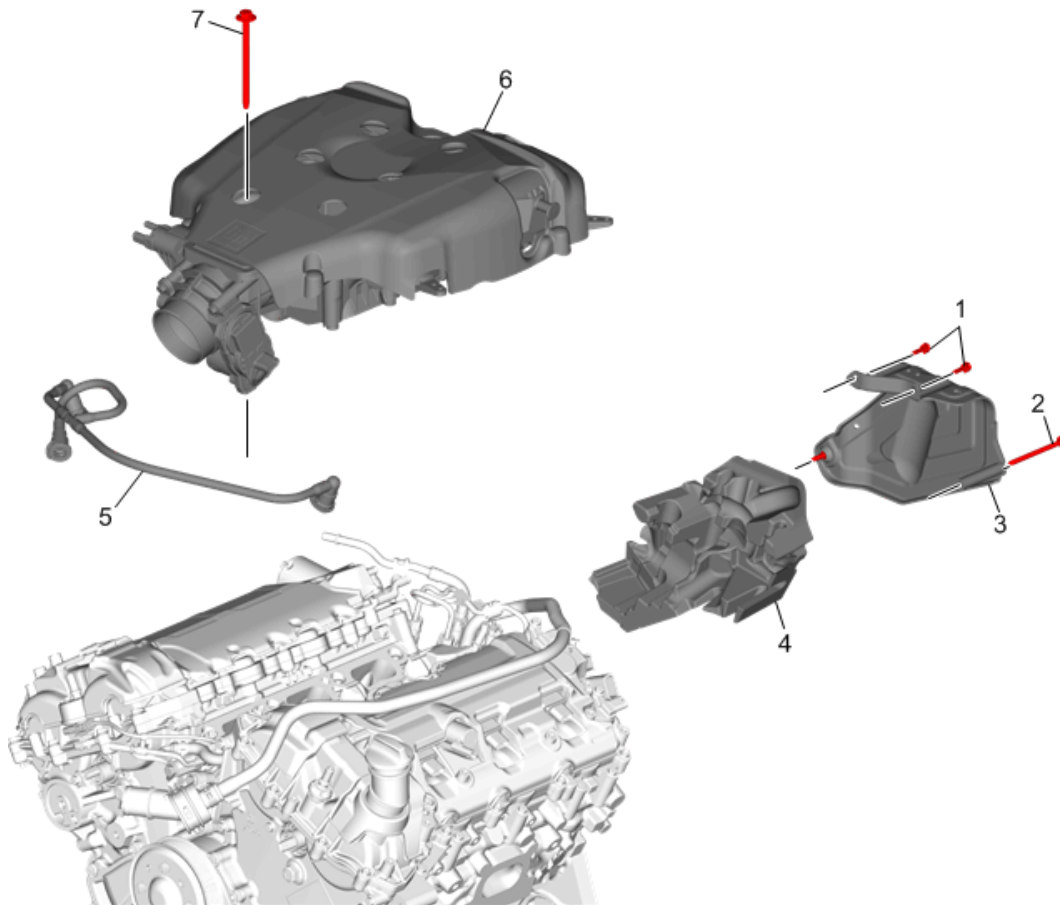


Finish by removing the PCV Tee hardline tubing from both front valve cover fittings and discard the tubing assembly, and remove the rubber reducing coupler from the larger tube leaving only the plastic hard line.

Step 3: Remove Intake Manifold, Install MAP Sensor, Spark Plugs

Lets remove the intake manifold, you'll need to do this to change the spark plugs, and it's also a good opportunity to swap the MAP sensor.

Disconnect the EVAP solenoid electrical and hard line. Disconnect the throttle body electrical. Remove the brake booster's rubber line. Now reference the picture below, there will be several horizontal bolts to remove, and the vertical bolts holding the intake manifold down.

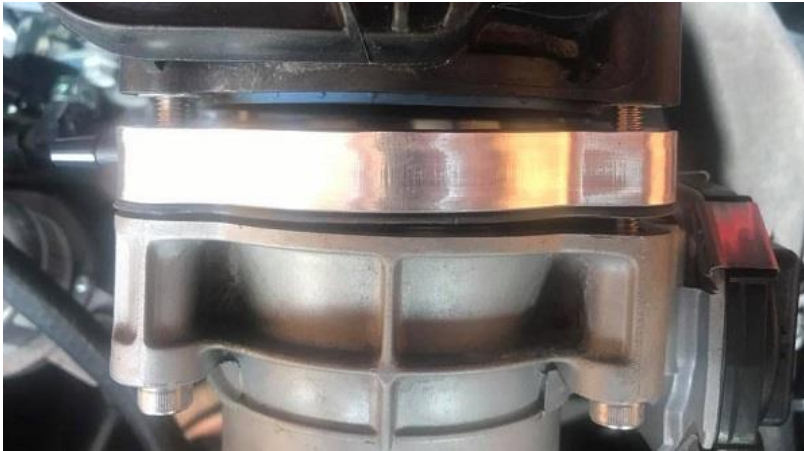


With the manifold removed, locate the MAP sensor ontop of the manifold at the back held on with one screw, and swap it for the new MAP in our kit.

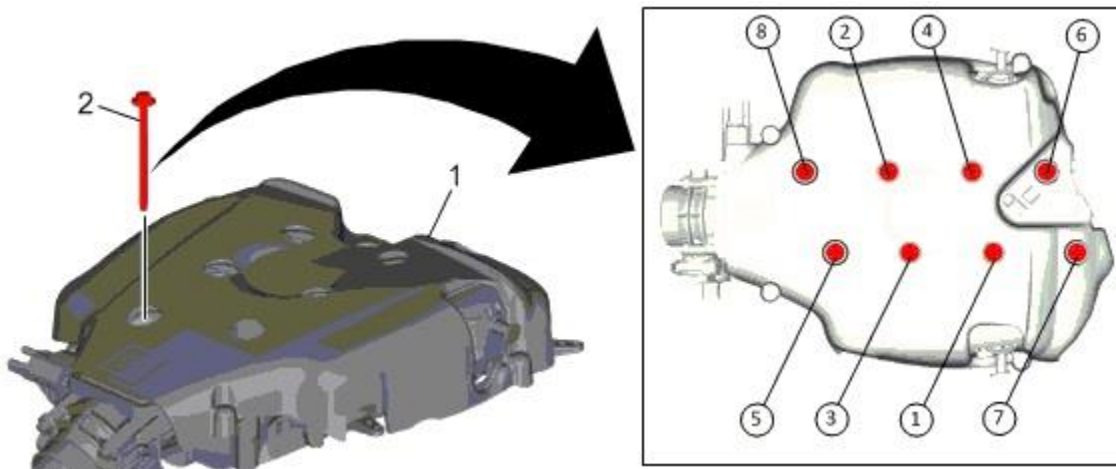
Using a spark plug socket, disconnect the ignition coils, remove the retaining bolt, and change out the spark plugs. Using a gapping tool, check and ensure the spark plugs have a .030-.032" gap. Use anti-seize on the threads and do not overtighten.

Step 4: Install Throttle Body Spacer and Reinstall Intake Manifold

Before reinstalling the intake manifold, good time to install the throttle body spacer. A throttle body spacer is provided to provide engine vacuum to the blow off valve and to the catch can system. Open the kit, it'll have a spacer with fittings preinstalled, a gasket and longer bolts. Remove the throttle body by removing the 4 securing bolts. Install the spacer with the straight vacuum fitting and hose facing the passenger's side of the vehicle, the 90° fitting will face upwards and towards the driver's side. Using the longer provided bolts, secure the throttle body with the provided gasket between the throttle body and plate. The included ¼" hose will run to the blow off valve.



Reinstall the intake manifold now or at any point in the remaining installation. The main bolts get torqued to 18 ft-lbs according to GM, and they provide this bolt torque sequence.



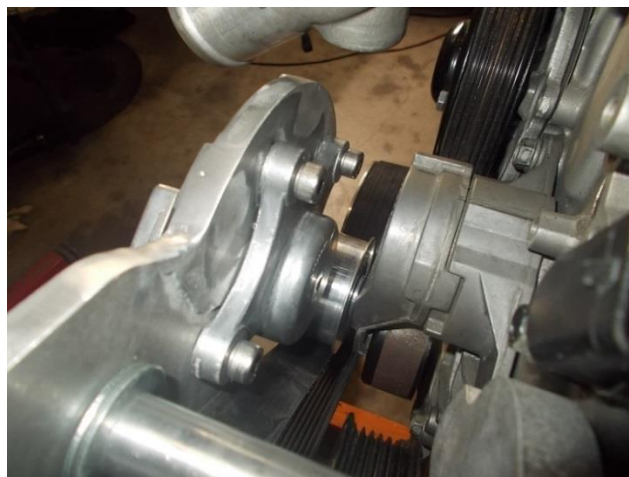
Step 5: Install Crankshaft Pulley

One of the harder parts of the installation will be removing the crank pulley bolt. Using a strong impact gun ideally, remove the bolt. The new pulley will index into the OEM crank pulley spokes. Once the new slip fit pulley feels slotted in and sits flush with the OEM crank pulley, install the new longer provided bolt and torque to factory specifications of 74 ft-lbs and an additional 150 degrees rotation.



Step 6: Install Tensioner To Mounting Plate

To prepare to install the mounting plates, first attach the tensioner assembly to the outer face plate with the Vortech attached. Referencing the Vortech, the tensioner body mounts on the pulley side of the plate, with the outside of the pulley facing the same direction as the Vortech pulley. Install the included 3 bolts and torque to 8 ft-lbs or 96 inch-lbs with blue Loctite recommended.



Step 7: Install Mounting Plates and Vortech Unit

Time to install the good stuff!

Once installed, the plates will look similar this (5th Gen Camaro shown, not identical to 6th gen, but close enough), OF COURSE YOU'LL HAVE THE VORTECH ATTACHED TO IT, but this gives you an idea of how the plates install...



Identify first the components:

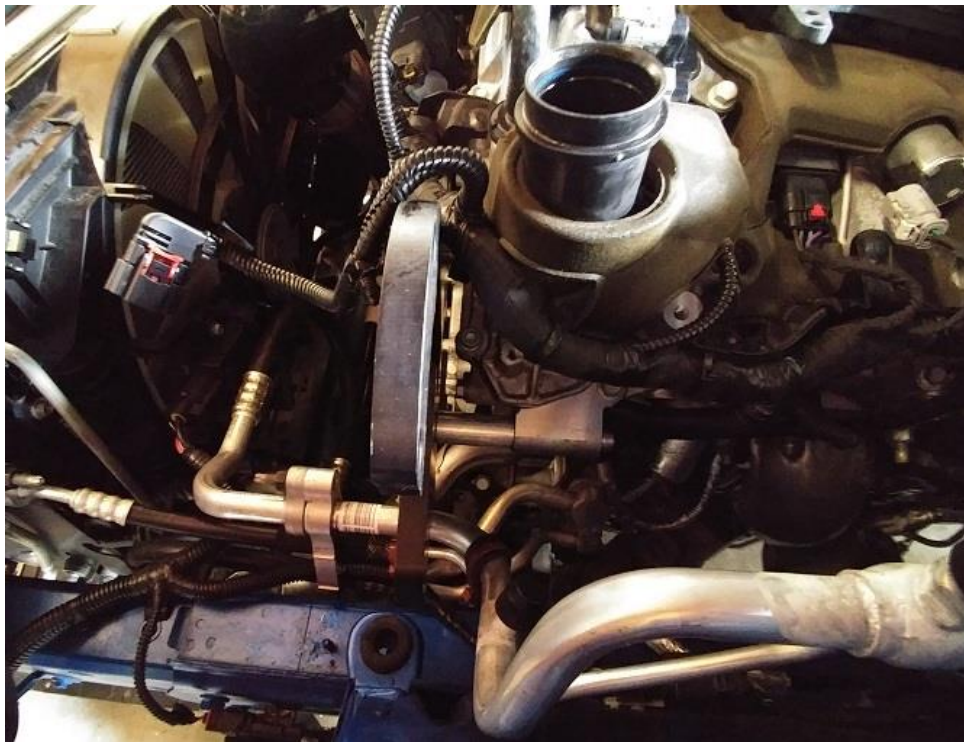
#1 You'll have the outer plate with the Vortech attached and tensioner now attached, #2 you'll have the inner engine side plate, #3 you'll have 2 long round spacers with smaller inner diameters, #4 1 long round spacer with a larger inner diameter, #5 1 shorter round spacer with a smaller inner diameter, #6 1 short round spacer with a larger diameter, #7 two M8 socket head cap screws of the same length, #8 one longer M8 socket cap screw, and #9 two large screws with a countersunk head.

Blue Loctite is recommended on all of the following bolts.

You can either bolt the plates together and then bolt to the engine, or, you can bolt the engine plate to the engine first, and then bolt the two plates together, there is no wrong way.

You may find you need to unbolt and rotate the cooling fan controller mounted on the front of the cooling fan, use zipties to resecure in a position that offers clearance.

The engine plate connects to the front of the engine by removing the prominent 15mm bolt from the front of the cylinder head, and bolts on with one of the #9 bolts listed above and the #6 spacer, and connects to a boss at the side of the engine using the #8 bolt and #5 spacer. Torque the #9 bolt to 35 ft-lbs and the #8 bolt to 17 ft-lbs. The two picture below will give context.



To put the plates together, use the remaining #9 screw with #4 spacer, and two #7 screws with #3 spacers. The larger screw goes towards the tensioner with the smaller screws around the top of the plates by the Vortech. Again, #9 screw torque to 35 ft-lbs and #8 screws to 17 ft-lbs.

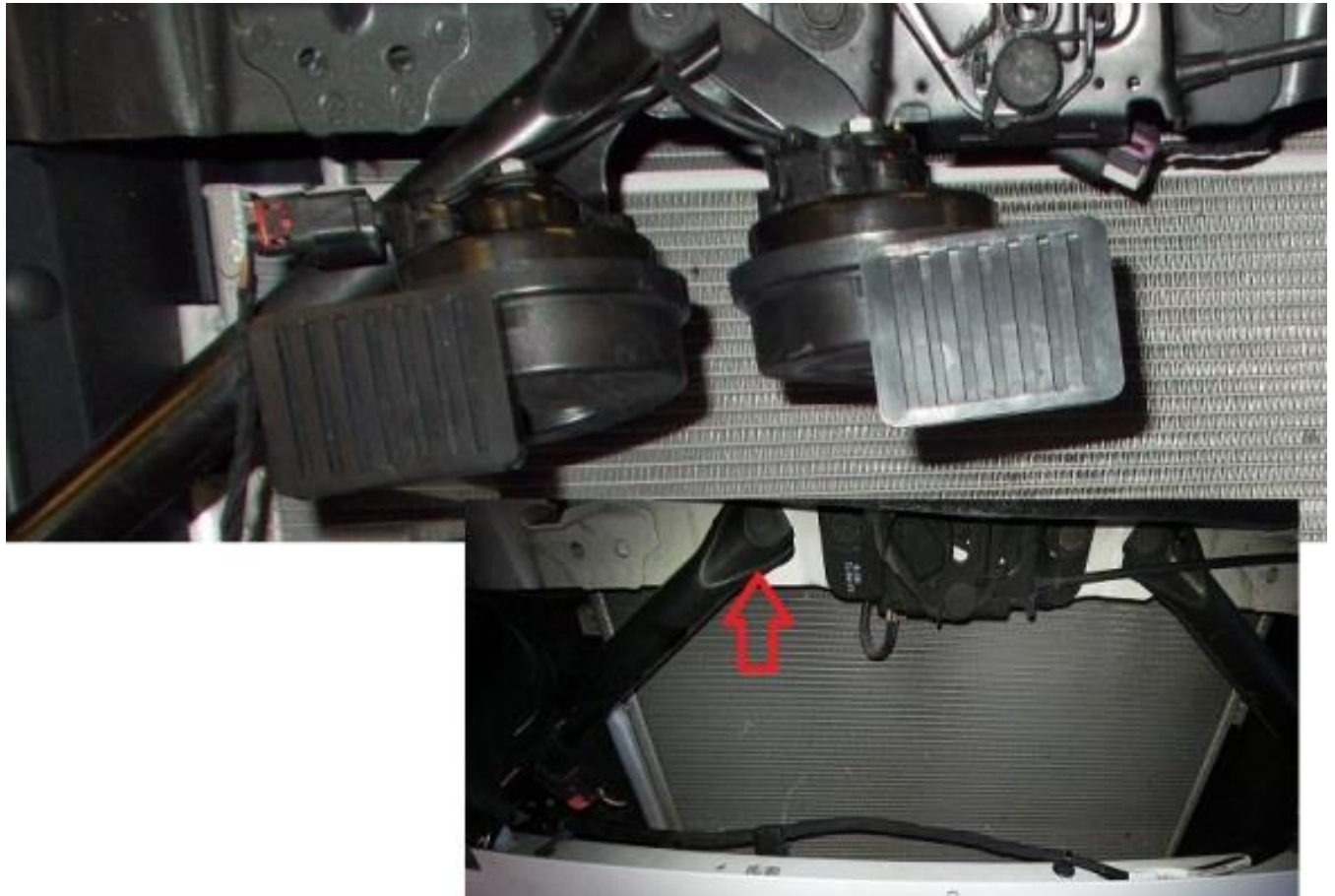
You can now install the 8-rib belt. Install over the supercharger pulley first, then with the tensioner rotated clockwise with a 3/8 ratchet slide the belt over the crank pulley to the inner most ribs and release the tensioner. Check belt alignment to ensure it will run straight and adjust on the crank pulley as required. When completed, the assembly will look like this...



Step 8: Remove Bumper Crash Support and Prep for Intercooler

Remove the bolts on either side of the front crash support brace, which is the big metal bracket that's running side to side in front of the radiator. Remove completely so you can install the intercooler.

You'll need to move the horns. After unbolting from the crash support brace, use this diagonal support brace bolt to mount the horn assembly.

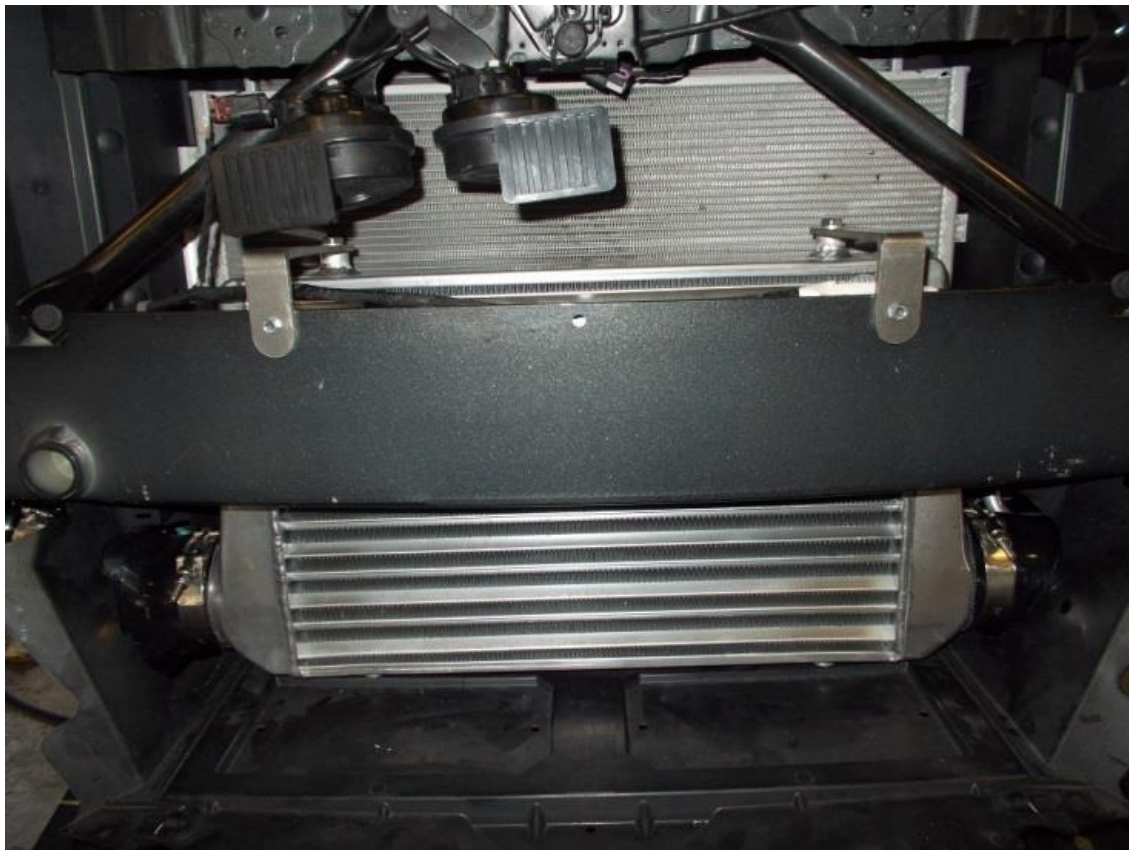


Step 9: Install Front Intercooler and replace Bumper Crash Support

Put the intercooler in place and reinstall the bumper support temporarily (use 1 bolt per side if you like). Install the intercooler mounting brackets to the top of the intercooler using the outermost bolt hole location on the brackets. Using your best judgement to center the intercooler from side to side, shove it back until the short legs of the brackets sit flush against the crash brace. Mark those holes and drill and tap using the provided drill and tap, then secure with the bolts provided. Now you want to mark the outer plastic shroud to drill holes using a 4" hole saw for the intercooler pipes to pass through, use a straight edge against the IC inlet and outlets to give you a good sense of where to drill. You can also optionally mark the lower bolt boss holes in the shroud to fasten the bottom of the IC to the shroud.

Remove the IC brackets, remove the crash brace and remove the intercooler. Carefully drill the plastic shroud, a piece of plywood behind the plastic will prevent cutting into anything you shouldn't, be very cautious of the A/C lines on the driver's side for example. Optionally drill the lower holes for the lower mounting bolts in the shroud floor.

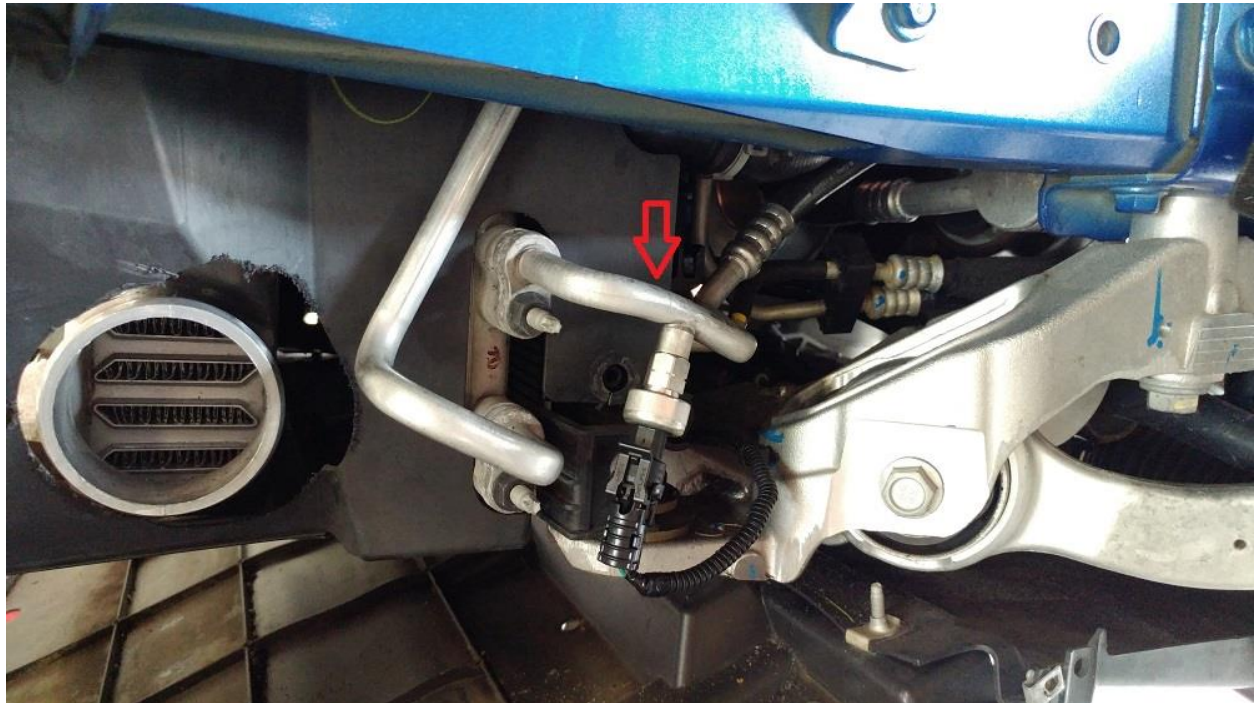
Now put the intercooler back in place, the crash brace and secure with all its 4 bolts to 32 ft-lbs according to GM, secure the intercooler mounting bracket bolts to 15 ft-lbs.



Step 10: Install Driver's Side Intercooler Piping

Time to install the intercooler piping! Start on the driver's side to connect the supercharger outlet to the intercooler. The tubing will go as follows: Straight section of silicone tubing → smaller diameter 90° aluminum elbow → 60° silicone elbow → Metal silicone joiner tube → 90° silicone elbow with orange inside.

You'll want to prep by gently pushing this A/C line towards the radiator to make a little extra clearance for the tubing to pass through the area.



Tip: Use WD40 and spray the insides of the silicone couplers to help them slide onto the aluminum tubing and rotate easily. The WD40 will dry and not harm the silicone.

Connect the straight section of tubing to the Vortech and secure a 73-81mm clamp. Slip the 90° aluminum elbow through the opening from the fenderwell area to the engine bay and slide into the silicone tube (the WD40 tip is important here!). Pay close attention to clearance from the elbow's surroundings, center it as best you can in the opening, and you'll end up with the tubing pointed slightly towards the front of the vehicle rather than straight out towards the side of the vehicle. Secure to the straight section with another 73-81mm clamp after you've fitted the rest of the assembly in place.

The 60° silicone elbow will now go onto the metal elbow and its outlet should point towards the front of the car, with the turn you've made on the aluminum elbow. Insert the metal joiner into its outlet and slip two 73-81mm clamps over the elbow. Now use the 90° silicone elbow with the orange interior and pay attention to the very slight size difference between the two ends, the smaller end goes to the metal joiner and the larger to the intercooler. The 90° elbow will take a 79-87mm clamp at the smaller end and an 86-94mm clamp at the larger end. Once you're happy with the fit of all the couplers, secure all of the T-Bolt clamps.

Remember you can always trim the silicone elbow lengths using a razor blade to achieve a better fit as needed. And don't forget the WD40 trick which will allow you to slide the tubing in and out and rotate easily for a couple minutes during assembly to make things easier.



Step 11: Install Passenger's Side Intercooler Piping

Moving to the passenger's side, you'll need the following components to go from the intercooler into the engine bay: smaller 90 degree Cobra head silicone elbow → Preassembled Blow-Off Valve tube → 90 degree silicone elbow (black interior) → larger 90° aluminum elbow → larger 45° silicone reducing elbow (orange interior) → MAF housing → 90° reducing silicone elbow.

The blow off valve will be positioned in the passenger's fenderwell, with the tube running parallel to the ground and front/back with the direction of the vehicle.



Prep by installing the MAF into the MAF housing. Remove the MAF sensor from the factory air filter housing use a T20 torx bit. Note the direction of the sensor and the open window with element that was facing towards the air filter. Install into the new MAF housing with that window facing the screen mesh on the one end of the new housing.

The MAF connection ends of the 45° and the 90° silicone couplers are larger and will take the large T-Bolt clamps with silver nuts. All other connections will take the clamps with the bronze nuts.

Use the travel of the Cobra head to BOV tube connection to slide sideways until the 90° elbow on the outlet has a good fitment into the engine bay. You'll also need to angle the outlet 90° elbow so it points straight into the engine bay, use the whole assembly as required to help get a good angle. The 90° aluminum elbow will point straight up in the engine bay once installed correctly. Install the MAF into the 45° silicone elbow with the MAF sensor pointed downward and with the screen end facing into this elbow. Secure the other remaining 90° silicone elbow between the MAF and throttle body. You can trim the elbow's length fitting over the throttle body with a sharp knife to achieve a better fit as you desire. Secure the clamps once you like the fit.



Step 12: MAF Wiring

Before going further with the intercooler piping, let's prep the wiring for the mass airflow sensor. There's no plug in wiring extension included because the connectors aren't available to make one, but the good news is you can make the connector reach the new location of the MAF with some careful negotiation with the wiring harness. Follow the MAF wiring from the connector to the main harness. Take a utility knife or razor blade and carefully start to cut the electrical tape away from the harness exposing the wiring, and then start to unravel the MAF wires from the bundle. You'll find ONE wire that runs in the wrong direction, this wire will have to be cut and extended. Once you get back to the junction closer to the throttle body, you should have enough reach on the wiring to reach the new MAF location. Be careful not to cut into the wire sheathing or cut yourself! With enough slack on the wiring, you can crimp or solder some wiring extension onto the one wire, and a tip is to leave it a little longer than required to ensure there's no tension on it that may cause the connections to come loose. With the wiring extended, use some electrical tape to make the wiring neat and tidy and protected again.



Step 13: Install Intake and Air Filter

Let's complete the installation on the driver's side by installing the air intake and filter.

You may feel the need to cut off or trim this air cleaner mounting bracket, as it will just lightly touch the Cobra elbow and may wear a hole over time.



Install two 92-100mm T-Bolt clamps over the Cobra head elbow and install onto the inlet of the supercharger, do not tighten yet. Attach the Amsoil air filter to the large aluminum elbow. Slide the aluminum elbow up from the fenderwell and into the Cobra head elbow. Once you're happy with the alignment, tighten down the clamps.



Step 14: Install Catch Can System

Installing the catch can is very important. Without this system in place, oil will get into your engine, your valves, piston tops, into your intercooler system and into your supercharger even. However with it in place, you'll be amazed at the oil it prevents entering these crucial areas and will help prolong engine life considerably.

Your catch can will include a bunch of new preassembled hoses and the can itself with mounting brackets. The can should be mounted over near the supercharger where the air cleaner box once sat.

There are 5 lines to be run in total. Follow along in the sequence step by step, reread as many times as you need to, and you'll be able to install the catch can successfully.

Line #1, use the 3/8" hose with no check valve installed to bridge the two valve cover ports. These were connected to a plastic hard line that met at a tee and went to the factory air duct. You'll simply be connecting them together with the included hose.

Line #2 – The large plastic hard line that runs from the back of the engine and got connected to the factory air tube, this is the line to attach to the inlet (center port) of the catch can. Using the included large hose, identify the larger and smaller ends, install the larger end over this plastic hose, and install the smaller end over the center fitting on the catch can.

Line #3 – Install the 3/8" hose that has a check valve in it but no ends on it between the throttle body spacer and one of the side ports on the can. Identify the directional arrow on the check valve body, then install the end that it points to onto the throttle body spacer's top port. Connect the other side to the catch can on either outer port.

Line #4 – On the Cobra head silicone elbow, install the other 3/8" hose with its 90° fitting into the silicone elbow. Connect the other end to the other available outer port on the catch can.

Line #5 - Included in the kit is a piece that replaces the oil filler cap. It's called a clean side separator. Install the CSS by screwing into the oil filler neck. Connect the longer 1/2" hose to its vacuum port, and run that hose down to the air filter, shoving the 1/2" hose over a preinstalled fitting on the filter neck.



Step 15: Reinstall Front Bumper

Time to reinstall the front bumper fascia and button up the car. Refer to the original disassembly process, and just do everything in reverse.

Step 16: Install Vortech plug

Using the included package, remove the plug shown from the Vortech (meant for shipping only) and replace with the new plug and new crush washer.



Step 17: Final Checks Under The Hood

Time to check everything you've installed. Look for the following items:

- Things are clear from the serpentine belt
- Things are clear from the exhaust downpipes
- Intercooler piping isn't clunking against the subframe, adjust if so to correct
- Check the fluid level in the supercharger. It comes prefilled. Do not overfill.
- Check all clamps are tight
- Check that the catch can fittings are tight and the drain valve is closed
- Secure the drain lines of the supercharger and catch can.

Step 18: Flash Tuning

Select Your Overkill tuning files for your supercharger system from your email, upload them to your Autocal handheld or open it in your HPTuner suite. Remember to flash the tune with the key on but engine off, and wait 15 seconds after key on before starting the flash. The most common mistakes are being too quick to do key turns, and disrupting the flash process by fidgeting and affecting cable connection. Your vehicle may become inoperable if the flash is interrupted, and the flash will take roughly 1 minute, so sit still!



Maintenance On The Supercharger Kit

The Vortech will require its first oil change at 2500 miles, and then regular oil changes every 7500 miles or 1 year. Check the oil level on a regular basis in between changes.

Use the braided oil drain line to drain the fluid. The unit will then take 4 oz of the specific fluid from Vortech. Do not overfill. Do not use any substitute oil. Part number for a 3 pack of 4 oz oil bottles is **009035** and at time of writing instructions the price is \$33.99 from Jegs.com. You can also order from other performance outlets. Ensure to get proper Vortech branded oil, no substitutes!!



The Amsoil oil filter has an outer prefilter that can be wiped off with a clean wet towel to remove excess dirt. Should the filter itself require cleaning, remove from the vehicle, remove the prefilter sock, vacuum the outside with a shop vac to remove loose dirt. Mix up a solution of Woolite and very warm water in a tub deep enough to submerge the filter, and then submerge the filter. Leave for 10 minutes to soak, and you can then use a soft brush like a paint brush to agitate the outside of the filter to further clean. Rinse with a soft stream of water from the inside out to rinse the dirt and soap away. Repeat as needed to clean any soiled areas that remain. Finally leave to air dry, which may take 3 hours or more, do not reinstall until the material is dry. The prefilter can be washed in soapy water and dried with a towel. Finally reassemble. No oiling required.

The spark plugs are iridium and have a long life span. For ideal performance, we recommend replacing every 4 years or 60,000 miles. They can be purchased GM.

Your catch can should be drained at every oil change or at least twice per year. Ensure to close the drain valve after draining the oil from the can, or you'll have an air leak.

Strongly recommend the use of synthetic oil like Amsoil in your engine, differential and transmission, with quality filters, and change at factory intervals or earlier!

Warranty On Supercharger Kit

The Vortech and all physical components on the kit are warrantied for 1 year from date of purchase for defects of materials. Examples of this would be if a silicone elbow develops a split, if the intercooler develops a crack, the tensioner no longer operates as designed, the Vortech develops a leak from its body. Items that aren't covered are items that come from abuse, misinstallation, improper maintenance, collisions, acts of god, or from additional non kit related modifications.

This warranty covers replacement of the part only. It does not cover labor costs to diagnose or to remove or replace the component. It does not cover any towing costs. It does not cover any downtime costs on the vehicle.

Items that exclude the Vortech manufacturer's warranty include but are not limited to:

- Disassembly, attempted disassembly, or modification of the Vortech unit
- Removal of the serial tag identification
- Ingestion of debris by the supercharger
- Running low on oil, using improper oil, or improper oil change intervals

What If I Need A New...

The supercharger kit has been designed with no components that will require extraordinary replacement schedules. There are of course items on the kit that won't last forever. Here's a list of wearable parts:

Supercharger Belt –Gates K080550 for base pulley, K080547 for Stage 2 pulley

Tensioner Pulley – Gates 38022 (76mm diameter)

Spark Plugs – AC Delco 41-131 (application 2016 Cadillac CT6 3.0 Turbo)

Amsoil Air Filter – EAAU3590 (check amsoil.com for local dealer)