



**ZZPERFORMANCE**

**Installation Instructions**

2.2/24 Turbo Kit

2224-TK-BASE



**Estimated Installation Time: 6-8 Hours**

**Installation Difficulty: 4/5**

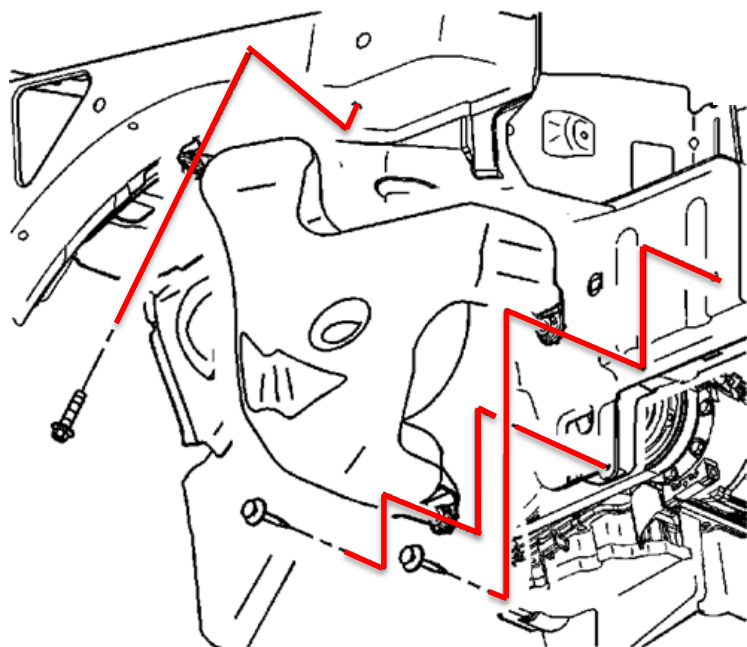
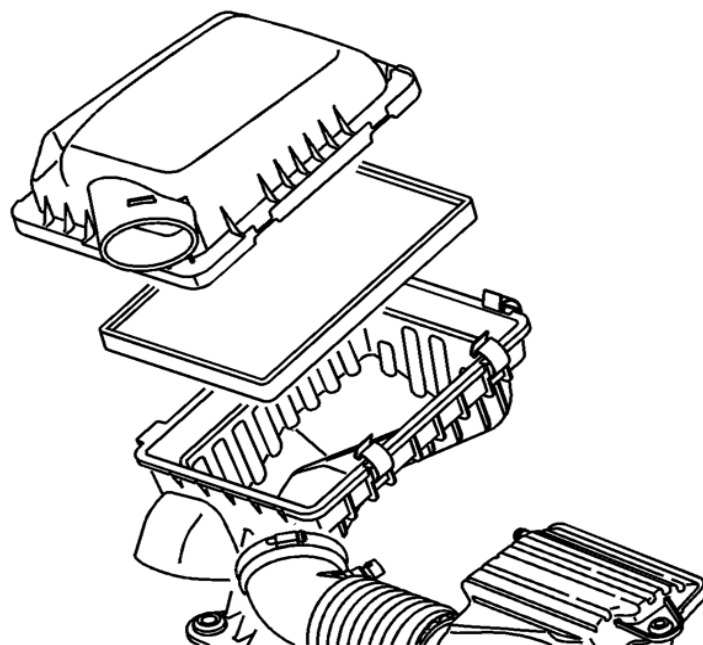
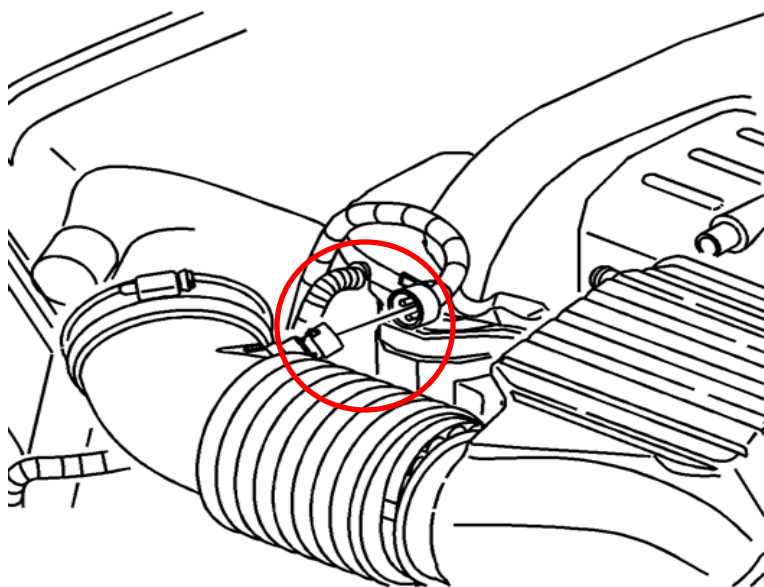
Some procedures will not be described in full detail. If you run into any installation issues or have trouble comprehending any of the procedures, please contact [customerservice@zzperformance.com](mailto:customerservice@zzperformance.com)

**Kit Contents:**

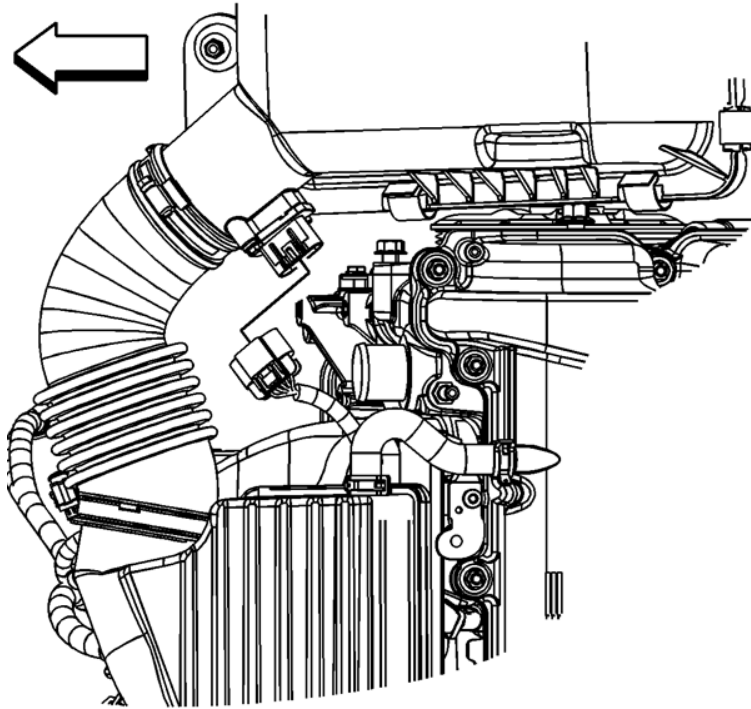
- |   |  |
|---|--|
| 4 - M10 Flange                          | 1 - L90/63-76 Silicone Coupler               |
| 4 - M10 x 30MM Flange Head              | 36" - 1/4" Silicone Vacuum Hose              |
| 3 - M6 x 20MM Socket Head               | 36" - 3/8" Silicone Vacuum Hose              |
| 3 - M6 Nylock Flanged                   | 2 - Intercooler Bracket                      |
| 4 - M8 x 20MM Serrated Flange           | 1 - Drain Hose Assembly                      |
| 4 - M6 x 25MM Flange Head Screw (Black) | 1 - True Weldless Bulkhead                   |
| 2 - M4 x 12MM Socket Cap Screw          | 1 - 1/4 Hose x 1/8 NPT                       |
| 2 - M8 x 25MM Socket Cap Screw          | 1 - 3/8 Barb Brass T Fitting                 |
| 3 - Worm Clamp #6                       | 1 - LNF Upper Intercooler Pipe               |
| 1 - 94100-250 Clamp                     | 1 - LNF Lower Intercooler Pipe               |
| 6 - 94100-300 Clamps                    | 1 - Z54 LSJ Intake Pipe                      |
| 1 - 94100-325 Clamps                    | 1 - LDK Thermostat Housing /w Crossover Pipe |
| 1 - Worm Clamps #48                     | 1 - ZZ-AF-3 Air Filter                       |
| 1 - Worm Clamp #40                      | 1 - Exhaust Manifold Spacer Plate & Gasket   |
| 1 - ZZP15 Silicone Coupler              | 1 - O2 Extension Harness                     |
| 1 - 2.5" 90° Silicone Coupler           | 1 - Dri & Pass Intercooler Brackets          |
| 1 - 2.5" to 2" Silicone Coupler         | 1 - Charge Tube Bracket A & B                |
| 1 - L90/63-70 Silicone Coupler          | 1 - 108191-4 Injectors                       |
| 1 - 3/8 45° Fuel Line Connector         | 1 - Billet Compressor Outlet Adaptor         |
| 1 - Copper RTV                          | 4 - LTR6IX-11 Spark Plugs                    |

## STEP ONE:

Remove air box lid, MAF sensor, and all intake ducting.

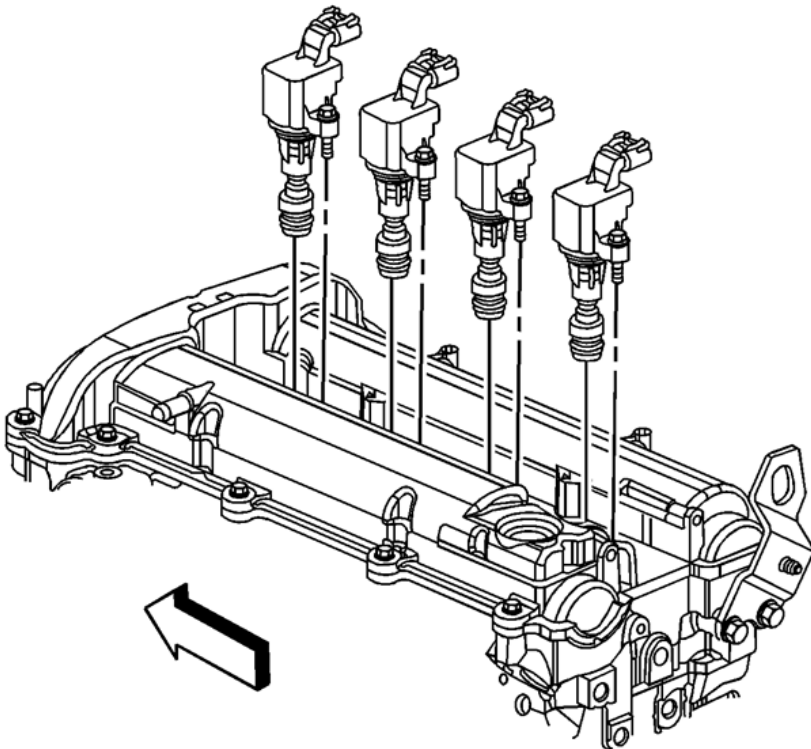


\*Lower duct is easiest to access after bumper cover is removed (Step 23).



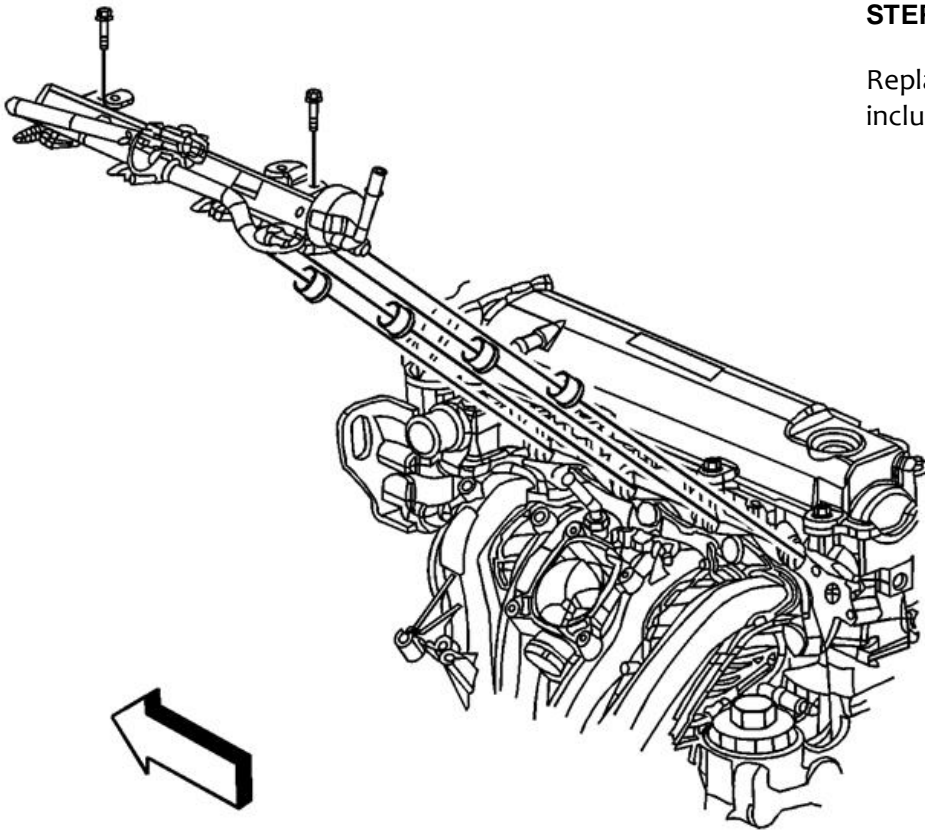
#### **STEP TWO:**

Remove ignition coils and replace spark plugs with one heat range colder than stock. These will be supplied in your ZZP kit.

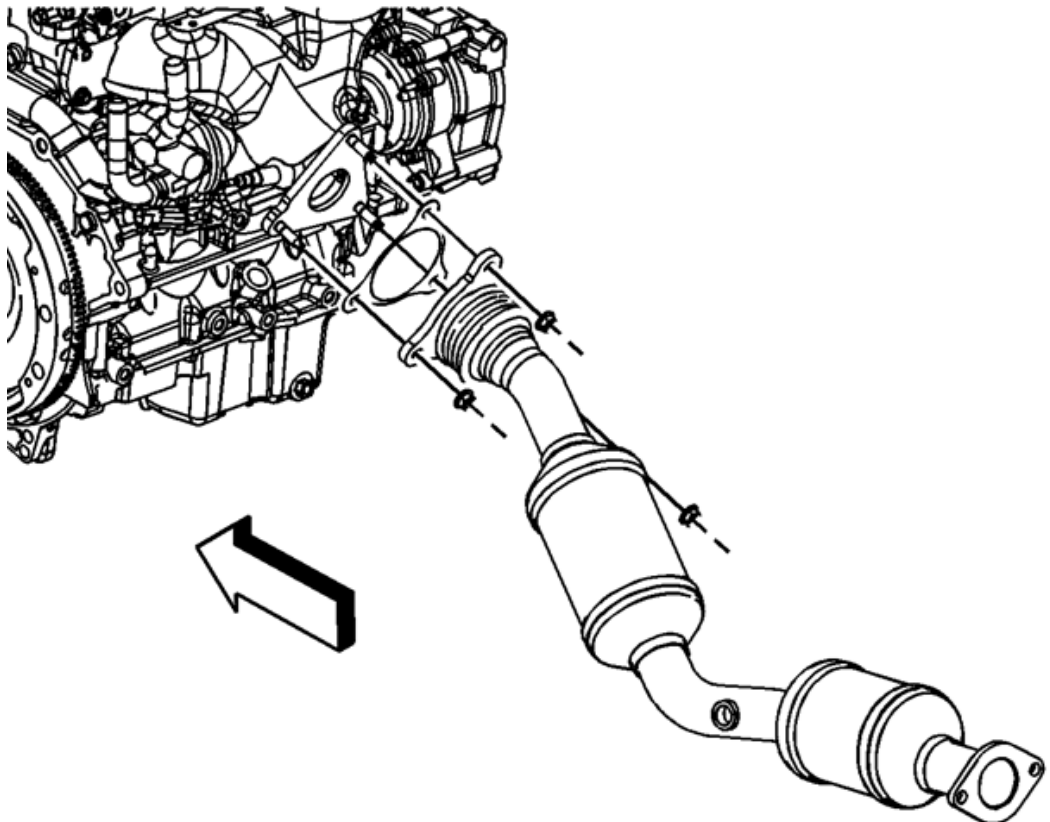


**STEP THREE:**

Replace fuel injectors with the injectors included with the kit.



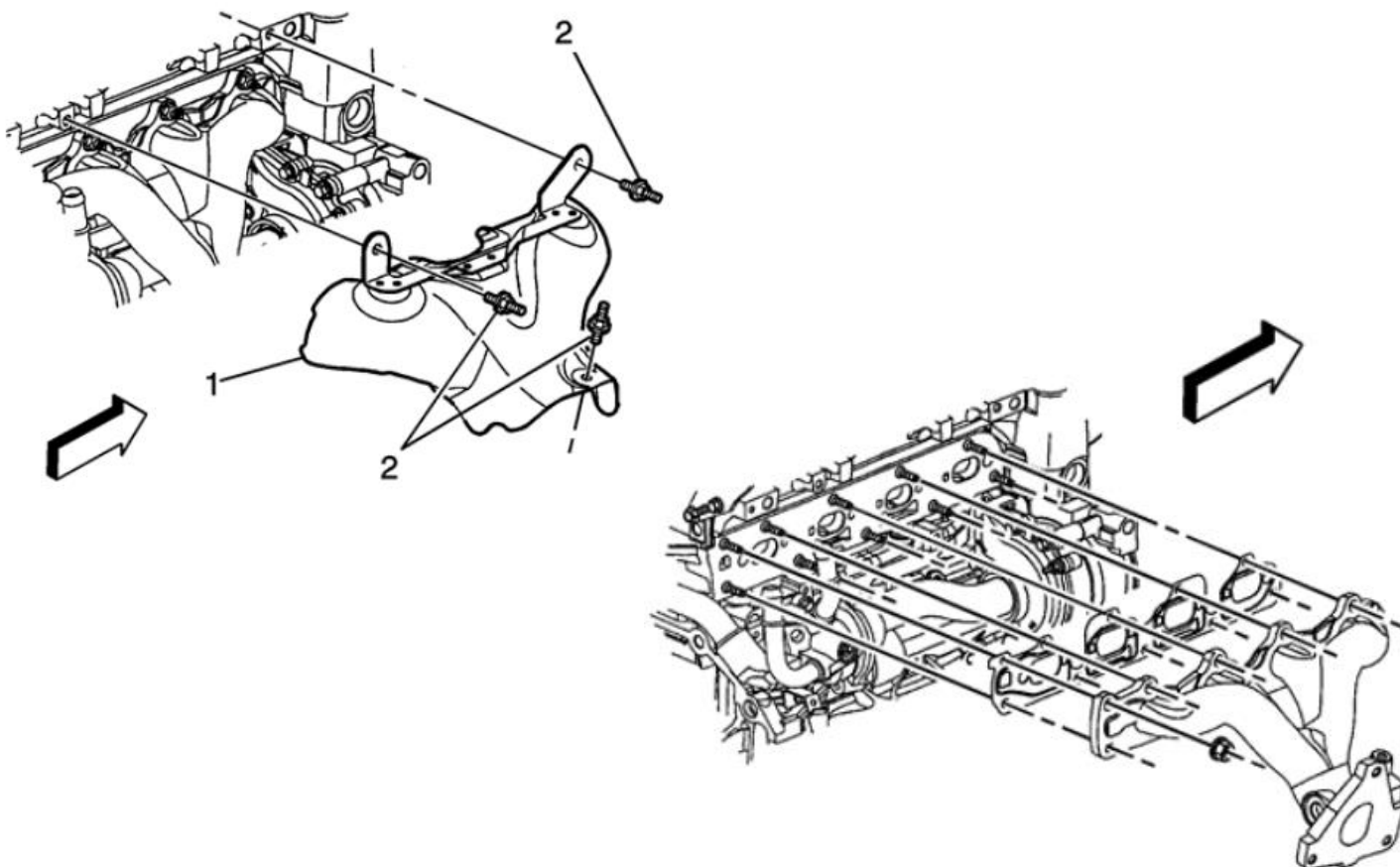
**STEP FOUR:**  
Remove the downpipe





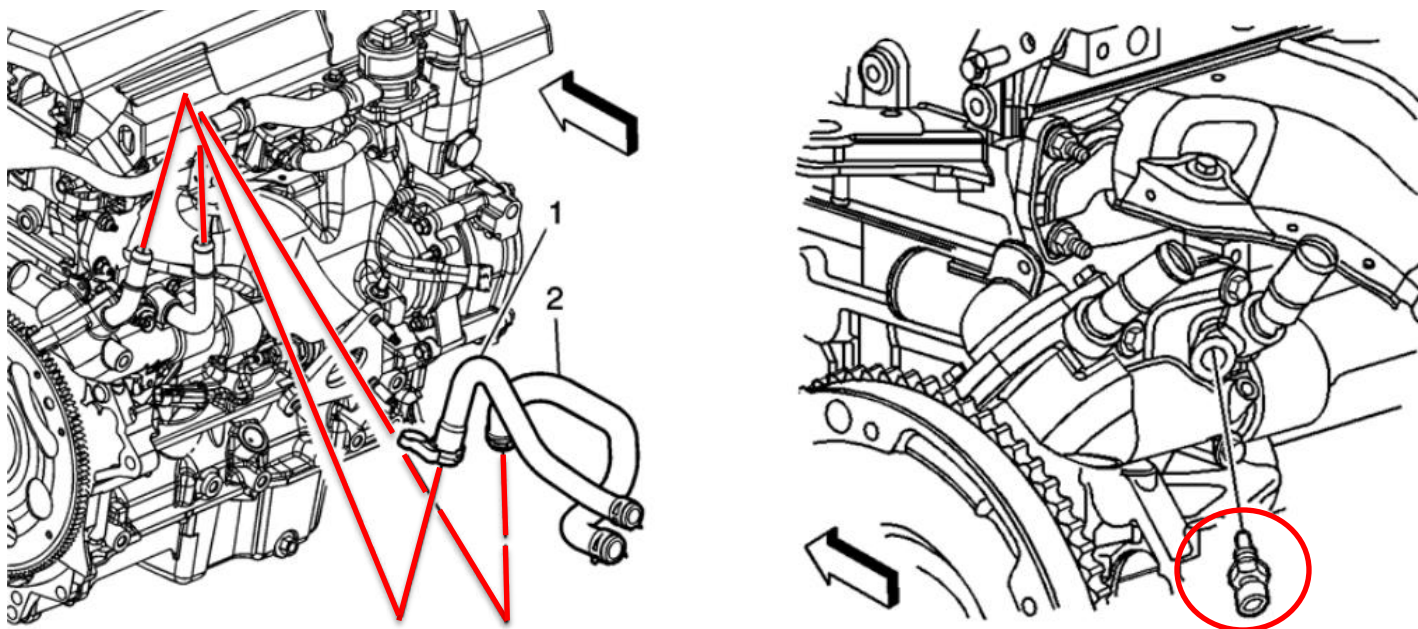
### STEP FIVE:

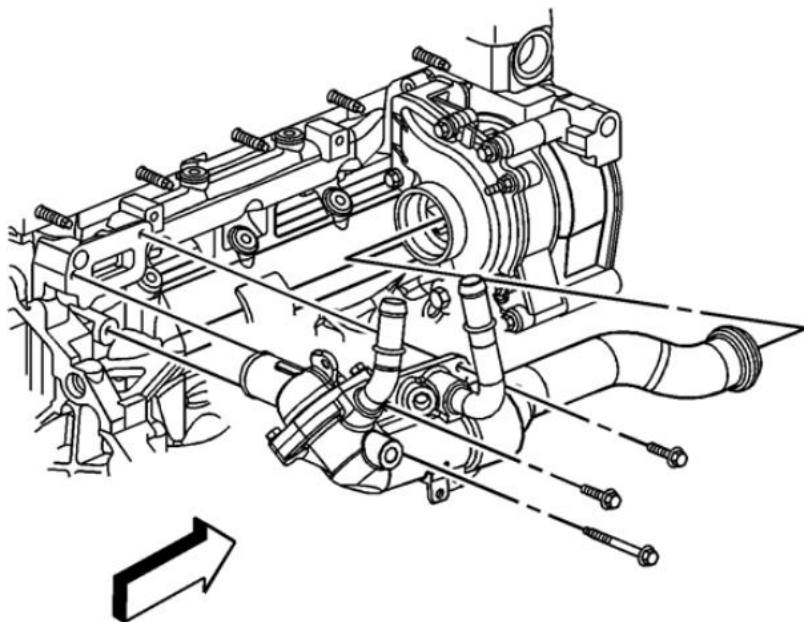
Remove the exhaust manifold heat shield and exhaust manifold.



### STEP SIX:

Disconnect coolant hoses and coolant temp sensor and remove the thermostat housing.





### STEP SEVEN:

Swap thermostat from original housing to the one included in the kit.

### STEP EIGHT:

Modify one heater hose (#2 in the first picture for Step 6) by cutting it right after the bend closest to the thermostat housing. Position the hose to allow clearance for the O2 housing after the turbo is installed. Trim 1.5" off radiator hose at thermostat housing. This creates clearance for the charge pipe to be installed later.

Cut off this piece



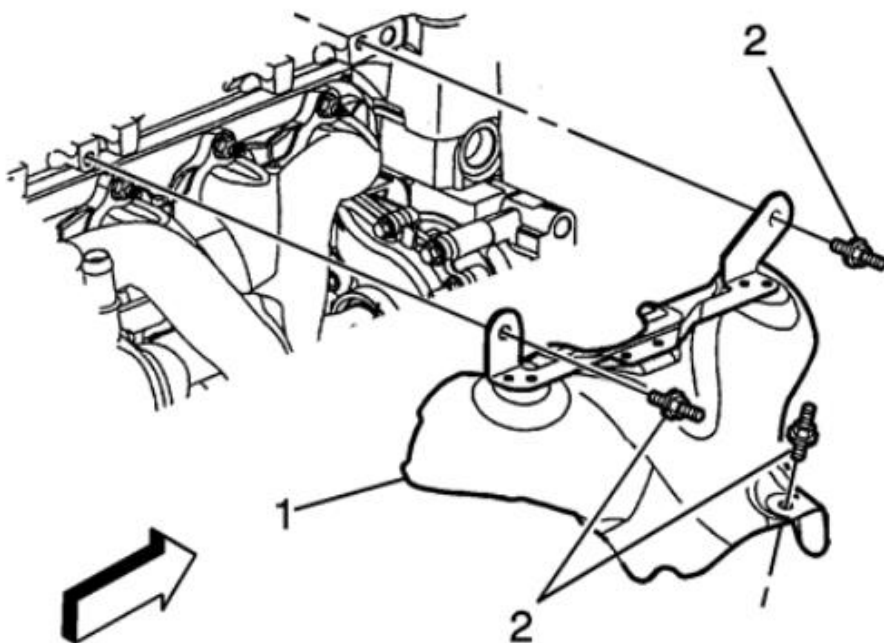
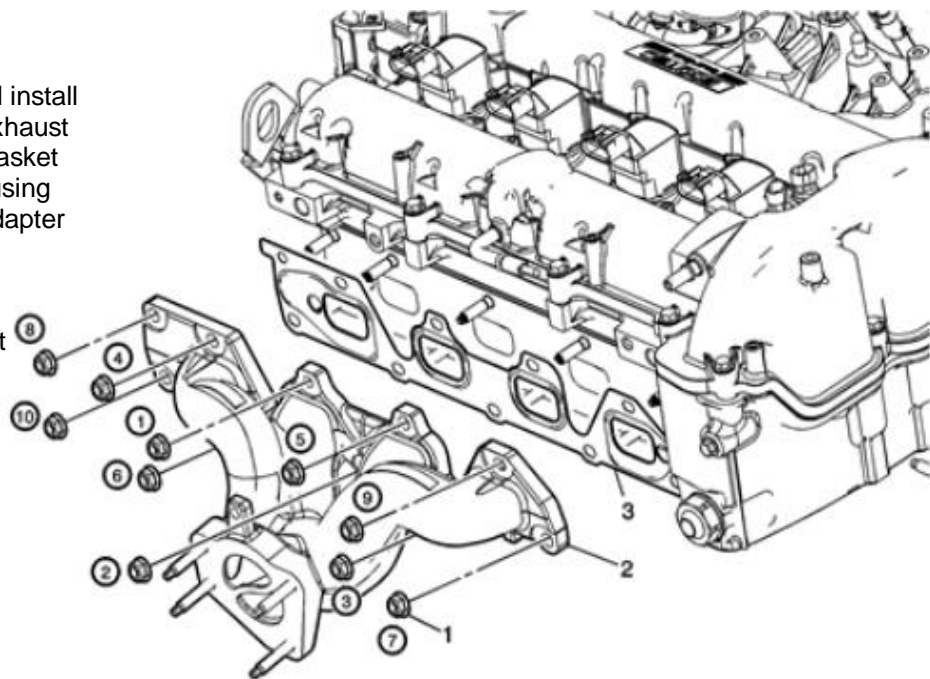
Heater hose after modification



### STEP NINE:

Retain stock exhaust manifold gasket and install ZZP exhaust manifold adapter plate on exhaust studs. Install included exhaust manifold gasket on top of adapter plate. We recommend using copper RTV between the head and the adapter plate.

Install included exhaust manifold and heat shield.



### STEP TEN:

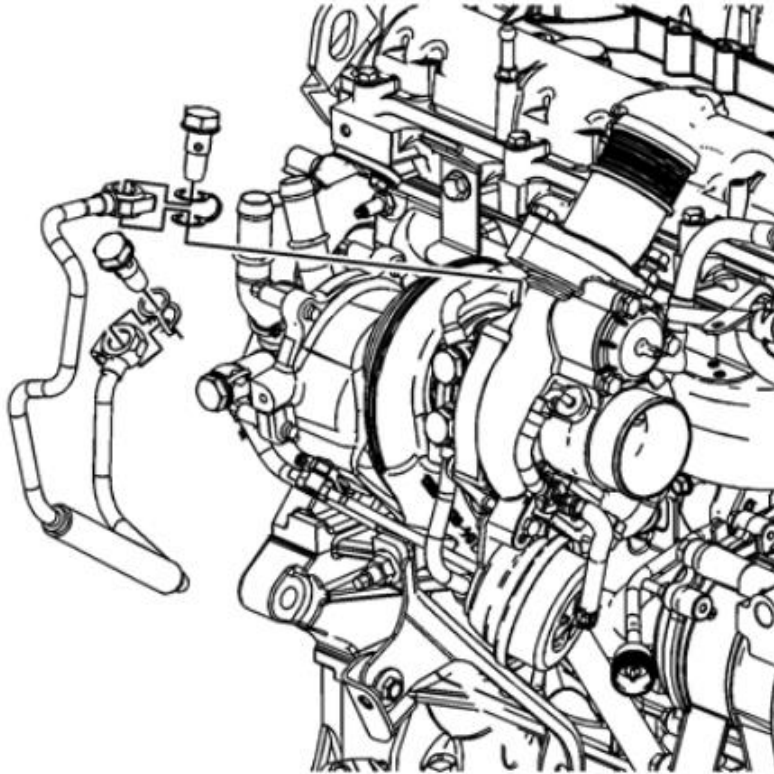
Install included thermostat housing and water crossover pipe.

Bolt turbo to manifold and install outlet extension using the M8 socket head bolts provided. Outlet shown installed on the turbo in the picture for Step 12.

Connect oil feed line. Use a 6mm allen wrench to remove the plug from block.

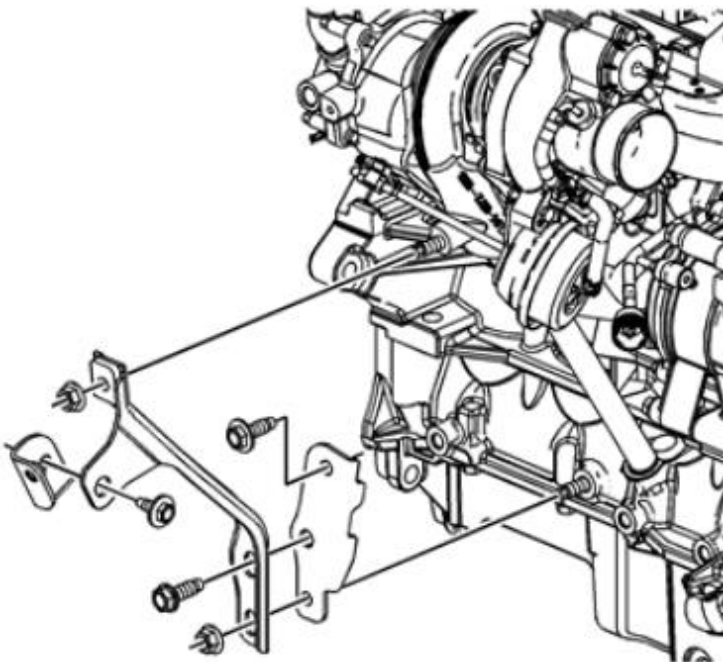
(Photos on next page)





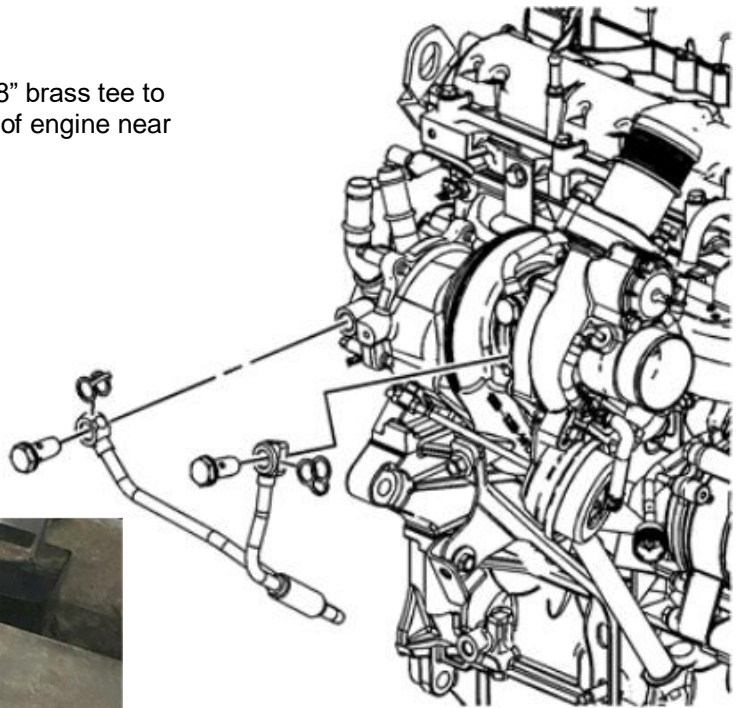
**STEP ELEVEN:**

Install turbo brace



### STEP TWELVE:

Install coolant feed and return lines. Use included 3/8" brass tee to connect coolant return to OEM coolant hose on front of engine near passenger side corner of valve cover.

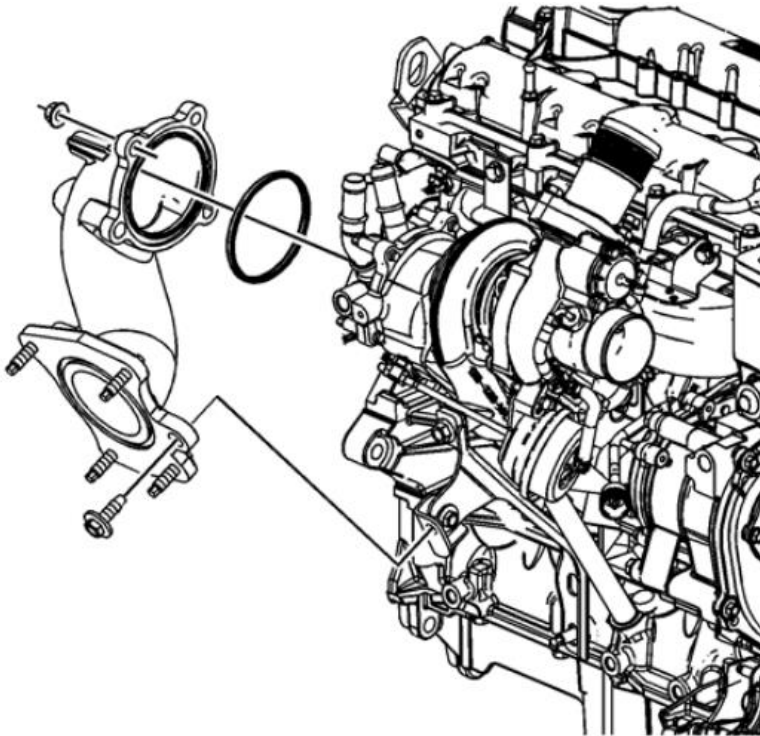


### STEP THIRTEEN:

Remove the stock oil drain plug and replace it with the aluminum oil drain plug in your new kit.

Reinstall oil pan.

Carefully connect the brass fitting from your oil drain line into the aluminum oil drain plug, do not over tighten, these can break. Connect the other side of the line to the Turbo.



#### **STEP FOURTEEN:**

Our new turbo downpipe now omits the O2 housing. You will bolt the downpipe right to the turbo.

#### **STEP FIFTEEN:**

Install included downpipe.



#### **STEP SIXTEEN:**

Remove bolt from evap solenoid bracket and install charge tube bracket between it and the cylinder head.



### STEP SEVENTEEN:

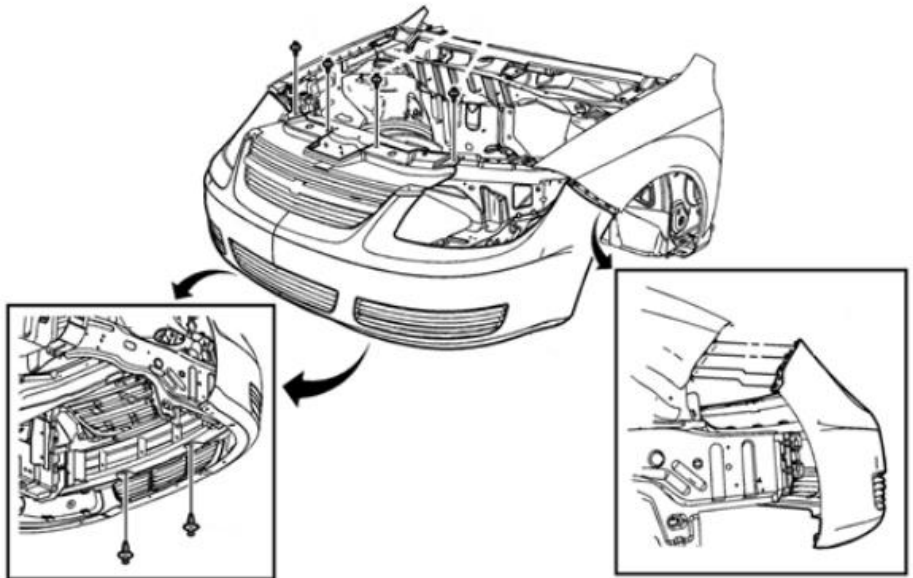
Remove the front bumper cover.

Remove the headlight assembly.

Remove the front fender liners.

Remove the front bumper air deflector.

Remove the fog lamps, if equipped.



### STEP EIGHTEEN:

Trim ends of bumper support sheet metal for intercooler clearance.

### STEP NINETEEN:

Slide black intercooler mounts into bumper and install intercooler using brackets and bolts provided.







#### STEP TWENTY:

Use 2.5" double 90° (ZZP15) coupler on the driver's side of the intercooler and the 2" to 2.5" 90° on the turbo. Then install upper charge pipe.

#### STEP TWENTY ONE:

Use the 2.5" 90° coupler on the passenger side of the intercooler and the 2.5" to 3" (L90/63-76) coupler on the throttle body. Orient the waste gate signal fitting on lower charge pipe towards the top of the engine and install charge pipe. Secure 2.5" connections with the 94100-288 clamps and the 2.75" connection with the 9100-325 clamp.

Remove hose from evap solenoid and intake manifold. Replace with line included in the kit. Connect the bypass valve on turbo to hose T'd into the evap line.



#### STEP TWENTY TWO:

Loosen bolt on valve cover and align charge tube bracket as shown. Install M6x25 bolts and nuts as shown securing charge pipe tab to bracket.

### STEP TWENTY THREE:

Tighten all bolts on charge tube and valve cover.

Connect ¼" hose to nipple on lower charge pipe and then to the wastegate actuator on the turbo.

Install intake tube on turbo. Trimming of the inner stud may be required.

(Intake pipe updated may differ from pictures).



### STEP TWENTY THREE:

Connect hose to the PCV fitting on the turbo and the nipple on the valve cover. Install MAF sensor



### STEP TWENTY FOUR:

Exchange the OEM MAP sensor for the sensor provided in the kit. Minor modification to the wiring connection is required. Two ridges on the bottom need to be trimmed to fit the new MAF.

**Recalibrate ECU. ZZP offers this service for all 2.4 and 2007+ 2.2.**

