

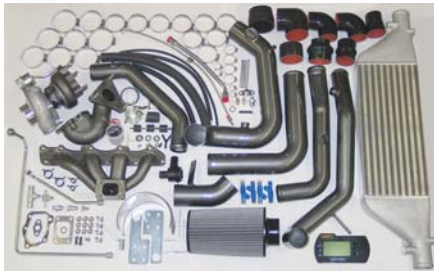
# Chevrolet Cobalt - Garrett Alpha Turbo Kit

## Bill of Materials & Precautions

**Chevrolet Cobalt**  
**2.2L Ecotec (L61)**

Part Number: 766621-0001

Parts List			Tools Needed	
Item	Description	Qty		
1	Charge Air Cooler Assembly (768175-1)	1	<ul style="list-style-type: none"> <li>•10mm socket</li> <li>•12-point socket</li> <li>•13mm combination wrench</li> <li>•15mm socket</li> <li>•T30 torx wrench</li> <li>•Allen keys</li> </ul>	<ul style="list-style-type: none"> <li>•Pliers</li> <li>•Screwdriver</li> <li>•5/16" nut driver</li> <li>•7/8" open end wrench</li> <li>•0.5" (12.5mm) drill</li> <li>•M14x1.5 tap</li> </ul>
2	Charge air plumbing kit (768660-1)	1		
3	Bracket kit (769913-1)	1		
4	Installation Instructions (737639-29)	1		
5	Cold air intake kit (768658-1)	1		
6	Electronics kit (768665-1)	1		
7	Electronics kit (768665-1)	1		
8	Exhaust manifold assembly (773332-1)	1		
9	Fastener kit (768666-1)	1		
10	Gasket kit (716909-46)	1		
11	GT2860RS Turbo assembly (773331-1)	1		
12	Oil and water line kit (773878-1)	1		
13	Turbine discharge assembly (773334-1)	1		
			<p>• NOTE: Bolt and fastener sizes may be different from one model year to the next depending on OE specifications. Different tools than those listed above may be required.</p>	
			<h3>Recommended Other Items</h3> <ul style="list-style-type: none"> <li>•Factory Service Manual</li> <li>• Safety glasses</li> <li>• Catch basin for engine coolant</li> <li>• Engine coolant (quantity per service manual)</li> <li>• Anti-seize compound</li> <li>• Oil filter</li> <li>• Oil (quantity per service manual)</li> </ul>	



## IMPORTANT INFORMATION - PLEASE READ CAREFULLY



We recommend that this turbo upgrade kit be installed by a qualified automotive technician. If you have any doubts as to your ability to install this turbo upgrade kit, consult with a local automotive repair company. Please be sure to carefully read all of the attached instructions prior to starting the installation process. If you have any questions about the enclosed parts or the instructions, call the distributor that you purchased the kit from for clarification.

Prior to the Garrett Turbo Kit installation, be sure that the vehicle is parked on a level surface and the engine is cool. Engine fluids and components can be extremely hot following normal vehicle operation. Avoid direct contact of engine fluids or components with your skin which may cause personal injury.

**NOTE: It is recommended that the oil and oil filter are changed prior to running the Garrett turbocharger. This will provide clean oil to the new turbocharger. To ensure optimal performance, always follow oil and filter change intervals per the Factory Service Manual.**

**IMPORTANT INFORMATION - PLEASE READ CAREFULLY****Return Policy**

Only unused and complete merchandise will be accepted for return subject to inspection and acceptance by Honeywell Turbo Technologies. No goods will be accepted without prior return authorization from Honeywell Turbo Technologies. No returns are accepted after thirty (30) days from original ship date from The Garrett Garage. All accepted returns are subject to a 20% restocking charge - NO EXCEPTIONS.

**Damaged Shipments**

The customer must file a claim with the shipping company if goods arrive in a damaged condition. The customer must also notify Honeywell Turbo Technologies with pertinent information.

**Refused Shipments**

Sending a shipment back to The Garrett Garage (or Honeywell) does not automatically give rise to a complete refund or credit. Honeywell Turbo Technologies may, at its sole discretion require different payment means for any shipment refused and then reshipped. It is the customer's responsibility to make all arrangements with Honeywell Turbo Technologies for disposition of refused shipments.

**Shortage or Discrepancy Claim**

Shortage or Discrepancy claims must be reported within forty-eight (48) hours of receipt of goods. Honeywell Turbo Technologies will either issue a credit or send a replacement(s) at no charge. Please contact [garrett.iamcs@honeywell.com](mailto:garrett.iamcs@honeywell.com) for instructions on how to address shortages or discrepancies.

**Limited Warranty**

Honeywell Turbo Technologies warrants to the original purchaser of its Turbocharger Products that such Turbocharger Products will, for a period of 1 year from date of shipment and subject to the Limitations on Warranty, be free from defects in materials and workmanship. For approved warranty claims Honeywell Turbo Technologies will, at its sole discretion, either credit the original purchaser in an amount equal to the original purchase price, or replace the applicable Turbocharger Product free of charge, within 60 days of Honeywell Turbo Technologies' approval. This is purchaser's sole and exclusive remedy and provides the complete financial responsibility of Honeywell Turbo Technologies for a warranty claim.

To be eligible for reimbursement, Customer must (a) submit all warranty claims to Honeywell Turbo Technologies within 30 days of the discovery of the alleged Turbocharger Product defect; and (b) complete and return a Returned Material Authorization Form. This form may be obtained from Honeywell Turbo Technologies at [garrett.iamcs@honeywell.com](mailto:garrett.iamcs@honeywell.com).

When Honeywell Turbo Technologies requires the examination of a failed part, Honeywell Turbo Technologies will promptly notify Customer and will await receipt of the failed part before further processing the warranty claim. If Honeywell Turbo Technologies ultimately determines that the failed part is covered under the Limited Warranty, Honeywell Turbo Technologies will reimburse Customer for the actual cost of ground shipment for any part found to be defective.

**IMPORTANT INFORMATION - PLEASE READ CAREFULLY****Limitations on Warranty**

The Limited Warranty does not apply to any parts: (a) not used in accordance with Honeywell Turbo Technologies' written instructions (b) for which no fault is found; (c) that have been modified in any manner not specifically approved by Honeywell Turbo Technologies; (d) for which an inspection indicates that reasonable and proper installation and/or preventative care and maintenance has not occurred; (e) that have been subject to damage attributable to or caused by misuse, abuse or vandalism; mishandling, improper shipping or other transit related damage; acts of god or insurrection; foreign object entry; any part not supplied by Honeywell Turbo Technologies; any repair, maintenance or service by anyone other than Honeywell Turbo Technologies; or any other acts that are beyond Honeywell Turbo Technologies' reasonable control; or (f) attributable to parts not supplied by Honeywell Turbo Technologies. Honeywell Turbo Technologies expressly disclaims any and all warranties relative to the foregoing circumstances.

**Honeywell Turbo Technologies shall not be liable to Customer under any circumstances for any special, incidental or consequential damages, including without limitation, damage to or loss of property other than for Turbocharger Products; damages incurred in installation, repair or replacement; lost profits, revenue or opportunity; loss of use; losses resulting from or related to downtime of Turbocharger Products; the cost of replacement transportation, power, or compression; the cost of substitute products; or claims of third parties for such damages, howsoever caused, and whether based on warranty, contract, and/or tort (including negligence, strict liability or otherwise).**

**The Limited Warranty is the only warranty made by Honeywell Turbo Technologies for any of its turbochargers and related parts and/or services, and is in lieu of and excludes all other warranties, expressed or implied, including warranties of merchantability or fitness for a particular purpose. Honeywell Turbo Technologies hereby disclaims all other warranties not expressly set forth. Some jurisdictions do not allow for the exclusion of implied warranties, so the above exclusions may not apply to you, however if implied warranties do apply they are limited to the original purchaser and for a period of one (1) year from the date of shipment.**

**Diagnosing Your Vehicle**

Do not rely on diagnostic software without seeking the advice of an ASE certified mechanic. Diagnostic software should only be used as a general guideline to help you facilitate the repair of your car. If you experience or suspect any malfunction of vital safety equipment, such as your brakes, exhaust, motor, transmission, fuel delivery system, your car's structural integrity or any other potentially life threatening malfunction, cease driving your vehicle immediately and seek professional help. Always consult your owner's manual.

**Vehicle Modification Notice**

Any modifications to your car are AT YOUR OWN RISK. You should consult the owner's manual and service manual. You should also contact your car's manufacturer to determine what effects modifications may have on your safety, warranty, performance, etc. Please also contact your local authorities to determine whether your intended modifications will make your car illegal to drive on public roads. A vehicle modified by the use of competition parts may not meet the legal requirement for use on public roads. It is your responsibility to comply with federal, state, and local laws prior to driving your vehicle on public roads.

## IMPORTANT INFORMATION - PLEASE READ CAREFULLY

### OTHER PRECAUTIONS

Observe all safety precautions and warnings contained in the installation instructions. Wear eye and ear protection and appropriate protective clothing. When working under or around the vehicle support it securely with jack stands. Use only the proper tools. Exercise extreme caution when working with flammable, corrosive, and hazardous liquids and materials.

### LEGAL INFORMATION

The Garrett turbo kits are for use off the public roadways. Federal law restricts the removal or modification of any part of a federally required emission control system on motor vehicles. Also, many states have enacted laws which prohibit tampering with or modifying emission or noise control systems. Vehicles which are not operated on public roadways may be exempt from certain regulations, however the buyer is strongly urged to check all applicable local and state laws and is ultimately responsible for compliance with the applicable laws and regulations.

### Honeywell Turbo Technologies Contact Information

Please contact Honeywell Turbo Technologies at [garrett.iamcs@honeywell.com](mailto:garrett.iamcs@honeywell.com) for any questions regarding this Shipping/Returns/Cancellation Policy, for notifications to Honeywell Turbo Technologies, and for instructions on processing damaged shipments and authorized returns.

**Honeywell Turbo Technologies**  
Garrett Independent Aftermarket  
Honeywell International Inc.  
3201 W. Lomita Blvd.  
Torrance, CA 90505  
[www.TurboByGarrett.com](http://www.TurboByGarrett.com)

**Garrett**<sup>®</sup>  
by Honeywell

## Installation Instructions

1. Disconnect the battery – using a 10mm wrench, disconnect the negative lead of the battery located in the trunk. Isolate the negative lead with a rag or similar object.

2. Drain oil and water – drain the engine oil and engine coolant.

3. Remove plastic Ecotec engine cowl – remove the oil fill cap and remove the Ecotec engine cowling. The cowl is held down in two places (near the oil dip stick & passenger side near the fire wall) and is easily removed by pulling straight up. The posts that were used to hold the cowling may be removed as they are no longer used. Replace the oil fill cap (Figure 1).



Fig. 1

4. Remove resonator box – loosen the clamp at the throttle body (Figure 2). Slide the crank case vent tube clamp back along the hose and remove the hose from the cam cover (Figure 3). Remove the plastic clip (that retains the resonator box) adjacent to the fuel rail by prying up the (smaller) head. The head will pull up about an inch and free the clip. Unplug the mass air flow (MAF) sensor and unclamp the air box lid. Remove the resonator box & air box lid as an assembly and place to the side (this will not be reused; however, we will later remove the MAF sensor from the air box lid) (Figure 3). **CAUTION: COVER THE THROTTLE BODY WITH A RAG TO KEEP FOREIGN OBJECTS OUT!**



Fig. 2



Fig. 3

## Installation Instructions

5. Remove front bumper fascia – It is not necessary to remove the head lights; however, it is necessary to remove several front fascia-to-wheel liner screws (Figure 4) to access the front fascia-to-fender bolts. Remove the four (4) top front bumper fascia retainers and the two (2) lower front bumper fascia retainers (Figure 5). Remove the bumper and set aside in a safe place.



Fig. 4

6. Remove air box – remove the two (2) nuts holding the top of the air box (adjacent to the strut tower); remove the T30 torx fastener holding the lower portion of the air box to the body (keep track of the clip for that bolt as it will be used later to secure the cold air intake anti-vibration mount) (Figure 6). The top of the air box should lift out. Remove the bolt that retains the lower portion of the air box (Figure 7). The lower portion of the air box should now be free. The stock air box will not be used as the Garrett turbo kit is supplied with a cold air intake.

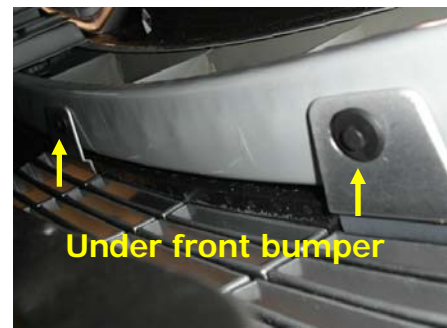


Fig. 5

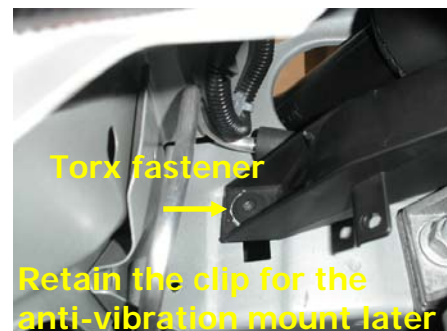


Fig. 6

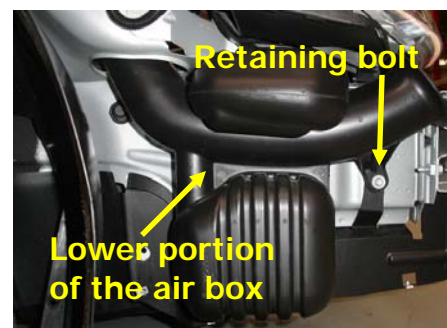


Fig. 7

## Installation Instructions

7. Remove drive shaft heat shield – the heat shield is held on with two (2) fasteners. First, remove the heat shield-to-transmission bolt; second, remove the heat shield-to-engine block bolt. Keep the fasteners and heat shield in a safe place, they will be reinstalled later (Figure 8).

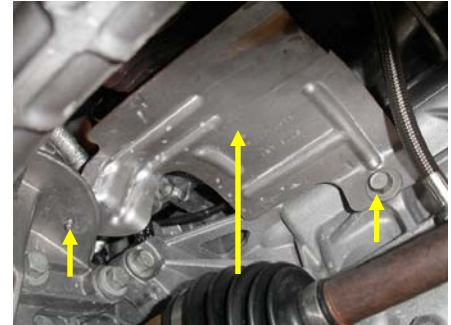


Fig. 8

8. Disconnect AFR (or oxygen) sensor – unplug the air fuel ratio (AFR) sensor and free the connector from the clip so the manifold and sensor can be removed as an assembly.

9. Disconnect exhaust – disconnect the exhaust at the manifold by removing the three (3) 15mm nuts. Slide the exhaust flange off the studs and move to the side. There should be sufficient compliance in the exhaust system hangers to move the exhaust rearward enough to slide the flange off the studs.

10. Remove manifold – begin by removing the three (3) fasteners that retain the heat shield. Remove the heat shield and place to the side. This heat shield will not be reused. Remove the ten (10), 13mm nuts holding the manifold to the cylinder head. The manifold will need to be removed from the bottom of the vehicle. CAUTION: Use caution as not to damage the O<sub>2</sub> sensor in the manifold. Check the condition of the gasket. New gaskets for the manifold and exhaust are recommended.

11. Remove oil pan – remove the oil pan bolts and pry the pan loose at the designated pry points.

## Installation Instructions

12. Install the oil drain fitting – using the drill fixture (PN 765322-0001) and bolt (PN 400664-1016) supplied, attach the drill fixture to the block. Center the drill fixture on the dish of the boss (Figure 10) and tighten the fixture in place (Figure 9). Using a 0.5" drill bit (or 12.5mm), drill a hole through the boss. Remove the drill fixture and tap the hole to M14x1.5. Install the supplied -8 fitting with a bit of thread sealer (Figure 11).



Fig. 9

13. Install turbo oil supply fitting on the engine – using a 7mm Allen key, remove the (forward) plug under the water pipe (Figure 10). Replace with the -3 oil supply fitting and copper crush washer. Tighten fitting with a 16mm wrench (Figure 11).

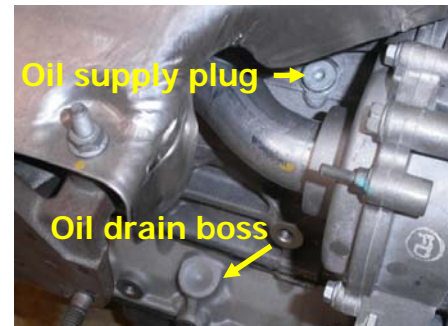


Fig. 10

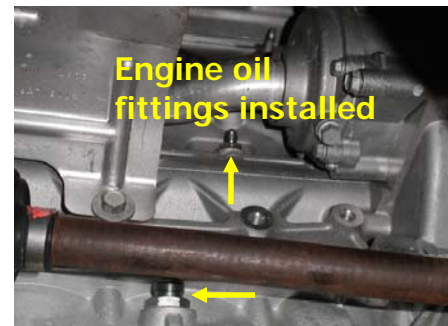


Fig. 11

14. Install oil pan – make sure the oil pan and lower crankcase mounting surface are free of debris and oil. Apply a 3.5mm bead of engine sealant (GM P/N 12378521 is recommended) to the perimeter of the oil pan. Install the oil pan and start all the fasteners. Torque the bolts to 18 lb<sub>f</sub>-ft in the sequence indicated in the shop manual.

## Installation Instructions

15. Prepare the turbo for installation – install the oil inlet fitting, the oil drain fitting, water inlet fitting, heat shield bracket and the down pipe prior to installing the turbocharger (Figure 12):

- 1) Install the -3 oil inlet fitting
- 2) Install the oil drain flange fitting using the two (2) 12-point bolts supplied. Make sure the o-ring is in place. A spare o-ring is provided in the gasket kit.
- 3) Install the water inlet fitting with the supplied copper crush washer.
- 4) Install the heat shield bracket by removing the turbine housing bolt pictured. Install the bracket and torque the bolt to 200 lb<sub>f</sub>-in.
- 5) Install the down pipe on to the turbo with the supplied metal gasket and five flange nuts.

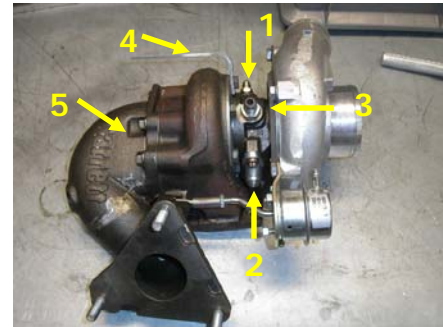


Fig. 12

16. Install the exhaust manifold – make sure the exhaust manifold gasket is in place and install the exhaust manifold (from the bottom of the engine compartment) and torque to 125 lb<sub>f</sub>-in (Figure 13).



Fig. 13

17. Install the turbo – place the T25 turbine inlet metal gasket on the exhaust manifold studs (Figure 13). Place the heat shield around the turbo (but do not attach it with the screws). Install the turbocharger from the bottom and drop it onto the studs (Figure 14). Start all four (4) nuts before tightening any of them. Leave the turbocharger loose until the water outlet line is installed. Reinstall and connect the AFR (or oxygen) sensor in the turbine discharge pipe.



Fig. 14

## Installation Instructions

18. Install the water inlet line (short) – using the water inlet line, attach the end with the 90° bend to the water inlet fitting (installed before the turbo was installed). This water line goes between the turbo and the fire wall (Figure 17). Mark the heater core hose in a neutral spot to cut and add the metal tee fitting that will connect to this water line. Cut the hose, insert the supplied -6 tee and clamp both ends with the supplied clamps (Figure 15). Tighten both -6 fittings (turbo and tee) (Figure 16).



Fig. 15

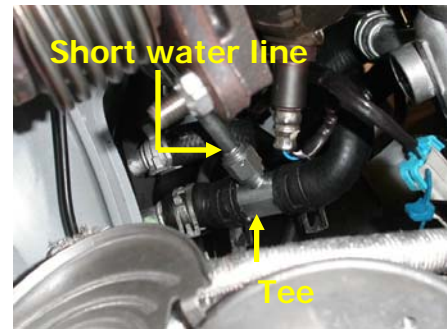


Fig. 16

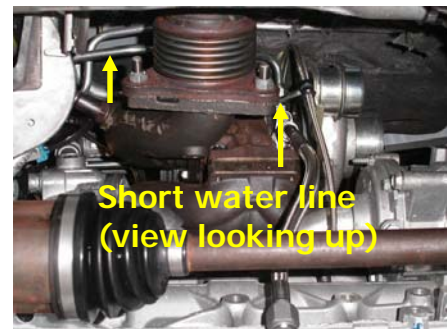


Fig. 17

19. Install the water outlet line (long) – using the water outlet line, attach the banjo end to the open water port on the turbo using the banjo bolt and copper crush washers. Make sure the copper crush washers are installed on both sides of the banjo head. Cut the 5/16" hose leading to the coolant tank and install the supplied tee with the clamps. Attach the water outlet line to the tee and tighten both ends of the connections (Figure 18). Attach the heat shield using the button head screws provided (Figure 14).



Fig. 18

## Installation Instructions

20. Install the oil supply line – the 120° hose end connects to the engine block, the 90° hose end connects to the turbo. Use the supplied Adel clamp to secure the oil supply line to the actuator (Figure 19).

21. Install the oil drain line – the 45° hose end connects to the turbo, the straight hose end connects to the engine (Figure 19).

22. Install the fuel injectors – disconnect the fuel injector plugs for each injector (4). Remove the two (2) fasteners retaining the fuel rail. Use caution when lifting the fuel rail up as it is filled with fuel and under pressure. Remove each injector and reinstall the fuel injectors supplied in the fuel rail. Make sure the o-rings are intact and use a bit of motor oil to lubricate each o-ring. Reinstall the fuel rail using caution not to cut any o-rings. Reinstall the fasteners and reconnect the injector connections (Figure 20).

23. Install the charge air cooler (CAC) assembly – installing the CAC assembly will require the four (4) CAC brackets, eight (8) hex head cap screws and the long charge pipe from kit 768660-0001. Remove the top radiator brackets so the radiator can be lifted and tilted out. Insert the large charge pipe and anti-vibration mount in the approximate location (the 90° end goes to the CAC) (Figure 21). Lift the radiator out of the bottom grommets and insert the bottom CAC brackets (see figure). Once the bottom brackets are positioned around the grommets and the long charge pipe is approximately positioned, the radiator can be tightened down (Figure 22). Install the top CAC brackets next; the L-shaped bracket is for the driver-side (left). Snake the CAC in place as shown in the photo and start all eight (8) hex head cap screws. Make sure the CAC assembly is clear of the bumper; tighten all fasteners.

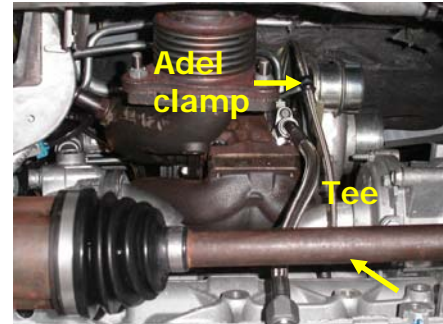


Fig. 19

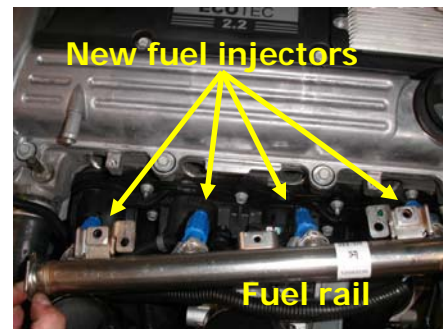


Fig. 20

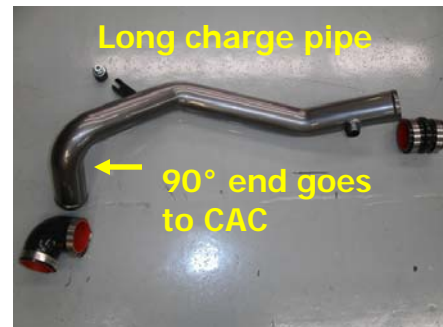


Fig. 21



Fig. 22

## Installation Instructions

24. Install the charge air plumbing – using the clamps and couplers supplied, install the charge plumbing. Connect the boost signal line and clamps between the compressor discharge pipe and the actuator (trim to length as necessary). The hump hose connects the compressor discharge pipe and the CAC inlet pipe. The 90° silicone elbows are for the CAC inlet and outlet. Installing the 90° 2.75" charge pipe for the throttle body, the short leg goes to the throttle body while the long leg connects to the CAC outlet pipe with the silicone transition. Once the couplings and clamps are in place, tighten the anti-vibration mounts (CAC inlet and outlet pipes) followed by tightening the clamps (Figure 23).

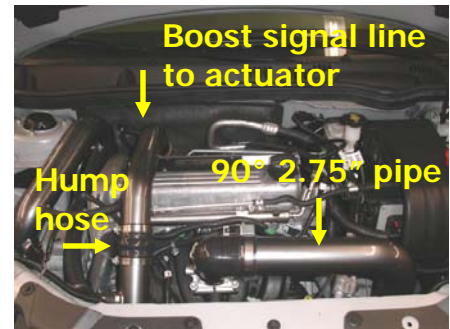


Fig. 23

25. Install the cold air intake – install the mass air flow (MAF) sensor in the intake pipe supplied. Using the couplings, clamps and air filter supplied, install the intake system and secure the anti-vibration mount. Reconnect the MAF sensor connection and tighten all the clamps including the crankcase breather and compressor bypass valve (Figure 24).

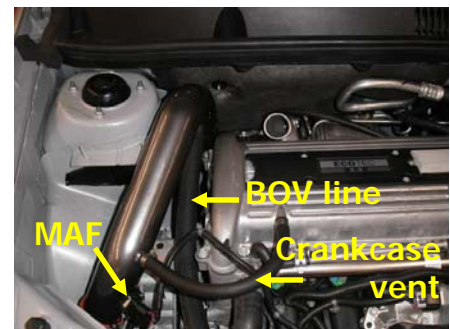


Fig. 24

26. Reconnect the exhaust to the turbine outlet and reinstall the wheel drive shaft heat shield.

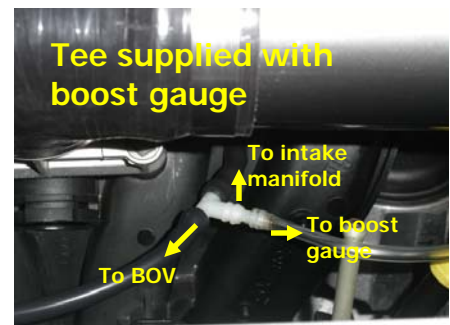


Fig. 26

27. Reinstall front bumper fascia.

28. Install the boost gauge using a mounting location of your choice.

29. Connect the blow off valve and boost signal lines using the plastic tee supplied with the boost gauge (Figure 26). Short signal line connects to the intake manifold, the longer line goes from the tee to the top of the BOV (Figure 27).

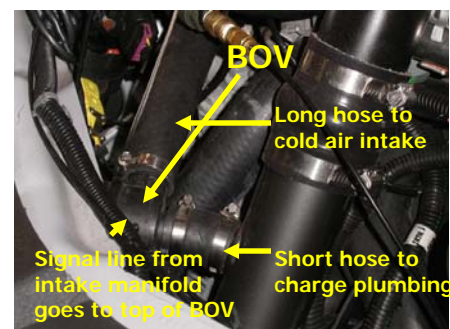


Fig. 27

## Installation Instructions (cont'd)

30. Reconnect battery.

31. Refill the engine fluids.

32. Reflash Engine Control Module (ECM) – If the electronics kit contains the LiveWire reflash device, plug the device into the OBDII port to upload the new calibration. Early releases of the product require the engine control module (ECM) be sent in for reflash. See separate enclosed instructions if applicable.

33. Check for fuel leaks - Turn the ignition key on to energize the fuel pump. Check for fuel leaks around the fuel injectors.

34. Start the engine – check for engine coolant and oil leaks. Once a leak free fuel system has been confirmed, you are ready to enjoy your new Garrett Turbo Cobalt!

NOTE: After handling the exhaust components, it is not uncommon for the components to smoke as the engine heats up. Once the initial oil film is burned off, there should be no more smoke.

**Honeywell Turbo Technologies**  
Garrett Independent Aftermarket  
Honeywell International Inc.  
3201 W. Lomita Blvd.  
Torrance, CA 90505  
[www.TurboByGarrett.com](http://www.TurboByGarrett.com)

**Garrett**<sup>®</sup>  
by Honeywell