

Chevrolet Cobalt - Garrett Turbo Essentials Plus Kit

Bill of Materials & Precautions

Chevrolet Cobalt
2.2L Ecotec (L61)

Part Number: 766621-0003

Parts List			Tools Needed	
Item	Description	Qty		
1	Heat shield (769080-1)	1	<ul style="list-style-type: none"> •10mm socket •12-point socket •13mm combination wrench •15mm socket •T30 torx wrench •Allen keys 	<ul style="list-style-type: none"> •Pliers •Screwdriver •5/16" nut driver •7/8" open end wrench •0.5" (12.5mm) drill •M14x1.5 tap
2	Heat shield bracket (769081-1)	1		
3	Exhaust manifold assembly (773332-1)	1		
4	Fastener kit (768666-1)	1		
5	Installation Instructions (737639-31)	1		
6	Gasket kit (716909-46)	1		
7	GT286ORS Turbo assembly (773331-1)	1		
8	Oil and water line kit (773878-1)	1		
9	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"> •Factory Service Manual • Safety glasses • Catch basin for engine coolant • Engine coolant (quantity per service manual) • Anti-seize compound • Oil filter • Oil (quantity per service manual) 	

Honeywell Turbo Technologies makes no claim that any turbo kit intended for the Chevrolet Cobalt application is a complete bolt-on turbo kit with the exception of Part Number 766621-0001. Kits with Part Numbers 766621-2, 766621-3 and 772764-3 are turbo kits that require additional components to be supplied by the user. PLEASE INSURE THAT THE PART NUMBER THAT HAS BEEN ORDERED WAS THE INTENDED PART NUMBER BEFORE BEGINNING INSTALLATION.

See Honeywell Turbo Technologies' return policy if the incorrect turbo kit has been ordered.

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 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.

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

ECU Reprogramming Notice

Certain Turbocharger Kits require that the Vehicle's Engine Control Unit (ECU) be reprogrammed. You will be required to ship your vehicle's ECU to the Honeywell Turbo Technologies Turbo Reprogramming Center. Although we will try and return the ECU as quickly as possible, you should plan for a minimum of one (1) week vehicular down time to allow for shipment, reprogramming, and return shipment of the vehicle's ECU.

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 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.

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Garrett[®]
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 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 4).

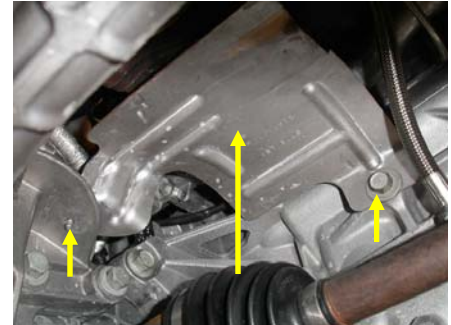


Fig. 4

6. 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.

7. 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.

8. 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 O₂ sensor in the manifold. Check the condition of the gasket. New gaskets for the manifold and exhaust are recommended.

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

Installation Instructions

10. 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 6) and tighten the fixture in place (Figure 5). 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 7).



Fig. 5

11. Install turbo oil supply fitting on the engine – using a 7mm Allen key, remove the (forward) plug under the water pipe (Figure 6). Replace with the -3 oil supply fitting and copper crush washer. Tighten fitting with a 16mm wrench (Figure 7).

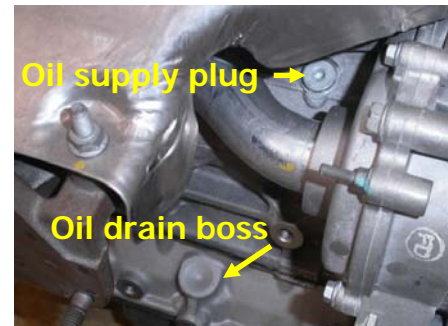


Fig. 6

12. 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_f-ft in the sequence indicated in the shop manual.

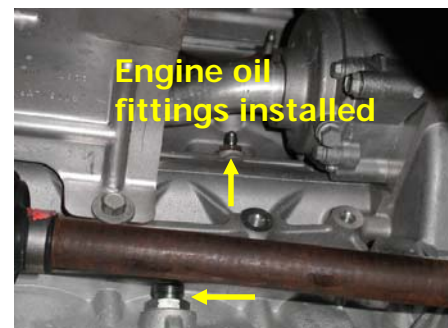


Fig. 7

Installation Instructions

13. 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 18):

- 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_f-in.
- 5) Install the down pipe on to the turbo with the supplied metal gasket and five flange nuts.

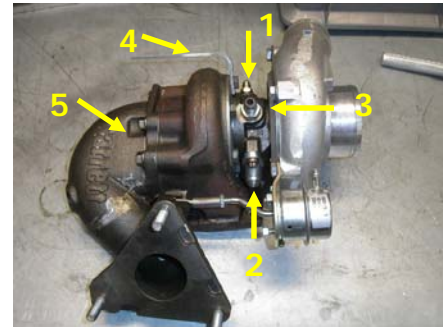


Fig. 8

14. 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_f-in (Figure 9).



Fig. 9

15. Install the turbo – place the T25 turbine inlet metal gasket on the exhaust manifold studs (Figure 9). 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 10). 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. 10

Installation Instructions

16. 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 13). 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 11). Tighten both -6 fittings (turbo and tee) (Figure 12).



Fig. 11

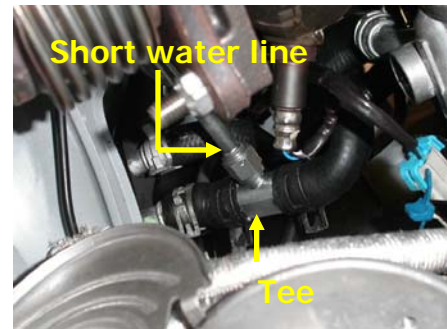


Fig. 12

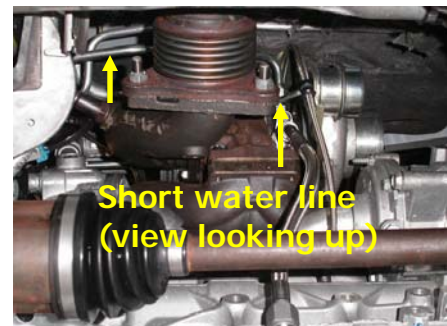


Fig. 13

17. 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 14). Attach the heat shield using the button head screws provided (Figure 10).



Fig. 14

Installation Instructions (cont'd)

18. 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 15).

19. Install the oil drain line – the 45° hose end connects to the turbo, the straight hose end connects to the engine (Figure 15).

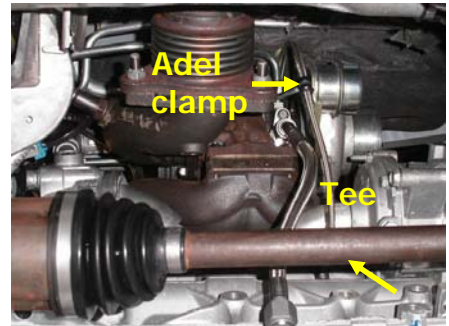


Fig. 15

20. Reconnect battery.

21. Refill the engine fluids.

22. A custom engine tune and charge air plumbing are recommended to insure the engine and turbo function properly.

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.

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