

Turbo Kit:

REVISION: PRELIMINARY ATP-BB

**GT / GTX Bolt-on Stock Location Turbo,
Model Year 2014+ Ford Fiesta ST 1.6L Ecoboost**

Parts Checklist:

- GT or GTX Turbo assembly
 - o with built-in wastegate
 - o Polished compressor housing (optional)
 - o Attached to Cast/Machined V-band turbo manifold adapter
 - o Attached V-band clamp for turbine entry
 - o Attached GT28 Turbine outlet 5 bolt gasket
 - o Turbine outlet adapter (5 bolt to Fiesta ST 3 bolt flange)
 - o Fiesta ST High Flow Charge Pipe

- Internal Wastegate
 - o -6 Actuator with 12-14 base pressure calibration (DO NOT run with stock tune due to overboost!). Lower Pressure and Higher actuator options are available upon ordering.
 - o Actuator Bracket
 - o Adjustable Rod End. Minor adjustments in base pressure OK

- Compressor Inlet Elbow
 - o (1) 3" 90 degree silicone elbow
 - o (2) Hose clamps for 3" 90 degree silicone hose
 - o (1) Quicktap (Boost control solenoid return)

- Compressor Outlet
 - o (1) 90 degree elbow with long legs (Trim length of one leg to 1" straight from tangent point; trimming not required for other leg, 6" length)
 - o (2) 2" to 2.25" clamps
 - o (1) Quicktap (Boost control solenoid source)
 - o (1) 3 bolt outlet to 2" diameter adapter (NOTE: GT2554R only)

- Oil Inlet
 - o Oil feed adapter fitting at block
 - o 18" -4 AN oil feed line, straight and 90 degree fittings
 - o -4 restricted oil feed fitting at turbo

- Oil Return Assembly
 - o (2) step-down studs 8mm to 6mm
 - o (2) 6mm nuts
 - o (1) GT/GTX oil drain gasket used at the turbo (mates with stock oil drain tube)

Parts Checklist (continued):

- Coolant Feed Assembly
 - (1) -6 AN Banjo Fitting kit with -6 AN male flare exit (used at turbo)
 - (1) 24" -6 AN steel braided line with straight and straight ends
 - (1) Fitting: 3/8" (10mm) male barb to -6 male flare straight fitting. NOTE: Connects to left side rubber line from water neck. Secure with stock hose clamp.

- Coolant Return Assembly
 - (1) -6 AN Banjo Fitting kit with -6 AN male flare exit (used at turbo)
 - (1) 24" -6 AN steel braided line with straight and straight ends
 - (1) Fitting: 5/16" (8mm) male barb to -6 male flare straight fitting. NOTE: Connects to right side rubber line from coolant reservoir.

- Additional Fasteners
 - (2) Turbine to manifold hex head bolt (M8 x 1.25 thread, 20mm long)
 - (1) Turbine to manifold hex head bolt (M8 x 1.25 thread, 30mm long)
 - (1) Flanged lock nut for turbine to manifold hex head bolt (M8 x 1.25 thread)
 - (3) Exhaust studs for turbine to downpipe flange (M8 x 1.25 thread)
 - (3) Flanged lock nuts for exhaust studs (M8 x 1.25 thread)

Application Notes:

- Diverter Valve and/or Blow-Off Valve (BOV):

The stock turbo has an integrated "electric" diverter valve, which expels boost on throttle lift. The stock turbo compressor housing has an integrated "electric" diverter valve.

Upgrading to a Garrett GT/GTX turbo eliminates the stock "electric" diverter valve through replacement of the stock turbo. The stock "electric" diverter valve offers limited flow potential and inadequate for increased airflow from an upgrade performance turbo.

Replacement of stock "electric" diverter valve is necessary; and requires a high flowing "mechanical" or vacuum actuated valve to handle increased flow on throttle lift from an upgrade performance turbo.

Recommend TiAL Q Blow Off Valve (ATP product code: TIL-BOV-007, TiAL Q Blow Off Valve) for best overall performance and reliability. The TiAL Q Blow Off Valve with 1" hose clamp style mounting flange, plugs to the 1" port provided with each ATP Fiesta ST GT/GTX turbo upgrade. Additional requirements to run an actuator hose to blow off valve:

- o Vacuum fitting adapter (ATP product code: ATP-FIE-005, Vacuum Source Block for 2014+ Fiesta ST)
- o 6 feet of vacuum hose (ATP product code: ATP-SIL-246, 3/16" (4.7mm) inner diameter extruded silicone vacuum hose)

Note, the Fiesta ST runs perfectly with a vent to atmosphere BOV and will not cause drivability issues. Although we recommend a TiAL Q Blow Off Valve for overall durability, you can use ANY brand of valve you choose and trust.

In order to prevent fault code you may disconnect the stock "electric" diverter valve from your ECU tune. If your ECU tune cannot disable the stock "electric" diverter valve, you may leave the electrical circuit plugged in to prevent a fault code. "Sim-Plug" may also simulate the electrical draw of an active stock "electric" diverter valve.

Condensed Installation Procedure:

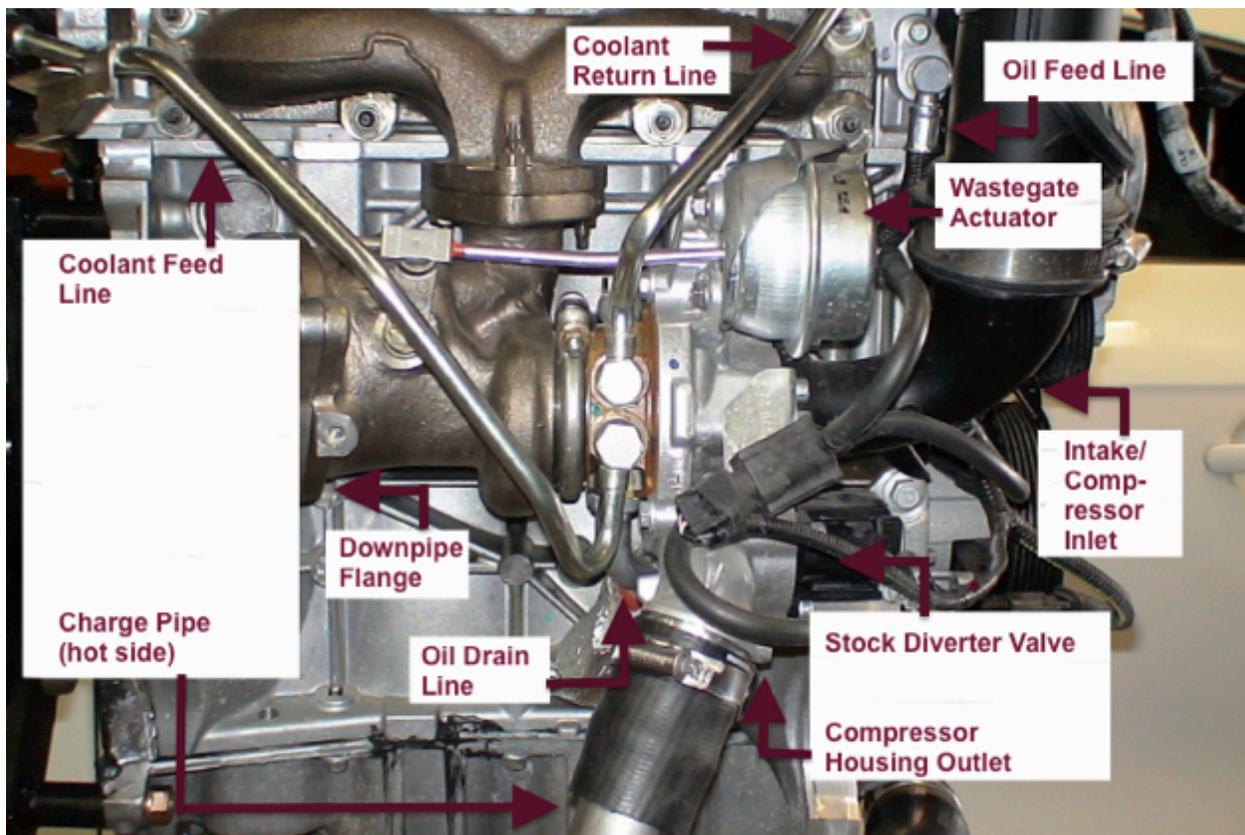
**GT / GTX Bolt-on Stock Location Turbo,
Model Year 2013+ Ford Fiesta ST 1.6L Ecoboost**

Tip #1 – Always saturate exhaust fasteners with penetrating oil (liquid wrench) prior to removal to prevent breakage during removal.

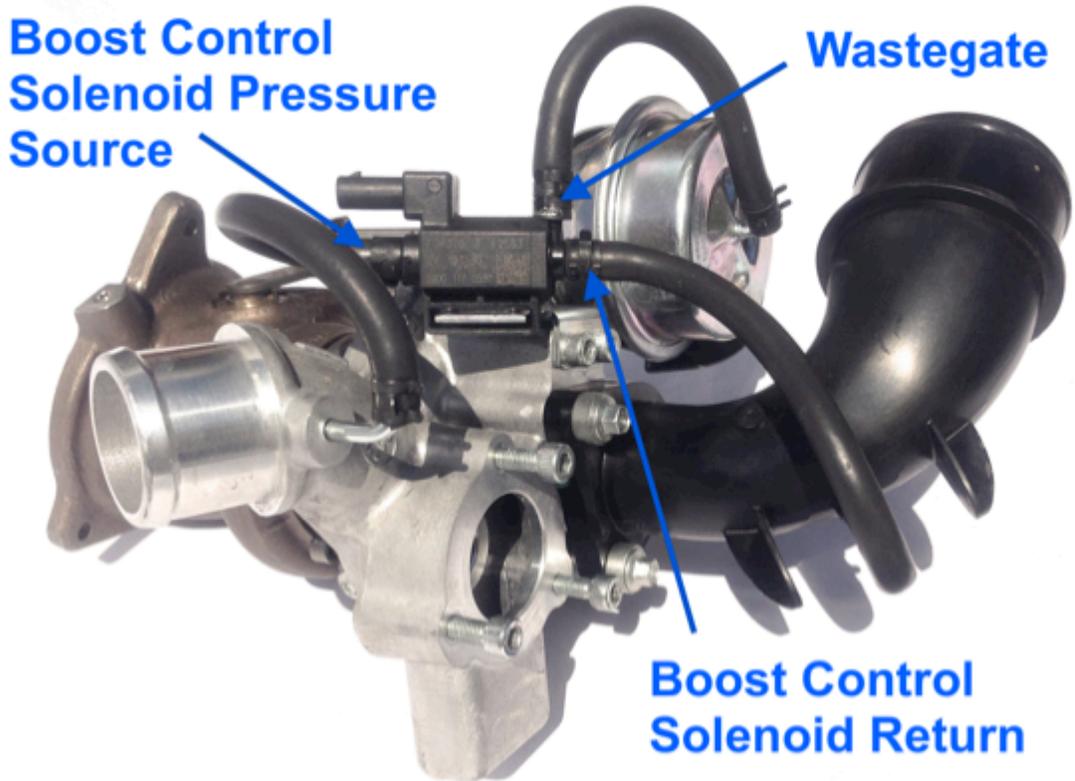
Tip #2 – Always coat exhaust fasteners with anti-seize to allow for easier future removal of parts and to prevent parts breakage during removal.

Tip #3 – Do not use thread sealant where it's not NPT (pipe) thread. To our knowledge, ALL the fittings supplied in this kit are “flare” (AN) or compression type fittings and adding Teflon tape or liquid sealant unnecessarily will only introduce sealing issues as well as possible turbo damage from clogged pores.

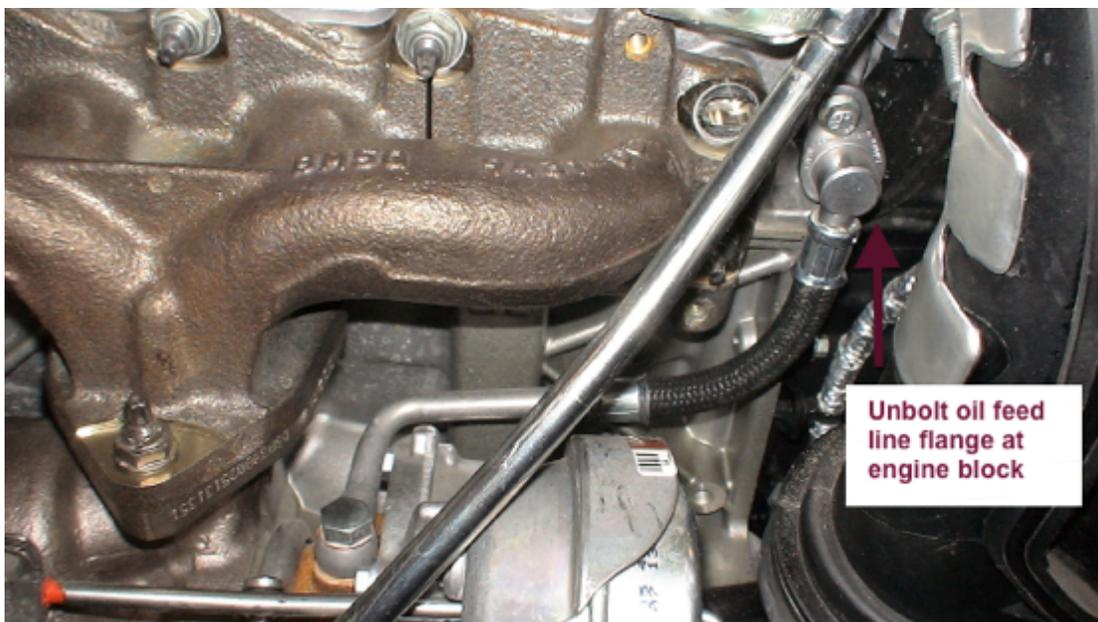
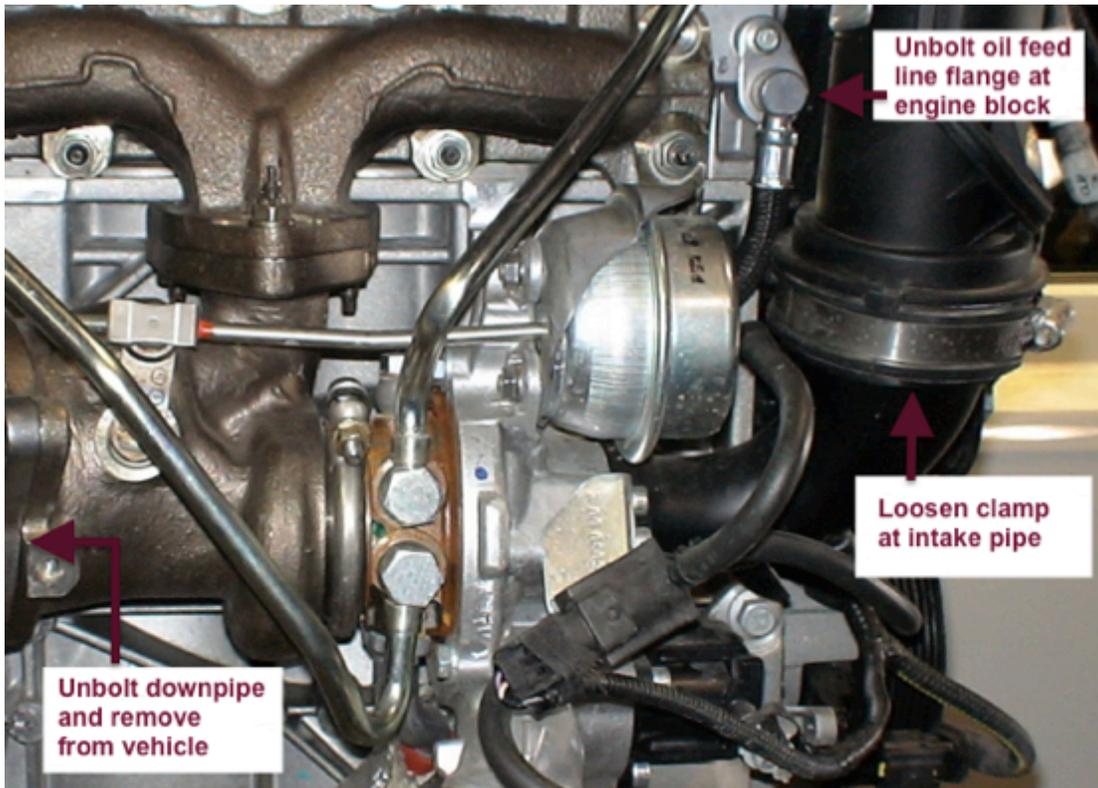
FIESTA ST STOCK TURBO DIAGRAM #1



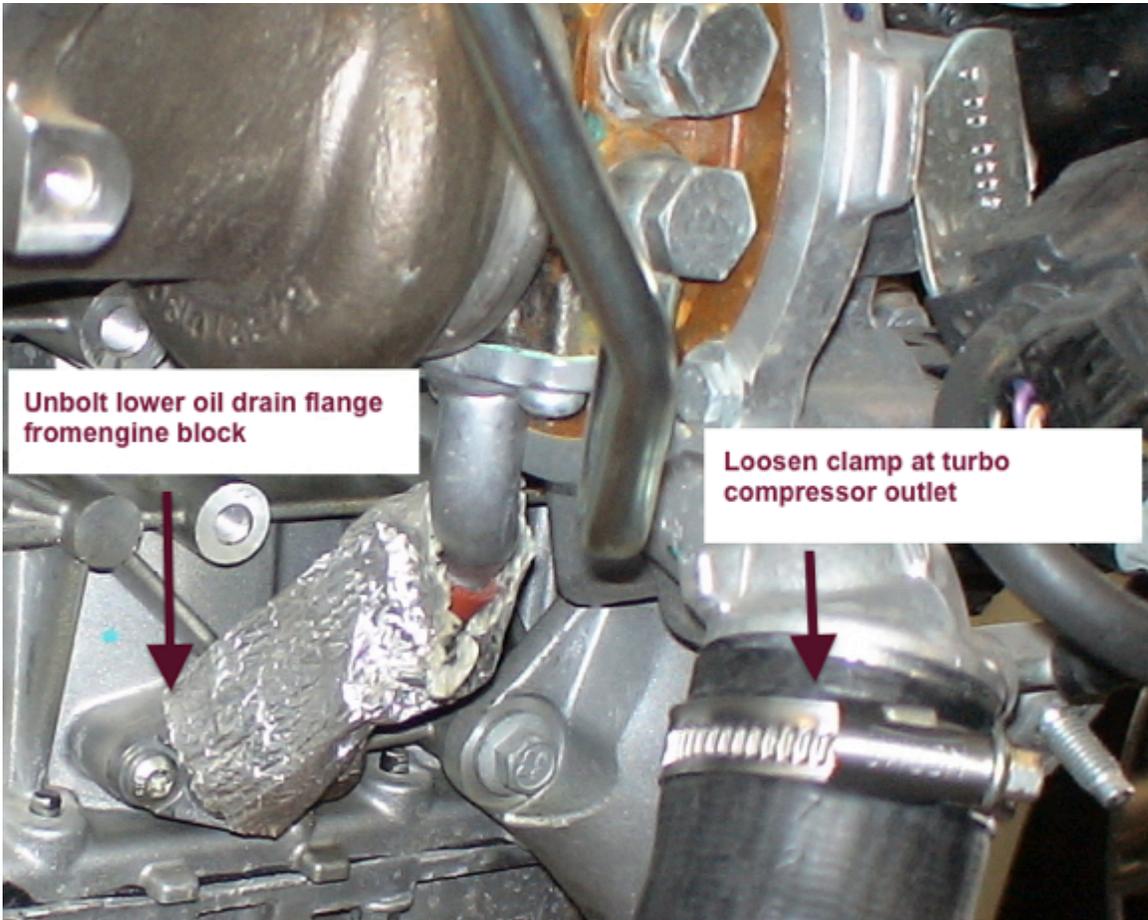
FIESTA ST STOCK TURBO DIAGRAM #2



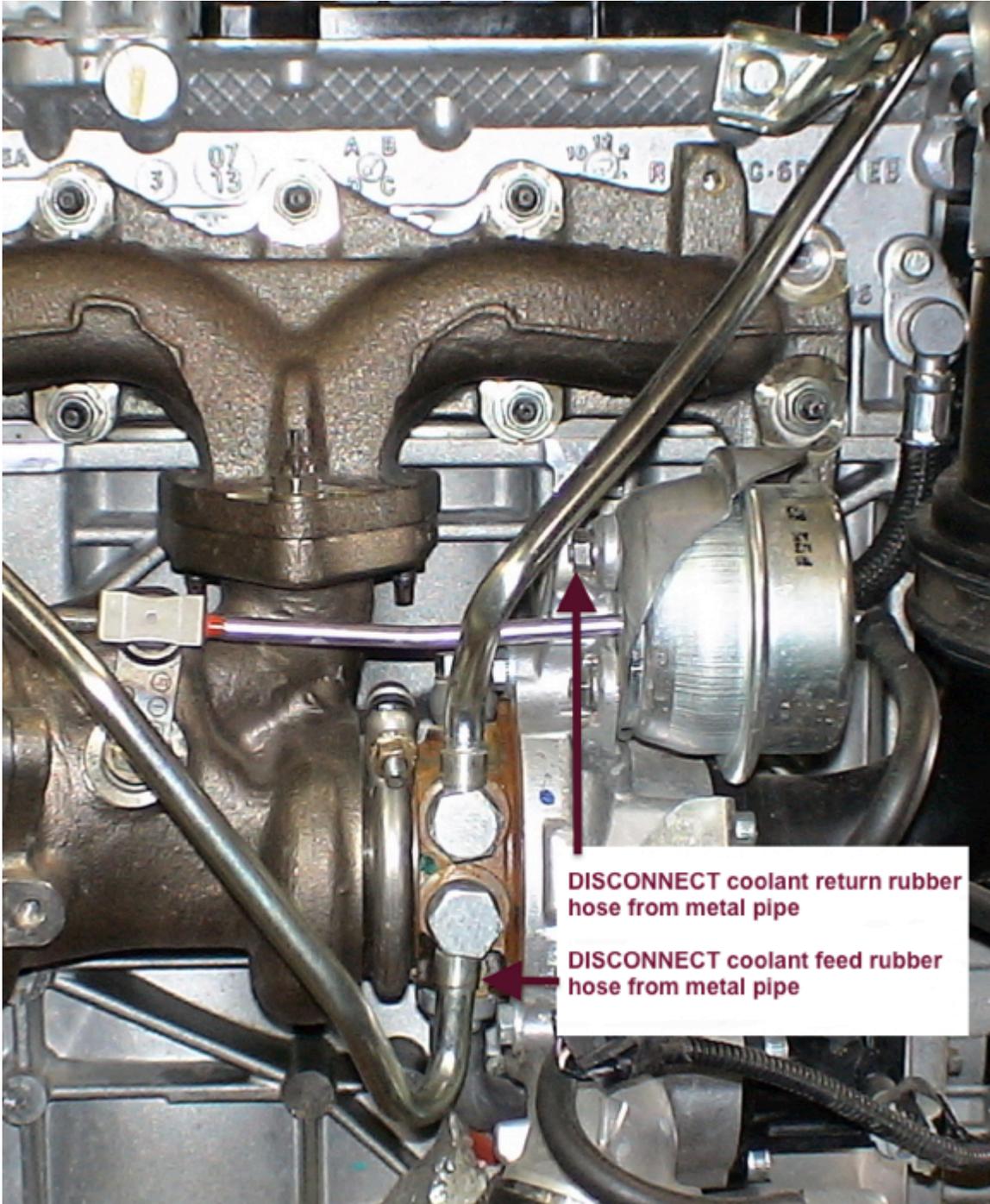
1. Unbolt Factory Turbocharger
 - a. Loosen clamp at intake pipe to turbo compressor inlet elbow
 - b. Unbolt the oil feed line flange at the engine block
 - c. Unbolt downpipe and remove from vehicle

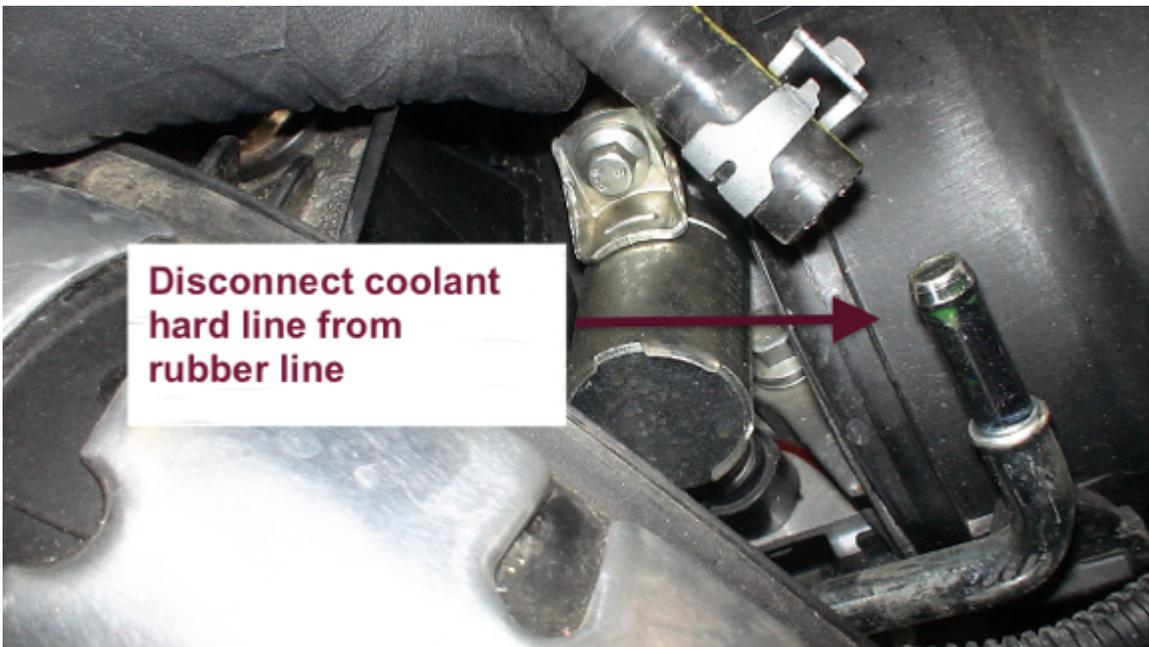


- d. Unbolt the lower oil drain tube flange from the engine block.
- e. Loosen clamp at turbo compressor outlet

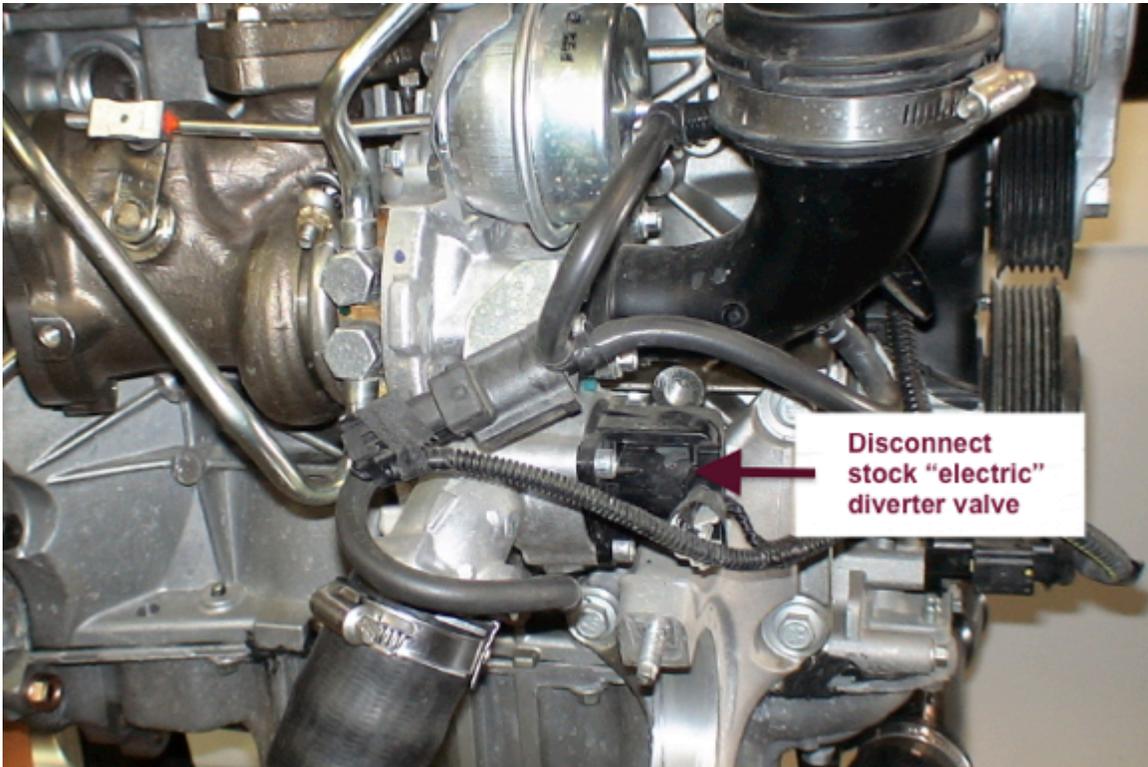


- f. Disconnect the coolant feed banjo at the engine block.
- g. Disconnect the coolant return hose (rubber hose) attached to the metal coolant pipe.

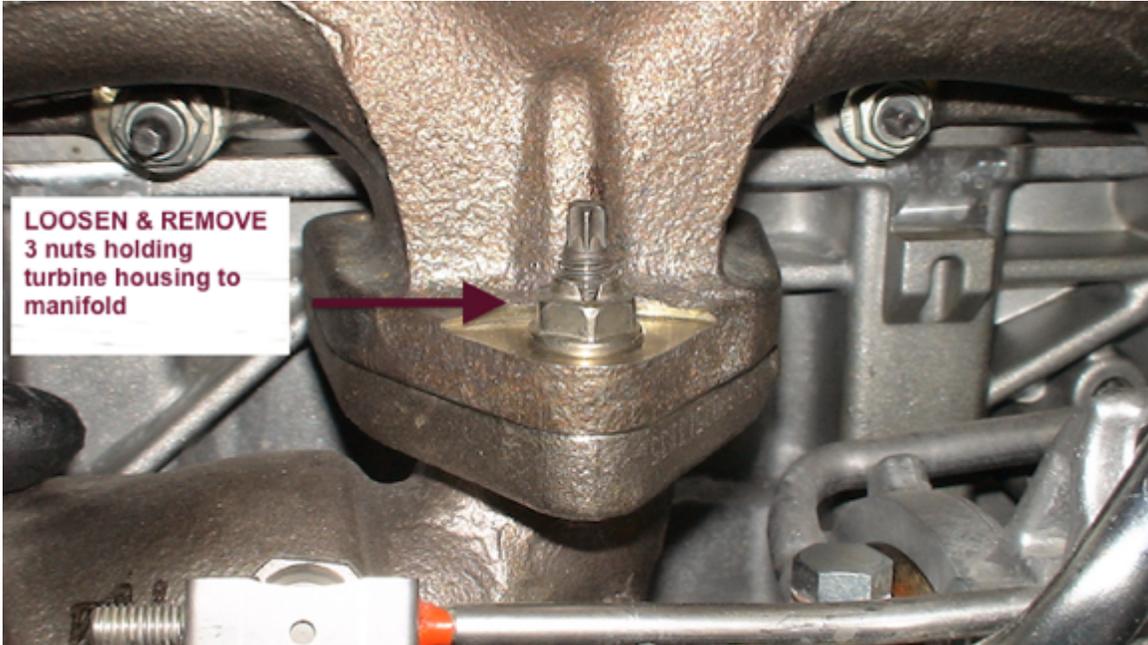




- h. Disconnect the stock "electric" diverter valve. Unbolt 3 Allen head bolts. NOTE: REMOVAL REQUIRED prior to removal of stock turbo.

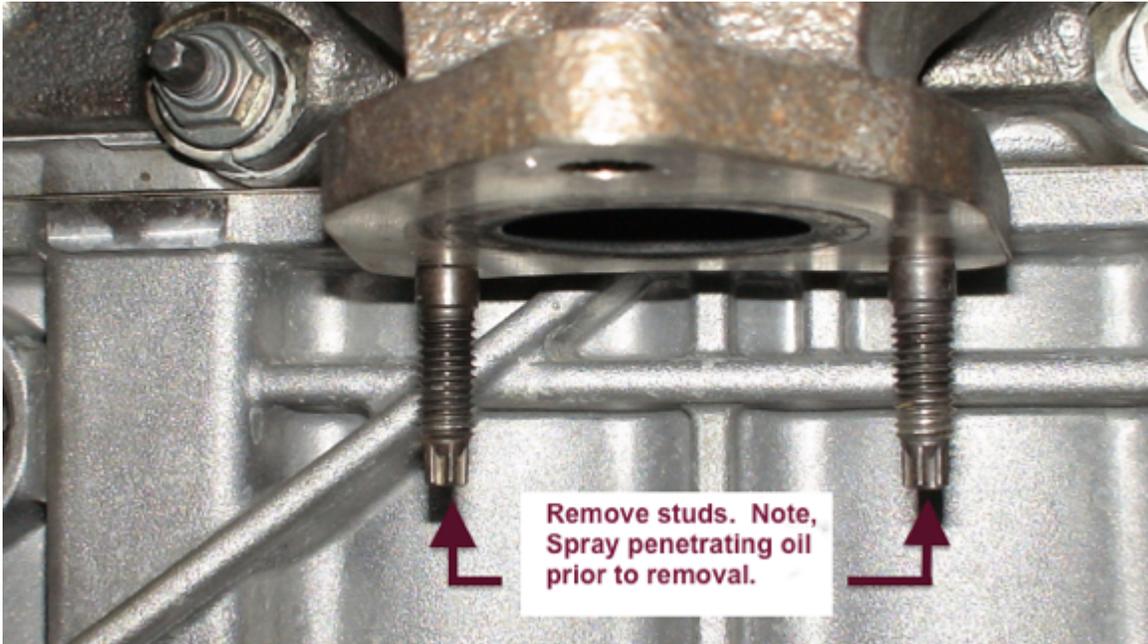


- i. Loosen 3 nuts holding the turbine housing to manifold.
- j. Remove 3 nuts holding the turbine housing to manifold.
** Spray (saturate) with liquid wrench first to prevent seized bolts/nuts breaking



- k. Remove the disconnected turbo assembly from the vehicle.

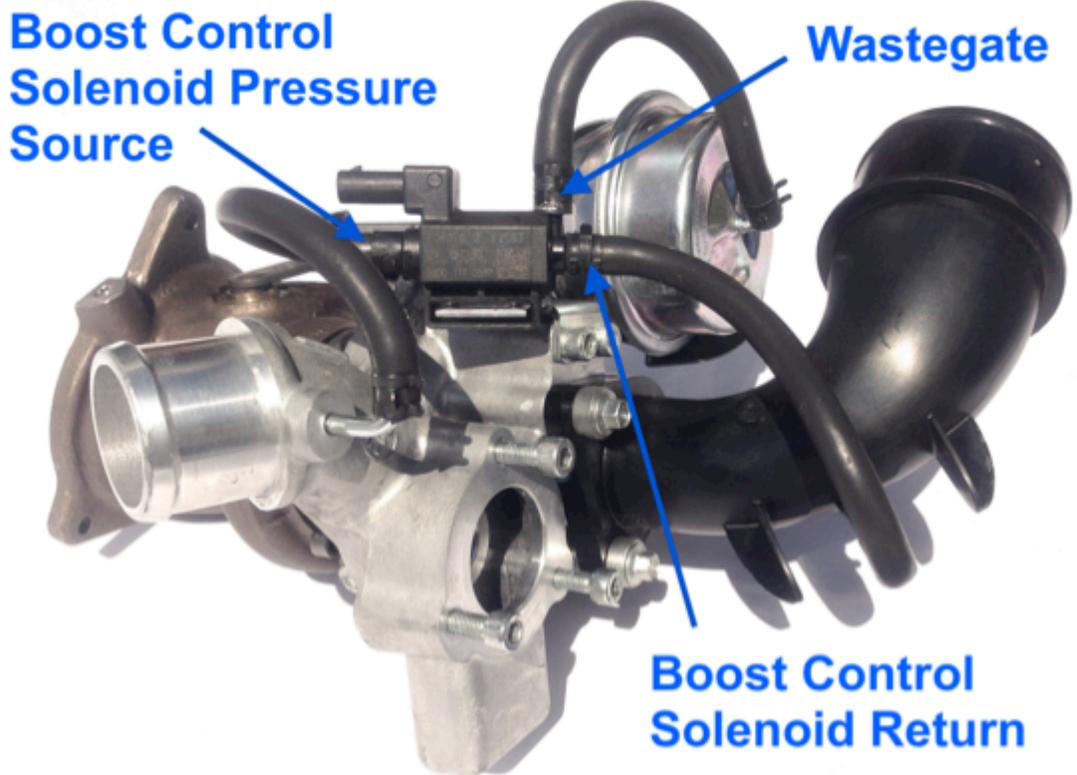
- I. Remove two studs from manifold flange to the turbo. NOTE, spray penetrating oil prior to removal. Use 5mm socket at the head of each stud (counter clockwise rotation to loosen and remove). New GT/GTX turbo includes pre-installed bolts at the turbo flange.



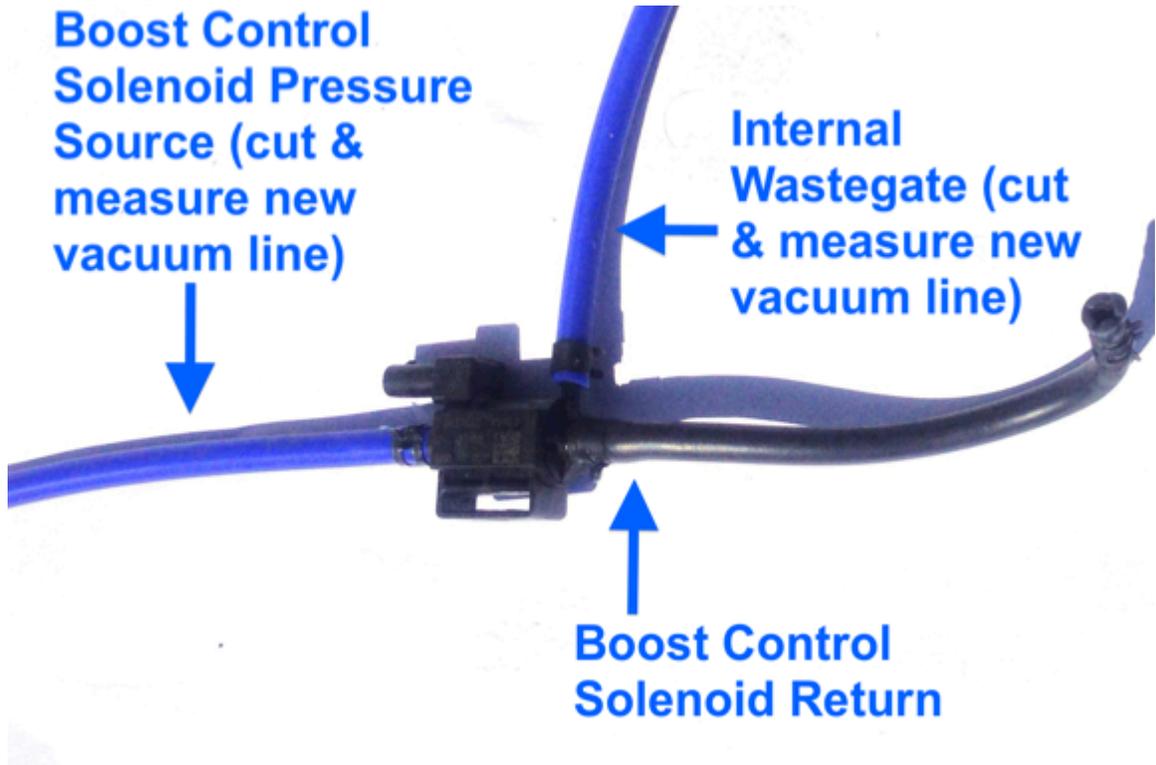
- m. Remove (CAREFULLY) fire ring from the stock turbo and transfer fire ring to new GT/GTX turbo.



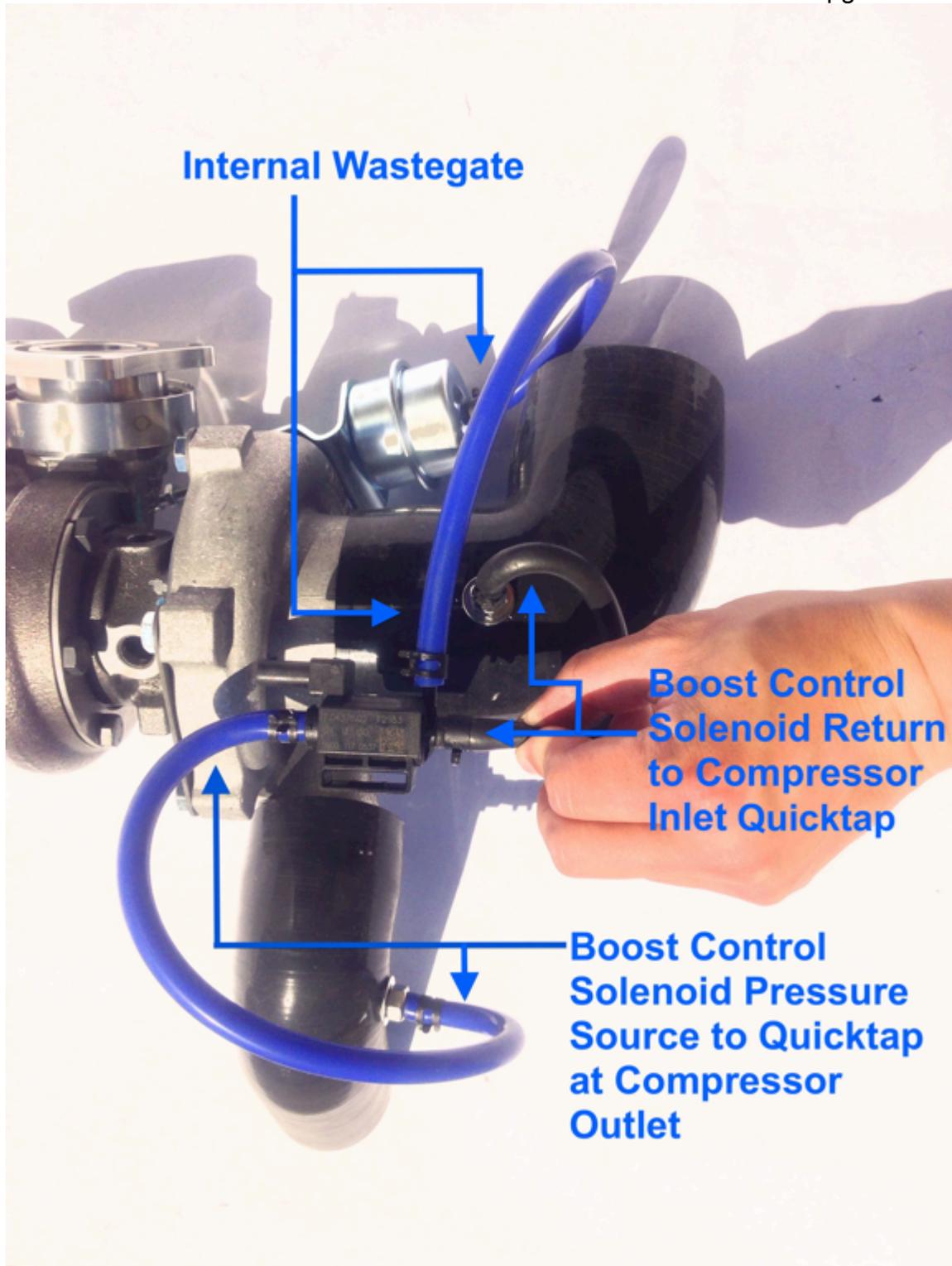
n. Remove Boost Control Solenoid from stock turbo



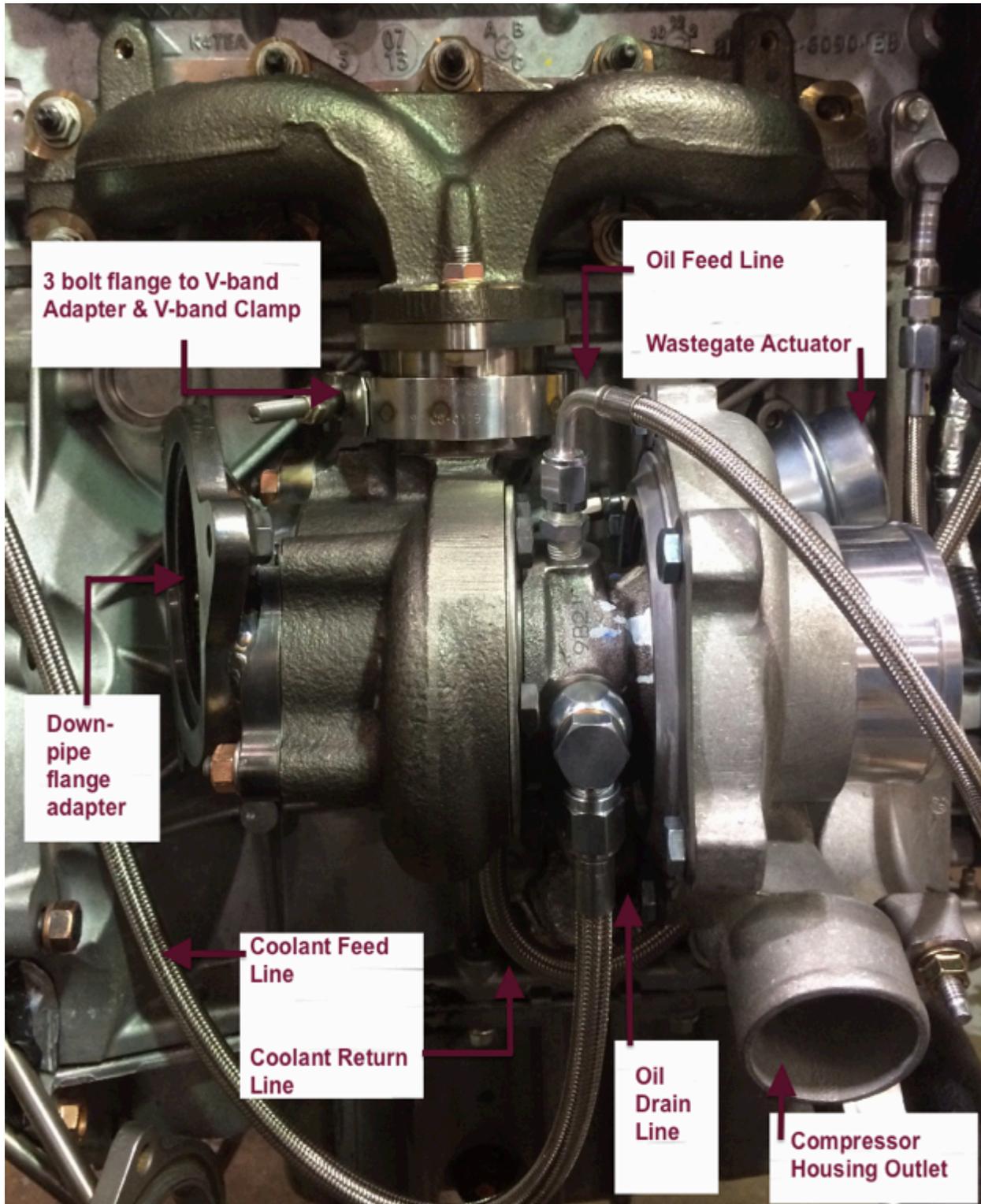
o. Measure and install new vacuum lines



- p. Measure and install quick-taps (1) compressor inlet; and (2) compressor outlet
- q. Connect vacuum lines and boost control solenoid on GT / GTX turbo upgrade



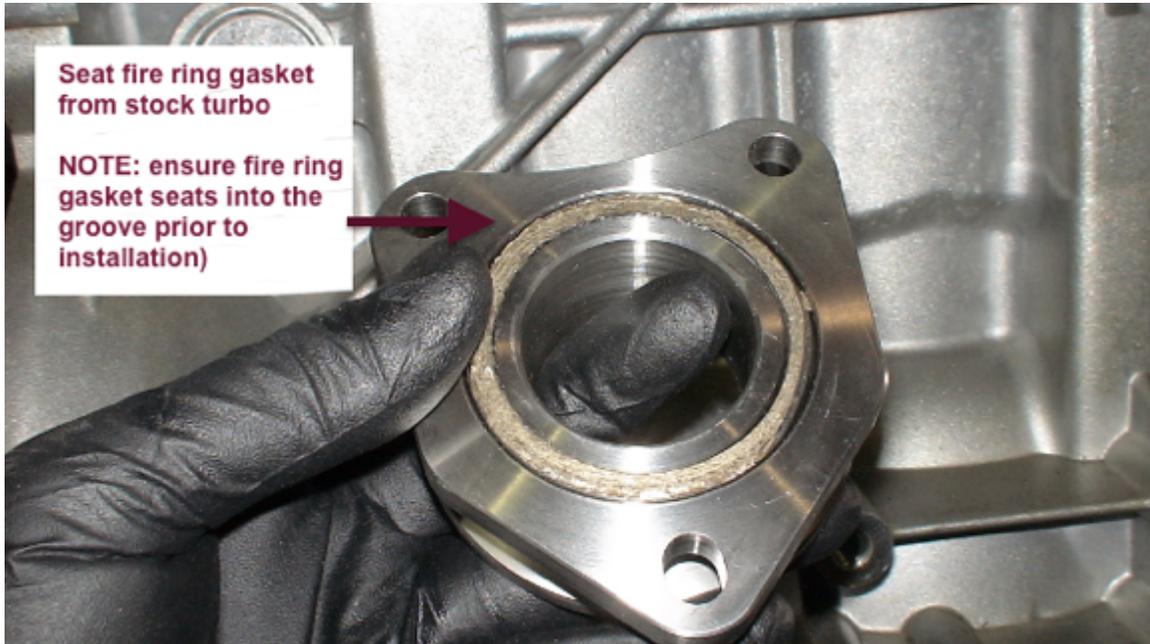
FIESTA ST GT / GTX TURBO UPGRADE DIAGRAM



2. Bolting on the GT/GTX Turbocharger!
 - a. Install coolant line banjo bolt assembly to the turbo. Note coolant return banjo bolt assembly cannot install after turbo mounted to manifold.

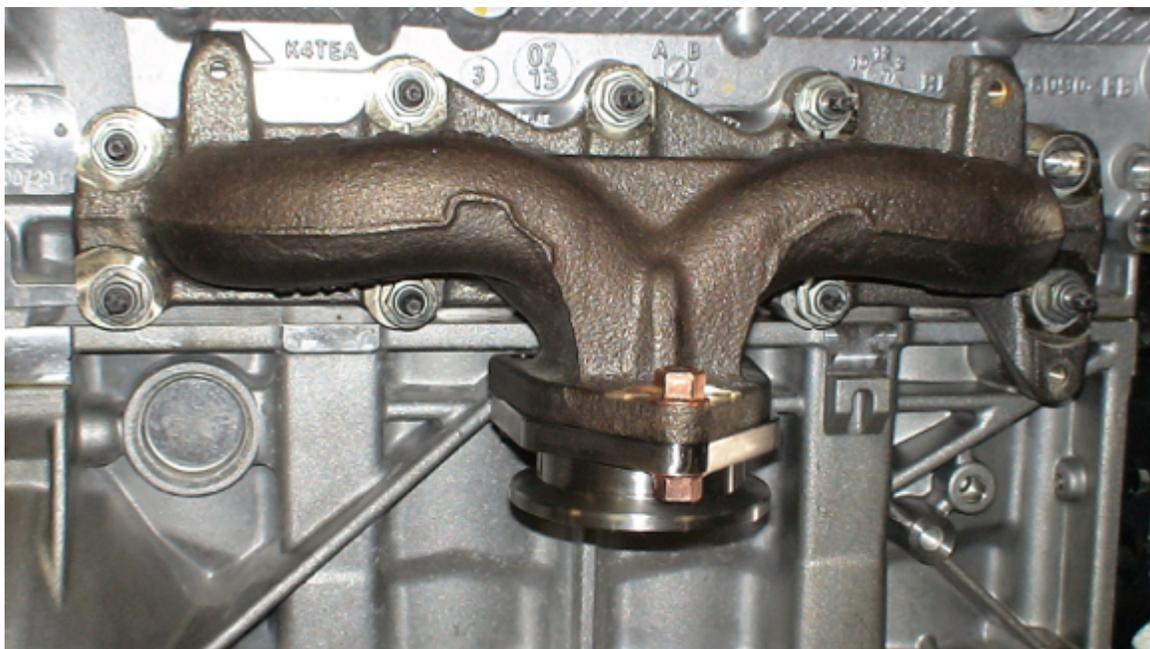


- b. Seat fire ring gasket from stock turbo 3 bolt flange to v-band adapter (manifold to turbo turbine inlet connection). NOTE: ensure fire ring gasket seats into the groove prior to installation. Fire ring gasket reusable.

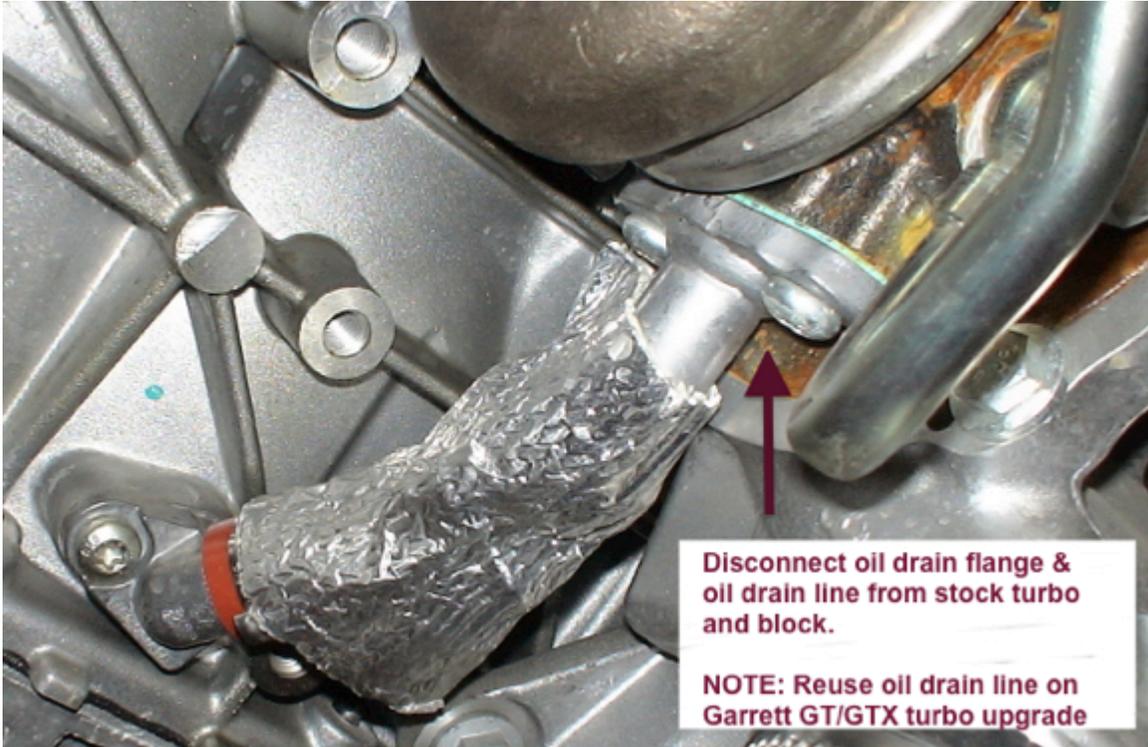


- c. Fasten to turbo/exhaust manifold the 3 bolt flange to v-band adapter. REMINDER: ensure fire ring gasket seats into the groove prior to installation.

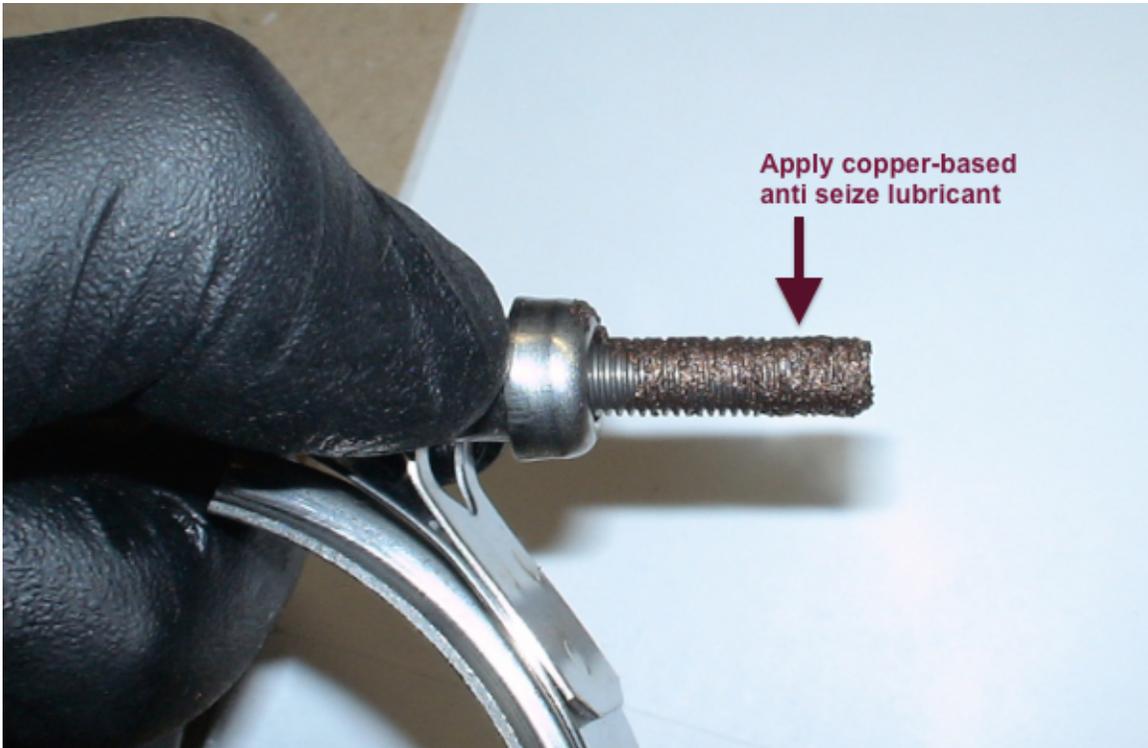
NOTE: Installation of entire GT/GTX turbo assembly is optional. Begin fastening the two manifold bolts closest to engine block. Ensure fire ring gasket is properly seated.



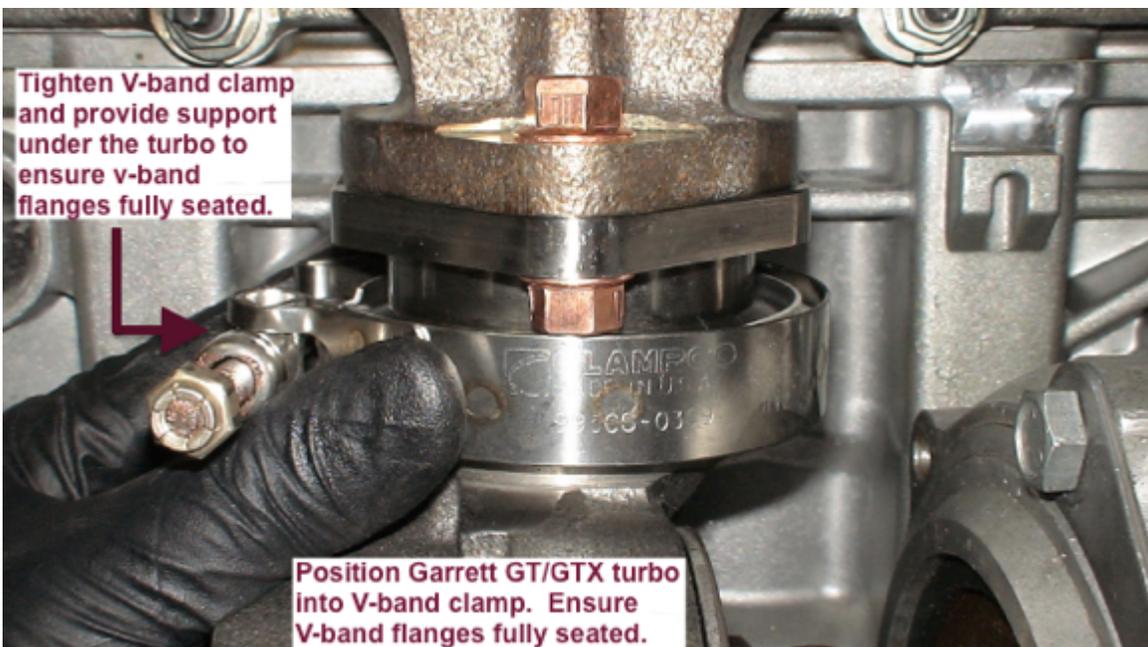
- a. BEFORE installing the Garrett GT/GTX turbo, please remove the oil drain flange and oil drain line from the stock turbo. Note: stock oil drain line and oil drain flange used on Garrett GT/GTX turbo.



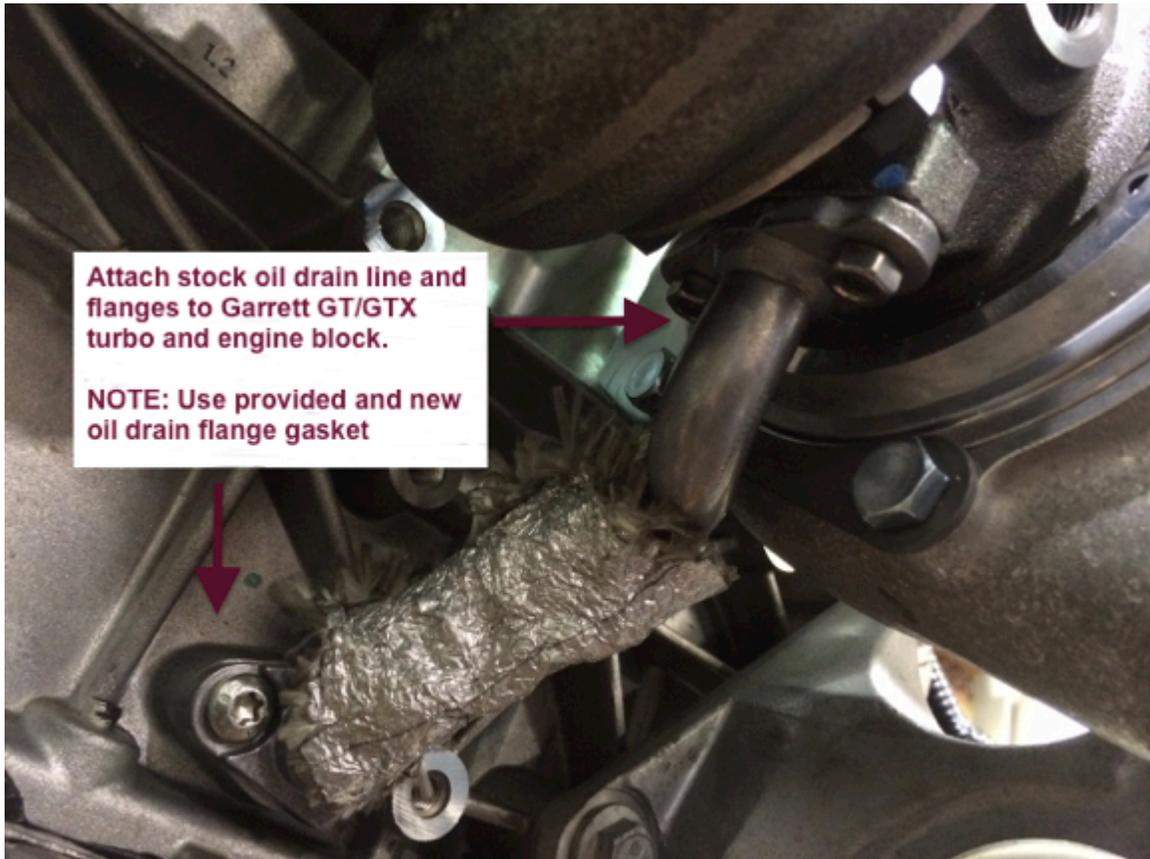
- b. Attach (remain loose) V-band clamp to 3bolt flange to V-band adapter. NOTE: Please apply copper based anti-seize lubricant on V-band clamp threads



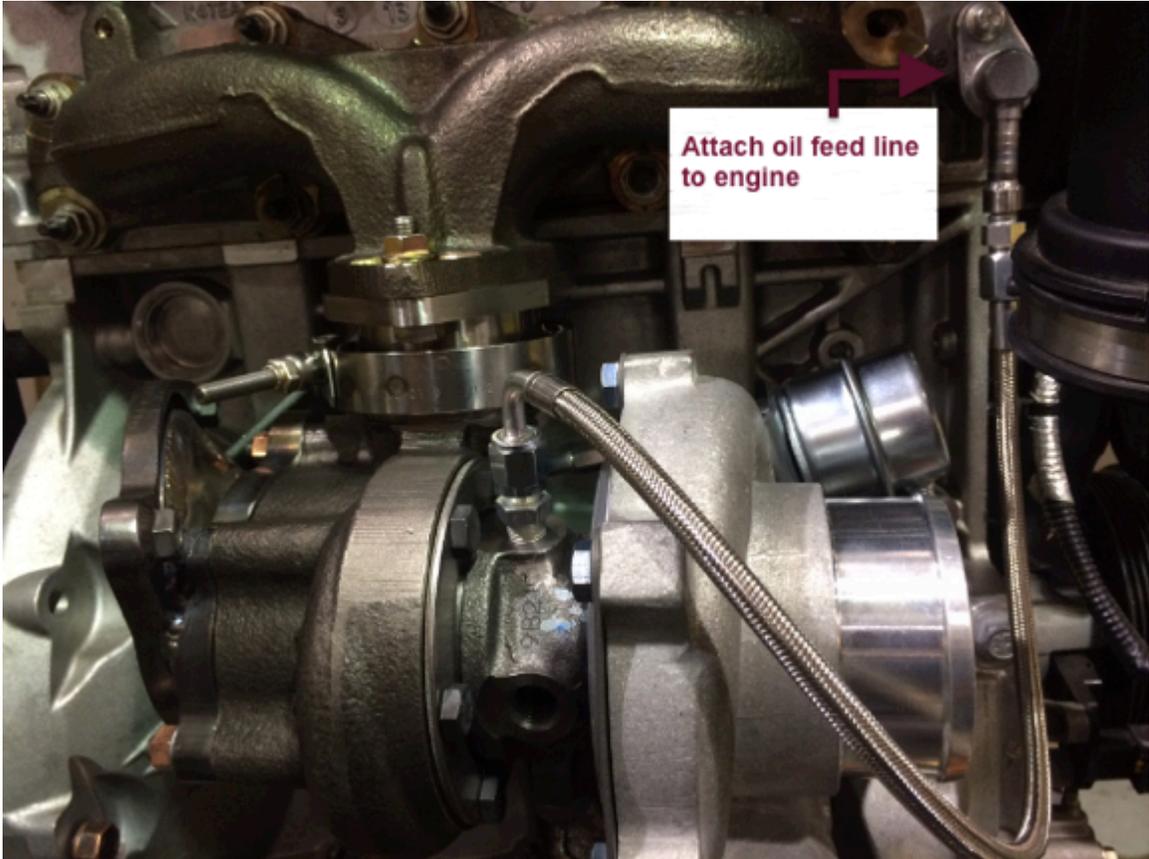
- c. Position and Secure Garrett GT/GTX turbo to V-band adapter. NOTE: Please ensure v-band flanges are fully seated before tightening the V-band clamp.



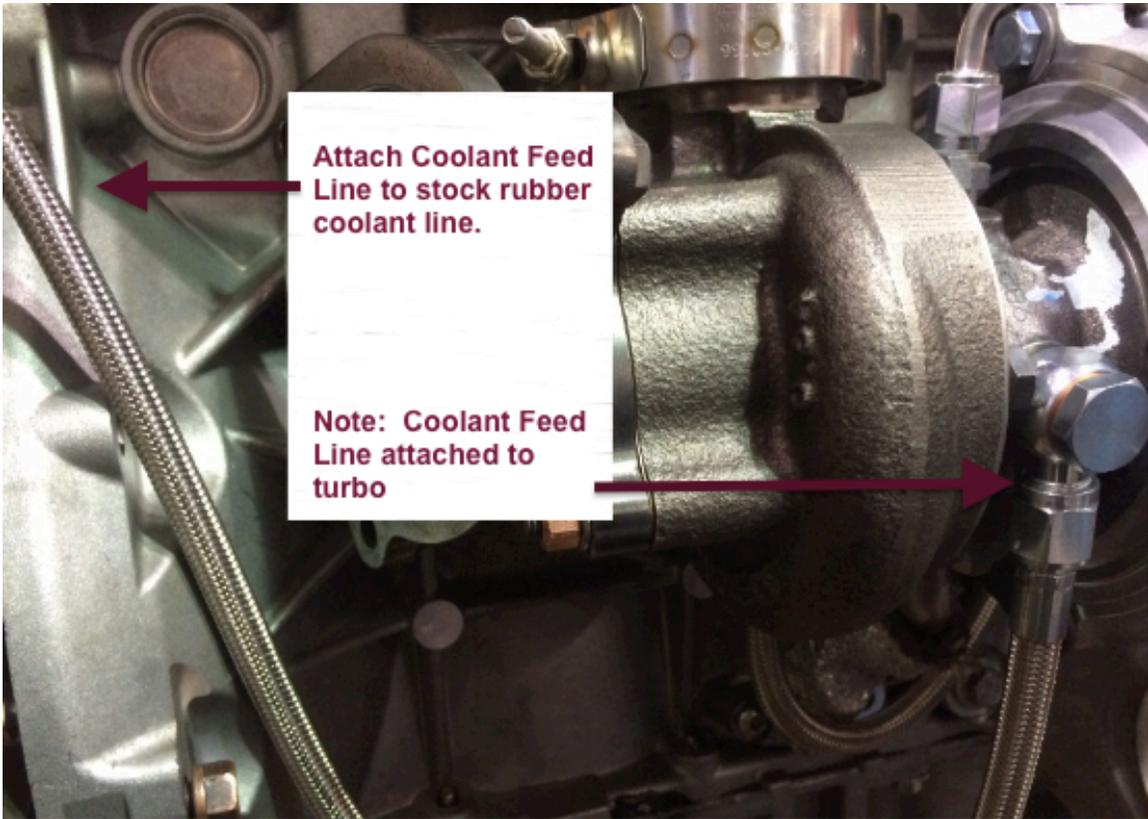
- d. Install stock Oil Drain Tube. At the turbo, install the 2X step down studs and slide the oil drain flange in place with an oil drain gasket. Install the 2 6mm nuts and tighten down with 10mm socket/wrench. NOTE: Please use provided and new oil drain flange gasket.
- e. Attach stock oil drain flange to engine block.



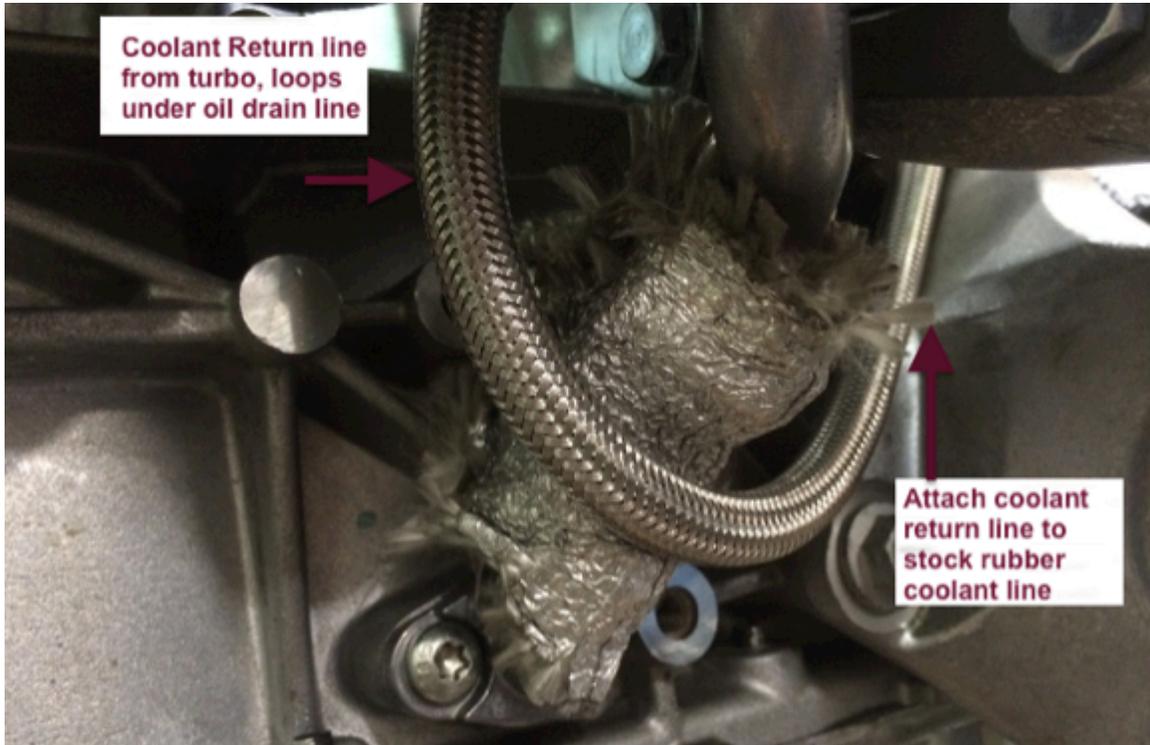
- f. Attach oil feed line to engine. NOTE: AVOID oil feed line contact with hot parts during turbo operation; especially turbine housing, exhaust manifold, or manifold adapter.



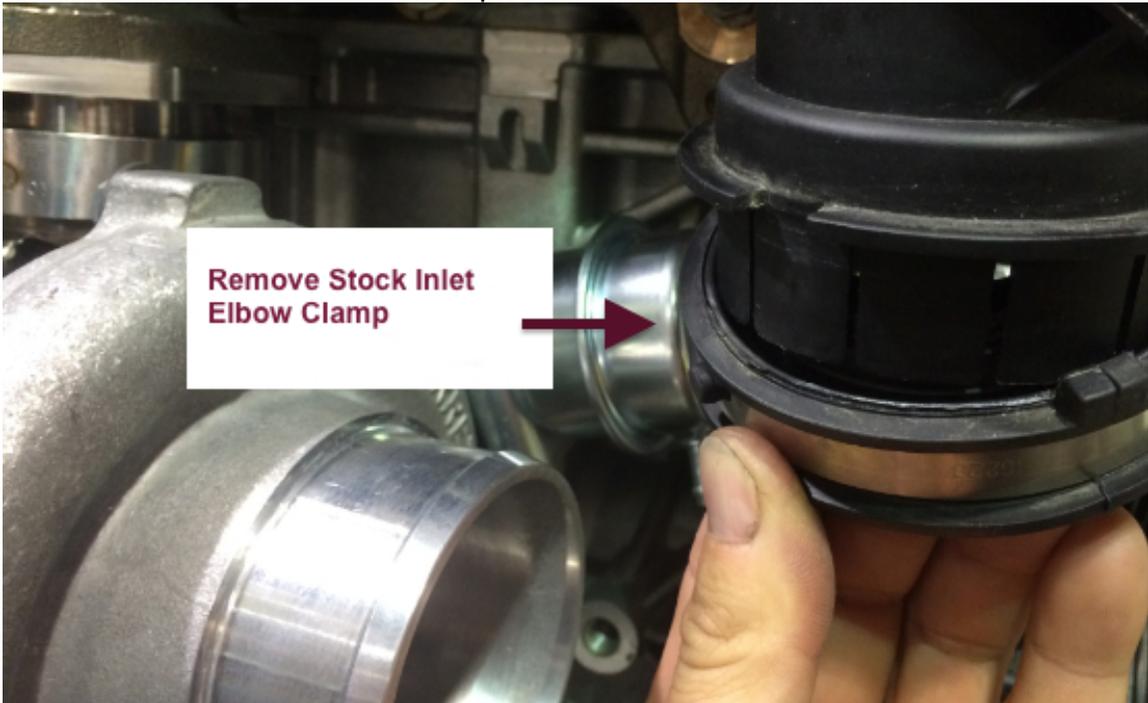
- g. Attach the coolant feed line assembly as shown. Barb fitting end connects to stock rubber hose.



- h. Attach the coolant return line assembly as shown. Barb fitting end connects to stock rubber hose.



- i. Disconnect stock inlet elbow clamp.



- j. Attach silicone elbow to turbo compressor inlet and stock intake arm.

