ZZPERFORMANCE

Installation Instructions
ZZP Gen 2 Cruze Z04 Turbo Kit
Fits 2016.5-2019 Chevrolet Cruze

Estimated Installation Time: 120-240 minutes

Installation Difficulty: 3/5

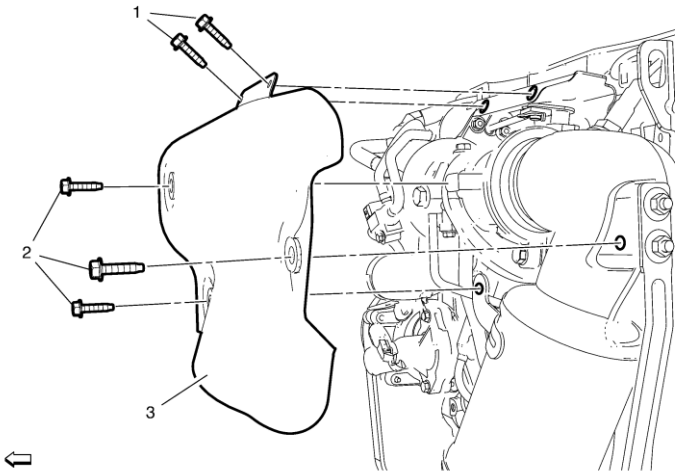
Kit Contents:

- Z04 turbo
- Silicone intake for ZZP cai
- Coolant lines (2)
- Oil feed line
- Oil drain spacer
- Banjo bolts
- Solenoid bracket
- Hardware necessary for installation

Tools Needed:

- Socket set
- Ratchet
- Cut off wheel or tin snips
- Pliers
- Fuel line disconnect tool
- O2 sensor socket

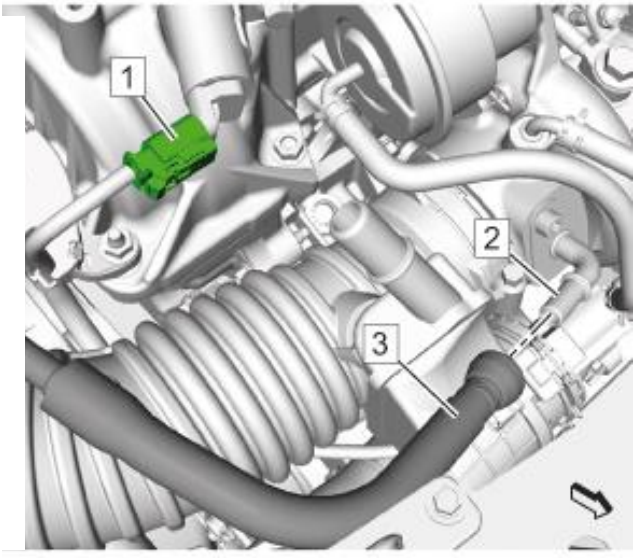
STEP ONE: Removal of stock turbocharger

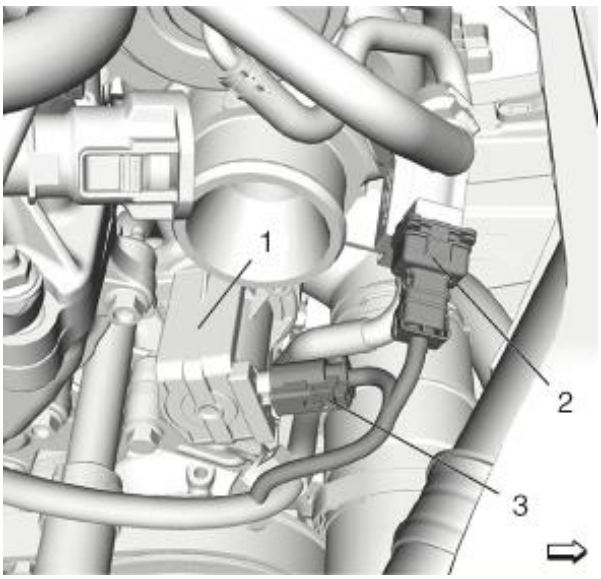


- **Disconnect negative battery terminal**
- Remove stock heat shield
- There are (5x) 10mm bolts as outlined in the photo to the right
- This heat shield will not be re-used with the Z04
- Disconnect air intake tube from turbo
- Disconnect turbo outlet charge pipe from turbocharger. You will pull the large clip from the turbo outlet and pull hose off to the side.

STEP TWO: Removal of stock turbo cont.

- Disconnect PCV tube from turbo using a fuel line disconnect tool (#2 and #3 in photo to the right).
- Disconnect camshaft position actuator solenoid electrical connector (#1 pictured)



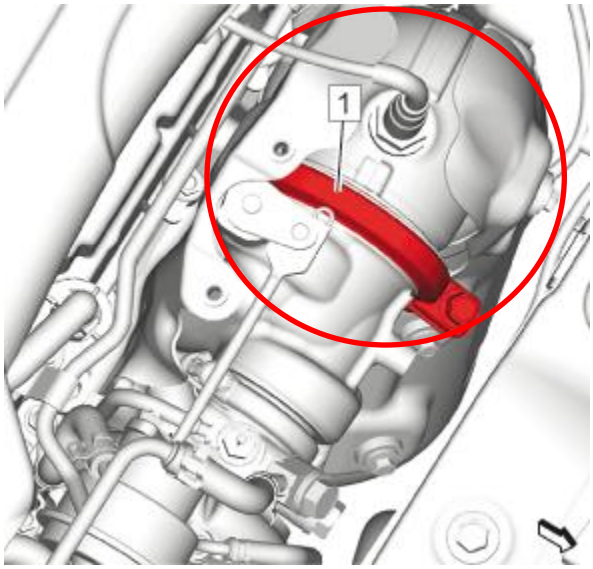


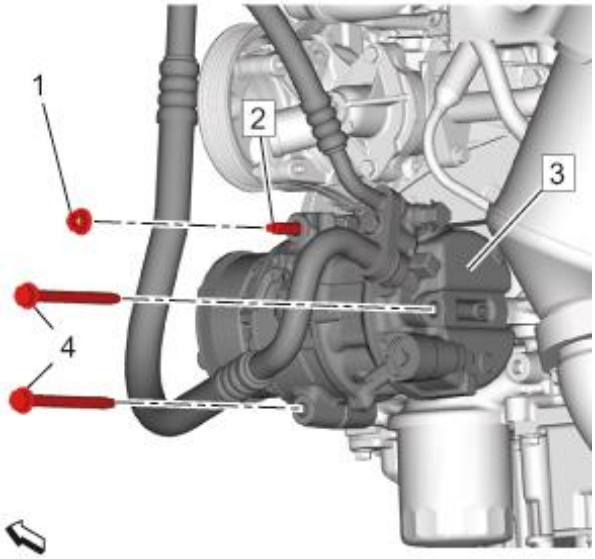
STEP THREE: Removal of stock turbo cont.

- Disconnect wastegate solenoid electrical connector (#2)
- Disconnect bypass solenoid electrical connector (#3)

STEP FOUR: Removal of stock turbo cont.

- Disconnect downpipe/catalytic converter assembly from turbo.
- Remove the two brace bracket nuts on the driver side of catalytic converter (not necessary on ZZP downpipe)
- Loosen the large V-band clamp connecting downpipe to turbo.
- Remove primary O2 sensor from downpipe
- Loosen and remove the two lower bolts holding downpipe to midpipe.
- Set cat/downpipe off to the side



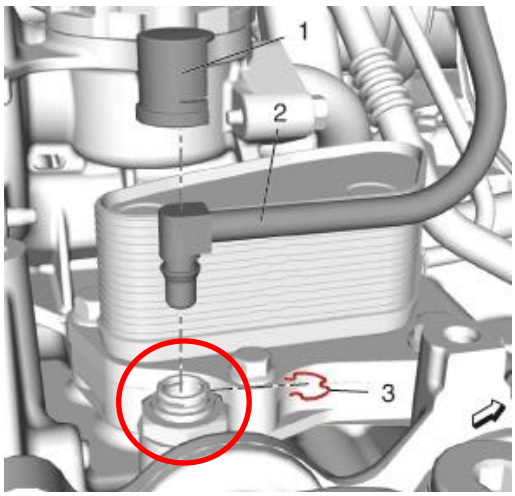


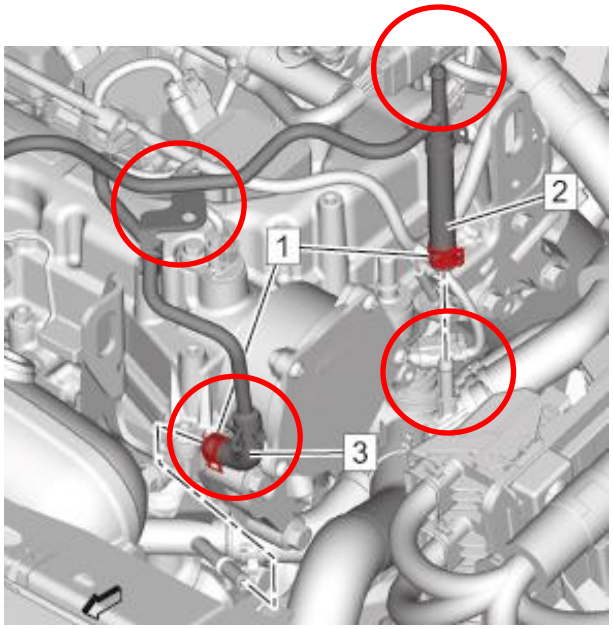
STEP FIVE: Removal of stock turbo cont.

- Next, we will need to remove the stock turbo oil feed line.
- This is the line with the large bolt on the top center of the turbo center section.
- Loosen and remove the main oil feed bolt from top of turbo
- Remove and discard the stock oil feed pipe gaskets
- Loosen and remove the serpentine belt using the stock tensioner
- You will need to reposition the AC compressor out of the way to access the other end of the oil feed line.
- Loosen and remove the two long bolts and single nut holding the AC compressor to the block (pictured to the left).

STEP SIX: Removal of stock turbo cont.

- With the AC compressor moved to the side you can now access the block side oil feed line fitting. This fitting is located directly underneath the oil cooler.
- Remove the clip to free the stock line from the fitting
- Using a socket remove the oil feed fitting from the block
- Remove oil feed line from vehicle, a new oil feed line is supplied in the Z04 turbo kit



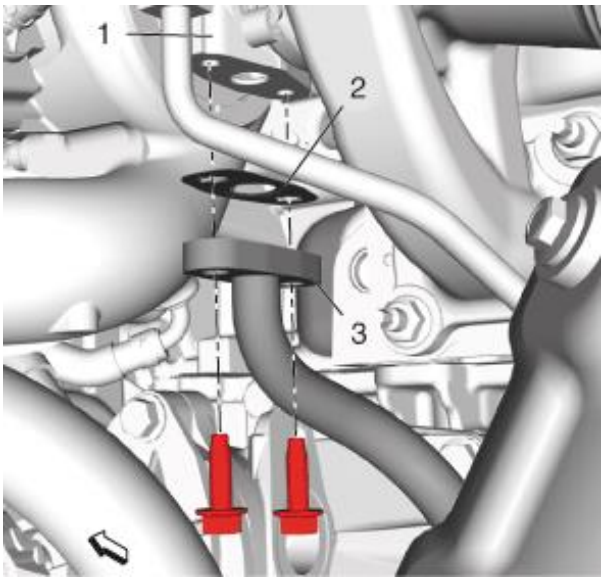


STEP SEVEN: Removal of stock turbo cont.

- You will now need to remove the stock coolant feed pipe.
- Place drain pan underneath vehicle as you will experience some coolant loss.
- The stock coolant feed line runs from the driver's side of the engine down across and connects to the front of the turbo. It is the fitting directly underneath the oil feed fitting.
- Loosen and remove the coolant bleed hose by the stock clamp.
- Loosen and remove the 10mm bolt holding the pipe to the engine
- Loosen and remove the pipe from the water outlet and the block at the front of the engine. We will re-use the small rubber 90° piece for our new coolant feed (#3) and the straight rubber piece (#2).
- Loosen and remove banjo bolt and washers on front of turbo.

STEP EIGHT: Removal of stock turbo cont.

- Once the coolant feed pipe is disconnected you will move onto the coolant return pipe
- Loosen and remove the banjo bolt from the front of the turbo center section.
- The coolant return runs under the turbo to a fitting above the oil cooler. It is a similar fitting to the oil feed referenced in step six. Remove the clip to remove the coolant return pipe
- Loosen and remove the coolant return fitting on the block.
- Discard gaskets. They may stick to the block.

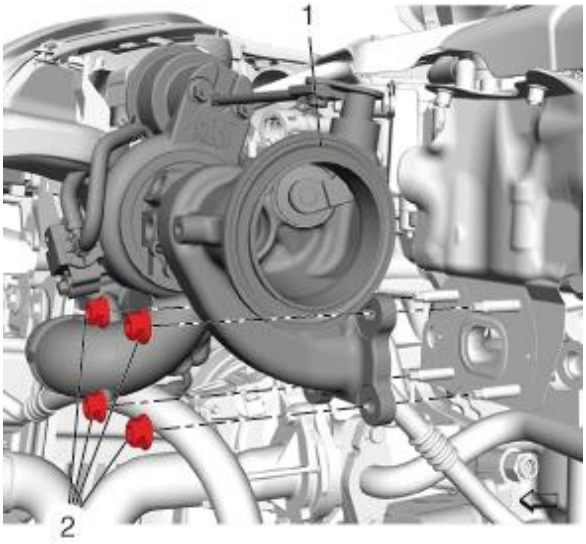


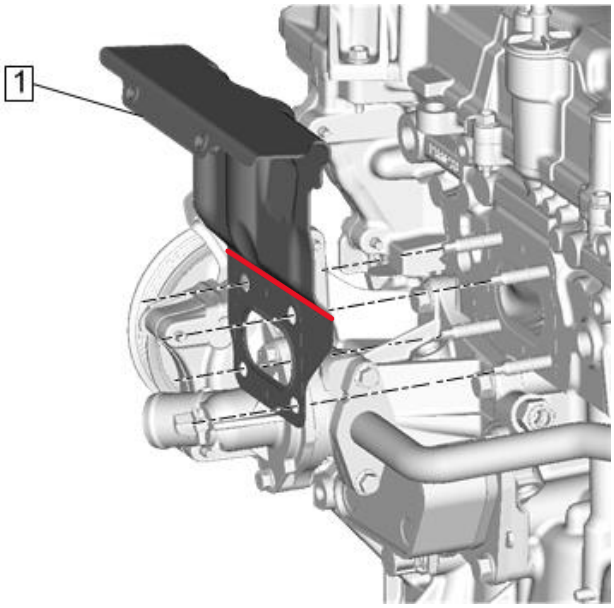
STEP NINE: Removal of stock turbo cont.

- You will now remove the stock oil drain line
- The oil drain line is connected to the bottom of the turbo center section using two bolts. Loosen and remove
- Loosen and remove the two bolts for the turbo drain to block connection.
- Set turbo oil drain line aside, this will be re-used with the Z04.

STEP TEN: Removal of stock turbo cont.

- Once the turbo oil feed, turbo drain, coolant feed pipe, and coolant drain pipe are disconnected you can remove the turbo from the engine block.
- There are 4 nuts holding the turbine housing to the block.
- Loosen and remove nuts.
- Remove turbo.



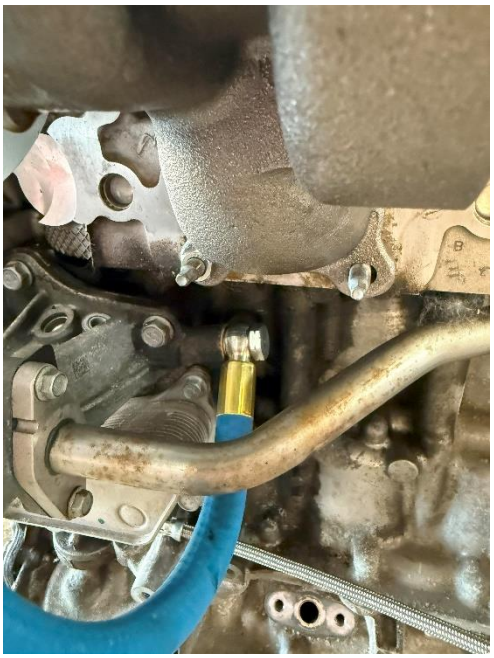


STEP ELEVEN: Removal of stock turbo cont.

- Remove the stock gasket. This gasket will be re-used with the Z04, but requires modification.
- Once the gasket is removed you will need to cut the top “heat shield” portion off of the gasket, leaving only the lower portion that sandwiches between the turbo and block.
- Cut line marked in red to the left.
- Once modified, place gasket back onto studs to prepare for installation of Z04.

STEP TWELVE: Install turbo oil feed line fitting

- Using the supplied banjo fitting and copper crush washers install fitting onto block before connecting braided oil feed line.
- This fitting will go in the location the stock oil feed was removed under the oil cooler.
- Once installed on block, tighten feed fitting. The barb on the fitting should point towards the driver’s side of the vehicle.
- Attach oil feed line to fitting and tighten.
- The feed line will run towards passenger side of the car near the fan shroud, then run up and over to the top of the turbo center section. Line routing will be shown in a later photo.



STEP THIRTEEN: Install coolant return line onto block

- The coolant return line is the shorter of the two supplied blue hoses.
- Using the supplied banjo fitting, bolt, and copper crush washers install the hose onto the coolant return location on the block.
- Tighten banjo bolt. Make sure the copper crush washers are in between banjo fitting and block and banjo fitting and bolt.
- This line will run to the front fitting on the turbo center section.

STEP FOURTEEN: Install coolant feed line

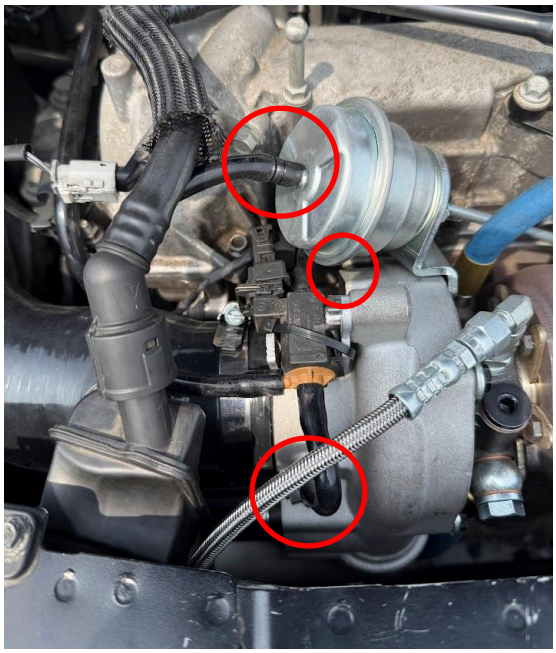
- You will now install the supplied coolant feed line. This is the line with two brass t-fittings.
- The long run of hose to the first tee will connect to the small rubber 90° piece previously mentioned in step #7. Use the stock constant tension clamps to connect to 90° piece as pictured.
- The shorter run of hose will run up to the water outlet. Connect tee fitting to hose then to water outlet. Use stock constant tension clamps to secure hose and fitting.
- Reconnect coolant overflow hose to the open fitting on the short run of hose.
- Final line routing shown in a later photo

STEP FIFTEEN: Install turbo oil drain

- You will use the black CNC oil drain spacer (pictured as silver) to re-install the stock oil drain line. The drain fitting has an o-ring pre-installed, this will go on the block side. You will re-use the stock metal gasket to go in between the spacer and the stock oil drain. Use the supplied M6x35mm socket head bolts to tighten drain line to block.
- **See step 18 for bypass valve instructions before mounting turbo.**
- Once the oil drain is tightened to the block you can now mount the turbo to the block. Use the 4 nuts to attach the turbo to the block.
- You will use a stock oil drain gasket between the turbo and the oil drain. Tighten bolts to attach drain to turbo.

STEP SIXTEEN: Replace PCV hose

- On the rear of the valve cover near the dipstick you will need to remove the stock hard line from the PCV fitting to replace with the supplied 1/4” silicone hose and 45° quick connect fitting. This is the hose that connects to the large, barbed fitting on the turbo.
- Using an exacto knife or box cutter blade, make a small incision in the hard line where it connects to the PCV fitting. Remove stock hose.
- Install supplied silicone vacuum line and 45° quick connect fitting to turbo and PCV fitting.

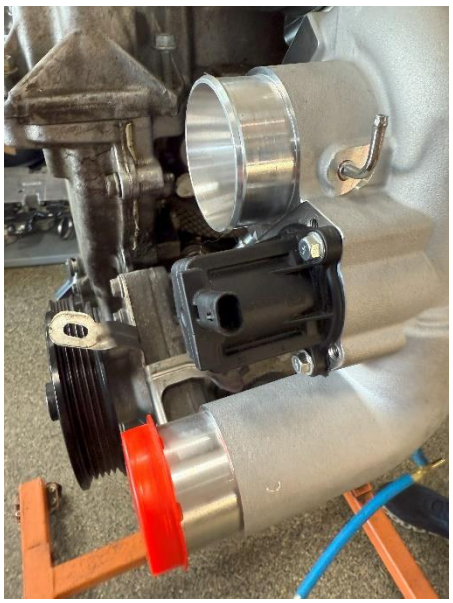


STEP SEVENTEEN: Mount wastegate solenoid

- You will use the small sheet metal bracket included in the kit to mount the stock wastegate solenoid.
- Use the included M6x16mm button head bolt to mount bracket to turbo.
- Slot wastegate actuator into bracket and route lines as pictured.
- Plug connector into solenoid.
- You may choose to zip tie the solenoid to the bracket for more secure mounting.

STEP EIGHTEEN: Bypass valve

- We recommend running the stock electronic bypass valve unless your tuner recommends otherwise.
- Remove the stock bypass valve from your stock turbo using the 3 bolts.
- Remove the installed tan bypass valve cover from the Z04 and remove the internal spring and plunger.
- Install stock electronic bypass valve onto Z04 in orientation shown in photo.
- There is an alignment pin on the bypass valve that needs to line up with the corresponding hole on the compressor cover.
- Connect electrical connector for electronic bypass valve before finishing installation.



STEP NINETEEN: Tighten connections

- Now that the turbo is mounted the engine you can tighten down the banjos for the coolant return and coolant feed. Be sure use the supplied copper crush washers. Feed will go to the back of the turbo center section. Return will go to the front of the turbo center section as shown.
- Route and tighten oil feed fitting into the top of the turbo as shown.
- See photos below for optimal line routing/fully installed photos.

STEP TWENTY: Reinstall other components

- With the turbo and all lines completed you can now move onto buttoning up the rest of the installation.
- Re-install downpipe onto turbo and connect to exhaust.
- Re-install primary O2 sensor into downpipe.
- Re-install hot side charge pipe connection to turbo outlet.
- Re-connect camshaft position sensor electrical connector.
- Re-install AC compressor to block using OEM hardware.
- Re-install serpentine belt.
- Verify wastegate actuator connector is in place, along with bypass valve connector.
- Re-install intake.
- Verify all bolts and connections.
- Zip tie or secure lines away from exhaust components.
- Enjoy!

STEP TWENTY-ONE: FAQs

- There is no need to prime the turbo with oil before first start up.
- There is no break in period for the turbo.
- A PCM tune is required to run the Z04 turbo.