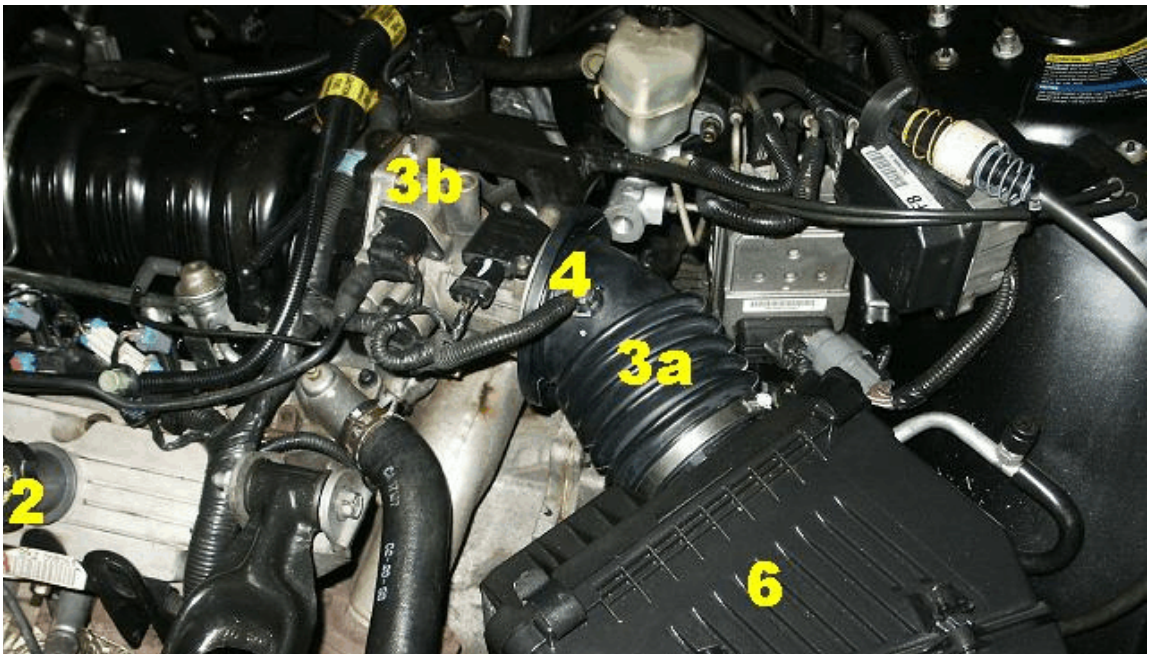
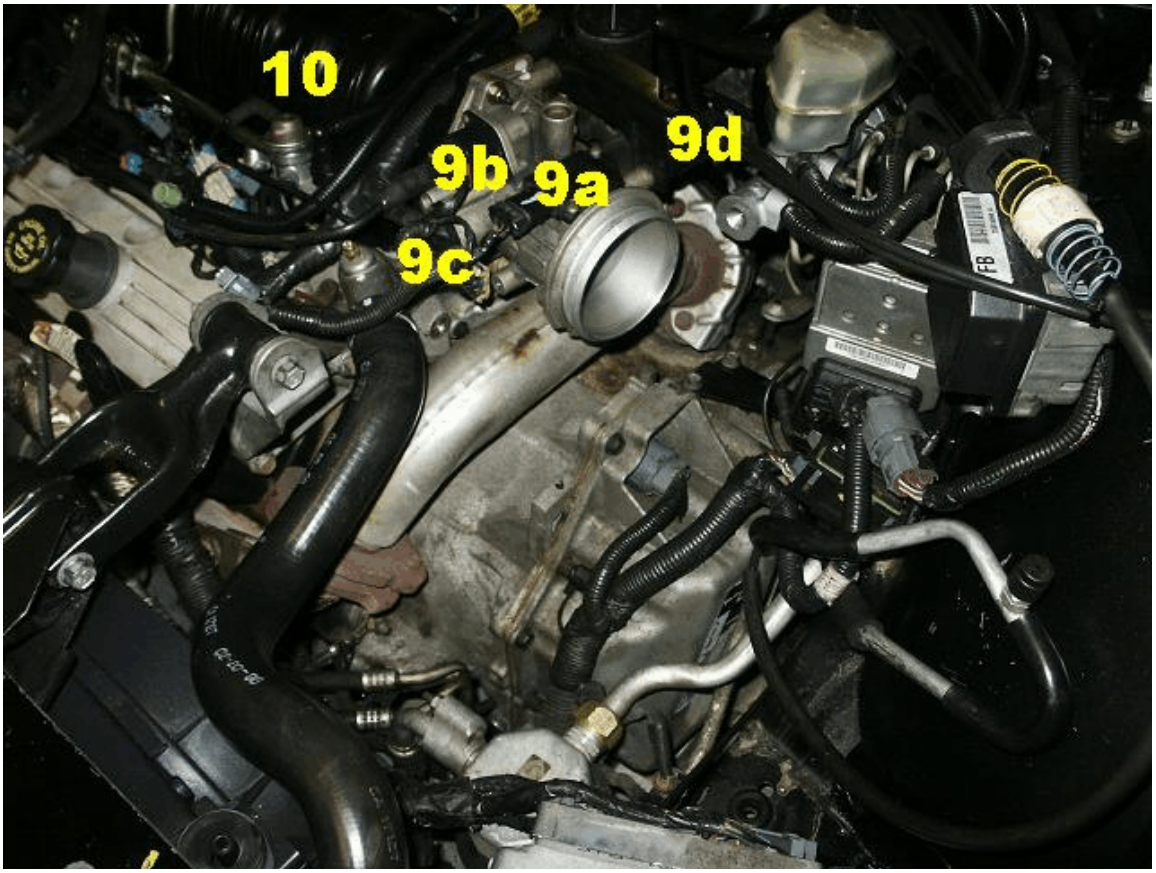
Z7 Turbo Kit Instructions

1. **Getting started:** Block the rear tires. Disconnect the negative battery terminal. (8mm wrench or socket)
2. Remove the oil fill cap and the engine cover nut (13mm socket) on top of the engine. Remove the engine cover. Reinstall the oil fill cap.
3. Remove intake boot from throttle body.
4. Remove IAT sensor from boot and reconnect to wire harness.
5. Remove driver side diagonal brace that runs over the airbox. (3 bolts, 13mm socket)
6. Disassemble and remove air box assembly. (8mm socket)



2	oil fill cap and neck
3a	intake boot
3b	throttle body
4	air intake temp sensor
6	airbox

7. Remove the PCM (engine computer) from the wire harness. (2 bolts with 7mm socket or nut driver)
8. Install the new PCM at this time.
9. Disconnect the electrical connectors and vacuum lines from the throttle body.
10. Remove the throttle body from the upper intake manifold. (3 nuts with 10mm socket, 1 bolt with 8mm socket or wrench)



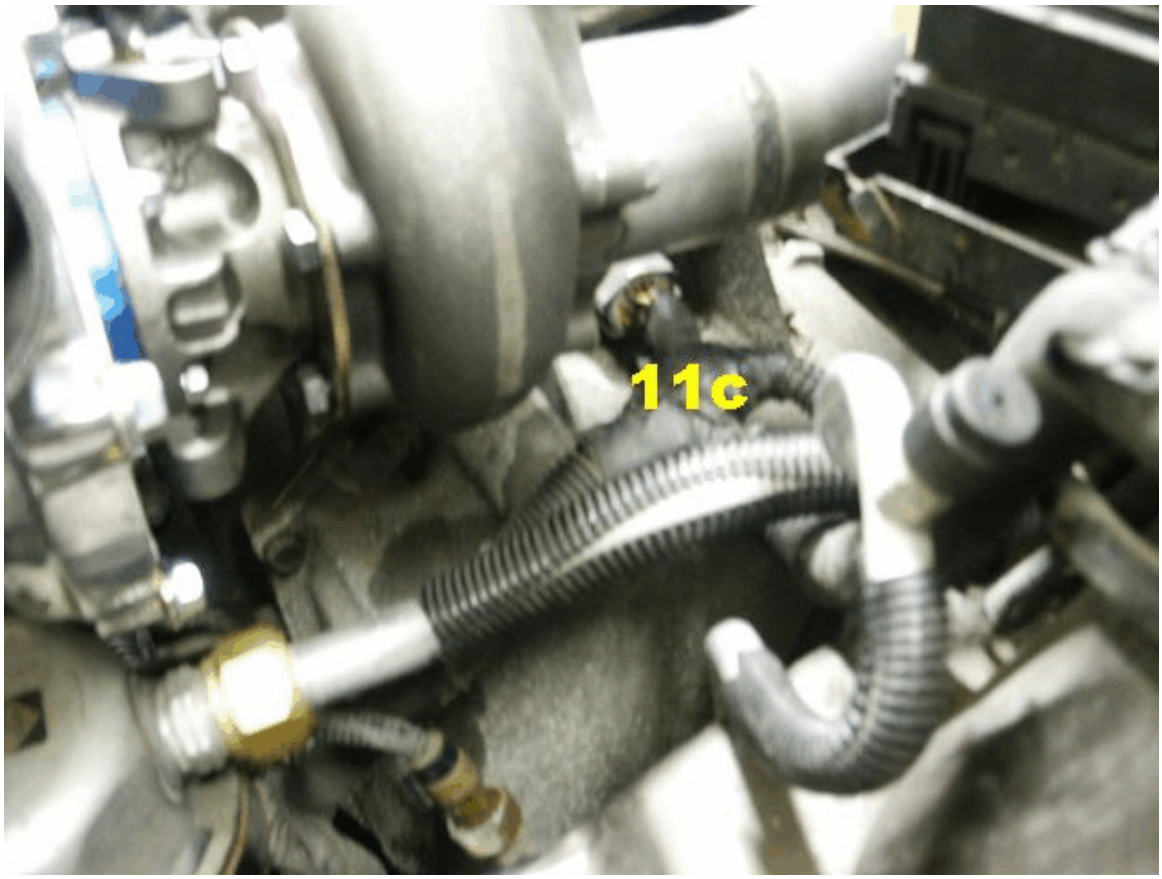
9a MAF sensor (Mass Air Flow)
9b IAC (Idle Air Control)
9c TPS (Throttle Position Sensor)
9d Throttle cable and cruise control cable
10 Upper intake manifold

11. At this time, it is recommended that you re-route the ABS and transmission wiring as shown in the following pics. This will help keep the wire loom away from the turbo's exhaust housing and the downpipe. Failure to keep the wiring away from the turbo or downpipe can result in melted or damaged wiring and many issues can arise.



11a Monte Carlo/Regal ABS connector
Lower section of ABS connector is modified to run wiring straight down instead of towards the motor as originally equipped. This is important in order to keep it away from the turbo downpipe.

11b Transmission wiring is tucked low along the side of the transmission. This is important in order to keep it away from the turbo downpipe.



11c Grand Prix transmission and ABS wiring should be re-routed under the aluminum AC line as shown. This is important in order to keep it away from the turbo downpipe.

12. **Crossover tube:** Remove the exhaust crossover tube. There are 2 nuts holding on the cover at the rear crossover connection, and 2 bolts at each end of the crossover. They all take a 13mm socket. Note- It is a good idea to spray the bolts with a penetrating fluid and let them soak for a while before removing them. They have been known to be difficult to break free and sometimes snap if not soaked.

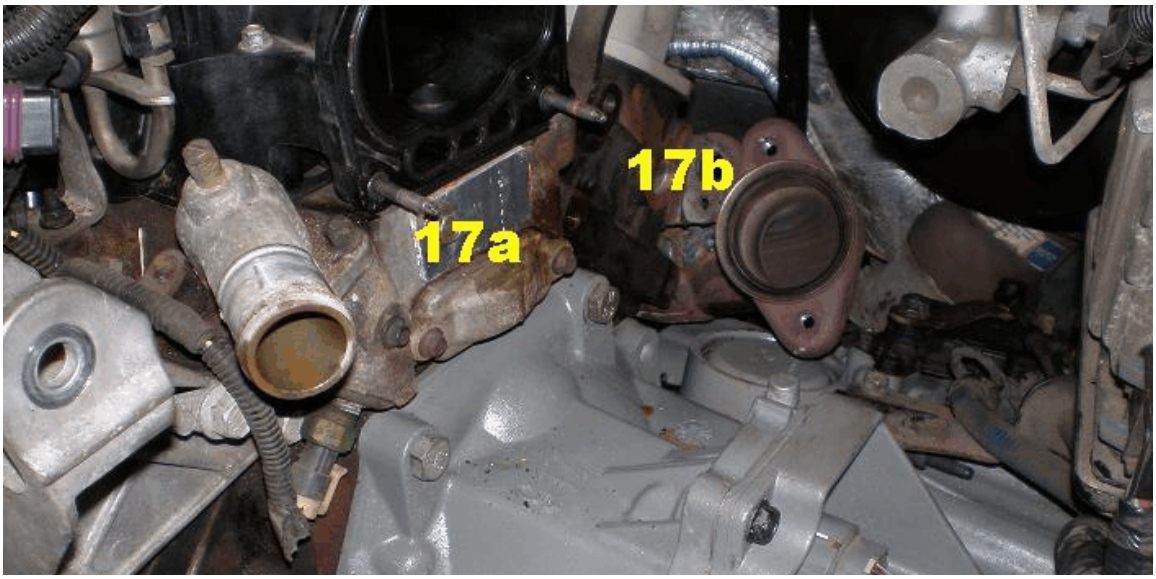
13. If you are replacing the thermostat, you may do so at this time. Caution- Make sure the engine has fully cooled before removing the water neck! Remove the 2 bolts that secure the water neck to the lower intake manifold. (10mm socket) Remove the rubber seal from the old thermostat and install it on the new thermostat. Clean the sealing surfaces and install the new thermostat. Re-install the water neck.



12 Crossover tube
13 Thermostat housing

If you are installing a modified rear "turbo manifold", Power log, or ported manifolds, you should do so at this time.

14. **EGR Removal:** Remove the bolt that secures the upper EGR tube to the lower intake manifold. (13mm socket)
15. Remove the bolt that secures the lower EGR tube to the rear exhaust manifold. (10mm socket, sometimes 13mm socket)
16. Remove the EGR system from the rear cylinder head. (13mm socket)
17. Use high-temp RTV and install the EGR blockoff plates onto the lower intake manifold and rear exhaust manifold where the EGR tubes were originally connected.



17a EGR blockoff plate installed on lower intake manifold.
17b Install the threaded blockoff plate onto the rear exhaust manifold.

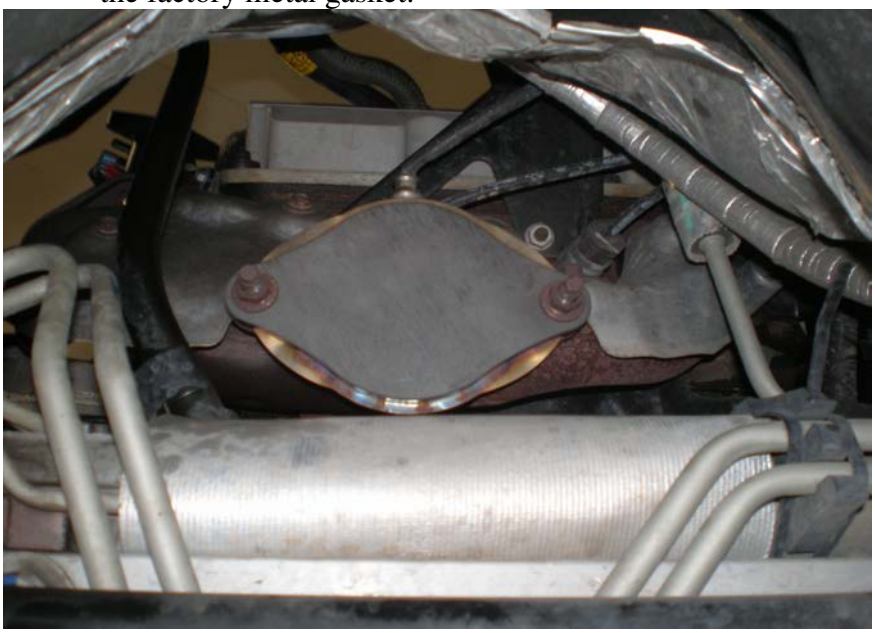
18. Many 2004 and newer vehicles will have the metal AC lines running lower along the firewall. You will need to push them up with a long pry bar as shown



18a Prying the metal AC lines upward for downpipe clearance.

19. Lower downpipe removal: Note- if your vehicle was previously equipped with TOG headers, you may reuse the existing lower downpipe. You will not need to remove it in this case.

20. With the vehicle raised and securely placed on jackstands or a hydraulic lift, remove the stock downpipe from underneath the vehicle. Be sure to soak the nuts/bolts with penetrating fluid. There are 2 nuts at the top end. (13mm socket, swivel, extension) There are 2 bolts at the rear of the crossover as well. (14mm socket)
21. Install the exhaust manifold blockoff plate on the rear manifold. You may reuse the factory metal gasket.



Crossover and upper downpipe installation:

Note: You may disconnect the master cylinder from the brake booster (15mm socket) and swing it to the side for easier downpipe installation.

22. Remove the 2 motor mount "dogbones". Rock the engine toward the front of the car a couple inches and use a block of wood or similar to keep it rocked forward. You may place a block of wood between the alternator and the firewall.
23. Remove the transmission fluid dipstick. Push the dipstick tube back towards the firewall. It will be repositioned later after the turbo downpipe is in place. Remove the wood block and let the motor rock back.
24. Set the upper downpipe into place in the engine bay as shown.
25. Install the new crossover tube, but do not fully tighten the bolts, allowing the crossover to be positioned more accurately later in the install. Reuse the old donut gasket on the rear section of the tube. You do not need to reuse the heat shield that was removed prior.



Crossover tube rear flange and donut gasket arrangement.



Turbo crossover and upper downpipe set in place.

26. Remove the o2 sensor from the rear exhaust manifold and install the plug provided. (O2 sensor socket or 7/8" wrench)



O2 plug installed in rear manifold.

27. **Turbocharger installation:** Using the supplied steel gasket, bolt the turbocharger to the 4-bolt flange on the crossover. (Two 9/16" wrenches) Only tighten the bolts slightly snug, so that the turbo can still move a little.

28. Using the supplied steel gasket, bolt the 5-bolt downpipe flange to the turbocharger. (13mm wrench) Do not fully tighten the bolts.



Turbocharger bolted into place, but not completely tightened down.

29. Using high-temp copper RTV on the valve seat and a 2-bolt gasket on the outlet, bolt the wastegate into place on top of the crossover tube. Connect the wastegate to the dump tube running to the downpipe.

30. Tighten the 4 turbo bolts, 5 downpipe bolts, and 4 wastegate bolts at this time. Tighten each bolt a little at a time alternating between each of the 3 components until they are completely tight.



Turbocharger and wastegate bolted into place.

31. Test fit the throttle body with the supplied 2.5” to 3.5” coupler on the inlet. Rotate the crossover/turbo assembly to provide clearance as shown in the following pic.



32. Removed the throttle body again and fully tighten the 4 crossover bolts. You can access the rear upper bolt with an extension, swivel, and short 13mm socket.


Tightening the rear crossover bolts.

33. Check for adequate clearance of all wiring near the turbo or downpipe! Use zip ties to secure wiring away as needed!

34. Fuel injector replacement: Disconnect the fuel lines to the fuel rail, **being very careful to avoid fuel spray. The lines may still be under pressure. Wrap the connector with a rag and remove it slowly to relieve any pressure.** Disconnect the fuel injector wire connectors from the injectors. Remove wiring harness holders that are secured to the fuel rail. Remove 4 nuts that hold the fuel rail in place. (10mm socket) Lift the fuel rail out of the intake manifold. Be sure to have plenty of rags handy since there will be some fuel spilling when you remove the injectors. Remove the injector retainer clips. Remove the injectors from the fuel rail. Grease the upper o-rings and install the new injectors. Reinstall the injector retaining clips. Grease the lower o-rings and install the fuel rail back onto the motor. Plug in the injector connectors. Note- if your install requires replacement of the injector connectors, do so at this time. Be sure to reconnect anything that was unhooked in previous steps.

Notes: Motors equipped with 97-03 L67 and 97-00 L36 fuel rails will use the lower retainer clip grooves in the new injectors. 01+ L36 fuel rails will use the higher retainer clip grooves.

2004+ L26 fuel rails require longer studs and fuel rail spacers to use the 42 lb injectors included in the Z7 turbo kit.



Retaining clip installed in the lower groove. (L67 and older L36)



42 lb injectors being installed on an L36.

35. **Spark plug change:** Remove the front 3 spark plugs and replace them with new Autolite 103s provided. Reconnect the spark plug wires.

36. Rock the engine toward the front of the car a couple inches and use a block of wood or similar to keep it rocked forward.
37. Remove the rear 3 spark plugs and replace them with new Autolite 103s provided. Reconnect the spark plug wires.

38. **Turbo oil system:** Loosen the lug nuts on the passenger side, front wheel. (Only loosen each nut 1 turn.)
39. Raise the front of the vehicle and support it securely on jackstands.
40. Drain engine oil. Replace the plug when finished draining.
41. Unplug oil level sensor at the front of the oil pan and remove sensor from pan. (large adjustable wrench)
42. Replace sensor with the supplied adapter fitting. Do not over-tighten. This fitting does not require excessive torque to seal.
43. Remove the two-wire plug that was originally plugged into the oil level sensor and splice the wires together. This will prevent the low-oil light from illuminating in the absence of the level sensor.
44. Connect the oil return line between the turbo drain fitting and oil pan fitting using the hose clamps provided.



Oil return hose and spliced sensor wiring. Make sure this hose follows a direct path from the turbo to the oil pan without kinks. The hose should follow a continuous downward path to allow proper gravity drainage.

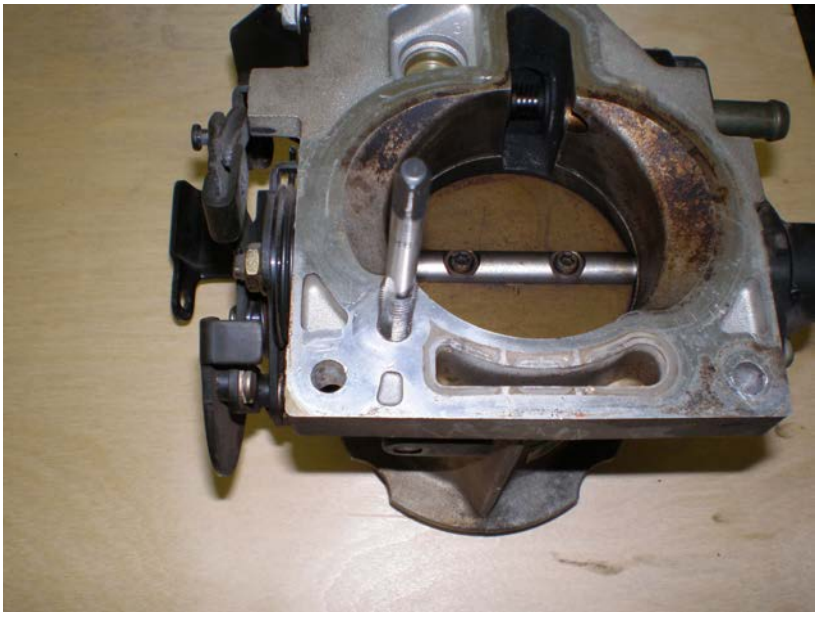
45. Remove the passenger side front wheel.
46. Remove the oil pressure sensor on the back of the engine on the passenger side near the oil filter. (GM oil pressure sensor socket, or a wrench can also be used)

47. Apply orange RTV to the threads and install the oil pressure sensor in the end of the oil feed T fitting.
48. Apply orange RTV to the threads and install the T fitting into the oil filter neck as shown.



BE VERY CAREFUL NOT TO GET ANY SEALANT INSIDE THE FITTINGS! THIS COULD RESTRICT OIL FLOW TO THE TURBO.

49. Connect the oil feed line to the feed fitting.
50. Route the oil feed line past the alternator and towards the driver's side of the engine bay. Connect it to the turbo's oil feed fitting. Make sure the oil feed hose has clearance from any exhaust system components including the rear manifold and turbo crossover.
51. Install the primary o2 sensor in the turbo downpipe and plug it in.
52. Using the new gaskets provided, install the lower downpipe under the vehicle. Install the secondary O2 sensor in the lower downpipe.
53. Replace the passenger side wheel and tighten the lugnuts snug. Remove the jackstands and lower the vehicle to the ground. Finish tightening the lugnuts.
54. Pull the trans dipstick tube forward bending it a little over the turbo downpipe. (If you have a ceramic coated downpipe, you should place a rag or rubber pad over the downpipe to avoid scratches.) Reinstall the dipstick.
55. Shown below is the PCV air in let passage in the throttle body.
    On L36 throttle bodies, use a 5/16"-24 tap to thread the hole.
    On L67 throttle bodies, use a 7/16" tap and plug.
    Other options include using a throttle body spacer without the PCV passage hole cut in it, or use 2 part epoxy to seal the hole in the throttle body.



Tapping the PCV hole in an L36 throttle body.

56. Using a 1/8” Allen wrench, install the plug below the gasket surface of the throttle body as shown. (l67 throttle body uses a 7/32” Allen wrench)
57. Install the throttle body to the upper intake manifold. Reconnect the throttle cable and cruise control cable.
58. If you have the master cylinder removed from the brake booster, reinstall it at this time.
59. Install the turbo discharge tube between the turbocharger and throttle body using the supplied silicone connectors and T-bolt hose clamps.
    Note- Intercooled setups will skip this step.
60. Install the 3” silicone 90 and air filter to the inlet of the turbocharger.
61. T into the small vacuum fitting behind the upper intake manifold and connect a vacuum hose to the lower port in the wastegate. Leave the top port in the wastegate open unless you are installing a regulator style boost controller.


Air filter installed on an intercooled Z7 turbo kit.

62. Add 4.5 quarts of new engine oil, preferably synthetic. If you have replaced the oil filter, add 5 quarts of oil.
63. Install the valve cover breather in place of the oil fill cap. This breather allows fresh air to enter the crankcase while the passage in the throttle is plugged.
64. Reconnect negative battery cable.

Inspection and Start-Up

Inspect the following:

1. All wires and connections- Be sure that all harnesses are connected and secure. Make sure there are no wires in a position to possibly come in contact with a pulley, belt, or the exhaust.
2. Hoses and fittings- Make sure all hoses are secured and will not come in contact with a pulley, belt, or the exhaust. Make sure all fittings are properly sealed and tightened.
3. Brackets- Make sure all brackets are properly tightened.
4. Fluids- Check coolant level and engine oil level.

Start-Up:

Start the car.
Listen for any new noises.
Look for any oil or coolant leaks.
Shut off the engine.
Disconnect the oil feed line from the turbocharger.
Make sure oil was being transferred to the turbocharger through this line.
Re-install the oil feed line and proceed.
Start the engine and allow it to come to normal operating temperature.
Check for fluid leaks again.
Rev the engine a few times- throttle response should be normal.

Drive the car:

Take the car for a test drive. Keep an eye on all of the gauges to be sure there are no problems. Get used to the new acceleration feel. Enjoy your newfound horsepower safely!

NOTE:
It is recommended that you only run 92 octane or higher gas with the Z7 turbo kit.