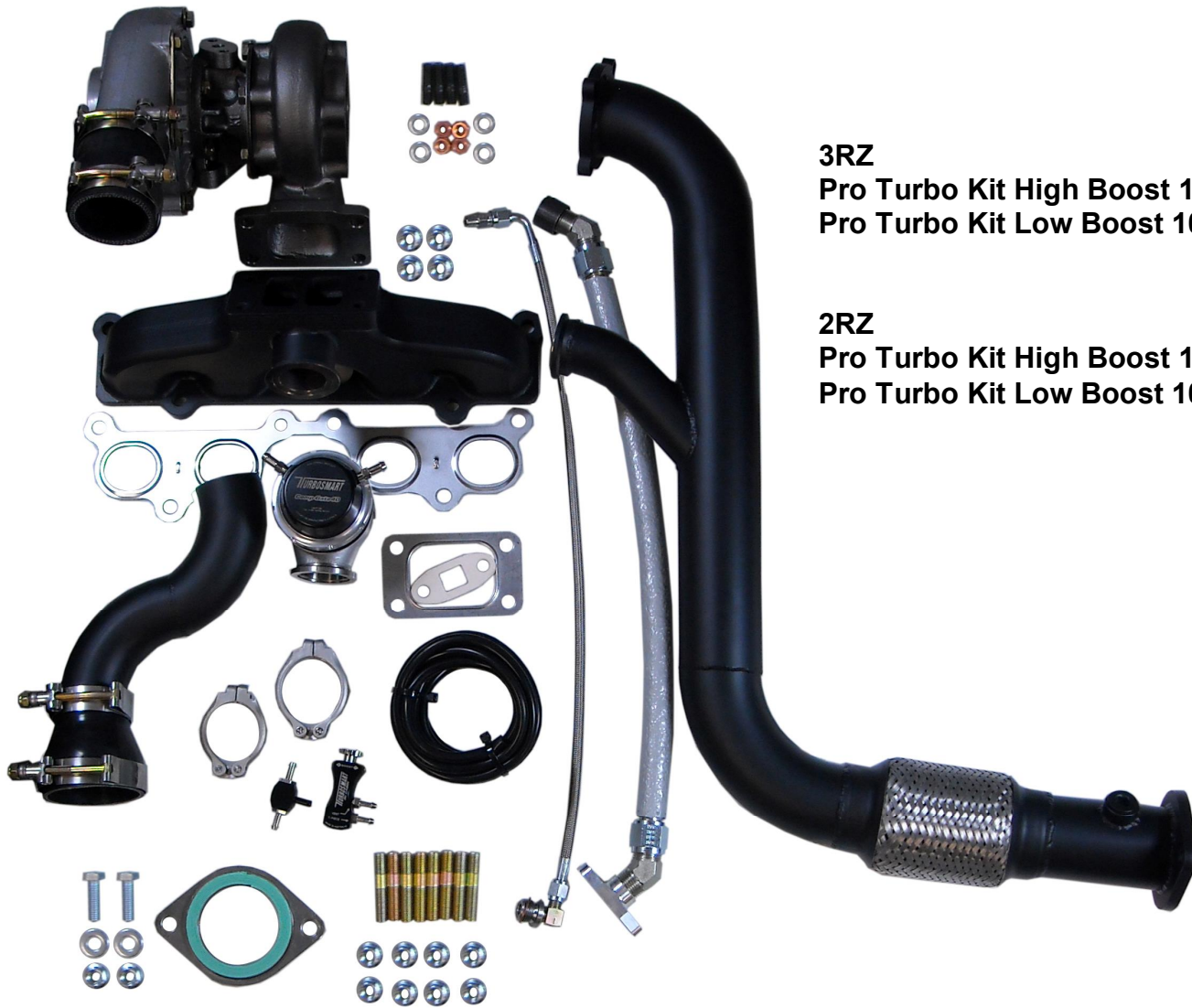


## Installation of the turbocharger kit



**3RZ**  
**Pro Turbo Kit High Boost 1071030**  
**Pro Turbo Kit Low Boost 1071017**

**2RZ**  
**Pro Turbo Kit High Boost 1071031**  
**Pro Turbo Kit Low Boost 1071015**

LCEngineering has preassembled your turbocharger and turbocharger exhaust manifold with the appropriate fittings to simplify your installation and ensure proper fitment.

You will need to install the down tube and wastegate to your turbocharger assembly prior to the installation onto the engine.

Install the turbo down tube gasket and down tube to the turbocharger exhaust flange, at the same time checking alignment with the wastegate V-band flange. Using the copper cleave nuts provided; slightly tighten the nuts at this time for proper alignment.  
Install the wastegate V-band flange clamp. Verify that the V-band flanges are mating correctly before final tightening of clamps. Tighten V-band clamps. Tighten exhaust down tube flange nuts to 14 ft-lbs.



## Preparing the cylinder head for turbo kit installation:

With your exhaust manifold removed and exhaust surface prepped, install the new exhaust studs into the cylinder head with Red Loctite 271 and torque to 10 ft-lbs utilizing the double nut method.

Install the exhaust gasket onto the cylinder head.

Install the turbocharger and exhaust manifold assembly onto the cylinder head. Utilizing the exhaust stud nuts provided secure the manifold to the cylinder head and torque the nuts to 33 ft-lbs using the proper torque sequence. We recommend re-torquing the exhaust nuts after five heat cycles.

## Installation of the oil drain to oil pan procedure:

Locate the proper weld on flange location before you remove the oil pan.

Gather the oil drain hose from the turbocharger, the 45-degree adapter fitting, and weld on flange.

You want the fitting location to be just below the oil pan rail, where it bolts to the block, leaving enough room to rotate the fitting to tighten.

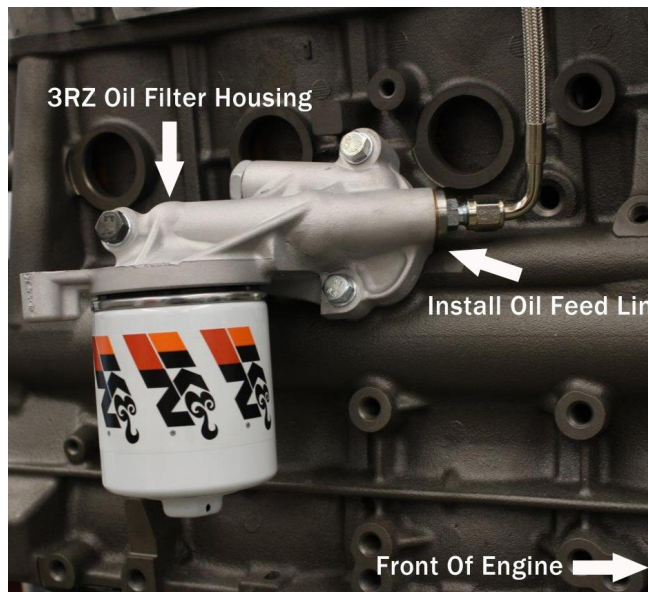
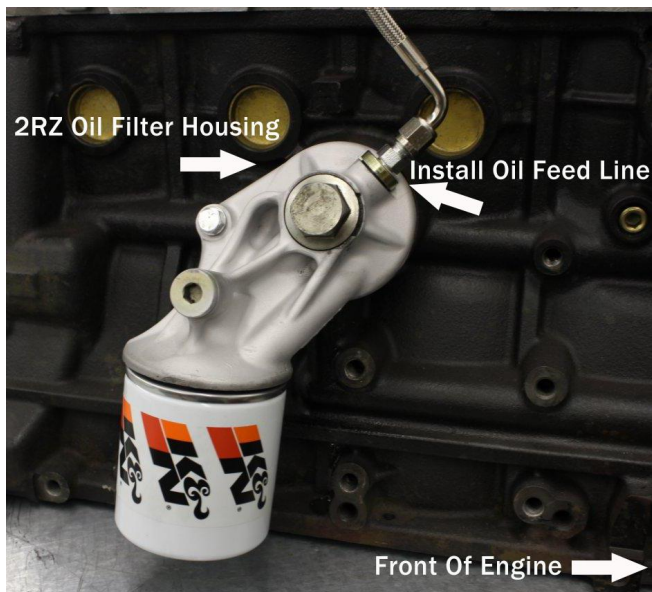
After you have determined the drain flange location, remove the oil pan. Drill a hole for the fitting and weld it in place. Debur the oil drain port, clean the oil pan flange and this is an opportune time to paint the new welded location to make it look factory. Re install the oil pan as per the factory service manual using the proper sealant.

Do not forget to add oil!



## Installation of the oil feed supply line:

Locate the oil filter adapter that mounts the oil filter to the block. You will be removing one of the port fittings from the adapter and replacing it with new fitting to allow oil supply to the turbo. Install the fitting with a copper crush washer utilizing a thread sealant. Install the 1/4+NPT to -4AN fitting that will adapt the stainless steel oil supply line to the oil filter adapter.





## Installation of the hot pipe to the engine:

The hot pipe assembly will consist of the hot pipe, silicone couplers, hoses, and clamps. Using silicone spray will ease hose installation and will help with sliding hose over the tube and throttle body.

Tighten T-Bolt Band Clamps after hose placement. Do not over tighten these T-Bolt Band Clamps as it could result in a cut silicone hose. The turbo compressor may be rotated if required.

## Installation of Oxygen Sensor:

The turbo down pipe has a provision for an 18mm x 1.50 screw in type oxygen sensor. This is a typical Bosch style oxygen sensor size, found on after market fuel management systems as well as wide band air/fuel ratio kits. We also provide a plug for this port if it will not be utilized in this kit.

## Installation of the variable boost controller:

We have provided this turbo kit with a variable boost controller that will allow you to adjust the boost level to your desired PSI. The mechanical spring in the wastegate supplied is preset to 7 PSI. Adjusting the boost controller will allow you to override this setting. Instructions for the wastegate and boost controller will be on the disc provided. This is a single stage style boost controller.

Locate your desired location for the boost controller to be mounted in the cab.

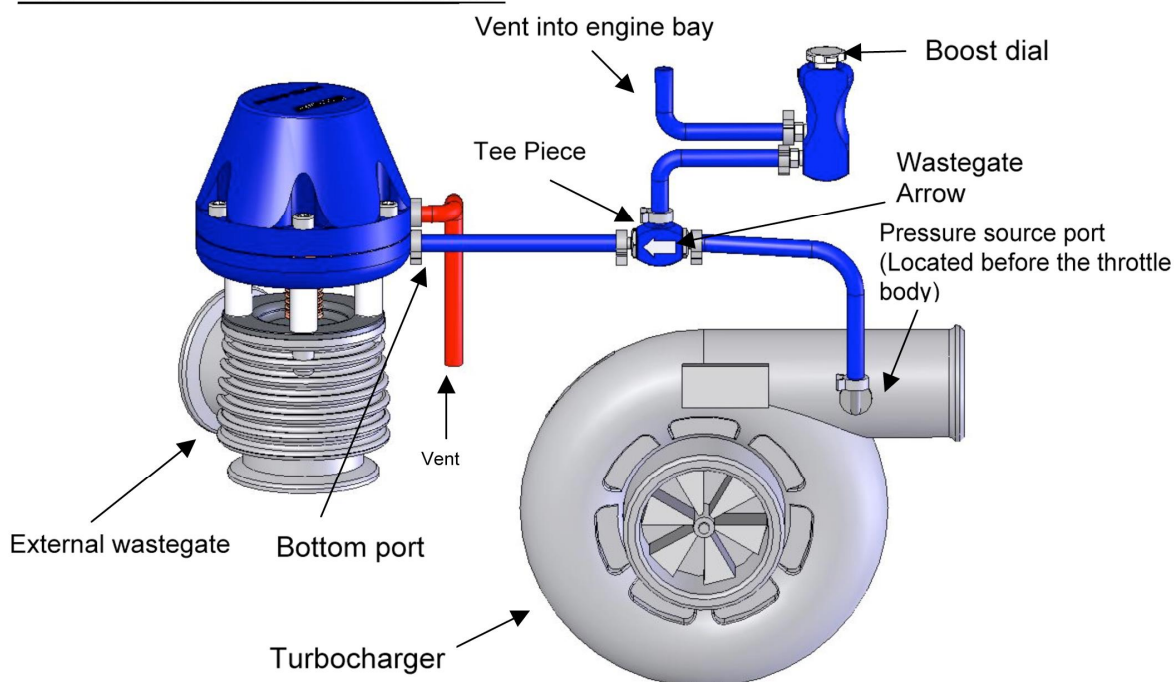
You will not need to adjust this too often, after the initial setting of the boost PSI.

Route the vacuum hoses from the wastegate to the boost controller as per the diagram.

Make sure that you route the hoses out of harms way, as you do not want them to get burnt or damaged.

Start with the boost pressure low and increase slowly while checking for proper tuning on the engine to avoid engine failure. See Turbosmart disc for further instruction.

### EXTERNAL WASTEGATE SETUP





## **Make Sure Your Ready For Boost!:**

Making sure your engine is ready for boost is very crucial. Items in the bottom end as well as the top may or may not need to be changed to ensure nothing catastrophic happens. Take a look at the list below to make sure you are covered.

### **Low Boost 0-10 PSI Boost**

Cylinder Head Studs  
New Oil Pump  
Street Performer Valve Springs  
New Head Gasket  
Some sort of engine management system may be required

### **High Boost 10+ PSI Boost**

Cylinder Head Studs  
New Oil Pump  
Dual Valve Springs Chromoly Retainers  
New Head Gasket  
Forged Piston Kit (Compression level varies by level of boost)  
Forged Rods (H-Beam)  
Pro Fuel Injection Kit 0-30 LBS

