



Thank you for purchasing Trusted Performance's Crossover line. This system is not designed to increase the horsepower or the performance of the vehicle. Instead it is designed to save those components that are most likely to have problems from increased performance from aftermarket modifications.

Typically fuel injectors will start showing problems and running dry when aggressive programmers and/or modules are installed. We do recommend this kit to be added to stock vehicles as well as modified vehicle because having an ample supply of fuel is always good.

This system connects the back of the two cylinder head together. It is designed to run in conjunction with our Stage I kit.

As with our Stage I kit, all fittings in this kit feature either o-ring seals or washers. No Teflon tape is needed during installation. All fittings are adjustable allowing the fuel line to naturally run without binding or putting pressure on the fitting, which could cause failure.

We designed these kits with the highest quality and ease of installation possible. The Stainless Steel Tubes that are mounted on the back of the head are a perfect example of that. Instead of using a banjo bolt with two washers (one for each side of the fitting) we designed this kit to use an o-ring on the inside of the fitting. This means that when the person is installing this kit reaches over the engine and is feeling for the hole on the back side of the head, he doesn't have to worry about the washer sliding off the end of the banjo bolt (a very common problem).

Again, this kit doesn't sacrifice quality or reliability. We don't believe in that! Our fuel lines all come with a 50 year warranty against defects, leaks or anything else that comes up. The only exception is if the lines get cut, pinched and/or damaged by user error.



As with any aftermarket product, please check with your local dealer to see if this component will void your warranty. In addition, certain states have prohibited the use of certain modifications on the road. We advise all diesel owners to check their local laws to see what is and isn't street legal. If this kit is not legal for use in your state, please contact us within 5 business days of receiving it.

Installation:

Crossover line Kit (estimated installation time: 10 hours)

Since the crossover line kit connects the fuel rails on each cylinder head together from the back, the turbo must be removed.

1. Since you will be opening up the fuel system, there is a good likely hood that the diesel fuel will leak. Place a drain pan under the vehicle to catch any fluid that leaks.

2. The first step is to remove the intake filter.



3. With the air filter removed, take the intake assembly and tubing off.



4. There are a couple of nuts that hold a bracket that connects the hard plastic tube that connects to the turbo on. Remove these two nuts.

5. Loosen the clamp that connects the hard plastic tube to the turbo. Then remove the plastic tube. *Note, there is a small tube that connects the Crank Case Vent to the tube. Just pull that up and out of the valve cover.

6. Loosen the intercooler clamp that is on the turbo and at the intercooler.



7. Remove the intercooler tube.



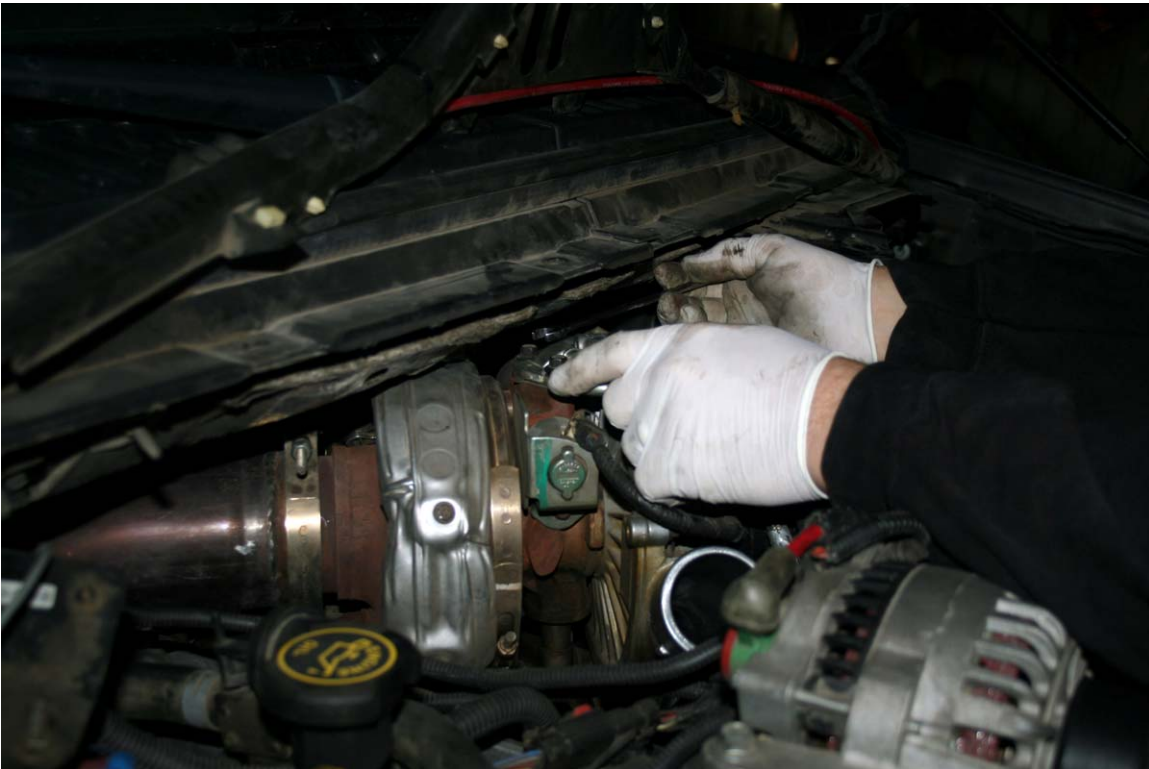
8. The wiring harness that runs over the turbo is held in place by three push pins. Using a trim tool or the back of a claw hammer, pull the pins up. With the harness loose, slide the wiring harness forward past the tabs.



9. Once the harness is loose, use the supplied zip ties, zip the harness to the windshield wipers. It doesn't have to be tight; this just keeps the harness up and out of the way, making it easier to see.



10. There are two bolts that hold the oil inlet line to the turbo and one at the oil cooler. Remove these bolts and remove the line.



11. With the oil line removed, loosen the two clamps that hold the turbo on and slide them out of the way. There is one on the down pipe and one coming off of the y-pipe.



12. Depending on what model year the truck is will depend on how the turbo is bolted to the pedestal. 2003 and early 2004 model year truck, the turbo has two bolts (and spacers) in the front and one (with a spacer) on the back side that is facing the front bumper. All of these are the same size. Late 2004 through 2007 model year trucks, there are no spacers and the third bolt is pointing downwards (Pedestal pictured in step 51). Remove all three bolts.



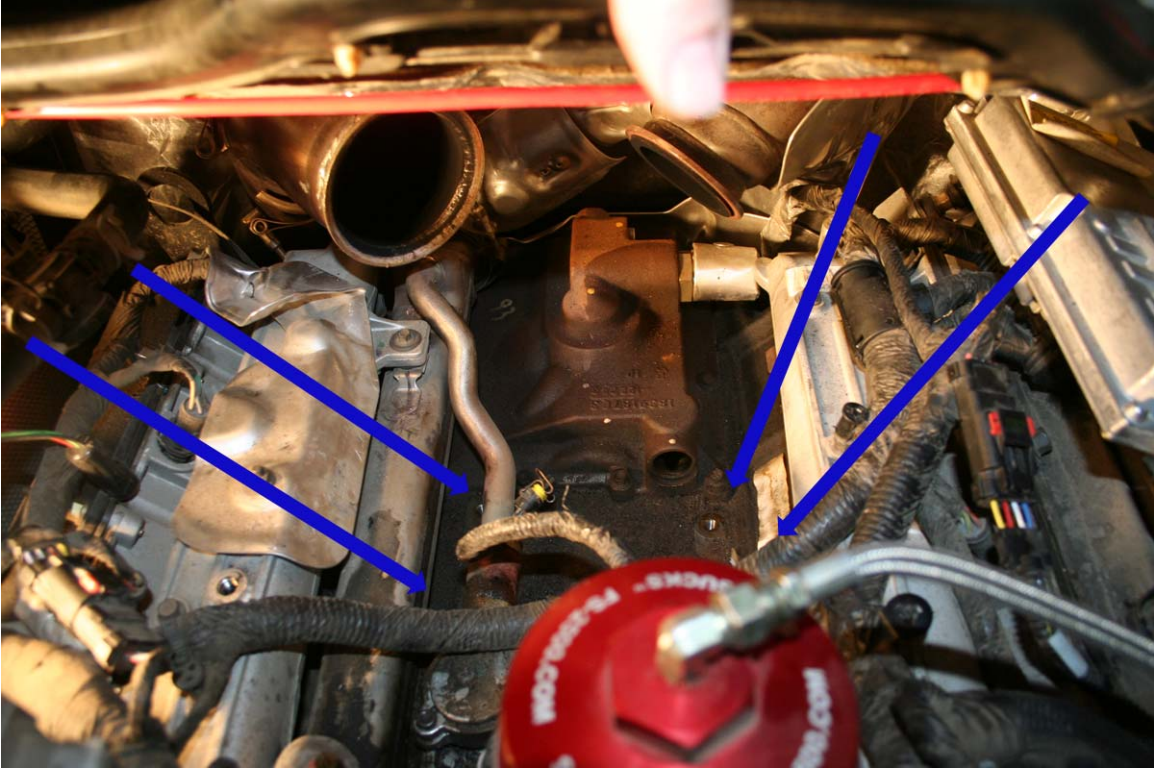
13. The turbo is now loose. Disconnect the wire going to the VGT solenoid and set the wire off to the side. There is an oil drain line that is under the center section of the turbo. The turbo will need to be slid upward to clear the drain line. Once the turbo is clear of the drain line, remove the turbo.



14. With the turbo removed, the oil drain line is loose. Just slide it towards the front of the engine and remove it. Use caution not to scar the o-rings.



15--Optional. This step is not necessary but it just makes a little more room. Remove the turbo pedestal. There are 4 bolts that hold it in place.



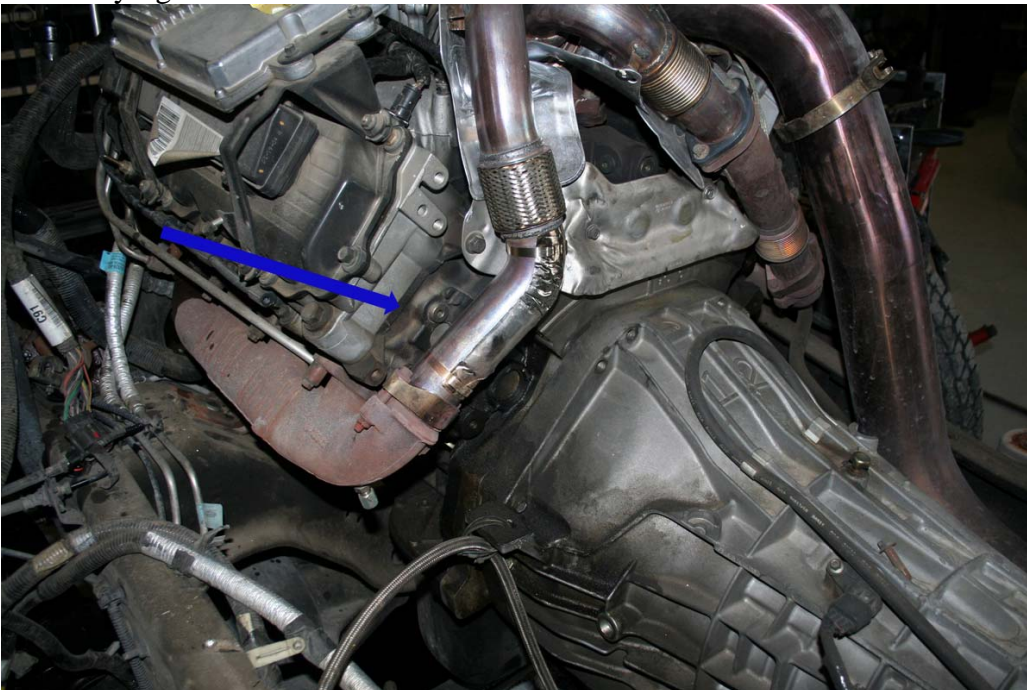
16 – Optional. This step is, also, not necessary but it makes more room. Remove the two bolts that hold the coolant bottle. Once they have been removed, slide the coolant bottle forward until you are free of the mount and the bottle is loose. This will give you room and flexibility to work. You do not need to disconnect any of the lower water lines, but the top lines will need to be removed.



17. The drivers' side y-pipe needs to be un-hooked from the exhaust manifold in order to create the room necessary to access the return line plug. The next series of photos were taken with the cab off. This was to make it easier to photograph. The next few steps are the hardest and probably most time consuming parts of the entire installation process.



18. With the y-pipe loose, unscrew the drain plug from the back of the head. They are extremely tight. It is a metric allen 6.



19. We find it easier to connect the steel braided fuel line to the stainless steel lines before bolting the line to the head. Connect the two lines together only hand tight. Do not tighten yet.



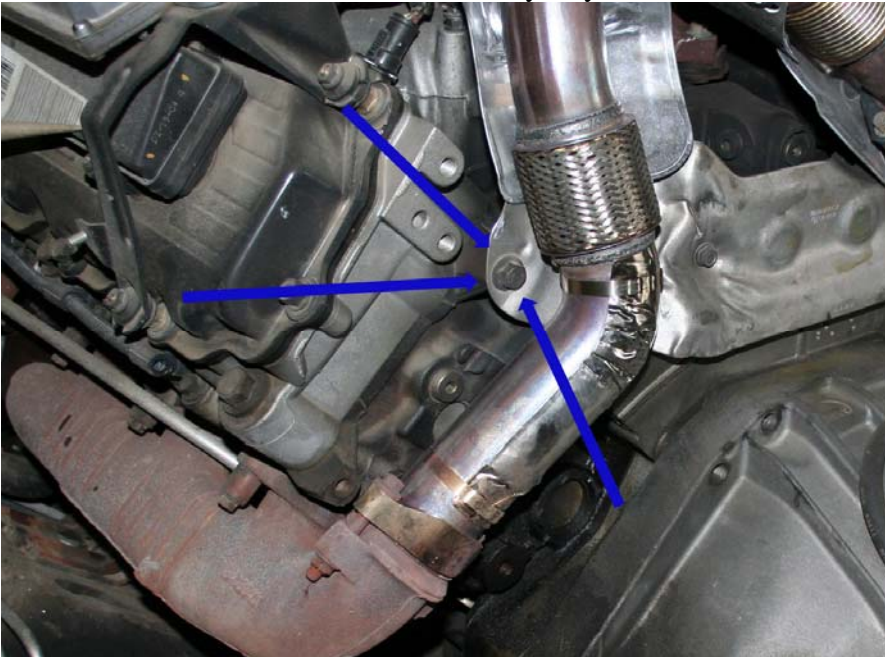
20. Install the 3/8" clamp on the long straight part of the stainless steel line.



21. Depending on how much work has been done to the truck will depend on the exact location of the intake manifold bolts. Remove the last bolt on the drivers side intake manifold toward the turbo. It should be a regular bolt. Install the supplied bolt with the stud sticking up. This is where the 3/8" clamp will bolt to.



22. Again, depending on how much work has been done to the truck will depend if the head shield is in place or not. If the y-pipe heat shield is still there, you will need to remove this bolt and bend the shield away as you install the return line.



23. With the driver's side drain plug off, install the new stainless line marked "Driver's Side". There should be an o-ring already installed in the groove (if not, install the o-ring now). The banjo bolt goes through a washer, then through the banjo in the fuel line.

*Note: there is a lip in the banjo bolt that the line may catch on. Make sure the banjo is properly seated on the banjo bolt before tightening. During the same process, slide the clamp into place over the stud. Once the banjo is tight, tighten the nut.



If the heat shield in step 22 was present, reinstall the bolt to hold it in place.

On the passenger's side, it is not necessary to remove the y-pipe to install the return line. Some prefer to remove it to make it easier to install the return line and remove the drain plug, while others do not. It is up to the individual installer.

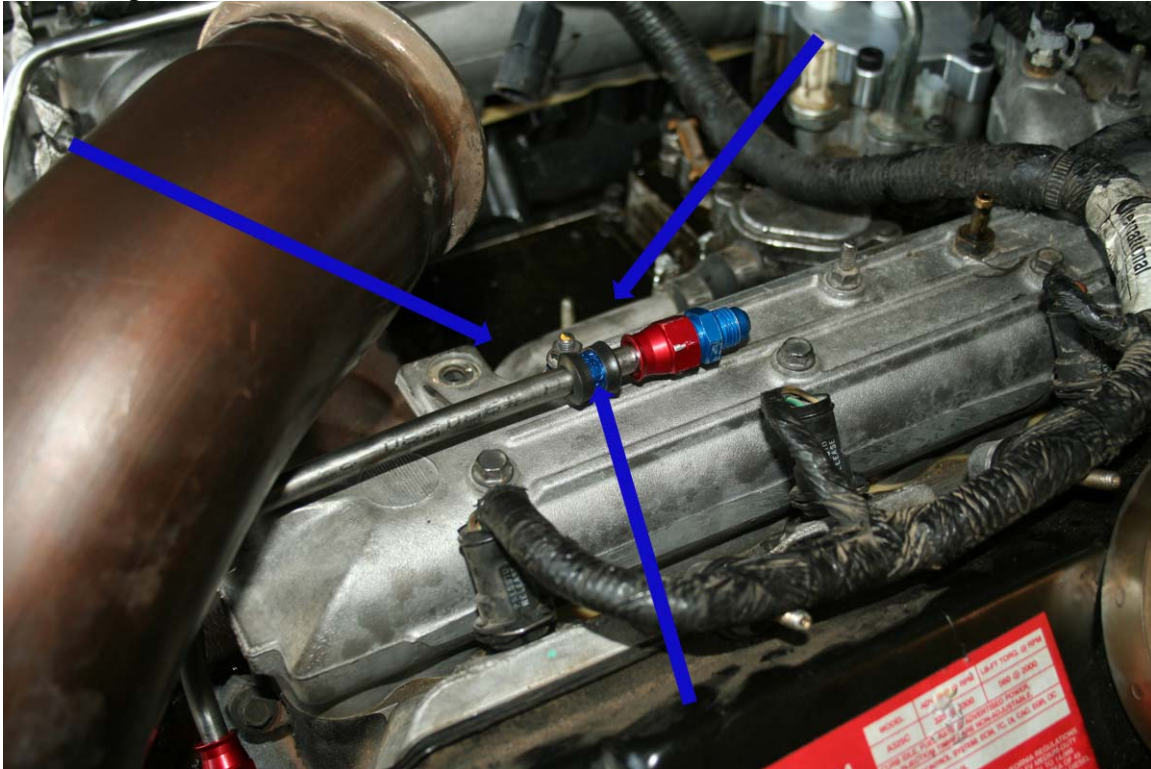
24. Remove the passenger's side drain plug. It is, also, a metric 6 allen



25. Again, we find it easier to connect the steel braided fuel line to the stainless steel lines before bolting the line to the head. Route the steel braided line under the fuel filter housing and around to the passengers side of the intake. Then connect the two lines together only hand tight. Do not tighten yet.

26. Install the 3/8" clamp on the long straight part of the stainless steel line.

27. Depending on how much work has been done to the truck will depend if the head shield is there or not over the intake manifold. If it is, you may need to drill a hole in it so that the stud pokes through that holds the fuel line in place. Many times the heat shield is no longer there. If it isn't, don't worry about it. Remove the second to last bolt on the turbo side of the passenger's side intake manifold. Reinstall the new bolt with a stud on top.



If the heat shield is still there, place it back and check for clearance. If the stud is covered, drill a hole through it so the stud pokes through.

28. Next, install the stainless line marked "Passenger's Side". There should be an o-ring already installed in the groove (if not, install the o-ring now). The banjo bolt goes through a washer, then through the banjo in the fuel line. *Note, there is a lip in the banjo bolt that the line may catch on. Make sure the banjo is properly seated on the banjo bolt before tightening. During the same process, slide the clamp into place over the stud. Once the banjo is tight, tighten the nut.

29. With everything run, go back and tighten all connections. On the stainless steel tubing, use a $\frac{3}{4}$ " wrench to hold the threaded end from getting damaged. (If tightened without holding the end, the male end may become loose and start leaking. We will not warranty against improper installation.)

30. Now that everything is tight, turn the key on to the vehicle. This will turn the pump on. Check all connections to ensure there are no leaks. If leaks are present, check to ensure all fittings are tightened.

If that doesn't fix the leak, check to make sure all fittings are free of debris.

31. Time to start putting everything back together. Start with the y-pipes. Only hand tighten the nuts at this point in time. Once the turbo is in place, the y-pipe will need to be adjusted and then tightened.

32. Reinstall the turbo pedestal and oil drain line.

33. Reinstall the turbo. The turbo must slide back onto the oil drain and the guide pins must be in place for all three bolts to bolt back together. It is usually necessary to twist and turn the turbo to get it to settle back down into place.

34. With the turbo in place, bolt the three bolts back in.

35. Next, install the y-pipe clamp. Adjust the y-pipe as necessary for a proper fit.

36. With the y-pipe in place and bolted to the turbo, tighten the exhaust bolts.

37. Hook up the oil drain line and the VGT solenoid.

38. Tighten the down pipe clamp.

39. Reinstall the intercooler tubing.

40. Install the coolant bottle back into place and tighten bolts.

41. Reinstall the formed plastic tube that connects to the turbo. Make sure the Crank Case Vent tube is also, reinstalled into the valve cover.

42. Connect the coolant lines to the coolant bottle.

43. Reinstall the intake tubing and intake filter housing.

44. With everything back together, cycle the key on for 20 seconds three times. (I.E. key on for 20 seconds. Then turn off. Key on for 20 seconds. Then turn off. Key on for 20 seconds. Then turn off.) This allows the fuel system to pressurize.

45. Start the vehicle. Let the truck idle for a couple minutes.

46. Check for leaks.

47. Drive the truck around the block and again, check for leaks.

48. After a couple weeks of driving, verify that the fuel lines are still free and not laying against anything causing damage to the lines or the object and that there are no leaks.

Trusted Performance Warranty Program:

Trusted Performance will repair or replace, at our expense, any new products that fail, including products for a period of one year from the original date of purchase.

All Fuel lines come with a 50 year warranty against defects, leaks or anything else that comes up. If you experience a problem, please contact us immediately and include your receipt when you return them. The Aeromotive regulator comes with a 2 year manufacture warranty.

Warranty will not be granted for recurring damage, malfunction, or failure due to improper installation, misuse, unauthorized repairs or alterations, or externally induced physical damage.

Warranty is non-transferable and must be processed via the original purchaser from Trusted Performance.

Trusted Performance highly recommends that the installation of any components be performed by trained professionals. Improperly installed products may lead to unsafe and unreliable conditions.

Return Policy:

Only unused and complete merchandise may be accepted for return subject to inspection and acceptance by Trusted Performance. No goods will be accepted without prior return authorization from Trusted Performance. Call for approval and RGA (Returned Goods Authorization) tracking number. No returns will be accepted without an RGA tracking number. No returns will be accepted after 30 days from the original shipping date from Trusted Performance unless approved. All approved returns are subject to a 15% restocking charge and less any shipping charges paid for by Trusted Performance. The original invoice must accompany the return.

Warnings:

Trusted Performance is not responsible for any damage due to improper installation.

We recommend all installation be made by a certified professional.

This kit could be harmful to children; keep away and out of reach.

After installing the fuel kit, user should verify there are no leaks. If leaks exist, they must be fixed before operating engine. Failure to fix a leak could cause fire and damage to vehicle and surrounding items. Periodical inspections of lines and fittings should be made to ensure nothing has come loose or become damaged.

As with any aftermarket product, check with your local dealer to ensure this doesn't void the factory warranty.

In addition, check your local emission laws to ensure this component is compliant. Trusted Performance is not responsible for verifying whether their products are emission legal or not, it is up to the end user.