

Swamp's Diesel Performance

Competition Parts For Your Diesel

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1. Necessary upgrades to run these injectors

We strongly advise against installing injectors in trucks that do not have a pyrometer mounted pre-turbo and an upgraded intake and exhaust system. There are no upgrades that you have to do just to run them in your truck. You can install them in a completely stock truck, and see significant power increases. However, you cannot reach their full flow potential without the following mods: Upgraded air intake system, Upgraded exhaust system, Custom programmed chip, Adequate High Pressure Oil Pump (HPOP), Heavy-Duty Clutch or Transmission. For injectors over 175cc's we recommend an upgraded fuel system with electric pump--minimum 60 gph / 420 lbs/hr at 70 psi. Intercooler upgrades are not mandatory, but may lower EGT's during long duration, high power situations. For 1994-2003 Ford's, Injectors over 175 cc need a larger- than-stock turbo or nitrous oxide. 2003-2007 6.0L Power Stroke's can run up to 175cc injector with the factory VGT turbocharger. Any brand of chip will dramatically increase the performance of nearly any injectors. Tuners or programmers will give power increases, but not as much as custom programming. Many injector models will require custom programming to run properly in 99+ vehicles. A 1.0 A/R or smaller turbine housing (on '94-'97 trucks) is neither necessary nor recommended unless you live over 4000' of altitude. They create more backpressure, increasing the temperatures in the exhaust manifold/cylinder head. With

the extra fuel these injectors flow, turbo lag is non-existent.

2. Towing with modified injectors

Yes, you can tow with many models of our injectors. However, remember that they can flow significantly more fuel than the stock injectors, and more fuel makes more heat. The bottom line is that even with an intercooler you will probably have to back off the throttle on long grades due to excessively high exhaust temperatures. If you keep EGT's (measured pre-turbo) under 1250*-1300* sustained, or 1400* for under half a minute or so, you will probably be OK. Short bursts > 1500+* are not an issue, the higher the EGT, the shorter time that you should remain at that temperature.... Custom programming can tame all but our largest, competition sized injectors.

3. Engine Warranty

Forget it. Assume your factory warranty expires the moment you install aftermarket injectors, or any other non-OEM equipment.

4. Our Injector Warranty

We make no guarantee as to these injectors' fitness or suitability for any intended purpose. Our only claim is that they will flow the amount of fuel listed for their particular specifications. If problems in the nozzle assembly, piston or plunger spring occur in the first 90 days from the date we ship the injectors to you, we will repair it at no charge to you. You pay shipping to return it to us, and we pay shipping to return it to you. We are not responsible for the associated costs to remove or reinstall the injector in the engine. We only cover problems related directly to our modifications. I.e., if you return a malfunctioning injector, and it is found to be caused by fuel contamination, as evidenced by a scored plunger or barrel that is not warranted. Individual malfunctioning injectors may be

returned for repair or replacement, but we do not accept returns of sets that have been installed in an engine. We are not responsible for engine damage related to or caused by over-fueling, excessive exhaust gas temperatures, turbocharger over-speeding or over-boosting, oil dilution from fuel, or any other factor that may or may not be related to these injectors, nor for problems directly or indirectly caused by malfunctioning injectors.

5. Daily Drivability

You should experience little change in the vehicle's drivability in day to day driving situations. The best comparison is to a truck with a 4-barrel carburetor. During daily, around-town driving, the engine runs off just the 2 primary barrels. Only when you floor the throttle, or put other heavy load on the engine, do the secondary barrels open up.

6. Horsepower Gains

We make no claims as to how much horsepower a given set of injectors will give you. Just because you triple the fuel rate to a 215 hp engine does not mean you will have a 645 hp engine. These injectors are just one component in the engine, and to get full benefits all the other systems must be modified accordingly. With that said, well-built and well-tuned Power Strokes typically make 2 to 2.2 rear-wheel horsepower for every cubic centimeter of fuel.

7. Single vs. Split Shot Injectors

The engines in the 94-97 Power Strokes used what are commonly referred to as "single shot" injectors, in that when they fire there is 1 single injection event. These injectors have an "AO" or an "AA" on the solenoid preceding the serial number. Starting with the late 1996 and all 1997 California models, and all 1999 and later 50 state models, the injector has 2 injection events: a primary or pilot

injection of just a few cubic millimeters of fuel, followed by a pause, and then the main injection of fuel occurs which can be any where from 10mm³ to over 150mm³ of fuel. The 96-99 injectors have "AB" marked on them, and the 99.5 and newer injectors have "AD" or, in the case of some trucks, "AE" injectors were used in the #8 cylinder to try and combat idle knock/cackle. The only real difference between these injectors is the bypass port in the plunger and barrel assembly (part of the injector that pressurizes the fuel). Otherwise the injectors are dimensionally identical and parts are fully interchangeable. Engines with split shot injectors are quieter than ones with single shot injectors. However, single shot injectors flow about 30 mm³ more fuel for a given volume of high pressure oil than split shots do, so single shot injectors give more power. With our custom chip programs, trucks originally equipped with split shot injectors (99-03) can be converted to single shot.

8. "530" Plungers and Barrels

All AA-AE code injectors used in the 7.3 Power Stroke have a 6mm diameter plunger and barrel. The 6mm plunger has a surface area of 28.27 square millimeters, so for each 1mm the plunger moves it will inject 28.27 cubic millimeters of fuel. Certain of the injectors used in the 530 cubic inch engines made by International have a 7.1mm plunger and barrel which inject 39.59mm³ of fuel for each 1mm of travel. This equates to 40% more fuel for the same volume of high-pressure oil. Because the high pressure oil pump has a limited capacity, it is the biggest hindrance to making high horsepower with the Power Stroke, and using the 530 plunger and barrels is the easiest way to overcome this.

9. Injector Core Charge

Prices Do Not Include a Core Charge of \$1000. Please note that these prices are based on you returning a set of

injectors in good working order. If the Plunger and Barrel assembly is scored or damaged, you will be charged \$60 for each one. Nozzle condition is not important, because we install brand new nozzles in all our injectors except for the 150/146. Injectors are shipped without oil deflector spouts-- you will need to install the ones from your injectors onto the new injectors. We do not ask for a deposit on the cores, but if you do not return your old injectors, then you will be charged the \$1000. Injectors, which have severe corrosion, extensive internal damage (caused by contaminated waste vegetable oil, etc.), are not considered suitable cores, and will be returned to you at your expense. Our (7.3L) injector core policy can be viewed at the following

link: http://www.swampsdiesel.com/xtcommerce/index.php?cat=c23_Injectors---Nozzles.html