

# Swamp's Diesel Performance

*Competition Parts For Your Diesel*

304-A Sand Hill Rd.

La Vergne, TN 37086

Tel 615-793-5573 or (866) 595-8724/ Fax 615-793-5572

Email: [dave@swampsdiesel.com](mailto:dave@swampsdiesel.com)

## **How to check if my HPOP is good**

Before we help you decide on a style of injector, it is very important that we (both) know how good (or bad) your HPOP is.

There are 2 ways to measure the oil pump's performance. If you have access to a scan tool, hook it up to the trucks OBD connector, and go to the "datastream"...scroll through the sensor values, until you find ICP (or injection control pressure)...this is your HPOP's "oil pressure".

\*\*\*NOTE: if you are running any kind of "box" such as the "Edge EZ" or the "Banks Six Gun" you either have to remove the aftermarket jumper harness/plug at the ICP sensor, and reconnect the factory harness by itself. If you are running a home made "10k mod", etc.which plugs/taps into the ICP sensor wires (or connector pins), you will have to remove it as well, or proceed with getting the parts together to run the mechanical gauge, as the scantool will not receive accurate data from the ICP sensor if its signal is being modified from any one of the "ICP foolers".

To test the HPOP's output, you will be looking on the scan tool for the line labeled "ICP" and its units should be in psi not volts. Some scan tools measure ICP in kPa (kilopascals), which you can convert to psi after you take your measurement in kPa. 1kpa = 0.145psi(for example 19,310kPa = 2800 psi)Put your chip in its' highest setting, and go out on the interstate (while having

someone watch the ICP value on the datastream) and start at about 60mph.FLOOR the pedal, and stay in it, 100% from ~60-90mph.what you're likely to see (on the scantool) is that the ICP will spike up rather quickly, to 2800-3000psi or so, and then the longer you stay in the pedal...the ICP will slowly drop and drop and drop...the ICP will eventually stabilize (stop dropping).

WHERE the ICP levels off can be some indication as to the condition of your HPOP.If your truck can maintain 2800+psi then you are one of the FEW folks that have a terrific HPOP.I would estimate that 90% of the Power Strokes can only maintain ~2200(+/- 200)psi of HPOP pressure, or ICP...5% are above 2600, the other 5% are below 1900psi...depending on how low (or high) of ICP you are able to maintain will greatly affect which model of injector I would recommend.If you don't have access to a scantool, then go to your local hydraulic supply house, and have them make you up a mechanical gauge.

You might spend \$60 or so on high-pressure hose, fittings, and a quality 0-3500psi liquid filled gauges.... but having this hose available for future diagnostics might be more valuable than you think.

The hose which you will need will need to be about 40" long, rated for (minimum) 3000psi working pressure (12k psi burst rating!) with the gauge on one end, and a #6 female JIC swivel fitting crimped onto the other.

You will also need an individual fitting to screw into the head to go from the head to the hose. This single fitting will be a 90degree fitting # 5 "male boss" (sometimes called # 5 O-ring) on one end of the 90, and a # 6 male JIC on the other end of the 90. Our local hydraulic shop would label such a fitting as 5MB-6MJ90"JIC" is nothing special...it's just 'hydraulic talk' for a 37degree flare

fitting...standard hydraulic stuff here...nothing rare by any stretch.

Looking at the top of (either) cylinder head, you'll see the factory stainless braided oil lines (one to each head) then you'll see a few bronze colored plugs... (Engine off, of course) Using a 5/8" wrench, remove any one of the bronze plugs, and install the 90deg fitting into the hole. (Save the plug for reinstallation, after testing).

And the O-rings are reusable, unless brittle, cracked, etc. The single 90deg fitting will have a "jamb nut" on the O-ring side...screw the fitting into the head, "aiming" the 90 away from the turbo, intercooler pipes, etc. and then tighten the jamb nut, to "squish" the O-ring also locking the 90 from "spinning" around as you attach the swivel end of the hose to the 90. No sealants, loctite, or Teflon tape are needed on "JIC" or O-ring fittings...and don't over tighten them...usually about 180degrees with a wrench past finger tight...check for leaks prior to getting too far from home...run the hose, away from moving parts, electrically conductive junk (like batteries, glow plug relay, starter relays, etc.). And just route the hose up through the cowl toward the windshield...for short term testing purposes, we just lay the gauge up under a windshield wiper, and go drive...testing it just like I describes previously...chip in the highest setting, floor the truck, etc....If you can maintain 2800+ psi of ICP, then any injector 250cc's and under will perform exceptionally well. If you can maintain 2400psi then that's not bad, not great either.

2200psi is mediocre, and full performance from any injector will not be achieved with that HPOP, though power WILL go up with nearly any injector, drivability (excessive smoke) might be an issue. If you cannot maintain 1900psi, you might seriously consider an aftermarket dual HPOP system, or our Gen3 HPOP. Nearly any larger injector is going to make the truck feel sluggish,

and smoke excessively.