This the information I have compiled about the 600 SDI “the dreaded bog” that is observed on many 600SDI. Many thanks to the contributors.

Billy Howard)
Couple Things to check if all else has failed while trouble shooting SDI’s. 99% of these are absolutely bullet proof however every now and then we’ll have an issue with performance. Re-clutching by re-springing has helped most performance issues. The higher engagement helps push through the engine box.

A bad dose of dirty fuel or gas can really cause trouble . Here's what we’ve seen on two different sdi's;

Symptoms-sled runs great when cold, but once heat soaked the unit tends to lose rpm or power at same time & slowly gets worse and worse while trying to keep unit going. Acts like a driven clutch blowing open, or an over clutched sled with too much flyweight or a sled with the chokes stuck on.
Observes no xtra fuel smell - You can shut engine off and restart right away and sled runs fine till demand w.o.t. or work load goes up – then slowly rpm and power drops and drops again, shut engine off and restart right away and runs ok till demand of huge performance.

On these units zero problem codes were flashed or none to be found in computer. Spark and compression was good.

We did hook up fuel pressure gauge and one unit had 30 to 40 lbs pressure loss or drop at w.o.t., and the other only 10 lbs. Stock psi is in the 54 to 58 lbs range & not exactly sure without tech manual in front of me. Dived further by changing outside fuel filter, cut apart and found dirt and sand and gunk…replaced…still didn’t cure issues.

My techs went inside the fuel tank and found dirty and/or plugged or damaged in-tank fuel pickup screen. This is either starving the fuel pump of needed fuel on demand or if damaged or ripped in tank screen allowing dirt particles into fuel pump and causing fuel pump damage. Both these cases were cured with a new fuel pump assy – this is just a heads up for another avenue to check if zero fault codes are found and engine is running poor after warm up.

Blue Max
Here are some of the items that can cause similar issues.

Low pressure @ fuel pump

Pressure pump bad.

Fuel pressure regulator bad.

Fuel filter plugged.

Tank pickups plugged.

Fuel injectors plugged or not injecting correctly.

Knock sensor adjusting fuel mapping. Causes; Bad gas, change in exhaust back pressure due to poor design aftermarket muffler.

EGT sensor not reading properly and adjusting fuel map.

Coolant temp sensor reading temps incorrectly or engine running hot.

Air temp or air pressure sensor not reading correctly and altering fuel mapping.

Bad battery or poor ground.

All of these items can cause issues without being flagged by the ECM fault recording system.

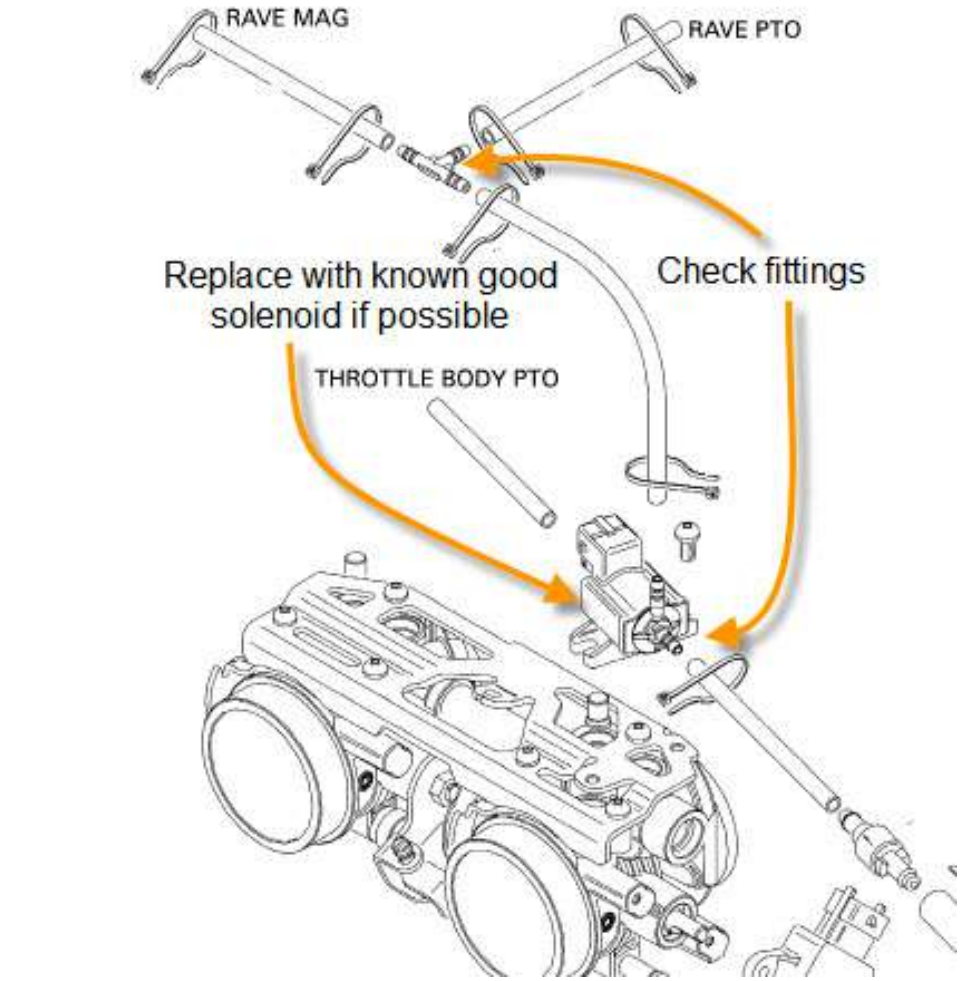
From Sweetwater (BRP Programmed emission controls - engine management)
The bog was happening in conjunction with the E-rave opening. At around 7300, can notice a drop in RPM to about 6700. If the throttle position is stabilized, rpms will keep fluctuating in that RPM range for as long as you hold the throttle there and not recover.
If the load increased the bog was not as definite and rpm are a little faster to recover.
I was able to tune the bog out of this machine by decreasing injection on-time with the boondocker box. I defueled the machine by -15 points on the box at 6700 RPM and at 7300 RPM in both mid- and high-load settings.

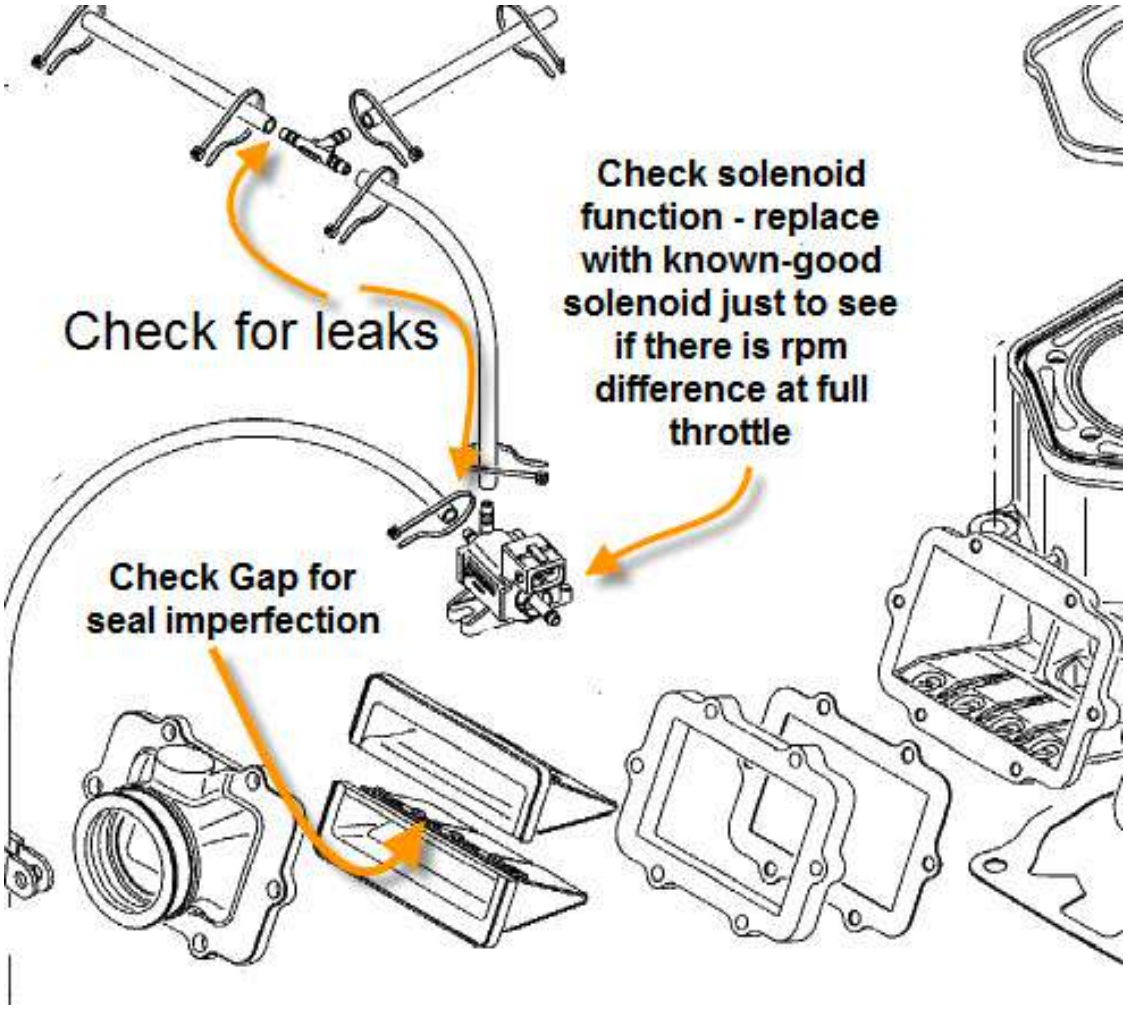
According to Boondocker, "each number is equivalent to 1/2 a percent of total available fuel." That said, I believe that I defueled this machine in those RPM ranges by about 7-1/2% (quite a bunch!).

It is my understanding that the factory calibration calls for an increase in fuel at RAVE opening- and my thinking is that as long as you are accelerating hard it works fine, however, if you need to run in the 7000 RPM range and then push the rpms through that, it is too rich.

Once I made the adjustments with the Boondocker box, I clicked back up to 4 and the machine worked like it should.

Brandon writes) I actually had a engine related problem with my SDI similar to what is described in the article you forwarded me. I went through the entire check list at that time. I had the sled reflashed, I cleaned the injectors and checked the entire fuel system including filters. I also tested all the sensors I could using the manual as a guideline. The problem finally ended up being a crank positioning sensor. Based on all of that I am confident that the other components of my machine are running well.


RAVE MAG
RAVE PTO
Replace with known good solenoid if possible
Check fittings
THROTTLE BODY PTO


Check for leaks
Check solenoid function - replace with known-good solenoid just to see if there is rpm difference at full throttle
Check Gap for seal imperfection