



TECHNICAL SERVICE BULLETIN

Bulletin Number: TSB 21-0001

Date: 07-23-2021

Subject: Parker Veriflo Regulator Outlet Pressure Adjustment

Models: All Fuel Systems

Background

Cummins Clean Fuel Technologies utilizes a Parker Veriflo regulator to supply the correct fuel pressure to the engine. With the introduction of the Cummins X12N engine in 2018, the HD family of on highway engines no longer all have the same allowable ranges for fuel pressure to the engine. The table below shows the allowable fuel pressures for Cummins CNG engines.

Parker Veriflo Regulator (typical)



Engine Pressures

Engine Model	Min Pressure	Max Pressure
ISLG	70 psi	150 psi
ISX12G	70 psi	150 psi
6.7N	70 psi	150 psi
L9N	70 psi	150 psi
X12N	60 psi	100 psi

Development and testing were done with Parker to develop a regulator and a single pressure setting that will work for all engines so different regulators or different pressure settings are not required for the different engines.

Condition

In some cases, vehicles equipped with a Cummins fuel system may see a message on the vehicle dash that says something similar to “Fuel Pressure Too Low-Safely Pull Over and Stop Eng. Immediately.”



Cause

The fuel pressure delivered to the engine is out of range too low to the engine. Cummins does not log a low-pressure fault code on the current natural gas engine, 6.7N, L9N, 12N, and instead only have the message on the dash. If the engine fault codes are pulled up using Cummins Insite no fault codes for this issue will be present.

Correction

The outlet pressure on the high-pressure regulator on the Cummins fuel system can be easily adjusted. The adjustment will need to be made while the engine is running at idle and had a chance for the engine to warm up. The regulator needs to be at least warm to the touch.

The outlet pressure of the high-pressure regulator should be 80 psi while idling with a fuel system pressure of 3600 psi. The outlet pressure varies inversely to the inlet pressure. The lower the inlet pressure to the regulator, the higher the outlet pressure will be. **For every 1000 psi below 3600 psi inlet pressure, add 4 psi to the outlet pressure setting. For example, 2600 psi should be 84 psi, 2400 should be 85 psi.**

See the table below for the low pressure setting vs. system pressure:

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1-844-CNG-TANK

**Pressure Setting Table**

Veriflo Regulator Settings		
Fuel System Pressure	Cummins Analog Gauge	Cummins Insite
Inlet Pressure (PSI)	Outlet Pressure Setting(PSI)	Fuel Regulator Intake Pressure (InHg)
4000	78.4	156.8
3900	78.8	157.6
3800	79.2	158.4
3700	79.6	159.2
3600	80	160
3500	80.4	160.8
3400	80.8	161.6
3300	81.2	162.4
3200	81.6	163.2
3100	82	164
3000	82.4	164.8
2900	82.8	165.6
2800	83.2	166.4
2700	83.6	167.2
2600	84	168
2500	84.4	168.8
2400	84.8	169.6
2300	85.2	170.4
2200	85.6	171.2
2100	86	172
2000	86.4	172.8
1900	86.8	173.6
1800	87.2	174.4
1700	87.6	175.2
1600	88	176
1500	88.4	176.8
1400	88.8	177.6
1300	89.2	178.4
1200	89.6	179.2
1100	90	180
1000	90.4	180.8
900	90.8	181.6
800	91.2	182.4
700	91.6	183.2
600	92	184
500	92.4	184.8

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There is an access plug located on the top of the FMM:



After removing the plug, remove the acorn nut from the top of the regulator:



With the engine at idle speed, adjust the set screw on top of the regulator using a 1/8" Allen wrench. It is recommended to set the final outlet pressure by initially going approximately 5 psi above final desired pressure, and then reducing the pressure to the final set pressure.



Reinstall the acorn nut and torque to 100 +/- 10 in-lbs (8.3 +/- .8 ft-lbs) with the engine still at idle and verify outlet pressure did not change.