



# Sturman Industries

***“The Environmental Injector:  
Beyond Common Rail  
And Hydraulic Intensification”***

**Joe Vollmer  
Business Team**

**Poster Location P-15**

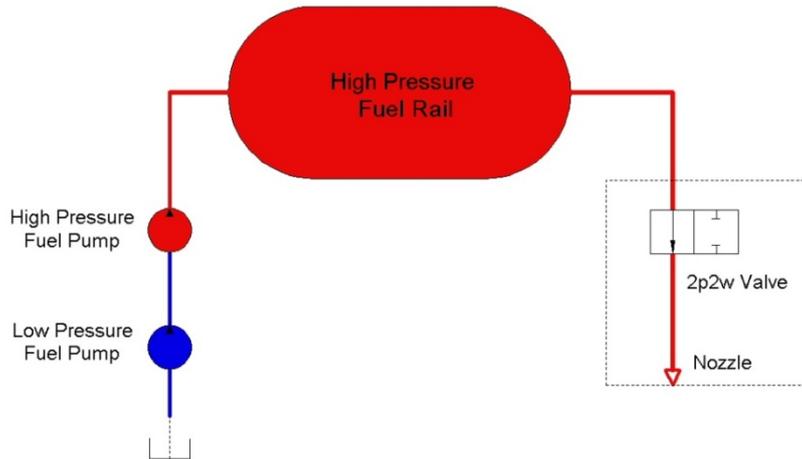
**The 14<sup>th</sup> DEER Conference  
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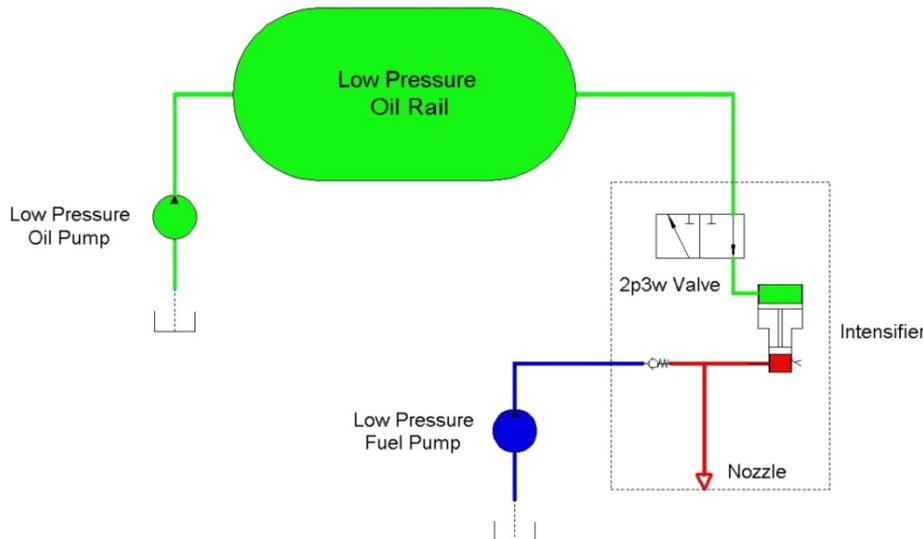


# Beyond Common Rail and Hydraulic Intensification

## Common Rail System



## Environmental Injector System



- Move the fuel accumulator volume from the fuel rail to the injector nozzle. Maintain desired pressure throughout multiple injection events.
- Allow higher injection pressure by reducing pressure spikes at nozzle.
- Significantly reduce parasitic losses associated with venting by locating all high pressure fuel within the injector.
- Allow a wide range of alternative fuels via elimination of fuel as the working fluid within the injector. The Intensifier and Control valves operate in hydraulic fluid.
- Reduce cost and improve safety. Eliminate the high pressure pump and high pressure fuel lines under hood.
- Utilize hydraulic rail for multiple applications: hybridization, injectors, ride control, accessory drives, engine valves...