

DI LPG Fuel System

350-Bar Direct Injection Liquid Propane Fuel Pump & Injector

SYSTEM TESTING

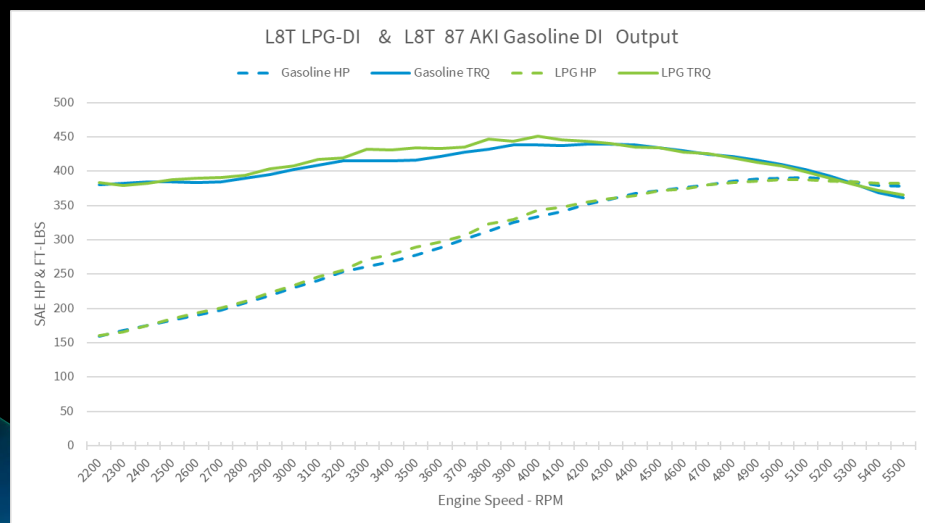
The industry's first medium-duty engine system delivering propane fuel at a constant 350-bar.

Stanadyne's liquid propane gas (LPG) direct injectors and fuel pump with Katech-specified flow circuit were installed on a standard 6.6L GDI engine. Katech conducted a 250-hour performance and durability test, successfully demonstrating direct injection propane is viable alternative fuel delivery option for medium-duty (class 3 to 7) engines.



- A robust direct injection fuel system using new hardware and software inhibitor technologies to remove vapor lock barriers specific to propane.
- Stable operation of the engine during hot-start, cold-start, hot-soak, and hot-idle conditions.
- Delivered LPG fuel at high pressure directly into the engine while mitigating the potential for vapor lock.

MET ALL POWER AND TORQUE METRICS OF THE BASELINE GASOLINE ENGINE



Using direct injection avoids the 20 percent power reduction associated with port fuel injection

TECHNICAL SPECS

FEATURE	SPECIFICATION
Engine Code	L8T
Engine Configuration	V8
Engine Displacement	6,564 cc
Engine Bore	103.25 mm
Engine Stroke	98 mm
Compression Ratio	10.8:1
Valvetrain Configuration	Pushrod OHV with Variable Valve Timing
Valves Per Cylinder	2
Rated Horsepower GM 2500	401 SAE hp @ 5,200 rpm
Rated Horsepower Isuzu Class 3-5	350 SAE hp @ 4,500 rpm
Rated Torque GM 2500	464 SAE lb-ft @ 4,000 rpm
Rated Torque Isuzu Class 3-5	425 SAE lb-ft @ 3,800 rpm

UNIQUE FEATURES



ELIMINATING VAPOR LOCK

- Katech vapor lock inhibitor hardware and software addresses the design limitations of other LPG direct injection applications.

LPG-SPECIFIC FUEL PUMP

- A modified pump design with a specialized liquid flow path through the pump.

NEW INJECTOR DESIGN

- An injector with an optimal spray pattern to address the unique properties of liquid propane under high pressure.
- Unique spray hole characteristics and targeting to tightly deliver propane.
- Optimal air-fuel mixing for very efficient combustion that generates the same power output as gasoline.

