GC1000 Dual Fuel Conversion Kit

DUAL-FUEL BENEFITS

- 70% gaseous to 30% diesel
- Reduced maintenance costs using cleaner fuels that leave less carbon build-up.
- Same diesel efficiency, stability and load acceptance
- Supports many gaseous fuels including PNG, LNG, and well-head gas.
- First step to net zero emission: reduced particulate and nitrogen oxide (NOx) emissions.

GAC SOLUTION BENEFITS

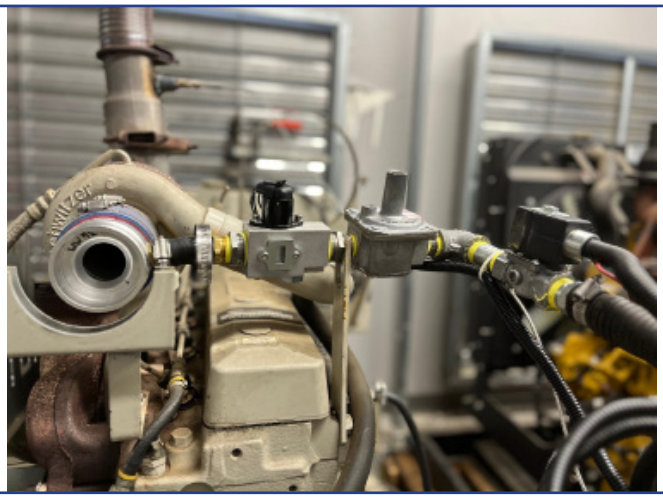
- Low capital cost, Quick ROI
- Non-intrusive - no change to the engine
- Supports all engine sizes
- Easy setup, Easy to use
- Safety first operation
- Flexible fuel
- Switch seamlessly between modes

ABOUT DUAL FUEL

A dual fuel system allows for the simultaneous combustion of 2 fuels. Using an existing diesel system, gaseous fuel is introduced. An electronic governor automatically reduces diesel fuel quantity while the gaseous fuel is introduced to maintain the desired power level.

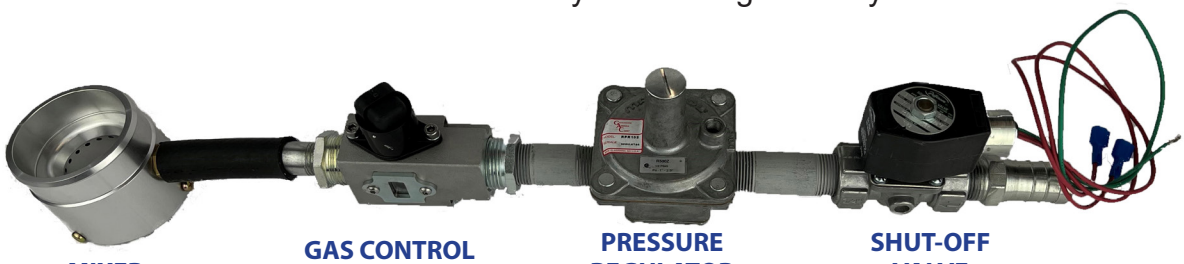
A dual-fuel engine can operate on 100 percent diesel fuel or a mixture of diesel and gas fuel, with an optimal mixture of 30% diesel and 70% gaseous fuel, delivering the same power, torque, and transient response as the single fuel diesel engine.

GAC's unique solution controls only the gaseous side of the engine, leaving the existing governing system untouched, saving time and money in retrofit updates.



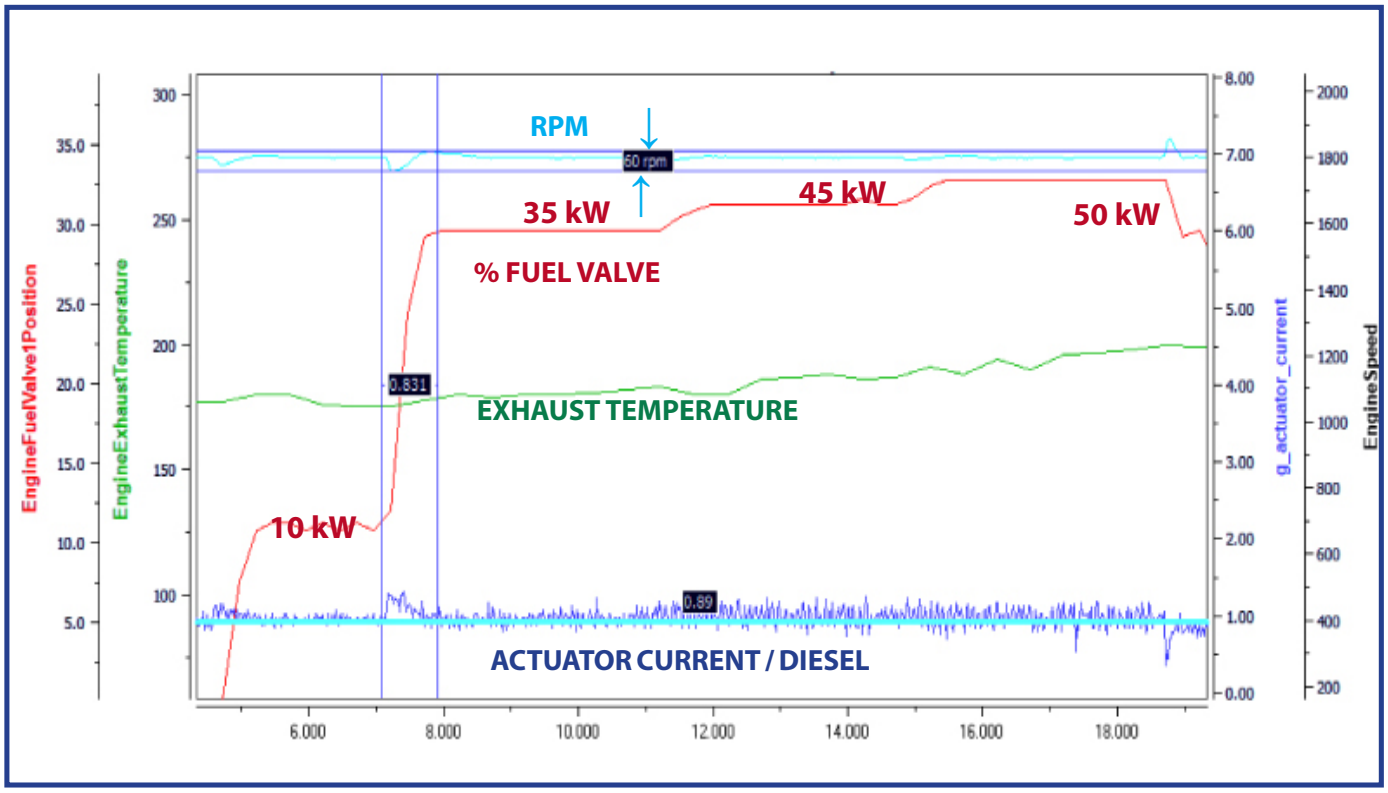
GAC's dual-fuel conversion controls the flow of gaseous fuel and does not affect the diesel fuel system. As load increases, a load signal is used to determine the required increase in power. The gaseous fuel enters the inlet air stream through a shutoff solenoid, gas pressure regulator, mixer, and fuel control valve.

This solution requires no modifications to the core engine or to the factory fuel management system.



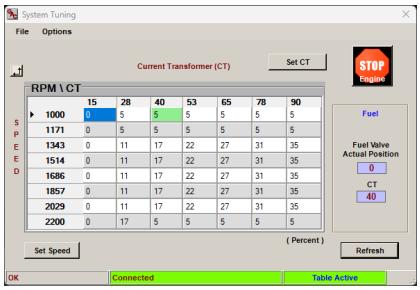
INCREASED LOAD INTRODUCES GASEOUS FUEL

As load increases, the alternator current increases, signaling the stepper motor to increase gas flow into the system. The load changes, shown in this graph, occur as the initial 10 kW load, then at 35, 45, and 50 Kw as requested. The system is shut down to zero load and the gas level drops off; the engine continues to run at no load on diesel fuel only.



ABOUT THE SOLUTION

GACs electronic controller, GC1000, continuously monitors critical engine parameters and seamlessly transitions from dual-fuel to diesel-only as speed and load changes require.



The gas supply is metered using a stepper motor, limiting the initial flow and using an incremental load table to control the amount of gas required. Speed and exhaust temperature are monitored and have adjustable thresholds to limit maximum speed and temperature.

SOLUTIONS THAT OUTLIVE THE LIFE OF THE ENGINE

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