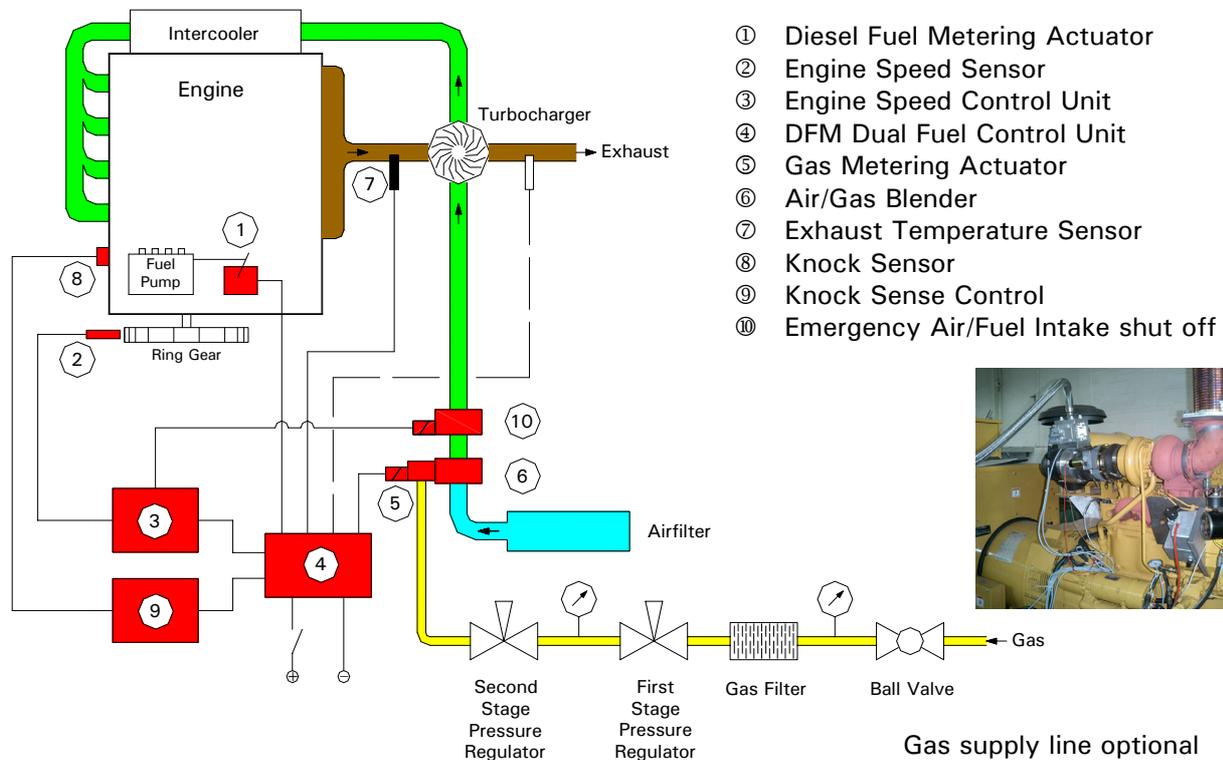


HT – Dual Fuel Control Systems



Target

The target is to **safely operate** the engine at a diesel fuel/gas ratio of 30/70, or even better, and maintain the **same power output**, and the same **fast response time** as with 100% diesel fuel.

Operating Principle

The DFM Dual Fuel Control ④ sets the amount of injected diesel fuel via the actuator with position sensor ①. The actuator is linked to the fuel pump. Via another actuator ⑤ the DFM control also regulates the amount of gas into the air/gas blender ⑥. The air/gas mixture then passes through the turbo charger, through the intercooler into the engine. The requested engine speed is controlled by the governor control ③, which measures the engine speed at the engine ring gear via speed sensor ②. Isochronous or droop mode is possible.

Dynamic Performance

The DFM has dynamic characteristics, i.e. during load steps it momentarily increases the amount of injected diesel fuel for shortest possible transients.

Protection and Safety

The system protects the engine against harmful situations.

The exhaust temperature is monitored via sensor ⑦. If the temperature should exceed the set (safe) Limit, the DFM control reduces the gas portion, and increases the diesel fuel portion.

The System also avoids harmful knocking. (Detonation)

One, or several knock sensors ⑧ signal any knocking tendency to the knock control ⑨, which then signals the DFM control ④ to change the gas/diesel fuel ratio to eliminate any knocking. In case of an emergency (over speed, etc.), a solenoid operated air/fuel intake flap shuts the intake instantly off.

