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Step Forward to Green DDF Mobility with PTT-DIESEL-CNG

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Abstracts

Natural gas is another alternative fuel which can be implemented for future transportation sector. Its advantages are its attractive price and its low soot and CO₂ emissions. It has been successfully utilized for a spark ignited engine using gas engine and bi-fuel technology. Unfortunately, to implement natural gas for a compression ignition engine, the poor characteristics of Diesel Dual Fuel (DDF) technology, the only existing technology, is the barrier.

To improve the DDF technology to reach the green mobility target, PTT Public Company limited (PTT) has successfully developed the PTT-DIESEL-CNG, the new DDF conversion kit technology for the diesel common rail light duty engine. The key of PTT-DIESEL-CNG is the Dual-Fuel-Premixed-Charge-Compression-Ignition (DF-PCCI) combustion technology which developed and patented by PTT. With PTT-DIESEL-CNG, the natural gas replacement is increased by ~50%, emissions are reduced by ~30% and engine efficiency is increased by ~30%, as compared to conventional technology. Moreover, the drivability, safety and durability are proved by standard test that their equivalent to the conventional diesel common rail vehicle.

To commercialize the PTT-DIESEL-CNG, it has been exclusive licensed to Sammitr Green Power (SGP) Company limited for six years. The recent product from SGP is "ERAWAN" Diesel-CNG pickup truck.

Biography



Education :

- D. Eng. (Mechanical Engineering), King Mongkut's University of Technology Thonburi

Research Interest :

- Piston and Piston Ring Dynamics, Internal Combustion Engine: Combustion and Control Algorithms

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