

# Design and Modify Automatic Fuel (LPG + Petrol) Shifting System in Bike

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**Abstract:** Dual-fuel systems are being investigated, especially for motorbikes, as a result of the rising need for environmentally friendly and efficient transportation. The design and development of an automatic fuel-shifting system for a dual-fuel (LPG + Petrol) bike is the main goal of this project. By smoothly transitioning between gasoline and LPG depending on engine conditions and fuel availability, the system seeks to maximize fuel consumption, lower emissions, and improve user convenience. To track engine performance and environmental factors in real time, the suggested system incorporates a number of sensors, such as those for engine load, temperature, speed, RPM, and fuel level. These inputs are processed by an Electronic Control Unit (ECU), which regulates solenoid valves to control the flow of LPG and gasoline. In order to guarantee enough combustion during cold weather, the system is made to start the engine with gasoline.

**Keywords:** Dual Fuel System, LPG – Petrol Hybrid, Automatic Fuel Shifting, Emission Reduction, Fuel Efficiency Optimization, Sustainable Mobility, Global Warming

