

Hybrid multi-stage fuel injection system includes fuel tank, coarse and fine fuel filters, high-pressure fuel pump, fuel booster pump, solenoid bypass valves designed to shut off pilot fuel injection dose upon a signal from electronic control unit depending on diesel engine's operating mode. It includes fuel pipe line tee connecting high-pressure lines and main injection sections, hydromechanical injector, and fuel pipe lines, wherein system includes high-pressure fuel pump and high-pressure fuel rail with fuel pressure sensor and pressure-reducing valve, designed to pump in pilot fuel doses upon signal from electronic control unit.