

Title (en)

Fuel pressure control device and method for high pressure fuel injection system

Title (de)

Kraftstoffdrucksteuervorrichtung und Verfahren für ein Hochdruckkraftstoffeinspritzsystem

Title (fr)

Méthode et dispositif de commande de pression de carburant pour système d'injection de carburant à haute pression

Publication

EP 1030047 A2 20000823 (EN)

Application

EP 00100737 A 20000114

Priority

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- JP 3547099 A 19990215

Abstract (en)

A fuel pressure control device and method for a high pressure fuel injection system serve to ensure good control and response characteristics irrespective of a transition state or a stationary state. Injectors (12) injecting a fuel into combustion chambers of cylinders (#1 to #4) of an engine (10) are connected to a common rail (20) and supplied with a high pressure fuel from the common rail (20). A fuel pump (30) pressurizes fuel in a fuel tank (14) to high pressure and force-feeds to the common rail (20). An ECU (60) sets closing timings of regulation valves (70a, 70b) of a fuel pump (30) based on predetermined control gains, thereby changing fuel force feed quantity and controlling fuel pressure within the common rail (20) to coincide with target fuel pressure. The ECU (60) variably sets the control gains based on the bulk modulus of the fuel calculated based on the pressure and temperature of the fuel within the common rail (20). <IMAGE>

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CPC (source: EP)

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Citation (applicant)

JP H05106495 A 19930427 - NIPPON DENSO CO

Cited by

EP1136686A3; US7556023B2; EP1371836A3; EP1900930A1; DE102005058966B3; CN102374055A; DE102006035826B4; DE102007000175B4; EP1304471A3; US8516995B2; US7827963B2; EP1281860A2; WO2005111402A1; WO03078817A1; US7243636B2; US7848868B2

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