

Title (en)
Method and determining abnormality in high-pressure fuel injection system

Title (de)
Fehlererkennungverfahren für ein Hochdruck-Kraftstoffeinspritzsystem

Title (fr)
Méthode d'identification d'anomalies dans un système d'injection à haute pression

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Application
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JP 8382499 A 19990326

Abstract (en)
[origin: EP1039117A2] The present invention proposes a method of abnormality determination for a high-pressure fuel injection system, which is capable of enlarging a range where a fuel force-feed timing or a fuel injection timing can be changed, and of determining occurrence of an abnormality with high precision. An electronic control unit (ECU)(60) detects a change in fuel pressure in a common rail (20) (rail pressure change amount), estimates a change in rail pressure based on an injection command value, a force-feed command value and the like, and makes a first abnormality determination based on the detected value and the estimated value. If occurrence of an abnormality is confirmed in the first abnormality determination, the ECU (60) restricts a timing for starting force-feeding of fuel such that only fuel injection is carried out in a second determination period. The ECU (60) then compares a detected value of a change in rail pressure with a value of a change in rail pressure estimated based on the injection command value and the like, and additionally makes a second abnormality determination. <IMAGE>

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Cited by
DE10136706B4; EP1201905A3; CN100357584C; CN109488502A; CN102705089A; CN102812226A; DE102010013602B4; FR3007135A1; DE102006000459B4; CN110753786A; CN111810307A; DE112008001486B4; US9051893B2; US7267106B2; WO2011120848A1; WO2014199086A1; WO2004031561A1; WO2008147319A1; JP2013144937A

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