

Title (en)
A fuel injection system for an internal combustion engine

Title (de)
Kraftstoffeinspritzsystem für eine Brennkraftmaschine

Title (fr)
Système d'injection de combustible pour moteur à combustion interne

Publication
EP 0860600 A3 20000329 (EN)

Application
EP 98102890 A 19980219

Priority
• JP 3797997 A 19970221
• JP 4241197 A 19970226

Abstract (en)
[origin: EP0860600A2] Fuel injection valves (1) of the engine (10) are connected to the common rail (3). The high pressure fuel pump (5) supplies pressurized fuel to the common rail (3). The electronic control unit (ECU) (20) determines whether one or more of the fuel injection valves has failed. When one or more of the fuel injection valves is determined as having failed, the ECU stops the high pressure fuel pump and injects fuel from all of the fuel injection valves including the fuel injection valve determined as being failed. Since the fuel remained in the common rail is expelled from the common rail through, not only the failed fuel injection valve, but also other fuel injection valves, the common rail is depressurized in a short time and, thereby, the abnormal fuel injection from the failed fuel injection valve stops in a short time. <IMAGE>

IPC 1-7
F02D 41/38; **F02D 41/20**

IPC 8 full level
F02D 41/22 (2006.01); **F02D 41/38** (2006.01)

CPC (source: EP)
F02D 41/221 (2013.01); **F02D 41/3809** (2013.01); **F02D 2041/224** (2013.01); **F02D 2041/225** (2013.01)

Citation (search report)
• [PX] DE 19613184 A1 19971016 - DAIMLER BENZ AG [DE]
• [Y] DE 4440700 A1 19950614 - FUJI HEAVY IND LTD [JP]
• [Y] US 4704997 A 19871110 - ENDO YASUHISA [JP], et al
• [A] EP 0501459 A2 19920902 - NIPPON DENSO CO [JP]
• [A] US 5535621 A 19960716 - GLIDEWELL JOHN M [US], et al
• [A] EP 0748930 A2 19961218 - DAIMLER BENZ AG [DE]
• [A] EP 0651150 A2 19950503 - TOYOTA MOTOR CO LTD [JP], et al
• [E] EP 0860601 A2 19980826 - TOYOTA MOTOR CO LTD [JP]
• [DXA] PATENT ABSTRACTS OF JAPAN vol. 1996, no. 05 31 May 1996 (1996-05-31)

Cited by
KR100730664B1; DE102007028900B4; CN102705121A; EP1350941A1; EP1039117A3; CN100425816C; US7556023B2; EP1036923A3; EP0969195A3; EP1128049A3; GB2486417A; CN113250838A; FR2803875A1; DE112008001486B4; DE102004009026B4; FR3007135A1; CN114233501A; EP0860601A3; EP1122418A3; US8333109B2; US8897996B2; US6823844B2; WO2009000647A3; WO2014199086A1; WO0186139A1; US7225075B2; US10704490B2; US6474292B1; US9874189B2; WO2018065223A1; WO2008147319A1; WO0052319A1; WO2015005844A1; WO2004070195A1; WO2018013032A1; KR101877946B1

Designated contracting state (EPC)
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
EP 0860600 A2 19980826; **EP 0860600 A3 20000329**; **EP 0860600 B1 20030917**; DE 69818119 D1 20031023; DE 69818119 T2 20040609

DOCDB simple family (application)
EP 98102890 A 19980219; DE 69818119 T 19980219