

Title (en)

Hydraulically-actuated electronically-controlled fuel injector system

Title (de)

Hydraulisch-betätigtes elektronisch-gesteuertes Kraftstoffeinspritzsystem

Title (fr)

Système d'injection de combustible actionné hydrauliquement commandé électroniquement

Publication

**EP 0723077 A1 19960724 (EN)**

Application

**EP 95308861 A 19951206**

Priority

US 37371995 A 19950117

Abstract (en)

A hydraulically-actuated electronically-controlled fuel system (10,130,310,410) includes an electronic control module (12,132,312,412) and an actuator portion (22,142,320,420) in fluid communication with a source of high pressure actuating fluid (18,138,313,414). The actuator portion (22,142,320,420) has a solenoid (50,172,172,456) electrically connected with the electronic control module responsive to electrical signals therefrom as well as a poppet valve (58,184,184,458) operably displaced by the solenoid between a first position and a second position. The fuel system (10,130,310,410) also includes an intensification portion (22,146,324,422) having a cylinder (77,210,210,210) with a piston (78,212,212,212) slidably disposed therein which defines in part a pressurization chamber (74,206,206,206) in fluid communication with the actuator portion (22,142,320,420). The pressurization chamber (74,206,206,206) is pressurized by high pressure actuating fluid when the poppet valve (58,184,184,458) is in the second position. The intensification portion (22,146,324,422) also has a plunger (82,216,216,216) defining in part a fuel pressurization chamber (86,220,220,220) which is at least operably engaged by the piston. The fuel system (10,130,310,410) also includes a nozzle portion (24,146,324,422) disposed in the engine head which has a nozzle tip (120,246,246,246) with a valve check (112,248,248,248) slidably disposed therein. The nozzle tip (120,246,246,246) and valve check (112,248,248,248) cooperatively define an annual discharge chamber (118,254,254,254) in fluid communication with the fuel pressurization chamber. The fuel system (10,130,310,410) is configured so that at least one of the actuator portion (22,142,320,420) and the intensification portion (22,146,324,422) are axially offset from the nozzle portion (24,146,324,422). <IMAGE>

IPC 1-7

**F02M 59/32**; **F02M 59/36**

IPC 8 full level

**F02M 47/00** (2006.01); **F02M 57/02** (2006.01); **F02M 59/10** (2006.01); **F02M 59/46** (2006.01)

CPC (source: EP)

**F02M 57/025** (2013.01); **F02M 59/105** (2013.01); **F02M 59/466** (2013.01)

Citation (applicant)

US 5191867 A 19930309 - GLASSEY STEPHEN F [US]

Citation (search report)

- [XA] EP 0631045 A1 19941228 - PERKINS LTD [GB]
- [A] EP 0003179 A2 19790725 - COMBUSTION RES & TECH [US]
- [A] GB 2091352 A 19820728 - CUMMINS ENGINE CO INC
- [A] US 2598528 A 19520527 - FRENCH LOUIS O
- [A] DE 4118237 A1 19911212 - AVL VERBRENNUNGSKRAFT MESSTECH [AT]

Cited by

CN102422020A; GB2357123A; GB2357123B; US6364631B1; WO2010130502A1; WO0014401A1

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

**EP 0723077 A1 19960724**; JP H08232798 A 19960910

DOCDB simple family (application)

**EP 95308861 A 19951206**; JP 467296 A 19960116