

Title (en)

Fuel injector with electronically operated control.

Title (de)

Einspritzventil mit elektronischer Regelung.

Title (fr)

Injecteur de combustible avec contrÔle électronique.

Publication

EP 0014142 A1 19800806 (EN)

Application

EP 80400086 A 19800121

Priority

- US 694879 A 19790125
- US 694979 A 19790125

Abstract (en)

A fuel injector (10) is provided for each cylinder of an internal combustion engine, the injector including an electronically operated control valve (146) disposed between supply passage (42) and a timing chamber (98) to control the admission of fuel into and out of the timing chamber. A primary pumping plunger (62) and a secondary plunger (90) are axially spaced within the central bore of the injection body, and a normally closed injection nozzle (14) is situated at one end of the injector body. A mechanical linkage (30) associated with the cam-shaft of the engine drives the primary pumping plunger (62) against the bias of a main spring (18). The timing chamber (98) is defined between the plungers (62, 90) and a metering chamber (128) is defined between the secondary plunger (90) and the nozzle (14). An electronic control unit responds to engine operating conditions, and delivers a timing and metering signal to the control valve (146) to close the valve and seal the timing chamber for a controlled period of time.

IPC 1-7

F02M 59/36; **F02M 59/20**

IPC 8 full level

F02M 51/00 (2006.01); **F02M 57/02** (2006.01); **F02M 59/30** (2006.01); **F02M 59/32** (2006.01); **F02M 59/36** (2006.01); **F02B 3/06** (2006.01)

CPC (source: EP)

F02M 57/024 (2013.01); **F02M 59/30** (2013.01); **F02M 59/32** (2013.01); **F02M 59/366** (2013.01); **F02B 3/06** (2013.01)

Citation (search report)

- US 4134549 A 19790116 - PERR JULIUS P
- US 4129253 A 19781212 - BADER JR ERNEST, et al
- [P] DE 2854921 A1 19790705 - LECKIE WILLIAM H
- [A] DE 459676 C 19280510 - FRIED KRUPP GERMANIAWERFT AG
- [A] DE 231352 C
- [A] DE 2131841 B2 19730614
- [A] AT 195685 B 19580225 - SCHNEIDER WILHELM
- [A] US 2843043 A 19580715 - WILHELM SCHNEIDER

Cited by

EP0091862A1; FR2500566A1; EP0055654A1; EP0629776A1; EP0260720A3; EP0067369A3; GB2252135A; GB2252135B; EP0070222A1; EP0095026A1; EP0068924A3; CN103850846A

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DOCDB simple family (application)

EP 80400086 A 19800121; AU 5401479 A 19791219; BR 8000300 A 19800117; DE 3064859 T 19800121; ES 487024 A 19791218; SU 2868607 A 19800117; UA 2868607 A 19800117