

Title (en)

Fuel-delivery and variable-volume retraction valve assembly for fuel-injection system.

Title (de)

Kraftstoffdruckventil mit verstellbarem Entlastungsvolumen für eine Einspritzanlage.

Title (fr)

Soupape de refoulement de combustible à volume décharge variable pour système d'injection.

Publication

EP 0413430 A1 19910220 (EN)

Application

EP 90307401 A 19900706

Priority

US 39318389 A 19890814

Abstract (en)

A fuel-delivery valve assembly (70) with a variable-volume, fuel-retraction collar (96) is operatively mounted in a bore (72) of an engine-driven high-pressure fuel pump rotor (62) fed with fuel through a metering valve (46). The valve assembly operates at speeds proportional to engine speed between an open position, in which a pressure wave of fuel generated by the fuel pump (66) is transmitted to a fuel injector nozzle (22), and a closed position, in which a valve charging chamber (90) is sealed by the retraction collar (96) which has a pair of flats (116,118) ground therein. During low-speed engine operations, the flats (116,118) provide bleed paths to reduce the volume of fuel retracted so that engine shut-down will be immediate when the metering valve (46) is closed. During high-speed operation, valve element operating frequency increases to such a rate that the flats (116,118) are ineffective as bleeds and the volume of fuel retracted is increased. With increased retraction of fuel, secondary fuel injection is eliminated.

IPC 1-7

F02M 59/46

IPC 8 full level

F02M 41/14 (2006.01); **F02M 59/46** (2006.01)

CPC (source: EP)

F02M 41/1405 (2013.01); **F02M 59/462** (2013.01)

Citation (search report)

- [X] GB 2026601 A 19800206 - STANADYNE INC
- [A] GB 2053372 A 19810204 - LUCAS INDUSTRIES LTD

Cited by

DE112016005545B4

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

EP 0413430 A1 19910220; JP H0388959 A 19910415

DOCDB simple family (application)

EP 90307401 A 19900706; JP 21568090 A 19900814