

Title (en)
Electromagnetic valve actuator

Title (de)
Elektromagnetischer Ventil-Aktuator

Title (fr)
Actionneur électromagnétique de soupape

Publication
EP 0992658 A1 20000412 (FR)

Application
EP 99400877 A 19990409

Priority

- FR 9812489 A 19981006
- FR 9812940 A 19981015

Abstract (en)

The motor vehicle internal combustion engine valve (25) stem slides in a sleeve in the cylinder head (12). An end flange (31) retains a spring (28b) against the base of a cylindrical cavity in the head. A stem extension (24) ends in a similar flange (30), also spring-loaded (28a). This upper spring is seated on the core (16), fixed to the head and projecting into the cavity. The extension ends in a laminated armature (22) contained in a core cavity. The valve (25) has an integral stem sliding in a sleeve in the cylinder head (12). An end flange (31) retains a spring (28b) against the base of a cylindrical cavity in the head. A stem extension (24), aligned with and abutting the stem, ends in a similar flange (30), also spring-loaded (28a). This upper spring is seated on part of the magnet core (16), fixed to the head and projecting into the cavity. The extension, sliding in a sleeve (26) in the core, ends in a laminated armature (22) contained in a core cavity. The springs and valve are so dimensioned that, with the magnet deenergised, the valve's position is intermediate between fully open and fully closed. The core's removable top (14) encloses the exciting coil (38), which in turn is penetrated by a limb of the iron circuit. The magnet coil is energised, via an amplifier, from a controller - opt., integral with the engine management unit - receiving input from a position sensor mounted on the valve. The alternative displacements of the armature in the air-gaps provided within the core establish alternative stable flux paths associated with open and closed valve positions.

Abstract (fr)

L'actionneur électromagnétique a une palette (22) en matériau ferromagnétique fixée à la queue de soupape, des ressorts prévus pour maintenir au repos la soupape dans une position médiane entre des positions d'ouverture complète et de fermeture et une bobine unique (38) montée sur un circuit ferromagnétique. Ce circuit présente, en combinaison avec la palette, deux cheminements stables de flux magnétiques correspondant l'un et l'autre à une valeur faible d'entrefer. <IMAGE>

IPC 1-7
F01L 9/04

IPC 8 full level
F01L 9/20 (2021.01); **F02D 13/02** (2006.01); **F16K 31/06** (2006.01); **H01F 7/16** (2006.01)

CPC (source: EP US)
F01L 9/20 (2021.01 - EP US)

Citation (search report)

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- [A] PATENT ABSTRACTS OF JAPAN vol. 098, no. 012 31 October 1998 (1998-10-31)

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