

Title (en)
Anti-bounce mechanism for fuel injectors

Title (de)
Prallschutzmechanismus für Kraftstoffverteiler

Title (fr)
Mécanisme anti-retour pour injecteurs de carburant

Publication
EP 2336544 A1 20110622 (EN)

Application
EP 09179022 A 20091214

Priority
EP 09179022 A 20091214

Abstract (en)
A solenoid actuated valve assembly (130) includes a pintle (132) having a valve (136) that seals against a valve seat (118), an armature (134) slidably positioned on the pintle (132), a first (138) and a second (140) armature stopper that allow and limit axial movement of the armature (134) relative to the pintle (132), a primary spring (160) providing a biasing down force to the pintle (132) and to the armature (134), and a secondary spring (162) providing a smaller biasing down force to the armature (134) only. The anti-bounce mechanism for solenoid actuated fuel injectors reduces valve bounce and the impact load between the valve seat (118) and the valve (136) while at the same time enabling the reduction of the pintle (132) opening time. The anti-bounce mechanism utilizes the separation of the moving masses of the armature (134) and the pintle (132), a biased armature, as well as hydraulic damping and suction mechanisms in combination.

IPC 8 full level
F02M 51/06 (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP)
F02M 51/061 (2013.01); **F02M 51/0685** (2013.01); **F02M 2200/304** (2013.01); **F02M 2200/306** (2013.01)

Citation (search report)
• [X] DE 10256661 A1 20040617 - BOSCH GMBH ROBERT [DE]
• [X] WO 02068811 A1 20020906 - BOSCH GMBH ROBERT [DE], et al
• [X] DE 19816315 A1 19991014 - BOSCH GMBH ROBERT [DE]

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