

Title (en)

Injection valve with two adjusting tubes and method for adjusting a pretension of a spring on a closing member of an injection valve

Title (de)

Brennstoffeinspritzventil mit zwei Einstellhülse und Verfahren zur Einstellung der Vorspannung einer Belastungsfeder eines federbelasteten Einspritzventils

Title (fr)

Soupape d'injection de carburant munie de deux manchons de réglage et procédé pour régler la prétension du ressort d'une soupape d'injection à ressort

Publication

EP 1467086 A1 20041013 (EN)

Application

EP 03008178 A 20030408

Priority

EP 03008178 A 20030408

Abstract (en)

The invention describes an injection valve and a process for adjusting a preload of a spring that biases a valve member of the injection valve against the valve seat. The injection valve comprises two adjusting tubes (2,3) that are arranged behind each other and the second tube (3) is adjacent to the spring (11). The spring (11) biases an armature (5) with a needle (6) against a valve seat. In a first calibration step, the first adjusting tube (2) is fixed to an inlet tube (1) determining the preload of the spring (11). Then the function of the injection valve is checked and if necessary, the tension of the spring (11) is increased by the second adjusting tube (3) that is moved towards the spring (11) and fixed to the inlet tube (1) in a respective position. The advantage of the invention is that after a first determination of the tension of the spring, it is possible to increase the tension of the spring with a second adjusting tube. <IMAGE>

IPC 1-7

F02M 61/16; **F02M 65/00**; **F02M 51/06**

IPC 8 full level

F02M 51/06 (2006.01); **F02M 61/16** (2006.01); **F02M 61/20** (2006.01); **F02M 65/00** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP)

F02M 51/0642 (2013.01); **F02M 61/168** (2013.01); **F02M 61/205** (2013.01); **F02M 65/00** (2013.01); **F02M 2200/505** (2013.01)

Citation (applicant)

US 5967419 A 19991019 - YAMAGUCHI TAKAO [JP], et al

Citation (search report)

- [XA] US 5937887 A 19990817 - BAXTER RANDY C [US], et al
- [X] FR 2276472 A1 19760123 - LUCAS ELECTRICAL CO LTD [GB]
- [A] US 6260404 B1 20010717 - AOTA MASAYUKI [JP], et al
- [A] US 2002030125 A1 20020314 - D ARRIGO ANGELO [US]

Cited by

EP1918574A1; EP2607680A1; EP2826986A1; CN104093947A; US2014338630A1; US9982583B2; CN104968910A; JP2016507028A; RU2659847C2; US7552880B2; WO2009135710A1; WO2013113881A1; WO2011110387A1; WO2006017626A3; US8757198B2; DE102010012651B4; US9739189B2; WO2014121966A1

Designated contracting state (EPC)

DE FR IT

DOCDB simple family (publication)

EP 1467086 A1 20041013; **EP 1467086 B1 20060621**; DE 60306333 D1 20060803; DE 60306333 T2 20070531

DOCDB simple family (application)

EP 03008178 A 20030408; DE 60306333 T 20030408