

Title (en)

Method for manufacturing an open/close element for servo valves of a fuel injector

Title (de)

Verfahren zur Herstellung eines Öffnen/Shliessen-Elements für Servoventile in Kraftstoffeinspritzdüsen

Title (fr)

Procédé pour la fabrication d'un élément d'ouverture/fermeture pour servovalves d'un injecteur de carburant

Publication

**EP 2218901 A1 20100818 (EN)**

Application

**EP 09425057 A 20090216**

Priority

EP 09425057 A 20090216

Abstract (en)

The manufacturing method regards an open/close element for servo valves of a fuel injector, wherein the open/close element (47) is made in a single piece with a bushing (41), which is designed to move for a certain axial travel along a fixed stem (38) for opening/closing the servo valve (5). The bushing (41) is axially movable for a travel greater than the travel of the open/close element (47) under the control of an anchor (17) actuated by an electric actuator (15). The method comprises a step of providing the bushing (41) with a guide portion (61) designed to engage the guide hole (59) for a relative displacement of the anchor (17) with respect to the bushing (41) between two stop elements (62, 65), and a step of providing an intermediate body (12a) for supporting a spring (23) acting on the bushing (41), which comprises a flange (24) provided with at least one radial notch (71). Then, the bushing (41) is arranged so as to bring the flange (24) into contact with an end edge (66) of the bushing (41), and finally the flange (24) is welded on said edge (66) in a position corresponding to the notch (71) so that a weld is made in view between the bushing (41) and the intermediate body (12a).

IPC 8 full level

**F02M 61/16** (2006.01); **F02M 63/00** (2006.01)

CPC (source: EP)

**F02M 61/168** (2013.01); **F02M 63/0015** (2013.01); **F02M 63/0021** (2013.01); **F02M 63/007** (2013.01); **F02M 63/0071** (2013.01); **F02M 63/0075** (2013.01); **F02M 63/008** (2013.01); **F02M 47/027** (2013.01); **F02M 51/066** (2013.01); **F02M 2200/8084** (2013.01); **F02M 2200/8092** (2013.01)

Citation (search report)

- [A] DE 102006021741 A1 20071115 - BOSCH GMBH ROBERT [DE]
- [A] US 2009032621 A1 20090205 - RICCO MARIO [IT], et al
- [A] EP 1707798 A1 20061004 - FIAT RICERCHE [IT]
- [A] US 5299776 A 19940405 - BRINN JR BENJAMIN F [US], et al
- [A] US 2004026645 A1 20040212 - HANNEKE JUERGEN [DE], et al

Cited by

US9359985B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

**EP 2218901 A1 20100818**; **EP 2218901 B1 20110629**; AT E514857 T1 20110715

DOCDB simple family (application)

**EP 09425057 A 20090216**; AT 09425057 T 20090216