

Title (en)  
FUEL INJECTION SYSTEM FOR AN INTERNAL COMBUSTION ENGINE

Title (de)  
KRAFTSTOFFEINSPRITZANLAGE FÜR EINE BRENNKRAFTMASCHINE

Title (fr)  
INSTALLATION D'INJECTION DE CARBURANT POUR UN MOTEUR À COMBUSTION INTERNE

Publication  
**EP 3276155 B1 20190605 (DE)**

Application  
**EP 17001172 A 20170710**

Priority  
DE 102016009079 A 20160727

Abstract (en)  
[origin: US2018030942A1] A fuel injection system designed for an internal combustion engine includes at least one fuel injection nozzle which, by way of a cylindrical shell body, is inserted at least in regions into a bore of a cylinder head and which, by way of a nozzle tip, feeds fuel to a combustion chamber between the cylinder head and a reciprocating piston. The fuel injection nozzle is held in position on a housing section of the internal combustion engine with the interposition of a holding device and, for example, a fastening bolt. The holding device braces a first end region of the fuel injection nozzle against a bore stop within the bore in the cylinder head. To optimize this fuel injection system, the holding device has, outside the bore, a fixing bushing to which the shell body is fixed axially and radially by way of a radial insert element. A spring system acts between a first radial stop of the fuel injection nozzle and a second radial stop of the fixing bushing as viewed in the axial direction of the shell body of the fuel injection nozzle. The spring system seeks to move the fixing bushing, by way of a third radial stop, against a locking element system of the insert element, which is supported on a fourth radial stop applied to the shell body.

IPC 8 full level  
**B05B 1/30** (2006.01); **F02B 3/12** (2006.01); **F02F 1/24** (2006.01); **F02M 39/00** (2006.01); **F02M 55/02** (2006.01); **F02M 61/14** (2006.01)

CPC (source: EP US)  
**F02B 3/12** (2013.01 - US); **F02M 55/02** (2013.01 - US); **F02M 61/14** (2013.01 - EP US); **F02M 61/145** (2013.01 - US); **B05B 1/3066** (2013.01 - US); **F02F 2001/246** (2013.01 - US); **F02M 2200/855** (2013.01 - EP US)

Designated contracting state (EPC)  
AL 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 RS SE SI SK SM TR

DOCDB simple family (publication)  
**EP 3276155 A1 20180131**; **EP 3276155 B1 20190605**; DE 102016009079 A1 20180201; ES 2735432 T3 20191218; JP 2018021553 A 20180208; US 10316809 B2 20190611; US 2018030942 A1 20180201

DOCDB simple family (application)  
**EP 17001172 A 20170710**; DE 102016009079 A 20160727; ES 17001172 T 20170710; JP 2017145490 A 20170727; US 201715657602 A 20170724