Title (en)

METHOD FOR OPERATING A FUEL INJECTOR

Title (de)

VERFAHREN ZUM BETREIBEN EINES KRAFTSTOFFINJEKTORS

Title (fr)

PROCÉDÉ DE FONCTIONNEMENT D'UN INJECTEUR DE CARBURANT

Publication

**EP 3230572 A1 20171018 (DE)**

Application

**EP 15793815 A 20151111**

Priority

- DE 102014225530 A 20141211
- EP 2015076332 W 20151111

Abstract (en)

[origin: WO2016091520A1] Disclosed is a method for operating a fuel injector comprising at least one injection port controlled by an injector needle, wherein pressure variations when the injector needle is opened and/or closed are determined using a sensor. Said method is characterized in that in order to determine the opening/closing time of the injector needle, a variable characterizing the speed of sound is measured by opening and/or closing a shock wave, and the wave propagation time by which the opening/closing time of the needle or valve is corrected is deduced therefrom.

IPC 8 full level

**F02D 41/38** (2006.01); **F02D 41/20** (2006.01); **F02D 41/40** (2006.01)

CPC (source: CN EP US)

**F02D 41/3809** (2013.01 - CN EP US); **F02D 41/40** (2013.01 - US); **F02D 41/401** (2013.01 - CN EP US); F02D 2041/2055 (2013.01 - CN EP US); F02D 2200/025 (2013.01 - CN EP US); F02D 2200/0602 (2013.01 - CN EP US); F02D 2200/063 (2013.01 - US); F02D 2250/04 (2013.01 - US); Y02T 10/40 (2013.01 - EP US)

Citation (search report)

See references of WO 2016091520A1

Citation (examination)

US 2008228374 A1 20080918 - ISHIZUKA KOUJI [JP], et al

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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**WO 2016091520 A1 20160616**; CN 107002586 A 20170801; CN 107002586 B 20200519; DE 102014225530 A1 20160616; EP 3230572 A1 20171018; US 10054077 B2 20180821; US 2017321621 A1 20171109

DOCDB simple family (application)

**EP 2015076332 W 20151111**; CN 201580067439 A 20151111; DE 102014225530 A 20141211; EP 15793815 A 20151111; US 201515525109 A 20151111