

Title (en)

METHOD TO DETERMINE THE NEEDLE OPENING DELAY OF A FUEL INJECTOR

Title (de)

VERFAHREN ZUR BESTIMMUNG DER NADELÖFFNUNGSVERZÖGERUNG EINES KRAFTSTOFFINJEKTORS

Title (fr)

PROCÉDÉ DE DÉTERMINATION DE RETARD D'OUVERTURE D'AIGUILLE D'INJECTEUR DE COMBUSTIBLE

Publication

EP 3698035 A1 20200826 (EN)

Application

EP 18785925 A 20181009

Priority

- GB 201717099 A 20171018
- EP 2018077524 W 20181009

Abstract (en)

[origin: WO2019076691A1] A method of determining the opening delay of a solenoid actuated fuel injector (ODinix), said fuel injector including a solenoid actuated valve adapted to actuate a needle valve, said needle valve comprising a needle adapted to move from an closed state to an open state and to a closed state during an operational cycle of said injector, comprising the following steps: a) providing series of test injection cycles with varying solenoid actuator drive pulse durations information (Ton); b) determining for each cycle, the closing time of the solenoid actuated valve (VCT); c) determining for each cycle, the needle closing time (NCT); d) determining for each cycle, the needle falling start time (NFST) e) determining a for each cycle a Control Chamber filling Time (CCFT) value from the values determined from step d) and step b); f) determining for each cycle, a needle closing delay NCD from the values at steps b) and c); g) providing a test plot by plotting the value of needle closing duration NCD against from the sum of the values of Ton, VCD, and CCFT; h) determining a threshold value of CCFT, i) from the determined plot, determining the value of said sum at the intersect of said plot at a level of NCD of the CCFT threshold; j) determining the opening delay (ODinix) from the determined sum value.

IPC 8 full level

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CPC (source: EP GB)

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Citation (search report)

See references of WO 2019076691A1

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