

Title (en)

Method to operate an internal combustion engine with direct injection

Title (de)

Verfahren zum Betreiben einer direkteinspritzenden Brennkraftmaschine

Title (fr)

Méthode pour contrôler un moteur à combustion interne à injection directe

Publication

EP 1391601 A3 20040428 (DE)

Application

EP 03014481 A 20030702

Priority

DE 10237949 A 20020820

Abstract (en)

[origin: EP1391601A2] In a process to operate a direct fuel-injected engine with exhaust gases discharging to a NOx storage catalytic converter, the motor is operated with a homogenous stoichiometric air/fuel ratio as a stratified charge engine, or in a homogenous lean-burn mode. In the process, a determination is made of the maximum permissible NOx raw mass and the maximum permissible exhaust gas mass flow determined at a momentary time point in relation to the NOx storage catalytic converter temperature. These measured values are compared with the predicted NOx raw mass flow and predicted exhaust gas flow for various lean-burn operating conditions. Based on this comparison a determination is made of whether the motor is operating under lean burn conditions or homogenous stoichiometric conditions.

IPC 1-7

F02D 41/30; **F02D 41/02**

IPC 8 full level

F02D 41/02 (2006.01); **F02D 41/30** (2006.01); **F02D 41/06** (2006.01); **F02D 41/14** (2006.01)

CPC (source: EP)

F02D 41/0235 (2013.01); **F02D 41/0275** (2013.01); **F02D 41/1462** (2013.01); **F02D 41/1465** (2013.01); **F02D 41/3076** (2013.01); **F02D 41/028** (2013.01); **F02D 41/064** (2013.01); **F02D 41/1475** (2013.01); **F02D 41/3029** (2013.01); **F02D 2200/0804** (2013.01); **F02D 2250/36** (2013.01)

Citation (search report)

- [X] EP 1201900 A2 20020502 - BAYERISCHE MOTOREN WERKE AG [DE]
- [X] DE 19851564 A1 20000511 - SIEMENS AG [DE]
- [A] DE 19823512 A1 19991202 - SIEMENS AG [DE]

Cited by

US8103429B2; WO2008079548A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)

EP 1391601 A2 20040225; **EP 1391601 A3 20040428**; DE 10237949 A1 20040304; DE 10237949 B4 20131107

DOCDB simple family (application)

EP 03014481 A 20030702; DE 10237949 A 20020820