

Title (en)

Internal combustion engine control methods and control devices therefor

Title (de)

Verbrennungsmotorsteuerverfahren und Steuervorrichtungen dafür

Title (fr)

Procédés de commande d'un moteur à combustion interne et dispositifs de commande à cet effet

Publication

EP 2733320 A1 20140521 (EN)

Application

EP 13187486 A 20131007

Priority

JP 2012253021 A 20121119

Abstract (en)

Embodiments of the present invention may include an internal combustion engine (1) equipped with a blow-by gas circulating means and a control means (40). An intake pipe (31A) is connected to the engine (1), and blow-by gas piping (12) for circulating blow-by gas to the engine (1) is connected to the intake pipe (31A). An internal combustion engine (1) control method includes an environmental condition determination step and a forcible blow-by gas temperature rising step. In the environmental condition determination step, the control means (40) determines whether or not the engine (1) is in an environmental condition in which ice can be generated at a joining portion between the blow-by gas piping (12) and the intake pipe (31A) based at least on a temperature of intake air taken-in through the intake pipe (31A). When it is determined that the engine (1) is in an environmental condition in which ice is generated, the control means (40) changes the operational condition of the engine (1) such that a temperature of the blow-by gas increases in the forcible blow-by gas temperature rising step.

IPC 8 full level

F01M 13/04 (2006.01); **F02D 41/06** (2006.01)

CPC (source: EP)

F01M 13/04 (2013.01); **F02D 41/064** (2013.01); **F01M 2013/0472** (2013.01); **F02D 37/02** (2013.01); **F02D 41/0007** (2013.01); **F02D 41/30** (2013.01); **F02D 2200/0414** (2013.01); **F02D 2250/08** (2013.01)

Citation (applicant)

- JP 2012253021 A 20121220 - OSRAM SYLVANIA INC
- JP 2010285937 A 20101224 - TOYOTA MOTOR CORP
- JP 2009024514 A 20090205 - AISAN IND

Citation (search report)

- [XDI] JP 2009024514 A 20090205 - AISAN IND
- [XDI] JP 2010285937 A 20101224 - TOYOTA MOTOR CORP

Cited by

CN107806380A; FR3068729A1; US10738721B2

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)

EP 2733320 A1 20140521; JP 2014101775 A 20140605; JP 5747897 B2 20150715

DOCDB simple family (application)

EP 13187486 A 20131007; JP 2012253021 A 20121119