

Title (en)

Control diagnostic apparatus for an internal combustion engine

Title (de)

Kontrolldiagnosevorrichtung für einen Verbrennungsmotor

Title (fr)

Appareil de diagnostic de contrôle pour un moteur à combustion interne

Publication

EP 2354502 B1 20191218 (EN)

Application

EP 11151591 A 20110120

Priority

JP 2010011557 A 20100122

Abstract (en)

[origin: EP2354502A1] To prevent the deterioration of exhaust emissions of an internal combustion engine due to air-fuel ratio variation among multiple cylinders, and to identify an abnormal cylinder during an abnormality of cylinder air-fuel ratio variation. An control apparatus 108 of an internal combustion engine comprising upstream air-fuel ratio detection means 101 for detecting upstream air-fuel ratio of the catalyst 107 that purifies exhaust emissions discharged from multiple cylinders, and configured to control air-fuel ratio of the multiple cylinders based on the upstream air-fuel ratio, wherein the air-fuel ratio variation among the multiple cylinders is increased and the upstream air-fuel ratio is controlled to become rich. Further, an abnormality of the air-fuel ratio variation among the multiple cylinders and an abnormal cylinder are identified based on an output of an air-fuel ratio sensor 102 in downstream of the catalyst 107 when the air-fuel ratio variation is increased, or an estimated value of an air-fuel ratio (central air-fuel ratio) at which the purification efficiency of the catalyst 107 becomes optimal.

IPC 8 full level

F02D 41/00 (2006.01); **F02D 41/14** (2006.01)

CPC (source: EP US)

F02D 41/0085 (2013.01 - EP US); **F02D 41/1441** (2013.01 - EP US); **F02D 41/1454** (2013.01 - EP US)

Citation (examination)

EP 2284378 A2 20110216 - HITACHI AUTOMOTIVE SYSTEMS LTD [JP]

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 2354502 A1 20110810; **EP 2354502 B1 20191218**; JP 2011149337 A 20110804; JP 5111529 B2 20130109; US 2011179774 A1 20110728

DOCDB simple family (application)

EP 11151591 A 20110120; JP 2010011557 A 20100122; US 201113010302 A 20110120