

Title (en)

Exhaust gas recirculation system for internal combustion engine and method for detecting an abnormal condition thereof

Title (de)

Abgasrückführungssystem für Brennkraftmaschine und Verfahren zur Erkennung eines anormalen Betriebszustandes dieses Systems

Title (fr)

Système de recirculation de gaz d'échappement pour moteur à combustion et procédé pour détecter une condition anormale de ce système

Publication

EP 0837237 A3 19990428 (EN)

Application

EP 97117882 A 19971015

Priority

JP 27340296 A 19961016

Abstract (en)

[origin: EP0837237A2] An exhaust gas recirculation (EGR) system for an internal combustion engine is capable of correctly determining whether or not an EGR control valve (9) is sound, irrespective of variations in the characteristics of a unit for setting a negative pressure applied to the EGR control valve or the aging of the unit. The EGR system has the EGR control valve (9) disposed in a recirculation path (8) that connects an exhaust path (2) to an intake path (3) of the engine (1), for controlling the flow rate of exhaust gas recirculated through the recirculation path (8), an aperture detector for detecting a real aperture of the EGR control valve (9) at proper intervals, a driver for driving the EGR control valve (9) in a way to provide a target aperture that is set at proper intervals according to operating conditions of the engine (1), and a diagnostic unit that determines that the EGR system including the EGR control valve (9) is abnormal if real apertures detected by the aperture detector do not follow corresponding target apertures after the target apertures show a change of predetermined magnitude. <IMAGE>

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CPC (source: EP)

F02M 26/48 (2016.02); **F02M 26/49** (2016.02); **F02M 26/57** (2016.02)

Citation (search report)

- [X] US 4541398 A 19850917 - KISHI NORIYUKI [JP]
- [X] US 5113835 A 19920519 - SEKI YASUNARI [JP], et al
- [A] US 4665882 A 19870519 - OTOBE YUTAKA [JP]
- [E] EP 0812983 A2 19971217 - TOYOTA MOTOR CO LTD [JP]
- [A] PATENT ABSTRACTS OF JAPAN vol. 009, no. 046 (M - 360) 27 February 1985 (1985-02-27)

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EP1394400A1; FR2836517A1; US6609059B2; CN102245889A; CN102918254A; EP2088307A3; US9500148B2; WO2019214821A1; US10113495B2; WO03071121A1; US7100585B2; US10941735B2

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