Title (en)

Regeneration method of a nitrogen oxides trap in the exhaust system of an internal combustion engine

Title (de)

Verfahren zur Regeneration einer Stickoxidfalle im Abgassystem eines Verbrennungsmotors

Title (fr)

Procédé de régénération d'un piège pour les oxydes d'azote dans le système d'échappement d'un moteur à combustion interne

Publication

EP 0903477 A3 20000308 (DE)

Application

EP 98113275 A 19980716

Priority

DE 19741079 A 19970918

Abstract (en)

[origin: EP0903477A2] A nitric oxide trap (16) in a combustion engine (10) exhaust system is regenerated using an electronic control system (12) which makes use of numerous motor parameters. These include whether the fuel mixture is essentially lean or stoichiometric. The process of nitric oxide trap regeneration is triggered under a first set of pre-determined conditions. A supplementary nitric oxide trap regeneration process is initiated during the transition from lean to stoichiometric operation, provided that a second set of trigger parameters are met. This prevents uncontrolled liberation of stored nitric oxide from the trap. The supplementary regeneration process is only triggered when the quantity of nitric oxide stored (X) exceeds a given threshold value, and the transition has commenced under stoichiometric conditions from a pre-determined engine speed range within the lean speed range/torque range.

IPC 1-7

F01N 3/08; F02D 33/00

IPC 8 full level

F01N 3/08 (2006.01); **F01N 3/18** (2006.01); **F01N 3/24** (2006.01); **F02D 33/00** (2006.01); **F02D 41/02** (2006.01); **F02D 41/04** (2006.01); **F02D 41/14** (2006.01)

CPC (source: EP)

F01N 3/0842 (2013.01); **F01N 3/0871** (2013.01); **F02D 41/0275** (2013.01); **F02D 41/1446** (2013.01); **F02D 41/1462** (2013.01); F02D 41/187 (2013.01); F02D 2041/389 (2013.01); F02D 2200/0806 (2013.01)

Citation (search report)

- [X] EP 0585900 A1 19940309 - TOYOTA MOTOR CO LTD [JP]
- [A] EP 0598917 A1 19940601 - TOYOTA MOTOR CO LTD [JP]

Cited by

DE102004002896B4; RU2598968C2; EP1054149A3; EP3098423A1; US6758034B1; US10316776B2; WO0118367A1; EP1083323A2

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

EP 0903477 A2 19990324; **EP 0903477 A3 20000308**; **EP 0903477 B1 20020320**; DE 19741079 A1 19990401; DE 19741079 C2 20011018; DE 59803414 D1 20020425; JP 4099272 B2 20080611; JP H11148338 A 19990602

DOCDB simple family (application)

EP 98113275 A 19980716; DE 19741079 A 19970918; DE 59803414 T 19980716; JP 27055098 A 19980907