

Title (en)

Method of controlling a lambda probe regulated fuel injection and controlled ignition engine.

Title (de)

Verfahren für die Steuerung eines Motors mit durch Lambdasonde regulierter Kraftstoffeinspritzung und gesteuerter Zündung.

Title (fr)

Procédé de commande d'un moteur à injection de carburant régulée par sonde lambda et à allumage commandé.

Publication

EP 0146426 A1 19850626 (FR)

Application

EP 84402175 A 19841030

Priority

FR 8317538 A 19831104

Abstract (en)

1. A process for controlling a fuel injection engine fitted with an electronic injection and ignition computer coupled to a probe for detecting the oxygen content of the exhaust gases, comprising the following steps : a) determining at least the operating speed and the load of the engine as engine operating parameters, b) determining in dependence on said parameters a nominal injection time T_{in} corresponding to lean fuel metering of the fuel mixture, c) periodically causing temporary enrichment of said mixture by a predetermined increase in the nominal injection time T_{in} , said increase being equal to $T_{in} \cdot x$ in which x is a coefficient of less than 1, which predetermined enrichment is to restore the lean fuel mixture to a stoichiometric mixture, d) determining if the signal supplied by the probe for detecting the oxygen content of the exhaust gases and corresponding to the enriched mixture indicates a stoichiometric mixture or a richer mixture than stoichiometric or a leaner mixture than stoichiometric, e) in dependence on said determining step modifying the nominal injection time T_{in} so as to bring the enriched mixture closer to a stoichiometric mixture, and f) continuing the control mode corresponding to a lean fuel metering in the fuel mixture on the basis of the modified nominal injection time T_{in} , characterised by the following steps : g) determining in dependence on the engine operating parameters a nominal ignition advance angle AV_n corresponding to the nominal injection time T_{in} , and h) causing, with a predetermined delay with respect to the beginning of periodic enrichment of step c) above, a temporary reduction in the nominal ignition advance angle AV_n equal to $k \cdot x \cdot AV_n$ in which x is the coefficient of less than 1 used for computing the enrichment $T_{in} \cdot x$ and k is a constant of predetermined value.

Abstract (fr)

Procédé de commande d'un moteur à injection de carburant et allumage commandé équipé d'un calculateur électronique d'injection et d'allumage couplé à une sonde de détection de la teneur en oxygène des gaz d'échappement, suivant lequel on élabore en fonction des paramètres de fonctionnement du moteur un temps d'injection nominal (T_{in}) correspondant à un dosage pauvre en carburant du mélange carburé et on provoque périodiquement un enrichissement temporaire dudit mélange par augmentation du temps d'injection, caractérisé en ce que, en réponse audit enrichissement temporaire, on provoque une diminution temporaire de l'angle d'avance à l'allumage nominal élaboré en fonction desdites caractéristiques de fonctionnement du moteur. Application aux véhicules automobiles.

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Citation (search report)

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- [Y] PATENTS ABSTRACTS OF JAPAN, vol. 7, no. 207(M-242)[1352], 13 septembre 1983, page 70M242; & JP - A - 58 104 342 (TOYOTA JIDOSHA KOGYO K.K.) 21-06-1983

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