Title (en)

DEVICE FOR ESTIMATING RICHNESS IN AN INJECTION SYSTEM FOR AN INTERNAL COMBUSTION ENGINE

Title (de)

VORRICHTUNG ZUR ABSCHÄTZUNG DES LUFT/KRAFTSTOFFVERHÄLTNISSES FÜR EIN KRAFTSTOFFEINSPRITZSYSTEM EINER BRENNKRAFTMASCHINE

Title (fr)

DISPOSITIF D'ESTIMATION DE RICHESSE DE SYSTEME D'INJECTION POUR MOTEUR A COMBUSTION INTERNE

Publication

**EP 1049862 B1 20020918 (FR)**

Application

**EP 99900932 A 19990115**

Priority

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- FR 9800502 A 19980119

Abstract (en)

[origin: FR2773847A1] The device is designed to estimate the fuel mixture richness admitted in each of n combustion chambers (n being a whole number greater than 1), of an engine having injectors in the cylinders. The device includes: - a sensor (26) providing an output signal which varies sensibly linearly with the fuel mixture richness. The sensor is placed at the point of merging of the exhaust of the n chambers, and; - a computer for: - memorizing a model of the behavior at the exhaust merging point, based upon a hypothesis of the richness at the exhaust point, where the air/fuel relationship is a weighted sum of the contribution of the exhaust of the individual chambers. The weighting coefficient being lower than that of the combustion in the first chamber to fire, and; - to estimate, after each passage from top dead center, the air/fuel relationship from the values measured and from the model. The model includes a particular sub-model by combustion chamber, having for the chamber of order I, a Kalman (RTM) filter having an m,n matrix with coefficients Cij and it own Kij gains matrix, I being equal to (1.....n) and corresponding to the chamber number and j going from 1 to m corresponding to the number of the weighted coefficient.

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