

Title (en)

METHOD FOR REGULATING THE ENGINE SPEED IN MULTI-CYLINDER INTERNAL COMBUSTION ENGINES

Title (de)

VERFAHREN ZUR DREHZAHLREGELUNG VON MEHRZYLINDRIGEN VERBRENNUNGSMOTOREN

Title (fr)

PROCEDE POUR REGULER LE REGIME DE MOTEURS A COMBUSTION INTERNE A PLUSIEURS CYLINDRES

Publication

EP 1055057 B1 20020508 (DE)

Application

EP 99911589 A 19990208

Priority

- DE 9900335 W 19990208
- DE 19805113 A 19980209

Abstract (en)

[origin: WO9940308A1] The invention relates to a method for regulating the engine speed in multi-cylinder internal combustion engines in order to achieve, in a simple and cost effective way, a precise and rapid detection of the engine speed enabling a stable regulation of the motor at a constant speed when the speed changes periodically and temporarily. For this purpose, the time required for a fixed sequence of successively sampled pulses is measured continuously and used to form actual equidistant and non-corrected engine speed values (n). The number of successively sampled pulses is fixed on the basis of the number of the engine cylinders and the number of pulses that can be produced by the polar wheel each time it turns. In addition, the time required for a number of sampled pulses corresponding to a complete rotation of the polar wheel to be stored, is measured and used for producing a mean engine speed (N). The difference between the mean engine speed (N) and each actual uncorrected engine speed value (n) is smoothed for producing actual corrected engine speed values (x), said difference value is bound and then added to the actual non corrected engine speed (n). The actual corrected engine speed values (x) are compared to the predetermined value of the set speed engine (w) and transferred to a regulator (3) producing an output value (y) used for controlling the regulating means.

IPC 1-7

F02D 41/14; **F02D 41/16**; **F02D 41/38**

IPC 8 full level

F02D 35/00 (2006.01); **F02D 41/14** (2006.01); **F02D 41/16** (2006.01); **F02D 41/34** (2006.01); **F02D 41/38** (2006.01); **F02D 45/00** (2006.01)

CPC (source: EP KR US)

F02D 41/0097 (2013.01 - EP US); **F02D 41/14** (2013.01 - KR); **F02D 41/1498** (2013.01 - EP US); **F02D 41/16** (2013.01 - EP US); **F02D 2200/1015** (2013.01 - EP US)

Designated contracting state (EPC)

BE CH DE DK ES FI FR GB GR IT LI NL SE

DOCDB simple family (publication)

WO 9940308 A1 19990812; CA 2320179 A1 19990812; CN 1102201 C 20030226; CN 1274408 A 20001122; DE 59901397 D1 20020613; DK 1055057 T3 20020902; EP 1055057 A1 20001129; EP 1055057 B1 20020508; ES 2177262 T3 20021201; JP 2002502934 A 20020129; KR 100404241 B1 20031101; KR 20010040795 A 20010515; NO 20004017 D0 20000809; NO 20004017 L 20000809; NO 323169 B1 20070108; US 6363912 B1 20020402

DOCDB simple family (application)

DE 9900335 W 19990208; CA 2320179 A 19990208; CN 99801292 A 19990208; DE 59901397 T 19990208; DK 99911589 T 19990208; EP 99911589 A 19990208; ES 99911589 T 19990208; JP 2000530699 A 19990208; KR 20007008689 A 20000809; NO 20004017 A 20000809; US 60185300 A 20000809