

Title (en)
REGULATION OF TRUE RUNNING FOR DIESEL ENGINES

Title (de)
RUNDLAUFREGELUNG FÜR DIESELMOTOREN

Title (fr)
REGULATION DE CONCENTRICITE POUR MOTEURS DIESEL

Publication
EP 1242738 B1 20030723 (DE)

Application
EP 01993755 A 20011102

Priority
• DE 10055192 A 20001107
• EP 0112697 W 20011102

Abstract (en)
[origin: WO0238936A1] The invention relates to a method for regulating true running. Particularly in the case of internal combustion engines which have many cylinders, the rotational speed proportions of the cylinders overlap in such a manner that, when viewing the rotational speed curve, it is no longer possible to make conclusions about the rotational speed proportions of the individual cylinders thus necessitating new evaluation methods. According to the invention, the contributions of the individual cylinders of the internal combustion engine to the rotational acceleration are determined on the basis of the behavior of the rotational speed of the crankshaft by individually deactivating the cylinders in succession. Using the rotational speed behavior curves that are obtained in such a manner, a pulse response spectrum (I) of a working cycle is formed at least for the harmonic of the 0.5<th> order. During normal operation, the rotational speed behavior of the crankshaft over the angle of each working cycle is then constantly recorded. The Fourier coefficients are appointed as resultant (R) of at least the harmonic of the 0.5<th> order by means of Fourier transformation. Correction factors for the injection quantities for equalizing the individual cylinders with regard to their rotational speed proportions are obtained by multiplying the components of resultants (R), said components being located in the direction of the pulse response vectors, with the pulse responses (I) and by adding them together.

IPC 1-7
F02D 41/14; **F02D 41/34**

IPC 8 full level
F02D 41/00 (2006.01); **F02D 41/14** (2006.01); **F02D 41/34** (2006.01)

CPC (source: EP US)
F02D 41/0085 (2013.01 - EP US); **F02D 41/009** (2013.01 - EP US); **F02D 41/1498** (2013.01 - EP US); **F02D 41/0087** (2013.01 - EP US); **F02D 2041/288** (2013.01 - EP US); **F02D 2200/1015** (2013.01 - EP US)

Designated contracting state (EPC)
DE FR GB IT

DOCDB simple family (publication)
WO 0238936 A1 20020516; DE 10055192 A1 20020529; DE 10055192 C2 20021121; DE 50100412 D1 20030828; EP 1242738 A1 20020925; EP 1242738 B1 20030723; US 2003089338 A1 20030515; US 6820593 B2 20041123

DOCDB simple family (application)
EP 0112697 W 20011102; DE 10055192 A 20001107; DE 50100412 T 20011102; EP 01993755 A 20011102; US 16961102 A 20021022