Title (en)

PULSE START METHOD AND PULSE START DEVICE FOR AN INTERNAL COMBUSTION ENGINE

Title (de)

IMPULSSTARTVERFAHREN UND IMPULSSTARTVORRICHTUNG FÜR EINE BRENNKRAFTMASCHINE

Title (fr)

PROCEDE DE DEMARRAGE PAR IMPULSION ET DISPOSITIF DE DEMARRAGE PAR IMPULSION POUR MOTEUR A COMBUSTION
INTERNE

Publication

EP 1151193 B1 20040331 (DE)

Application

EP 00975804 A 20000928

Priority

• DE 0003391 W 20000928
• DE 19956384 A 19991124

Abstract (en)

[origin: DE19956384C1] The invention relates to a pulse start method for an internal combustion engine according to which a balance weight is
accelerated in a rotationally driven manner during a wind-up phase and, during a coupling phase, the rotating balance weight is subsequently
coupled to a rotationally mounted shaft, preferably to a crankshaft, of the internal combustion engine in order to transmit torque. The inventive
method is characterized in that the progression of the rotational speed of the balance weight (3) is evaluated during the wind-up phase (15) and/or
coupling phase (21, 22), and in that this evaluation is used to determine whether it is possible to successfully start the internal combustion engine
(1). In the case that a successful start is not expected, the shaft (2) brings the internal combustion engine (1) into an operating position that is
favorable for executing a successive second start attempt.

IPC 1-7

F02N 5/04

IPC 8 full level

F02P 5/15 (2006.01); **F02D 45/00** (2006.01); **F02N 5/04** (2006.01); **F02N 11/00** (2006.01); **F02N 11/08** (2006.01); **F02N 15/02** (2006.01)

CPC (source: EP KR US)

F02N 5/04 (2013.01 - EP KR US); F02N 11/00 (2013.01 - EP US); F02N 11/0848 (2013.01 - EP); F02N 99/006 (2013.01 - EP US)

Designated contracting state (EPC)

DE ES FR GB IT SE

DOCDB simple family (publication)

DE 19956384 C1 20001116; BR 0007659 A 20011106; DE 50005898 D1 20040506; EP 1151193 A1 20011107; EP 1151193 B1 20040331;
ES 2218247 T3 20041116; JP 2003515051 A 20030422; KR 20010101637 A 20011114; US 6581559 B1 20030624; WO 0138725 A1 20010531

DOCDB simple family (application)

DE 19956384 A 19991124; BR 0007659 A 20000928; DE 0003391 W 20000928; DE 50005898 T 20000928; EP 00975804 A 20000928;
ES 00975804 T 20000928; JP 2001540044 A 20000928; KR 20017009226 A 20010723; US 86896601 A 20010622