Title (en)

METHOD FOR STARTING A MULTI-CYLINDER INTERNAL COMBUSTION ENGINE

Title (de)

VERFAHREN ZUM STARTEN EINER MEHRZYLINDRIGEN BRENNKRAFTMASCHINE

Title (fr)

PROCEDE POUR DEMARRER UN MOTEUR A COMBUSTION INTERNE A PLUSIEURS CYLINDRES

Publication

EP 1301706 B1 20060308 (DE)

Application

EP 01911427 A 20010207

Priority

- DE 0100461 W 20010207
- DE 10020104 A 20000422

Abstract (en)

[origin: WO0181760A1] The invention relates to a method for starting a multi-cylinder internal combustion engine (1), especially of a motor vehicle, whereby the position of a piston (2) in a cylinder (3) of the internal combustion engine (1) is determined and fuel is injected into a combustion chamber (4) of the cylinder (3) whose piston (2) is located in a working phase. In order to enable a starting of the internal combustion engine (1) without the use of an electric motor-driven starter in a manner that is as reliable as possible, the invention provides that that the intake valves and/or exhaust valves (5) of at least one cylinder (3), whose piston (2) is located beyond an upper dead center (OT), are brought, before the starting process, into a position that corresponds to a working phase.

IPC 8 full level

F02D 13/02 (2006.01); **F02D 15/04** (2006.01); **F02D 41/06** (2006.01); **F02D 43/00** (2006.01); **F02D 45/00** (2006.01); **F02M 37/00** (2006.01); **F02M 37/04** (2006.01); **F02M 59/42** (2006.01); **F02N 9/02** (2006.01); **F02N 11/08** (2006.01); **F02N 17/00** (2006.01); **F02N 17/08** (2006.01); **F02N 19/00** (2010.01); **F02N 99/00** (2010.01)

CPC (source: EP KR US)

F02N 9/02 (2013.01 - EP US); **F02N 19/004** (2013.01 - EP US); **F02N 99/00** (2013.01 - KR); **F02N 99/006** (2013.01 - EP US); F02P 15/08 (2013.01 - EP US)

Designated contracting state (EPC)

DE FR IT

DOCDB simple family (publication)

WO 0181760 A1 20011101; DE 10020104 A1 20011031; DE 50109155 D1 20060504; EP 1301706 A1 20030416; EP 1301706 B1 20060308; JP 2003532006 A 20031028; JP 4819281 B2 20111124; KR 100771292 B1 20071029; KR 20020026194 A 20020406; US 2002157630 A1 20021031; US 6718928 B2 20040413

DOCDB simple family (application)

DE 0100461 W 20010207; DE 10020104 A 20000422; DE 50109155 T 20010207; EP 01911427 A 20010207; JP 2001578817 A 20010207; KR 20017016385 A 20011221; US 1887701 A 20011226