

Title (en)

PROCESS FOR ADJUSTING THE ANGULAR POSITION OF THE CAMSHAFT OF A RECIPROCATING INTERNAL COMBUSTION ENGINE  
RELATIVE TO THE CRANKSHAFT

Title (de)

VERFAHREN ZUM EINSTELLEN DER DREHWINKELLAGE DER NOCKENWELLE EINER HUBKOLBEN-VERBRENNUNGSMASCHINE  
RELATIV ZUR KURBELWELLE

Title (fr)

PROCEDE DE REGLAGE DE LA POSITION D'ANGLE DE ROTATION DE L'ARBRE A CAMES D'UN MOTEUR A COMBUSTION INTERNE A  
PISTON ELEVATEUR PAR RAPPORT AU VILEBREQUIN

Publication

**EP 1812691 B1 20080820 (DE)**

Application

**EP 05803851 A 20051025**

Priority

- DE 2005001903 W 20051025
- DE 102004055164 A 20041116

Abstract (en)

[origin: WO2006053513A1] In a process for adjusting the angular position of the camshaft of a reciprocating internal combustion engine relative to the crankshaft, the crankshaft is connected to the camshaft by a 3-gear transmission having a driving shaft fixed to the crankshaft, a driven shaft fixed to the camshaft and an adjusting shaft driven by an electric motor. A crankshaft sensor signal is detected whose state changes when the angular position of the crankshaft changes. Moreover, an adjusting shaft sensor signal is detected whose state changes when the angular position of the adjusting shaft changes. Starting from an angular position reference value, a phase angle signal is tracked when the state of the crankshaft sensor signal and/or of the adjusting shaft sensor signal changes and adjusted to a predetermined set phase angle signal. The ignition of the internal combustion engine is then switched off and/or the rotational speed of the crankshaft is lowered below a predetermined minimum rotational speed. While the crankshaft and/or camshaft continues to rotate, the electric motor is powered in such a way that the camshaft is rotated up to a predetermined reference position relative to the crankshaft. The next time the internal combustion engine is started, the camshaft and crankshaft are positioned according to the reference position and this is detected by means of a sensor. The phase angle signal is adjusted to a reference value, then adjusted to the set phase angle signal.

IPC 8 full level

**F01L 1/344** (2006.01); **F01L 1/352** (2006.01)

CPC (source: EP KR US)

**F01L 1/344** (2013.01 - EP KR US); **F01L 1/352** (2013.01 - EP KR US); **F01L 2303/02** (2020.05 - EP US); **F01L 2800/14** (2013.01 - EP US); **F01L 2820/01** (2013.01 - EP US)

Designated contracting state (EPC)

CH DE FR GB HU IT LI

DOCDB simple family (publication)

**WO 2006053513 A1 20060526**; CN 101124388 A 20080213; CN 101124388 B 20110810; DE 112005003407 A5 20071025; DE 502005005146 D1 20081002; EP 1812691 A1 20070801; EP 1812691 B1 20080820; JP 2008520875 A 20080619; JP 4575455 B2 20101104; KR 101227324 B1 20130128; KR 20070083934 A 20070824; US 2009183701 A1 20090723; US 7954466 B2 20110607

DOCDB simple family (application)

**DE 2005001903 W 20051025**; CN 200580038793 A 20051025; DE 112005003407 T 20051025; DE 502005005146 T 20051025; EP 05803851 A 20051025; JP 2007540484 A 20051025; KR 20077010056 A 20051025; US 71936605 A 20051025