

Title (en)

Method to control an apparatus for variable timing of intake- and exhaust valves in a combustion engine

Title (de)

Verfahren zur Steuerung einer Vorrichtung zur Veränderung der Steuerzeiten von Gaswechselventilen einer Brennkraftmaschine

Title (fr)

Procédé de commande d'un appareil pour modifier le calage des soupapes d'un moteur à combustion interne

Publication

EP 1914395 B1 20090805 (DE)

Application

EP 08150439 A 20050903

Priority

- EP 05782451 A 20050903
- DE 102004049123 A 20041007

Abstract (en)

[origin: WO2006039966A1] The invention relates to a device (101) for modifying the timing of gas exchange valves in an internal combustion engine using a hydraulic regulator (102) and a control valve (103). The inventive device (101) is equipped with a central-position locking mechanism for the hydraulic regulator (102). According to the invention, if a controller (112), which regulates the control valve (103), malfunctions, the hydraulic regulator (102) is locked in the central position until the controller (112) is repaired. In addition, the inventive device (101) permits the internal combustion engine to be started in a locked central position, without a displaceable element (105) of the hydraulic regulator (102) striking a lateral wall of a pressure chamber (104) during said start procedure. The invention also relates to a method for bringing the hydraulic regulator (102) into a locked position and maintaining said position for a new start-up of the internal combustion engine in a locked central position.

IPC 8 full level

F01L 1/34 (2006.01); **F01L 1/344** (2006.01); **F01L 13/00** (2006.01)

CPC (source: EP KR)

F01L 1/34 (2013.01 - EP KR); **F01L 1/344** (2013.01 - EP KR); **F01L 1/3442** (2013.01 - EP); **F01L 13/00** (2013.01 - EP KR); **F01L 2001/34423** (2013.01 - EP); **F01L 2001/34426** (2013.01 - EP); **F01L 2001/3444** (2013.01 - EP); **F01L 2001/34459** (2013.01 - EP); **F01L 2001/34476** (2013.01 - EP)

Cited by

CN104121051A; US9410453B2; US9840943B2

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

DE 102004049123 A1 20060413; CN 100529335 C 20090819; CN 101040102 A 20070919; DE 502005007868 D1 20090917; DE 502005008502 D1 20091224; EP 1797285 A1 20070620; EP 1797285 B1 20091111; EP 1914395 A1 20080423; EP 1914395 B1 20090805; JP 2008516129 A 20080515; JP 4982867 B2 20120725; KR 101201609 B1 20121114; KR 20070100231 A 20071010; WO 2006039966 A1 20060420

DOCDB simple family (application)

DE 102004049123 A 20041007; CN 200580034507 A 20050903; DE 502005007868 T 20050903; DE 502005008502 T 20050903; EP 05782451 A 20050903; EP 08150439 A 20050903; EP 2005009487 W 20050903; JP 2007535034 A 20050903; KR 20077007842 A 20050903