

Title (en)

Camshaft phaser and method to change cam phase by use of a artificial muscle

Title (de)

Nockenwellenversteller und Verfahren zur Veränderung der Nockenwellenphase mittels einem künstlichen Muskel

Title (fr)

Déphaseur d'arbre à cames et méthode pour modifier la phase d'un arbre à cames avec une muscle artificiel

Publication

EP 1650411 A1 20060426 (DE)

Application

EP 04105143 A 20041019

Priority

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Abstract (en)

The camshaft adjuster (1) comprises an outer disposed housing element (2) and an inner disposed adjusting shaft element (3). The camshaft adjuster comprises at least one artificial muscle (11a) which by activation changes its geometric shape in a way which a rotation of the adjusting shaft element in relation to the housing element, and therefore a change of the camshaft position in relation to a crankshaft can be realized. A drive wheel (4) in the form of a belt or chain wheel is provided on the housing element, and the housing element is connected to the crankshaft by a belt or chain. An independent claim is included for a method for the changing of the position of the camshaft in relation to the crankshaft of an internal combustion engine by means of the proposed camshaft adjuster.

IPC 8 full level

F01L 1/34 (2006.01); F15B 15/10 (2006.01)

CPC (source: EP)

F01L 1/022 (2013.01); F01L 1/344 (2013.01); F01L 1/024 (2013.01); F01L 1/34406 (2013.01); F01L 2001/34483 (2013.01); F01L 2301/00 (2020.05)

Citation (search report)

- [X] US 6155220 A 20001205 - MARRIOTT CRAIG D [US]
- [A] US 2004118366 A1 20040624 - KLUGE TORSTEN [DE]
- [A] DE 19747566 C1 19990408 - FRAUNHOFER GES FORSCHUNG [DE]
- [A] EP 0518528 A1 19921216 - BORG WARNER AUTOMOTIVE [US]
- [A] US 2001052330 A1 20011220 - TAKENAKA AKIHIKO [JP], et al
- [A] US 5351602 A 19941004 - MONROE JOHN W [US]
- [A] US 5250167 A 19931005 - ADOLF DOUGLAS B [US], et al
- [A] US 2003205045 A1 20031106 - PELES ZALMAN [IL]
- [A] US 6223648 B1 20010501 - ERICKSON JOEL R [US]

Cited by

DE102008039533A1; DE102008039533B4; US9644634B2

Designated contracting state (EPC)

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