

Title (en)

CAMSHAFT ADJUSTING DEVICE, COMBUSTION ENGINE AND ASSEMBLY METHOD

Title (de)

NOCKENWELLENVERSTELLVORRICHTUNG, VERBRENNUNGSMOTOR SOWIE MONTAGEVERFAHREN

Title (fr)

DISPOSITIF DE RÉGLAGE D'ARBRE À CAMES, MOTEUR À COMBUSTION ET PROCÉDÉ DE MONTAGE

Publication

**EP 3084153 A1 20161026 (DE)**

Application

**EP 14803070 A 20141112**

Priority

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- EP 2014074404 W 20141112

Abstract (en)

[origin: WO2015090741A1] A camshaft adjusting device comprises an electromagnetic actuator (3) having an armature that is adjustable axially along an adjustment axis (5) in order to actuate a hydraulic valve for cam adjustment, and fastening means for attaching the actuator (3) to an engine element (2), wherein the fastening means comprise spring means (12) which, in a securing position (13), clamp the actuator (3) to the engine element (2). According to the invention, it is provided that the fastening means have form-fitting means (8) as an anti-rotation means for preventing a rotational movement of the actuator (3) in an assembly position (7) relative to the engine element (2), which form-fitting means are configured and arranged in such a way that the actuator (3) is adjustable in the assembly position (7) by a purely translational assembly movement on the engine element (2), in particular along the adjustment axis (5) of the armature, and in such a way that the spring means (12), in the securing position (13), block a dismantling path for a purely translational dismantling movement of the actuator (3) in the direction opposite to the assembly movement, so that said actuator cannot be dismantled in the direction opposite to the purely translational assembly direction.

IPC 8 full level

**F01L 1/344** (2006.01)

CPC (source: EP US)

**F01L 1/344** (2013.01 - EP US); **F01L 1/3442** (2013.01 - US); **F01L 1/46** (2013.01 - US); **F01L 2001/3443** (2013.01 - US); **F01L 2001/34433** (2013.01 - EP US); **F01L 2001/34483** (2013.01 - US); **F01L 2013/101** (2013.01 - US); **F01L 2820/031** (2013.01 - US)

Citation (search report)

See references of WO 2015090741A1

Designated contracting state (EPC)

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Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**WO 2015090741 A1 20150625**; CN 105849372 A 20160810; CN 105849372 B 20181012; DE 102013114625 A1 20150625; EP 3084153 A1 20161026; EP 3084153 B1 20170308; US 2017002700 A1 20170105; US 9909465 B2 20180306

DOCDB simple family (application)

**EP 2014074404 W 20141112**; CN 201480068181 A 20141112; DE 102013114625 A 20131220; EP 14803070 A 20141112; US 201415106455 A 20141112