

Title (en)
VALVE TRAIN DEVICE

Title (de)
VENTILTRIEBVORRICHTUNG

Title (fr)
DISPOSITIF DE DISTRIBUTION À SOUPAPES

Publication
EP 2459849 B1 20191009 (DE)

Application
EP 10728139 A 20100623

Priority
• DE 102009034990 A 20090728
• EP 2010003828 W 20100623

Abstract (en)
[origin: WO2011012189A1] The invention relates to a valve train device, in particular an internal combustion engine valve train device, having a first camshaft unit, which comprises an external shaft (10a; 10b) and primary cams (11a, 12a, 13a, 14a; 11b, 12b, 13b, 14b, 11b', 12b', 13b', 14b') connected to the external shaft (10a; 10b), having a second camshaft unit, which comprises an inner shaft (15a; 15b) guided in the external shaft (10a; 10b) and secondary cams (16a, 17a, 18a, 19a; 16b, 17b, 18b, 19b, 16b', 17b', 18b', 19b') connected to the inner shaft (15a; 15b), and having an adjustment unit (22a; 22b), which is provided for adjusting the two camshaft units against one another. It is proposed that the adjustment unit (22a; 22b) is used for providing an at least two-stage sequential valve lift switching.

IPC 8 full level
F01L 1/053 (2006.01); **F01L 13/00** (2006.01)

CPC (source: EP US)
F01L 1/0532 (2013.01 - EP US); **F01L 13/0036** (2013.01 - EP US); **F01L 2013/0052** (2013.01 - EP US)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)
DE 102009034990 A1 20110203; CN 102472123 A 20120523; CN 102472123 B 20131211; EP 2459849 A1 20120606;
EP 2459849 B1 20191009; JP 2013500424 A 20130107; JP 5293982 B2 20130918; US 2012138000 A1 20120607; US 8893678 B2 20141125;
WO 2011012189 A1 20110203

DOCDB simple family (application)
DE 102009034990 A 20090728; CN 201080033124 A 20100623; EP 10728139 A 20100623; EP 2010003828 W 20100623;
JP 2012521987 A 20100623; US 201213351563 A 20120117