

Title (en)

METHOD AND DEVICE FOR PRECISION MACHINING OF CRANKSHAFTS OR CAMSHAFTS

Title (de)

VERFAHREN UND VORRICHTUNG ZUR ENDMASSGENAUEN BEARBEITUNG VON KURBEL- ODER NOCKENWELLEN

Title (fr)

PROCÉDÉ ET DISPOSITIF D'USINAGE DE PRÉCISION DE VILEBREQUINS OU D'ARBRES À CAME

Publication

EP 2445676 A1 20120502 (DE)

Application

EP 10726441 A 20100618

Priority

- EP 2010003703 W 20100618
- DE 102009030856 A 20090626

Abstract (en)

[origin: WO2010149317A1] The invention relates to a method and a device for precision machining of crankshafts or camshafts to final dimensional tolerances $R_z < 10 \mu\text{m}$, preferably less than or equal to $5 \mu\text{m}$, and runout tolerances of less than or equal to $30 \mu\text{m}$, preferably less than or equal to $6 \mu\text{m}$. The crankshafts or camshafts are machined and at least partially hardened. According to the invention, after the first machining and subsequent hardening to 45 to 60 HRC, preferably 50 to 53 HRC, a final machining is performed using CBN or PCD inlet cutter inserts. The device used to this end has cutter inserts (12, 13, 14) populated with CBN or PCD inlets, wherein lateral, radial, and tangentially oriented cutter inserts follow each other alternately.

IPC 8 full level

B23C 3/06 (2006.01); **B23C 3/08** (2006.01); **B23C 5/08** (2006.01); **B23C 5/24** (2006.01)

CPC (source: EP KR US)

B23C 3/06 (2013.01 - EP KR US); **B23C 3/08** (2013.01 - EP KR US); **B23C 5/08** (2013.01 - EP KR US); **B23C 5/2226** (2013.01 - EP KR US); **B23C 5/24** (2013.01 - EP US); **B23C 5/2472** (2013.01 - KR); **B23C 2200/201** (2013.01 - EP KR US); **B23C 2200/205** (2013.01 - EP KR US); **B23C 2200/367** (2013.01 - EP KR US); **B23C 2226/125** (2013.01 - EP KR US); **B23C 2226/315** (2013.01 - EP KR US); **Y10T 82/19** (2015.01 - EP US); **Y10T 82/192** (2015.01 - EP US); **Y10T 83/0405** (2015.04 - EP US); **Y10T 409/303752** (2015.01 - EP US); **Y10T 409/30952** (2015.01 - EP US)

Citation (search report)

See references of WO 2010149317A1

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 102009030856 A1 20101230; BR PI1009865 A2 20180619; CN 102413975 A 20120411; CN 102413975 B 20150408; EP 2445676 A1 20120502; JP 2012530612 A 20121206; KR 20120039516 A 20120425; US 2012076599 A1 20120329; US 8584556 B2 20131119; WO 2010149317 A1 20101229

DOCDB simple family (application)

DE 102009030856 A 20090626; BR PI1009865 A 20100618; CN 201080018477 A 20100618; EP 10726441 A 20100618; EP 2010003703 W 20100618; JP 2012516560 A 20100618; KR 20117026510 A 20100618; US 201013376209 A 20100618