Title (en)

Method for mounting and for finishing a powder metal valve seat

Title (de)

Verfahren zur Montage und zur Fertigbearbeitung von pulvermetallurgisch vorgefertigten Ventilsitzringen

Title (fr)

Procédé pour le montage et l'usinage final de siège de soupape en metal en poudre

Publication

EP 0735247 B1 20000517 (DE)

Application

EP 95104535 A 19950328

Priority

EP 95104535 A 19950328

Abstract (en)

[origin: EP0735247A1] The method concerns mounting and finish shaping of valve seat ring blanks produced by powder metallurgy, with this operation taking in their working position in a seat at the beginning of a gas channel in the cylinder head of an internal combustion engine made of a light alloy. The method is characterised by the fact that a ring blank (1) produced by powder pressing and sintering is introduced with a clearance into a bore by means of a roller tool (4), is then radially expanded by rolling until it is held by the bore wall, and possesses the required dimensions and density. The ring blank (1) is compacted by means of a roller set (6) with a cylindrical envelope to produce finish dimensions corresponding to the wall of the gas channel. A second roller set (8) with a conical envelope on the rolling tool (4) produces further compacting of the ring material, and a valve seat on the free internal edge of the ring with a given angle (45 or 60 deg.). Alternatively, the rolling tool is provided with additional profiled rollers to achieve the required compacting, and to produce given main and auxiliary seating surfaces.

IPC 1-7

F01L 3/22

IPC 8 full level

B22F 7/06 (2006.01); **F01L 3/22** (2006.01)

CPC (source: EP KR US)

B22F 5/00 (2013.01 - KR); **B22F 7/062** (2013.01 - EP US); **F01L 3/22** (2013.01 - EP US); B22F 2999/00 (2013.01 - EP US); Y10T 29/47 (2015.01 - EP US); Y10T 29/49272 (2015.01 - EP US); Y10T 29/49306 (2015.01 - EP US)

C-Set (source: EP US)

B22F 2999/00 + B22F 7/062 + B22F 3/18

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EP 0735247 A1 19961002; **EP 0735247 B1 20000517**; AT E193093 T1 20000615; BR 9601146 A 19980106; DE 59508355 D1 20000621; ES 2149895 T3 20001116; HU 219657 B 20010628; HU 9600770 D0 19960528; HU P9600770 A2 19961028; HU P9600770 A3 19991129; KR 100394173 B1 20031101; KR 960033612 A 19961022; PT 735247 E 20001130; US 5735043 A 19980407

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