

Title (en)
CONNECTING-ROD WITH A THIN PLAIN BEARING LAYER

Title (de)
PLEUEL MIT EINER DÜNNEN GLEITLAGERSCHICHT

Title (fr)
BIELLE COMPORTANT UNE FINE COUCHE DE PALIER LISSE

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Application
EP 98941372 A 19980720

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Abstract (en)
[origin: WO9905424A1] Bearing shells are inserted into the connecting-rod eyes of connecting rods used in internal combustion engines. The fitting of bearing shells constitutes a production step which is a potential source of defects. The aim of the new method is to create connecting rod bearings which require less assembly work and are firmly joined to the bearing metal. According to the invention the large connecting-rod eye (3) is subjected to pre-spindle trimming, cracking and further spindle trimming to the coating tolerance, sandblasted and microporously plasma-coated with an aluminium bronze. At the start of plasma spraying the plasma layer is deposited at a high temperature, which results in good adhesion of the plasma layer to the material of the connecting-rod eye and low porosity of the plasma layer. To prevent annealing of the material of the connecting-rod eye the deposit temperature of the plasma layer is lowered for that area which is removed by subsequent working of said plasma layer. After plasma coating the connecting-rod eye is opened by removing the bearing cap (9), which ruptures the plasma layer (16). The cap (9) is then screwed back on and the actual sliding layer created by fine spindle trimming. To improve the oil retention volume the plasma layer (16) has an annular groove (32). The invention is used in internal combustion engines.

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