

Title (en)
ASSEMBLING METHOD

Publication
EP 0374407 B1 19920715 (DE)

Application
EP 89119114 A 19891014

Priority
DE 3842589 A 19881217

Abstract (en)
[origin: EP0374407A2] The invention relates to an assembling method for drive or coupling elements - such as cams, gears, crank webs - or bearing elements - such as plain bearing bushes or complete antifriction bearings on tubes or tube sections - by hydraulic expansion for producing built-up camshafts, transmission shafts, crankshafts or the like. The tubes are here expanded solely in the area of the respective elements beyond the elastic limit towards permanent elastic pretension in the elements. To relieve the seals adjoining the areas to be expanded, a counterpressure lying above the ambient pressure is produced according to the invention in the intermediate or end areas. <IMAGE>

IPC 1-7
B21D 39/06

IPC 8 full level
B21D 26/02 (2011.01); **B21D 26/033** (2011.01); **B21D 26/045** (2011.01); **B21D 39/06** (2006.01); **B21D 39/08** (2006.01); **B21D 39/20** (2006.01); **B21D 53/84** (2006.01)

CPC (source: EP KR US)
B21D 39/06 (2013.01 - KR); **B21D 39/203** (2013.01 - EP US); **B21D 53/845** (2013.01 - EP US); **Y10T 29/49805** (2015.01 - EP US); **Y10T 29/4994** (2015.01 - EP US); **Y10T 29/53996** (2015.01 - EP US)

Cited by
EP0549011A3; DE10338348B3; CN107755553A; EP0564327A1; FR2689044A1

Designated contracting state (EPC)
DE ES FR GB IT SE

DOCDB simple family (publication)
EP 0374407 A2 19900627; **EP 0374407 A3 19910320**; **EP 0374407 B1 19920715**; BR 8906511 A 19900821; CA 2005404 A1 19900617; CA 2005404 C 19980804; DE 3842589 A1 19900621; DE 58901845 D1 19920820; ES 2034552 T3 19930401; JP 2539274 B2 19961002; JP H02211916 A 19900823; KR 900009174 A 19900702; KR 930006044 B1 19930703; US 5115654 A 19920526

DOCDB simple family (application)
EP 89119114 A 19891014; BR 8906511 A 19891215; CA 2005404 A 19891213; DE 3842589 A 19881217; DE 58901845 T 19891014; ES 89119114 T 19891014; JP 32410589 A 19891215; KR 890018697 A 19891216; US 45261789 A 19891218