

Title (en)
METHOD FOR INDUCTIVELY HEATING VALVE SEAT INSERTS

Publication
EP 0064367 B1 19860129 (EN)

Application
EP 82302088 A 19820423

Priority
US 25985681 A 19810504

Abstract (en)
[origin: EP0064367A2] A method for heating a conical valve seat surface on a ferrous seat ring insert which is fixedly received by a bore in an aluminum engine component. The method involves high power induction heating including the steps of locating an inductor adjacent the valve seat surface and then energizing the inductor by a power source having some predetermined frequency and elevated power rating. The method also includes the step of maintaining the inductor in an energized condition for some predetermined period of time to transform the metal forming the valve seat into an austenitic structure to a preselected depth. The steps of energizing and maintaining are coordinated such that the desired transformation is obtained in a very short time interval. This then advantageously prevents deleterious expansion of the insert heat transfer through the insert to the aluminum engine component which would otherwise adversely affect the close fitting relationship between the insert and bore.

IPC 1-7
H05B 6/10; **C21D 1/10**

IPC 8 full level
C21D 1/10 (2006.01); **C21D 9/00** (2006.01); **F01L 3/22** (2006.01); **F01L 3/24** (2006.01); **H05B 6/02** (2006.01); **H05B 6/10** (2006.01)

CPC (source: EP)
C21D 9/0068 (2013.01); **F01L 3/22** (2013.01)

Cited by
CN110375078A; US6138351A; US5778531A; US5768779A; EP0730085A1; EP0819836A3; US5745993A; EP0727565A1; US5787853A

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