

Title (en)  
Turbine rotor

Title (de)  
Turbinenrotor

Title (fr)  
Rotor de turbine

Publication  
**EP 0732481 A1 19960918 (EN)**

Application  
**EP 96301790 A 19960315**

Priority  
JP 5836695 A 19950317

Abstract (en)  
A turbine rotor has a ceramic rotor and a metallic shaft (10). The ceramic rotor has a hub (22), a plurality of blades extending from the hub in generally radial directions, an axle (26) coaxially connected to the hub, and a boss coaxially connected to the hub at the opposite side of the axle. The metallic shaft is coaxially engaged to the axle of the ceramic rotor. The metallic shaft has an open end (11) having a sidewall having a main portion, a foremost end (15), a radially outer surface, and a radially inner surface forming a hollow for receiving the axle of the ceramic rotor. An average diameter at the radially outer surface of the foremost end is smaller than a diameter at the radially outer surface of most of the main portion so as to give a decreased thickness in the foremost end compared to the main portion. An engagement boundary (29) is located in the radially inner surface of the foremost end of the sidewall, and the engagement boundary refers to a boundary between (a) the area in which the radially outer surface of the axle of the ceramic rotor and the radially inner surface of the sidewall of the metallic shaft are in mutual contact and (b) the area in which they are not in mutual contact. Stress concentration at the engagement boundary is relaxed so as to prevent cracking at the shaft of the ceramic rotor and to increase the bonding strength between the ceramic rotor and the metallic shaft. <IMAGE>

IPC 1-7  
**F01D 5/02**

IPC 8 full level  
**C04B 37/02** (2006.01); **F01D 5/02** (2006.01); **F01D 5/04** (2006.01); **F02B 39/00** (2006.01); **F02B 1/04** (2006.01)

CPC (source: EP)  
**F01D 5/025** (2013.01); **F02B 1/04** (2013.01)

Citation (search report)

- [X] EP 0142334 A2 19850522 - NGK INSULATORS LTD [JP]
- [X] EP 0161081 A1 19851113 - GEN MOTORS CORP [US]
- [X] DE 4220224 C1 19930128
- [X] FR 2574783 A1 19860620 - HONDA MOTOR CO LTD [JP]
- [A] EP 0179539 A1 19860430 - NGK INSULATORS LTD [JP]

Designated contracting state (EPC)  
DE GB SE

DOCDB simple family (publication)  
**EP 0732481 A1 19960918; EP 0732481 B1 19991027**; DE 69604849 D1 19991202; DE 69604849 T2 20000309; JP H08254102 A 19961001

DOCDB simple family (application)  
**EP 96301790 A 19960315**; DE 69604849 T 19960315; JP 5836695 A 19950317