

Title (en)  
Fuel injector valve seat retention

Title (de)  
Ventilsitzhalterung eines Brennstoffeinspritzventils

Title (fr)  
Dispositif de retenue d'un siège de soupape d'un injecteur de combustible

Publication  
**EP 0781917 A1 19970702 (EN)**

Application  
**EP 96203325 A 19961126**

Priority  
US 57885095 A 19951226

Abstract (en)  
A fuel injector is disclosed and has a tubular injector body with a fuel passage (70) extending therethrough. A solenoid actuator is disposed intermediate of the fuel passage and a nozzle body (98), having a fuel opening (104) surrounded by an annular valve seat (106) is located downstream of the actuator, between the actuator and an end of the passage. The nozzle body (98) is configured for sliding engagement with the inner wall of the fuel passage and a valve assembly operates with the solenoid actuator and the nozzle body (98) to meter fuel through the annular valve seat (106). A radially outwardly biased ring member (118) is disposed in the fuel passage, between said nozzle body (98) and the end of the fuel passage and operates to exert an outwardly directed force ("F") on the inner wall of the tubular injector fuel passage to thereby establish a frictional resistance to axial movement of the nozzle body (98) towards the end of the fuel passage. In a preferred embodiment, the retainer ring (118) abutting a lower surface of the nozzle body in an annular grooved portion (116) thereof to thereby recess the retaining ring (118) in the nozzle body lower surface and minimize the surrounding surface area which is subject to fuel wetting. The retaining ring (118) may be welded to the nozzle body (98) and the tubular injector body to fix the nozzle body axially. <IMAGE>

IPC 1-7  
**F02M 61/18**; **F02M 51/08**

IPC 8 full level  
**F02M 51/06** (2006.01); **F02M 51/08** (2006.01); **F02M 61/16** (2006.01); **F02M 61/18** (2006.01)

CPC (source: EP)  
**F02M 51/061** (2013.01); **F02M 51/0664** (2013.01); **F02M 61/161** (2013.01); **F02M 61/168** (2013.01); **F02M 61/1853** (2013.01)

Citation (search report)  
• [X] US 5335864 A 19940809 - ROMANN PETER [DE], et al  
• [A] US 5207384 A 19930504 - HORSTING JOHN J [US]

Cited by  
EP1219816A1; EP1219819A1; EP1555427A3; EP1219818A1; EP1219822A1; EP1219814A1; US7036754B2; EP1219821A1; EP1036934A3; EP1245827A1; EP1219820A1; EP1221550A1; EP1219815A1; EP1219817A1; EP1219825A1; US7093362B2; US6565019B2; US6533188B1; US6695232B2; US6536681B2; US6904668B2; US6851631B2; US6655609B2; US6676043B2; US6607143B2; US6523761B2; US6811091B2; US6511003B2; US6499668B2; US6502770B2; US6568609B2; US7347383B2; US6676044B2; US6698664B2; WO0107780A1; WO9940315A1; WO02079636A1; US6685112B1; US6523756B2; US6648247B2; US6663026B2; US6769636B2; US6508417B2; US6520421B2; US6520422B2; US6523760B2; US6550690B2; US6499677B2; US6543707B2; US6547154B2; US6708906B2; US6840500B2

Designated contracting state (EPC)  
DE FR GB

DOCDB simple family (publication)  
**EP 0781917 A1 19970702**

DOCDB simple family (application)  
**EP 96203325 A 19961126**