

Title (en)  
Gas turbine engine combustor

Title (de)  
Verbrennungsgerät für Gasturbinenmotor

Title (fr)  
Appareil de combustion pour moteur de turbine à gaz

Publication  
**EP 0728989 B1 20011128 (EN)**

Application  
**EP 96300281 A 19960115**

Priority  
• GB 9500627 A 19950113  
• GB 9519826 A 19950929

Abstract (en)  
[origin: EP0728989A2] A lean burn combustor for a gas turbine engine has a pilot burner (114) which injects fuel and air separately, the air being injected as a swirling column from a circular slot (302) in the burner head (214) to establish a divergent columnar shear layer (303) in the combustor, and the fuel being injected from a peripheral annular gap in the burner head towards the column of air (300) for mixing with it in the shear layer (303). A main burner (120,122) surrounds the pilot burner and by means of swirler passages (122) injects a fuel-lean main fuel/air mixture into the combustor towards the shear layer (303) for mixing with the pilot fuel and air. The shear layer establishes a sheltered combustion region (107) near the pilot burner and some fuel/air mixture (304) capable of stable combustion in the sheltered region is recirculated from the shear layer into the sheltered region to increase the stability of lean burn combustion in the combustor over a wide range of engine load conditions. <IMAGE>

IPC 1-7  
**F23D 14/24**; **F23C 7/00**; **F23D 14/74**; **F23D 23/00**; **F23D 17/00**

IPC 8 full level  
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