



**FAA**  
**Aircraft Certification Service**

# **SPECIAL AIRWORTHINESS INFORMATION BULLETIN**

**SUBJ:** Reciprocating Engine Cylinder Section

**SAIB:** NE-09-09

**Date:** February 2, 2009

*This is information only. Recommendations aren't mandatory.*

## **Introduction**

This Special Airworthiness Information Bulletin (SAIB) alerts you, owners, operators, repair facilities, and Principal Maintenance Inspectors in the FAA Flight Standards District Offices (FSDOs), of the potential for cylinder head cracking at the exhaust port on **Pratt & Whitney R-1340 series reciprocating engines**. A cracked cylinder head can result in engine power loss, a forced landing, and damage to the aircraft. At this time, risk analysis indicates that the airworthiness concern is not an unsafe condition that would warrant airworthiness directive (AD) action under Title 14 of the Code of Federal Regulations (14 CFR) part 39.

## **Background**

Since 2000, there have been six documented incidents of engine power loss and forced landings attributed to cracking at the exhaust port on Pratt & Whitney R-1340 series reciprocating engine cylinder heads. AD 99-11-02 requires periodic on-wing visual inspection of selected cooling fins in the area of the spark plug bosses on Pratt & Whitney R-1340 series reciprocating engine cylinder heads. That AD also requires fluorescent-penetrant inspection (FPI) of those fins on each cylinder at every overhaul. Those required inspections focus only on the fins immediately adjacent to the spark plug bosses and do not include the exhaust port and surrounding area.

## **Recommendations**

To prevent a cracked cylinder head which could result in engine power loss, a forced landing, and damage to the aircraft, we recommend that you do the following:

- During each on-wing visual inspection required by AD 99-11-02, also visually inspect the cylinder heads in the area of the exhaust port and valve housing for evidence of cracking, using 10X or greater magnification. Replace cracked cylinders with serviceable parts.
- During overhaul, FPI the entire cylinder for evidence of cracking. Replace cracked cylinders with serviceable parts.

## **For Further Information Contact**

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