

AD Number: **CF-2014-41**  
Issue Date: **26 November 2014**

# AIRWORTHINESS DIRECTIVE

The following airworthiness directive (AD) may be applicable to an aircraft which our records indicate is registered in your name. ADs are issued pursuant to **Canadian Aviation Regulation (CAR) 521 Division X**. Pursuant to **CAR 605.84** and the further details of **CAR Standard 625, Appendix H**, the continuing airworthiness of a Canadian registered aircraft is contingent upon compliance with all applicable ADs. Failure to comply with the requirements of an AD may invalidate the flight authorization of the aircraft. Alternative means of compliance shall be applied for in accordance with **CAR 605.84** and the above-referenced **Standard**.

This AD has been issued by the Continuing Airworthiness Division (AARDG), National Aircraft Certification Branch, Transport Canada, Ottawa, telephone 613 952-4357.

<b>Number:</b>	CF-2014-41	<b>Effective Date:</b>	9 December 2014
<b>ATA:</b>	73	<b>Type Certificate:</b>	E-19
<b>Subject:</b>	Engine Fuel and Control - Fuel Spray Nozzle – Fuel Leaks Resulting In Engine Fire		
<b>Replacement:</b>	Supersedes AD CF-2013-29 issued 18 October 2013 and AD CF-2005-11R2 issued 12 December 2013.		
<b>Applicability:</b>	Pratt & Whitney Canada:		

Model PW120, PW121 and PW121A engines with Post Service Bulletin (SB) 21610 configuration,  
Model PW124B, PW127, PW127E and PW127F engines with Post SB 21607 configuration,  
Models PW127E / PW127F Engines with Serial No. PCE-EB0366 and earlier,  
Model PW127G Engines with Serial No. PCE-AX0275 and earlier,  
Model PW127H Engines with Serial No. PCE-AY0019 and earlier,  
Models PW127M / PW127N with Serial No. PCE-ED0810 and earlier.

**Compliance:** As indicated below, unless already accomplished.

**Background:** Fuel leaks at the fuel spray nozzle (FSN) manifold connection on certain PW 100 engine installations have occasionally resulted in engine fires. Most of these fuel leaks and resultant fires were reported on aeroplanes immediately following maintenance work. To improve the ability to detect post maintenance fuel leaks on the ground, P&WC issued SB 21803 that was mandated per AD CF-2013-29 to remove the secondary O-ring seal from the FSN manifold connections, the presence of which could induce false positive results for the post maintenance fuel leak checks.

However, on post AD CF-2013-29 configured engines with the O-ring seal removed; there were reported incidences of fuel seepage past the metal to metal sealing surfaces of FSN and adapter manifold. To address the subject fuel seepage problem, P&WC issued SB 21841 to modify the FSN adapter and SB 21848 to install a metallic conical seal at the FSN manifold connection, which was later superseded by SB 21860 that introduced a new/improved conical seal.

In order to effectively address the FSN manifold fuel leaks and the potential hazard of in-flight engine fires, P&WC has defined the final configuration of the fuel manifold installation that constitutes the terminating action. P&WC SB 21861 consolidates all the required corrective actions, including the AD CF-2013-29 and AD CF-2005-11R2 requirements into one document. This AD is issued to mandate compliance with requirements of SB 21861.

**Corrective Actions:**

Within 1500 hours air time or during the next fuel spray nozzle replacement on the affected engines, whichever occurs first from the effective date of this AD, modify the fuel spray nozzle manifold installation in accordance with SB 21861 dated 21 November 2014, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Engines with previous incorporation of P&WC SBs 21803R5, SB 21860R2 or their earlier versions and SB 21841R2 satisfy the mandated requirements of this AD.

**Authorization:** For the Minister of Transport,

*ORIGINAL SIGNED BY*

Derek Ferguson  
Chief, Continuing Airworthiness

**Contact:** A K Durrani, Continuing Airworthiness, Ottawa, telephone 613-952-4357, facsimile 613-996-9178 or e-mail [AD-CN@tc.gc.ca](mailto:AD-CN@tc.gc.ca) or any Transport Canada Centre.