Transport Canada Transports Canada

TP 7245E

No. CF-2013-29 1/2

Issue Date 4 October 2013

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.

Number: **CF-2013-29**

Subject: **Flexible Fuel Manifold Leaks**

Effective: **18 October 2013**

Applicability: **Pratt & Whitney Canada:**

Model PW120, PW121 and PW121A engines with Post SB21610 configuration;
Model PW124B, PW127, PW127E, PW127F and PW127H engines with Post SB21607 and/or Post SB21705 configurations;
Model PW127G and PW127M engines.

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

Background: There have been reported incidences of fuel leaks at the interface between the flexible fuel manifold and the fuel nozzle. On occasion, these events resulted in an engine fire on PW100 series engine installations. The data indicates that nearly all of the subject manifold fuel leaks were caused by inadequate B-nut torque application during installation, after maintenance work was performed on the fuel nozzle/manifold.

Sealing of the fitting connections between the fuel manifolds and the fuel nozzle adapters is achieved through conical metal-to-metal surface seating. An additional O-ring seal on the fitting was installed to arrest any fuel leak past the conical sealing surfaces. In-service experience has indicated that leakage past the sealing surfaces, as a result of improper torquing during installation of the manifold, may not be immediately evident until the failure of the o-ring seal allows the fuel to leak into the nacelle area.

To address the problem of false positive leak check indications during manifold installation on the ground due to the O-ring seal, Pratt & Whitney Canada (P&WC) has issued SB 21803 to remove the O-ring seal from the fitting installation. This will facilitate the ground crew to discover and rectify any fuel leak on ground resulting from improper connection/torquing, thus preventing the potential source of engine fires. This AD is being issued to mandate compliance with the P&WC SB 21803 for the removal of the fuel manifold O-ring seal.

Corrective Actions: During the next opportunity when the affected subassembly is accessible, but no later than 18 months from the effective date of this AD, remove the O-ring seal from the fuel manifold fitting in accordance with P&WC SB 21803 Revision 4, dated 8 February 2012, or later revision approved by the Chief, Continuing Airworthiness, Transport Canada.

Compliance with earlier versions of SB 21803 prior to the effective date of this AD, also meets the intent 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 or any Transport Canada Centre.