



適航指令發布單

Airworthiness Directive Issuance Form

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|---|--|---------------------|------------|---------------------------|-----------------------------------|----------------------------|------------------------------|------------------------------|------------------------------|--|---------------------------------|----------------------------|-------------------------------------|--|----------------------------------|
| 民航局AD編號 AD number | CAA-2024-02-010 | 發布日期 Date issued | 2024/02/19 | | | | | | | | | | | | |
| 適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable) | Pratt & Whitney Canada (P&WC) model PW118, PW118A, PW118B, PW120, PW120A, PW121, PW121A, PW123, PW123B, PW123C, PW123D, PW123E, PW123AF, and PW124B engines. | | | | | | | | | | | | | | |
| 主旨摘要 Subject | Turboprop Engine - Overspeed Governor Hydraulic Pump - Malfunction of Pressure Relief Valve | | | | | | | | | | | | | | |
| 民航局 CAA <input type="radio"/> 本國產品 Native product <input type="radio"/> 其他個案 Other | 設計國民航主管機構 Original Authority <table><tr><td><input type="radio"/> FAA</td><td><input type="radio"/> Germany LBA</td></tr><tr><td><input type="radio"/> EASA</td><td><input type="radio"/> CAA-NL</td></tr><tr><td><input type="radio"/> Brazil</td><td><input type="radio"/> UK CAA</td></tr><tr><td><input checked="" type="radio"/> Transport Canada Civil Aviation</td><td><input type="radio"/> Japan CAB</td></tr><tr><td><input type="radio"/> DGAC</td><td><input type="radio"/> CAA of Israel</td></tr><tr><td></td><td><input type="radio"/> Other_____</td></tr></table> | | | <input type="radio"/> FAA | <input type="radio"/> Germany LBA | <input type="radio"/> EASA | <input type="radio"/> CAA-NL | <input type="radio"/> Brazil | <input type="radio"/> UK CAA | <input checked="" type="radio"/> Transport Canada Civil Aviation | <input type="radio"/> Japan CAB | <input type="radio"/> DGAC | <input type="radio"/> CAA of Israel | | <input type="radio"/> Other_____ |
| <input type="radio"/> FAA | <input type="radio"/> Germany LBA | | | | | | | | | | | | | | |
| <input type="radio"/> EASA | <input type="radio"/> CAA-NL | | | | | | | | | | | | | | |
| <input type="radio"/> Brazil | <input type="radio"/> UK CAA | | | | | | | | | | | | | | |
| <input checked="" type="radio"/> Transport Canada Civil Aviation | <input type="radio"/> Japan CAB | | | | | | | | | | | | | | |
| <input type="radio"/> DGAC | <input type="radio"/> CAA of Israel | | | | | | | | | | | | | | |
| | <input type="radio"/> Other_____ | | | | | | | | | | | | | | |
| | 設計國AD編號 Original AD number | CF-2024-04 | | | | | | | | | | | | | |
| | 1. 直接採用原AD之內容? (Is the original AD directly adopted?) <input checked="" type="radio"/> 是(Yes) <input type="radio"/> 否(No)_ a. 生效日期另訂為(Re-specify the effective date as): b. 執行時限另訂為(Re-specify the compliance time or period as): 2. 使用人是否需要將AD執行結果向民航局提出報告? (Do users need to report the status of compliance to the CAA?) <input type="radio"/> 需要(Yes) <input checked="" type="radio"/> 不需要(No) | | | | | | | | | | | | | | |
| 備註 Note | ATA 72. Ref. Service Bulletin PW100-72-21945, Initial Release, dated 29 April 2020 | | | | | | | | | | | | | | |

註： 1. AD內容後附。
2. 航空器產品使用人得向民航局提出豁免、替代符合方法、執行時限之展延之申請。
3. 如有任何問題，請聯絡交通部民用航空局初始適航科。Tel：(02)2349-6330 / 6332, Fax：(02)2545-8464,
adcaa@mail.caa.gov.tw

Note： 1. The AD text is enclosed.
2. Exemption, an alternative method of compliance or adjustment of the compliance time may be proposed to the CAA for approval.
3. For further information, please contact Civil Aeronautics Administration on Tel：(02)2349-6330 / 6332, Fax：(02)2545-8464, adcaa@mail.caa.gov.tw



AIRWORTHINESS DIRECTIVE

This Airworthiness Directive (AD) is issued pursuant to Canadian Aviation Regulation (CAR) 521.427. No person shall conduct a take-off or permit a take-off to be conducted in an aircraft that is in their legal custody and control, unless the requirements of CAR 605.84 pertaining to ADs are met. Standard 625 - Aircraft Equipment and Maintenance Standards Appendix H provides information concerning alternative means of compliance (AMOC) with ADs.

Number:

CF-2024-04

Effective Date:

14 March 2024

ATA:

72

Type Certificate:

E-19

Subject:

Turboprop Engine – Overspeed Governor Hydraulic Pump – Malfunction of Pressure Relief Valve

Applicability:

Pratt & Whitney Canada (P&WC) model PW118, PW118A, PW118B, PW120, PW120A, PW121, PW121A, PW123, PW123B, PW123C, PW123D, PW123E, PW123AF, and PW124B engines.

Compliance:

As indicated below, unless already accomplished.

Background:

There were 3 reported propeller control malfunction events in which the propeller system entered into a pitch-lock condition causing propellers to overspeed. In those events, the replacement of the overspeed governor (OSG) hydraulic pumps resolved the malfunction. The investigation determined that the regulating pressure of the pressure relief valve (PRV), which is part of the OSG hydraulic pump, was lower than the required pressure and was caused by contamination in the PRVs. This low regulating pressure resulted in the propeller entering into a pitch-lock condition and over-speeding in those events. A propeller over-speeding may cause thrust asymmetry and difficulty in controlling the aeroplane in flight and on the ground.

To eliminate potential contamination in the suspect OSG hydraulic pump PRV population, P&WC issued Service Bulletin (SB) PW100-72-21945, Initial Release, dated 29 April 2020, to remove suspected OSG hydraulic pumps with suspect PRVs and return them to authorized sources. Subsequently, P&WC revised the SB to add previously missed OSG hydraulic pumps and PRV serial numbers (SN) to Table 1 of the SB Appendix, and include re-identification instructions for the supplier Part Number (P/N) of the PRV.

To address the unsafe condition from a propeller entering into a pitch-lock condition and over-speeding caused by OSG hydraulic pump PRV contamination, this AD is issued to mandate the removal of affected OSG hydraulic pump PRVs.

Corrective Actions:

For the purpose of this AD, the following definition applies:

Affected OSG hydraulic pump PRV: the ones which have SN listed in Table 1 of this AD and do not have letter “R” marked after the supplier P/N C2371-08.

- A. Within 60 days from the effective date of this AD, if both engines on one aeroplane have affected OSG hydraulic pump PRVs installed, remove one of the affected OSG hydraulic pump PRVs in accordance with the Accomplishment Instructions of P&WC SB PW100-72-21945 Revision 5 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Thereafter, it is prohibited to have two affected OSG hydraulic pump PRVs installed on the same aeroplane.

- B. Within 360 days from the effective date of this AD, remove any affected OSG hydraulic pump PRVs in accordance with the Accomplishment Instructions of P&WC SB PW100-72-21945 Revision 5 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.
- C. After the effective date of this AD, affected OSG hydraulic pump PRVs are not eligible for re-installation on the engine.

Table 1 – SNs of Affected OSG Hydraulic Pump PRVs

| | | |
|-------|-------|-------|
| 13051 | 13011 | 13175 |
| 13019 | 13023 | 13166 |
| 13416 | 13018 | 13161 |
| 13158 | 13026 | 13176 |
| 13027 | 13003 | 13157 |
| 13014 | 13047 | 13167 |
| 13006 | 13046 | 13159 |
| 13013 | 13045 | 13160 |
| 13015 | 13044 | 13169 |
| 13022 | 13036 | 13155 |
| 13039 | 13028 | 13170 |
| 13017 | 13048 | 13164 |
| 13163 | 13031 | 13154 |
| 13042 | 13049 | 13401 |
| 13020 | 13030 | 13403 |
| 13172 | 13032 | 13390 |
| 13002 | 13035 | 13411 |
| 13025 | 13041 | 13415 |
| 13043 | 13034 | 13391 |
| 13010 | 13029 | 13407 |
| 13038 | 13033 | 13383 |
| 13037 | 13181 | 13389 |
| 13050 | 13174 | 13384 |
| 13173 | 13152 | 13395 |
| 13021 | 13177 | 13405 |
| 13004 | 13178 | 13420 |
| 13007 | 13165 | 13009 |
| 13008 | 13156 | 13012 |
| 13016 | 13179 | 13024 |
| 13005 | 13180 | |

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Jenny Young

Chief, Continuing Airworthiness

Issued on 15 February 2024

Contact:

Zhiwei Wang, Continuing Airworthiness, Ottawa, telephone 888-663-3639, facsimile 613-996-9178 or e-mail TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca or any Transport Canada Centre.