

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:	Effective Date:
CF-2021-44	9 December 2021
ATA:	Type Certificate:
72	A-236

Subject:

Engine – Aircraft Flight Manual – Normal Procedure and Non-Normal Procedures

Applicability:

Airbus Canada Limited Partnership (ACLP) (formerly C Series Aircraft Limited Partnership (CSALP), Bombardier Inc.) aeroplanes:

Model BD-500-1A10, serial numbers 50001 and subsequent,

Model BD-500-1A11, serial numbers 55001 and subsequent.

Compliance:

Within 30 days from the effective date of this AD, unless already accomplished.

Background:

There has been one in-service event where a BD-500-1A11 aeroplane experienced a dual engine automatic shutdown upon landing. The crew successfully stopped the aeroplane with degraded systems and functions.

An investigation is ongoing to determine the root case, but preliminary findings of this event indicate that erroneous uncontrolled high thrust (UHT) detection can occur above 16,000 feet when the thrust lever is manually and abruptly moved towards the idle position. An abrupt throttle movement is defined as a sudden change of thrust lever position from max to idle in less than 2 seconds.

An erroneous UHT detection in flight may not be annunciated on the flight deck's displays, however it will still result in automatic engine shutdown on ground upon landing. An automatic dual engine shutdown upon landing could lead to a runway excursion.

As an interim action to address this unsafe condition, this AD introduces additional steps into the Aircraft Flight Manual (AFM) to add a new Normal Procedure and to supplement the existing Non-Normal Procedures. The new Normal Procedure introduces actions to be taken before landing if the thrust lever is abruptly moved manually towards idle above 16,000 feet, and the supplemental Non-Normal Procedures introduce steps if either L THROTTLE FAIL (Caution) or R THROTTLE FAIL (Caution) is annunciated to the flight crew.

This AD is considered interim action and further AD action may follow.

Corrective Actions:

A. Amend the applicable AFM, section Normal Procedures, by adding the new interim procedure as specified in Figure 1 of this AD.



Figure 1 – Normal Procedure "If above 16,000 feet pressure altitude, thrust lever(s) were abruptly moved manually towards IDLE".

Normal Procedure - "If above 16,000 feet pressure altitude, thrust lever(s) were abruptly moved manually towards IDLE".

Before landing:

- Start and use the APU for landing.
- Select the longest runway with minimal crosswind.
- Use the autobrake for landing.
- Land on dry or wet runway if possible.
- Select the SPOILER lever to FULL immediately after touchdown.
- Use the OLD factors that follow for landing:

	OLD Factor Dry or Wet Runway Condition	OLD Factor Contaminated Runway Condition
APU GEN On	1.25	1.40
APU GEN Off	1.40	1.60

Definition: Abrupt throttle movement is defined as when N1 is above 80% N1, a sudden change of thrust lever position from MAX to IDLE in less than 2 seconds.

B. Amend the applicable AFM, section Non-Normal Procedures, by adding the new interim steps into each of the following two Non-Normal procedures, as specified in Figure 2 of this AD: L THROTTLE FAIL (Caution) and R THROTTLE FAIL (Caution).

Figure 2 – Non-Normal Procedures

Non-Normal Procedure

- L THROTTLE FAIL (Caution) or
- R THROTTLE FAIL (Caution)

Before landing:

- Start and use the APU for landing.
- Select the longest runway with minimal crosswind.
- Use the autobrake for landing.
- Land on dry or wet runway if possible.
- Select the SPOILER lever to FULL immediately after touchdown.
- Use the OLD factors that follow for landing:

5	OLD Factor Dry or wet runway condition	OLD Factor Contaminated runway condition
APU GEN On	1.25	1.40
APU GEN Off	1.40	1.60

C. Inform all flight crews of these new procedures and thereafter operate the aeroplane accordingly.

Authorization:

ORIGINAL SIGNED BY

Rémy Knoerr Chief, Continuing Airworthiness Issued on 2 December 2021

Contact:

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