

ADVISORY WIRE

AW300-21-0039, Rev. 2

DATE: April 28, 2008

PAGE: 1 OF 3

FROM: BOMBARDIER CUSTOMER SERVICES BUSINESS AIRCRAFT

ADVISORY WIRE

REFERENCE NO: AW300-21-0039, Rev. 2

SUBJECT: "PACK COOL AIR FAIL" EICAS Message Posted
During Descent

EFFECTIVITY: Challenger 300 (20003 - 20999)

ATA: 21-53

This Advisory Wire contains Operational and Maintenance Information

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ADVISORY WIRE

AW300-21-0039, Rev. 2

DATE: April 28, 2008

PAGE: 2 OF 3

1.0 REFERENCES:

- 1.1** Service Bulletin 100-21-05 – “Modification – Cabin-Pressure Control System – Software change of the Integrated Air System Controller”, released Feb. 2006

This Service Bulletin is available on the CIC website (<http://www.cic.bombardier.com>) within the Technical Library > Service Bulletins > Service Bulletins for Bombardier > for Challenger > 300 > 100-21-05.

- 1.2** Liebherr Service Info Letter LS7084-21-01, released Nov. 2007 (See attached document)

2.0 INTRODUCTION:

The revision to this Advisory Wire is to provide operators with additional information regarding the Ram Air Regulating Valve failure during normal operation and to provide the Service Information Letter (Ref.1.2) for more detailed troubleshooting information.

3.0 DESCRIPTION:

Field reports indicate that during descent some aircraft are experiencing intermittent “PACK COOL AIR FAIL” EICAS message while the air conditioning system is operating in normal mode. Initial troubleshooting highlighted that the Maintenance Diagnostics Computer (MDC) fault memory history shows the Ram Air Regulating Valve (RARV) failed in the open position.

The “PACK COOL AIR FAIL” EICAS message is triggered when the RARV micro switch is not in the closed position within a set time when either the Hot Air Temp Sensor or the Pack Inlet Temp Sensor senses a temperature below 90°C or 194°F. The message stays posted as long as one of the two conditions is set and the RARV is not fully closed. Consequently, the MDC logs a RARV failed in open position.

The Service Bulletin (Ref. 1.1) was issued to increase the RARV closed position confirmation time from 60 to 150 seconds in order to prevent nuisance “PACK COOL AIR FAIL” EICAS messages. However, the number of removals and No Fault Found (NFF) of the RARV are still high. Only 6% of returned valves fail the acceptance test.

ADVISORY WIRE

AW300-21-0039, Rev. 2

DATE: April 28, 2008

PAGE: 3 OF 3

In order to avoid unnecessary part removal and NFF parts, the valves should be removed only if the message does not clear by itself or cooler than normal air is felt in cabin.

The vendor has investigated this issue and has determined that this occurs as the RARV is near the closed position. As the valve nears the closed position, the Integrated Air System Controller (IASC) reduces the command current sent to the valve. Under airflow loads, this command current is not sufficient to achieve a fully closed position and trigger the valve-closed microswitch. Liebherr Aerospace is currently evaluating solutions to solve the issue.

4.0 ACTION:

Operators should be familiar with the possibility of having a nuisance "PACK COOL AIR FAIL" message during descent. In order to avoid unnecessary removals and high rates of NFF, we recommend not replacing a Ram Air Regulating Valve unless the message does not clear by itself or cooler than normal air is felt in cabin when the message is posted.

We recommend using the Service Information Letter (Ref. 1.2) when troubleshooting a "PACK COOL AIR FAIL" message.

We will keep you informed of any new developments as they arise.