

Advisory Wire

REFERENCE NO: AW700-23-0684, Rev. 01
ATA: 23-15
SUBJECT: Cockpit Iridium Satcom System (CISS) – Intermittent voice and data unavailable

INFORMATION TYPE: Maintenance Operational
EFFECTIVITY: G7500 (70006 – 79999)

1. REFERENCE:

- 1.1. CSP 700-7000-1, Airplane Flight Manual (AFM), Section 03-02- Avionics, Advisory Procedures
- 1.2. Bombardier Service Bulletin (SB) 700-23-7508, Modification Flight Compartment Iridium Satellite - Replacement Of Safety System Unit (SSU) Top Level With Part NO. G02314100-003
Refer to the SB for applicable effectivity

2. INTRODUCTION:

Revision 1 of this Advisory Wire (AW) is to inform operators about the solution availability through the recently released Service Bulletin (Ref. 1.2). This SB provides instructions to install an enhanced SSU to avoid the intermittent SATCOM disconnections condition described in this AW.

This AW is to inform the operators about the known condition regarding SATCOM DATA FAIL, SAT VOICE NO SIGNAL or SATCOM NO SIGNAL Advisory Engine Indication and Crew Alerting System (EICAS) messages due to intermittent losses of connection with the satellites due to signal drop.

3. DESCRIPTION:

Flight crew reported that SATCOM DATA FAIL, SAT VOICE NO SIGNAL or SATCOM NO SIGNAL Advisory EICAS messages were intermittently posted. When it occurs, the communication through the Iridium global satellite network is momentarily lost and, consequently; both voice channels and data receipt / transfer are temporarily impaired.

The Satellite Communication (SATCOM) services are resumed and EICAS messages cleared once the communication with satellites is reestablished

SAT VOICE NO SIGNAL

The SAT VOICE NO SIGNAL indicates that both SATCOM voice channels are not logged on or that coverage is degraded, causing voice to be unavailable.

SATCOM DATA FAIL

The SATCOM DATA FAIL indicates that the Aircraft Communication Addressing and Reporting System (ACARS) / Future Air Navigation System (FANS 1/A+) Datalink is not available through SATCOM.

If the SATCOM is the only transmission media available for Datalink FANS 1/A+ communications (e.g. outside VHF coverage), the automated FANS Automatic Dependent Surveillance – Contract (ADS-C) position report may not be sent to Air Traffic Control (ATC). Therefore, if the failure condition is prolonged more than 16 consecutive minutes, the aircraft will automatically terminate the active CPDLC (Controller-pilot data link communications) and ADS-C connections. However, for ACARS AOC related messages, as soon as the connection is reestablished, these messages will be retrieved and retransmitted.

In this case, the applicable airspace contingency procedures and recommended practices should be followed.

SATCOM NO SIGNAL

The SATCOM NO SIGNAL indicates that the DATA and the two Voice channels losses occur simultaneously, and the EICAS will display this message instead of the other two separate EICAS messages: SATCOM DATA FAIL and SAT VOICE NO SIGNAL.

The root cause of these described failures has been determined to be related to the Iridium Safety Services Unit (SSU) L-band transceiver (LBT). The new firmware incorporates further enhancements to the channel search and satellites acquisition functions.

Bombardier Service Bulletin (Ref. 1.2) is now made available allowing installation of new SSU which contains an LBT (L-Band Transceiver) firmware upgrade from Iridium. This firmware improves the performance of the SSU connections with the Satellites by using a more aggressive ring channel search and acquisition algorithms, preventing the LBT to enter in power saving mode, which avoids the intermittent SATCOM signal related CAS messages to be issued.

This Service Bulletin (Ref. 1.2) is applicable only to aircraft specified in the effectivity and all other aircraft will have new SSU installed in production or prior to EIS (Entry Into Service).

4. ACTION:

Operators should be familiar with the information contained in this AW and the solution availability via SB (Ref. 1.2).

In the interim, affected operators that do not have SB (Ref. 1.2) incorporated should continue to use the following recommendations:

4.1. Operational:

Flight crew should follow the AFM guidance (Ref. 1.1). When operating FANS 1/A+ (CPDLC and ADS-C) and the aircraft Datalink system provides an indication of degraded performance the flight crew should revert to voice communication using alternate voice communication (e.g. HF voice), notify ATC of the failure as soon as practicable and follow applicable airspace contingency procedures.

4.2. Maintenance:

These Advisory CAS messages can be ignored with no further troubleshooting, if the following Onboard Maintenance System (OMS) messages corresponding to the Advisory CAS appear alone as follows:

- For SATCOM DATA FAIL Advisory CAS messages, the following OMS message is expected, 2315041SSU0 - SSU datalink function is not available due to RF signal
- For SAT VOICE NO SIGNAL Advisory CAS messages, the following OMS message is expected, 2315042SSU0 - SATCOM VOICE NOT AVAILABLE.
- For SATCOM NO SIGNAL Advisory CAS messages, the following OMS message is expected, 2315043SSU0 SATCOM LOGGED OFF.

If any other associated SATCOM maintenance messages are displayed, perform the appropriate Smart Fix Plus troubleshooting procedure.

Should you have any questions pertaining to this AW or require additional information, please contact your Bombardier Field Service Representative (FSR) or the Customer Response Centre.