

ADVISORY WIRE

REFERENCE NO:	AW700-30-0463	INFORMATION TYPE:	Maintenance
ATA:	30-41	EFFECTIVITY:	Global Express 9002 to 9153
SUBJECT:	No Fault Found (NFF) initiative – Windshield Temperature Controller (WTC)		Global 5000 9127 to 9411, 9417 to 9431, 9998 Global Express XRS 9159 to 9429 Global 5000 feat. Bombardier Vision Flight Deck 9386, 9401, 9445 to 9997 Global 6000 9313, 9381, 9432 to 9997

1. REFERENCE:

- 1.1. Detailed GX WTC Troubleshooting Report, (available in SmartFix™ Plus).

2. INTRODUCTION:

Bombardier would like to inform the Operators of the new actions taken in order to improve the reliability of the Windshield Temperature Controller (WTC) and to reduce the number of No Fault Found (NFF). The WTC has been identified as having one of the highest NFF rates on the Global platform and several factors are attributed to this condition.

3. DESCRIPTION:

The WTC was put on the Top 10 NFF in March 2013. Since December 2013, Customer Support Engineering has been reviewing every WTC removal, to ensure that all the units declared NFF at the vendor's are investigated and that the findings correlate to the reason for removal reported by the Operator prior to getting the approval to be returned to the spares pool.

In addition, several factors are affecting the repair process at the vendor, thus contributing to a high NFF rate: incomplete Acceptance Test Procedures (ATP), quality of solder joints, unjustified removal of a WTC when a windshield is replaced for damage or inadequate troubleshooting.

In August 2013, the vendor's ATP was revisited to incorporate the verification of additional ARINC labels that are used for fault reporting which will help identify a faulty component within the WTC during the repair process. Bombardier conducted an audit at the vendor's repair facility in November 2013. The audit was concluded with the approval of the ATP changes.

Furthermore, a visual inspection of the units on the repair line has raised concerns with regards to the quality of some solders on electronic boards as well as the overall visual aspect of the boards themselves. Bombardier and the vendor are currently investigating the possible root cause of these issues. The

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investigation is now focusing on the quality of the soldering process used during the incorporation of the last WTC amendment introduced as part of the Reliability Improvement Modification Program (RIMP) campaign. The vendor is currently inspecting all units returned to the repair facility. Any damage or quality deficiency observed on the electronic boards or on the solder joints will be reworked, or the board will be replaced if required.

Also, the analysis of the reasons for removal of the returned units revealed a high removal rate of the WTC due to precautionary measures following a cracked or damaged window/windshield event. The WTCs removed for this reason are declared NFF and are returned into service. Based on the windshield's investigation results, the WTC hasn't been identified as a contributor for a cracked/damaged windshield/window event. However, if experiencing an intermittent CAS message (R or L WSHLD HEAT FAIL, R or L WINDOW HEAT FAIL) during flight, it is recommended to visually inspect the related windshield or window. Defects such as delamination or signs of overheat, particularly in the area of the bus bar, are susceptible to cause intermittences during flight due to the possible disbonding of the heater coating during pressurization. A detailed visual inspection of the window/windshield is recommended rather than replacing the WTC.

Therefore, in order to reduce the NFF rate of the WTC, Bombardier does not recommend the replacement of the WTC for a windshield/window cracked or damaged.

In order to make further progress in the investigation, Bombardier would like to gather as much information as possible from the Operators to help the vendor in the troubleshooting of the WTC. Before removing a WTC, the Operators are invited to contribute in this initiative by providing the details of their troubleshooting and by contacting the Customer Response Centre before removing any unit.

4. ACTION:

In order to support the vendor during this troubleshooting process, Bombardier is strongly recommending that operators follow the steps outlined in SmartFix™ Plus for the relief of a CAS message R-L WSHLD HEAT FAIL or R-L WINDOW HEAT FAIL if a WTC needs replacement. The Troubleshooting Report Sheet attached in SmartFix™ Plus (Ref. 1.1) should be filled out and sent to your Bombardier [Field Service Representative](#) (FSR) or the [Customer Response Centre](#) (CRC) at ac.yul@aero.bombardier.com.

Progress on the WTC investigation will be communicated via further revision to this advisory wire.