

Advisory Wire

REFERENCE NO:	AW700-24-0870	INFORMATION TYPE:	Maintenance Operational
ATA:	24-30	EFFECTIVITY:	Global 7500
SUBJECT:	TRU 1 FAIL (ADVISORY) DISPATCHABILITY		

1. REFERENCES:

- 1.1. Global 7500 MASTER MINIMUM EQUIPMENT LIST (MMEL) [\[TC\]](#) [\[FAA\]](#) [\[EASA\]](#)
- 1.2. Global 7500 Dispatch Deviation Guide (DDG) [\[TC\]](#) [\[FAA\]](#) [\[EASA\]](#)

2. INTRODUCTION:

This Advisory Wire is to inform the Global 7500 operators about an upcoming revision to the MMEL (ref 1.1) and the DDG (ref 1.2) which will limit the dispatch capability with a failed Transformer Rectifier Unit (TRU).

3. DESCRIPTION:

Bombardier have received reports of TRU failures due to overheating caused by the cooling fan inoperative.

In flight, if this condition occurs, the internal temperature of the TRU will increase, leading the Electrical Power Generation & Distribution System (EPGDS) to post the advisory CAS message "LOAD SHED" and shedding lower priority electrical loads.

Three TRUs supply aircraft DC power needs. In normal operation, the TRU 1 powers DC Bus 1, TRU 2 powers DC Bus 2 and ESS DC Bus 2, while the ESS TRU powers the ESS DC Bus 1.

At the TRU level, when one of the two temperature sensors on the heat sink exceeds 70 °C or at least 2 of the 3 temperature sensors on the transformers exceed 150 °C, the TRU cooling fan is commanded ON. In the event where the TRU temperatures continue to increase, low priority electrical loads are shed to stabilize the temperature. Should the TRU temperature continue to increase, the last step to protect the TRU is to OPEN the respective TRU Line Contactor to disconnect it from the electrical system and allow it to cool down.

As part of the investigation on the returned TRUs, two failures conditions were identified:

- 1. The TRU cooling fan control board may be inoperative
- 2. The TRU cooling fan monitoring circuit may not be able to properly detect a fan failure

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In a scenario where an aircraft is dispatched with TRU 1 inoperative in accordance with the MMEL (ref: 1.1) and DDG (ref: 1.2), the loads on the operational TRUs are greater which is increasing the risk for an overheat condition that could lead to additional TRU failures.

Bombardier and Collins are currently developing a solution to increase the robustness of the TRU cooling fan monitoring circuit. Additional details on the solution and the in-service deployment strategy will be communicated by further revision of this Advisory Wire.

4. ACTION:

Until the investigation is complete and the corrective action is made available, Bombardier recommends operators to avoid dispatching an aircraft with the following items:

MMEL Section 1:

- Transformer Rectifier Unit (TRU) 1 (24-31-01)
- TRU Line Contactor (TLC) 1 (24-31-02)

MMEL Section 2:

- 24 ELECTRICAL - TRU 1 FAN INOP (24-0630)
- 24 ELECTRICAL - TRU 2 FAN INOP (24-0635)
- 24 ELECTRICAL – ESS TRU FAN INOP (24-0465)

The MMEL and DDG (Ref. 1.1. & 1.2) are in the process of being revised to remove the dispatch capability for an inoperative TRU 1, TRU Fan or TLC 1.

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 Center (CRC 24/7) team.