

TBM technical meeting May 19, 2015
Failure code analysis
rev 4

List of failure codes found in EEPROM

- SW_ECS_HEATING_FAULT
- SW_BLEED_TEMP
- SW_BLEED_OVHT
- SW_CPCS_FAULT
- SW_PC_COMP_OOR
- SW_GASC_FAULT
- SW_AVIONICS_VZA_F

Failure codes analysis

■ SW_PC_COMP_OOR

- This failure code is stored when cabin pressure sensor is Out Of Range
- Out Of Range is triggered when cabin altitude is measured below -3550ft or above 15 960 ft

■ SW_CPCS_FAULT

- SW_CPCS_Fault is the sum of several CPCS failure, including SW_PC_COMP_OOR
 - Stored because SW_PC_COMP_OOR was triggered

■ SW_AVIONICS_VZA_F

- This failure code is stored when ARINC data is lost or invalid (outside the range -20 480 ft/min to +20 480ft/min)
- Consequence : A default value of 0 ft is used for VZA

Failure codes analysis

■ SW_GASC_FAULT

- This failure code is due to a known bug not related to functional operation
- Explanation :
 - GASC checks all discrete outputs via individual feedback check
 - However the monitor of the discrete output MAX_DIFF_PRESS_STATUS is not compatible with this feedback check
 - In order to get a good behavior of this discrete output monitor (no unwanted triggering of the HW monitor), the polarization of the external load needs to be at least above 8.565V.
 - The polarization voltage supplied by the A/C (5V) is not sufficient to allow the discrete output monitor to work correctly, thus, leading to an undesirable GASC_FAULT triggered at each leg.
 - Nevertheless, the discrete output interface MAX_DIFF_PRESS_STATUS is correctly read by the avionics.
- No functional impact, GASC_FAULT is used only for maintenance purposes
- will be corrected in next GASC SW update

Failure codes analysis

■ SW_BLEED_OVHT

- This failure code is stored when OTSW is set open ($T^{\circ} > 315^{\circ}\text{C}$)
 - Consequence : SOV is switched OFF

■ SW_BLEED_TEMP

- This failure code is stored when SW_BLEED_OVHT is confirmed during 30 seconds
 - Consequence is a BLEED OFF command

■ SW_ECS_HEATING_FAULT

- This failure code is the sum of several failures, including SW_BLEED_TEMP
 - Stored because SW_BLEED_TEMP was triggered

Copyright

- © **LIEBHERR-AEROSPACE 2015. Alle Rechte vorbehalten. Ausdrücklich eingeschlossen sind, ohne Begrenzung, die Rechte der Übersetzung, der Bearbeitung für andere Sprachen, der auszugsweisen Wiedergabe, der Herstellung von Photokopien oder Mikrofilmen, der Reproduktion durch Xerox oder ähnliche Methoden, der elektronischen Bearbeitung (Speicherung, Reproduktion usw.), der weiteren Verarbeitung und der Zusammenstellung des Inhaltes oder von Teilen derselben in anderer Anordnung.**

- © **LIEBHERR-AEROSPACE 2015. Tous droits réservés, y compris expressément, mais sans limitation, les droits de traduction, d'adaptation en d'autres langues, de la reproduction d'extraits, de la production de copies par photocopies, microfilms, copy Xerox et autres méthodes similaires, de traitement électronique (mémoire, reproduction etc.), ou par regroupement dans un autre ordre des termes ou d'une partie des termes sous quelque forme que ce soit.**

- © **LIEBHERR-AEROSPACE 2015. All rights reserved, expressly including, without limitation, the rights of translation, of adaptation to other languages, of reproduction by way of abstracts, photocopies, microfilms, Xerox and similar methods, electronic processing (storage, reproduction and the like), and of rearranging the contents.**