

## OCCURRENCE REPORT: 121707

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FSIS 121707 11 JUN 2005 GROUND ACCIDENT

Status: supplemental sent

WFS 5125 13/JUN/2005 10:33

WFS 5125SR 24/OCT/2005 11:03

Unclassified

1. Injury Level: No Injury
2. Aircraft/Operated By: CC130332 / 436 SQN / 2523 / 8 WG /
3. Aircraft Ownership: 8 AMS / 3231 / 8 WG /
4. A. Location: Trenton
4. B. Date/Time: 112000Z JUN 2005
4. C. Phase of Flight: PARKED - AIRCREW PREFLIGHT CHECK
5. Damage Level: Serious - Major component / 3rd line maint
7. Mission Type: NONE

**8. Description:** CARGO RAMP DAMAGE - The FE was having difficulty closing the cargo ramp and called for technical assistance. A preliminary investigation revealed that the ramp locks were extended, thereby preventing the ramp from fully closing. Some of the locks and surrounding area was damaged.

13. Flight/Ground Conditions: OUTDOOR FLIGHTLINE - SPRING

22. A. Investigation: Enhanced Supplemental Report

During the conduct of the pre-flight inspection on a local training mission on 11 Jun 05, the Flight Engineer (FE) found the cargo door to be closed and the ramp to be in the "down" (level) position. During the exterior inspection, the FE inspected the ramp area but could not recall if the ramp locks were extended. Upon completion of the cargo compartment inspection, the FE stated that he found the aft anchor line support arms in the "down" position and the following circuit breakers (CBs) were pulled: both ADS ARM, RAMP & ADS CONT and RAMP LOADING LT (this is a common but informal "work around" procedure used to ensure that the cargo door and ramp are not inadvertently actuated during servicing). A review of the AMRS found no entry (CF349 or CF335) from 11 Jun 05 to indicate why the CBs were pulled.

Upon discovering the position of the ramp and being unfamiliar with the "work around" procedure of pulling CBs, the FE chose to close the ramp manually rather than reset the CBs and raise it electrically, stating that he planned on questioning maintenance on the pulled CBs upon completion of the task. The FE stated that he was unsure of the procedure for manually closing the ramp so he reviewed the placard on ramp closure (located at the ramp control selector valve) but did not review the applicable Cargo Loading publication. The FE stated that he moved the selector valve from position "6 and Neutral" to position 4 as indicated on the placard ("Dial ramp control to position 4. Pump until ramp closes") - it should be noted that the ramp control selector valve must be operated in a clockwise direction (ie. position 6, 1,2,3 and finally 4) to prevent the ramp locks from extending inadvertently; if it is moved in a counter-clockwise direction (position 6, 5 then 4) the ramp locks will inadvertently extend through position 5 and will stay extended with the selector in position 4. The FE could not recall whether the selector valve was moved clockwise or counter-clockwise, suggesting that he very likely moved it in a counter-clockwise direction. Indeed, he recalled hearing a "clunk" sound through position 5 but did not confirm its origin. When resistance was felt while attempting to close the ramp manually, the FE stopped the procedure and contacted 8 AMS for further investigation. A technician inspected the ramp area and discovered the extended ramp locks and damage to the ramp lock area and sloping longerons.

The FE stated that he did not feel comfortable when faced with operating the cargo door and ramp. Indeed, the investigation revealed that FEs are not specifically trained to be proficient on cargo door and ramp operations. They are provided a "demo" during the initial OTU and again during the FEOJTP where they are only expected to have a "basic knowledge" (ie. not assessed) of the operation of the ramp and door. It was also determined that the mishap FE had only been involved twice with cargo door and ramp operations over the past 2 years - on the OTU and during OJTP.

In addition, although there is a formal procedure to deactivate the electrical portion of the cargo door and ramp system while conducting maintenance and servicing functions, it is considered labour intensive and burdensome. As a result, this procedure is only consistently used for maintenance functions. For servicing functions, which normally take less than one minute to complete, the "work around" procedure is commonly employed. In this instance, the procedure was not completed (as the CBs were not reset) nor documented.

A functional check was completed on the ramp system in both electrical and manual modes and it was found to be

serviceable. Technical investigation has revealed that damage was caused to the a/c skin and sloping longeron area. The a/c has been ferried for 3rd line repair.

#### 23. Cause Factors: FLT. ENGR (FE)

Errors: Decision: Problem-solving or Risk Management Errors: Inadequate risk management The Flight Engineer chose to close the ramp manually before confirming with maintenance the reason for the pulled CBs.

Legacy: Practice of Personnel: Resource Management: Failed to Use All Available Resources The FE failed to confirm the reason for the pulled CBs with maintenance prior to attempting to close the ramp manually.

#### MANAGEMENT/ 1 CDN AIR DIV

Supervision: Level of Supervision: Training - Inadequate or Unavailable: Training Unavailable Although expected to be proficient at operating the cargo door and ramp, Flight Engineers are only provided "demo" training on two occasions - on the OTU and during OJTP training - and are never formally assessed on their proficiency.

#### MAINTENANCE/CANADIAN FORCES

Errors: Legacy: Error: Attention OR Memory: Omitted Procedural Step The "work around" procedure for disabling the electrical component of the cargo door and ramp was incomplete as the aft anchor line support arms were left in "down" position and CBs were left pulled. As there is no way of identifying the member(s) responsible, there is no Precondition to this Unsafe Act.

#### FLT. ENGR (FE)

Errors: Decision: Knowledge-based or Information Errors: Inadequate knowledge available Although unsure of the procedure, the FE chose to attempt to manually close the ramp without reviewing the applicable publication (relying only on the placard) and without assistance from another qualified individual.

Conditions of personnel: Mental States: Personality Traits and Attitudes: Motivation Although unsure of the procedure, the FE felt that, as a qualified Flight Engineer, he should be able to close the ramp manually without assistance.

#### MAINTENANCE/CANADIAN FORCES

Deviations: Legacy: Routine Deviation: Other Routine Deviations: Other Routine rule & regulation items A commonly used but informal "work around" procedure for carrying out an inspection on the ramp during servicing was employed by unknown personnel.

Legacy: Supervision: Rules AND Regulations: Other rules and regulation anomaly As the proper procedure during servicing to disable the electrical component of the cargo door is labour intensive, a quicker non-standard procedure has been allowed to be employed by personnel as a "work around". This procedure is not familiar to all personnel.

24. Preventive Measures: (BRIEF ALL AIRCREW) This occurrence will be briefed at the unit, emphasizing the requirement for all aircrew to ask for assistance anytime they are not completely confident with their ability to complete a task or procedure.

(ADDITIONAL/ENHANCED TRAINING) The FE was provided refresher training on the operation of the cargo door and ramp in both electrical and manual modes

(SEE DETAILED DESCRIPTION) This occurrence will be briefed to all units by the WFSO, emphasizing the requirement for all personnel to request assistance anytime they are not completely confident with their ability to complete a task or procedure. In addition, the details from this occurrence will be forwarded to the Wing HPMA coordinator for use as a Tier 3 case study, emphasizing not only the importance for personnel to request assistance but that appropriate training be provided to personnel to ensure proficiency with expected tasks.

(SEE DETAILED DESCRIPTION - 1) TRSET has directed that cargo door and ramp operation training (both electrical and manual modes) will be provided and assessed on the OTU and OJTP. In addition, all units will ensure that FEs are assessed on cargo door and ramp operation (both electrical and manual modes) during checkrides. Lastly, units are encouraged to cover this procedure during ground training.

(AMEND CFTO) A Publication Discrepancy Report (PDR) has been raised to amend both the C-12-130-000/ML-001 and the C-12-130-000/MB-Z16. This will formalize the current "work around" procedure. Although this change is normally actioned through a UCR, DAEPM has given permission to use the PDR form for swift resolution of this safety issue.

25. Comments: DFS: Noted