

CHAPTER 2 - AIRWORTHINESS INVESTIGATION PRINCIPLES

INTRODUCTION

1. The RCAF and the CAF have had an active and successful FS Program since 1942. Part of this program involved the investigation of aviation related occurrences. The investigation and associated segments of the FS Program form the Airworthiness Investigation Program. In order to achieve the same level of success, the Airworthiness Investigative Authority (AIA) employs many of the same principles that the FS Program embraces.
2. Of note and because the FS Program predates the Airworthiness Program, the terms for the AIA's products and processes remains the same as those that exist in the FS Program. For example, accident reports remain Flight Safety Investigation Reports (FSIRs), even though they report the results of an Airworthiness Investigation.
3. The objective of this chapter is to outline the principles employed by the AIA in conducting investigations.

AIRWORTHINESS PRINCIPLES

4. The DND/CAF Airworthiness Program is based on the fundamental principles that airworthiness related activities are:
 - a. completed to accepted standards;
 - b. performed by authorized individuals;
 - c. accomplished within accredited organizations; and
 - d. done using approved procedures.
5. Airworthiness investigations comply with these principles with some minor deviation. In the case of airworthiness investigations, the powers that authorized individuals employ may be augmented for a specified time by certain AIA "retained" authorities depending on the circumstances associated with the investigation. The authority to conduct a Class II investigation or Enhanced Supplementary Report (ESR), as described in A-GA-135, is one example of such "retained" authority.

AIA PRINCIPLES

6. The objective of the DND/CAF Airworthiness Program is to establish and maintain an acceptable level of safety for military aviation. In order to accomplish this, airworthiness investigations are based on four principles:

- a. airworthiness investigations are conducted independently from any influence of the Chain of Command (CoC);
 - b. airworthiness investigators must not assign blame;
 - c. the focus of airworthiness investigations is to develop effective, practical PMs that will preclude or reduce the risk of a reoccurrence; and
 - d. airworthiness investigations (through the AIA) make recommendations to the CoC for action but recommendations are not binding.
7. Independence from the Chain of Command. If Commanders were actively involved in investigations of occurrences in which the decisions or actions of the Commander may have been causal, it would be an obvious conflict of interest. In order to avoid this situation (or the perception of a conflict of interest), airworthiness investigators must be independent of any influence from the CoC. This independence is extremely important in order to maintain the credibility of the AIA organization. In support of this principle, the AA is charged (through the CDS Delegation Order) with the responsibility of ensuring that the AIA is not impeded in any way in the investigation of matters concerning aviation safety conducted under paragraph 4.2(n) of the *Aeronautics Act*; the AIA must inform “the Minister of National Defence, through the Airworthiness Authority and the Chief of the Defence Staff, of any apparent, potential or real interference with the execution of the powers, duties or functions.”
8. Non-Attribution of Blame. It is critical that airworthiness investigators receive honest, accurate and complete information from the individuals involved in an occurrence. It is only with this type of information that investigators can identify all the facts and determine all the circumstances that led to the occurrence. This can only be achieved in an organizational culture in which individuals can freely and openly admit their errors and omissions without fear of recrimination from the organization. This concept requires a commitment from the organization not to use airworthiness investigation information for legal, administrative or disciplinary purposes. In addition, it requires that airworthiness investigators ensure that their reports do not assign blame (or appear to assign blame) for the occurrence.
9. AIA Notification of Person-Centric Deviation to the Chain of Command. The Just Culture discussed in the A-GA-135-001/AG-001 accepts neither a punitive nor a blame-free culture. The non-attribution of blame in an AIA investigation should not be confused with a blame-free culture. The Just Culture cannot allow individuals to hide behind the veil of FS when a person-centric deviation has occurred – an act that is a reckless, negligent, intentional, or willful disregard of orders, regulations, or procedure. In this event, the element of reckless, negligent, intentional or willful disregard is not a matter for the AIA to

investigate, but rather the chain of command. As both the FS investigator and the AIA are obligated to respect the statutes set out in the *Aeronautics, CTA/ISB*, and *Privacy Acts*, this creates for them a dilemma of how to inform the chain of command of this aspect. Therefore, upon determination of a person-centric deviation, the FS investigator will immediately notify the AIA of this information. The sole responsibility to notify the chain of command rests with the AIA, who will do so by direct correspondence with the chain of command. Once notification to the appropriate command authority has been made by the AIA, the AIA's obligations to uphold the Just Culture have been met. It then becomes incumbent on the chain of command to respond accordingly. A sample letter from the AIA to the chain of command is found in Annex A.

10. Focus on Preventive Measures. The primary focus of all airworthiness investigations will be to identify effective, practical PMs in a timely manner to the CoC. In order to do this, all PMs will be based on well-researched information and sound analysis. PMs must clearly articulate the problem, the expected action to rectify the problem and a proposed level of command (tactical, operational or strategic) to ensure that the proposed actions are completed. PMs are to be forwarded to the CoC (or via the DND/CAF sponsor to a civilian air operator) for consideration and action as soon as practical and need not wait for the formal publishing of reports. Consequently, safety actions can begin quickly as facts are revealed in the investigation, analysis is conducted and appropriate PMs become evident.

11. Recommendations to the Chain of Command. The aim of airworthiness investigations is to develop PMs. These PMs are then forwarded as recommendations to the CoC. As one of the basic building blocks of the Airworthiness Program the "AA requires that any reduction to the accepted level of safety must be fully documented and accepted in all situations where time permits the application of a formalized risk management process... the TAA and OAA are engaged fully in these processes." (A-GA 005 Part 1, Section 1 para 15) However, the CoC is not obligated to accept these AIA investigation generated PM recommendations. Details regarding PM generation, associated analysis and management of PMs can be found in A-GA-135 -001/AA-001 - Chapter 11 (Flight Safety for the Canadian Armed Forces); however, the principles associated with handling PMs follow below. Upon receipt of the recommendations of an airworthiness report, Commanders have options based upon the format of the recommended PM:

- a. they can accept the recommendation and direct the implementation of the proposed action;
- b. if the recommendation is supported but is beyond the purview of the local Commander, then the recommendation can be forwarded to the appropriate Commander (through the CoC) with the recommendation that it be implemented; or

- c. the Commander can reject the recommendation and accept the risk of a similar occurrence happening in the future:
 - (1) should the PM be part of an Action Directive from the C Air Force (the end result from a completed FSIR) and because such a course of action implies a reduction in the accepted level of risk, a risk assessment must be undertaken to fully document the accepted level of risk,
 - (2) the Commander could partially accept the recommendations and implement the accepted portion of the recommendation. However, this also would require a risk assessment to document the mitigated level of risk for this situation. The risk assessment should include an explanation of the decision for the rejected part of the recommendation, or
 - (3) should the PM be the result of an investigation not involving an Action Directive (an SR, CR or ESR), documentation of the reasons and the assessment for not implementing the PM should be forwarded to the AIA and other levels in the FS chain. It will then be recorded in the Flight Safety Occurrence Management System (FSOMS).

Annex A
Chapter 2
A-GA-135-003/AG-001

**ANNEX A – AIA LETTER OF NOTIFICATION OF PERSON-CENTRIC
DEVIATION TO CHAIN OF COMMAND**

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29 February 2013

Distribution List

**AIA NOTIFICATION OF PERSON-
CENTRIC DEVIATION TO CHAIN OF COMMAND**

References: A. FSOMS XXXXX

B. A-GA-135-001/AG-001 Flight Safety for the Canadian Forces

C. A-GA-135-003/AG-001 Airworthiness Investigation Manual

1. On 21 Feb 13, I tasked a class I flight safety investigation to investigate the accident involving Bell 412 CF C-FYZX, Ref A. To date, the investigation has made significant progress to determine the cause of this accident and to identify preventive measures that will reduce the possibility of future recurrence.

2. The Investigator-in-Charge (IIC) of the investigation has informed me that there are elements of the accident that appear to be reckless, willful, or negligent. In my discussion with the IIC, I believe that these elements of the investigation meet the criteria of a person-centric deviation, outlined in Ref B, Chapter 10, and that they consequently fall outside my mandate as the Airworthiness Investigative Authority. As such, in accordance with Ref C, Chapter 2, this is my formal notification to you, the Commander 2 Canadian Air Division, so that these elements of the investigation may be more appropriately considered by you and your staff.

3. I recognize that you may consider this notification to be vague. However, the privilege that is accorded to the information that has allowed me to determine the extent of my airworthiness investigation, as safeguarded in both the *Canadian Transportation Accident Investigation Safety Board and Privacy Acts*, statutorily prohibits my communication to you of any further details. These statutes also compliment the limiting of information sharing that supports the decades of effort to establish and maintain a culture of free and open reporting. Nonetheless, this formal notification to you should represent the serious nature of the observed person-centric deviation.

4. Should you have any questions concerning this letter, I would be happy to discuss them with you in a manner that safeguards the integrity of the Canadian Armed Forces Flight Safety Program.

S. Charpentier

Colonel

Airworthiness Investigative Authority

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