Flight AIE 851
CYHZ – CYFC

CM1 _____
CM2 _____
Date_____

FLIGHT INFORMATION

AIRPORT SETTING		AIRCRAFT SETTING	DH8-100	DH8-300
Airport	**CYHZ**	Aircraft OEW	**23640 LBS**	**25485 LBS**
Runway	**23**	Pax Weight (total)	**3840 LBS (20)**	**5760 LBS (30 PAX)**
Gate	**24**	Bag & Cargo Weight	**1260 LBS**	**1440 LBS**
Takeoff Alt	**NONE**	Fuel | MIN DIV	**4500 LBS|1184 LBS**	**4500 LBS| 1365 LBS**
Emergency Return	**NONE**	Aircraft TOW	**33040 LBS**	**38985 LBS**
RUNWAY SETTING		Center of Gravity	**MAC 30 %**	**MAC 31 %**
		MEL / CDL	**N/A**	
RWY Condition	**5/5/5**	Dangerous Goods	**N/A**	
Braking Action	***GOOD***	De-Icing Fluids	**N/A**	
RWY Lighting		Doors Open	**PAX | BAGGAGE**	
WEATHER SETTING		**CLEARANCE**		
Time of Day	**NIGHT**	**ATC CLEAR AIE 851 TO CYFC AIPORT VIA CYHZ 4 DEP FPR SQUAWK 4252 CONTACT HALIFAX 135,1**		
Altimeter	**29.82**			
Wind	**27015KT**	**TAXI CLEARANCE**		
Temperature	**-2**	**TAXI B**		
Visibility	**7SM**			
Ceiling	**OVC010**			

FLIGHT SUMMARY

LOFT	TIME
CYHZ TO CYFC	**1:30**

SYNOPSIS:
When the flight crew were established in climb, the **PITOT FAIL / STATIC FAIL** caution light illuminated after reaching mid-range to the destination airport.

LOFT OBJECTIVE: Understand and effectively manage a pitot-static system failure and identify its impact on flight instruments.

CYFC WEATHER 05015KT 6SM OVC010 -1/-3 29.84 (MODERATE TO SEVERE ICING IN THE AREA)

INSTRUCTOR NOTES

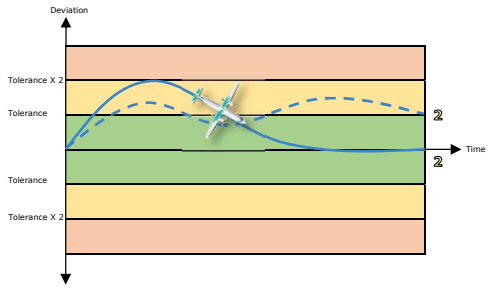
FAULT OS: 30.4 / 34A 34A-6	PROBE HEATING, PITOT FAIL STATIC SYSTEM BLOCKED

"PITOT HEAT 1" or "PITOT HEAT 2"
(Caution Light)

- Pitot Static Heat (affected) . . . . . on
  - Exit and avoid icing conditions if possible.
  - Fly the aircraft using opposite side instruments in icing and precipitation.

⚠ **Caution:**
The overspeed warning horn can be inhibited by pulling the A6 circuit breaker.

4-Point Marking Scale (Grading Matrix)

CP / TP / ACP AILO-0069		**4-Point Marking Scale (Grading Matrix)** Page 1 of 2			
		4	**3**	**2**	**1**
Technical Proficiencies	**Technical Skills and Knowledge**	• Practical knowledge was effective. • Following of SOPs, rules and regulations was effective. **Slight Error** • Flight crew actions resulted in an aircraft position, speed, attitude and configuration that maintained effective safety margins.	• Practical knowledge was acceptable. • Following of SOPs, rules or regulations was acceptable **Minor Error** • Flight crew actions or inactions resulted in an aircraft position, speed, attitude or configuration that maintained acceptable safety margins.	• Practical knowledge was poor. • Following of SOPs, rules or regulations was poor **Major Error** • Flight crew actions or inactions resulted in an aircraft position, speed, attitude or configuration that maintained poor (i.e., reduced) safety margins	• Practical knowledge was unacceptable. • Following of SOPs, rules or regulations was unacceptable. **Critical Error / UAS** • Flight crew actions or inactions resulted in an aircraft position, speed, attitude or configuration that maintained unacceptable (i.e., clearly reduced) safety margins.
	Automation	• **Subject to marking under Knowledge and Technical Skills.** • This element may also be discussed during a debrief. ○ Did crew use automation to avoid errors? ○ Was the use of automation a factor affecting SA? ○ Was automation dependency a factor?			
	Aircraft Handling (PF)	• Effective compliance with regulations and aircraft limitations. **Slight Deviation** • Effective quality and accuracy • Safety of flight assured • A variation in precision that was less than or equal to a flight test exercise tolerance and quality of aircraft handling was effective.	• Acceptable compliance with regulations and aircraft limitations. **Minor Deviation** • Acceptable quality and accuracy • Safety of flight maintained • A variation in precision that was less than or equal to a flight test exercise tolerance or quality of aircraft handling was acceptable.	• Poor compliance with regulations and/or aircraft limitations. **Major Deviation** • Poor quality and accuracy • Safety of flight reduced • A variation in precision that exceeded but was not more than double a flight test exercise tolerance or quality of aircraft handling was poor.	• Unacceptable compliance with regulations and/or aircraft limitations. **Critical Deviation** • Unacceptable quality and accuracy • Safety of flight compromised • A variation in precision that exceeded but was not more than double a flight test exercise tolerance or quality of aircraft handling was unacceptable. – OR – • A variation in precision that was more than double a flight test exercise tolerance.
Illustration of Aircraft Handling (Deviation) Assessments		Aircraft Handling is initially assessed based on **assigned parameters** (e.g., maintain 12,000 feet) versus **tolerances** (e.g., ± 100 feet) and **quality of handling** (e.g., smoothness, coordination and appropriateness of control inputs throughout all levels of automation). Illustrated here are two possible deviations where an ACP might determine an initial grade of two (2). Any initial technical assessment grade could be subject to further ACP discretion based on environmental conditions and/or demonstrations of TEM.			

CP / TP / ACP AILO-0069		**4-Point Marking Scale (Grading Matrix)** Page 2 of 2			
		4	**3**	**2**	**1**
Non-Technical Skills Elements	**Situational Awareness**	• Effective system awareness • Effective environmental awareness • Effective awareness of time • Effective anticipation of future events	• Acceptable system awareness • Acceptable environmental awareness • Acceptable awareness of time • Acceptable anticipation of future events	• Poor system awareness • Poor environmental awareness • Poor awareness of time • Poor anticipation of future events	• Unacceptable system awareness • Unacceptable environmental awareness • Unacceptable awareness of time • Unacceptable anticipation of future events
	Cooperation	• Effective team building and maintaining • Effective consideration of others • Effective support of others • Effective resolving conflicts	• Acceptable team building and maintaining • Acceptable consideration of others • Acceptable support of others • Acceptable resolving conflicts	• Poor team building and maintaining • Poor consideration of others • Poor support of others • Poor resolving conflicts	• Unacceptable team building and maintaining • Unacceptable consideration of others • Unacceptable support of others • Unacceptable resolving conflicts
	Decision Making	• Effective problem definition / diagnosis • Effective option generation • Effective risk assessment & option selection • Effective outcome review	• Acceptable problem definition / diagnosis • Acceptable option generation • Acceptable risk assessment & option selection • Acceptable outcome review	• Poor problem definition / diagnosis • Poor option generation • Poor risk assessment & option selection • Poor outcome review	• Unacceptable problem definition / diagnosis • Unacceptable option generation • Unacceptable risk assessment & option selection • Unacceptable outcome review
	Leadership and Managerial Skills	• Effective use of authority and assertiveness • Effective providing and maintaining standards • Effective planning and coordination • Effective workload management	• Acceptable use of authority and assertiveness • Acceptable providing and maintaining standards • Acceptable planning and coordination • Acceptable workload management	• Poor use of authority and assertiveness • Poor providing and maintaining standards • Poor planning and coordination • Poor workload management	• Unacceptable use of authority and assertiveness • Unacceptable providing and maintaining standards • Unacceptable planning and coordination • Unacceptable workload management
	Pressure and Stress	• **Not subject to marking.** This non-technical element may be discussed during a debrief. ○ Did the candidate identify or manage any known pressure and stress? ○ Did they maintain crew effectiveness?			
	Fatigue	• **Not subject to marking.** This non-technical element may be discussed during a debrief. ○ Did the candidate identify or manage their fatigue?	Risk factors / indicators of fatigue include: ○ Time of Day ○ Length of duty day ○ Schedule, consecutive duty days ○ Poor communication ○ Performance ○ Variability and unpredictability ○ Impaired judgment and decision making ○ Limited situational awareness ○ Undiagnosed or untreated medical condition that affect fatigue ○ Differences in ability to sleep and respond to conditions		
	Communication	• **Not subject to marking.** This non-technical element may be discussed during a debrief. ○ Did the candidate maintain proper communication skills?	Includes: ○ Use of Standard Calls ○ Speaking skills ○ Listening skills ○ Appropriate assertiveness ○ Conflict resolution techniques ○ Conflict resolution ○ Self critique		
	Workload Management	• **Subject to marking under Leadership and Managerial Skills (above).** This element may also be discussed during a debrief. ○ Did the candidate anticipate contingencies? ○ Did the candidate avoid work overload in self and others? ○ Did the candidate prioritize tasks during high workloads and prevent nonessential factors from distracting attention from adherence to SOP particularly in the case of critical tasks?			
	TEM	• **Not subject to marking as a standalone item –** TEM performance may also be discussed during a debrief. ○ See Threat and Error Management summary table			

Threat and Error Management

Threats *Events or errors that occur beyond the influence of the line personnel, increase operational complexity, and which must be managed to maintain the margins of safety.*	**Anticipated – Foreseen** • Weather • Airport Congestion • Crosswinds • Runway Conditions	**Unanticipated – Unforseen** • In-flight Malfunction • Automation Anomalies • Unforecasted Weather • TCAS TA/RA • Non-Standard Phraseology	**Latent – Unseen** • Incorrect Documentation • Equipment Design Issues • Organizational / Cultural Changes • Complacency • Fatigue/Stress • Illusions
Errors *Actions or inactions by the line personnel that lead to deviations from organisational or operational intentions or expectations.*	**Aircraft Handling** • Vertical, lateral or speed deviations • Incorrect FGC inputs • Incorrect altimeter • Taxiing too fast	**Procedural** • Wrong APS entered on Load and Trim • Checklists from memory or performed late • Omitted briefing or missed items • Incorrect logbook entries	**Communications** • Missed calls • Incorrect phraseology • Transmitting while another transmission is in progress • Incorrect read back • Miscommunication or misinterpretation between crew members
Error Types	**Slips** • Actions that do not go as planned	**Lapses** • Memory failures	**Mistakes** • Failure in the plan of action	**Violations** • Routine or exceptional acts of sabotage
Undesired Aircraft States (UAS) *Operational conditions where an unintended situation results in a reduction in margins of safety.*	**Aircraft Handling Issues** • Aircraft control • Unnecessary weather penetration • Operation outside aircraft limitations • Unstable approach • Continued landing after unstable approach	**Navigation** • Misalignment on runway • Proceeding to the wrong taxiway or runway • Proceeding to the wrong destination	**Incorrect Aircraft Config** • Systems • Flight Controls • Automation • Engine • Weight and Balance
UAS Outcomes	**Return to Safe Operations**	**An Additional Error**	**Occurrence – Incident/Accident**

TEM Countermeasures				
Planning	**SOP Briefing**	The required briefing was interactive and operationally thorough	• Concise, not rushed, and met SOP requirements • Bottom lines were established
	Plans Stated	Operational plans and decisions were communicated and acknowledged	• Shared understanding about plans • "Everybody on the same page"
	Workload Assignment	Roles and responsibilities were defined for normal and non normal situations	• Workload assignments were communicated and acknowledged
	Contingency Management	Crew members developed effective strategies to manage threats to safety	• Threats and their consequences were anticipated • Used all available resources to manage threats
Execution	**Monitor / Cross-check**	Crew members actively monitored and cross checked systems and other crew members	• Aircraft position, settings, and crew actions were verified
	Workload Assignment	Operational tasks were prioritized and properly managed to handle primary flight duties	• Avoided task fixation • Did not allow work overload
	Automation Management	Automation was properly managed to balance situational and/or workload requirements	• Automation setup was briefed to other members • Effective recovery techniques from automation anomalies
Review	**Evaluation / Modification of Plans**	Existing plans were reviewed and modified when necessary	• Crew decisions and actions were openly analyzed to make sure the existing plan was the best plan
	Inquiry	Crew members asked questions to investigate and/or clarify current plans of action	• Crew members not afraid to express a lack of knowledge • "Nothing taken for granted" attitude
	Assertiveness	Crew members stated critical information and/or solutions with appropriate persistence	• Crew members spoke up without hesitation

TEM / Cognitive Ease

When the Pilot has experience, is in a good mood, is familiar with situation and surroundings, there is an increased risk of incidents occurring – Pilot may let their guard down.

Bias

- Expectation Bias
- Plan Continuation Bias
- Confirmation Bias
- Recency Effect Bias

Dirty Dozen

1. Lack of Communication	2. Complacency	3. Lack of Knowledge	4. Distraction	5. Lack of Teamwork	6. Fatigue
7. Lack of Resources	8. Pressure	9. Lack of Assertiveness	10. Stress	11. Lack of Awareness	12. Norms