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Flight Comment

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Canada

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From the Editor

We are going to look at leadership in this issue of Flight Comment. The New Shorter Oxford dictionary defines **leader** as "A person who guides others in action or opinion; a person who takes the lead in business, enterprise, or movement" and **leadership** as "the action of leading or influencing; ability to lead or influence". Note the absence of words such as "rank", "position", and "power".

You will probably agree that our leaders influence our attitudes towards safe behavior and flight discipline. Management also has a part; it defines and enforces standards, determines what its resources are and who should get them, and provides goals, rewards, and punishments – but leaders set the example. The leaders in an organization set its moral tone and values. The important thing to remember is that leadership can, and will, come from anywhere within the organization.

On a squadron, or in a line organization, people know, see, and have an opinion of almost everyone else. Experienced personnel, regardless of their rank or position are the subjects of intense scrutiny. As role models they are held to higher standards than others are. We recognize that if a person performs, or ignores, certain behavior, then he or she is effectively condoning it. The actions of one person can profoundly influence a Flight, a Squadron, a Wing, or the entire organization.

Lieutenant Colonel Anthony Kern's thoughtful and incisive monograph 'Darker Shades of Blue' describes, in part, how a single person's actions precipitated an accident at a major USAF Wing. What makes his work a volte-face from the normal military aircraft accident analysis is his examination of the leadership climate at the Wing where the accident occurred. The highly experienced pilot of Czar 52 had an ability to influence people far beyond his level of rank or positional power. Even if the senior leadership at the Wing did not actually approve of the actions of the pilot of Czar 52, their failure to act was de facto encouragement.

I remember when the first bootleg copies of 'Darker Shades of Blue' appeared on our Wing. Rarely have I seen one document provoke so much discussion amongst the leadership. One remark I heard was "very interesting, but it couldn't happen here". Not true. A similar scenario is less likely to occur here simply because we are a much smaller air force; not because we are in anyway different, better, less susceptible, or less human.

In rare cases an individual's leadership can be dysfunctional. There are people in our organization that think the rules were not made for them – I've met a few. The irony is that if you asked them they would see nothing wrong with their actions. In the vast majority of cases something happens to break the accident chain and nobody gets hurt – at least superficially. The problem is that someone is always watching and learning; and they might be learning all the wrong things.

I suspect that Lieutenant Colonel Kern's work could be used as a basis to analyse the influence of management on other accident scenarios. Are short command tours the result of senior management's desire to hone eclectic future leaders, or are they a function of box-ticking? Is the reluctance to document and pursue disciplinary actions against a subordinate the result of faith in one's own leadership abilities, or is it a desire to avoid being perceived as not having the leadership qualities to solve a disciplinary problem quietly in-house? How could an individual be perceived so differently by his superiors and his subordinates? Has the myriad of rules, regulations, weapons systems, and

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SICOFAA Flight Safety Award

LIEUTENANT GENERAL KINSMAN PRESENTS THE 1998 SICOFAA FLIGHT SAFETY AWARD TO MAJOR TONY ROEDING AND MASTER CORPORAL FRANK SHEEDY REPRESENTING 12 WING SHEARWATER.

Citation

Responsibility for operations and maintenance of Canada's Sea King helicopter fleet rests with 12 Wing Shearwater. The Wing supports two operational squadrons separated by the 7000 km of Canada as well as an operational training unit. In 1997 the Wing's thirty aircraft were deployed in seven east coast and four west coast sea detachments which saw a total of 1500 days at sea and flew close to 10,000 hours. During this period there were forty-two aircraft modifications and thirty special inspections that required thousands of man-hours to complete. The aircraft is flown in one of the most demanding roles of the air force in perhaps the most challenging environment. Despite the geographic separation of the two operational units and the diffuse locations of the sea detachments, 12 Wing had no serious flight safety occurrences attributed to human performance. This was an exceptional achievement considering the age and complexity of the aircraft, the amount of required maintenance per flight hour and the harsh working conditions. In recognition of their outstanding contribution to safe flight operations, the personnel of 12 Wing are recipients of this year's SICOFAA Flight Safety Award.

From the Editor

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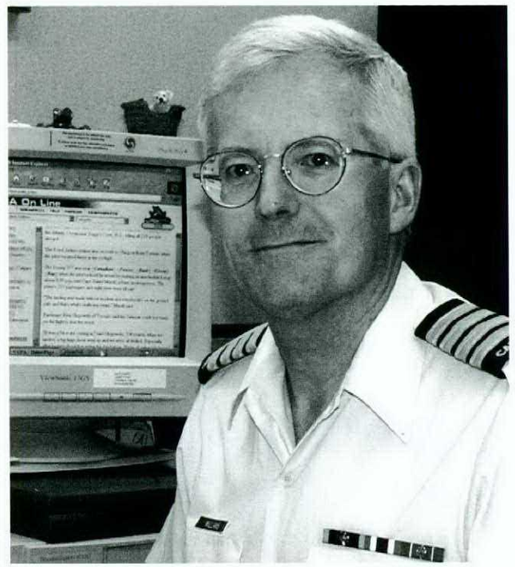
administrative requirements become so complex that the successful leader's tenure is defined as one where nothing untoward happened? Are management's goals and objectives realistically set? Are these factors present in our air force, and if so, to what extent? I don't know. Regardless, I do know that those about you who are in leadership positions are very, very, busy. Which brings us back to the subjects of leaders, leadership, and influence.

There never is a leadership void – there are merely leadership opportunities. If your boss is too busy to be the best stick or best tech in the organization then so be it; things are unlikely to change. Rather then bemoan the passing of the good old days (was 1982 during which 12 aircraft were destroyed with the loss of 22 lives all that good?), remember that, regardless of whether you occupy a leadership position or not, your behavior affects those about you. As your experience grows so will your potential to influence and lead those about you – and it may happen a lot sooner than you think or notice. If we want our flight safety programme to work - and the *real* flight safety programme is influencing people to *want* to behave safely – then we all must provide a positive influence and demonstrate safe behavior. That is, after all, what leadership is really about.

In this issue you will find a readership survey card. Please take a moment to fill it out and send it in (that includes our foreign readers as well). The time you take will help make Flight Comment a better magazine. ◆

As I See It



As a flight line supervisor and junior officer in 1 CAG days, I clearly remember the wise old advice that when it was pouring rain the boss should be seen with his raincoat on. And it rained a lot in Germany.

They called it leadership by example. That wasn't the only time to supervise the line, but it was definitely one of the most important. That's because when it was raining accidents could develop if people allowed the distractions of the day to interfere with their important work. The leader needed "put on his raincoat" to get a feel for what was going on under the difficult circumstances, see how his people performed under stress, and demonstrate genuine interest and concern for the conditions under which his people were working. In many cases, problem resolution could be accomplished right on the spot.

I believe it is time for all air force supervisors to put on their "raincoats". The recent period of major change and upheaval within the air force, the CF, and DND has placed significant stress on our people and that stress is manifesting itself in many ways.

The challenge to our quality of life is now on page 1 of almost every newspaper in the country. Our people have an opportunity to directly address parliamentary committees and senior Defence leadership in an unprecedented manner. Many of these issues are not new. But, they are tough to resolve.

Despite a benevolent approach to forced personnel reductions, many members continue to vote with their feet over unsatisfactory conditions of reward, recognition, and remuneration. The loss of experience and personal talent will have long lasting impacts on our air force.

Due to downsizing and reengineering, traditional employment patterns, job tasks, and individual skill levels are constantly changing. Consider the stress on our technicians – both old and new!

The recent DFS accident and incident summary said the same thing with pictures. It should not be a surprise that the graph of total air force flying hours shows a dramatic reduction. What is a surprise, however, is that the total number of human cause factors (inattention, carelessness, lack of training) is doing just the opposite! In total numbers, these contributing factors are higher now than when we were flying at double our current rate! Although these factors have not resulted in major accidents or incidents – thus giving us the best record for some time – I do not believe they can be discounted for long.

So how can we put our "raincoats" on? Well, I believe it means tackling some of the tough issues and coming up with practical solutions. If moldy drywall or peeling paint in the PMQs is putting more pressure on our people and their families which is causing serious distractions, then maybe the unit supervisors or COs need to engage the system and reassess the priority list for funding. If op tempo is generating a backlog of unused leave, wasted weekends, and medical conditions related to stress, then perhaps we need to learn to say "no" and accept "no" more readily. If our technicians are not comfortable with their assigned tasks, our supervisors need to engage in some effective two-way communication and take follow-on action even if this is not what the system wants to hear.

None of this is new and it is happening already in many areas despite an overwhelming workload. Leadership in the air force and CF remains strong and effective despite the challenges of the past few years. However, what I am suggesting is a renewed focus on direct supervision and follow-up while the impact of these changes continues to rain down upon us. If we can reduce the increasing rate of these human cause factors by reducing the distractions and dissatisfiers, we can sustain the fine record of flight safety we currently enjoy.

Now, where did I put my raincoat? ◆

Colonel R.M. Williams
D Air MPD

Darker Shades of Blue:

A Case Study of Failed Leadership

Author's Preface

When leadership fails and a command climate breaks down, tragic things can happen. This is the story of failed leadership and a command climate which had degenerated into an unhealthy state of apathy and non-compliance – a state which contributed to the tragic crash of a B-52 at Fairchild Air Force Base, on the 24th of June, 1994, killing all aboard.

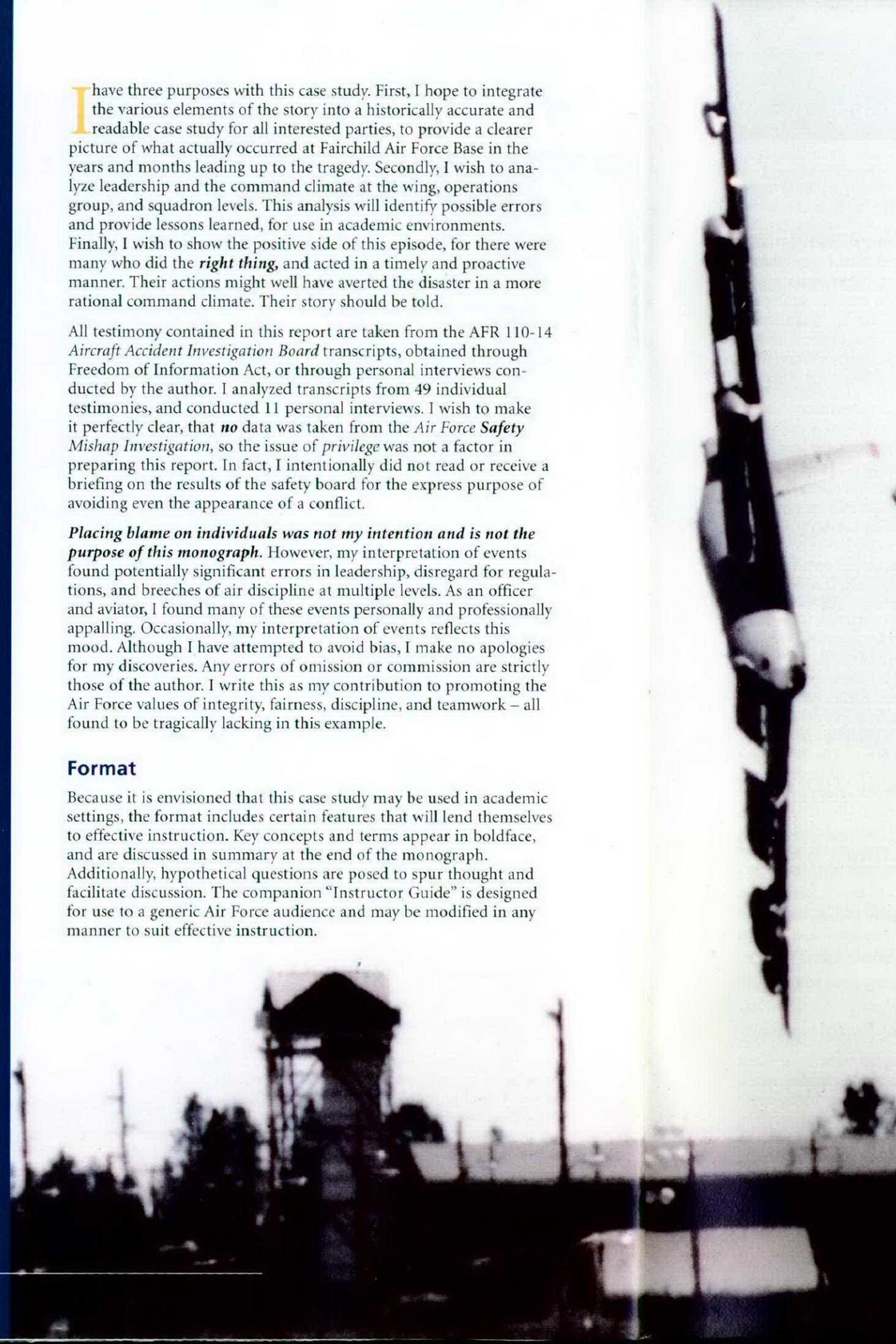
I have three purposes with this case study. First, I hope to integrate the various elements of the story into a historically accurate and readable case study for all interested parties, to provide a clearer picture of what actually occurred at Fairchild Air Force Base in the years and months leading up to the tragedy. Secondly, I wish to analyze leadership and the command climate at the wing, operations group, and squadron levels. This analysis will identify possible errors and provide lessons learned, for use in academic environments. Finally, I wish to show the positive side of this episode, for there were many who did the ***right thing,*** and acted in a timely and proactive manner. Their actions might well have averted the disaster in a more rational command climate. Their story should be told.

All testimony contained in this report are taken from the AFR 110-14 *Aircraft Accident Investigation Board* transcripts, obtained through Freedom of Information Act, or through personal interviews conducted by the author. I analyzed transcripts from 49 individual testimonies, and conducted 11 personal interviews. I wish to make it perfectly clear, that ***no*** data was taken from the *Air Force* ***Safety*** *Mishap Investigation,* so the issue of *privilege* was not a factor in preparing this report. In fact, I intentionally did not read or receive a briefing on the results of the safety board for the express purpose of avoiding even the appearance of a conflict.

Placing blame on individuals was not my intention and is not the purpose of this monograph. However, my interpretation of events found potentially significant errors in leadership, disregard for regulations, and breeches of air discipline at multiple levels. As an officer and aviator, I found many of these events personally and professionally appalling. Occasionally, my interpretation of events reflects this mood. Although I have attempted to avoid bias, I make no apologies for my discoveries. Any errors of omission or commission are strictly those of the author. I write this as my contribution to promoting the Air Force values of integrity, fairness, discipline, and teamwork – all found to be tragically lacking in this example.

Format

Because it is envisioned that this case study may be used in academic settings, the format includes certain features that will lend themselves to effective instruction. Key concepts and terms appear in boldface, and are discussed in summary at the end of the monograph. Additionally, hypothetical questions are posed to spur thought and facilitate discussion. The companion "Instructor Guide" is designed for use to a generic Air Force audience and may be modified in any manner to suit effective instruction.



I have documented this case study through the extensive use of informational endnotes and traditional citation endnotes. However, to preclude breaking up the narrative with endless citations (I could have literally footnoted almost every line of the monograph), I have often placed a single citation at the end of a group of testimony or statements which came from the same source, in an effort to improve on the readability of the document. I beg the academic purists' indulgence in this matter.

As a final note, I have copyrighted this case study not to inhibit its use or dispersion among military personnel, – but to prevent portions of the study being quoted out of context to cast negative light on the Air Force or its personnel. This foreword provides blanket approval for military personnel to duplicate this case study *in total (cover to cover). I must emphasize again that I do not wish individual segments to be isolated and taken out of context.*

Prologue

"What's the deal with ***this*** guy?" Captain Bill Kramer asked, indicating a car conspicuously parked in the center of the red-curbed "No Parking" zone adjacent to the wing headquarters building. It was a short walk from the HQ building, commonly referred to as *The White House,* to the parking lot where they had left their own vehicles while attending the briefing on the upcoming airshow. As they passed the illegally-parked car and then the various "reserved" spaces for the wing and operations group commanders, Lt Col Winslow turned to Captain Kramer, and replied, "That's Bud's car. He always parks there." After a few more steps the Captain inquired, "How does he get away with that?" The Lieutenant Colonel reflected for a moment and responded, "I don't know – he just does."[1]

Section One: Introduction

There are no bad regiments, only bad colonels. – Napoleon

Failed leadership can have tragic consequences. In the words of Major General (Retired) Perry Smith, a career Air Force aviator and former commandant of the National War College, "Leaders make a difference, and large and complex organizations (like an Air Force Wing) make special demands on the men and women who run them."[2] This is the story of a group of leaders who did not meet all the demands required to establish a healthy command climate, and when confronted with evidence of regulatory deviations and poor airmanship, did not take appropriate disciplinary actions. There were several manifestations of these failings. Only the most tragic and dramatic is addressed here – the crash of Czar 52. An examination and analysis of the command climate which existed at Fairchild AFB in the three years preceding the crash illustrates several examples of failed leadership relating to a series of breeches of air discipline on the part of a senior wing aviator, Lt Col "Bud" Holland, the pilot in command of Czar 52.

On the 24th of June 1994, *Czar 52,* a B-52H assigned to the 325th Bomb Squadron, 92d Bomb Wing, Fairchild Air Force Base, WA, launched at approximate 1358 hours Pacific Daylight Time (PDT), to practice maneuvers for an upcoming airshow. The aircrew had the planned and briefed a profile, ***through the Wing Commander level,*** that grossly exceeded aircraft and regulatory limitations. Upon preparing to land at the end of the practice airshow profile, the crew was required to execute a "go-around" or missed approach because of another aircraft on the runway. At mid-field, Czar 52 began a tight 360 degree left turn around the control tower at only 250 feet altitude above ground level (AGL). Approximately three quarters of the way through the turn, the aircraft banked past 90 degrees, stalled, clipped a power line with the left wing and crashed. Impact occurred at approximately 1416 hours PDT. There were no survivors out of a crew of four field grade officers.[3]

Killed in the crash were Lt Col Arthur "Bud" Holland, the Chief of the 92d Bomb Wing Standardization and Evaluation branch. Lt Col Holland, an instructor pilot, was designated as the aircraft commander and was undoubtedly flying the aircraft at the time of the accident.[4] The copilot was Lt Col Mark McGeehan, also an instructor pilot and the 325th Bomb Squadron (BMS) Commander. There is a great deal of evidence that suggests considerable animosity existed between the two pilots who were at the controls of *Czar 52*. This was a result of Lt Col McGeehan's unsuccessful efforts to have Bud Holland "grounded" for what he perceived as numerous and flagrant violations of air discipline while flying with 325th BMS aircrews. Colonel Robert Wolff was the Vice Wing Commander and was added to the flying schedule as a safety observer by Col Brooks, the Wing Commander, on the morning of the mishap. This was to be Col Wolff's "fini flight," an Air Force tradition where an aviator is hosed down following his last flight in an aircraft. Upon landing, Col Wolff was to be met on the flightline by his wife and friends for a champagne toast to a successful flying career. The radar navigator position was filled by Lt Col Ken Huston, the 325th BMS Operations Officer.

While all aircraft accidents that result in loss of life are tragic, those that could have been prevented are especially so. The crash of *Czar 52* was primarily the result of actions taken by a singularly outstanding ***"stick and rudder pilot,"*** but one who, ironically, practiced incredibly poor ***airmanship.*** The distinction between these two similar sounding roles will be made clear as we progress in this analysis. Of equal or greater significance, was the fact that supervision and leadership facilitated the accident through failed policies of ***selective enforcement*** of regulations, as well as failing to heed the desperate warning signals raised by peers and subordinates over a period of three years prior to the accident. At the time of the accident, there was considerable evidence of Lt Col Holland's poor airmanship spanning a period of over three years.

Significance of the Case Study

The Fairchild example is worth our further analysis and contemplation, not because it was a unique aberration from what occurs in other military organizations, but rather because it is a compilation of tendencies that are seen throughout the spectrum of our operations. Many aviators report that rules and regulations are "bent" on occasion, and some individuals seem to be *"Teflon-coated"* because their mistakes are ignored or overlooked by their supervisors. Most honest flyers will readily admit to operating under different sets of rules depending on the nature of the mission they are about to fly. For example, standard training missions are treated differently than evaluations. Likewise, higher headquarters directed missions are treated differently than inspections, or airshow demonstrations. This often leads to a confusing mental state for young or inexperienced flyers, who see ever-increasing "shades of gray" creeping into their decision-making process. This case study illustrates examples of such missions, and of aviators who felt that the rules were different for them.

Supervision and leadership facilitated the accident through failed policies of selective enforcement of regulations, as well as failing to heed the desperate warning signals raised by peers and subordinates over a period of three years prior to the accident.

Methodology

This monograph takes a case study approach to identify positive and negative aspects of leadership. This study uses no formal definition of leadership, although there are many to choose from. This is not an oversight, but rather by design, to allow each reader the opportunity to apply his or her own notions of leadership to the case study. Leadership assessment will use criterion taken from several sources, chosen for their relevance and practicality, including Major General Perry Smith's ***Taking Charge: A Practical Guide for Leaders, The Leadership Secrets of Attila the Hun,*** by William Roberts, ***Follow Me: The Human Element of Leadership,*** and ***Follow Me II,*** by Major General (Retired) Aubrey S. Newman, and J. K. Van Fleet's ***The 22 Biggest Mistakes Managers Make.*** In addition, the author selected several points from a lecture given by Lieutenant General (Retired) Calvin Waller on the subject of *Ethical Leadership.* From these sources, the author compiled a list of questions with which to assess the leadership behaviors. They follow.

Did the leader have all the facts necessary to make an informed decision? For example, did they know and understand the applicable guiding regulations and directives?

Were the leader's actions and words congruent? Did he talk the talk and walk the walk?

Did the leader act in an ethical manner? Would his actions pass the "newspaper test?"[5]

Did the leader consider the implications of his actions on subordinates?

Did the leader's actions promote a sound command climate? Did he permit and encourage the free flow of information? Did he require that deviations from standards be reported?

Did the leader enforce established standards? Was the leader able to effectively discipline? Was he fair and decisive?

Senior leadership actions (or lack thereof) will be addressed using a chronological approach and the *Leader – Follower – Situation* framework outlined by Hughes, Ginnett, and Curphy in ***Leadership: Enhancing the Lessons of Experience,*** a textbook used at the Untied States Air Force Academy.

Key Concepts: Airmanship, Rogue Aviators, Leadership, and the Culture of Compliance

At a gut level, most aviators can determine reasonable from unreasonable courses of action, regardless of the nature of the mission. This quality is referred to as ***judgment*** or ***airmanship.*** From the beginning of an aviator's training, he or she is taught that *"flexibility is the key to airpower"* and is given considerable latitude in employing methods for accomplishing mission objectives. This is one of the major strengths of airpower and should not be changed. But there are also those aviators, usually of high experience, skill, and confidence, who see this built in flexibility as a chaotic environment which may be manipulated for their own ends – often with tragic results. These ***rogue aviators*** are usually popular and respected, possess considerable social skills, and have learned what rules they can break, when, and with whom. They are usually perceived much differently by superiors than by peers or subordinates. This level of sophistication makes the direct oversight role of the supervisor more difficult, and the role of effective command climate more important. What the leader may not recognize *as an individual,* must be identified for him *by the organization.* Further, upon this recognition, the leader ***must act.*** Failure to act after the organization has fulfilled it's role in identifying a problem, leads to a deterioration of ***faith in the system*** by subordinates, who now feel that their input is of little value. A ***culture of compliance*** must be inculcated and constantly nurtured to prevent the downward spiral into disaster, such as occurred at Fairchild Air Force Base in June of 1994.

Failure to act after the organization has fulfilled it's role in identifying a problem , leads to a deterioration of faith in the system by subordinates, who now feel that their input is of little value.

The culture of compliance was certainly not in place at Fairchild AFB in the three years preceding the crash of *Czar 52*. In this case study, the signs of trouble were present early and often. A pattern of negative activity could be found in complaints from other crewmembers, maintenance problems from over-stressing or exceeding aircraft limitations, and stories of the Lt Col Holland's grand accomplishments and plans that circulated throughout the crew force. After reviewing the history contained in the testimonies, one suspects that an energetic historian could find earlier signs of Lt Col Bud Holland's departure from the aviators' "straight and narrow" path of regulatory compliance, but for our purposes we will limit the analysis to the period between 1991 and June of 1994.

By the summer of 1994, the entire Fairchild culture was caught up in the activities of a single B-52 pilot. Red flags of warning were abundant – and yet those who could act did not do so, in spite of recommendations to ground Bud Holland. As one B-52 crewmember said about the accident, "You could see it, hear it, feel it, and smell it coming. We were all just trying to be somewhere else when it happened."[6]

Section Two: The Players

There were many individuals involved with this story. This section introduces the reader to Lt Col Holland and the command staff at Fairchild AFB during the period of this analysis. The remainder of the personnel will be discussed as they fit into the narrative.

Lt Col Bud Holland

Lt Col Arthur "Bud" Holland was the Chief of the 92d Bombardment Wing Standardization and Evaluation Section at Fairchild Air Force Base. This position made him responsible for the knowledge and enforcement of academic and in-flight standards for the wing's flying operations. By nearly any measuring stick, Bud Holland was a gifted stick and rudder pilot. With over 5,200 hours of flying time and a perfect 31-0 record on checkrides, Lt Col Holland had flown the B-52G and H Models since the beginning of his flying career in March of 1971.[7] He was regarded by many as an outstanding pilot, perhaps the best in the entire B-52 fleet. He was an experienced instructor pilot and had served with the Strategic Air Command's 1st Combat Evaluation Group (CEVG), considered by many aviators to be the "top of the pyramid." But between 1991 and June of 1994, a pattern of poor airmanship began to surface. Perhaps his reputation as a gifted pilot influenced the command staff, who allowed this pattern of behavior to continue. The following were typical comments from Lt Col Holland's ***superiors:***

"Bud is as good as a B-52 aviator as I have seen."[8]

"Bud was... very at ease in the airplane... a situational awareness type of guy... among the most knowledgeable guys I've flown with in the B-52."[9]

"Bud was probably the best B-52 pilot that I know in the wing and probably one of ***the*** best, if not the best within the command. He also has a lot of experience in the CEVG which was the Command Stan Eval... *and he was very well aware of the regulations and the capabilities of the airplane* (emphasis added)."[10]

A far different perspective on Lt Col Holland's flying is seen in statements by more junior crewmembers, who were required to fly with him on a regular basis.

"There was already some talk of maybe trying some other ridiculous maneuvers... his lifetime goal was to roll the B-52."[11]

"I was thinking that he was going to try something again, ridiculous maybe, at this airshow and possibly kill thousands of people."[12]

"I'm not going to fly with him, I think he's dangerous. He's going to kill somebody some day and it's not going to be me."[13]

"(Lt) Col Holland made a joke out of it when I said I would not fly with him. He came to me repeatedly after that and said 'Hey, we're going flying Mikie, you want to come with us.' And every time I would just smile and say, 'No. I'm not going to fly with you."[14]

"Lt Col Holland broke the regulations or exceeded the limits... virtually every time he flew."[15]

> ***"I'm not going to fly with him, I think he's dangerous. He's going to kill somebody some day and it's not going to be me."***
>
> Captain Brett Dugue

The reasons for these conflicting views may never be entirely known, but hint at a sophisticated approach to breaking the rules that became a pattern in Lt Col Holland's flying activities. Additionally, some light can be shed on the issue by looking at the rapid and frequent turnover of the 92d Bomb Wing senior staff.

The Shifting Command Structure

The 92d Bomb Wing experienced numerous changes to its wing and squadron leadership during the period from 1991 to 1994. The changes included four wing commanders, three vice wing commanders, three deputy commanders for operations/operations group commanders, three assistant deputy commanders for operations, and five squadron commanders at the 325th BMS. As the discussion proceeds, the interaction between incoming and outgoing members of the staff will be addressed.

Section Three: The Events

Each of the events leading up to the crash of Czar 52 *on 24 June 1994 provides insights on leadership performance. We will analyze each event by providing a synopsis of what occurred, as determined from eyewitness testimony. Secondly, we will look at the action of the followers, which were typically (but not always) B-52 air crewmembers. Finally, we will conclude the analysis of the event with a look at the leader's actions. This framework, or model for analysis is suggested by leading researchers for use in the case study approach.[16] It is important to understand that a historical case study cannot provide definitive guidance for other situations. All situations are unique and must be defined in terms of their own circumstances. It is hoped, however, that this discussion will provide some general lessons that may carry over into other environments.*

Situation One: Fairchild AFB Airshow 19 May 1991

Lt Col Holland was the pilot and aircraft commander for the B-52 exhibition in the 1991 Fairchild AFB air show. During this exhibition, Lt Col Holland violated several regulations and tech order (T.O. 1B-52G-1-11, *a.k.a. Dash 11)* limits of the B-52, by (1) exceeding bank and pitch limits, and (2) flying directly over the airshow crowd in violation of Federal Aviation Regulation (FAR) Part 91. In addition, a review of a videotape of the maneuvers leaves one with the distinct impression that the aircraft may have violated FAR altitude restrictions as well.

The Followers

Many of the crewmembers who were at Fairchild for the 1991 airshow were unavailable for interview, but it appears as if there was no large public or private outcry as a result of the 1991 B-52 exhibition. However, some aircrew members had already began to lose faith in the system. One B-52 pilot, when asked why more crewmembers didn't speak up about the violations, said, "The entire wing staff sat by and watched him do it (violate regulations) in the '91 airshow. What was the sense in saying anything? *They had already given him a license to steal* (emphasis added)."[17]

The Leaders

There is no evidence to indicate that commanders at any level took any action as a result of Lt Col Holland's flight activities. There is no indication that either the wing commander (Col Weinman) or the deputy commander for operations (Col Julich) was aware that the profile flown was in violation of existing MAJCOM regulations or FARs. However, there can be little doubt that they were both aware that the profile violated the Dash 11 T. O. Both men were experienced pilots and were undoubtedly aware of the bank and pitch limitations of the B-52 in the traffic pattern environment, which were grossly exceeded as they personally observed the flyover.

Analysis

The Fairchild leadership failed in two major areas. The first was allowing a command climate in which such a blatant violation of air discipline could be planned, briefed, and carried out without interference. The fact that Lt Col Holland planned and briefed a profile that did not meet established regulatory and Tech Order guidelines suggests a complacent command climate. J. K. Van Fleet, in ***The 22 Biggest Mistakes Managers Make,*** would see this as "a failure to make sure that the job is understood, supervised, and accomplished."[18] One could argue that this level of oversight was unnecessary, since Lt Col Holland, as the Chief of wing Stan-Eval, was a senior officer with a great deal of experience. If this argument is accepted, then the leadership failed to act decisively after the violations occurred. William Roberts, in ***Leadership Secrets of Attila the Hun,*** would see this failure to act as a lost teaching opportunity. "Chieftains must teach their Huns what is expected of them. Otherwise, Huns will probably do something unexpected of them."[19] Simply stated, the wing commander and DO did not know certain things they should have known (like command regulations on airshows) and did not enforce standards on violations of regulations that they clearly understood. This would ***not*** be the only lost teaching opportunity.

Interestingly, the wing commander had a reputation for demanding strict adherence to air discipline. While acting as the commander of a provisional bomb wing at Andersen AFB, Guam, in GIANT WARRIOR 1990, Colonel Weinman had been very proactive to prevent low altitude violations during airfield attack portions of the exercise. After two days of observing aggressive simulated airfield attacks at Andersen, he remarked, "If we keep trying to outdo each other every day, there is only one way this is going to end – with somebody getting killed. The next guy that busts an altitude will talk to me personally and explain why I shouldn't ground him and send him home."[20] The author could find no explanation for the apparent disconnect between what Col Weinman demanded in the provisional wing and what he allowed to occur at his own airshow.

> ***"If we keep trying to outdo each other every day, there is only one way this is going to end – with somebody getting killed. The next guy that busts an altitude will talk to me personally and explain why I shouldn't ground him and send him home."***
>
> Colonel Weinman

Situation Two: 325th BMS Change of Command "Fly Over" 12 July 1991

Lt Col Holland was the aircraft commander and pilot for a "fly over" for a 325th BMS Change of Command ceremony. During the "practice" and actual fly over, Lt Col Holland accomplished passes that were estimated to be "as low as 100-200 feet."[21] Additionally, Lt Col Holland flew steep bank turns (greater than 45 degrees) and extremely high pitch angles, in violation of the Dash 11 Tech Order, as well as a "wingover" – a maneuver where the pilot rolls the aircraft onto its side and allows the nose of the aircraft to fall "through the horizon" to regain airspeed. The Dash 11 recommends against wingover type maneuvers because the sideslip may cause damage to the aircraft.

The Followers

Because most of the 325th BMS personnel were standing at attention in ranks for the Change of Command ceremony, they did not personally see the violations as they occurred. Most had to rely on descriptions from family and friends. The followers were acutely aware, however, that the senior staff had a ringside seat, and therefore may not have felt the need to report or complain about a situation that their leaders had witnessed directly.

The Leaders

This time the leadership was forced to take action. The ADO (Col Capotosti) went to the DO (Col Julich) and remarked "We can't have that, we can't tolerate things like that, we need to take action for two reasons – it's unsafe and we have a perception problem with the young aircrews."[22] Evidence indicates that Lt Col Holland may have been debriefed and possibly verbally reprimanded by either (or both) the DO and wing commander. However, Lt Col Harper, the outgoing Bomb Squadron commander stated, "No overt punishment that I know of, ever occurred from that (the Change of Command flyover)."[23]

Analysis

Failures in oversight, an ineffective command climate, and a lack of continuity between words and disciplinary actions earmarked the leadership response to this situation. As in the previous situation, the flyover plan was developed, briefed, and executed without intervention. The flyover for a change of command required approval by the USAF Vice Chief of Staff.[24] No such approval was requested or granted. Although the senior staff was spurred to action by the magnitude of the violations, the response appeared to be little more than a slap on the wrist, a point certainly not missed by other flyers in the wing.

Situation Three: Fairchild Air Show 17 May 1992

Lt Col Holland flew the B-52 exhibition at the Fairchild Air Show. The profile flown included several low altitude steep turns in excess of 45 degrees of bank, and a high speed pass down the runway. At the completion of the high speed pass, Lt Col Holland accomplished a high pitch angle climb, estimated at over 60 degrees nose high. At the top of the climb, the B-52 leveled off using a wingover maneuver.[25]

The Followers

Once again, perhaps because the senior staff were eyewitnesses to the violations, the junior crewmembers kept their opinions on the flyby to themselves. A B-52 pilot remarked, "I was amazed that they (the senior staff) let him keep doing that. Getting away with it ***once*** you could understand, you know – forgiveness is easier to get than permission. But this was the ***third*** time in less than a year."[26]

> ***"I was amazed that they (the senior staff) let him keep doing that. Getting away with it once you could understand, you know – forgiveness is easier to get than permission. But this was the third time in less than a year."***
>
> Pilot who preferred to remain anonymous

The Leaders

The wing commander was Col Ruotsala and the Deputy Commander for Operations (DO) was Col Julich. The DO was TDY during the airshow planning sessions from January to April 1992, and was to leave for another assignment within a month after the airshow.[27] The Assistant Deputy Commander for Operations (ADO), Col Capotosti, did not take part in any of the airshow planning due to a family emergency.[28] As a result, the normal command structure was not in place for the planning phase of the airshow. The ADO, Col Capotosti, was to move up to DO a week after the air show. He was upset by the lack of Lt Col Holland's air discipline and told his wife "This will never happen again. In seven days, I'll be the DO. Lt Col Holland will never fly another airshow as long as I am the DO."[29] After he took over as DO, Col Capotosti "took Holland in and told him to his face, behind closed doors, 'If you go out and do a violation and I become aware of it, I will ground you permanently."[30] Although Col Capotosti began to keep a folder on flyover and airshow regulations, there was no documentation of the reprimand or counseling given to Lt Col Holland in any form.

Analysis

A lack of attention to detail, failure to adequately discipline, and a failure to document counseling, were the primary leadership failures at this juncture. Once again, the required waivers were not obtained for the B-52 demonstration. The wing commander stated "I guess I assumed that it had been approved because there are a lot of other flyovers, or flying events... and it was all kind of bunched up into one approval for the event."[31] This was an incorrect assumption. The outgoing DO took no disciplinary action, perhaps feeling that the new DO would handle the situation. The incoming DO's statement that "this will ***never*** happen again" was soon to be qualified with "as long as I'm the DO." Perhaps more significant was the fact that the counseling sessions which apparently occurred after the ***last incident*** (Change of Command flyover, 12 July 91), were apparently not passed on to the new DO. If there had been any implied or stated threats to Lt Col Holland after the last event, such as "If you do this again, you are grounded." they were not passed along. This left the new DO at "step one" in the disciplinary process. By this time, the credibility of the senior staff had been severely damaged, and the DO's verbal reprimand most likely sounded hollow to Lt Col Holland, who had been verbally reprimanded by the wing commander for similar violations the previous July. Apparently, the senior staff at the 92d Bomb Wing was unwilling to take preventative disciplinary action, even after three public displays of intentional and blatant deviations from regulations and Technical Orders. Further deterioration of airmanship should not have come as a surprise.

Situation Four: Global Power Mission 14-15 April 1993

Lt Col Holland was the mission commander of a two-ship GLOBAL POWER mission to the bombing range in the Medina de Farallons, a small island chain off the coast of Guam in the Pacific Ocean. While in command of this mission, Lt Col Holland flew a close visual formation with another B-52 in order to take close up pictures.[32] This type of maneuver was prohibited by Air Combat Command (ACC) regulations.[33] Later in the mission, Lt Col Holland permitted a member of his crew to leave the main crew compartment and work his way back to the bomb bay to take a video of live munitions being released from the aircraft. This was also in violation of current regulations.[34]

The Followers

The members of the crews on this GLOBAL POWER mission participated in the unauthorized activities that took place. When questioned as to why they did this, several crewmembers testified that Lt Col Holland told them that the wing commander, Brigadier General Richards, had instructed him to do "whatever you need to do, to get good pictures."[35] The pictures and video which resulted were clear and unequivocal evidence that regulations had been broken.

The Leaders

After the mission, the 325th BMS commander, Lt Col Bullock, became aware of the video. One crewmember testified that the squadron commander attempted to coerce him into taking a job as the wing scheduler by using the videotape as "blackmail."[36] The crewmember was so upset with this development that he went to the base Judge Advocate General (JAG) to file a complaint, but was told "he could not win."[37] Lt Col Bullock denies these events took place and states that "no one told him specifically" that illegal events had taken place on the flight.[38] The same crewmember later showed the video to the Deputy Operations Group Commander (ADO), Lt Col Harper, who advised him, "I would not show any of this" relating to certain sequences of the video tape which he (Lt Col Harper) felt were in violation of regulations.[39] When the DO was made aware of the presence of the potentially incriminating video he allegedly responded "Okay, I don't want to know anything about that video – I don't care."[40] The entire episode began with Lt Col Holland's impression that he was given "some orders (presumably from the wing commander) to basically free-style to get good photographs and video... to make the presentation (of the wing's accomplishments) more spectacular."[41]

Analysis

For the first time, the wing leadership was confronted with "hard copy" evidence of wrong doing on the part of Lt Col Holland. Yet there was apparently no attempt at any level to interview the crewmembers or to reprimand the guilty parties. If the story of blackmail is true, the actions of the squadron commander were clearly unethical and possibly illegal. If they were not true, he still did not enforce existing standards and regulations. The ADO, by his own admission, was aware that illegal activities had taken place during the flight. He claims to have advised the DO of the problem, which the DO denies. In either case, no disciplinary action was taken as a result of this episode. If the DO actually stated "I don't want to know anything about that video – I don't care" he was clearly complacent and failed in his leadership role by not enforcing standards, as well as inhibiting communications. The wing commander may not have been involved at all in this case, as he denies that he ever told Lt Col Holland to *"do what it takes to get good pictures."* Once again there was no disciplinary action taken or any documentation of counseling.

Perhaps the most disturbing part of this situation is that it shows at least three examples of military officers *telling lies,* an unpardonable breech of integrity. Either the blackmail incident occurred or it did not, either the ADO informed the DO of the problem or he did not, and either the wing commander told Lt Col Holland to "do what it takes" or he did not. It is unlikely that the individuals involved would have forgotten or misinterpreted these events, making it highly likely that several officers lied while testifying to the investigating authority. Integrity – the cornerstone of officership, was clearly lacking at, or within, all three levels of command.

Situation Five: Fairchild Air Show 8 August 1993

Lt Col Holland flew the B-52 exhibition for the 1993 Fairchild air show. The profile included steep turns of greater than 45 degrees of bank, low altitude passes, and a high pitch maneuver which one crewmember estimate to be 80 degrees nose high – ten degrees shy of completely vertical. Each of these three maneuvers exceeded technical order guidance. As was the case in previous air shows, Air Combat Command approval was required, but was neither requested or granted.

The Followers

By now, the crewmembers of the 325th BMS had grown accustomed to Lt Col Holland's air show routine. But a more insidious effect of his ability to consistently break the rules with apparent impunity, was manifested in younger, less skilled crewmembers. In one example, Captain Nolan Elliot, a B-52 Aircraft Commander who had seen several of Lt Col Holland's performances attempted to copy the "pitch-up" maneuver at an airshow in Camloops (sic), Canada – with near disastrous results.[42] The navigator on this flight said "we got down to ***seventy*** knots and... felt buffeting" during the recovery from the pitch up.[43] At seventy knots, the B-52 is in a aerodynamically stalled condition and is no longer flying. Only good fortune or divine intervention, prevented a catastrophic occurrence in front of the Canadian audience. A second example occurred at Roswell, New Mexico, when a new Aircraft Commander was administratively grounded for accomplishing a maneuver he had seen Bud Holland do at an air show. "It was a flaps down, turning maneuver in excess of 60 degrees of bank, close to the ground." His former instructor said of the event "I was appalled to hear that somebody I otherwise respected would attempt that. The site commander was also appalled, and sat the man down and administered corrective training."[44] The bad example set by Col Holland had begun to be emulated by junior and impressionable officers, and had resulted in one near disaster and an administrative action against a junior officer. This was precisely what Col Capotosti had feared when he warned the DO about Holland's influence on younger crewmembers in July of 1991.

The Leaders

There was no disciplinary action taken at any level of command as a result of the 1993 airshow.

Analysis

The response to this event from the wing commander, Brigadier General Richards, sheds some light on the nature of the overall leadership problem at Fairchild AFB. In testimony after the crash in June of 94, BG Richards said of Lt Col Holland, "he never acted... anything other than totally professional... *nothing I saw or knew about when I was at Fairchild led me to any other belief* (emphasis added)

about Bud Holland."[45] This testimony was from a Wing Commander who ***personally witnessed*** Lt Col Holland's flagrant and willful tech order and regulatory violations at his own 1993 air show. Regarding the '93 air show, BG Richards went on to state *"I made it absolutely clear that everything that was going to be done in this demonstration was going to have to be on the up and up and in accordance with tech order and in accordance with the regulations... and I was sure that it was* (emphasis added)."[46] It is interesting to note, that the site commander at Roswell, New Mexico immediately recognized a high bank maneuver by a B-52 as a violation of tech order guidance, and took administrative action against the offender. What was going on at Fairchild? Did the Wing Commander not know or understand the tech orders or regulations? Was he misinformed? BG Richards states he looked to the DO, Col Pellerin for guidance.[47] Col Pellerin states he looked to his Chief of Stan-Eval, Lt Col Holland for guidance – and so the demonstration proceeded under the guidance of an aviator who already had been verbally reprimanded (perhaps twice) for willful violations and poor airmanship.[48] A B-52 pilot interviewed about this state of affairs, said "it was worse than the blind leading the blind. It was more like the spider and the fly" referring to the abilities of Lt Col Holland to bend the leadership to his will.[49] Although there was a new DO in place, Col Pellerin did not take any more forceful action than did any of his predecessors. In fact, there was no verbal reprimand or counseling given to Lt Col Holland, as there had been in the past airshows. He may have seen this as another signal of the senior leadership's acquiescence to his brand of airmanship.

Situation Six: Yakima Bombing Range 10 March 1994

Lt Col Holland was the aircraft commander on a single ship mission to the Yakima Bombing Range to drop practice munitions and provide an authorized photographer an opportunity to shoot pictures of the B-52 from the ground as it conducted its bomb runs. Lt Col Holland flew the aircraft ***well below*** the established 500 foot minimum altitude for the low level training route. In fact, one crossover was photographed at less than ***30 feet***, and another crewmember estimated that the final ridgeline crossover was "somewhere in the neighborhood of about ***three*** feet" (emphasis added) above the ground, and that the aircraft would have impacted the ridge if he had not intervened and pulled back on the yoke to increase the aircraft's altitude. The photographers stopped filming because "they thought we were going to impact... and they were ducking out of the way."[50] Lt Col Holland also joined an unbriefed formation of A-10 fighter aircraft to accomplish a flyby over the photographer. This mission violated ACC Regulations regarding minimum altitudes, FAR Part 91 and Air Force Regulation (AFR) 60-16, regarding overflight of people on the ground. There were several occasions during the flight where other crewmembers verbally voiced their opposition to the actions being taken by Lt Col Holland. Following the flight, these same crewmembers went up the squadron chain of command with their story and stated they would not fly with Lt Col Holland again.

The Followers

During the flight, crewmembers strongly verbalized their concerns about the violations of air discipline and regulations. At one point, Lt Col Holland reportedly called the radar navigator "a pussy" when he would not violate regulations and open the bomb doors for a photograph with live weapons on board. On another occasion, following a low crossover, the navigator told Lt Col Holland that the altitudes he was flying was "senseless."[51] But the real hero on this flight was Capt Eric Jones, a B-52 instructor pilot who found himself in the copilot seat with Lt Col Holland during the low level portion of the flight. On this day, it would take all of his considerable skills, wits, and guile, to bring the aircraft safely back to Fairchild. After realizing that merely telling Lt Col Holland that he was violating regulations and that he (Capt Jones) was uncomfortable with that, was not going to work, Capt Jones feigned illness to get a momentary climb to a higher altitude. Capt Jones also said he needed training and flew a few more passes. But in the end it was once again Lt Col Holland at the controls. The following is Capt Jones recollection of the events that took place then:

> We came around and (Lt) Col Holland took us down to 50 feet. I told him that this was well below the clearance plane and that we needed to climb. He ignored me. I told him (again) as we approached the ridge line. I told him in three quick bursts ***'climb-climb-climb'***... I didn't see any clearance that we were going to clear the top of that mountain... It appeared to me that he had target fixation. I said ***'climb-climb-climb.'*** again, he did not do it. I grabbed ahold of the yoke and I pulled it back pretty abruptly... I'd estimate we had a cross over around 15 feet... The radar navigator and the navigator were verbally yelling or screaming, reprimanding (Lt) Col Holland and saying that there was no need to fly that low... his reaction to that input was he was laughing – I mean a good belly laugh.[52]

Following the low level portion of the mission at the Yakima Range, the crew was scheduled to fly another low level at a different route. Capt Jones convinced Lt Col Holland that the other copilot on the flight needed some training. When Lt Hollis climbed in the seat with Capt Jones (replacing Lt Col Holland at the other set of controls) Capt Jones "told Lt Hollis that he was not to get out of the seat again, (even if) Col Holland ordered him to."[53]

Upon returning from the mission, the crewmembers discussed the events among themselves and came to the conclusion that they would not fly with Lt Col Holland again. Capt Jones reports, "I vowed to them that never again would they or myself be subjected to fly with him. That if it required it, I would be willing to fall on my sword to ensure that didn't happen." The next day, Captain Jones reported the events to Major Don Thompson, the squadron operations officer stating "I did not ever want to fly with Lt Col Holland again, even if it meant that I couldn't fly anymore as an Air Force pilot."[54] Major Thompson told Captain Jones that he didn't think it would come to that, because he "was joining a group of pilots in the squadron who had also made the same statement."[55]

The Leaders

The staff at the squadron level began to take action when Captain Jones reported the events to Major Thompson, the squadron Ops officer. Major Thompson had also already seen a video tape taken from the ground during the photography session the previous day and was aware of the severity and degree of the infractions. Although he was admittedly a good friend of Bud Holland, Major Don Thompson had seen enough. He immediately went to the Squadron Commander, Lt Col Mark McGeehan. Major Thompson recalls, "I had an intense gut feeling that things were getting desperate... I said 'I feel like I'm stabbing a friend in the back. I like (Lt) Col Holland but we need to remove him from flying. That Yakima flight needs to be his fini-flight.' I guess I was just trying to protect Bud Holland from Bud Holland." The Squadron Commander concurred with his Ops officer, but it was agreed that in order to restrict the wing Chief of Stan-Eval from flying, the order would have to come from the DO. Lt Col Mark McGeehan went to see Col Pellerin. At the meeting, Lt Col McGeehan laid the facts on the table and made his recommendation to ground Bud Holland.[56] The DO thanked him and said he would get back to him with a decision after he had heard the other side of the story. Colonel Pellerin consulted with Lt Col Holland and was told that he (Holland) was just trying to demonstrate aircraft capabilities to the more junior crewmembers. Lt Col Holland was verbally reprimanded by Col Pellerin (undocumented) and promised not to break any more regulations in the future. The DO then called a meeting with Lt Col Holland and Lt Col McGeehan to announce his decision. He informed them both that he had reprimanded Lt Col Holland but that he had decided against any restriction on his flying. At that point, Lt Col McGeehan made a decision to restrict his crews from flying with Lt Col Holland unless he was in the aircraft. According to his wife "Mark said afterwards that he knew that he was not going to let (Lt) Col Holland fly with anybody else unless he was in the airplane... that he was going to be flying whenever Bud flew."[57] He was true to his word.

> ***I said 'I feel like I'm stabbing a friend in the back. I like (Lt) Col Holland but we need to remove him from flying. That Yakima flight needs to be his fini-flight.' I guess I was just trying to protect Bud Holland from Bud Holland."***
>
> Major Thompson

Analysis

The squadron leadership at the 325th BMS performed admirably. After acquiring the facts and evidence, the squadron senior staff reached a logical conclusion and made an ethical and appropriate decision. They attempted to use the chain of command to enforce established standards and upchannelled the information to the appropriate level. After the decision of the DO was rendered, they saluted smartly and went about taking actions that ***were*** within their purview, in an attempt to do what they could to keep everyone safe.

There were two apparent failures at the DO level. First, Col Pellerin did not obtain all of the available information. He did not view the videotape of the event, and he did not contact previous senior wing leaders to ascertain if Lt Col Holland had a history of airmanship problems. This leadership error was not unique in the history of the 92d Bomb Wing. When confronted with clear evidence of willful violations of regulations, Colonel Pellerin did not take proactive action to prevent a reoccurrence. *Once again, the unrecorded verbal reprimand was the extent of the disciplinary action.* By failing to take further action, the DO had set the stage for a bizarre and dangerous situation. Two men (Lt Cols McGeehan and Holland) who were professionally at odds, were to be paired in the cockpit for the next several months. Lt Col McGeehan had confided in his wife that he did not trust Bud Holland to fly with his aircrews. Captain Eric Jones related the following encounter with Lt Col Holland (after the DO's decision):

> I was sitting there and he came over and said "That little f ---er," referring to Lt Col McGeehan, "tried to get me grounded. But I solved that, the three of us." And Lt Col Holland told me, speaking directed at Lt Col McGeehan, that he didn't respect him as a man, as a commander, or as a pilot. Apparently Lt Col McGeehan had said something about him being dangerous and Lt Col Holland indicated that he told him that he was just a "weak dick."[58]

The DO had not adequately considered the implications of his actions when he allowed Bud Holland to continue to fly. Within his Operations Group there was, in essence, a small mutiny going on. Many of the crewmembers were no longer willing to fly with his Chief of Standards and

Evaluation, ***even under orders.*** He had alienated his Bomb squadron commander, who was now having to spend time tracking the flying schedule of Bud Holland, to ensure that his crewmembers were not put in the unenviable position of choosing between risking their careers or risking their lives. The DO's last error was that he failed to pass either the information or his decision up to the wing commander, Colonel Brooks, who remained unaware of the entire situation.

The Command Climate at Fairchild AFB in Early 1994

The Yakima mission brought to a head many emotions that had been lying beneath the surface at Fairchild. In addition to the problems in the Operations Group, the antics of Bud Holland were being discussed by the officer's wives, civilians, and even on the high school playground.

The rift that existed between Lt Col McGeehan and Lt Col Holland extended beyond the men themselves. A B-52 aircraft commander stated "Everybody was lining up on one side or the other, Bud had his groupies, and then there were the rest of us."[59] The effects and strain was also felt by Lt Col McGeehan's wife Jodi, who related a conversation she had with Bud Holland's wife, Sarah Ann. "I was at Donna Pellerin's going away luncheon and I never really had a chance to meet Sarah in the whole year... somebody mentioned something about one of the airshows, and Sarah Ann just turned to me and she said 'You know, there is not anybody that could do anything to stop my husband from flying the way he wants to fly."[60] The children were no more exempt from the controversy than were the wives. Patrick McGeehan, Mark and Jodi's oldest son came home from school one day extremely angry at Victoria Harper, the daughter of the Lt Col Steve Harper, the Deputy Operations Group Commander. When his mother asked him why he was so upset he replied, "well all year long she just kept telling me that the best pilot in the squadron was Colonel Bud Holland... it annoyed me, but the thing that really annoys me the most now is that she said that if anybody is going to roll the B-52, Bud Holland is going to be the one to do it, and I can just see him doing it some day."[61]

"well all year long she just kept telling me that the best pilot in the squadron was Colonel Bud Holland... it annoyed me, but the thing that really annoys me the most now is that she said that if anybody is going to roll the B-52, Bud Holland is going to be the one to do it, and I can just see him doing it some day."

Mrs. Jodi McGeehan

There is also some evidence to suggest that the local civilian community was aware of the controversy swirling around Lt Col Holland's flying practices. One civilian complained to the local TV news that a B-52 was in 60 to 70 degrees of bank over the local supermarket in Airway Heights.[62]

But it was the crew force morale that was most effected. Captain Shawn Fleming, an B-52 instructor pilot and a weapons school graduate, was an opinion leader within the squadron, and summed up the feelings many 325th BMS aviators had about Lt Col Holland's airmanship, and the wing leadership's actions related to it.

> Everybody had a Col Holland scare story. Col Holland was kind of like a crazy aunt... the parents say "Ignore her"... and the hypocrisy was amazing. For him to be in the position of the Chief of Standardization... is unconscionable. When Col Holland did something... he's patted on the back by the leadership, "Good Show." What's the crew force supposed to learn from that? You got the "He's about to retire" (and) "That's Bud Holland, he has more hours in the B-52 than you do sleeping." Yeah, he might have that many hours, but he became complacent, reckless, and willfully violated regulations.[63]

By June 1994, the command climate at Fairchild Air Force Base was one of distrust and hostility. "Everybody was just trying to get out of here."[64] In spite of these facts, Lt Col Holland was selected by Col Pellerin to perform the 1994 airshow. "It was a non-issue," Pellerin said. "Bud was Mr. Airshow."

Situation Seven: Air Show Practice 17 June 1994

Lt Col Holland and the accident crew flew the first of two scheduled practice missions for the 1994 airshow. The profile was exactly the same as the accident mission except that two profiles were flown. Once again they included large bank angles and high pitch climbs in violation of ACC regulations and technical order guidance. The wing commander, Col Brooks, had directed that the bank angles be limited to 45 degrees and the pitch to 25 degrees. These were still in excess of regulations and technical order guidance. Both profiles flown during this practice exceeded the wing commander's stated guidance. However, at the end of the practice session, Col Pellerin, the DO, told the wing commander that "the profile looks good to him; looks very safe, well within parameters."[65]

The Followers

Because the 325th BMS was scheduled to close, most of the bomb squadron crewmembers had already been transferred to new assignments. But those that remained were not comfortable with the situation. In fact, one of the squadron navigators refused to fly the airshow if Lt Col Holland was going to be flying. This required the ranking navigator in the 325th BMS, Lt Col Huston, to be the navigator for the airshow and practice missions.[66] Major Thompson, the squadron Operations Officer was also uneasy. "I had this fear that he was again going to get into the airshow... that he was going to try something again, ridiculous maybe and kill thousands of people."[67]

It wasn't just the flyers that were getting nervous. Lt Col (Dr) Robert Grant, the 92d Air Refueling Squadron Flight Surgeon, was told by a crewmember during a routine appointment, that he refused to fly with Lt Col Holland. This, coupled with a concern that Lt Col Holland was scheduled to fly in the 1994 airshow, led Dr. Grant to take his concerns to both the 92d Bomb Wing Chief of Safety, Lt Col Mike McCullough, and to Dr. Issak, the Chief of Aeromedical Services at Fairchild. The Chief of Safety told Dr. Grant that "Lt Col Holland was a good pilot and that the maneuvers had been done before."[68] Dr. Issak did not pursue the issue after he learned that Dr. Grant had spoken to the wing safety officer.[69]

Major Theresa Cochran, the nurse manager in emergency services, attended an airshow planning session in which Lt Col Holland briefed that he planned to fly 65 degree bank turns. The wing commander quickly told him that he would be limited to 45 degrees maximum. Major Cochran recalls Lt Col Holland's response in a prophetic discussion between her and a co-worker who was also in attendance at the planning session.

> Colonel Holland's initial reaction was to brag that he could crank it pretty tight... he said he could crank it tight and pop up starting at 200 (knots). Bob and I looked at each other, and Bob is going, "He's f – -ed.", and I said "I just hope he crashes on Friday, not Sunday, so I will not have so many bodies to pick up."...those words did return to haunt me.[70]

The Leaders

During the planning session briefing on June 15, Lt Col Holland briefed using overhead slides. As the briefing progressed, Col Brooks, the wing commander, made clear that (1) there would be no formation flight, (2) bank angles would be limited to 45 degrees, and (3) that pitch angles would be limited to 25 degrees.[71] Although the slides and briefing clearly indicated that a part of the demonstration would include a "wingover," there was curiously no discussion on this point. Although Lt Col Holland was clearly not pleased with the wing commander's guidance, there is no doubt that he left the briefing with an understanding of what the commander's guidance was. During the practice mission, the commander's guidance was repeatedly violated, but was not reported as such by Col Pellerin, the DO to the wing commander. The wing commander had only personally witnessed a small portion of the practice, because he was at a rehearsal for a retirement ceremony for the outgoing Base Commander. Lt Col Ballog, who was serving as the Commander of Troops on the parade field at this rehearsal, recalls Col Brooks making a negative comment about the portion of the airshow practice that he was able to see. "The comment was basically, that this was not supposed to be happening... not a part of the agenda...that he (Lt Col Holland) was too low and banking over too hard... which were contrary to guidance that had been put out."[72] In spite of this personal observation, no action was taken following the report of "well within parameters" by the DO upon landing from the practice mission.

Analysis

Once again, there was incongruity between senior leadership words and actions. After stating that certain safety criteria (which ***still*** exceeded regulatory and T.O. guidance) regarding bank and pitch angles would be followed, the senior leadership personally witnessed the violations. The DO witnessed them from the aircraft and the wing commander witnessed them from the ground. Both undoubtedly knew that the deviations were intentional. Lt Col Holland's unquestioned flying skills ruled out the possibility that these overbanks and excess pitch angles were simply slip ups or errors. Yet no action was taken.

It appears that at this point, the leadership had given up on enforcing standards with regards to Lt Col Holland. Further, they appeared to be unable to read an atmosphere of impending disaster that permeated nearly every aspect of the 92d Bomb Wing.

On Monday, the 20th of June, disaster did strike Fairchild AFB, but it was not the one that is the focus of this analysis. A lone gunman entered the base hospital and killed several Air Force members before being shot and killed by a security police officer responding to the scene. Understandably, the airshow and all preparations for it were immediately put on hold. After some discussion, it was determined that going ahead with the airshow would aid in the healing process of the personnel still at the base, and so another practice session was scheduled for the morning of 24 June.

On that morning, Secretary of the Air Force Sheila Widnall and United States Congressman Tom Foley visited the base, so the takeoff for the practice session was delayed until the afternoon. At 1335 Pacific Daylight Time (PDT), *Czar 52* taxied to runway 23 for departure. At 1416 PDT, the aircraft impacted the ground killing all aboard.

Section Four: Conclusions and Implications

Leadership exists in direct proportion to the degree to which subordinates are willing to follow. Leadership is a social phenomenon.[73] When followers cease to follow, leaders cease to lead. This is true even if the "leaders" hold high military ranks and fill positions of great power and responsibility. To a large degree, this was what had occurred within the 92d Bomb Wing at Fairchild AFB in the early 1990s. Describing ***what*** *occurred is interesting and insightful, but determining* ***why*** *it occurred is absolutely essential if we are to avoid similar catastrophes in the future. Using the questions posed in Section One of this study, the following conclusions were reached.*

Followers stopped following

Just as "up" has no meaning without the concept of "down," leadership must be defined in terms of followership. On an individual basis, Lt Col Holland refused to follow written regulations and B-52 tech orders, as well as ignoring the verbal orders and guidance given by the Wing Commanders and DOs. Even when verbal reprimands and counseling sessions focused on the specific problem of airmanship, he steadfastly refused to follow their guidance. At one point, only weeks prior to the accident, he clearly stated his feelings on the issue of guidance from senior officers.

> I'm going to fly the airshow and yeah, I may have someone senior in rank flying with me,... he may be the boss on the ground, but I'm the boss in the air and I'll do what I want to do.[74]

I'm going to fly the airshow and yeah, I may have someone senior in rank flying with me,... he may be the boss on the ground, but I'm the boss in the air and I'll do what I want to do.

Lt Col Bud Holland

The aircrews quickly perceived this as an integrity problem within the leadership. The flyers, and eventually other members in the wing, simply lost faith in the leadership's ability to deal with the problem. Capt Brett Dugue summed up the crewmember's frustration this way. "You've got to be kidding me, if they allowed him to fly a 50 foot fly-by at a change of command, do you think me telling anybody about him flying low at IR 300 is going to do any good?"[75] As a result of this loss of faith the aircrews began to employ other survival techniques, such as feigning illness and openly refusing to fly with Lt Col Holland.

The lesson learned and implication for current and future commanders is that trust is built by congruence between word and deed at all levels. Subordinates are quick to pick up on any disconnect. They are closer to the action, have more time on their hands, and love to analyze their leaders. Retired Air Force General Perry Smith writes, "Without trust and mutual respect among leaders and subordinate leaders, a large organization will suffer from a combination of poor performance and low morale."[76] He was right on target in this case.

Standards were not enforced

A rogue aviator was allowed, for over three years, to operate with a completely different set of rules than those applied to the rest of the wing aviators. The institutional integrity of the 92d Bomb Wing leadership was severely damaged by this unwillingness to act. The entire leadership structure of Fairchild Air Force Base (above the squadron level) appeared to be operating in a state of denial, hoping for the best until the base closed or Lt Col Holland retired. Why? Either the wing leadership did not understand or know that the rules were being violated, or they chose not to apply them uniformly. The first case illustrates possible negligence and incompetence; the second hints at a lack of integrity.

In the words of retired army Lt General Calvin Waller, *"Bad news doesn't improve with age."*[77] Leaders must act upon information or evidence of non-compliance. If they elect not to act, they should communicate their reasons for not doing so. Failure to do either invites second guessing and criticism, often eroding the critical element of trust between the leader and the led. Leaders must also learn to recognize the traits of the rogue aviator, for while Lt Col Holland stood out like a beacon, many others still operate today to a lesser degree.

A key position was filled with the wrong person

Selecting an aviator who exercised poor airmanship as the Chief of Stan Eval was a poor choice, but leaving him there after multiple flagrant and willful violations of regulations sent an extremely negative message to the rest of the wing flyers. Individuals who hold key positions are looked up to as role models by junior crewmembers. They must be removed if they cannot maintain an acceptable standard of professionalism. Even if Lt Col Holland had not crashed, the damage he had done through his bad example of airmanship is incalculable. Not only did many young officers see his lack of professionalism as a bad example, but they also observed several senior leaders witness his actions and fail to take any corrective action.

What this said to them about Air Force leadership in general is uncertain, but in at least one case, it led an otherwise satisfied Air Force pilot to try civilian life. "I wanted no part of an organization that would allow that kind of thing to continue for years on end. We (the crewmembers) pointed it out to them (the leaders) over and over again. It was always the same response – nothing. I'd had enough."[78]

General Perry Smith states, "Leaders must be willing to remove people for cause... the continued presence of ineffective subordinates, drain the organization and its capable leaders of the time, energy, and attention needed to accomplish the mission."[79] He goes on to explain, "If the person is fired for cause, there should be no question remaining about why the person was fired and that the cause was an important one."[80] The implication for current and future leaders is simply to select key personnel carefully, with an understanding that they are role models and will help shape the personality of the entire organization. If a mistake is made by selecting the wrong person for a key position, remove that person if there is cause so that you don't compound the original error.

The senior leadership **positions** *did not speak with continuity*

That is to say that when an individual Wing Commander or DO issued an ultimatum, like "If you do this again, I will ground you," they did not pass this information along to their replacement. Consequently, new commanders were left having to deal with the problem as if were new. Lt Col Holland undoubtedly viewed this situation like a "get out of jail free" card, a new commander or DO equaled a fresh start. While outgoing leaders didn't fulfill their responsibility to inform new commanders, incoming commanders didn't ask the right questions.

One recommended technique when there is little or no overlap of commanders, is for the outgoing leader to make an audio tape and file for the incoming leader detailing any problem areas or "skeletons in the closet" that would lend continuity to an organization during the crucial transition period.[81] In any case, critical information must be passed along to preserve the "corporate memory" and integrity of a command position.

Leaders did not keep open channels of communication

In some cases, the problem was blatant and obvious, such as the DO who told a subordinate "I don't want to know about any video. I don't care," after the Global Power mission. In other cases it was more subtle. The fact that the DO did not inform the Wing Commander of the Yakima Bomb Range issue, with the resultant request for Lt Col Holland's grounding, begs the question "Why didn't he tell the boss?" Would the Wing Commander have made the same decision to keep Lt Col Holland flying? Perhaps the DO did not want to "air dirty laundry" outside of the Ops Group, or perhaps the Wing Commander was unapproachable with bad news. These are purely speculative statements, but are mentioned here to get the reader to analyze similar traits in themselves or leaders they have worked for, and to emphasize the importance of communication throughout the chain of command. This is especially important now that there are Brigadier Generals as wing commanders throughout the Air Force. The flag rank adds a new factor to the communication equation and can make it much more difficult for subordinate to feel comfortable bringing the bad news to the boss.

A Final Perspective

The crash of *Czar 52*, like most accidents, was part of a chain of events. These events were facilitated through the failed policies of several senior leaders at the 92d Bomb Wing. These failures included an inability to recognize and correct the actions of a single rogue aviator, which eventually led to an unhealthy command climate and the disintegration of trust between leaders and subordinates. However, in most aircraft mishaps, the crash is the final domino to drop in the cause and effect chain of events. In this case, however, scores of young and impressionable aviators "grew up" watching a rogue aviator as their role model for over three years. They remain on active flying status in various Air Force wings, passing along what they have learned. Because of this, the final domino in this chain of events may not yet have fallen.

Endnotes

All Endnotes that include Tab numbers, for example "V-21.7," refer to the USAF 110-14 Accident Investigation Board Report of the B-52 Mishap at Fairchild AFB, 24 June 1994.

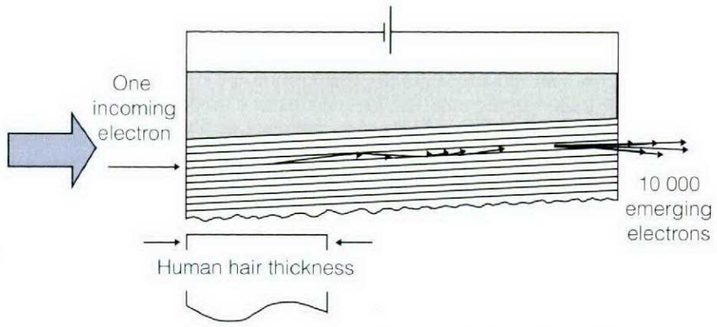
1. Telephone interview with Major Kramer (pseudonym), 16 Dec 94. Pseudonym used for prologue continuity. Actual name withheld by request
2. Perry M. Smith, *Taking Charge: A Practical Guide for Leaders* (Washington, DC: National Defense University Press, 1986) xiii.
3. Michael G. McConnell, Col, USAF, "Executive Summary," *AFR 110-14 USAF Accident Investigation Board*, Vol 1 ea.: 1.
4. Medical Statement to the Accident Board from 93rd Med Group/SGP, 19 Aug 94
5. As a test of ethical soundness, Lt General (Ret) Waller asked himself the question "If this came out in the newspaper, could I defend my actions as honorable?"
6. Personal Interview, Captain Pilot who preferred to remain anonymous, 525th BMS.
7. Aeronautical Order (PA) Aviation Service, 92d Bombardment Wing, Combat Support Group, 10 Mar 89.
8. Col Compotosti, V-3.3.
9. Col Brooks, V-2.8.
10. Col Ruotsala, V-6.3.
11. Major Don Thompson, V-21.4.
12. Major Don Thompson, V-21.7.
13. Captain Brett Dugue', B-52 Aircraft Commander, V-27.10.
14. Captain Mike Meyers, V-32.10.

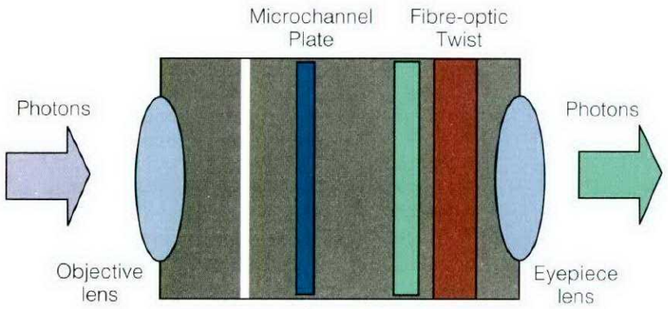
continued on page 31

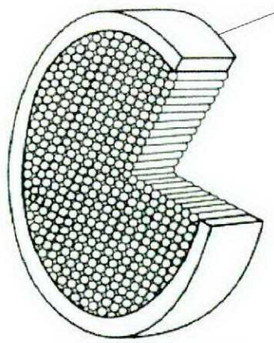
Effects of Weather on NVG

THE GREEN MAY BE BRIGHT BUT IS THE OUTSIDE WORLD ALRIGHT?

Night Vision Goggles (NVG) must have a minimum amount of light energy for acceptable performance. The sources of this energy are ambient and cultural lighting. Atmospheric conditions however, significantly affect NVG performance. In general, conditions that degrade unaided vision will degrade NVG. The light energy reflected from objects is scattered by water vapour and particulate matter suspended in air. Precipitation (rain and snow) and atmospheric obscurants (fog, dust, smoke etc) degrade NVG performance. So how do you recognise the onset of weather or degraded performance? The first step is to understand the way NVG work.







The Microchannel Plate (MCP) in the NVG is approximately the thickness of 3 human hairs, spans the diameter of the tube and consists of about 1.5 million glass tubes which are coated with a semiconductor, fused into a circular array (as shown). They are all orientated at approximately 80° to the horizontal so that entering electrons strike a tube, and bounce off the sides releasing further electrons.

As can be seen from the diagram above, the electrons release others, hence giving real amplification (gain), resulting in a clear sharp picture. As the MCP amplifies the electrons, eventually the charge created by the electrons is equal to that across the walls of the plate which leads to maximum and constant picture brightness (max gain).

This can be demonstrated. Using the goggles, on a night of reasonable illumination go outside and look at the screen brightness. Move the NVG to look at a brighter light source, and the picture will be of approximately the same illumination level. This is due to the NVG working constantly at maximum gain. Hence, since the maximum output is limited by the MCP, in varying light conditions the picture will remain at a reasonably constant brightness level, since the NVG work at max gain down to considerably low light levels. In the diagram above even if the number of incoming electrons is 10 or 100, the number of emerging electrons and, therefore, the picture brightness stays the same. This constant brightness is extremely important in recognition of decreasing conditions. The characteristic scintillation (snowflaking) and lowered visual acuity (sharpness) of

NVG at low light levels is due to the lack of electrons released i.e. the NVG working at max gain but without sufficient input of electrons to the MCP.

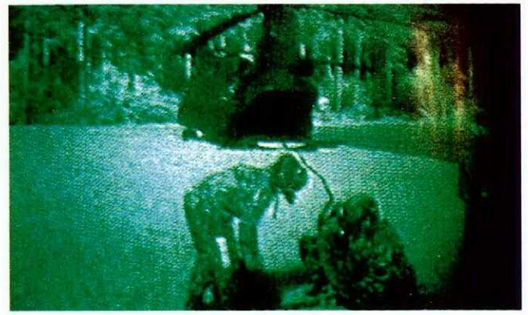
Effects of Weather – Recognition of the reduction in ambient illumination is difficult. The changes that occur in the image are very subtle, and those changes in contrast are not easily perceived through NVG. The exact amount of reduction of light is difficult to predict because a common factor cannot be applied to each condition of cloud, fog, smoke or dust etc. For example, thin clouds have more space between particles, allowing a larger percentage of light to pass through without being scattered; therefore no contrast may exist between the cloud and surrounding environment. The invisibility of degrading conditions, hiding terrain etc can create a severe hazard for NVG ops. However if poor conditions are invisible, why can't features be seen behind them? Imagine driving your car in the rain. Although there is still some visibility, it is degraded, and objects in the distance may not be seen. The big difference between this analogy and NVG is that the reduction in visibility is not as obvious on NVG. Firstly the cloud reduces scene illumination that degrades contrast and texture, however, the constant brightness of the NVG screen makes this detection difficult. This produces a false perception of distance, resulting in the crew either not seeing the terrain or thinking it is further away than it is. As the visibility gets less and the aircraft progresses, the NVG may not see the conditions or the problems that they hide. Without detection, one of two things may happen:

- If the conditions stay of the same consistency or dissipate, the NVG still intensify the available energy (with some performance loss), and the aircraft flies through, or
- If the conditions degrade, there is reduced energy to intensify. There are no good cues to spatial awareness, setting up possible disorientation, and a serious reduction in picture quality.

How do you recognise the decreasing performance of NVG?

- Look for the increase in NVG scintillation (snowtlaking) which indicates the microchannel plate is working hard (high gain) – i.e. at low light levels.
- A halo may be seen around a source of illumination. The halo effect tends to initially increase when atmospheric obscurants are present as the NVG gain increases, and as the illumination source is nearly fully obscured, the halo decreases.
- A gradual reduction in light level, visual acuity or contrast.

Partial obscuration of the moon and stars, or cultural lighting. ◆



Your eyes gives you in-excess of 80% of your orientation information. Looking for the small changes in the NVG image is most important, and flying with correctly adjusted NVG will help immeasurably. However, remember if all else fails:

- **Know your Safety Alt at all times and pay strict adherence to rad alt settings and procedures.**
- **Remember there are limitations to NVG and the small image changes.**
- **Maintain good crew co-operation and practice weather abort procedures.**
- **Remember a peek is worth a thousand scans – a quick look under the NVG will increase your SA of the real world.**

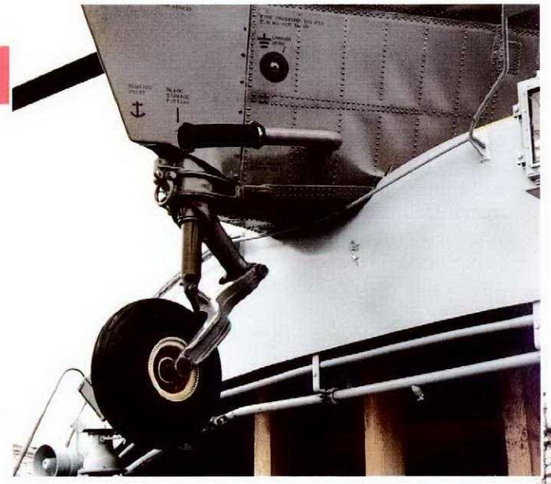
IF IN DOUBT EXECUTE YOUR POOR WX ABORT PROCEDURES... IN TIME

By Flight Lieutenant Steve Daniels, AMTC
Reprinted courtesy of RAF Strike Safe issue 56

Epilogue

TYPE: CH124 Sea King 12424
LOCATION: At Sea HMCS Huron 65 NM off California
DATE: 09 October 1996

The aircraft was completing several hours of training and was in the process of moving from "Delta Hover Astern" to over the flight deck for a free deck landing. During this procedure the crew felt the aircraft sink, heard the low rotor warning and noted a torque split which was interpreted as an engine failure. The flying pilot reduced collective, moved the aircraft 10 to 12 feet ahead and cushioned the landing, albeit with the aft portion of the fuselage extended over the metal lip at the rear of the flight deck. The crew carried out an emergency shutdown and evacuated the aircraft with no injuries. The aircraft sustained C category damage as a result of the impact which drove the tail probe housing up into the cabin about five inches.



The extensive investigation of the power plants revealed no anomalies which could account for the observed problems. Follow-on analysis identified 27 possible mechanical malfunctions which could have caused the accident but all scenarios were eventually ruled out except for the possibility of temporary slippage in the Main Gearbox (MGB) No 1 engine Free Wheel Unit (FWU). The US Navy had experienced this phenomenon and termed it FWU "spit-out". When a temporary slippage occurs the engine overspeed safety feature of the governing system retards the affected engine to idle. Although this scenario matches very well with the observed symptoms of the accident, the follow-on investigation could not positively identify that the accident aircraft's FWU exhibited spit-out evidence nor did it meet the typical faults that the USN had determined were the cause of this problem. Nevertheless, the other major cause factor areas of personnel and environment were eliminated as possible scenarios which left the material area as the only viable cause of this accident with the FWU slippage problem the most likely culprit.

Several maintenance initiatives are forthcoming that should ameliorate the observed problem, the most prominent being the project to upgrade the MGB to the 24000 series. This accident also prompted a procedural change to shipborne operations where all take-off and landing sequences are to be video recorded. As well, Sea King user symposiums were held in 1997 and 1998 to allow countries using this aircraft to have a forum to exchange information like the FWU slippage problem.

While we may never know for sure exactly what caused this accident, we do know what did not cause it and that can be just as important. In the process, a number of anomalies where identified and addressed. This accident did serve to emphasise the importance of Flight Data Recorders (FDR) and to underline the need to maintain these systems and, where feasible, acquire them for fleets not so equipped. An FDR has been identified as an essential requirement in the new Maritime Helicopter Project. ◆

From the Investigator

TYPE: CP140 Aurora 140102
LOCATION: St John's Airport NF
DATE: 14 March 1998

The crew was on an open ocean surveillance mission where the aircraft experienced several mechanical malfunctions. These included a No 1 Hydraulic Oil Hot light, which required the shut-down of a hydraulic pump, and a separate propeller malfunction that resulted in the shut-down of the number one engine. The weather at the planned destination of Greenwood NS was deteriorating and with St John's NF considerably closer the crew decided to divert to that location.

After declaring an in-flight emergency with Air Traffic Control the crew requested an approach to runway 34 so that the prevailing wind of 300 degrees at 13 knots would be on the "dead engine" side of the aircraft. Landing clearance was not acknowledged until the aircraft was 1.5 miles from landing because of conflicting traffic on the runway. In the meantime, the crew completed pre-landing checks and had configured the aircraft with approach flaps. The co-pilot called the "airspeed" slow and the pilot increased power to compensate. Shortly thereafter, land flap was selected and the co-pilot called the aircraft slow again, this time for the land flap speed. When the aircraft was almost over the end of the runway, the pilot's intercom failed momentarily and the UHF radio volume increased uncommanded. The co-pilot called the "airspeed" low a second time at the land flap setting and the pilot initiated an overshoot at below 50 feet AGL.

As maximum power was applied, the aircraft rolled and yawed left and traced a path west of the runway. The pilot was unable to stop the heading change with deflection of the flight controls and the aircraft continued to turn left passing between the control tower and the airport terminal complex at low altitude. When power was reduced on the number four engine, the pilot regained aircraft control, climbed to circuit altitude and carried out an uneventful landing. Preliminary data from the Flight Data Recorder (FDR) indicates that on final approach the aircraft was operating near the stall and Vmca (Velocity-minimum control air) speeds.

The Wing Commander of 14 Wing initiated a Flight Safety Investigation (FSI) into the circumstances surrounding this E category occurrence. The investigation is examining issues, procedures and information with respect to engine out approach considerations and aircraft capabilities with degraded hydraulic systems. Also, the FDR and Cockpit Voice Recorder (CVR) information is being analysed to reconstruct the incident scenario and examine crew resource management (CRM) practices. ◆

Corporal Dave Macleod

Corporal MacLeod was performing a visual check on an Aurora generator that had been received from contractor when he noticed that something looked out of place in the bottom of the rotor assembly. Through the use of third line drawings he was able to confirm there was FOD in the generator housing. After his discovery, Corporal MacLeod immediately inspected the remainder of the generators awaiting repair – two of which were found to contain FOD.

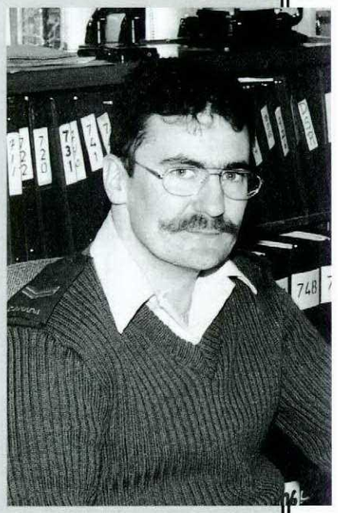
Being aware of recent incidents involving Aurora generators, Corporal MacLeod promptly briefed his supervisor. Subsequent local surveys, and fleet wide special inspection, revealed six more defective generators.

The area in which the FOD was found was extremely difficult to inspect. Through his perseverance Corporal MacLeod demonstrated exemplary professionalism and initiative. His actions eliminated a potentially hazardous flight safety condition. *Well done!* ◆

Corporal Serge J.W.L. Malboeuf

Corporal Malboeuf, an Integral Systems Technician employed at 425 Squadron Log Control, was crossing the hangar to consult with snag technicians on an AMMIS matter. As he approached Hornet 906, Corporal Malboeuf observed that something was amiss with the aircraft.

The previous day, the aircraft had performed an emergency landing roll-out due to an extensive hydraulic leak, which caused the loss of brakes and directional control. The aircraft was now soaked with hydraulic fluid from the nose wheel well area back to, and inside, the electronics bay panels. Corporal Malboeuf noticed that the liquid oxygen converter was still aboard the aircraft in its hydraulic soaked bay. Corporal Malboeuf immediately recognized the dangerous situation. He had the maintenance crew postpone their work and arranged for Safety System personnel to promptly remove the oxygen converter.



Although liquid oxygen is not flammable, it promotes combustion and forms explosive mixtures when combined with organic and other oxidizable materials. Had there been a leak from the oxygen converter the results could have been catastrophic. Corporal Malboeuf's attention to detail and immediate actions averted a potentially disastrous sequence of events. *Well done!* ◆

Master Corporal Real Delage & Corporal Stephane Roy

Following a report that a Griffon helicopter's cyclic control was resting in a slightly abnormal position, Master Corporal Delage and Corporal Roy were assigned to trouble shoot the problem. After obtaining confirmation of the fault they decided to conduct a rigging check. Their investigation revealed that excessive and abnormal adjustments had been used to meet the requirements of the check.

After all prescribed trouble shooting procedures had been exhausted; Master Corporal Delage and Corporal Roy initiated a detailed analysis of the various cyclic components. They discovered that the manufacturer had installed the tube and lever assembly, and the arm assembly, backwards. The irregular assembly had been unnoticed throughout all quality and acceptance checks.

Master Corporal Delage and Corporal Roy's initiative and diligence prevented a potentially serious incident from occurring. *Well done!* ◆

Corporal David Rattliff

Having completed his startup checks, the pilot of a heavily armed Hornet aircraft taxied from a hardened aircraft shelter in Aviano Italy. The aircraft was stopped adjacent to another armed Hornet in preparation for a formation take-off. Unbeknownst to the pilot the aircraft had began to vent significant quantities of fuel from the vertical stab ports onto the hot variable exhaust nozzles.

Corporal Rattliff, who had earlier been dismissed from his start duties by the aircrew, decided to maintain a close watch over the aircraft from inside the hardened aircraft shelter. When Corporal Rattliff observed the aircraft beginning to vent fuel he at once ran to aircraft and signaled the pilot to perform an immediate shut down.

By being attendant to his immediate previous duty Corporal Rattliff recognized the impending severity of the venting fuel contacting the hot engine nozzle. Corporal Rattliff's outstanding situational awareness and timely reaction likely prevented a potentially catastrophic accident from developing. *Well done!* ◆

Major Don Crocker

Major Crocker was piloting a Bird Dog aircraft with a Schweizer glider in tow. At approximately twenty three hundred feet above ground level the instructor in the glider informed Major Crocker that there was smoke coming from the left side of the engine. A glance in the wing strut mirror confirmed the presence of smoke and a check of the tachometer showed decreasing engine revolutions.

The glider released from the tow and the Bird Dog was immediately turned towards the aerodrome. Power loss procedures failed to restore engine power and when vibrations became severe the engine was shut down. As a straight in forced landing approach was being set up the engine seized. Major Crocker then manoeuvred the aircraft to a successful cross-runway dead-stick landing.

The quick reactions and superior flying skills of Major Crocker prevented the loss of a valuable aircraft. *Well done!* ◆

Corporal Jim Gale

During routine night maintenance in preparation for a squadron deployment, the right-hand engine of a Hornet was inadvertently ground cranked while the aircraft was still inside of a hangar. At the time of the incident Corporal Gale was inside the hangar, but working on another aircraft. Upon hearing the engine wind up Corporal Gale quickly assessed the potential danger, dropped what he was doing, and ran across the hangar to incident aircraft.

By shutting off the aircraft's fuel and electrics Corporal Gale managed to secure the engine before any injury or damage occurred.

Corporal Gale's outstanding decisiveness and initiative in reacting to a highly critical situation clearly prevented serious injuries and the loss of valuable resources. *Well done!* ◆

Good Show

Master Corporal David Scharf

During a routine daily and before flight inspection of a Hornet aircraft in Aviano Italy, Master Corporal Scharf noticed that the locking pins in the trunnion bolts of the right-hand main landing gear were missing. Closer examination showed that the nuts themselves were loose. Further inspection by Master Corporal Scharf revealed that the left-hand main landing gear was in the same condition.

It is not known how long an interval would have passed before the loose nut fell free of the trunnion pin resulting in the loss of the pin itself. Regardless, the results would have been at the minimum major damage to the aircraft upon landing, and at the worse, loss of life and the aircraft.

Master Corporal Scharf demonstrated outstanding attention to detail and the utmost concern for flight safety. By detecting a fault on a Hornet that had recently been released from phase inspection and had passed squadron and independent quality assurance checks he prevented a potential catastrophe. *Well done!* ◆

CREW OF GONZO 03 — Captain J. Nowak, Captain M. Chaytor, Captain S. O'Reilly, Major G. Hughes, Second Lieutenant M. Briand, Second Lieutenant J. Furlong

The crew of Gonzo 03 were conducting a night navigation training flight when they became aware that the pilot of Grumman American AA-1 C-FATQ was experiencing severe difficulties on a VFR flight to Thompson Manitoba. The Grumman pilot had transmitted a blind emergency call indicating that he was IMC in icing conditions, unsure of his position, and was attempting to climb above cloud. The Grumman pilot was not instrument rated. It seemed to the crew of Gonzo 03 that the Grumman pilot was becoming agitated and had begun to panic.

Gonzo 03 immediately requested clearance from their route and proceeded to the Thompson area. For over an hour the crew of Gonzo 03 continued to reassure the Grumman pilot and provided advice on instrument flying, minimum altitudes, and navigation assistance. At one point the Grumman pilot advised that he could no longer maintain altitude and that his airspeed indicator had quit functioning. The crew of Gonzo 03 encouraged the distressed pilot until he was able to descend out of icing conditions. Throughout the duration of the emergency the pilot of the Grumman was prompted to communicate allowing the crew of Gonzo 03 to use their DF equipment to fix his position. The Grumman pilot finally broke out of cloud on final approach to Thompson airport and was able to land safely.

The outstanding initiative and professionalism of the crew of Gonzo 03 undoubtedly saved the life of a fellow aviator. *Well done!* ◆

For Professionalism

Major Lori Ann Grenkow

Major Grenkow, the Chief Flying Instructor with the Regional Gliding School, was piloting a Schweizer glider being towed by a Bird Dog aircraft when she noticed smoke coming from the left side of the tow plane's engine. The aircraft were in a climbing orbit away from the airfield and the tow plane pilot had not noticed that the engine was failing. Major Grenkow immediately informed the Bird Dog pilot of the potential problem and released from the towrope.

Forewarned by Major Grenkow, the tow plane pilot was able to execute a successful forced landing with a seized engine.

Major Grenkow's attention to detail and timely actions manifestly contributed to the avoidance of a serious accident. *Well done!* ◆

Crew of FLIGHT 2557

While on the en route portion of Hercules Flight 2557 from Comox to Winnipeg, Captain Taillefer and Captain Bernier mentioned that they could smell a burning odor. Sergeant Bourgeois immediately initiated electrical fire emergency checklist procedures while Sergeant Jamieson attempted to locate the source of the odor and smoke. Master Corporal Clarke, with the assistance of Corporal Ryan, relocated all passengers to the rear of the aircraft. Captain Newbold retained control of the aircraft and began a visual descent over the mountainous terrain.

Using his sense of touch, Sergeant Jamieson located and identified the source of the burning odor as the number 4 voltage regulator. The electrical fire checklist does not isolate the voltage regulators and the symptoms persisted. The crew then decided to activate the electrical generator disconnect and the smoke dissipated. The aircraft was landed at Vancouver and an emergency shut down and ground evacuation was carried out without further incident.

Faced with a highly challenging and potentially life-threatening emergency the calm and thoroughly professional actions of the crew of Flight 2557 allowed them to successfully recover their aircraft. *Well done!* ◆

For Professionalism

Captain Brent Maeland

Captain Maeland was supervising a student pilot IFR round robin training flight when, immediately after takeoff power had been selected, a large flock of seagulls began to take flight abeam the Aurora's intended flight path. Captain Maeland reacted immediately by ordering an abort and backed up the student pilot throughout the entire procedure. During the aborted takeoff run approximately three hundred sea gulls flew across the runway directly in front of the Aurora.

Captain Maeland's decision to abort was complicated by a lack of distance-to-go markers, no bird activity warning, and standing water on the sloping runway. Captain Maeland was able to accurately judge the runway length remaining through his thorough knowledge of the Aurora's performance characteristics rather than by visual clues. The aircraft was brought to a halt without further incident.

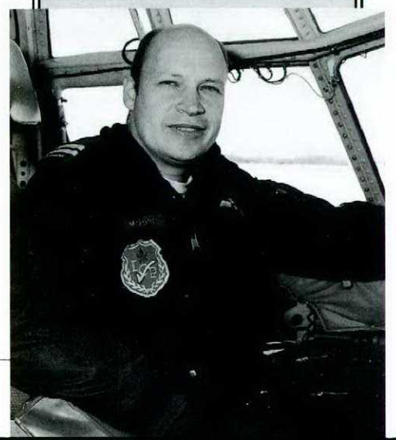
Captain Maeland's rapid assessment of a complex set of critical factors and his flawless reaction certainly prevented serious damage to an Aurora aircraft. *Well done!* ◆

Captain Gary Moore

While preparing for a visual approach to CFS Alert, Captain Moore completed a crosscheck of the topographical map with the TACAN approach to runway 29. His analysis revealed a potential conflict between terrain elevation and the minimum safe altitude for the true south sector. Captain Moore then completed an overflight of the area and confirmed that there were numerous areas where the ground level was equal to or greater than the minimum safe IFR altitude.

Captain Moore immediately notified the duty controller to advise subsequent flights of the error on the approach plate. He then contacted the appropriate authorities to issue a NOTAM and amend publications to ensure adequate terrain clearance.

Captain Moore demonstrated a superior knowledge of approach procedures and a commendable concern for flight safety. His quick and decisive actions detected and corrected a critical error on a published approach thereby enhancing the safe operation of all aircraft flying to Alert. *Well done!* ◆



Corporal Danielle De Luca

Corporal De Luca, an avionics technician, was conducting a B check on a Tutor aircraft when he noticed that a hydraulic line in the nose wheel well area was chafing an electrical wire. If the electrical wire chafed through to the conductor DC power would be lost and a fire might well result. Realizing the seriousness of the situation, Corporal De Luca inspected the remainder of the aircraft on the flight line and found fourteen with similar chafing.

Corporal De Luca immediately brought the situation to the attention of his supervisors. A fleet wide special inspection was ordered and further aircraft were revealed to have the same condition. Wrapping the wire and shortening the hydraulic line repaired the problem aircraft.

Corporal De Luca extended his B check beyond what was called for in technical orders. His outstanding initiative and professionalism averted a potentially dangerous situation. *Well done!* ◆

Master Corporal Ivan Callan

Master Corporal Callan, a loadmaster with 435 squadron, recognized a serious hazard existed in the way infants and young children were restrained during take-off and landing in the Hercules aircraft. Policy prohibited the use of child car seats on board Hercules aircraft during take-off and landing. As a result, loadmasters were required to ensure parents held their infants during critical flight periods. Should an accident have occurred, infants and other passengers would have been placed in increased peril.

Master Corporal Callan addressed the potentially hazardous situation by recommending that infants and young children are restrained by the use of CSA approved car seats secured to the passenger seats. His suggestion was adopted by Air Command.

Master corporal Callan's efforts and awareness of a unique situation have greatly improved the safety of passengers aboard military air transport. His commitment to improving safety standards in the Hercules community has greatly reduced the potential of a tragedy occurring. *Well done!* ◆

Warrant Officer Brian Woodford

Warrant Officer Woodford, a Hercules flight engineer, was conducting his pre-flight check in Lyneham England prior to departure on a transoceanic leg. He noticed what appeared to be a small area of missing paint near the top of the rudder against the hinge line. Unable to view the area adequately from the ground, and prevented by high winds from using a mobile platform, Warrant Officer Woodford arranged for the aircraft to be towed into a hangar.

Subsequent examination of the area revealed that the rudder boost package had failed internally allowing the rudder to travel beyond its design limits in the high overnight winds.

Warrant Officer Woodford's professionalism and attention to detail in spotting and investigating a small bit of missing paint in a very difficult to notice area on the rudder prevented the possibility of a flight control malfunction during a long overwater flight. *Well done!* ◆

Captain Martin Leblanc

During a routine training flight in a Griffon helicopter, Captain Leblanc noticed that the cyclic control felt slightly abnormal. Captain Leblanc was certain that to maintain a given aircraft attitude the cyclic control had to be displaced slightly aft of what was normal in other squadron aircraft. Upon his return to base he had the aircraft's flight controls declared unserviceable.

Detailed investigation by squadron maintenance personnel revealed that a number of control parts were installed backwards. The aircraft had passed all quality and acceptance checks – only Captain Leblanc's superior attention to detail allowed the problem to be identified and corrected.

Captain Leblanc's professionalism undoubtedly averted a serious in-flight occurrence. *Well done!* ◆

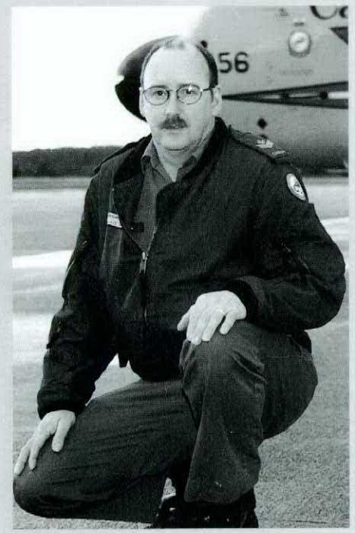
For Professionalism

Corporal Gerry Mertins

Corporal Mertins was conducting a routine after-flight check on a Hornet aircraft when he noticed something amiss with the rear ejection seat. The rear seat leg garters were not properly attached to the ejection seat. Aware that the integrity of the ejection system had been compromised, Corporal Mertins immediately notified his supervisor.

Subsequent investigation revealed that the manual override handle on the ejection seat had been pulled and then reset to the down position. The seat harness was thereby not properly secured to the ejection seat. An ejection attempt would have most likely resulted in fatal injuries to the seat occupant.

The seat harness must be physically checked for security to the seat – a visual check alone does not give a proper indication. Corporal Mertins' professionalism and attention to detail undoubtedly prevented a potentially tragic accident. *Well done!* ◆



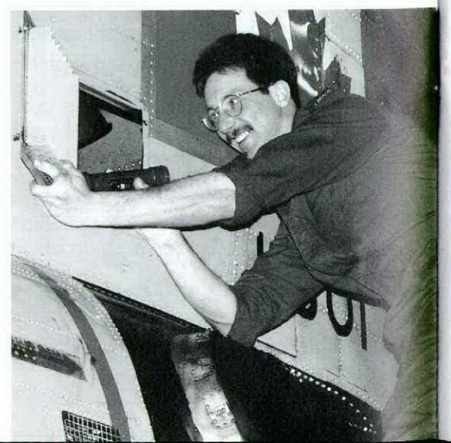
Master Corporal Jacques R. Fortin

During the past two years, the Buffalo aircraft has experienced over fifty JB15 junction box unserviceabilities. Two of these failures had caused smoke in the cockpit leading to flight safety incidents. Determined to discover the cause of the vexing series of JB15 problems, Master Corporal Fortin instigated a comprehensive regime of troubleshooting.

Master Corporal Fortin was able to determine that laboratories had changed the entire control deck switches on two of the junction boxes and only the solenoids on all other units. The two units that had complete switch replacement had not produced an unserviceability in the last two years. Master Corporal Fortin then carried out an extensive series of resistance checks. He determined that the switch decks were causing a high resistance path when the solenoid was mechanically displaced during a selection, thereby causing the solenoid to burn out. Laboratories had carried out proper resistance checks, but the solenoid change, and cleaning of the contacts, resulted in a temporary fix.

Master Corporal Fortin's diligence, dedication and superior professional attitude solved a serious flight safety problem. *Well done!* ◆

Master Corporal Bruce Knott



While lock wiring an anti-icing valve on the number one engine of a Labrador helicopter, Master Corporal Knott noticed a light film of oil on the firewall stiffener located above the firewall. Aware that the aircraft had recently completed a periodic inspection Master Corporal Knott decided to investigate further. He proceeded to remove the line, which was in extremely close proximity to a stringer, and found a hairline crack were the line had contacted the stringer.

The line was replaced and the aircraft returned to service. Had the condition gone unnoticed a catastrophic failure of the number one engine lubrication system would have occurred.

Master Corporal Knott's professionalism and diligence prevented a potentially disastrous engine failure. *Well done!* ◆

Captain Howie Keeler & Corporal Monique Vautour

Captain Keeler and Corporal Vautour, Air Traffic Controllers at 14 Wing Greenwood, received a call for assistance from the pilot of a civilian aircraft. The aircraft's radio was extremely weak and maintaining communication with the pilot was difficult. Despite the extremely poor communications, Captain Keeler discerned that the pilot was lost and his fuel state was very low. Captain Keeler assigned a transponder code to the aircraft and thereby determined its position as fifty-five miles southwest of Greenwood. As the pilot was shaken and communications were so poor, Captain Keeler elected to keep the pilot on Tower frequency. Captain Keeler then requested that an Aurora aircraft airborne over the Bay of Fundy fly to the lost aircraft's position. In approaching darkness the Aurora led the civilian aircraft to a landing at the Liverpool airport.

Realizing that Liverpool was an uncontrolled airport and that rescue services were unavailable, Corporal Vautour coordination with Halifax Rescue Coordination Centre to ensure a police vehicle was on site for the aircraft's arrival. She also contacted the owners of the rental aircraft and provided them with information about the emergency. The lost pilot landed safely and relayed to the Aurora crew that his aircraft engine had quit on approach, probably the result of fuel exhaustion.

Captain Keeler and Corporal Vautour's professionalism and quick thinking prevented the loss of an aircraft and possibly the loss of a life. *Well done!* ◆

Corporal Stan Mills

While cross training on the Labrador fire extinguishing system, Corporal Mills noticed an abnormality with the pins in one of the system's cannon plugs. The system appeared to be inoperable. Corporal Mills immediately consulted a technician who was more familiar with the system and was told that he should be utilizing a modification leaflet instead of the wiring diagram. Corporal Mills then discovered that the listed marginal annotations, which were to be carried out upon release of the leaflet, had never been made to Squadron publications.

Corporal Mills advised his superiors that the amendment had not been made. A massive review and thorough audit of Squadron technical publications was carried out and hundreds of discrepancies were discovered. It became readily apparent that there was a systemic breakdown in the technical library process.

Corporal Mills' professional attitude and diligence revealed a problem that may have remained uncovered indefinitely and compromised aircraft airworthiness. *Well done!* ◆

Captain Dave Schmidt & Captain Mike Vandenbos

Captain VandenBos and Captain Schmidt were conducting a dual-purpose mission to verify an aircraft prior to inspection and also to upgrade their own proficiency. They had completed the pre-maintenance portion of the flight and had commenced practicing aerobatics when Captain VandenBos noted an unusual sound. A glance at the engine gauges revealed readings well below those of normal idle. Captain VandenBos started a climb and attempted compressor stall clearing. The engine refused to respond to all clearing and relight attempts.

Captain VandenBos and Captain Schmidt then correctly considered ejection as their first option but, with the abandoned Mossbank aerodrome immediately below them, elected to enter a forced landing profile. Captain Schmidt verified the altitude available to complete the pattern, checked for obstacles on the runway, and transmitted a Mayday call. The aircraft was flown to a successful landing with minimal damage. Subsequent analysis revealed a main fuel control unit failure that could not have been cleared in flight.

Captain VandenBos and Captain Schmidt's calm and completely professional reactions when faced with an unexpected and unusual loss of power saved a valuable aviation resource. *Well done!* ◆

Captain Sly Jacob

Captain Jacob was acting as a fourth crewman on an Aurora training flight. The fourth crewman is responsible for the monitoring of engine starts and has a few other ground and airborne monitoring duties. Captain Jacob had completed the start portion of his duties and was seated in the port aft seat as the aircraft taxied west along the parallel taxiway to runway 08.

To reach runway 08 it is necessary to cross the intersecting runway 31. As a result of runway geometry there is a blind spot caused by the Aurora's left engines that prevent the pilot from seeing very far in the direction of the threshold of runway 31. Ground Control had cleared the Aurora to cross runway 31, but the Tower subsequently cleared a Silver Star for takeoff on runway 31. From his vantage point Captain Jacob spotted the Silver Star. When it became clear to him that the Aurora pilot had not seen the other aircraft and was continuing to taxi into its path Captain Jacob yelled on the intercom for the pilot to stop. The pilot brought the Aurora to a halt as the Silver Star flew by filling the windshield.

Although the ground portion of his duties were completed, Captain Jacob remained an active participant – monitoring communications and maintaining a visual watch. Captain Jacob's professionalism and initiative almost certainly prevented a collision. *Well done!* ◆

Corporal Rob Parker & Corporal Phil Durdey

Corporal Durdey, an airframe technician, and Corporal Parker, a safety systems technician, were carrying out a check on a Tutor aircraft in the course of cross training. While inspecting the front face of the engine they noticed a strong smell of fuel. Determined to locate the source of the odour they commenced a thorough inspection. They discovered a fuel leak from an access panel on the bottom of the forward fuel cell, accessible only through the removal of the trough panels. Fuel was running down through several wire bundles and had soaked the insulation of the rain removal air line. The line delivers 500 degree Celsius air to the windshield rain removal system.

The professionalism and attention to detail demonstrated by Corporal Durdey and Corporal Parker undoubtedly prevented a potentially catastrophic fire or explosion. *Well done!* ◆

Darker Shades of Blue: A Case Study of Failed Leadership

continued from page 17

[15] Mr. Al Brown, Former B-52 instructor pilot, V-32.3.

[16] Richard L. Hughes, et. al., *Leadership: Enhancing the Lessons of Experience* (Homewood IL: Irwin Publishers, 1993) 66-86.

[17] Personal Interview, Captain B-52 Pilot who preferred to remain anonymous, 525th BS.

[18] J. K. Van Fleet, *The 22 Biggest Mistakes Managers Make* (West Nyack, N. Y.: Parker, 1972) 9-17.

[19] William Roberts, *Leadership Secrets of Attila the Hun* (New York: Warner Books, 1985) 61-63.

[20] The author was present at the post-mission debriefing in which this comment was made.

[21] Col Capotosti, V-3.5.

[22] Col Copotosti, V-3.6.

[23] Lt Col Steve Harper, V-5.6.

[24] AFR 110-14 Accident Investigation Board, AA-2.7.

[25] AFR 110-14 Accident Investigation Board, Vol I, Executive Summary, p. 5.

[26] Personal Interview, Captain Pilot who preferred to remain anonymous, 525th BMS.

[27] Col Julich, V-7.3.

[28] Col Capotosti, V-3.9.

[29] Col Capotosti, V-3.10.

[30] Col Capotosti, V-3.10.

[31] Col Ruotsala, V-6.6.

[32] Capt Donnelly, V-26.18.

[33] Air Combat Command Message, DTG 281155Z Feb. 94.

[34] Capt Donnelly, V-26.20.

[35] Capt Donnelly, V-26.19.

[36] Capt Donnelly, V-26.23. According to Capt Donnelly, Lt Col Bullock stated "This is the blackmail part." and went on to say that the wing commander knew about the video and wanted to court martial Capt Donnelly, but he (Lt Col Bullock) stepped in to prevent it. However, if Capt Donnelly did not take the job in scheduling, Lt Col Bullock would see to it that the court martial went through. It was later discovered that the wing commander was unaware of the existence of the videotape and had no intention of court martialing Capt Donnelly.

[37] Capt Donnelly, V-26.26.

[38] Lt Col Bullock, V-11.7.

[39] Capt Donnelly, V-26.26.

[40] Capt Donnelly, V-26.29.

[41] Capt Donnelly, V-26.32.

[42] Capt Donnelly, V-26.12.

[43] Capt Donnelly, V-26.12. This airspeed is approximately 80 knots below minimum inflight airspeed for flaps up maneuvering in the B-52. If the seventy knot figure is accurate, the aircraft had already stopped flying and the resultant "recovery" was merely a fortunate pitch down into the recovery cone. The aircraft could just as easily departed controlled flight.

[44] Capt Al Brown, V-32.7.

[45] BG Richards, V-1.4.

[46] BG Richards, V-1.8.

[47] BG Richards, V-1.6.

[48] Col Pellerin, V-8.30-31

[49] Personal Interview, Captain B-52 Pilot who preferred to remain anonymous, 325th BMS.

[50] Capt Jones, V-28.8.

[51] Capt Jones, V-28.9.

[52] Capt Jones, V-28.9.

[53] Capt Jones, V-28.11.

[54] Capt Jones, V-28.13.

[55] Capt Jones, V-28.13.

[56] Maj Thompson, V-21.7.

[57] Mrs Jodi McGeehan, V-33.3.

[58] Capt Jones, V-28.18.

[59] Personal Interview, Captain B-52 Pilot who preferred to remain anonymous, 325th BMS.

[60] Mrs. Jodi McGeehan, V-33.4.

[61] Mrs. Jodi McGeehan, V-33.8.

[62] Capt Fleming, V-39.5.

[63] Capt Fleming, V-39.7.

[64] Personal Interview, Captain B-52 Pilot who preferred to remain anonymous, 325th BMS.

[65] Col Brooks, V-2.23.

[66] Maj Thompson, V-21.7.

[67] Major Thompson, V-21.7.

[68] Dr. Grant V-14.7.

[69] Dr. Issak, V-41.

[70] Major Cochran, V-19.7.

[71] Col Brooks, V-2.15-16.

[72] Lt Col Ballog, V-9.3.

[73] Richard L. Hughes, et. al., *Leadership: Enhancing the Lessons of Experience* (Homewood IL: Richard D. Irwin, Inc., 1993) 8.

[74] Maj Thompson, V-21.10.

[75] Capt Dugue, V-25.20.

[76] Perry Smith, *Taking Charge: A Practical Guide for Leaders* (Washington, DC: National Defense University Press, 1986) 4.

[77] Lt Gen (Retired) Calvin Waller, CGSC lecture slides.

[78] Former B-52 instructor pilot, name withheld by request

[79] Perry Smith, *Taking Charge: A Practical Guide for Leaders* (Washington, DC: National Defense University Press, 1986) 8.

[80] Perry Smith, *Taking Charge: A Practical Guide for Leaders* (Washington, DC: National Defense University Press, 1986) 50.

[81] Perry Smith, *Taking Charge: A Practical Guide for Leaders* (Washington, DC: National Defense University Press, 1986) 17.

Flight Safety Word Search

By Captain J.J.P. Commodore

M	L	A	T	N	E	M	A	D	N	U	F	I	N	A	L
N	I	G	H	T	P	R	E	S	S	U	R	E	W	A	S
N	O	S	S	E	L	S	A	I	N	C	I	D	E	N	T
N	O	I	S	I	C	E	D	W	O	L	E	B	R	I	T
W	O	L	S	I	U	V	C	R	A	S	H	S	C	S	T
R	E	T	S	O	O	B	E	A	W	N	D	N	S	H	F
O	O	F	E	G	R	N	T	H	E	N	U	O	G	I	L
R	I	X	F	L	N	E	T	F	I	L	L	I	R	S	A
R	D	O	Y	E	N	I	P	W	V	C	L	S	O	R	W
E	A	S	D	G	C	I	W	O	L	F	L	N	U	O	E
T	R	U	E	P	E	T	S	A	R	G	U	E	N	T	D
S	H	O	G	W	O	N	S	L	I	T	E	M	D	A	A
A	G	I	A	T	I	U	C	R	I	C	E	I	X	R	T
S	U	R	R	O	U	N	D	I	N	G	N	D	I	E	A
I	A	E	T	S	G	N	I	V	I	G	S	I	M	P	P
D	L	S	E	N	G	I	N	E	E	R	I	N	G	O	E

HINT (9 letters) "You don't want to be in this"

ARGUE
BELOW
BOOSTER
CIRCUIT
CRASH
CREW
DATA
DECISION
DIMENSIONS
DISASTER
EFFECTS
ENGINEERING
EROSION
ERROR
FINAL
FLAWED
FLIGHT
FLOW
FUNDAMENTAL
GROUND
INCIDENT
INLET
LAUGH
LESSON
LIFT
LITE
LOSS
MISGIVINGS
MISSION
MIX
NIGHT
OPERATORS
OXYGEN
PETS
PRESSURE
RADIO
REPORTED
SAW
SERIOUS
SLOW
SNOW
SURROUNDING
TAPE
TRAGEDY
UNAWARE
VEHICLE
VIEW
WINDS
WINGS

Flight Comment

Readership Survey

The intent of this readership survey is to determine better ways to serve you, the consumer of the information presented in *Flight Comment*.

Kindly take a moment to fill in the form and drop it off at your orderly room or post it via regular mail. There is no need to place your name on the questionnaire, unless you wish to receive a personal answer to a specific question. The demographic information we have requested will allow us to determine how to better reach our target audiences.

The results of the survey will be published in an upcoming issue of *Flight Comment*.

Thank you for taking the time to make *Flight Comment* a better magazine.

1 ***Have you ever made a submission to* Flight Comment?**

Yes ❑ No ❑

2 ***Are you planning on making a submission to* Flight Comment?**

Yes ❑ No ❑

3 ***The format of* Flight Comment *was recently changed.***

❑ Do you like the new format?
❑ Dislike the new format?
❑ Unsure or neutral

4 ***In each issue of* Flight Comment *do you read?***

❑ All the features and articles
❑ More than half
❑ Less than half

5 ***How many issues of* Flight Comment *do you read in a year?***

❑ Every Issue
❑ Half the issues
❑ Less than half

6 ***Each issue of* Flight Comment *has a number of features. Please indicate what you would like to see more or less of in* Flight Comment.**

	MORE OF	LESS OF	ALRIGHT
a. In depth articles > 3 pg.	❑	❑	❑
b. Short articles 3 pg. or less	❑	❑	❑
c. "Good Show" &"For Pro"	❑	❑	❑
d. Epilogues	❑	❑	❑
e. From the Investigator	❑	❑	❑
f. Cartoons (Airsop' Fable etc.)	❑	❑	❑
g. As I See It	❑	❑	❑
h. From the Editor	❑	❑	❑
i.) Historical	❑	❑	❑

7 ***Is there any type of article, subject matter, or feature you would like to see in*** **Flight Comment?** ***Please describe.***

8 ***Comments or Questions***

9 ***What is your rank group?***

Pte – Mcpl ❑ Sgt – CWO ❑ Ocdt – Capt ❑ Maj or above ❑

10 ***What is your MOC?*** _____.

Optional Name and Address (only required if you wish a written response)

Return to:

The Directorate of Flight Safety
National Defence Headquarters
Major-General George R. Pearkes Building
101 Colonel By Drive
Ottawa, ON Canada K1A 0K2

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DECISION
DIMENSIONS
DISASTER
EFFECTS
ENGINEERING
EROSION
ERROR
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INLET
LAUGH
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LITE
LOSS
MISGIVINGS
MISSION
MIX
NIGHT
OPERATORS
OXYGEN
PETS
PRESSURE
RADIO
REPORTED
SAW
SERIOUS
SLOW
SNOW
SURROUNDING
TAPE
TRAGEDY
UNAWARE
VEHICLE
VIEW
WINDS
WINGS