



National
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Flight Comment



ISSUE 1, 2022

DOSSIER

Back To Basics

LESSONS LEARNED

Hazards on the Horizon

MAINTENANCE IN FOCUS

Marshalling 101

Canada

Cover – A CC-130J Hercules from 436 Transport Squadron sits at Goma International Airport during Operation PRESENCE in Goma, Democratic Republic of Congo, on November 26, 2021.

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To contact DFS personnel on an **URGENT** flight safety issue, please call an investigator who is available 24 hours a day at 1-888-927-6337 (WARN-DFS).

Visit the DFS web page at www.rcmf-arc.forces.gc.ca/en/flight-safety.

Flight Comment magazines and flight safety posters are available on the flightcomment.ca website.





Views on Flight Safety

by Maj Scott Young

Major Scott Young joined the CAF in 1997. He completed 11 Yrs on the east coast at 12 Wing Shearwater on the CH124 Sea King at 423 SQN and 406 OTS. He held qualifications for CH124 Sea King Instructor (2007-2011) and Lead Waterbird Instructor at 406 SQN (2010-2011) as well as a Safety Officer at HSM40, Mayport, FL with USN. While abroad, he was a SH60B Seahawk Instructor from 2011-2014 and MH60R Seahawk Instructor/Chief Instructor Pilot 2014-2015. Afterwards, Maj Young completed 3 Yrs at PMO MHP – 2015-2018 as Lead Pilot Operational Readiness Team (ORT) and is currently an Aircraft Accident Investigator (Class 1)/ Rotary and UAS Desk Officer.

As a young pilot with fresh wings, I remember coasting the halls of my first squadron some 22 years ago. I had successfully passed my course, aircraft qualification exams and proficiency checks, and was now ready to soar and do good deeds. I understood the technical and operational aspects of the airframe, applicable air regulations, and vision of the squadron and fleet. As far as I was concerned, I was a knowledgeable and effective operator ready for any task; until my first informal mentoring session with an experienced aircraft captain. After that discussion, I realized that there is no substitute for information (techniques and advice) passed down from senior, experienced members. This information is otherwise known as *sage advice*.

In years past, it was commonplace for experienced operators and maintainers to be approached by, or seek out, junior members in

order to share past experiences, anecdotes, and practices that they found beneficial and paramount to tasks undertaken. Senior members not only taught aviation syllabi, they shared techniques with less experienced members. Whether it was a helicopter pilot instructor discussing progressive flare techniques regarding *seat of the pants* indications during autorotation, or senior technicians showing what *they* have included on their Before Flight (B) Check that may be confusing in maintenance orders, this mentoring was everywhere within unit spaces and hangars. As time marched on, and socioeconomic and manpower priorities have since reorganized, for numerous reasons, opportunities for experienced members to shepherd junior minds in informal/non-judgmental, yet safe environments has diminished.

Over the past two decades, the ability to access more information instantly -everything from search engines to video games – has dominated the modern world. People can retrieve information from so many sources that the sheer need to ask questions from those “*in the know*” has become somewhat moot, as nearly each and every person has access to smart phones, tablets, or laptops where questions can be thrown to the internet with the anticipation that an answer will be instantly provided. The reality is that quite often the information received is missing the “*So what?*” factor. In terms of specific manoeuvres or processes in military aviation the tried and true techniques used by those more experienced in that field are not found in online searches.

The newest barriers to informal, safe-space mentoring, including one-on-one discussions between experienced and junior members, comes from physical distancing, workplace attendance limits, and business continuity plans as a result of the COVID 19 pandemic. Together with the ability to receive information at one’s fingertips through smart devices, and the absence of those “*in the know*” in unit and CAF/DND spaces, the ability to conduct effective mentorship and learn from experienced personnel may not be receiving the emphasis it requires to allow our members to truly succeed in their roles and responsibilities.

I recall sitting in a cozy wardroom one evening after flying with one of my students. My Executive Officer (XO) was there as well, discussing the day’s events with all of us junior instructors. I specifically remember walking through a maritime helicopter single engine failure from a high hover simulation with my XO and peers detailing how quickly events unfolded that led to my heart nearly beating out of my chest immediately after initiating the scenario. The aircraft was landed safely, no one was injured and the aircraft was not damaged in the least. My XO waited until I had finished my tale, and then provided advice I will never forget. He said: “Ensure to give your student enough rope to hang themselves, but not enough rope to hang you both.” Now, out of context, this could be construed as a very disturbing statement. In terms of instructing, however, it is not only insightful, but truthful to its very core. It essentially conveys the message that instructors need to allow young

Continued on next page

The Editor's Corner

by Maj Jill Sicard, DFS 3-3

As we venture into a new year, there can be a lot of new and old unfinished projects on our plates! I know personally, having just built and moved into a new home, the amount of multi-tasking and planning undertaken took up so much of my brain power that it was hard finding time for family and friends. With the project now complete, I can say that it was stressful but with the help of lists and schedules, it was easier to focus on the basics first, then move on to other tasks.

Setting priorities can help a lot and can make a large project seem not so overwhelming. It reminds me of the time I was learning instrument flying, my instructor would always prompt me "what's next?!" every couple minutes. The point he was trying to get across was to plan ahead and go step by step to make a large task appear simpler.

Photo: Cpl Kyle Morris

In this issue of *Flight Comment* we really wanted to highlight the importance of basic job skills and responsibilities to start the year off with the right attitude!

I also wanted to try something a little different in this issue – we have opened up our "Views on Flight Safety" to all ranks willing to share! This will allow anyone out there to submit their views on our "just culture", reporting system, or any other important Flight Safety issue they feel should be shared through their experience and knowledge. Do you have an important message or "view" that should be shared? If so – send your ideas to us via the information provided on the bottom of the *Table of Contents* page.

Our Awards are sprinkled throughout the magazine, and I find they give very good perspective on our theme of "back to basics".

It's so important to keep our minds right when we work in such a diverse and challenging environment, and I think this issue really dives into different concepts of the RCAF but ultimately are all connected; such as our maintenance section on marshalling, the importance of Flight Safety with operational pressure, and how our mental health can also affect flight safety.

Our Dossier section also has a great article on the qualifications of a flight safety incident and how to report, followed by an article on muscle memory – does it help or hinder our "basic" skills. Hopefully you will read and reflect on your personal capabilities and responsibilities – are you taking the time to follow procedures and protocols in order to maintain a safe working space? 📌

Views on Flight Safety *Continued*

operators the bandwidth to employ what they have been taught in order to build their confidence, but not at the sake of risking safe and effective execution of the manoeuvre. To my knowledge, this type of advice is not written in any technical or operational document, yet is paramount to sound instruction and confidence building for the junior operator. This advice was delivered in a safe, informal setting and struck a chord with junior instructors with whom the XO had their undivided attention. This type of informal mentoring would most certainly be challenging,

if not impossible, in today's current working arrangements around the CAF and DND.

The pandemic is not going away anytime soon, and technology marches forward. We live in a world of social platforms, and people become more and more removed from social circles, and less available for in-person discussions, best-practices and lessons-learned chat sessions.

The true challenge is getting back to basics, learning from those "in the know" by reaching out to senior members and garnering as much knowledge as possible. We need to

wholeheartedly capitalize on experienced member's techniques and advice before they depart the CAF/DND.

Eleanor Roosevelt eloquently stated: "Learn from the mistakes of others. You can't live long enough to make them yourself."

Seek out our experienced members, do not be afraid to ask questions, and listen to what they have to offer – their knowledge is priceless and will undoubtedly lead to more tools you can add to your mental toolbox. 📌

DFS

Commendation

The DFS Commendation recognizes outstanding professional performance and dedication in the field of Flight Safety (FS). The DFS Commendation is awarded to deserving units and/or individuals who through their actions have contributed significantly to enhance the capability of the Flight Safety Program across the CAF and who emulate the values and ethos promoted by the FS Program.



Mr. Chris Zizek

Photo: MCpl Joey Beaudin



Left to right: CO 427 Sqn, LCol Lavertu, Recipient: MWO Landry, DFS, Col Gagnon, CWO DFS, CWO Phaneuf

Photo credit: 427 Sqn



Mr. Dan Beaulieu and DFS, Col Gagnon

Photo: L3 Harris

For Professionalism

For commendable performance in flight safety

Cpl Iain Clark, Cpl Kevin Gregoire and Cpl Bryce Dewar (AVNs)



Cpl Clark, Cpl Gregoire and Cpl Dewar.

On 10 July 2020, Cpl Clark, Cpl Gregoire and Cpl Dewar from 429 Sqn were tasked to continue a #2 brake removal on a CC-177 Globemaster that had been initiated by the day crew.

After completing the brake assemblies, the team was now preparing to lower the aircraft off its integral jacks. As per Technical Orders, the aircraft stabilizer struts which are located under the aircraft just forward of the cargo ramp, had to be retracted and stowed. This required verification of the removal of the strut safety pin on the opposite side of the raised bogie. In this case, only the L/H strut pin had to be checked and removed since the opposite tire was being changed.

Cpl Dewar confirmed the L/H stabilizer strut and removed the pin before having his team apply hydraulics to retract and stow the struts. Cpl Dewar then elected to check the R/H side which confirmed the R/H strut had been mistakenly pinned in its down extended position. He immediately had the team stop any further actions and requested they verify the AFT Load Master station, where it was confirmed the R/H strut was indicating extended. They proceeded to remove the safety pin on the R/H strut and continued retracting and stowing both struts. The aircraft was then safely lowered off the integral jacking system.

Had Cpl Dewar not noticed the pin installed on the R/H strut prior to retraction it would have caused serious structural damage to the underside of the aircraft and the R/H AFT section of the Main Landing Gear pod among other significant consequences, potentially causing category C damage to the aircraft.

Cpl Dewar and his team's quick reaction and impeccable attention to detail, resulted in the prevention of a significant occurrence before it took place. For their outstanding level of professionalism Cpl Clark, Cpl Gregoire and Cpl Dewar are very deserving of the Flight Safety "For Professionalism" Award. 🏆

Maintenance

IN FOCUS

MARSHALLING... A Misunderstood Importance?

Reprint by Sgt Wallace

During my early years as a technician on the Aurora aircraft, I learned the facts of servicing life and the many hazards associated with it. Of the many servicing functions required in support of 1st line maintenance, marshalling was the one I approached with the greatest enthusiasm. In the course of a sometimes monotonous day, marshalling provided me with a sense of gratification. Putting the nose wheel of an aircraft as large as an Aurora on a two square foot painted spot as it taxis in is an eye-opening experience. Now granted, the success and skill of a marshaller is tied very closely to the response time, skills, and cooperation of the pilot!

It quickly became apparent to me that safe and effective marshalling is a product of clear two-way communications, with emphasis on *two-way!* A serious attitude towards this function by the Aurora aircrew allowed me to enjoy an incident-free track record during aircraft parks and starts. I was accustomed to professional exchanges with the pilot and knew

that, in the case of a start, no movement of the aircraft would be initiated until I had confirmed certain prerequisites were met.

For example... let's look at the "chocks out" routine. After receiving this hand signal from the pilot, the marshaller would repeat the signal to other members of the start crew who would then proceed to remove the chocks and then remove themselves from the vicinity of the landing gear. Upon completion of this action, the marshaller would then signal back to the pilot that the chocks were in fact out and that all personnel were clear of the aircraft. A quick acknowledgement from the pilot informed me that he was completely aware of the situation around his plane. Sounds simple, and it is. In fact, it is very routine... perhaps too routine for some folks!

The only scare I ever experienced carrying out this function happened the day after an air show in Comox. I was chosen to carry out a start on an F-15 in an attempt to rid our flight

line of static display aircraft. I quickly realized that the American pilot was in a hurry. After starting his engines, he signaled his request for "chocks out," and then buried his head out of sight (presumably busying himself with pre-flight checks.) I repeated the signal to the other members of my start crew who leapt into action. Because the recent air show had hosted many static displays, metal chocks were scarce and, in this case, less cooperative rope chocks were employed. Unfortunately, the aircraft had settled overnight and one such chock became firmly wedged under a main landing gear tire. You probably know what came next?

My fellow start-crewmember struggled to remove the chock but was unable. He then sat in front of the tire and began to kick the chock out from under the tire using the heel of his boot. The pilot, still pre-occupied with his pre-flight checks, was completely oblivious to me and to the drama unfolding beneath him. No problem, I thought, he'll just have to be patient. It was at that moment that he suddenly



spooled up his engines and, in a few short seconds, had developed enough power to roll completely over the chock. The affected oleo compressed significantly snapping the pilot's attention to me and, after a moment of confusion, gave me a series of less than complimentary hand gestures and then taxied down the ramp.

There was, fortunately, a happy ending to this story. The start person struggling with the chock had recently arrived from the CF-18 community and had instantly recognized the

intent of the pilot and had rolled out of the way, avoiding the tire by the narrowest margin. It was obvious to me that the F-15 pilot had made some grave assumptions. The proper pilot/marshaller communications, which is vital for safe ground operations, had broken down on this start and it had almost cost the life of a fellow technician. Consequently, a subsequent launch of an American Corsair prompted me to brief the pilot on the importance of verification with the marshaller. To my relief, **that** start was carried out without a hitch! 🔥

Photo: Canadian Forces Combat Camera

For Professionalism

For commendable performance in flight safety

MCpl Devon Dufault (ACS)

During Fixed-Wing SAR (FWSAR) acceptance activities on a CC295 Kingfisher aircraft in Seville Spain, MCpl Dufault identified an incorrectly positioned Portable Breathing Equipment (PBE) oxygen bottle at the observer station in aircraft 507.

While aiding with intercom checks using the oxygen mask, MCpl Dufault decided to inspect the oxygen bottle components and noticed the quick release securing clamp was positioned directly behind the bottle's pressure gauge. Conducting a test of the release mechanism, MCpl Dufault confirmed his suspicion that the release clamp contacted the gauge, obstructing the clamp movement and preventing the release of the bottle from the wall mount. He further realized that the obstruction was sufficient to render the bottle unusable in the event of an emergency.

MCpl Dufault's keen attention to detail, ensured that no CC295 aircraft were flown until correct mounting of the oxygen bottles were verified. Although the mounting hardware is not listed as an inspection criteria in the technical publications, MCpl Dufault's superior situational awareness, revealed a potentially catastrophic installation oversight that has now been corrected. MCpl Dufault is highly deserving of this "For Professionalism" Award. 🇨🇦



Photo: S1 Lisa K. Wallace



The 5 W's of WARN-DFS 1-888-WARN-DFS (927-6337)

Original by Maj Kevin Roberts, updated edit by Maj Scott Young

One of the most difficult phone calls a flight safety representative, command team member, or witness can make is the call to DFS after an aviation accident or significant/serious occurrence. In the case where there are personnel casualties, aircraft impact(s), or elevated safety of flight circumstances occur, contacting the DFS Team in Ottawa can be emotionally charging and planning what details to share with the DFS team can seem daunting. This article is designed to provide guidance in form of "5Ws", clarifications and tips that will make any future calls to DFS easier for those picking up the phone and making the call.

The "WARN-DFS" hotline has existed for many years and should be well known to flight safety trained personnel across the Canadian Armed Forces (CAF) and Department of National Defence (DND). The following is a good reminder for them, but it is also intended to inform the larger CAF/DND audience about the existence of WARN-DFS and its purpose.

What is WARN-DFS?

The A-GA-135-003/AG-001 (Airworthiness Investigation Manual (AIM)) mandates that DFS maintain a permanently monitored occurrence notification system. This system is officially known as "WARN-DFS." It is the primary method of contacting the investigative staff at DFS in Ottawa to inform them of a significant flight safety occurrence. The toll-free number to call is **1-888-927-6337**, or **1-888-WARN-DFS**.

Where are you calling?

You are calling a bilingual voice mail system that will record your message and then in turn immediately notify the duty investigator that a message has been received. The line is monitored 24/7, 365 days a year, and the duty investigator will normally return your call within minutes. If you have not heard back from an investigator at DFS within approximately 15 minutes, please call again. It could be that the duty investigator was pre-occupied and unable to immediately return your call.

In all the excitement, pay particular attention to what you dial. If you dial 1-800-927-6337, you will have reached the New Jersey Environmental Action HOTLINE (1-800-WARN-DEP). In fact, DFS receives a number of WARN-DFS calls from people in New Jersey reporting environmental issues each year, regardless of the very direct and informative bilingual message pre-recorded on the DFS voicemail system.

Why should you call?

DFS, as the DND Airworthiness Investigative Authority (AIA), has a mandate to ensure that all flight safety occurrences are appropriately investigated. Typically, DFS investigates the more significant flight safety occurrences. Your WARN-DFS call ensures that DFS is promptly advised of a significant flight safety occurrence. DFS investigators will call back to discuss the circumstances with you to determine what level (Class) of investigation may be appropriate, whether DFS needs to get involved and, if applicable, to ensure that appropriate initial Flight Safety activity is underway, such as the prevention of further injury and the preservation of evidence; including but not limited to: initial imagery,

Continued on next page

A Royal Canadian Air Force (RCAF) simulated aircraft disaster scene during Canadian Force's EXERCISE TRILLIUM RESPONSE near Cochrane, Ontario.

Photo: Sgt Matthew McGregor



CHECK SIX

witness interviews and statements collection; quarantining aircraft; impounding records; toxicology samples to be taken by medical staff etc.

When should you call?

Sometimes it is obvious, such as a Category A or B Occurrence (i.e. major accident). Sometimes it is less obvious, such as a "C" Category occurrence (serious damage or injuries). In reality, we expect our Base, Wing, Unit and Contractor Flight Safety Personnel to automatically make that call anytime there is an accident (Category "A", "B", or Category "C" Occurrence) or an occurrence deemed to have a Flight Safety Compromise Level (FSCL) of High, as defined in the A-GA-135-003/AG-001. In addition, if in your Flight Safety trained and professional opinion the occurrence could

generate immediate public interest and result in a command decision to release a Significant Incident Report (SIR), DFS shall also be contacted immediately. This includes occurrences for which there was no damage or injury to report, but where there was a High FSCL – an estimate of the actual risk exposure that the personnel and/or aircraft experienced; e.g. a very near mid-air collision between one or more crewed aircraft. The use of the FSCL as a consideration in the reporting of an occurrence makes WARN-DFS even more important so that DFS can discuss the circumstances to see if the occurrence was simple in nature or if it identifies a fleet technical or operational issue that demands greater scrutiny and more immediate command actions.

Who can call?

Normally, it will be Flight Safety trained personnel, such as the Unit, Wing, Base or Contractor Flight Safety Officer/NCM, but it can be anyone who becomes aware of an accident or significant flight safety occurrence. The important thing is that *someone* calls in order to initialize Flight Safety processes in an expeditious manner, which may include a DFS investigation team deployment, if required.

In summary, timely and effective communication via WARN-DFS allows for prompt assistance from the DFS team. For less significant flight safety occurrences, this assistance may be in form of advice from subject matter experts on the other end of the call who can provide guidance on processes or investigation decisions. In the event of an accident or serious occurrence, the call to WARN-DFS mobilizes the DFS team and other pertinent stakeholders to the occurrence site for follow-on activities.

DFS is here to help and stands ready to answer your call. 📞



Photo: Cpl Parker Salustro

For Professionalism

For commendable performance in flight safety

2Lt Clay Feltham (AEC)



Photo: Cpl Brandon Bregg

On the afternoon of 11 Mar 2021, 2Lt Feltham (AEC) Tower trainee was maneuvering around the airfield in “Ops 10” at CFB Greenwood to assist a Ground Controller’s evaluation.

2Lt Feltham was given a “Hold Short” restriction while waiting for a CP140 to conduct an approach for a touch and go. After receiving clearance, he proceeded to scan the runway before crossing. During his scan, he noticed a

large piece of FOD roughly 20 in x 6 in on the runway approximately 1000 ft from his position. After obtaining permission from the Ground Controller to retrieve it, he was confident that the debris was not there prior to the approach. The item was then brought to technicians for investigation. It was determined that the FOD belonged to the CP140 currently conducting a flight test and that its absence would only minimally affect the aircraft’s flying capability, allowing them to safely continue their mission.

By identifying the problem and taking quick action, 2Lt Feltham ensured that the aircraft was not lacking a critical flight component and was the first link in the chain to ensure that safety of flight was not compromised. Despite his limited experience, 2Lt Feltham performed his duties admirably and is well deserving of this “For Professionalism” Award. 🇺🇸

DOSSIER

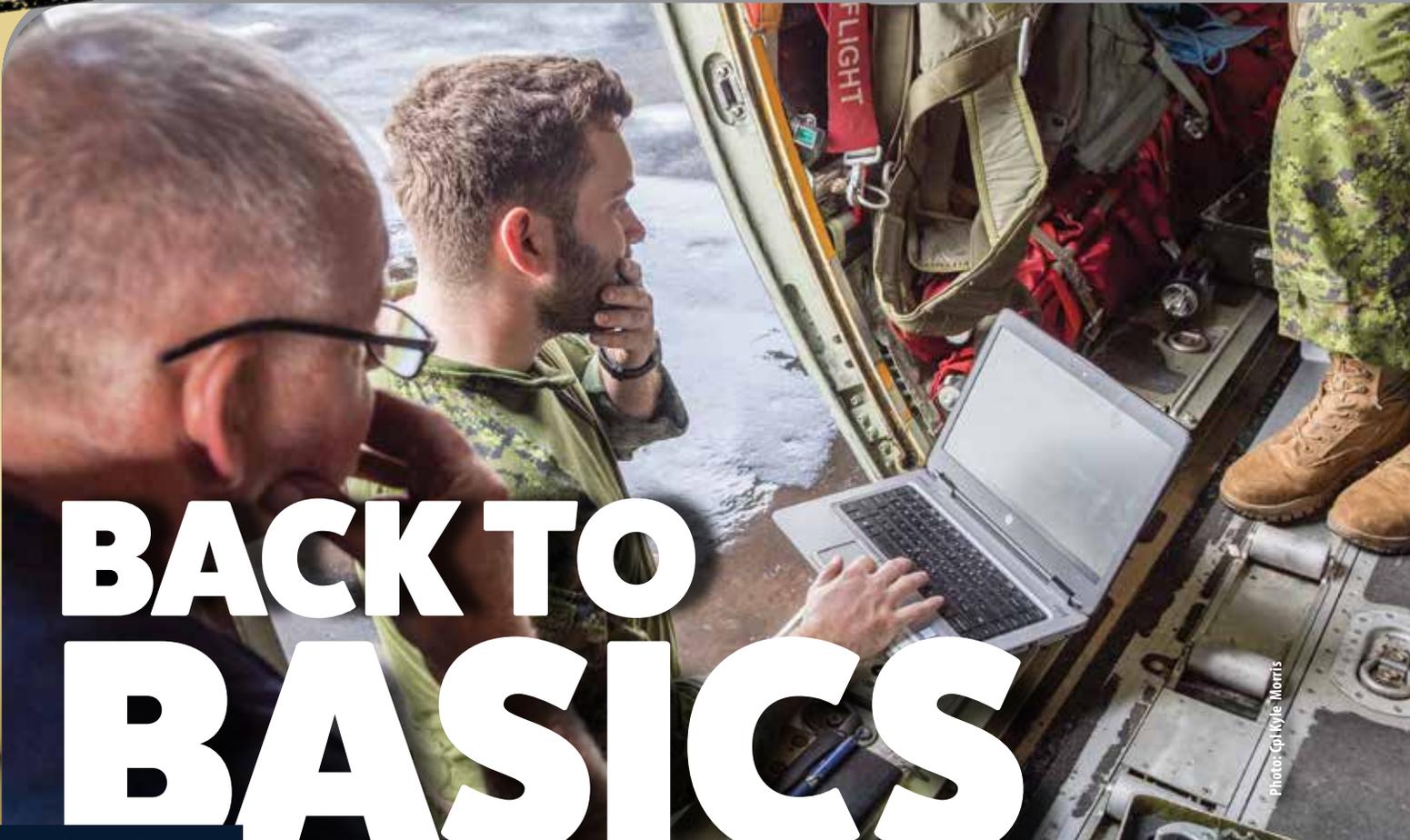


Photo: Cpl Kyle Morris

BACK TO BASICS

by Maj Jill Sicard

It is an interesting concept, and one that if you research online, comes up with a variety of different articles, all pointing to the notion of how important it is to stick to the basics. In the *Flight Comment* archives alone, there were several articles that discussed “the basics” or had lessons learned that were caused by deviations or skipped checks.

The question is: Why is this so important and why does it keep coming up over and over again? Is this perhaps a lesson we fail to learn?

The RCAF is very dynamic, the environment we work in is ever-changing and the increase in operational demands happen regularly – it reminds us that it is vital we focus on the basic currency and proficiency in tasks. We need to keep in mind the differences between operational tolerances and routine deviations. The term “task saturation” is widely used in

the piloting world but can really apply anywhere. According to the NBAA (National Business Aviation Association) task saturation is listed as one of the top ten threats to safety. “It’s having too much to do without enough time, tools or resources to do it.” We end up working harder but accomplish less¹. This is when our bodies revert to muscle memory. Which is a good thing but not *reliable* if we are doing more than just “riding a bike”.

Our “muscle memory” actually works in different parts of the brain that transfer a memory to our extremities. The motor cortex for muscles, the basal ganglia for movement initiation, and the cerebellum, which deals with adaptation. In an article from Oxford University, it explains how adult brains (showed through MRI scans), had white matter growth between the regions of the brain

responsible for vision and making movements when they learned juggling. Once the skill is learned, there is less activation in the premotor cortex and basal ganglia as the skill becomes effortless. For the Flight Safety world, it would be our “basic skills” that this article is homing in on, i.e. getting into the books and taking time to reference material every time we are completing a task. We are in a high tempo, high risk job so those basics are vital to everyone’s safety².

Our memory is very good at some things but poor at others, there are an abundance of studies on our capability to remember things. One of them from *Scientific American* states that the human brain usually only retains about 15-20 percent of what it takes in, however of that 15-20 percent, the accuracy is 94 percent for a short period of time³.



Photo: S1 Brendan Gibson

This means that although we can remember quite accurately, we don't always remember the entire sequence and it will only stay in our brains briefly, unless it is consistently reviewed. Therefore, although our FOMS, CFTOs and other important documentation get looked at regularly, it's important to note that we can never memorize everything exactly. Even pilots who memorize their "Red Pages" must review them constantly in order to keep it fresh in their brains.

The excuse that you think you know the book cannot hold strong. If something slightly out of the ordinary happens, there is usually a fine print that may not apply on regular inspections or in-flight occurrences but can save a life the one time you need it. Regardless of your skill, there will always come a time of uncertainty, so the emphasized need to always refer to your manual as part of your basic skills instruction is paramount.

As far as Flight Safety is concerned, the top errors that were found during this year's Flight Safety Training Workshop all had to do with not

following, omitting steps or taking short cuts. For example, the issue of oil caps being left off after maintenance checks. This means it was possibly worked on, then checked through multiple levels, (meaning more than one person missed the error) the aircraft was flown, and the cap was only found afterwards. How could this have happened? Did we do the work in accordance with the basic skills we were taught? Did we conduct the supplemental verification check as required or did we blindly trust ourselves or others in order to expedite task completion? Task saturation and fatigue can lead to deviations or short cuts and are omnipresent in our Flight Safety reports. Keep in mind, the basic skills requirement is essential to Flight Safety.

How do we balance the fine art of working diligently and safely with the high tempo environment and how do we keep the concept of "back to basics" as a top priority?

We are currently going through a gigantic phase of transition, dealing with a brand-new work environment due to ever-changing COVID regulations which is causing irregularities in

training. The constant change causes our "muscle memory" to lapse. We are also in a state of transition with several new aircraft on the horizon, which is using a mix of new motor skills applied with muscle memory and experience, which has the potential for danger. As such, we need to set aside time to deliberately and slowly go through each step of our task, ensure it is completed according to regulations and we need to do that every time – even if it takes longer at first. This is the only efficient way to ensure and sustain mission completion. 🚀

References

1. Mobility forum, <https://themobilityforum.net/2020/12/09/back-to-basics-operating-in-an-unorthodox-environment>
2. <https://medium.com/oxford-university/the-amazing-phenomenon-of-muscle-memory-fb1cc4c4726>, Dec 14, 2017
3. <https://www.scientificamerican.com/article/our-memory-is-even-better-than-experts-thought/> May 25, 2021

For Professionalism

For commendable performance in flight safety

MWO Martin Sylvestre (QRA Custodian)

MWO Sylvestre is in charge of the Combat Operation Center (COC) and hangars as well as the liaison coordination between 19 Wing Comox and 4 Wing Cold Lake for CF188 mission support and planning. During setup and preparation in one of the hangars on 2 Jun 2021, MWO Sylvestre noted that the hangar door closing mechanisms appeared to be misassembled and not functioning.

Upon further investigation and consulting with Real Property Operations (RP-OPS), MWO Sylvestre concluded that all door motors and chain pulleys had been improperly assembled during a service check just a few days prior. The pulleys attached to the opening and closing chains were not secured, which would have resulted in the entire system coming off the shafts. This would have caused the hangar door to be unattached from the motor, causing an uncontrollable closure of the loose door panels and chain system. Anybody or anything under the doors would have been crushed by the weight, which is no less than 1000 lbs.

Had MWO Sylvestre not gone way beyond the scope of his area of responsibility, discovered the part anomaly and taken the action he did to verify the incorrect installed pulley, injury or even death to personnel as well as extreme damage to aircraft and equipment could have been the result.

MWO Sylvestre is commended for his superior diligence and attention to detail, both of which were clearly shown by this example. He negated possible damage to essential air defense systems and is definitely deserving of this "For Professionalism" Award. 🇨🇦



Photo: Cpl. Caroline Ouellet



Photo: Cpl Crystal Roche

IS IT A FLIGHT SAFETY?

by Capt Jeremy Appolloni, 413 Sqn and Mr. Steve Charpentier, DFS 3

I was a new First Officer (FO) at my initial operational squadron, flying the CH149 Cormorant for Search and Rescue (SAR). I was flying with one of my good friends and one of the only people I knew at the squadron. The day's training was just for the pilots and Flight Engineer (FE) conducting a "front end trainer."

After flying a few circuits and performing some hover work, we moved over to a gravel pit to practise some confined area manoeuvres. This entailed landing in smaller, unprepared spaces unlike airfields, to facilitate getting our Search and Rescue Technicians (SARTECHs) and patients on and off the helicopter in unpredictable circumstances.

During our last landing, as we were reducing pitch after our wheels contacted the ground, the oleos compressed and a rock below the belly of the helicopter ended up puncturing the skin, leaving a small—but noticeable—hole. The FE notified us pilots, and we flew

back to the helipad and shut down for the day as planned. We talked to our technicians about it, how it happened, what we did, and they told us since it was going into 3rd line maintenance the next week, they would put some speed tape over it and keep it flying since no internal systems were damaged.

The technicians asked us if we were going to file a Flight Safety Report for the incident and the AC explained why he didn't think we needed to:

1. No one was hurt in the event
2. The aircraft is still flyable and structurally sound
3. What could be learned from this report? Accidents happen, that's why we train.

The technicians were happy with that rationale and so was our FE, but in the back of my mind I still asked myself, "Is it a Flight Safety. If this isn't, then what is?" I could understand the

viewpoint of my AC and he had been flying in the Forces for longer than me, so I concurred and we departed work for the day.

That night after supper a few people were getting together with some other squadron friends to work on a vehicle and have some beers. Since it was still on my mind, I felt I would put the question to the larger group there and get their input. The friend who owned the car, had his Flight Safety Course and was a Flight Safety Rep in the squadron, so I was sure he could provide some insight. As luck would have it, when I arrived, the AC was just hanging up his phone and proceeded to inform the group: "Turns out, it WAS a Flight Safety." He went on to explain what the Flight Safety Officer had told him.

1. Getting injured is not a requirement for it to be a Flight Safety Incident

Continued on next page

DOSSIER

2. The Aircraft does not have to be unflyable for it to be a Flight Safety Incident
3. Maybe things could be learned from this event: better scan underneath the aircraft, more attention paid in the recce of the LZ, etc.

We learned that the Flight Safety system is the best way to track any damages to the helicopter. Technicians do not have a database to compile such occurrences, so it would be lost to general knowledge down the line. Every report builds a database and can help us in the future to see and track trends, and to look back and see a picture that is bigger than any one pilot's experience. Another tidbit we learned was that if it were not in fact worthy of a Flight Safety Report, they would tell us, losing only about 10 minutes of admin time.

That experience has helped me to trust the little voice in the back of my mind, and to embrace the Flight Safety program. Both of which, I feel professional aviators would agree. 🍷



Photo: Cpl Parker Salustro

DFS 3 Comments

Free and open reporting without the threat of punitive action is the key to enable a strong learning culture leading to an enduring safety culture. Personnel involved in the conduct and support of flying operations are expected and mandated to report all Flight Safety occurrences and/or concerns.

Why report? Reporting usually triggers an investigation, which permits the development of preventive measures and the detection of new trends. Multiple reports of an issue allow for higher prioritization of the issue, more availability of resources and preventive actions.

What is a reportable occurrence? It may be something you see or something you have done yourself. Basically, all accidental or

potential damage and injury or illness to military or civilian personnel and properties in support of DND/CAF Air Operations must be reported. This will help prevent reoccurrence and potentially save lives.

Should I report repetitive occurrences? YES, you must report everything! However, in some cases, limited benefit would be gained by carrying out a full-scale investigation for some well-known repetitive occurrences. DFS maintains a list of such repetitive occurrences that still need to be reported in the system, but do not require to be fully investigated, this decision will be up to the Wing Flight Safety Officer.

http://winnipeg.mil.ca/cms/en/Comds-Advisors/Div-FSO/Approved_ROs.aspx

What about uncrewed aircraft systems (UAS)? The requirement to report UAS Flight Safety occurrences is based on their maximum takeoff weight. Heavy systems requirement to report is similar to crewed aircraft while smaller systems, such as the micro UAS under 1 Kg, only requires reporting the following: injuries or potential for injury to personnel, violation of assigned airspace, near mid-air or mid-air collision with crewed aircraft.

For more information, examples and refresher training on reporting consult DFS website at: <http://rcaf.mil.ca/en/dfs/flt-safety/fscourses.page?>

For Professionalism

For commendable performance in flight safety

MCpl Olivier St-Jean and Cpl James Greeley (AWS)



Cpl James Greeley



MCpl Olivier St-Jean

On 6 Apr 2021, Cpl Greeley was carrying out an OSI on a BRU-5002 and while following the appropriate CFTO, he discovered the OSI required a static load functional test. As Cpl Greeley was not shown this on his course for 2nd line repair of bomb racks, he decided to consult with MCpl St-Jean who confirmed that the static load functional was not normally carried out. Together, they decided to research the history of all BRU-5002

at 4 Wg Cold Lake and discovered that the test had not been carried out since an approval deviation in 2008.

Cpl Greeley and MCpl St-Jean informed CoC of their discovery, giving detailed information and risk assessment to LCMM. Their actions resulted in the continuation of a required static load functional test on BRU-5002 racks being released from air maintenance squadrons, leading to higher airworthiness standards.

Cpl Greeley and MCpl St-Jean were able to rectify a long standing error by going back to the basics and following CFTOs to ensure quality assurance in their tasks. It is due to their initiative, diligence and exceptional professionalism that they are very deserving of this "For Professionalism" Award. 🏆

OPERATIONAL PRESSURE

BY ANONYMOUS

Several years ago, I deployed with a Long Range Patrol (LRP) crew for an International Operation. The 28-day Operation consisted of patrolling sectors of the Pacific for illegal fishing activity with a CP140 Aurora, along with an on-board Department of Fisheries and Oceans officer. The US Coast Guard and participation of a CC177 Globemaster were also used. At the strategic level, the Operation was supposed to bolster diplomatic ties. This deployment was to be my check ride for the LRP Captain (LRPC) qualification, so I was prepared for the unexpected and confident in my decision-making skills. We were flying out of a civilian airport with limited and rigid hours. Unfortunately, things unravelled rather quickly, which led to a significant amount of stress and operational pressure.

On our first sortie, we experienced smoke in the cabin (which we found out later was from overcooked food in the galley), but led us to declare an emergency with ATC and end the sortie early. Little did we know, ATC at this airport take emergencies extremely seriously. Upon landing, we experienced another emergency—a propeller malfunction on one of the starboard engines, which resulted in a decision to “e-handle” the engine (essentially an emergency shutdown). After the propeller stopped, one of the AESOPs advised the front-end crew of smoke coming out of the engine. The “Engine Fire on the Ground” procedure was carried out as per SOP, which requires discharging one of the fire extinguisher bottles into the engine. After the first fire

bottle was discharged, observers noted that smoke was still coming from the engine. This required discharging the alternate fire bottle but it also didn’t stop the smoke. At this point we had cleared the active runway and were discussing evacuating the aircraft on the taxiway. As previously mentioned, emergencies were taken very seriously, and we counted no fewer than 26 fire trucks at the small airport. Fortunately, the smoke ceased before we had to carry out an emergency evacuation.

It turns out that the two fire extinguisher bottles connect via a single fitting before heading into the engine compartment.



In this instance, the fitting was cracked, presumably from overtorquing, and failed when firing the first bottle, which dispersed the fire extinguishing material of both bottles into the atmosphere rather than into the engine compartment as intended. The aircraft required an engine change and two new fire bottles. This proved difficult because we could not secure a clearance to fly new fire bottles into our location, as the squib that detonates them is “explosive,” nor could we get the part from the Americans stationed there. Our aircraft technicians worked tirelessly every hour the airport was open. Although we actively pursued every available avenue, we were unable to complete a single other mission during the 28-day Operation.

During this time, the crew experienced operational pressure to get the Op back on track. I knew if we didn’t get any missions in, I would be unable to complete my checkride, and it would require another trip to complete it. The Standards pilot carrying out the checkride was under pressure to get it completed because the unit was

short-staffed. Luckily, the Standards pilot had thousands of hours of experience with both the RCAF and airlines, and was the Unit Flight Safety Officer. Knowing he would back the safe decisions over mission accomplishment took a lot of the pressure off and made it easy to make unpopular decisions. Locally, the civilian airport director was furious that we dumped two fire bottles and quite a bit of oil on the taxiway. The Detachment Commander and I had a meeting with him and our techs ended up having to scrub the taxiway daily to placate the airport director, who was threatening to kick us out of our location. Our Detachment Commander had to have regular briefings with the airport director, tasking authority and Embassy, constantly having to push back the expected date of serviceability and justifying our lack of progression. We attempted to alleviate the pressure on our technicians by letting them know we wanted the job done properly rather than done quickly.

The entire crew felt the disappointment of not being able to complete even one mission while tasked for the Operation. There were “suggestions” made by others that included trying to accumulate missions while on our trip home. As much as we did not want to return from a zero mission trip, we also knew that it was not safely feasible, considering our current aircraft configuration, and as can happen with aging aircraft, we did not want to take the chance to land at a foreign base and again, get grounded for some sort of maintenance issue. For safety of flight, our crew decided it was best to swallow our pride and return home ASAP.

Almost everyone in the RCAF has been there: feeling the pressure, real or perceived, to get the job done with less and often in a time crunch. We’ve all been to the Flight Safety briefings, coffee in hand and feet on the ground, thinking we would have done it differently. As a personal observation, it’s to the RCAF’s great credit that Flight Safety culture is taught and encouraged. Through this culture, we can resist the urge to succumb to operational pressure and make sure we keep our heads on straight to sift through all the information and make safe decisions—even if sometimes, they are unpopular. 📌

Photo: MCpl Marc-Andre Gaudreault

For Professionalism

For commendable performance in flight safety

MCpl Luc Sirois (TT)



During his night shift on 1 Mar 2021, MCpl Sirois was working on Line Crew, preparing to load a vehicle on the aircraft for an Alert trip. An old shipping label attached to the vehicle did not match the new label created by Cargo section. MCpl Sirois noted a few discrepancies such as overall weight difference and both front and rear axle weight errors, which would affect the overall center of gravity (C of G) and potential load sequence of the aircraft.

Based on the abnormal paperwork, MCpl Sirois took it upon himself to re-weigh and re-measure the vehicle along with his crew to ensure conforming information. It was found that overall weight was actually 60 lbs heavier, and the front and rear axle weights were significantly different than originally labeled. Once his crew corrected the information, the new C of G was passed onto the aircrew and Loadmaster to ensure safety of flight and load sequence were adjusted accordingly.

Due to his keen attention to detail, professionalism and thorough work ethic, MCpl Sirois is very deserving of this “For Professionalism” Award. 🏆

Let's Call it a Day

by Lt Tyler Hamm

As part of the Air Cadet Gliding Program, cadets from units all across Canada are given familiarization rides to experience flight firsthand from the seat of a 2–33 glider. Normally, this is a real treat for the cadets, encouraging many of them to stay with the program and potentially earn their wings someday. In addition, for the cadets that do succeed and become pilots, it gives them the opportunity to fly and encourage the next generation of aspiring pilots. On this fall day, we were conducting auto tow operations out of the Miramichi Airport.

Unfortunately, the weather was not cooperating. It was a bright, sunny day, but for most of the morning the crosswinds had been out of limits for the sole runway. The unit that was visiting us had travelled for several hours, and was now restlessly sitting on their bus. After lunch, we received our first break, and the crosswind came back into limits. We quickly began to fly as many of their newest cadets as we could before the winds swung back out of limits,

as forecasted. It quickly progressed to late afternoon of a long day. We worked double time to keep planes filled, and people, including myself were getting tired. It was a challenging day, and we were certainly under some pressure to try to make the cadets' trip to Miramichi worth it.

Winds started to shift and while within limits, the conditions were challenging and only instructors were allowed to fly. We had started the day with 2 gliders, but as the winds crept up, the other instructor didn't feel like flying anymore and we were down to one.

I was the most senior pilot, and the Site Supervisor had come to rely on me. While close, the conditions were still technically

within limits, and he would continue to send me as long as I felt comfortable. Feeling the pressure and knowing that only a few more flights would finish off the first-year cadets, I answered that I would like to keep going. The Site Supervisor accepted this and walked away.

As I began yet another pre-take-off check, one of many that day, I started to have second thoughts. Was mission success completely necessary? Am I able to make good judgment calls when fatigued? Am I thinking about safety of flight first and foremost?

"You know what," I decided, "maybe we'll just call it a day." 🚩



Photo: Mr. Conrad Soucy, CD



For Professionalism

For commendable performance in flight safety

Cpl Vadzim Taustsiak (AVN)



Photo: S1 Larissa De Guzman

Following multiple ramp snags and a cancelled mission due to a Prop Pump light, Cpl Taustsiak went above-and-beyond by comparing different dipsticks on all the propellers of the CP140 Aurora aircraft and found a non-conforming dipstick installed on #2 Propeller of aircraft 114.

He quickly identified an incorrect etching on #2 Propeller's dipstick. The incorrect etching resulted in lower hydraulic fluid levels, affecting

the propeller operation. It is critical for the oil level in the atmospheric sump to be kept at the correct level for the scavenge pumps to work properly. If a low oil level in the atmospheric sump is allowed, the scavenge pumps will cavitate, introducing air into the propeller oil system. If the pressurized sump reaches a low condition, a propeller oil low indication will be given and could lead to an immediate shut down of the engine and feathered prop, aborting a mission.

Cpl Taustsiak's attention to detail, professionalism and persistent troubleshooting skills negated a significant Flight Safety incident. He is well deserving of this "For Professionalism" Award. 🏆



Photo: MCpl Marc-Andre Gaudreault

Ability to Cope

BY ANONYMOUS

Sometimes it's difficult to truly know how personal issues can affect your ability to safely operate an aircraft. We all know that flying under significant stress can have a huge impact on your performance, even though we often tend to downplay it. We have all been to several cold/warm weather safety briefs, but mental health has only recently become the forefront of discussions during safety briefs. Sometimes, when you have lots of experience it can be difficult to see the red flags even when they are waving right in your face.

Ten years ago, I was re-certifying back onto the Griffon after a three-year hiatus as a staff officer. It was a very rewarding job, but I was exhausted after the posting, so I was excited to go back flying. I decided nothing was going to stop me, not even discovering that my marriage was potentially over the day I started my course. Flying became a welcome distraction from my life, so I pressed on.

Having multiple qualifications and thousands of hours on the Griffon was my "wolf in sheep's clothing". The course was going very well for the day/night clear hood, tac form, and advance Night Vision Goggles (NVG). It was evident that things were coming back very quickly. I had a lot of NVG

experience, under sometimes extreme conditions so why wouldn't it? I was very comfortable despite the emotional stress, crappy accommodations and poor sleep. I was having a crisis of self-confidence and faith, but not of my ability to fly an aircraft, or so I thought. Each day, I desperately drank up the feelings of confidence in my flying ability because it felt like everything else in my life was coming apart at the seams. I didn't dare let anyone know for fear of having the one good thing in my life taken away. However, my margin finally closed in the form of the dreaded IFR "round robin".

The night before the IFR mission, I was having a lot of difficulty focusing on reading the orders/procedures and mentally rehearsing the mission. Up to this point, everything had come back so easily, and I figured that since I was an Instrument Check Pilot (ICP), I could just lean on my experience bubble to get me through. However, during that mission, I suddenly realized my brain was operating like molasses in a Moose Jaw January. I could barely talk on the radio. I couldn't approach plan, I couldn't remember the procedures, the radios were busy, there was very little time to prepare, and so many radio calls to make. It was evident that I could not prioritize. My hands and feet couldn't save my stressed out,

distracted, and sleep-deprived brain, and I was quickly getting behind the aircraft. The approach was terrible and this continued with varying shades of ugly for the rest of the trip. It was clear that I wasn't ready for that trip, academically or mentally. If that was an actual IMC flight and I didn't have the support of a crew, this would have been a much sadder tale.

I failed that trip, and rightly so. I eventually got through my issues and back to flying but I learned a very valuable lesson that I have frequently shared with students, crews, instructors, and colleagues ever since.

Experience and skill can't save you from a distracted and unfit mental state. But what it will do is mask your own red flags.

So the moral of my story is, in times of deep emotional and life stresses (whatever it may be) be careful not to overestimate your ability to cope, especially if you have a lot of experience. Be honest with yourself and seek help when you need it. Perhaps seek some help even if you are seemingly dealing very well with catastrophic situations because sometimes the sheep is truly a wolf in disguise and you won't know until it's too late. 🐺

For Professionalism

For commendable performance in flight safety

LCol Chris Bowers (1 CAD HQ)



Early after his arrival to 1 CAD as Staff Officer for Maritime Helicopter, (then) Maj Chris Bowers discovered a practice continued from the CH124 Sea King to the CH148 Cyclone that could have caused a significant incident.

Having extensive CH124 Sea King experience, as well as recent OT&E knowledge, he identified that armament loading on the CH148 continued to be done with the rotor head engaged (despite it having composite rotor blades) as had been the case for the CH124.

(Then) Maj Bowers immediately took action to identify the risk related to the tip path of flexible composite blades operating on a moving ship at sea. He confirmed the already standing limitations in SPFP-148-18-018, which indicates that loading of torpedoes in a training environment is only approved with static rotor (not turning or disengaged).

He coordinated the cessation of the practice, and established a plan with all the relevant stakeholders that would safely enable the CH148 team to regain important training and currency requirements.

In doing so, (then) Maj Bowers not only prevented possible injury or loss of life but also highlighted the fact that Flight Safety is as important to staff members working at a desk as it is to folks on the flight line. LCol Bowers truly embodies the just culture critical to the Flight Safety program and is very deserving of the “For Professionalism” Award. 🇨🇦



Photo: MCpl Patrick Blanchard

HAZARDS on the HORIZON

by Maj Pierre-Olivier Brouillette

A few years back, I was doing some CCA (Close-Combat-Attack) training in Petawawa. I was the Det Commander for a two-ship of CH146s.

Being familiar with the training area, I was well aware that a set of wires crossed the river to the south. On the initial familiarization briefing, I made sure to highlight the power line's position to the aircrew since they had never flown in the area and it can be hard to see sometimes. In the following days, we repeatedly overflew those power lines and everyone was pretty confident in their ability to locate them.

We introduced tactical scenarios to the air lessons on the last day. It was early afternoon, and I was leading the formation on a bright sunny day. As we flew over the river, communications were consistent between me and the other aircraft to maintain the tactical picture during the flight. My head was mostly inside the cockpit as I was reading the information and storyline I had planned. After a moment of pause in the play, I looked up to get some situational awareness (SA) on our current position. I looked around and saw features that made me confident enough that we had passed the power lines and we could proceed. Before

placing my head back inside the cockpit, I took a "good" look ahead to ensure that said power lines weren't in front of us. They weren't. Or at least, I didn't see them...

As soon as I lowered my head, my world pitched 90 degrees upward. The co-pilot, who saw the power lines at the last second, initiated a desperate climb in attempt to avoid the wires. We came so close that one of the marker balls (the high-visibility orange/red ball on power lines) completely filled the vision I had through the chin bubble. The 4–5 seconds that followed were a mix of engine revving noise, spinning

Continued on next page

LESSONS LEARNED

instruments and massive confusion in the cockpit. Somehow, we succeeded in avoiding them. Once we realized that we had cleared the threat, we turned around (pretty shaken) and landed back at the heliport.

We all gathered to go over the event and came up with the following deductions;

- The lighting conditions made it extremely hard to see the wire since they were backlit by the sun ahead of us.
- We had shifted too much of our focus on the tactical scenario, despite knowing the power lines were a danger in that area.

- We didn't prioritize the potential risk to our flight, we had let our guard down and allowed a known threat to put our lives at risk.

If I had just voiced that I was unsure on our location relative to the power lines, all the attention inside the aircraft would have shifted to the three basics—aviate, navigate and communicate. The pilot flying would have maintained a higher altitude to ensure proper clearance and we would have had five cleaner pairs of underwear. Due to my lack of communication and my false comfort of SA I carried on without a word.

Often in a multi-crew environment, we tend to focus on our personal task and we sometimes forget to communicate concerns to the crew. With experience, we tend to spread our focus and end up forgetting about the basics. This is not effective HPMA. When in a situation of uncertainty, don't hesitate, voice your doubts. This will ensure that everyone on board is cognizant of a current problem, and it will also help you collectively solve the issue and continue on the mission safely.

The Horizon is filled with hazards. Make sure your crew keeps them far away from your bird. 🦅

Photos: S2 Melissa Gonzalez, 12 Wing Imaging



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To report an Aircraft Accident or a Safety Concern which requires IMMEDIATE attention, call 1-888-WARN-DFS (927-6337)

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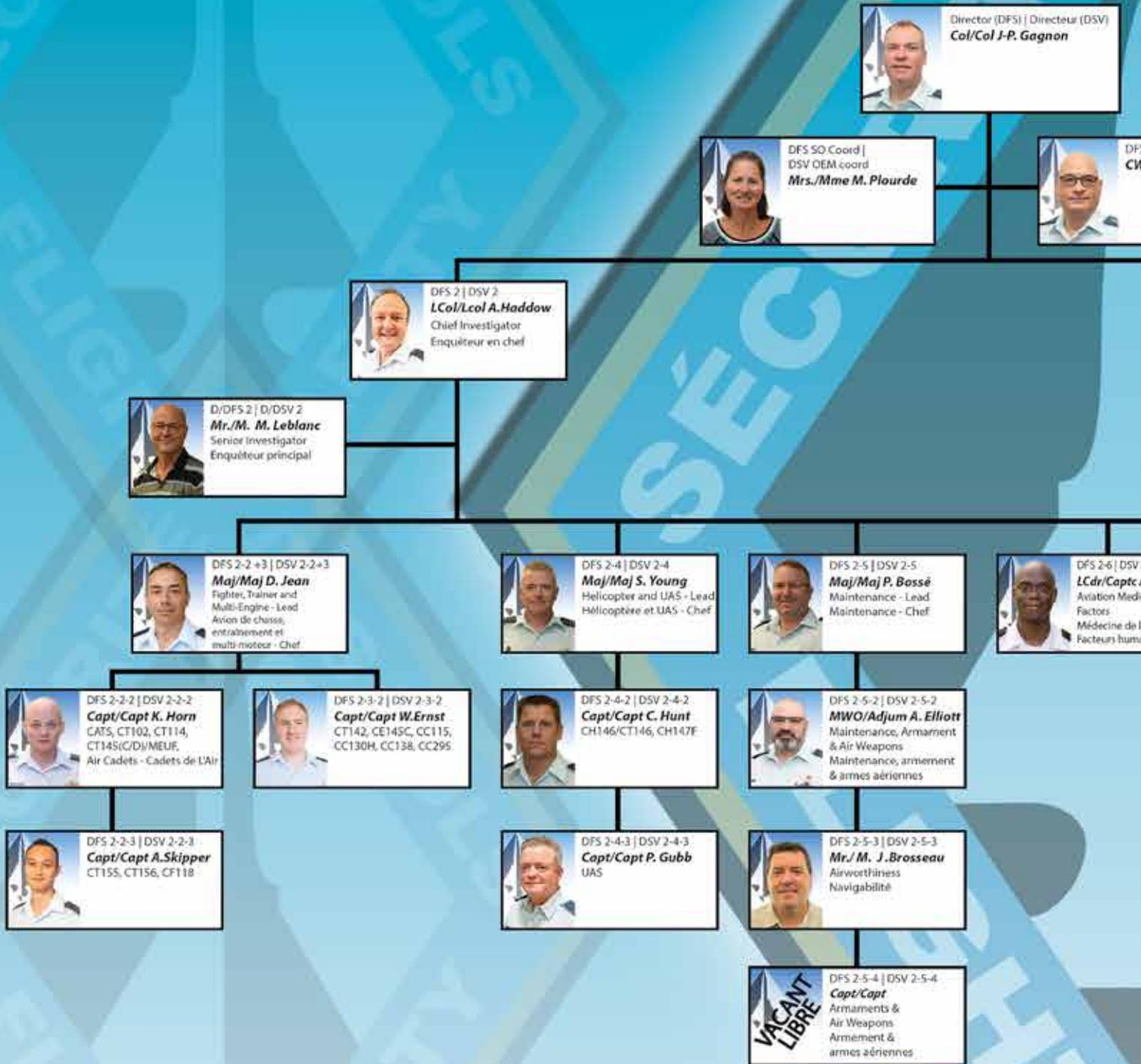
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DFS 3-2-3 | DSV 3-2-3
Sgt/Sgt
FSIMS/Web Support
SGISV/Support web

Capt/Capt B. Wood
FS Training
Formation SV