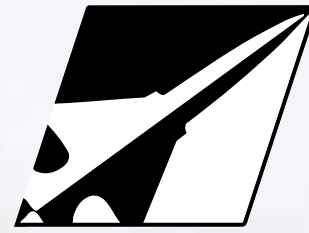




National
Defence

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nationale

WINTER 2002



Flight Comment



IN THIS ISSUE:

- ▶ *Beautiful Scenery — Nasty Weather!!*
- ▶ *A Groundcrew Winter Checklist*
- ▶ *Stay Alive — Be Weather Wise*

Canada 

TABLE OF CONTENTS

Flight Comment

1.....	Caught “Off-Guard”
2.....	A Tempting View
3.....	Beautiful Scenery — Nasty Weather!!
4.....	A Party in Edmonton... Is It Always a Good Idea??
5.....	Better To Be Safe Than Sorry
6.....	I Learned About Flying From That
7.....	Creating Procedures
8.....	My Eagerness Got The Best of Me!
9.....	What Could Go Wrong?
10.....	A Groundcrew Winter Checklist
12.....	Closing Doors
12.....	Stay Alive — Be Weather Wise
13.....	1990’s Initiatives
14.....	That Uncomfortable Feeling
15.....	Blind Trust
16.....	Deviation from Assigned IFR Altitude
17.....	My Adventure in Tanzania
18.....	Did We Really Need That Kind of Experience?
20.....	Don’t Forget The Details
22.....	Who Do We Land First?
24.....	“Don’t Worry About It!”
25.....	How Not To Cool Your Cola
26.....	Epilogue
27.....	From the Investigator
30.....	Maintainer’s Corner
31.....	Good Show
32.....	For Professionalism
35.....	Dear Editor
36.....	Flight Safety Word Search

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Caught "Off-Guard"

The buzzing of the alarm clock woke me to complete darkness, but the shuffling of bodies told me that the rest of the flight engineers (FE's) on exercise in Suffield were getting up and readying themselves for the days flying. After a quick breakfast, all twelve Canadian Griffon crews plus the four American Apache crews were hard at work getting their aircraft ready and their briefings completed for the early morning air mobility exercise with the army. The objective was to bring the soldiers in under cover of darkness to do an assault on a well-protected enemy stronghold and hopefully not be detected by the air defense systems ringing the area.

All went well for the first lift of troops, though we didn't reckon with how quickly it gets light on the prairies. On the second lift, however, things were a little different; a problem at the pickup zone caused an overshoot with the result that we had twelve Griffons and four Apache helicopters circling for another attempt to pick up our second lift of troops. The result of all this was to put us behind schedule for the insertion which, if you know live fire exercises, you know you don't miss your timings for. So, we were really rushing to get to the next point as quickly as possible.

It was on the approach to the next landing zone that we ran into trouble. Because we were in a hurry, we made

the approach a little quicker than usual. I had my head out the door and called that I had the area in sight. The co-pilot (who was flying the aircraft) responded with "you have the area." I started making my calls for height above ground and distance to the spot where we would approximately land given that we were well back in the formation. As the aircraft in front of us all started to slow down at different times, we started to experience a bit of a yo-yo effect in the formation with the result of leaving us a little high prior to landing. The co-pilot sharply reduced collective to get us to our spot and we now realized the ground had a fair up-slope to it. We contacted the ground with me leaning out the door looking for obstacles; the co-pilot made no attempt to flair, which resulted in a run-on landing, uphill, over rough terrain. This was a rough ride for about twenty yards and then, when the aircraft came to a halt, I was looking down at the skids and saw that the rear skids were clear of the ground by several inches.

We quickly unloaded our troops and I checked the underside of the helicopter and the wire cutter for any damage. The takeoff after was uneventful, but the discussion that followed was lively. When asked by the Aircraft Commander (AC) why he chose to do a run-on landing under those conditions without briefing his intent to the rest of the crew, the co-pilot stated that a run-on was not his intent but, after reducing the collective because we were high on final approach, the quickly rising terrain caught him off guard. The rest of the mission went as planned with no further problems and, when we returned to our base camp, I had a good look at the aircraft to make sure we didn't do any damage.

On a three-week exercise such as this one, there were many similar small incidents. With the rough terrain and multiple aircraft in the same area you just couldn't foresee everything. The potential for trouble was very high but, thanks to the efforts of the crews, no significant incidents occurred. ♦

Master Corporal Ashcroft

A Tempting View

After having completed a night crossing of the Atlantic from Nova Scotia to England, and having skirted the southern tip of Ireland, it was time to start our descent into Fairford. As the Aircraft Captain of the Aurora, I was occupying the left seat, my co-pilot the right and the Flight Engineer was in his position. Also on the flight deck were some of the other crewmembers — up front to get a glimpse of the British and Irish coasts. This is not an unusual occurrence as the Aurora does lack a number of windows in the back and we do allow back-end crew members to look out once in a while.

In this instance, both the view and the extra bodies on the flight deck would prove to be a distraction and a break from routine. After having received a descent clearance to level off at an intermediate altitude, I was double-checking my approach plate set-up when my co-pilot called “a thousand feet to go.” “Roger, check thousand to go.” At this point we broke through a cloud layer and to the left we saw the rich green landscape of Ireland, accompanied by numerous comments from the additional crew about how fantastic it looked. It was just too tempting not to look, and got both my co-pilot and myself looking at the view.

Moments later, we heard from ATC “...confirm you are levelling at Flight Level...” A quick look at our altitude induced that sinking in the stomach feeling as it was winding down past 1000 feet below our level-off altitude. Power was quickly applied and a climb initiated. At the same time a transmission went out “Roger...levelling at...”

After brief reflection on the fact that I had just blown an altitude, and wondering if a phone call would be awaiting my arrival on the ground, a small commuter aircraft passed about 2000 feet below us. Only 30-40 seconds had passed since levelling off. Needless to say, this was a lesson in Crew Resource Management, and how a brief distraction can lead to greater problems. Luckily, no phone call awaited our arrival! ♦



Beautiful Scenery - Nasty Weather!!

Andoya Air Station was well into the Arctic Circle and was the host of the 1998 Strong Resolve exercise that was being held in Norway. The airport was located on the northern tip of the island, close to the Norwegian Sea and right next to some fabulous, impressive mountains. The scenery was beautiful but, unfortunately, it was the ideal situation for rapid weather deterioration and nasty storm systems.

After several days of no flying due to poor weather and high sea-states, a formation of four F-18's was finally scheduled to fly. Prior to the flight, some non-threatening systems were observed, even though the forecast was not showing any major activity. After take-off, however, some systems started to develop creating heavy snow-showers of short duration. Almost instantly, the whole surface of the airport was covered, giving an average James Brake Index (JBI) of .21. This was

definitely *not* good! At the same time, some serious cells were not allowing our F-18's to conduct their mission. Since the airport was unsuitable for landing and the aircraft still were carrying a fair amount of fuel, the F-18's decided to hold in between cells waiting for the weather to improve. Meanwhile, in my duties as a MATCLO (Military Air Traffic Control Liaison Officer) in the tower, I informed the Norwegian controller that we should maintain the runway clear of snow during their flight so that no further complications would arise.

At that point, the pilots had elected to wait out the weather instead of going to their alternate. Afterwards, with fifteen minutes of fuel remaining, the pilots had passed their point of no return for the alternate. In the meantime, just as they were getting ready to return to base (RTB), another heavy snowstorm

passed and covered the runway once more, bringing the JBI back down to .27. There was also a cross-wind, thus indicating that cable engagements were inevitable. But, with only fifteen minutes of fuel remaining and a minimum of fifteen minutes between cable engagements, we had another problem. So, I decided to clear a runway center-line between the cables in order to increase the JBI to an acceptable level. After getting three snowplows out on the runway, we finally increased the JBI up to .47. This was sufficient to allow the four F-18's to land safely without incident.

During all of this, our staff maintained great coordination and the pilots were kept up to date on the plan. Quick actions often lead to good resolutions in a stressful environment. With teamwork, good coordination, and planning, the results are more likely to be positive. ♦

Captain Bourgie





A Party in Edmonton... Is It Always a **GOOD IDEA??**

I was in “Dragon” Flight in the Jaw; I had just graduated and received my wings and was just starting to really enjoy flying. A course mate and I, plus another two newly winged pilots, received approval to go to a party in Edmonton for the weekend. We were really looking forward to a weekend off and to the newly received freedom to take a jet away on our own. The take-off and departure were un-eventful and so was the cruise. I assumed the controls about halfway through the trip and decided to do a “barber pole” descent into the municipal airport in Edmonton. With the power parked at 100%, I started descending about 80 nautical miles out of Edmonton.

Descending through Flight Level 220, all of the fire and overheat lights came on at once. I yanked the power back to idle as per the red pages and the fire and overheat lights went out immediately. I advanced the power slowly and all the fire and overheat lights came back on right away. I declared a “PAN, PAN, PAN” to Edmonton Centre and started to discuss my options. At the municipal airport there is no CFR (crash, fire, rescue) on field, so Edmonton

Centre suggested the international airport. For three reasons, not all logical, I decided to stick with the municipal airport. First, going to the international airport would have required me to add power and, by staying at the municipal airport, I could keep the power at idle. Second, I was already focused on going to the municipal and did not want to change my plan. Third, our ride to the place we were staying at was going to be at the municipal airport and that is where the other Tutor with our buddies had already landed.

So, I described to Centre that I intended to do a practice forced landing (PFL) approach. The controller didn’t understand and passed me to a terminal controller. Unfortunately, Centre did not tell terminal that I had an emergency and I had to explain my problem and plan to him. I told him that I was doing a PFL and had to clarify the maneuver with him. When he switched me to the tower, the same thing happened. Again, the controller had no idea that I had an emergency or that I was going to do a PFL. After this, my last explanation, I landed without further incident and taxied back to the Esso ramp and shut down.

From reading this you probably see both right and wrong so I’ll make my list and see how it compares to yours. My red page response, although slightly slow, was correct and appropriate. I clearly told Air Traffic Control my intentions, albeit several times! My PFL was well flown and I did not use my speed brakes (which is a big no-no in the Tutor because of the possibility of fire).

However, barber-pole descents are not the norm and are far from procedure. Going to the municipal airport instead of the international airport where they are well equipped for CFR was not a very prudent decision. If I would have checked, the distance was almost the same. Another unwise decision I made was to taxi back to Esso; what I should have done was landed, shut down, and ground-egressed. The last thing on my “wrong” list was when I added power to troubleshoot; it was not required because I could make it at idle. I still haven’t decided if going to a party in Edmonton is always a good idea. ♦

Captain Nelder

Better To Be Safe Than **SORRY**

It was a beautiful sunny morning in paradise. Several locally based aircraft were flying in the training areas. The tower staff consisted of one ground controller, one aerodrome controller, plus an aerodrome controller under check-out (UCO). A light civilian aircraft with retractable gear reported returning to base for a landing and the normal landing instructions were issued by the controller UCO. When the aircraft reported on final, the pilot was issued landing clearance including "check gear down." The pilot then advised that he had an unsafe gear indication and would be performing a low approach only. He then requested a fly-by of the tower for a visual gear check. When the aircraft flew by the tower all of the personnel present, which now included the chief controller, observed gear that appeared to be down in the normal

configuration. Subsequently, the pilot of the aircraft reported having a safe gear indication and requested to join the downwind leg for landing.

In the tower, the controller UCO asked the qualified aerodrome controller his/her opinion as to whether they should declare a precautionary emergency or not. The qualified controller suggested that there was no longer a problem so a precautionary was not really necessary. The controller UCO decided to declare a precautionary anyway and a two-bell emergency was initiated. The aircraft landed safely without further incident being reported.

So far, this may sound like a waste of resources. In fact, the very subject of declaring a precautionary emergency has been a favourite debatable subject for aircrew and controllers alike. In this case, the post-investigation

from the flying club revealed that the aircraft in question did experience more than a gear problem during this incident. Apparently, upon landing, the aircraft's propeller did strike the runway and slightly damaged the propeller. This went undetected by the pilot until he parked at the flying club.

It gave all concerned a really warm feeling to know that even though, unknowingly, danger was lurking, CFR (crash, fire, rescue) crews were on scene, prepared for action. Even when you may feel that a possible danger has been averted, another danger may be unknowingly waiting to strike. The moral of the story...stay alert and don't be afraid of declaring a precautionary emergency if you feel the situation warrants it. Remember, it's better to be safe than sorry. ♦

Capt. MacLellan



I LEARNED ABOUT FLYING FROM THAT



Annually, our squadron is tasked to provide one CC138 Twin Otter to Op Hurricane on Ellesmere Island. Our basic role is to provide support to Camp Eureka in the form of troop and ration transport to and from Alert. For us, the operation usually ran from mid-May through to the first week of August. Our crew (two pilots and one flight engineer) was chosen for the third rotation, which ran from 24 June to 15 July. This was my first year on squadron as a pipeline First Officer (FO) and also my first chance to work out of Ellesmere Island. My aircraft commander (AC) was also a pipeliner and had two years of flying experience on the Twin, while the flight engineer (FE) was as new to the squadron as I was.

Around the middle of our rotation, while on an overnight stay in Alert, we heard rumours that we were going to be heading to Thule, Greenland on a medevac. The next morning rumour turned to fact, and we were tasked to go to Thule. The FE started the preflight while the AC and I did the flight planning. Alert was clear and forecast to remain VFR all day, while Thule was bad earlier in the day but was already picking up to VFR and was forecast to remain so for the rest of

the day. The only problem we saw was possible IFR conditions enroute and strong headwinds. To be on the safe side we filed an IFR flight plan and held Alert as the alternate.

The aircraft was loaded and we started off for the two-hour trip to Thule. As the mission progressed, we noticed that the headwinds were a lot stronger than forecast, but the IFR conditions were non-existent. After an in-depth discussion amongst the crew and a routine check of the weather, we decided to continue to Thule VFR.

As we approached Thule, we could not reach Thule terminal on the radio. The weather started to close in and, before we knew it, we were IMC but still in uncontrolled airspace. We knew we were over water and tried a cloud break but were unsuccessful. In the climb back up we got in touch with Thule Air Traffic Control who offered radar vectors for the ILS. We got the weather from them again and it was the same as before — 4000-foot broken ceiling with ten miles visibility. We accepted the vectors and fully expected to break out at 4000 feet and proceed VFR. As the approach went on, we realized that the weather was far worse than

expected. Through 2500 feet we were still in cloud and picking up ice. We were being tossed around like a sports sock in the dryer. At around 1100 feet, we started to see ground through the rain and also started to enter some pretty good wind shear. Inside one mile, we could make out the approach lights but noticed that although we were getting lower, we were not getting any closer. Max power was set and we were able to get in a good position to land. Tower cleared us to land and warned us that the runway was extremely slippery. Thule paints their runway white to reflect light and avoid thawing of the permafrost, so any water makes it slick. The rain was still coming down hard and the winds from the tower gave us a 60-degree crosswind at 38-46 knots. The max demonstrated crosswind of a Twin Otter is only 27 knots.

We lined up well to the right of the runway and kept crab in until just before touchdown. As I got the right main wheel down, I could feel the aircraft start to slip to the left. By the time I got the left main wheel down, we were already going through the centerline. I gave the AC, who was in the right seat, control of the yoke while we both



CREATING PROCEDURES

worked the brakes and I maintained control of the power until we finally got it stopped on the left side of the centerline facing slightly into wind. We taxied back to the ramp and shutdown but just sat there quietly staring straight ahead for a minute or two before it sank in what we had just done.

I learned more in the last hour of this mission than I have in any one flight before. The first lesson was the crew concept. Throughout the entire decision-making process, the AC kept the entire crew involved and was always open and accepting to input, even when the going got tough. Also, the AC provided positive re-enforcement when he could see that I was working hard just keeping the aircraft on the localizer for the approach. Without his calm words, I don't believe the approach would have worked out the way it did. The other lesson learned was to stick to the original plan; if it starts to fall apart, maybe it is time to head back and think of a new plan. Weather information in other countries is not as reliable as what we get in Canada and we should not take for granted the types of services we may get. ♦

Captain Thompson

Experience is the by-product that comes from surviving ones own mistakes. People with experience create procedures. The procedure for a Search and Rescue (SAR) technician to jump from the ramp of an aircraft is quite simple and well described in CF publications. A ball position provides the static line jumper an excellent exit and provides the parachute the best opportunity for proper deployment. There was a time in my past, however, that I wanted to try something different that I had seen others do. I decided to do a spread, which is a bit more complicated. I got pretty good at it and would occasionally give it a whirl instead of the boring ball exits. One day, I got caught so well that I haven't done one since. Let me describe my adventure.

I was the second and last jumper off of the ramp. My left foot moved quickly forward to the edge of the ramp. My right foot kicked out, over, and across causing me to exit facing the aircraft in a spread. I looked the safetyman in the eyes and I arched. My head passed the edge of the ramp but slightly below my feet. The slipstream forced my head lower into a headfirst dive. My square parachute that normally opened above my head opened, instead, with the lines and risers almost in line with my legs. The jolt flipped me all the way forward through my risers, but the parachute was still opening by the time my body had finished an



additional 360-degree tumble, returning my legs once again to my risers and shroud lines. Wow, that was fast!

My chute was now open and my legs were entangled in my parachute lines that were, by now, very twisted. The parachute quickly started to spiral and I saw what must be done. The spiral increased as I freed each leg, one at a time, and flipped backwards. I still had twists and I was still in a spiral, so I bicycle-kicked like a mad man. (Isn't adrenaline a wonderful thing?) This straightened out my twists and stopped the spiral. After pulling on my brake line, my slider had come most of the way down. Although I was still passed 360-degrees through my risers, my parachute reacted normally and I had yet another happy landing. I must say, my experience has encouraged me to follow the procedures! ♦

Sergeant Eagle

MY EAGERNESS GOT THE BEST OF ME!

I had just begun my first week in the servicing work environment and the utter awe of working amongst those huge metal behemoths was a dream finally come true. All my life, I'd had a fascination of aircraft and now I would

finally get some hands-on experience. I remember walking out to my first Hercules, and I'm certain my jaw was hanging in amazement throughout the walk-through with my new supervisor. It was like a saturation of the senses. There were

aircraft everywhere! I even managed to gain the trade of my choice, Radar Systems, which meant that I would be working in electronics. Yeah! This job was like a fantastic vacation and they even managed to throw in a paycheck. Did it get any better?

While sitting in the servicing blister amongst the people who would be my new colleagues and friends for the next years to come, I faintly heard the PA announce, "The Boeing is inbound!" What this really meant as I watched the marshaller sprinting out to the B707 parking spot as it suddenly came into sight, was that the servicing supervisor had again miscalculated the re-fuel time from an incoming aircraft.

Don't get me wrong; hey, I was already qualified on the right wing re-fuelling station of the Boeing 707, and I was still in my first week of training. I was smokin' up that qualification ladder! So, as I followed the left wing refuelling team up to the aircraft, I decided I'd get keen and set up the right hand refuelling ASAP. After all, I had my ladder, my intercom, and I was the new generation of technicians on the sunrise of the Airforce. Unfortunately, my eagerness got the best of me as my feet lifted off, and I suddenly remembered my supervisor once saying, "Don't forget, they always shut down #3 and #4 engines last!" ♦

Sgt. Provencal



WHAT COULD GO WRONG?



I was fairly new to the Base and to the transport world. Fighter world, the realm I had come from, was by far the best! It started out as a normal day; it was bright and sunny and work was going at a relatively slow pace. As the morning progressed, the pace rapidly increased until the sky fell in around noon. At this point, it got so hectic that there was no space on our ramp. We were parking transient helicopters in the grass beside the ramp, so they could be refueled and started from there. Everyone was busy. The Sergeant was trying to run both the control desk where the log sets are kept and the servicing desk where he had to answer the phone and talk to Ops on the radio.

I had just come in from parking an aircraft when the Sergeant looked at me and said “move that F-5 into the hangar, it is staying and we need the space on the line.” When I asked where would I get the tow crew, he told me to use the two technicians who were coming up from Maintenance to help us out. I found this odd because these technicians not only didn’t work on the line too

often but they certainly weren’t used to towing aircraft. But...we were extremely busy! I waited for the Sergeant to get off the phone and informed him that we didn’t have enough people for this job. He looked at me and asked if I had ever towed this type of plane before. I told him that my old squadron was an F-5 squadron. Then the Sergeant said “obviously, you know what you’re doing so get it off the line.” I was quite happy because he must trust me. Besides, the hangar was empty so what could go wrong.

I ensured that the F-5 was safetied and explained the brakes to the technician riding the brakes. I hooked up the mule myself and the other technician towed the aircraft to the hangar. When we got there, the hangar doors were closed. The other tech said he knew how to open the doors and before he opened them, I told him to go behind the tail and make sure it was clear and would not hit anything. The doors opened halfway and then stopped. As I wondered

why the door stopped halfway, my partner walked out from behind the other door and stopped directly behind the F-5 tail and did not move. I called out twice to see if the tail was clear, to no avail. I assumed the tail was clear or else why would he be standing there. As I started to push the aircraft back into the hangar the tail came in contact with the bottom of the door causing D-category damage.

Later, I found out that he had seen something fall out of the door right behind the tail of the plane. He had stopped the door to see what it was and to see if the door was serviceable. He never once even looked at the tail. Hindsight being what it is, the mistakes I made are obvious. I let the hectic pace, self-pride, and poor judgement interfere with what I knew was right. The list of mistakes made here goes on forever. Although this sounds like my squadron today, this incident happened in the early 80’s and reflecting on it has just reminded me of some of the pressures on our young techs today. ♦

Sergeant Lawrence

A Groundcrew Winter

Each winter, ground personnel become involved in a significant number of accidents and incidents, which are attributable in some way to environmental factors.

Some say that there is little that can be done about the weather except complain, and hope that people will use common sense in the face of extreme conditions, but as it happens, there is plenty of evidence to suggest that people don't always use common sense.

What the evidence does suggest is that it behoves supervisors to ensure that they furnish adequate instructions to guide their people when adverse weather conditions prevail. The following list of winter wisdom has been reprinted from Flight Comment, September/October 1972.



Checklist

Clothing:

- Keep clothing dry and free of fuel, oil, and grease.
- Have an extra pair of dry gloves handy.
- Avoid getting overheated. When indoors, remove the outer layer of clothing. This will give the outer garment time to dry out and warm up.
- Several layers of clothing are better than one thick bulky garment — layers give the best balance between heat retention and weight of material. Three layers are ideal.

Flight Line Operation:

- Use extreme caution when running up aircraft engines.
- Even though it is cold, take time to make a thorough pre-flight of the aircraft.
- When possible, warm up electronic bays and cockpits with external heaters. Be sure to observe all electrical and fire safety precautions.
- Wet drag chutes can freeze at altitude. Be sure to dry the chutes before packing and install only dry drag chutes.
- Supervisors should ensure that new people are briefed, especially those coming from bases that are not subject to nasty winters. (We do have the odd one!!)
- Keep fuel tanks filled to reduce condensation. There is nothing worse than excess water in the fuel. It can cause fuel control problems and engine flameout.
- Keep accumulators charged to the correct pressures according to the temperature.

- If towing is a must — do it slowly. Use both tow bar and cables on main wheel struts when towing on snow, ice, or mud.
- Use extra caution when climbing ladders and walking on wings. Wing mats should be used if you have to work on wings; slippery surfaces can bring about a nasty fall. Fasten a safety harness or rope to personnel who use brooms on wings and horizontal stabilizers.
- Use a broom or brush to remove snow from the aircraft — but do not use them on the canopy. And use the bristle end only, please!
- Lift canopy covers off. Don't slide them off as they will scratch the surfaces.
- Use canopy, engine intake, and exhaust covers to provide maximum protection from snow, sleet, and rain.
- Be sure that the canopy is clean and dry before putting the cover on. The cover will freeze to a wet canopy.
- Do not spray de-icer fluid on canopies or windshields.
- Don't de-ice too early. Be sure to drain the de-icer fluid from ailerons, flaps, and elevators. The de-icing fluid when diluted with snow or ice can refreeze.
- Do not spray de-icer fluid directly into flap wells, elevators, or inaccessible areas or near engines or starter exhausts.
- Be sure the battery is kept fully charged. A weak battery will lose its charge rapidly in cold weather. Check that all cells are in good electrical and mechanical condition.

- Quickly investigate leakage spots that show up on ice or snow.
- Remember that taxiing aircraft need more room for turning and stopping on snow or ice.
- Greater attention must be given to the maintenance and inspection of such items as static ports, vent lines, fuel drains, and filters.
- Inspect the tires carefully after landing. Patchy surfaces and rough ice can easily abrade the tread.
- Allow more time when scheduling work orders for out-of-doors.
- Carefully inspect for fuel and hydraulic leaks caused by the contracting of fittings or shrinkage of packings.

Flight Line and Ramp Driving:

- Clean all windows before driving. Windows (and don't forget those rear-view mirrors) covered with frost and ice reduces visibility.
- Expect reduced visibility due to blowing snow — slow down.
- Beware of the increased stopping distances required on ice or snow. Automatically slow down when it rains or snows.
- Be alert for the pedestrian wearing bulky head coverings. The hood of a parka restricts side vision and interferes with the hearing.
- Don't aim your vehicle at an aircraft and count on the brakes to stop it. ♦

CLOSING DOORS

Doors have a strange way about them; they can protect you from the elements even when open, and they can keep them out when closed. But what about that time in between?

It was not a cold day and the doors were left open for ease of operation. People were going in and out with little regard as to the door location and, in particular, to whether or not they had moved in the last hour or so. But now the wind was picking up. It quickly blew in some ominous looking clouds that threatened to soak anyone who ventured outside. One group of technicians still working outside decided to move their aircraft inside before the weather really got bad. They grabbed a tow bar, hooked up to the aircraft and started for the door. They were moving with haste as the rain had just started to reach them, however, they felt there was still time to get the aircraft inside.

Unbeknownst to them, someone had just given the order to close the doors, in order to keep the rain from being blown into the hangar. The technician reached the corner where the door switches were located without observing the

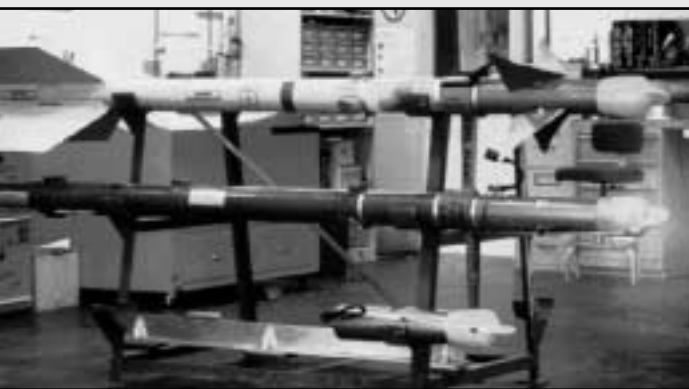
incoming aircraft. In his hurry to keep the wind and rain out of the hangar, he immediately put the doors in motion. His undivided attention was on the switches as he started all the doors moving at once. Only when he turned to check on the progress of the doors, did he observe the incoming aircraft.

Both the doorman and the tow driver realized at the same time the impending danger, and they immediately attempted to avert it. As the doors closed in on the aircraft wing tip, the doorman shut down the doors and the tow driver applied brakes. The doors continued inwards for several inches making momentary contact with the wing tip. Due to the aircraft motion and the contact between the door and the wing tip, the Captive Air Training Missile (CATM) was dislodged and sent crashing to the floor.

All heads turned to the scene as they heard the sound of the CATM as it crashed to the floor. Everything hung motionless for several seconds, as everyone absorbed the severity of the situation. Although the damage was not as severe as the embarrassment was, it could have been much worse.

Everyone learned a hard lesson about why someone must always be in charge and coordinate hangar line activities. Even something as small as a weather change can affect how jobs are carried out. ♦

WO J.L. Bouchard



STAY ALIVE —

Test Yourself:

Are you:

- aggressive, strong-willed, “successful”, eager to prove yourself?
- optimistic, even in the face of adversity?
- fond of competitive sports, a poker player, willing to take chances?
- proud of your achievements and possessions?
- frustrated and angry when you fail?
- pre-occupied with personal or business problems?
- bored, looking for adventure?
- an above-average person?
- resentful of advice, authority, being told what to do?
- accustomed to flying close to the limits and occasionally exceeding them?

Know Yourself:

- Never forget your personality type.
- Know your limits and do not push them.
- Most “weather pressing” comes from pressures of one sort or another — always take a reading from your own personal pressure gauge.



BE WEATHER WISE

Be Weather Wise:

- It is potentially deadly to depart without having the fullest possible understanding of the weather for your route.
- Learn to recognise deteriorating weather while airborne from the first signs of change.
- Continually update your knowledge of weather by reading easily available publications — so you can interpret weather information.
- Leave a good margin for error; be prepared to have to deal with the unexpected.
- Expect the worst, plan ahead, consider all your options, and give yourself a way, or two, out.
- Divert or land early while you still have a choice.
- Better to be late and alive, than on time and...

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1990's INITIATIVES

I was a technical crewman undergoing an annual re-certification check ride. The day was clear and cold and my proficiency ride was due. The aircraft was checked and ready to go. The pre-flight brief was exactly that — brief.

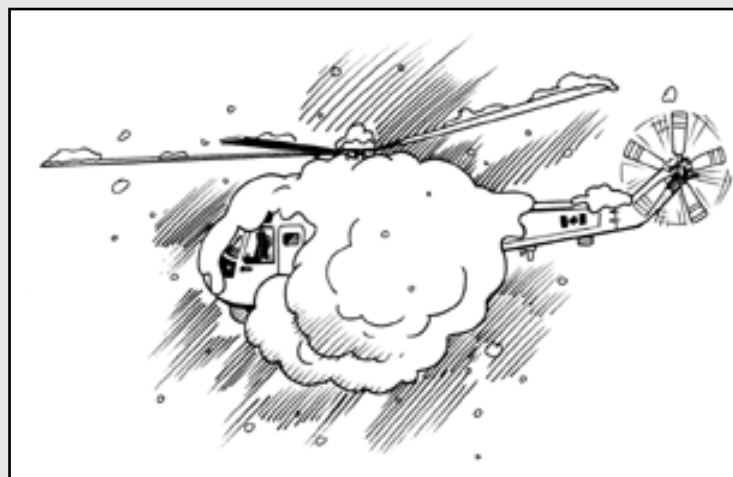
We were to do some simulated emergencies, a couple of confined area landings and then we were going back to the ramp. The emergencies went well and we had proceeded to a known practice area for the confined area work. Again, the flight went as briefed. On the return to the ramp, the pilot noticed a small field that could provide a good, sloped area landing exercise. He stated that we would do a "slow and low" fly-by to assess it and go around for a landing if it proved acceptable.

A long circuit and approach was flown to it on final descent for a look. I called for "doors open" and got the okay. After clearing a tree line bordering the field, the aircraft descended to approximately twenty feet. I noticed a small amount of blowing snow from the rotor wash, but said nothing of it because this

was just going to be an over flight to a possible landing spot.

Then things started happening quickly. Without any further discussion to the crew, the pilot decided that the site was safe for landing and proceeded to dump the collective. The helicopter was almost immediately enveloped in a snowball of gargantuan proportions. I did not anticipate it, see it, or call it. As throttles were rolled back to idle and we could again see where we were, the landing area wasn't as sloped as we assumed, but that was discovered in hindsight.

A somewhat heated discussion ensued about crew resource management, crew cooperation and other 1990's initiatives. They were needed then as much as they are now and should be a part of every flight. ♦



0°C + 5 kts = -5°C
1°C + 10 kts = -7°C
4°C + 25 kts = -12°C
-5°C + 15 kts = -20°C

That Uncomfortable Feeling

The bus ride would take about an hour. I had been to this village previously to participate in a Volksmarch, shortly after arriving in Baden. This would be my third accident where I would be employed as part of a Crash and Salvage Team. During the bus ride, I couldn't help but think about what lay ahead. During our departure briefing, we were told that the CF-18B aircraft had crashed into a small orchard in the middle of the village. Luckily, both crewmembers safely ejected and initial reports were that no injuries were sustained by anyone on the ground.

As we departed the bus and started toward the site, I noticed carbon fibers strewn everywhere like a dusting of snow. Walking past one of the farmhouses, I saw some of the chickens pecking at some of the fibers that had landed in their enclosure. Making a mental note not to eat any eggs in the near future, I made my way to the site with the rest of the crew. Two things struck me right away about the crash site. My first observation was the fact that the aircraft landed in the only small patch of non-inhabited land in the

whole village. The site was so close to dwellings that the impact actually sprayed mud on the sides of the homes adjacent to the orchard. The second thing that struck me was that, despite the fuel load and the fast impact speed, there was no fuel-related explosion or fire. We, as a community, sometimes refer to crash sites as smoking holes, but this wasn't one of them.

The work carried out upon arrival was much like the other crashes, with the senior personnel preparing for the Directorate of Flight Safety (DFS) arrival, perimeter security being established and heavy equipment being readied for the ensuing site work. Surveying the site, I was amazed at how much of the aircraft wasn't visible, considering the absence of a fire. The soil around the site was fuel-saturated and extremely slippery. Once the whole salvage process had proceeded to the point of extracting aircraft pieces, the bottom of the pit now had about two inches of pooled fuel. Thankfully, the firefighters stood by for the entire salvage operation, frequently laying down a barrier of foam over the entire site. Still, there was so much fuel in the pit that our saturated

outerwear had to be returned to the site quartermaster and disposed of each day. The salvage was continuing like any other I had been on, with everyone intent on finding the elusive MSDRS (Data Recording Set) amongst all the rest of the material being recovered from the area.

Doing the pit work at a crash site isn't glamorous, and it wasn't long before the laborious

nature of the work demanded that the crews split up and spell each other off in the pit. During one of my topside breaks, I noticed that some of the locals were cutting corners through the outer part of the crash site area. I thought little of this as I would probably try and do the same thing. Really now, what harm could come from a couple of locals sneaking a peek of the activities? In my time in the Airforce, I've learned that nothing peaks the interest of the public like an aircraft accident. Perimeter security at a site in the middle of Germany was proving to be different than a crash in the Cold Lake area.

Later on in the afternoon, I looked up from trying to sling chains around a large piece of a wing and noticed him standing there. He was a middle-aged national with a friendly smile who was a lot closer to the pit area than any of the others had been that morning. Although I remember feeling uncomfortable with his presence, I busied myself with the task at hand and finally secured the large wing piece to be lifted out of the pit. Exhausted, leaning against the backhoe bucket, I was talking with my buddy who had just helped me with the wing piece. The bottom of the pit was at least 14 feet below grade; my boots weighed at least 20 pounds each from all the mud stuck on the bottom, and we were standing in an environment that was extremely rich in aviation fuel fumes. Glancing up at our pit-side visitor, I didn't want to believe what I was seeing. While we were standing in the biggest, deepest barbecue I could possibly imagine, my newfound friend was feverishly trying to find his matches to light the cigarette, which was now hanging from his lips. Despite the fatigue I had experienced earlier, I got topside



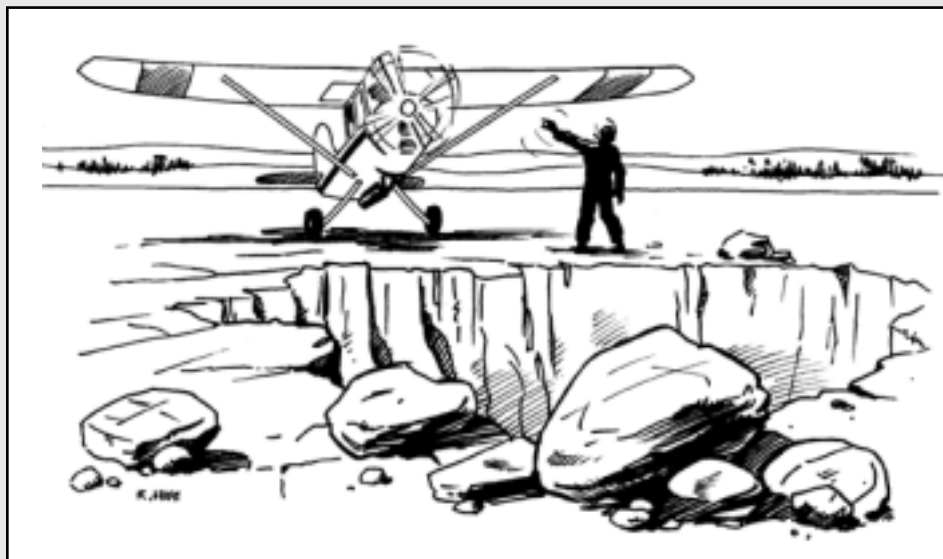
BLIND TRUST

in record time, all the while yelling excitedly at the visitor. Needless to say, “Marlboro Man” was quickly escorted out of the not-so-secured area and security was immediately tightened.

Once security was re-established and recovery operations resumed, we had the usual good-hearted banter about our episode, perhaps a little comic relief to unwind. Later that night, as I sat at home, I ran the days events through my mind and thought about my part in what could have been a huge catastrophe. Crash site security is everyone’s responsibility and I had two clear failures to take action that day. I had noticed civilians cutting through the corner of the secured area but failed to inform security, instead relating to their curious nature. By doing so, I unwittingly gave permission, through my actions, for the practice to continue. Secondly, I dismissed the uncomfortable feeling I had when I first spotted “Marlboro Man,” instead of stopping to think through what was behind that particular feeling. I should have considered that he knew nothing of the site dangers; he was at risk from the heavy equipment; some of the confidential gear was still unaccounted for, and there could have been liability issues as well. I failed to act on what my instincts were telling me and I was extremely lucky that the worst-case scenario never played out.

From that day over twelve years ago, I’ve never again ignored that uncomfortable feeling. When somebody needs to be told to slow down to a safe speed, or somebody needs to be told to leave the area, I do it. I find it’s easier to do, than it is to ignore. ♦

Lieutenant Whelan



A lesson I learned while flying not too long ago was to not trust anyone blindly, not even the commanding officer (CO) of the unit. We were running a gliding operation off of the main runway 08/26 in North Bay for the fall familiarization gliding program. The tow aircraft maintained constant communications with the tower controller for everything, including the necessity to clear the main active runway if required for any civilian traffic that may be landing or taking off.

When called by the tower, I would just taxi off of the active onto the grassed area in between the runway and the taxiway. However, in this lesson of life, the CO was on the field and had heard the tower call for the tow plane and gliders to clear the active for a regular charter airline “Nordair” flight.

The CO quickly ran up to me and started signalling me to get off the runway. As I started to taxi off he decided to guide me. Since he was the boss, I followed, not thinking about any hazards such as taxiway lights or other obstructions. Unfortunately, I followed his directions blindly and ended up almost tipping the aircraft on its nose when the right main gear sunk into a hole. The tail came up as I was abruptly stopped. I quickly shut down the engine and got a look at the wheel. No damage occurred but I felt stupid. The CO said, “sorry about that, I didn’t see the hole.” Had any damage occurred, I would have been the one accountable.

Luckily, with the help of six people, I was able to pull the aircraft out of the hole. I learned that it is still my responsibility for what goes on and not to blindly trust anyone, not even the CO. ♦

Capt. Bell

DEVIATION FROM ASSIGNED IFR ALTITUDE

We were in a Hercules aircraft and were enroute from St. Johns, Nfld to Oceana Naval Air Station in Virginia. After level-off, the autopilot was engaged as the aircraft had reached its assigned cruising altitude. All systems functioned properly except for the tendency of the autopilot altitude-hold function to let the aircraft descend at a very slight rate of about ten feet per minute. The autopilot was re-engaged to see if it would function correctly. Unfortunately, the mild descent still existed. Being that it was such a minimal descent, the flying pilot elected to continue with its operation and only make manual corrections when required. All front-end crew were aware of the slight malfunction.

One hour into the trip we decided to undergo some training. The topic of study was to be the fuel management system. In the C-130, this system is very complicated and involves focussing on the engine instrument gauges. In order to get as much out of the discussion as possible, both the left and right seat pilots took part in the exercise. While jockeying the throttles we were to observe TIT,

torque, and fuel flow changes. At times these changes can be minute, hence requiring undivided attention.

Approximately five to ten minutes into the discussion the right seat pilot stated "altitude". His tone caught everyone's attention. There was a stunned silence among the crew as he took control. After a quick glance at the altimeter, my first impression was that we had climbed 300 feet. Actually we had descended 700 feet, and were continuing to descend at about 100 feet per minute. The aircraft was immediately returned to the assigned altitude. We were under radar control, yet air traffic control (ATC) was not aware of the deviation.

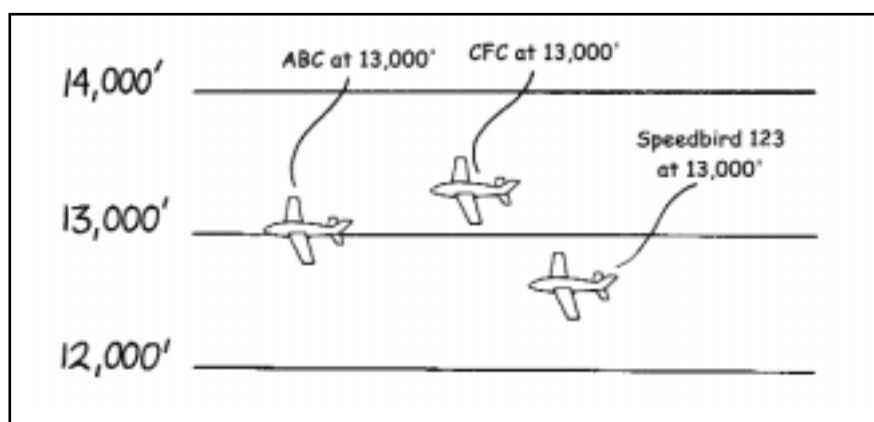
The training exercise ended, or should I say, had just begun! There are many important lessons that I learned from this experience. The first and, I feel, the most important, was to fly the aircraft! They instill this in us from day one during pilot training. For some reason it became a secondary issue over-ridden by training. How this happened is quite clear. Why it happened is the question. A disturbing fact is, that

any of the front-end crew should have noticed the deviation. There were five sets of eyes in the cockpit, yet no one realized we were descending at an accelerating rate. I suppose the crew may have elected to hand-fly the altitude as opposed to using the altitude-hold function. Had we known that the descent rate would increase and not remain at ten feet per minute, we may have made a different choice. The fact that it was only ten feet a minute caught us off guard. With such an insidious descent rate, there were no physiological indicators.

Having both pilots involved in the training, when there was a known malfunction, became a definite contributor. Perhaps only one pilot should be participating in training involving channelized attention. This should be made clear at the start of the training, as there is a tendency to informally participate unless instructed to do otherwise. I suppose you could say we were lucky that ATC had not picked up on the deviation. In a small way, yes, we were lucky; however, in the big picture this is disturbing. With multiple aircraft using the airway, things could have been much worse. I am sure we were not the only ones with our heads down in the cockpit. This raises the question of; how vigilant is your lookout after level-off?

A final note is that, for some reason, we did not issue a flight safety report on these events. Why? I am not sure. Probably, a combination of embarrassment and perhaps thinking not much could be learned. But after thinking about it for six months, I've discovered there was a lot to learn. ♦

Capt Steele



My Adventure in Tanzania

Having been tasked to fly into Killimanjaro, Tanzania at night with a VIP on board provided me with a high level of excitement and anticipation, but along with it many reservations. For those of us who have flown into Africa, we know that the whole Air Traffic Control service and information system leaves much to be desired. It was on this night that the less than ideal weather and NOTAM reporting system not only let us down, as can be expected, but also reached out and threw us a left hook.

We departed Cairo in a Challenger headed for Killimanjaro on a less than accurate flight plan, as our arrival time was to be kept secret due to the nature of the mission. The five-hour enroute portion was uneventful by African standards. The typical communication problems presented themselves along with the usual requirement to have to vector ourselves around the thunderstorms that light up the African nighttime sky. Other than this, the only other thing of note was the discussion and anticipation of the NDB/NDB approach that we would eventually have to fly and the two 15,000 foot mountains we'd have to navigate ourselves through; thank God for the GPS.

As it turned out, the mountains were marginally visible against the sparsely lit Tanzanian landscape. The approach aids however, were even lower than marginal. After discovering that one of the two NDB's was unserviceable, the tower controller (and I use the term "controller" generously!) reported that the runway lights were also unserviceable.

Coupling this with the fact that we had just enough fuel for the alternate and that there was a wall of thunderstorms between that alternate and us, I was suddenly overcome by a feeling of being trapped.

It was a situation that had left us with little or apparently no options; a situation a significant percentage of CF pilots have found themselves in, I'm certain.

After some heated dialogue with the controller and some frantic searching for any aerodrome lighting that could get us as close to the runway as possible, we decided to continue inbound using the one serviceable NDB. I had initially mistaken a ground fire for the aerodrome, but my co-pilot recognized this error as he discovered a fully functioning set of precision approach position indicator lights (PAPI's) just under our nose. There was now a ray of hope. We finally had something that could help us find some friendly terra firma. We were, however, too high and not properly configured for landing, so we did a 360 and continued inbound using the PAPI's as our sole visual approach aid. Aiming for a point on the ground just to the right of the PAPI's and flying a final approach course that I believed to be perpendicular to the four lights of the PAPI, I knew that I should be

able to find some pavement and be lined up for a safe after-landing roll-out.

Continuing further down the glide slope, constantly mindful of the radar altimeter, there was finally much rejoicing as the landing lights revealed to us the runway surface with about 30 feet to go before touchdown. Apart from a very rough runway surface, the rollout was uneventful and the mission was complete.

So...when NOTAM and weather information is old or non-existent as it so often is in Africa, what options do we have? The safest option, obviously, is to not take-off until the proper information can be obtained. But, then there are the times when you are faced with urgent mission parameters and the NOTAMs can't be obtained for many hours and are hopelessly unreliable when you do receive them. What do we do in these situations? In most cases, you can take-off and nothing will happen. However, it will be those other few cases that will bring to question the actual validity of the perceived urgency you felt before take-off. I know that, in my situation in Killimanjaro, it was sound CRM and valuable aircrew experience that delivered us a successful outcome. ♦

Captain Pinder



DID

We Really Need That Kind of Experience?

Search and Rescue (SAR) missions can be the most challenging and rewarding type of flying in the military today. Then, when the mission is complete, we have to get home. Or do we? Why must we rush home? Is the plane needed back at the Squadron for standby; does a member of the crew have a previous engagement; is the weather moving in; or, did we just want to get closer to home? Heard this before? If you have been a crewmember at any squadron of any aircraft type, I'm sure you have met with this dilemma in the past. I'm sure, too, it will come up again and again in the future. Will you and your crew make the right decision?

I was a member of a SAR crew returning home from such a mission when, in the span of two days, we made the wrong decision not only once, but twice. We did get home, but not before scaring the heck out of ourselves.

We had been involved in a search up north. The search was over and it was time to make our way home. The weather was checked and we decided to give it a try. We could always come back. We were on the ground, safe, had a place to sleep, had a hangar for the airplane, and there were no missions pending in our region. "Let's give it a try anyway," we thought. Oh, and by the way, the weather was supposed to move in, which may have delayed our departure by another day or two. "Let's try anyway." We went.

Between our departure point and home were some significant hills where the weather liked to hang out and make the environment very difficult to get through. On this day, we could not climb up because of freezing conditions. It was through or nothing. We talked about our options should we encounter really bad ceilings and we established a point of no return. It had come to

that point in the flight and the weather was not great. We continued to dodge around low ceilings and, with the aid of the map, managed to find a couple of low-level routes. We hoped the Allies were not out using the same low-level routes for their training. The Notams were checked. I'm glad our crew could still read a map — you never know when you will need it.

It was at this point when we got sucked in for the first time. The bad weather was forecast to continue for the next two days. The conditions improved to marginal and we continued. It was also at this point when the crew began to second-guess ourselves and to question the decisions we had made. I think it was more or less just voicing our opinion. We continued. The weather opened up briefly, we flew into it and, as luck would have it, it closed back in on us. We slowed down; every crewmember had their eyes



out looking for the rock walls on either side and trying to look ahead at the same time so as not to fly into the rock ahead!

We came to a point in our flight where we were in a hover; we could not go up, we could not go around the hills on either side, and we had a set of power lines in front of us that we could not decide whether to go over or under. We could not cross over the hydro tower because the top of it was in cloud. We briefly tried under it, but quickly abandoned that option. With eyes peering out in every direction, we managed to ease our way over the hydro lines and settle back to a more comfortable hover over the water with adequate references. At this point, we then thought we could make the shore and possibly hover taxi up the coast to a local airport. That idea was quickly abandoned and a field beside a small town looked very inviting. The aircraft was landed safely and

preparations were made to stay the night. Oh, and by the way, we could not go back because the weather had moved into our departure point; that, and not having enough fuel to go anywhere but down, made our decision an easy one.

The next day, the weather had improved. We were able to take off, make our way to the local airport and refuel, ready to try and make our way home once again. After refueling, the weather was checked and we started off across the mouth of the St. Lawrence. The ceiling wasn't great, but it was VFR. The weather and low ceilings would not allow us to make it all the way that day either. The town where we had chosen to stay the second night did not have an airport close by. We could have landed at the airport, refueled and taken a cab into town. This was a twenty to thirty minute drive. The airport was open when we flew by, but they were expecting some weather later on. We chose to

fly by. Do you know what happened? Yea, Mother Nature gave us a chance to be swallowed again and we took it. We could not make it into the town where we would normally leave the airplane but, instead, we had to leave her in a graveyard.

As luck would have it, the hills around the town had trapped all kinds of clouds, which created low visibility and would not allow us to get by them. We couldn't go up because of the freezing level and we couldn't go back because of that weather we had been warned about earlier in the flight. Not once, but twice, in as many days.

The next day, we were launched on a search in the same area for a lost boat with three crewmembers onboard. This was operational now; it went very well! We certainly had lots of practice flying in poor visibility with low ceilings. But, did we really need that kind of experience? ♦

Master Corporal Smit



DON'T

Forget The

Details

Summer had arrived ending the long monotony of an east coast spring. It was cross-country season at last. For our squadron, the chance to fly the Sea King outside the role of naval support rested solely in these warm months. We were anxious to go, to say the least.

We started early, arriving at the squadron by 0700 in an effort to get a jump on our long journey to the northern peninsula of Newfoundland. Myself and the other pilot were both newly appointed aircraft captains and it was our intention to split the legs for the right seat. We beamed with newfound freedom; we had our own bird and the responsibility as a crew to take it safely to the small town that was our destination. We felt invulnerable, but we had been given enough rope to hang ourselves, and later that day we almost did.

The weather in Shearwater was overcast at around two thousand feet and the visibility was good. Our first leg would take us approximately 175 nautical miles northeast to the city of Sydney, where we would land, refuel, and quickly check the weather without shutting down. We got away on time without any problems and were suitably proud that no detail had escaped our thorough planning. We arrived in Sydney an hour and fifteen minutes later, blessed with a bit of a tailwind. The ceiling had dropped to about a thousand feet in Sydney and the visibility had also dropped a little, but we were as yet undaunted. To a Sea King pilot, a low level flight over water was commonplace, and the visibility was still a good five miles anyway. I stayed in the aircraft in Sydney while my colleague, the captain for this leg of the trip, ran inside to check the weather. By the time he returned,

the aircraft had been fuelled and we were anxious to get on our way. I asked about the weather at our next stop, Gander, and the captain informed me that it was about the same as current conditions in Sydney. Satisfied, we departed Sydney on our two hundred mile leg across the open ocean to Gander, and forgot one crucial piece of information.

The ceiling gradually decreased as we proceeded towards the mainland of Newfoundland. Accustomed to localized weather phenomena over the cold ocean waters and reassured by the acceptable conditions at our destination, we pressed on. Visibility dropped around a hundred and fifty miles out and for the first time we realized that the weather we were experiencing was well beyond a localized condition. The crew began to show the first signs of concern and we quickly discussed options. Our tail wind



had become a curse; we didn't have the fuel to return to Sydney. We elected to press on in less than VFR conditions now, in hopes of encountering the clearer weather for Gander. The jagged, massive cliffs of Newfoundland's southwest shore were less than ten miles ahead and by now we could see nothing ahead of us in fog and rain showers. We elected to climb, hoping to break through the weather above while at the same time attaining a safe sector altitude to protect us from the cliffs ahead. Reaching sector altitude, we were still in cloud, and running out of options. Now IFR, without a clearance or the legal fuel to proceed, we desperately sought to contact Gander Centre for control and to declare a low fuel emergency. After several minutes of unsuccessfully trying to gain communications with Gander Centre, we thought of a last option. The French islands of St. Pierre and Miquelon were within range and

had often been used by our helicopters traversing the distance between Nova Scotia and Newfoundland. The islands weren't exactly enroute but a safe landing loomed foremost in our minds at this point. In moments we had the aircraft turned towards the islands.

I set St. Pierre's terminal frequency in the radio and made the call. St. Pierre responded immediately and we breathed a collective sigh of relief in the cockpit. As we planned our arrival in St. Pierre, I asked for the latest weather. Doom revisited the cockpit as the controller advised me that St. Pierre's weather was down to a one hundred foot ceiling and one quarter mile visibility in fog. This had been the crucial piece of information we had neglected to obtain in Sydney. In our haste, we had forgotten to check the weather at the only aerodrome between Nova Scotia and Newfoundland, and now we were experiencing it first hand.

Out of options, we realized that Gander was still our only chance for a safe recovery. Turning the aircraft once again, I headed for Gander's Tacan. Still unable to establish communications, we transmitted in the blind and were preparing to adjust the code in the transponder to squawk an emergency when we saw land below us through a break in the clouds. I plunged through the hole towards the tundra in an effort to stay visual and possibly perform a landing in the barren Newfoundland wilderness. Within three hundred feet of the ground, we found the cloud ceiling. The visibility was approximately three miles and the terrain was fairly flat now with the massive cliffs behind us. At a reduced speed and within sight of the ground, we crawled towards Gander. Within ten miles the weather opened up, as our hard copy depicted, and we settled onto the ramp minutes later. This time when we shut down, we didn't forget any details. ♦

WHO

Do We Land

First?

It was early November 1988 in Iqaluit. Our mission was to provide CF-18 aircraft to test the then new North Warning System (NWS) FPS-117 radar that had replaced the old Dew Line Early Warning sites. As a part of the advance party our role was to ensure all administrative support and aircraft arrestor systems were ready to support the fighter Operations that would take place over the next three weeks. A dedicated CC-135 tanker would also support this mission.

The advance party was a mixed bag consisting of one Air Weapons Control (AWC) officer, three MWO/WO's Refrigeration and Mechanical (RM) techs, three Military Police, fire fighters and a photographer. The role of this team was to support the operations of the three CF-18's assigned to the task.

Three days after the arrival of the advance party the CF-18's arrived ready to commence the testing of the new, state of the art, NWS. As can be imagined, this created quite a bit of excitement in the town of Iqaluit. It is not every day that they have this much activity there.

On the sixth day of the operation all was going well. Two of the F-18's had been airborne for approximately three hours. Through constant contact with the Canadian NORAD region in North Bay, it was confirmed that the fighters had completed two runs and were about to come off tanker for the final set of tests against the NWS. In the middle of this seemingly smooth operation a distinctive "Mayday, Mayday" was heard on the Guard frequency. Immediately the adrenaline in the tiny Ops section started to flow. Is it one of ours? The tower was quick to answer the distress, which was eagerly monitored by us in the Ops Centre. Through monitoring the radio transmissions over the next few seconds, we were able to determine that it was not one of ours. The pilot in the distressed aircraft stated that he was a ?C-135 enroute to San Diego. When asked to repeat, the tower confirmed that they had heard EC-135. The EC-135 is an electronic countermeasures version of the tanker aircraft. The pilot went on to explain that he was declaring an in-flight emergency due to an explosive decompression. He was not able to determine the extent of his damage, but confirmed that he did have a fatality as a result.

Upon hearing the transmissions, our assistance was offered to the tower and as it was a Military Flight of an "EC-135" the tower personnel agreed that we, the CF personnel in place there, should handle the situation. Immediately our senior MWO was dispatched to the tower to act as an advisor and as the stand-in OSCER (On Scene Controller Emergency Response). When communications could be established directly with the distressed aircraft, details of crew size, intentions, and severity of damage were sought. Also, it was made clear to the pilot that there were military personnel including Fire Fighters and Security personnel on site that would respond to their arrival. The intention was to try and put the crew at ease as much as possible by assuring them that personnel somewhat familiar with their CFR (crash, fire, rescue) capability and security requirements were available to them. Several minutes went by as the aircraft dumped fuel in preparation for landing. In the meantime, coordination of medical personnel, accommodations, and winter clothing was initiated with the local authorities.



During all of this unexpected activity the CF-18's and the CC-135 had continued with their mission and were about ready to recover. They had been in contact with North Bay and were aware that there was a situation developing in Iqaluit, but not of all the details. Upon further investigation and coordination with North Bay it was discovered that the CF-18/CC-135 package would be ready to land about 15 minutes after the distressed aircraft. This created further problems due to the fact that there was a risk that the distressed aircraft could potentially crash on the runway and render it useless for the inbound package. It was decision time. Who do we land first? On further consultation with the distressed aircraft, now approaching final, it was determined that they had full control of their aircraft and did not expect further problems on landing. As a result of this, it was decided to allow the distressed aircraft to land first and then the remaining package. The risk here was increased by the fact that the weather had closed in and there was no alternate for the package.

Within minutes the distressed aircraft was on the ground and landed without further incident followed by the CF-18/CC-135 package. On observation of the aircraft, I discovered that it was a KC-135 (Stratotanker) and not an EC-135 as passed by the tower. There was no visible damage to the aircraft except a dark stain stretching from the cockpit to the tail, which turned out to be blood from a member of the crew that had been sucked out through an opening in the top of the aircraft. On the discovery of the aircraft type, the preparations for security could be relaxed in favour of assistance for the crew.

Local medical personnel now came to assistance in providing medical services to the crew of the disabled tanker and to procure the appropriate body fluid samples from the surviving crew. At the same time, the aircraft was secured to preserve it for the investigation that would follow. In the end, it was discovered that the celestial observation window on the port side of the aircraft had broken as the Boom Operator was preparing to take a sextant fix. The upper portion of the airman's body was immediately sucked out through the opening and resulted in his death.

As a then young Captain, I learned many very valuable lessons from this experience. Not the least of which, was the importance of depending on the vast amounts of expertise available from the personnel assigned to my mission. On another aspect, I had learned that it was extremely important to be able to weigh the consequences of the decisions to be made with respect to the risk of landing the emergency aircraft before the others or vice-versa. The other amazing fact was the willingness and abilities of the community to come to the aid of those in need. Within minutes enough winter clothing and supplies were provided to take care of the entire crew of the KC-135. Additionally, through trial by fire, I had learned the importance of proper handling of personnel and materials in an emergency situation, which ranged from media personnel to medical personnel for evidence gathering as well as the importance of preserving the physical evidence for the incident investigation. ♦

Captain Paul

"DON'T Worry About It!"



In January 1988, 450 Squadron was deployed to CFB Valcartier for support operations. This was my first deployment in the Airforce, and I was an unqualified TQ-3 CRS Technician who had recently remustered from the heavy radar trade. As I was not yet fully qualified, they decided to take me along for the ride to gain experience and to help out wherever I could.

The weather was very cold for the entire deployment, -40°C with winds! One of our Chinook helicopters developed a left-hand engine problem and was declared unserviceable. The time that it would take to replace the engine part was deemed to be approximately two hours and there were no hanger facilities to carry out the repair. A plan was devised to acquire a Herman Nelson heater and enough hose to reach up to the technician to keep him warm while he fixed the engine snag. Due to the position of the part being replaced, the technician had to work with his coat and gloves off. The plan called for one technician to man the Herman Nelson, one man to hold the heater hose on the technician doing the fix, and one man for

rotation, as the temperature and wind were extreme. Due to the wind, the technician in charge of the Herman Nelson positioned the heater unit at the base of the Chinook ramp and directly under the APU area.

We started to fix the snag and everything was going smoothly. I came down from holding the heater hose on the technician for my break and I decided to stay outside with the boys as the Herman Nelson heater was running low on fuel and would have to be refilled shortly. I thought this would be a good opportunity to learn something new.

The heater ran out of gas, and now it was time for Corporal Bloggins to train me in the refueling techniques for the heater unit. He went and retrieved a metal Gerry-can full of fuel — full to the very top lip. As he was unscrewing the cap to pour the fuel into the heater gas tank, he explained to me that the rules stated that you should wait at least fifteen minutes for the heater element to cool down before refueling as the fuel could splash over and start a fire. I thought about this for a moment while watching him raise the Gerry-can up to pour it in the tank. “Shouldn’t you wait 15 minutes

like you just told me?” I asked him. “Don’t worry about it,” he replied.

As he began pouring the fuel in the tank (without a spout), the fuel splashed and a fire started instantly. The Gerry-can was ignited along with the fuel in the Herman Nelson. The flames reached up all the way to the APU and covered the ground around the heater. My “instructor” ran about five feet and tossed the Gerry-can full of fuel down the tarmac towards the hangar. Being very cold and slippery, the Gerry-can spun for about 100 yards, making perfect little fire circles all the way towards the hangar. As for the technician fixing the engine and myself, we pulled the heater away from the aircraft. An alert technician that was working in the cockpit noticed what had happened, and extinguished the fire at the base of the ramp.

The only damage that was sustained was to the gloves and coats of myself and the other technician that pulled the Herman Nelson away from the aircraft. I guess a good time to start worrying about things is when someone says, “don’t worry about it!” ♦

Sergeant Teather

How Not To Cool Your Cola

It was my third day on the ground at Prince Sultan Airbase in Saudi Arabia where I was deployed as a First Sergeant with Airborne Warning and Control System (AWACS) out of Tinker Air Force Base, Oklahoma. I was accompanying the Detachment Commander (DETCO) on an afternoon tour of all the AWACS resources and we were finishing up our tour at the AWACS maintenance facilities. We spent some time with the Maintenance Officer and the Chief, discussing their concerns and introducing ourselves to all the maintainers and support personnel, basically getting a feel for the folks we'd be spending the next few months with supporting Operation Northern Watch.

The Chief took the opportunity to ask my support in helping him solve a problem bothering him and proceeded to tell me a rather interesting story about an incident that had happened earlier that day when

they recovered the E-3 AWACS. It seemed that one of his maintainers had a near miss with a very cold can of Coke that fell from the E-3 as the rear entry door was opened. He stated that this particular aircraft had been having problems with the refrigerator and the troops were putting their sodas in behind the door seals to cool them while flying. I later asked a few of the more seasoned aircrew members about this and they told me that this was a tried-and-true method for cooling beverages and apparently was a practice that had been handed down through the E-3 flying community for years. They said they used the practice because the fridges on the aircraft were sometimes inoperable or, when working, would freeze your soda. The consensus amongst the troops was that putting a Coke or Dr. Pepper behind the seal cooled the can to the "perfect consumption temperature." One lad even went so far as to say that there was no better way to enjoy a soda.

The problem with this practice was that some folks were forgetting their sodas in the door seals. When the ground crew was recovering the aircraft, anyone standing under the rear of the aircraft ran the risk of being struck by a falling can when the door was opened. I discussed the scenario with the DETCO and found that this practice had been outlawed many years prior as some ground crew personnel had been seriously injured when struck by soda cans falling from the E-3's door seals. The other significant possibility was that should one of these renegade soda cans go unnoticed, it could become a rather formidable piece of Foreign Obstacle Damage (FOD).

We promised the maintainers that we'd correct the problem and the DETCO personally attended to the next few steps. He also arranged briefs ensuring that all of our crews understood that this practice was outlawed — closing with a commitment to secure coolers for crew use. ♦

Master Warrant Officer Nesbitt



EPILOGUE

TYPE: CH139 JET RANGER 139312

LOCATION: Southport, MB

DATE: 29 October 1999

The crew departed Southport at 1445Z on a Clearhood 7 mission. The lesson plan for this flight focused on circuit work, with the student flying most of the sequences himself for the first time. On arrival into the training area the instructor demonstrated a circuit pattern and approach to a hover. He then had the student perform the same manoeuvre. Once back into the hover, at approximately four feet above ground, the instructor asked the student to prepare to return to the base. While conducting a 180° clearing turn the student experienced some difficulty maintaining a steady hover. As the clearing turn placed the aircraft in a downwind position, he allowed the wind to lift the tail of the helicopter. The student overcompensated with aft cyclic which resulted in some rearward motion of the aircraft, as well as a corresponding drop in the tail. While concentrating on correcting his error he allowed the helicopter to descend slightly from the four-foot hover height. He attempted to regain his height by lowering the collective slightly; this only aggravated the situation. Thinking that his first correction was not sufficient, the student lowered the collective more aggressively, resulting in the aircraft hitting the ground. This sequence of events occurred over a very short period of time. The instructor initially allowed the student to correct his faulty collective application and was anticipating the second collective input to be in the upward direction. Following the student's second downward collective input, the instructor did not have sufficient time to prevent ground impact.



The investigation revealed that the student was likely affected by the "control reversal" phenomenon due to his recent conversion from fixed to rotary wing aircraft. It was therefore recommended that common errors associated with "review work", like control reversal, be included in the "tips to instructors" section of the lesson plans. These sections should also remind instructors that even more advanced students can revert to ab-initio behaviour with little warning. FIS should also put more emphasis on this type of errors in their instruction (classroom and in flight) and round table discussions and remind instructors to more closely guard the controls during review work. ♦



FROM THE INVESTIGATOR

TYPE: CC-115 SAR Tech Serious Injury

LOCATION: Midway, BC

DATE: 9 August 2001

The accident crew departed 19 Wing Comox at approximately 0900 hrs with a plan to conduct SAR training at the Midway airport.

A bundle drop went as planned, except that one of the bundles landed in the middle of the runway. Although there was a bare minimum of unobstructed runway available for the Buffalo to land on safely, the crew decided to dispatch the SAR Techs to clear away the bundle.

The weather at the time of the jump was Sky Condition Clear, wind 2-3 kts, and temperature 31°C. The elevation at Midway is 1896 feet ASL.

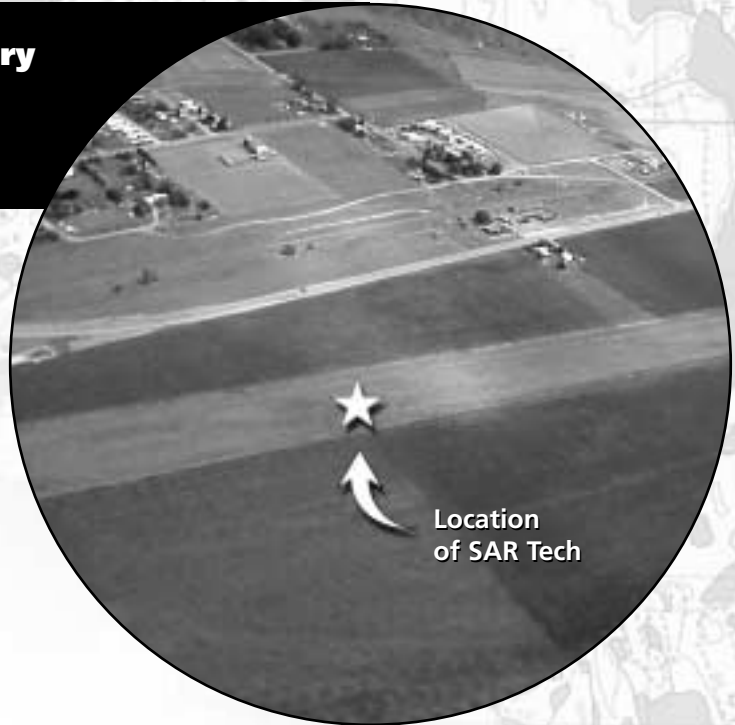
The Team Member exited the aircraft first, followed by the Team Lead, for a planned crosswind pattern to the drop zone.

From an altitude of approximately 500 feet AGL, the Team Lead observed the Team Member hit the ground feet first, fall back on his buttocks, and then lay, unmoving, on the ground. As the Team Member complained of pain in his back and was unable to raise himself, the Team Lead directed the Team Member to lay still and await further assistance.

An ambulance arrived on scene within 15 minutes of the accident. The ambulance crew stabilized the Team Member and placed him in a back brace.

The Buffalo landed once the Team Member was clear of the runway. The Team Member was loaded on board and then flown to 19 Wing Comox where he was examined at the local hospital. He was later transferred by CH-113 to Vancouver General Hospital's Spinal Centre.

The accident is under investigation. ♦



FROM THE INVESTIGATOR

TYPE: Bellanca Scout C-GXAC

LOCATION: Markham, Ontario

DATE: 9 June 2001

The aircraft was being flown in support of the Central Region Spring Familiarisation Flying Program at the Markham Airport east of Toronto. On the morning of the accident, one of the local Cadet Squadrons scheduled for the familiarisation flights was unable to participate. The site supervisor took this opportunity to allow staff members to increase their flying experience and allowed them to remain airborne for as long as they could. With both gliders in the air, the tow aircraft could be used for staff familiarisation flights.



On landing from one of the staff familiarisation flights, the tow aircraft was observed to “sink to the ground” from a height of ten to fifteen feet and landed harder than normal. On touch-down the left landing gear broke at the fuselage attachment point and was dragged along the runway by the stainless steel brake line. The aircraft exited the paved surface of the runway on the left side, 400 feet from the threshold and came to rest on the left wingtip. The pilot and passenger exited the aircraft normally uninjured. The local emergency response personnel responded to the “911” call from the Emergency Response Officer (ERO) and secured the site.

The aircraft received B Category damage. The landing gear leg broke at the bend adjacent to the fuselage. The left main wheel first pivoted upward and contacted the windscreen, fracturing it and then pivoted down and aft rupturing the fabric cover of the fuselage and the side window. The landing

gear was then dragged along the runway by the stainless steel brake line causing severe damage to the left brake master cylinder mounted on the left rudder pedal. The left wing tip contacted the runway surface causing damage to the “spade” (an aerodynamic balancing device for the aileron) and to the underside of the wingtip. The propeller contacted the soft ground three times after the aircraft left the runway resulting in two bent tips.

The investigation is focussing on the failure mode of the broken landing gear and on the landing technique used by the pilot. ♦



FROM THE INVESTIGATOR

TYPE: Cessna L-19 (C305) C-GRGS

LOCATION: Campbell River, BC

DATE: 17 June 2001

The aircraft was being flown in support of the Tow Pilot Conversion Course at 19 Wing Comox. On the day of the accident, the student and instructor performed some circuit work at Comox before proceeding to the Campbell River airport for circuit work at a less familiar airfield.

On the third landing on runway 29 at Campbell River, the aircraft experienced a "ground loop" and exited the paved surface on the right. The aircraft came to rest on its nose slightly off the pavement, 500 feet from the threshold. The crew exited the aircraft through the main door and were uninjured.

The Flight Service Station (FSS) operator immediately called in emergency response vehicles from the city of Campbell River. The initial response team from the city secured the site, took pictures and then moved the aircraft away from the site in order to reopen the runway.

The crew returned to Comox by road approximately four hours after the accident.

The aircraft received B Category damage. The left landing gear leg and wheel were damaged when the aircraft bounced up and landed sideways on the runway. The landing gear leg was bent inward allowing the wheel hub to make contact with the ground. There



was also extensive structural damage to the landing gear attachment points inside the fuselage. The left wingtip and the nose areas were damaged when the aircraft came to rest on its nose.

The investigation is focussing on the landing technique used by the pilot. ♦



MAINTAINER'S CORNER

Air Weapons Safety; A Vital Link in the Flight



Air Weapons Safety is not new to the Canadian Forces or to the Flight Safety Program. However, some people seem unaware of what is included in the Flight Safety Program under the banner “armament.” This article will try to explain why the Program was introduced, how relevant it still is, and what is included in armament or air weapons.

First, a little bit of history to understand how the Air Weapons Safety Program was born. In the good old days (i.e. the Korean war era) there were no such things as designated areas or minimum

quantity-distance for loaded/armed aircraft. Aircraft were parked wing-tip to wing-tip and bombs were piled in pyramids around the airfield. When an accident occurred (and it did regularly), the ensuing explosion would destroy most of the aircraft and the airfield. Because of the enormous loss of lives and resources caused by these accidents, many countries pooled their experience and expertise, and developed standards, such as minimum quantity-distance for loaded aircraft and minimum building requirements for explosive storage facilities, that are still

in use today. These rules, regulations and standards regulating air weapons and explosives operations are used, not only by Canada, but by its Allies as well.

Second, although we haven't lost a life because of an accident involving air weapons in many years, the program is still relevant and extremely important. It may even be more important, now that we are slowly losing our core armament expertise. And, with an average of 236 incidents involving air weapons a year the potential for one of these to turn into an accident is always present. The only way to defuse the

risk is to ensure the Air Weapons Safety Program is alive, well, and embraced by the units who have to deal with air weapons.

And thirdly, it is important to clarify what we mean by “Air Weapons” in the Flight Safety Information System (FSIS). Air Weapons are any ammunition, explosives and/or pyrotechnics suspended, launched, released or fired from an aircraft in support of the mission being flown. It is also any store (non-explosive items) that interfaces with the aircraft's armament system. In other words it means, in addition to your typical bombs, missiles, and torpedoes, the flares, pyrotechnics and SKADs carried for a SAR mission; chaff and flares on ECM mission; external fuel tanks that are being loaded and unloaded (but not the ones in storage or maintenance); sonobuoys that are part of the mission kit; airborne targets and banners; armament computers; etc. This applies for live or training weapons. However, aircraft fire detection and extinguishing systems, ejection and escape explosive charges, SMDC lines and aircraft hoisting systems are not considered Air Weapons. Although they all contain explosives, they do not interface with the armament system and are not considered Air Weapons.

As mentioned above, the Air Weapons Safety Program is part of the Flight Safety Program. However, it is the responsibility of the WFSO and UFSO to put in place a program

GOOD SHOW

CORPORAL RENÉ PAQUET

On 8 April 1997, Corporal Paquet was tasked to carry out a before-flight ("B") check on aircraft CC130319 and CC130320. During his checks, he noticed that some bolts on the rudder boost pack of the aircraft appeared to be installed incorrectly. Some bolts were installed head up, while others were installed head down. The technical manual specifies that all bolts be installed with the bolt head up in order to prevent gouging of the arm assembly.

Corporal Paquet took it upon himself to inspect six additional aircraft and found that all six had similar discrepancies. He immediately informed his supervisor of these findings and requested to continue investigating. Upon further investigation, he discovered a further inconsistency on two rudder boost control valve support links. Not only were the bolts installed in direct contradiction to the CFTO's, but support links on two aircraft were also missing cotter pins at the attaching nut. Investigating supply for spare components, he found a third unit marked serviceable with the same problem.

Left undetected, this missing cotter pin could have caused the castellated nut to loosen, fall off, and cause the control valve support link to free-float, resulting in a loss of rudder control. As a result of this investigation, a fleet Special Inspection (SI) was carried out with more occurrences found and rectified.

Corporal Paquet is highly commended for his professionalism and attention to detail. His two findings averted a potentially disastrous flight occurrence that could have seriously endangered both aircrew and aircraft. ♦



Safety Chain

that fits their unit's operations. Naturally a fighter unit will not have the same weapons safety concerns as a SAR Squadron. But, in each case, the personnel working at these units (AVN, AVS, Supply and Traffic Techs, RMS [Resource Management Support] clerks, aircrew, bowser drivers, etc.) need to be aware of what type of explosives and weapons they may be in contact with during their daily work and on the procedures to follow in case of an accident or incident. Also, the crews have to be aware of emergency procedures involving explosives they carry aboard; they need to know what to do if a flare spills its content on the aircraft floor. That is why units are directed to conduct annual air weapons safety awareness training. This type of training ensures personnel will receive the necessary knowledge to perform their duty safely and effectively.

It is irresponsible to think that because we haven't had a serious incident involving air weapons for a long time that we are immune. It may be important to remember that the rules governing air weapons operations are written in blood. Don't let it be yours. ♦

By Sergeant Anne Gale, DFS 2-5-4

Ref: A-GA-135-001/AA-001
B-GA-297-001/TS-000

Do you have any ideas for future articles? Do not hesitate to send them to DFS for submission, care of Sgt Anne Gale, DFS 2-5-4, via e-mail (Intranet or Internet at Gale.ML@forces.ca) or regular mail.

CORPORAL FRANK CUSSON

On 18 July 2000, Corporal Cusson was tasked to carry out periodic inspection card AF-82 on Hercules aircraft #307. While performing the survey of the center wing box beam, he discovered that the PRC applied in this area was cracked and had separated. He continued to investigate by removing the PRC. This revealed two major cracks on the under wing attachment angle, both on the left-hand and right-hand sides. He then requested Non-Destructive Testing to confirm the length of the cracks. One was found to be a total length of six inches, while the other one was two inches. A survey was then conducted on aircrafts #306, #308, and #317, which also confirmed cracks of varying sizes and lengths.



As a result of this survey, Director General Aerospace Equipment Program Management (DGAEPM) and contractor engineering staff recommended a fleet-wide special investigation be carried out. This resulted in numerous drag angle cracks found within the fleet. Corporal Cusson's professionalism and meticulous attention to detail led to this serious discovery, and his diligence and pursuance in investigating possible damage averted progressive damage within the CC130-Hercules fleet. ♦

FOR PROFESSIONALISM

CORPORAL ALLAN UPSHALL

Corporal Upshall was tasked with carrying out a pre-flight inspection prior to a Search and Rescue (SAR) continuation-training flight. While inspecting the #1 engine compartment as per the Aircraft Operating Instructions (AOI's), he noticed what appeared to be a loose sensor line from the flow divider to the fuel control unit (FCU). The aircraft was declared unserviceable in order to rectify this problem.

Upon further investigation, it was discovered that the fitting on the line was tight, but it was not seated correctly and thus was loose in the nut. Maintenance records also revealed that the flow divider in question had been changed the night before. If the aircraft had been started, fuel under pressure would have been sprayed into the engine area crating an extremely hazardous situation.

Corporal Upshall's in-depth technical knowledge and keen eye while inspecting a component not called for in the pre-flight checklist surely prevented a serious engine fire on start-up or, worse, an



engine fire while airborne. Due to Corporal Upshall's actions, a potentially dangerous accident was averted and losses of human life and aviation resources were saved. ♦

CORPORAL JAMIE SHEWAGA

On 17 March 2000, Corporal Shewaga, an aviation (AVN) technician at 8 Air Movement Squadron, was surveying an area above the CC130-Hercules cargo ramp during a routine periodic maintenance inspection. When inspecting the elevator boost pack horn and pushrod, he discovered slight



scuffmarks on the pushrod. Inspection of the area led him to a wire bundle in the vicinity. Investigating further, he determined that when the elevator was moved, the wire bundle chafed against the boost pack horn and pushrod. The wire bundle was verified as part of the autopilot system.

Although the wire shielding had not chafed through, the potential existed for a serious flight safety incident. The location of this wiring precludes easy examination making Corporal Shewaga's findings extraordinary. A quick survey of all the Avionics Up-Grade (AUP) modified Hercules aircraft on the Wing determined the problem to be AUP-fleet-wide and rerouting of the wire bundle was necessary to alleviate any future incidents.

Corporal Shewaga's alertness and dedication to his duties were instrumental in preventing a serious air incident. He is to be commended for his professionalism and dedication that led to this discovery of a wire routing problem not even associated with his own trade. ♦

FOR PROFESSIONALISM

CORPORAL ROD McCULLOCH
CORPORAL GARY MARCHAND



While stationed in Bosnia, Corporal McCulloch had been tasked to install a drive link assembly on Griffon aircraft #146482. During the installation, he noticed that the opposite drive link had been installed improperly. After finalizing the initial installation, he then proceeded to inspect the opposite drive link assembly. His investigation revealed that a bushing used during the installation had been installed on the outer side of the rephasing lever. He immediately summoned his supervisor.

Corporal Marchand was tasked to repair the discrepancy on the opposite drive link. During the removal phase, he used a torque wrench and noticed that a force greater than 300 inch-pounds was required to break loose the bolt that secured the drive link to the rephasing lever. This bolt should have been torqued to 165 inch-pounds. He also noticed that this over-torque, combined with the bushing being installed on the wrong side of the lever, caused the mounting lugs to bend inward by approximately 1/8 inch.

This situation had gone undetected for approximately six months. Premature failure of the rephasing lever could have resulted in a partial loss of main rotor control in flight. As Bosnia-Herzegovina is an inherently hazardous area due to extensive mining, it is a dangerous situation when an aircraft must land outside of approved landing zones. Due to Corporal Marchand's and Corporal McCulloch's professionalism and attention to detail, further damage to the aircraft and a possible serious accident was prevented. ♦

CORPORAL SYLVAIN GAGNÉ

Corporal Gagné is an Aviation Technician employed in the Snag/Service section at 425 Tactical Fighter Squadron (TFS). After aircraft CF188752 had completed a flight, Corporal Gagné was designated to carry out an after-flight ("A" check) inspection. During this check, while he was in the vicinity of the engine inspecting the right rudder, he stepped on panel 70 and noticed a strange sound coming from that area.

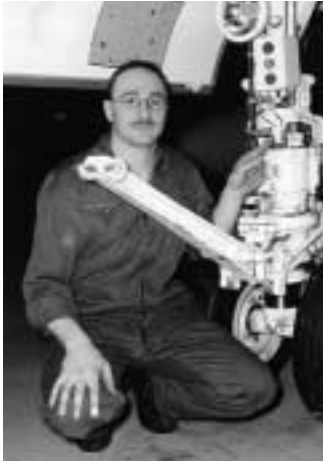
Curious and concerned with the origin of the noise, Corporal Gagné immediately removed the panel he had stepped on and found that the expandable pin was incorrectly installed. This caused it to rub against the panel 70's vertical bracket damaging it to the point where it had to be repaired by the local workshop. His discovery and initiative led to a flight safety investigation. A local special inspection revealed that other

aircraft had the same problem. The Life Cycle Maintenance Manager (LCMM), when informed, ordered a national special inspection. Without Corporal Gagné's vigilance, the pin could have caused more damage, leading to a very serious emergency.



The professionalism and attention to small details displayed by Corporal Gagné certainly contributed to the elimination of a serious threat to the flight safety of this aircraft which, given time, could have had disastrous consequences. ♦

CORPORAL STEEVE ANTONNACI



Corporal Antonnaci is an Aviation Technician employed in second line periodic maintenance at 425 Tactical Fighter Squadron (TFS). While Corporal Antonnaci was inspecting the nose landing gear assembly, he noticed that there was no sealing compound around the rotary variable differential transducer (RVDT).

Curious and concerned about the situation, Corporal Antonnaci decided to push his investigation, and, even though a special inspection (SN-408) was done on that piece of equipment in January 1999, he decided to remove the

transmitter. This preventive action led to the discovery of water infiltration inside the system. Water infiltration inside the RVDT will cause problems to the nose-wheel steering, especially during winter. His discovery and initiative led to a flight safety investigation. After being made aware of the problem, the life cycle maintenance manager (LCMM) will add a new inspection card to the periodic card deck to ensure that this piece of equipment is inspected regularly. Another request will be initiated to ensure that this piece of equipment is well sealed after its installation.

Without Corporal Antonnaci's initiative, the problem, if left undetected, could have led to a very serious emergency situation. The professionalism and attention to small detail displayed by Corporal Antonnaci certainly contributed to eliminating a serious threat to the flight safety of this aircraft which under certain conditions could have had disastrous consequences. ♦

CORPORAL GLEN ALLMAN

On 4 November 2000, Corporal Allman, an Aviation Technician, was employed on ASO-1 crew. He was assigned the task of rectifying a recurring anti-ice/de-ice system snag on the #1 propeller on CC130328. He used the aircraft Maintenance Record Set and the ADAM database for his initial research into the history of the problem. These records showed that the propeller had experienced several intermittent problems since October 1997.

Knowing the history of previous snags and the efforts made to rectify them, he began to closely inspect other propeller components for serviceability. First he confirmed that the brush block assembly, which is mounted on the stationary control assembly, and the rings on the contact ring holder assembly were serviceable. Then, he took the additional step of verifying the condition of the propeller blade root de-ice slip-rings, which are normally only inspected during a full propeller tear-down every 5100 to 6000 hours.

Corporal Allman's vigilance, expert systems knowledge, and initiative paid off as, despite the limited access and visibility of the de-ice slip-rings, he discovered that the #4 blade de-ice slip-ring had broken up and the entire brush block was missing. The #1 propeller was immediately replaced and the aircraft returned to service.

This elusive propeller problem could not be duplicated on the ground, making it very difficult to resolve. Corporal Allman's superb technical knowledge and dedication in resolving this problem may have averted an in-flight emergency. ♦



CORPORAL JAMES LAROCQUE

Corporal Larocque was tasked to install vibration analysis equipment on Labrador aircraft #CH11315. During the final area inspection, he identified a black, grease-filled line transmitting along the diagonal bulkhead. Upon further inspection, eight cracks were identified in five different areas of the stiffeners and supports for the power plant oil reservoir and outer skin. The affected areas were obscure, isolated and required a trained eye to detect these hidden



flaws. Should the weakened oil reservoir supports have gone undetected, they would certainly have become displaced during normal vibration, thus starving both power plants of vital lubrication oil.

Corporal Larocque immediately reported his findings to his supervisor and a team of Aircraft Structures (ACS) and Aviation (AVN) technicians subsequently completed the major repair in seven days. Other unit aircraft were inspected serviceable.

A visual inspection of the diagonal bulkhead area is not a routine requirement following installation of vibration analysis equipment. This incident highlights the everyday effort exhibited by Corporal Larocque. His dedication and attention to detail certainly averted a potentially dangerous Flight Safety incident. ♦

Dear Editor,

I read with interest your most recent edition of *Flight Comment* and, in particular, the article titled "This is Stupid." As a C130 navigator, I followed the flight deck crew as they descended on their approach through a series of procedural errors and mistakes which, individually, made the hairs on your neck tingle with alarm but, collectively, did not ring clear until the tower controller provided the "not visual" call. I dare say that most of us can acknowledge the "there, but by the grace of God, go I" phrase as the story unfolded.

However, my review of this flight safety incident came into turbulence when I read that the onboard check navigator "knew this (former Soviet airfields do not appear on civil maps), but he didn't point it out to our junior navigator." The wording of this statement struck me as quite inappropriate and seems to imply that the check navigator had something to hide from the crew as they initially studied the local topography and later proceeded on final approach to an incorrect airfield.

Can you clarify the context of this statement and assure your readers that the series of procedural and common sense errors were committed by the complete crew and were not detected by the check navigator. In this way, your recipe for avoiding a similar situation in the future, which includes the sharing of unique information as an essential element of flight safety and an effective cockpit resource management technique, is clearly understood by all aviators.

Regards,
Colonel J.B. Roeterink
Canadian Forces Adviser

Sir,

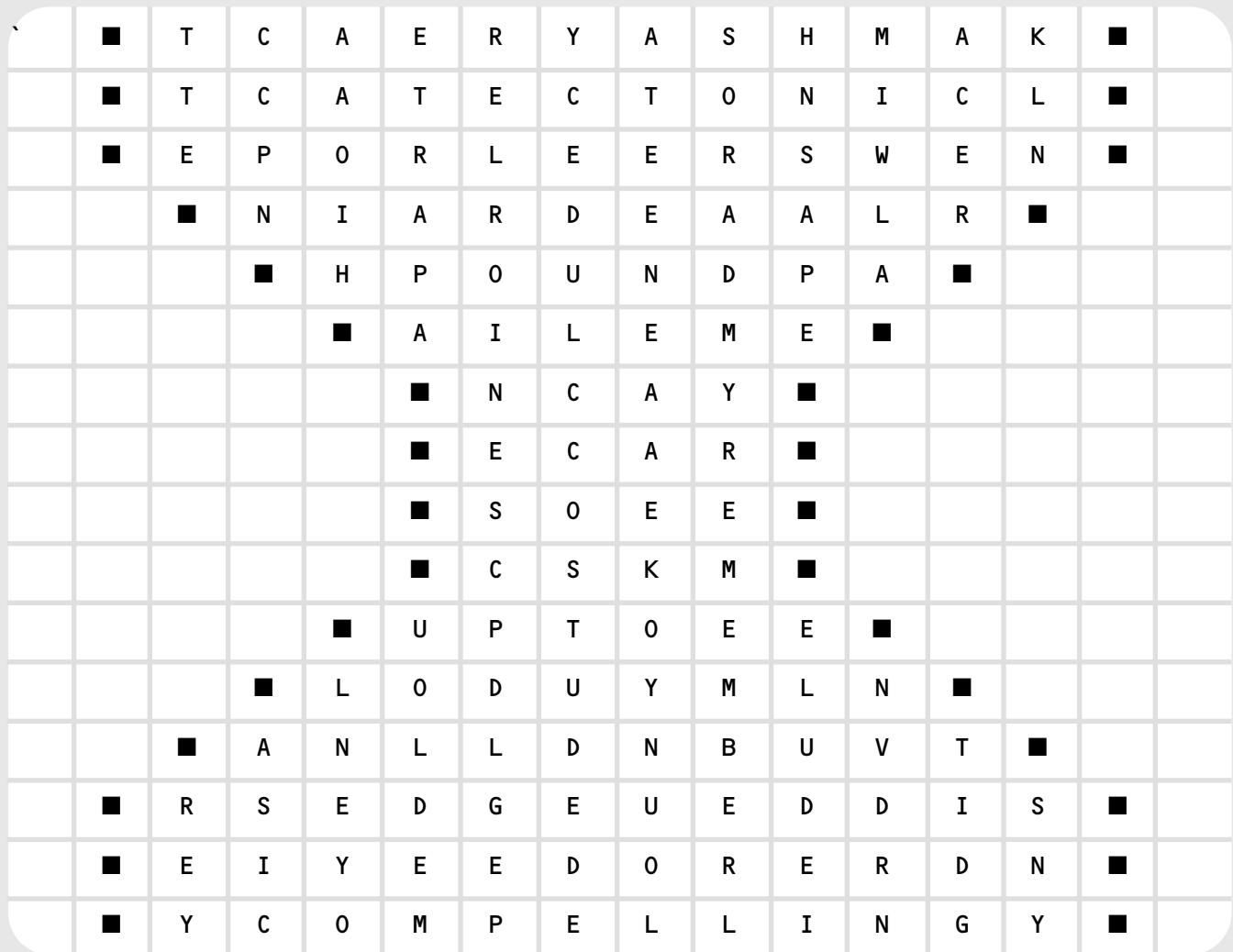
I can think of no better way of assuring my readers that these errors were committed by the complete crew and were not detected by the check navigator than by printing your letter in the "Letters To Editor" column.

Capt. Newman
Editor, Flight Comment

Flight Safety Word Search

By: Captain JJP Commodore

HINT 6 LETTERS "Military's ultimate requirement"



AMPLE
APART
COMPELLING
COST
DRAIN
ELUDE
ENHANCEMENTS
ERODE

KELVIN
MOULDY
MUDDY
NEWSREEL
OCCLUDE
OCULAR

POUND
RACE
REACT
REMEMBER
RESPONSE
ROPE

SCAMP
SEGE
SENIOR
TACT
TECTONIC

UNYOKE
WADE
YASHMAK
YEAR
YIELD



You Can't Rush
Mother Nature...
Why do You
Want to Rush

SNIC Ops?

A DISTURBANCE NORTHEAST WILL TRACK NORTHWARD OVER THE NEXT COUPLE OF DAYS. AHEAD OF THIS SYSTEM STRENGTHENING SOUTHEAST WINDS WILL DEVELOP LATER TODAY. THESE STRONG WINDS COMBINED WITH FRESH SNOWFALL WILL GENERATE BLIZZARD CONDITIONS THIS EVENING. THE BLIZZARD WILL END MONDAY AFTERNOON AS WINDS DIMINISH SOMEWHAT AND THE SNOW TAPERS OFF BLIZZARD CONDITIONS ARE FORECAST TO DEVELOP ACROSS THE REGION THIS EVENING. THIS IS A WARNING THAT BLIZZARD CONDITIONS ARE IMMINENT OR OCCURRING IN THESE REGIONS. MONITOR WEATHER CONDITIONS. LISTEN FOR UPDATED STATEMENTS.

Mère nature
prend son temps...
Pourquoi presser
le personnel du

SCNMG?

UNE PERTURBATION AU NORD-EST SE DEPLACERA VERS LE NORD AU COURS DES DEUX PROCHAINS JOURS. A L'AVANT DE CE SYSTEME DES VENTS PLUS FORTS DU SUD-EST SE LEVERONT PLUS TARD AUJOURD HUI. CES VENTS FORTS COMBINES A LA NOUVELLE NEIGE PRODUIRONT DU BLIZZARD CE SOIR. LE BLIZZARD PRENDRA FIN LUNDI APRES-MIDI ALORS QUE LES VENTS TOMBERONT QUELQUE PEU ET QUE LA NEIGE DIMINUERA PROGRESSIVEMENT. CECI EST UN AVERTISSEMENT INDIQUANT QUE DES CONDITION DE BLIZZARD SONT SUR LE POINT D AFFECTER OU AFFECTENT DEJA CES REGIONS. VEUILLEZ SURVEILLER LES CONDITIONS METEOROLOGIQUES. ET LES MISES A JOUR DE BULLETIN.

