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SUMMER 2002

Flight



Comment

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Canada 

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Printer
Tri-co
Ottawa, Ontario

The Canadian Forces Flight Safety Magazine

Flight Comment is produced 4 times a year by the Directorate of Flight Safety. The contents do not necessarily reflect official policy and unless otherwise stated should not be construed as regulations, orders or directives.

Contributions, comments and criticism are welcome; the promotion of flight safety is best served by disseminating ideas and on-the-job experience. Send submissions to:

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Subscription orders should be directed to:
Publishing Centre, CCG,
Ottawa, Ont. K1A 0S9
Telephone: (613) 956-4800

Annual subscription rate:
for Canada, \$19.95, single issue \$5.50;
for other countries, \$19.95 US.,
single issue \$5.50 US. Prices do not include GST. Payment should be made to Receiver General for Canada. This Publication or its contents may not be reproduced without the editor's approval.

"To contact DFS personnel on an **URGENT** Flight Safety issue, an investigator is available 24 hours a day by dialing 1-888 WARN DFS (927-6337). The DFS web page at www.airforce.dnd.ca/dfs offers other points of contact in the DFS organization."

ISSN 0015-3702
A-JS-000-006/JP-000



A W I L D

Ride

It was just another day at the office. On this summer afternoon, the mission was straightforward. We would fly a local four-plane mission in support of the brigade's artillery regiment. They had recently acquired their new 105mm guns and needed to train their people on slinging them in the low level tactical environment.

We would fly the mission as two sections of two aircraft. Lead would sling while the second aircraft would carry the six-man gun crew. We'd then fly a left-hand circuit, returning the gun to the same position. To maximize our own training, we would conduct a change in lead aircraft and continue alternating until the supported unit was satisfied.

It was our turn to carry passengers for the final circuit. As we trailed lead, flying at approximately

70 knots, the Flight Engineer (FE) called "birds in our flight path." The flying pilot veered sharply to the right while climbing. The nearest bird was seen passing just under my chin bubble on the left side. I conducted an in-flight check of the instruments just to be sure...no problem. Meanwhile, the flying pilot began to accelerate as we had fallen behind. As we encroached on the tree line ahead, he initiated a handsome, climbing, left-hand turn to the downwind portion of our circuit. We were just above the trees when, suddenly, I heard a loud bang and the aircraft yawed aggressively to the right. Immediately the flying pilot handed me control and all I thought was "we must have ingested a bird and lost an engine or perhaps part of the tail rotor." My attention was fixed towards the open ground now at my ten o'clock, expecting to have to carry out a forced landing.

As I levelled the aircraft and checked the rotor RPM, I realized that nothing was wrong...the helicopter was flying!

The right seat had slipped down and back on the rails, causing the bang and the pilots right foot to push the pedals. We continued on with our circuit as I expressed my relief to the crew. When the troops deplaned and we began our taxi to the ramp, I could hear the FE chuckling. Some of the passengers had begun hugging each other. It seemed that I wasn't the only one who had feared the worst.

Having been at the squadron only a few months, what a lesson in communication this had turned out to be! Never assume the other guy knows what is going on... keep up the talk! ♦

Capt Chambers

There I Was

There I was, flying down the Haitian coast on a beautiful Friday morning. The skies were clear and the sun was sparkling on the waters below. I was aboard an Argentinean F-27 transport plane configured to carry about thirty passengers plus crew. As the Canadian Liaison Officer (LO) to the Argentinean contingent, I was required to assist them in the performance of their operations as tasked by the United Nations (UN). This particular morning, to alleviate the workload of the US Chinooks, the F-27 had been tasked with the rotation of twenty-eight Caricom (Caribbean Community) troops plus their equipment and supplies for the camp at Jeremie.

It was to be a routine flight, or so I thought. About five minutes out of Jeremie, I tried to make radio contact with the US Special Forces personnel in the area that were supposed to provide security at the runway. No luck there. The packed shell runway was regularly used by civilian air traffic, so the Aircraft Commander (AC) did not think it would be a problem for us to land there. His main concern was with children running into the path of the aircraft as it was landing. As we approached the runway from the East, we determined that we were flying downwind.

At the time, I was in the cockpit using one of the spare headsets to try to communicate with the ground forces. The cockpit was a bit confined, but not restrictive. The Flight Engineer (FE) sat on a small crew seat, between and behind the pilots, that was pulled out of the bulkhead for takeoff and landings. I was

standing behind the pilot's right seat. The AC flew a teardrop pattern to return to the runway, calling for "flaps" and "gear down" in the turn. I thought that he meant to do a low approach in full landing configuration since there had been no discussion about the landing and this was to be the first landing on this runway for the crew.

The runway was recessed about two meters with tall trees all around and, although it was long enough for the F-27 to land on, it looked awfully short. The AC must have thought the same thing since he further reduced the throttle to increase the approach angle. No one said a word. We cleared the trees fine and the AC began his flare. At that point, we touched down and it felt, in my experience, no harder than a Tutor landing.

About three seconds after landing, the left wing dropped lower than normal and we began to feel a strong vibration. We landed doing approximately 120 knots. As the airspeed reduced through 110 knots, the aircraft began to pull left as the rudder began to lose its effect. At this time, the AC was calling for nose wheel steering. The FE kept flipping switches but the steering could not be engaged. We departed the runway and the left wing was torn off at the engine nacelle when it hit the embankment. That spun the aircraft into the barrier while doing over 90 knots. It was not pretty. Everything went black when dirt from the embankment covered the nose of the aircraft, but a second later it was clear again and I felt we were traveling backwards. When we finally stopped, I realized that the

whole thing had taken less than thirty seconds but it sure felt like a lifetime.

The crew was, at that point, shutting down all of the systems. The pilot in the seat in front of me opened the right emergency window and jumped out. The FE was next, with me right behind him. There was a real possibility of fire. We walked through the woods around the aircraft to find most of the troops leaving the aircraft from the regular boarding door on the left side of the plane. The airframe was so badly bent that the loadmaster could not open either of the rear main cargo doors even after repeatedly pulling on the emergency handles. The Canadian engineer platoon stationed there was quick to provide assistance. Three were a lot of "yellows," five "reds" (including me), but no "blacks" or "grays." The aircraft was a write-off.

The AC, in his attempt to use all available runway, missed the threshold, which was not marked and had a prominent slant on the left side. When the aircraft touched down, the left main gear was torn off when it hit the slanted portion. The micro-switch that allowed for nose-wheel steering was located on the left main gear. I bring this forward as an example of how Crew Resource Management (CRM), or lack thereof, can lead to a serious accident. The AC never let the rest of the crew know his intentions, and the rest of the crew never thought to question his actions. ♦

Captain Castro



THE GROCERY LIST

I remember the first time my parents sent me to the grocery store to get some last minute stuff. I was so excited as they gave me a couple of bucks and a tiny little list that said what I had to get! I was so nervous as I ran to the store...I didn't want to forget anything! So, as I was picking up the stuff, I was following the list from top to bottom, one item at a time. Today, as I stop at the grocery store on my way home from work, I don't even bother looking at my list. I know what I need! It reminds me of a story that happened on the gliding site...

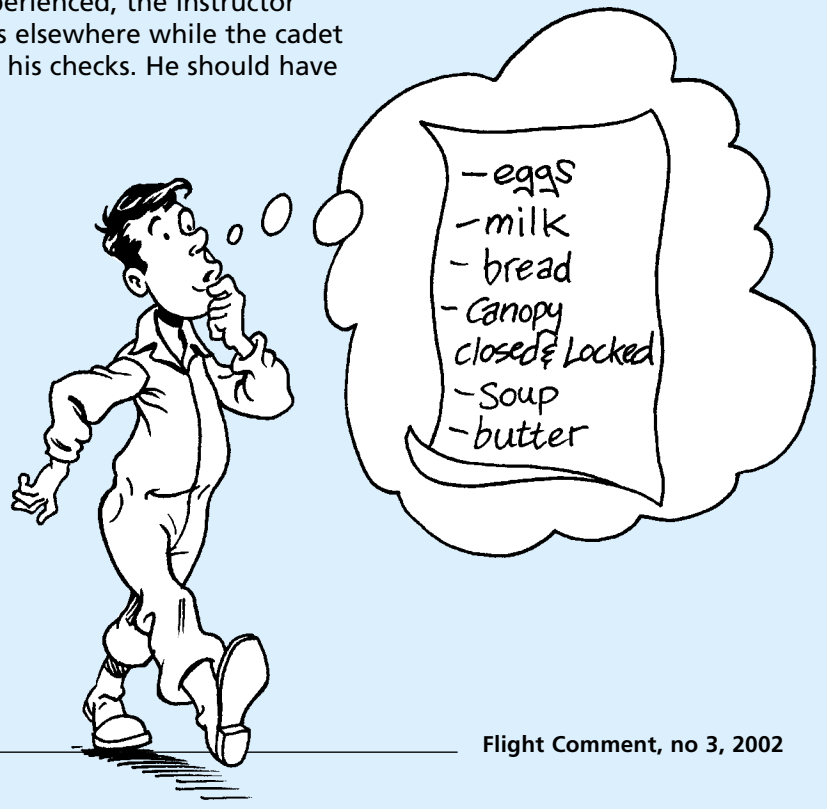
It was in the fall and we would meet every weekend to do familiarization flights for some Air Cadet Squadrons in the region. We also liked to build the hours of the cadet pilots in order to upgrade their qualifications. In a routine check, an instructor went up with a senior cadet, and, since the latter was pretty experienced, the instructor was elsewhere while the cadet did his checks. He should have

been following the checklist at the same time. This time, the cadet did the checks without the checklist since he had done the checks a hundred times before and this way was a lot faster. But...he didn't manually check that the canopy was closed and locked.

The glider went on with its flight. As the glider came back, Murphy had been right again. During a sideslip, the canopy opened and hit the side of the glider before the instructor could get a hand on it. Everyone wondered how a good canopy could just open like that!

As I got home from the grocery store, I noticed that I forgot something that was on my list. I now understand that checklists aren't just there for "newbies," but they are there as a defense mechanism to protect us from our worst enemy: ourselves!! Leave no room for complacency; follow the checklists!! ♦

Second Lieutenant Choinière



Always Be PREPARED!

The five-day deployment was over and the crew was heading home! With another series of drift-net patrols completed, the Aurora was transiting at high altitude from Anchorage, AK to its home base in Comox. As was usual for the trip home, there was no operational tasking for the crew so everyone was pretty relaxed. The flight deck was full manned; the navigator communicator (NAVCOM) was busy at his station and I was completing some post-trip paperwork at the tactical navigation (TACNAV) station. The remaining aircrew and technicians were spread throughout the airplane.

About one hour into the flight, the flight deck called back and reported a burning electrical smell in the cockpit. A PA announcement was made and the “fire of unknown origin” check was initiated by the Maritime Patrol Crew Commander (MPCC). For a relaxed crew, the reaction was immediate. The pilots had put the aircraft into a holding pattern off the Alaskan Coast while everyone ran through their assigned

duties. The air conditioning was turned off and all compartments and equipment racks were searched for the origin of the burning smell. Concurrently, the Airborne Electronic Sensor Operators (AESOPs) had located ships near our position (just in case we were required to ditch) and the NAVCOM had located the nearest suitable airport to our present position of Yakutat, AK. After our initial search of the aircraft nothing unusual was found, but the origin of the electrical smell was determined to be the flight deck. IAW procedures, all non-essential electrical equipment was turned off to see if the smell would dissipate. The MPCC now decided to land the Aurora as soon as possible, so off we went to Yakutat. A “PAN” was broadcast by the NAVCOM and the remainder of the crew prepared for the short hop to Alaska. The aircraft and crew recovered in Yakutat without further incident.

Yakutat, Alaska is not the place to spend a lot of time unless you’re a fisherman. The crew was anxious to

get home, so our flight engineer (FE) and the two technicians we took with us immediately began troubleshooting the problem on the ramp. I reported the incident to Comox Ops while the rest of the crew waited. After about an hour, the technicians had found the culprit. One of the capacitors/transistors on the Flight Deck Multi-Purpose Display had ended its useful life by overheating and melting. This caused the strong electrical smell in the cockpit. The technicians put the cockpit back together, pulled the circuit breakers to the offending equipment, and once again we were on the road. The remaining two hours to Comox were uneventful.

This incident reinforced concepts that had been illustrated to me several times in the past. Be prepared! Emergencies occur at all times, often striking when you least expect them. Follow published procedures and checklists! These have been created for your safety, be familiar with them and use them. ♦

Capt. Straub



SO WHAT!

It's Just An Advisory!



This story is for all the pilots and Air Traffic Controllers (ATC's) who think that having an advisory at an airport or heliport is just a faster way to get a wind check and some sort of traffic information. I would like to straighten out this misinformation. I am from the tactical helicopter (TAC HEL) community and most of our units are operating from bases where we only have flight advisory. Although we don't have a control zone like an airport, our ATC flight advisory people are very keen in identifying all traffic around the heliport and they make sound suggestions on how to proceed in the vicinity of the heliport. We use them to file flight plans and they, in turn, process them with the proper ATC agency. They give us our clearance before take off and all we have to do is contact terminal once airborne and proceed with our flight. Sounds a lot like a control tower to me... Wait there's more!

One day we had a flight scheduled for an Instrument Rating Test (IRT). The pilot filed his Instrument Flight Rules (IFR) flight plan and got his clearance on the ground after his start. As usual, ATC gave all the information on winds, and altimeter settings and suggested a taxiway to use to get to the helipad for take-off. Once the helicopter was airborne, ATC advised other traffic in the vicinity but also scanned the ramp for parked helicopters for his own situational awareness. When he glanced at the spot where the recently departed helicopter was, he noticed a puddle of fluid on the ground. There are fluid stains on all the parking spots and it is very hard to determine if they are fresh stains or not. The controller decided to call the servicing crew to ask them if they could go and confirm if the pool was recent and what kind of fluid it was. The technician that investigated informed the controller that

it was probably transmission fluid and there was an unusual quantity on the ground. The controller decided to contact the aircraft to advise them of his findings and maybe suggest a return to base for further investigating. The pilot was already settled on his enroute portion of the flight but elected to change his clearance to return to base. The aircraft had been airborne approximately twenty minutes. The investigation revealed that the aircraft had lost more than 3/4 of its hydraulic fluid.

In cloud, at 6000 feet, with no hydraulics in a Griffon helicopter... Do you still think of ATC as just an advisory to give you winds and traffic? These people are qualified controllers with a license. They are part of your crew resource management (CRM) checklist. Use them wisely! ♦

Captain Halikas



NVG's Turn Night into Day ...Don't

The mission was to support military training on the West coast in early January. The weather was typical for the Rocky Mountains at that time of year with visibility expected to be six miles or less in snow showers. I had flown this route probably 15 times in the last three years, so I was quite comfortable with the conditions. The biggest concern, after the weather, was the early arrival of sunset. The introduction of night vision goggles (NVG's) had eliminated the requirement to be out of the mountains prior to nightfall, but we were still not very experienced with aided mountain flying.

The day started normal enough; we did our pre-flight, loaded our kit, and then went off to the morning briefing. The forecast was for heavy snow showers in the local area, so we elected to delay a couple of hours to let them pass. It was now almost 1100 hours when we departed, and the winds from the

west proved to be stronger than forecast so we added 1/2 an hour to our first leg. It was now 1400 when we arrived in Golden and it was going to be tough to reach Abbotsford, which was out of the mountains, by sunset.

The next leg from Golden to Abbotsford needed to be more or less direct if we hoped to make it before dark. As it turned out, we went anything but direct. The decision was made to divert to Kamloops for food, fuel, and a fresh weather brief. This was the second best decision we made. As it was going to be dark soon, we mounted and focused the NVG's even though we would not need them for almost one hour. We were taking the preferred VFR route that has one especially high pass about halfway to the coast.

Thirty minutes out of Kamloops it started to snow again, and with the clouds and snow came the

darkness. At this point, we put the NVG's in place and our comfort level rose quickly. The big concern on this leg was a large set of hydro lines crossing our route about ten minutes prior to the high pass. As we got closer to the pass, the visibility started to drop and the available light dropped with it. It was now so dark that the NVG's were having a difficult time giving us a good image of the valley we were in. The hydro line was starting to grow in importance, both as a navigation feature and as a potential hazard. Our comfort level was dropping quickly.

We got to the point where the visibility would not allow us to continue, so we decided to return to Kamloops, which was our best decision of the day. At this point, I was still unsure why we had not seen the power lines yet. As we got closer to Kamloops, the weather improved and the rest of the trip was uneventful.



They?

Once we were safely on the ground, we opened up the map to try and locate where we had turned around. To our surprise, we had crossed over the hydro lines twice and never saw them. The next morning under a clear, blue sky, we found where we had crossed over the wires. A quick estimate gave us about 75-100 feet of clearance over the wires halfway up the valley wall. A close call indeed...after almost two years of continuous NVG flying I thought I had seen it all and could react to any situation presented to me.

I was wrong; technology, in this case, had its limits. Without ambient light, NVG's cannot provide an image and I had gone to the limits of this technology. There was not enough light available for the NVG's to detect the power lines and we ended up using our superior luck to make up for our less than stellar judgement. ♦

Captain Andres

EIGHT HOURS "BOTTLE TO THROTTLE"

I hadn't done anything the previous night that I hadn't done before. I drank two or three pints at the pub after the game, I was home by 10:00 pm, and in bed and asleep by 11:00. My shift didn't start until 9:00am anyway.

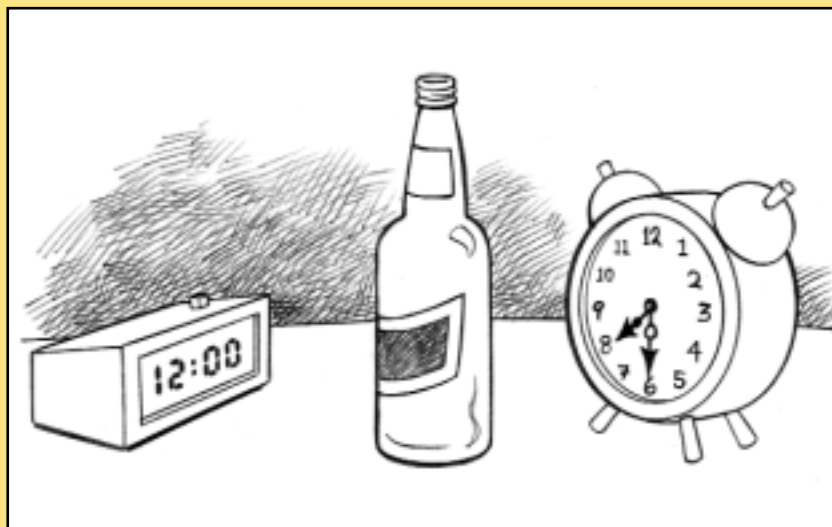
Shaving in the morning, I cut myself. Twice. Guess I wasn't quite awake. I supposed today was going to be one of those days. You know, one of those slow motion days. I missed a couple of stop signs on the way to work...I didn't even remember those!

I signed on duty and strapped in. I needed some coffee. I think

my first approach for the day was an ILS monitor. Good, cause I didn't feel much like talking yet. The next approach wasn't until lunchtime. Great, a PAR! Man, was this guy ever a dork. He couldn't even give me a good read back on the overshoot instructions. I tell you, this had to be the slowest approach I had ever done on a Hercules.

Afterwards, I can't say that I was shaky. I mean, the aircraft landed without an incident, right? And I was legal, wasn't I? Well, at least within eight hours "bottle to throttle." But, was that good enough? ♦

Cpl Ron Eliens





Never Assume...

Back about one hundred years ago, I had the good fortune to work in “Tire Bay” at CFB Edmonton. We did periodic inspections on the CC130-Hercules landing-gear as well as brake overhaul and wheel/tire build-ups. A main landing-gear inspection normally started with half a day in the wheel-well on the end of a varsol gun. It was during one such inspection that I returned to the shop to clean my pair of safety goggles. (Back then, respirators were just being invented!!)

While in the shop, a co-worker, who had the coveted job of nose gear overhaul, requested my assistance to

remove a particularly stubborn nose oleo gland nut. We double-checked that both lock-screws were removed and lay the nose landing-gear (NLG) on the floor. With a few good whacks on the hook spanner with a soft-faced hammer (okay, okay; it was a 4-pound sledge!) the nut began to rotate. We soon tired of the hammer and attached a four-foot torque wrench to the spanner for leverage. This worked well, although I had to sit on the gear to keep it from turning over.

With all the squeaking that was going on, I expected very rusty threads, which often occurs if the

sealant on the gland nut is damaged in use. When we were down near two threads remaining, it occurred to me that the nut, even had it been rusty, should at this stage spin off by hand. As soon as I asked my co-worker, the look said it all. You guessed it; the oleo pressure had **not** been released. We contemplated the possible consequences of taking apart a fully charged oleo as the non-destructive testing (NDT) section confirmed that the only damage was to our pride. This was the first of a few lessons it took me to learn...never assume... ♦

Sergeant Drysdale

The Navy Thought of It First!

We were half way into our four-month Mediterranean NATO tour and our next port of call was Patenìe, Sicily. The detachment had arranged a disembark tour to Sijonella for the evening before the ship sailed in. Italian food and wine were waiting, and a stable bed, too, for the lucky crew. The plan called for a quick land-on and crew change to take place for the disembark crew and associated techs, after the days flying program was complete. I wasn't in the lucky crew and, as we flew the last thirty minutes of our mission, I was starting to be not so envious.

A large squall line had been developing for a while and approaching the ship. The line conveniently lay between the ship and the shore and it was difficult to ascertain the depth due to ground clutter. The ship could see the weather too and was having the same difficulties determining the extent of the squall. We organized an early recovery to give the disembark crew a little extra time. The crew change was flawless and I assumed duties as LSO (landing signal officer). It was a race against the clock and

we were winning. Soon, I was making a "two minutes to launch" call to the bridge. Final numbers were passed, the aircraft was disconnected from the intercom, and we were ready for take-off.

Unfortunately, in the meantime, both the ship and the front were closing and the ship's captain was concerned with letting us go flying. There is a command and control issue with helicopter operations on a ship. Weather and flying is an Aircraft Commander's (AC's) responsibility unless it may cause harm to the ship or crew. I was to be the bearer of bad news to the helicopter crews — they were not being allowed to take off. Under normal circumstances, it would have been a simple conversation; but, they were getting anxious. Up until now, we were geared for a launch and trying to beat the weather, for whatever reason. As LSO, I was happy and eager to launch the aircraft. The AC was ready to go too.

Then "IT" happened. The aircraft is a mere twenty feet away from the LSO when it is on deck. The rain began so quickly and violently that the aircraft appeared to vanish. Neither myself nor the other LSO with me had ever seen it before. It lasted for two to three minutes and stopped as quickly as it started. We emerged on the other side to a nice clear day — but no one was in a real rush anymore. I think we sailed clear for a couple of miles before the ship turned to the flying course and we launched. In our defense, the ship sailed straight into a large cell — an aircraft could have picked its way through the squall line avoiding most of the weather. But, it did not occur to us at all to consider just waiting and sailing through. We all got something into our heads and we wanted to accomplish what we started. The weather on the other side was unknown and we did not want to jeopardize the launch. A safe, happy ending to a stressful couple of minutes. It's just a little embarrassing that the Navy thought of it first! ♦

Captain Wyss



Pushing The Weather

The mission was a good one: a four-hop cross-country checkout of a newly graduated 2CFFTS (Canadian Forces Flight Training School) "Hotel Flight" pilot to the southern United States. The weather was forecast to be excellent throughout the day, with some potential thunderstorm activity in the middle portion of the mission our only concern. Not to worry though, we planned to be through any bad weather before it became a factor.

Due to aircraft snags, we departed Moose Jaw two hours late. Our margin of safety for beating the storms at Hill Air Force Base, two hops away, was shrinking. On the ground in Hill, we could see the TCU's building around the aerodrome. We checked with base meteorology and got a good radar picture of the weather. While I flight planned, the pilot being checked out took a soap sample from the aircraft and restowed the tool kit in the left baggage compartment. We split up the pre-flight check of the aircraft and taxied with time to spare before the weather became a factor.

Airborne and through 190 knots, a vibration and rumble was heard from the left side of the plane. A quick check of the engine instruments and landing gear indicators showed everything to be performing normally. As the airspeed accelerated, the noise got louder. With the aircraft apparently working as advertised, I asked the other pilot if he had secured the luggage compartment when he took the soap sample. He turned, looked at the wing root (which is where the wing meets the fuselage and can only be seen by the pilot sitting on that side) and screamed

"Oh my goodness! My luggage is falling out of the aircraft!"

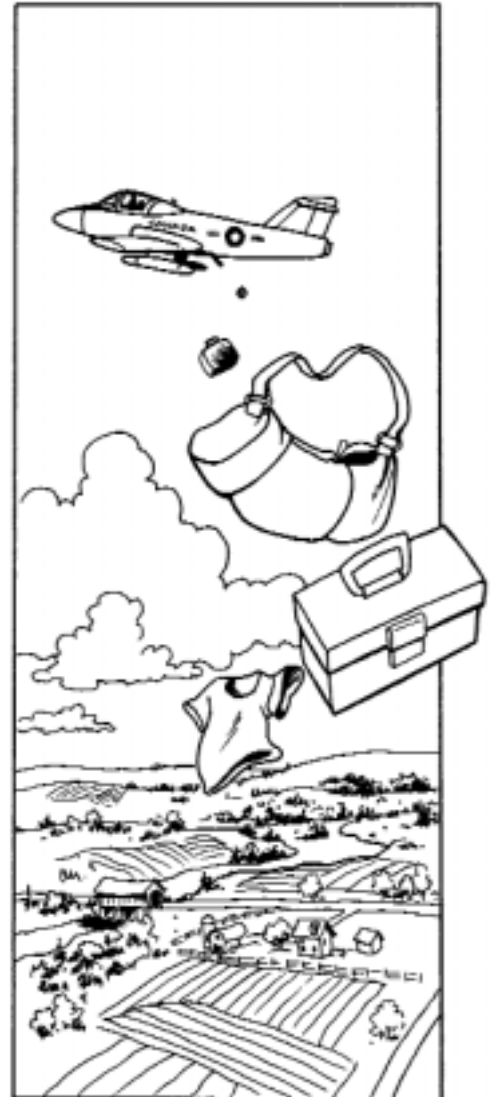
We quickly reduced our airspeed, declared an emergency, and proceeded back to the aerodrome. Once on the ground, we found the luggage intact but our tool-kit was gone. The open baggage door had been wedged against the luggage by the airflow. Apparently someone had reported seeing an orange object, our tool kit, falling from the aircraft into a mushroom farm off the end of the runway. We coordinated with Hill operations and the local police, but we could not find the kit. Some ninety minutes later, with Moose Jaw notified and the aircraft re-fuelled and checked serviceable, we decided to press on. The baggage compartment had worked; it just hadn't been locked!

It was now dark and the TCU's we would have missed before were now looming in close vicinity. The prudent course of action would have been to end an already long, fun-filled day and go and get some dinner. However, we were still only halfway to our destination and MET was still showing us a gap between the TCU's on our departure path. We decided to press on.

As we flew through clear air on our departure, the TCU's lit up on both sides of us with heavy lightening. Our flight path was silhouetted ahead of us and we saw that our radar gap was significantly smaller than promised. With no room to turn around without entering the lightening-filled clouds, we were committed. Fortunately, none of the lightening came close enough to damage the aircraft, and we soon passed the worst of the weather.

We arrived at our destination, after another fuel stop some 3.5 hours later, completely exhausted. Despite an original good plan, we ended up pushing the weather and our crew day to continue to our destination. The worst thing was that we could have avoided making the questionable weather call altogether with better crew coordination during the walk around, and...we would not have lost our toolkit. ♦

Captain Brown



If That's All It Takes To Please Him...

The time was nearly 25 years ago and I was sure that I knew it all. We had just graduated from Cornwallis and had arrived in Borden for trades training. Right from the start, the instructors drilled into us we weren't to wear "rings and things" and we were to never work alone. I thought, well, if that were all it takes to please them, then I'd do it.

Several months later we graduated from Borden, and I went to Greenwood to cut my teeth as a "fitter" on the Argus. While working at #11 Hangar servicing, I quickly learned that the biggest part of the "A" check (after-flight check) was cleaning the oil off of the aircraft. We would grab our buckets of var-sol and our mops and we would go to work. As it happened, this task was allocated by trade. "Riggers" did under-carriage, wheel wells, etc and "fitters" did the over-wings and engine nacelles.

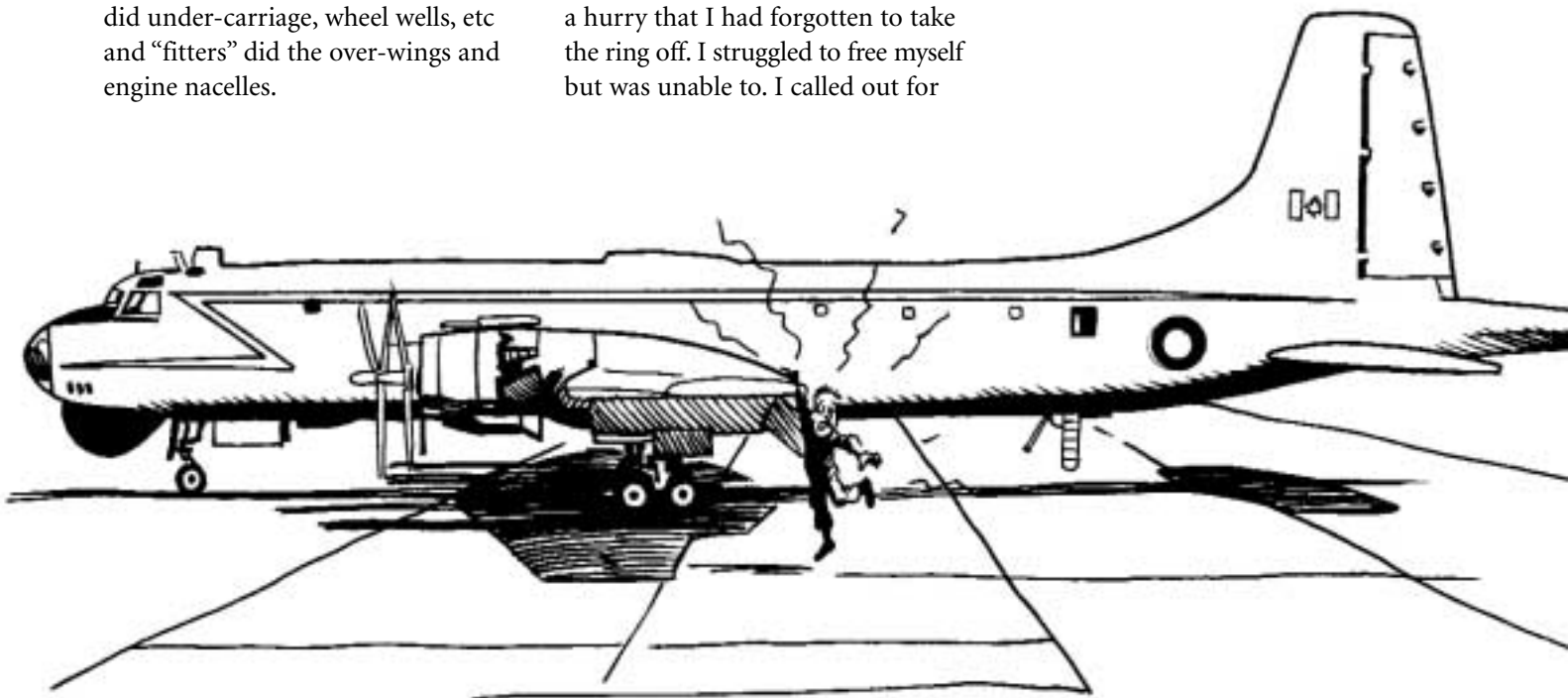
One day, several months after arriving in Greenwood, I overslept and was late getting to work, something I had never done before! I reported to the Sergeant who proceeded to berate me and told me to get out on the hangar floor and mop down the engine nacelles on #713. I had already upset him enough at this point and didn't want to make things worse for myself, so I rushed out to the aircraft and went to work. I was mopping away, not paying much attention to the job at hand, but I was remembering what the Sergeant said..."I'll deal with you later." Then I slipped facedown onto the wing and was unable to stop myself.

When I finally stopped, I felt a sharp pain right up to my left shoulder. I was hanging by my wedding band on the edge of a flap. I was in such a hurry that I had forgotten to take the ring off. I struggled to free myself but was unable to. I called out for

help, but no one came. I had also broken the rule to never work alone. Several minutes later, the rest of my crew came into the hangar and rescued me. Thankfully, I'm not very heavy and I wasn't sliding very fast so I only received a minor cut on the finger.

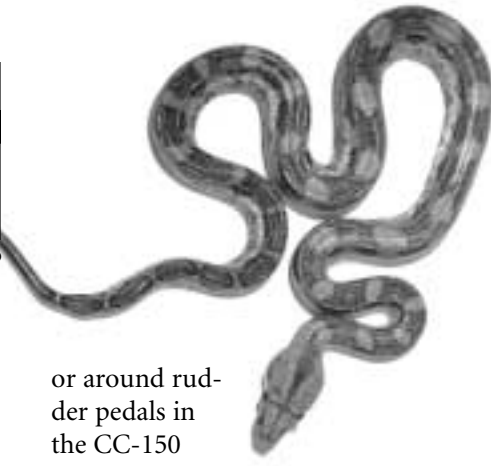
Since that day though, I've never worn rings and things at work. Imagine...those instructors were right!! One day I stopped to talk to a couple of technicians working on an engine, and notice one of them wearing a ring. I had him take it off and turned and walked away. As I was leaving, I overheard one ask the other "what's up with him?" His partner remarked, "Aw, that's his pet-peeve. If that's all it takes to please him, just do it." ♦

Sgt Dunham



MAINTAINER'S CORNER

LOST ANYTHING LATELY?



Foreign Object Damage (FOD), you hear and read about it all the time: big signs before driving on the ramp; Canadian Forces Technical Orders (CFTO) checks to carry out during close-out inspections; unit's daily FOD walk; posters around units, etc. In spite of all the time and effort put into prevention, FOD remains a major problem in all our fleets. It is startling to see what is found in our aircraft these days: anything from oil cans (CH-113 Labrador, CH-124 Sea King), grease guns (CC-130 Hercules) and Tupperware™ (CC-130), to ear protectors (CT-114 Tutor), tools (all) and snakes (CP-140 Aurora). Well, just one snake — thank goodness it wasn't me that found that thing! However, because of space limitations, this article will touch only on articles found in cockpits of various aircraft.

Soft drinks: A popular item. They are great thirst quenchers, and we love to drink them. Unfortunately, we also love to leave full cans behind

or around rudder pedals in the CC-150 Airbus and CC-130's. These cans may not be of great concern during level flight but they could cause severe problems during take off, landing, or in an emergency situation. These are critical phases of flight, during which the pilot's mind has to be 100% focused on procedures, not on rolling pop cans.

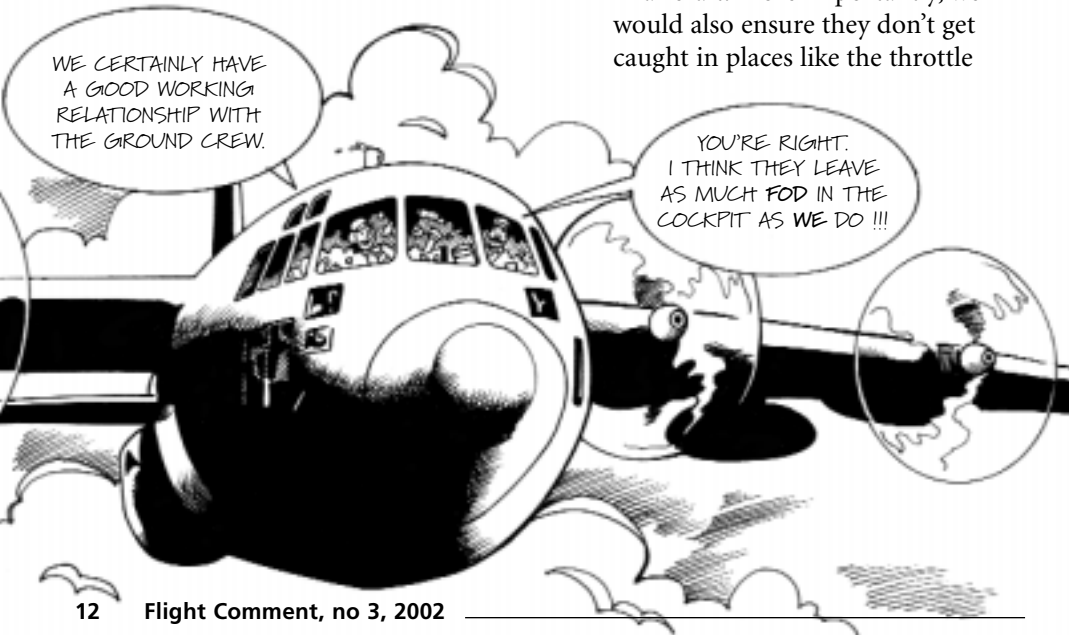
Candy bars: These are the perfect accompaniments to soft drinks. A half-eaten one was found under the rudder pedal in an Aurora. The story doesn't say why the candy bar was not fully consumed. Did the person run out of pop or did he or she get too busy with flight controls and drop it on the floor?

Pens and pencils: It is a shame to leave them behind, considering how much money of our units' budgets is spent on these items. We could save money by not leaving them in aircraft. More importantly, we would also ensure they don't get caught in places like the throttle

quadrants of a CF-188 Hornet. If pens and pencils are needed on the aircraft, ensure they are kept in a closed, zippered pocket.

Flashlights: A must when it's dark out there. That's why they are part of tool pouches but, just to be on the safe side, we carry a spare in our flight jacket pocket. We choose to carry uncontrolled tools on aircraft because we know, from experience, that the flashlight in the tool pouch will quit when we need it most. Why? Because the person who used it before never replaced the batteries so we're stuck with a dim light, if it works at all. Not that you or I have ever returned an unserviceable flashlight to a tool board... Anyway, I digress from the FOD topic. Tool control will be for another day. Back to flashlights. The little Maglites™ are great (they make great Christmas stocking stuffers)! We even have a few extra ones now since nobody wants to own up to the ones that were found — like the one recovered from behind the rear ejection seat of one CF-18 or the two that were found on the consoles of two other CF-18's.

More items that have been found in cockpits are: a **glasses case** by the rudder pedals in a CC-130 (these pedals seems to be a real FOD magnet); a **mechanical pencil** in a CT155 Hawk; **golf tee, Canadian pin, buttons** and **pocket knife** in one CF-18 and a **watch strap** in another Hornet,



FOD SHOPPING LIST

- Soft drink, cans ✓
- Water bottles ✓
- Candy bars ✓
- Pens, pencils ✓
- Flashlight ✓
- Glasses ✓
- Buttons ✓
- Pocket knife ✓
- VCR tape ✓

between the stick yoke and the instrument panel. I wonder what happened to the rest of the watch.

A pilot got hit by a **VCR tape** while flying in a Hawk. That must have been quite surprising, to say the least.

But, of all the things found, my favorite is the bankcard stuck between the front throttles in a CF-18. Losing a **bankcard** could be downright inconvenient, imagine if it had been found while trouble-

shooting a jet that landed declaring a two-bell emergency because of throttle problems. Now, that would really su...

I am not singling out anybody because it is obvious that both aircrew and ground crew could have left these objects. As mentioned earlier, **FOD** is still a major problem. The cockpit of an aircraft is already cramped in most cases, and there is no need for useless extras, especially in critical areas like rudder

pedals and throttle quadrants. Whether we work on the aircraft or take it for a flight, it is important not to leave behind what is not meant to be there in the first place.

Well, all this writing about **FOD** has made me thirsty! I think they just found a **water bottle** or two, I hope they are full. Luckily, **FOD** in my NDHQ cubicle will not cause my computer to crash. Then again... ♦

Sergeant Anne Gale
DFS 2-5-4

Dear Editor,

After reading an article in "Maintainer's Corner", I immediately reflected back on a recent, similar towing incident experienced at our unit. Although it did not actually involve the towing of an aircraft, it did involve the removal of a Ground Power Unit (GPU) next to an aircraft to enable the tow crew to move the aircraft.

Two technicians were tasked to remove the GPU from the aircraft. One technician attached the GPU tow bar to the D6 Mule and released the parking brake. This technician then boarded the D6 and the driver proceeded to move forward. At almost the same instant that they started to move, a member of the awaiting tow crew shouted "STOP" and the D6 immediately stopped. The technician who had hooked up the GPU exited the D6 and, upon approaching the aircraft, discovered that the GPU electrical power cord was still connected to the aircraft electrical receptacle. The driver of the D6 Mule remained on the D6 while the other technician was attaching the GPU. The driver observed the technician release the parking brake and, when the technician boarded the D6, assumed that it was safe to proceed. After the incident occurred, the D6 driver inspected the aircraft for damage and immediately reported the incident to the shift supervisor. The external power receptacle was repaired and verified serviceable and the total person hours recorded for the repair were 76.0 hours.

As the Flight Safety Investigator for this incident, I concluded that the cause factors were inattention on the part of the technician who hooked up the tow bar, as well as the D6 Mule driver, for failing to ensure that the GPU was properly prepared for towing. I then realized that, as a young airman, I was always taught to properly stow the power

unit electrical cable immediately after using it, so I added "inattention" on the part of the last person to use the GPU for failing to ensure that the electrical cable was properly stowed after use.

It is my personal belief that over the years people have become complacent with regards to common aircraft maintenance practices. It is up to all of us, supervisors as well as technicians, to ensure that this does not become a way of life. Perhaps unit Flight Safety personnel could use this example during their regular Flight Safety briefings. Remember, to ensure operational capability, we must strive to prevent the accidental loss of our aviation resources, both human and materiel, which are vital to mission accomplishment in the CF.

Sergeant McMillan
14 AMS Flight Safety Investigator

Sgt McMillan, thank you for your letter. You make a very good point about what you were taught as a young airman — you're right that it's pretty basic stuff, but sometimes we forget to pass the lessons we learned as youngsters in the system on to those who are now young and likely to follow our example. It helps to take a step back and look at the big picture to remember the basics, but also to remember how we learned them and then pass them on to others in an even better way. Complacency in an area such as common maintenance practices can be as deadly as it is in the cockpit. This particular case is currently briefed during the maintenance portion of the DFS Annual Briefing to make others aware of these dangers. Thank you again for your interest and dedication the CF Flight Safety Program.

Colonel Harder
Director of Flight Safety

EPILOGUE

TYPE: Bellanca Scout C-GGYS

LOCATION: Alexandria, Ontario

DATE: 8 October 2000



One tow aircraft and two gliders from the Quinte Gliding Centre (Mountainview) were deployed to the Alexandria municipal airport for the weekend to provide local Air Cadet squadrons glider familiarisation flights as mandated by the Air Cadet Gliding Program. The experienced pilot of the accident aircraft took off at approximately 0815 and carried out nine successful glider tows. On landing from his ninth tow, the approach was observed to be slightly “longer” than previously. The aircraft landed slightly farther than normal and required heavier braking in order to stop at the launch point. The conventional landing gear equipped aircraft (tail-dragger) had decelerated to a brisk walking pace when the tail rose, returned to the ground and rose again to the point where the idling propeller contacted the ground and the engine stopped. The propeller nose cone then caught the ground and the aircraft slowly rotated until completely inverted, coming to rest facing toward the approach end of the runway.

The aircraft received “B” Category damage. The propeller was bent and the engine was sent to overhaul due to a sudden stoppage. The vertical stabiliser, wings and flaps were damaged, the lower part of the engine cowling was cracked and partly delaminated. The windshield, right window and skylight were cracked, the wing struts were slightly bowed and one of the attachment points was splayed. The diagonal tube crossing the skylight was bent.

The grass runway was wet with dew at the start of the flying day and dried unevenly as the day progressed. Wet grass is quite slippery and pilots landing on it can easily, and sometimes unknowingly, lock the wheels when too much brake pressure is applied. Aircraft activity accelerated the drying process, creating “dry patches”. On this landing the pilot most likely locked-up the wheels on the wet grass, realized that he was unable to stop the aircraft at the normal spot and released the cable to facilitate taxiing back to the launch

point. Immediately after that, the aircraft transitioned from wet to dry grass, and the sudden increase in traction on the locked wheels caused the tail to rise. Before the pilot could release the brakes, the aircraft was pitching forward. The combination of no headwind, low speed and low engine RPM provided no elevator authority to keep the tail on the ground.

It was recommended that all Regional Flying Orders be amended to require that, in addition to the Daily Airfield Operational/ Safety Check and Briefing, when operating on a wet grass field, the Launch Control Officer (LCO) regularly keep the tow pilots informed of the condition of the runway particularly when it is starting to dry-up. Also, that the National Cadet Air Operations Officer include a section on wet grass runway landings in the Air Cadet Gliding Program Tow Aircraft — Scout/L-19 — Manual of Flying Training as well as in the Scout and the L-19 Flying manuals. This section should also recommend that it is a good practice for pilots to have a quick glance at the wheels when landing on wet grass to ensure that the amount of brake pressure used is not causing the wheels to lock-up. And finally that the Regional Cadet Air Operations Officers consider including as much training as possible on grass runways during the Tow Pilot Conversion Course. ♦



EPILOGUE

TYPE: Bellanca Scout C-GXAC

LOCATION: Markham, Ontario

DATE: 9 June 2001



The aircraft was being flown in support of the Central Region Spring Familiarization Flying Program at the Markham Airport near Toronto. The pilot was Civilian Instructor (CI) with the Air Cadet organisation and the passenger was a staff member of the gliding site and a member of a local Air Cadet Squadron.

Since one of the local Cadet Squadrons scheduled for the familiarization flights was unable to participate, the site supervisor decided to take 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 familiarization flights (without the tow rope).

On landing from one of the staff familiarization flights, the tow aircraft was observed to "sink to the ground" from a height of approximately ten to fifteen feet and landed harder than normal. On touchdown, 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 and came to rest on the left wingtip 500 feet from the threshold and 100 feet to the left of the edge of the pavement.

The pilot and passenger exited the aircraft normally and were uninjured.

The aircraft was examined on site and found to have been in proper working order before the accident. The metallurgy specialists at QETE determined that the failure was caused by loads well in excess of the design limits.

Workers from the local flying club were at the threshold of Runway 27 patching holes in the asphalt surface. Once they noticed that the Scout was landing on the runway, instead of the grass infield to the north, they moved over to the south edge of the runway.

This accident was most likely caused by the pilot momentarily levelling his descent over the runway threshold, in order to ensure separation from the

workers, without a corresponding increase in power. This allowed the airspeed to decay and induced a stall in close proximity to the runway. The resulting high sink rate on ground contact subjected the left landing gear to loads in excess of the design limits.

Other factors were identified during the investigation which led to the following recommendations:

All gliding site personnel should again be reminded that rest and nutrition play a significant role in maintaining ones mental abilities. Gliding site Commanders need to continually ensure that all their personnel maintain adequate states of rest, nutrition and hydration throughout the day. Furthermore, all gliding site's morning Pre-Ops Checklists should be amended to include a check of everyone's state of rest and nutrition.

The harmonization of the Scout flight manual should be completed as soon as possible. This manual should be modelled after other Aircraft Operating Instructions (AOIs) in use in the Canadian Forces and should provide specific speeds for various manoeuvres instead of offering acceptable speed ranges.

All regional operations officers should ensure that every member of the gliding program is aware of the requirements for toxicological sampling following an accident. Furthermore, each gliding site's emergency response checklists should be amended to indicate that gliding site personnel are to request that the hospital secure blood and urine samples from the crew, indicating that the appropriate military medical authority will contact the hospital to arrange for the transfer of the samples to the proper laboratory. The use of the term "blood work" should be discouraged since it causes confusion as to the nature of the request. ♦

FROM THE INVESTIGATOR

TYPE: CH11306 Labrador

LOCATION: Greenwood NS

DATE: 11 March 2002

The crew was tasked by RCC Halifax to rendezvous with a floundering fishing vessel 25 miles southwest of Yarmouth NS.

The main rotor blades struck the top of the aircraft during start-up in high wind conditions. The crew shut down the helicopter and egressed without injury. The aircraft received 'C' category damage.

On arrival to the squadron, the pilots noted the strong gusty surface winds and knew they would be a factor to consider in the planning and conduct of the launch. Consultation with the duty forecaster revealed that conditions approached chart maximums for rotor engagement. The crew briefed the AOI considerations for high wind rotor engagement as well as rotor brake failure emergencies. In the five-minute period preceding the engagement attempt, the winds were passed to the crew three times. All three of these wind checks were within the SAR Ops portion of the chart. The FE was positioned to the rear left of the aircraft to watch the rotor blade movement and to clear the rotor engagement in a steady wind period. The AC positioned the movable spot light on a front rotor blade to confirm that the blades were steady in concert with the FE's engagement call. As per SOPs for high wind starts, the SAR Techs remained a safe distance from the aircraft because of the possibility of a "tunnel strike" in the strong gusty surface winds.

When the FE observed a steady blade state he called for the engagement. Shortly after the first blade crossed the tunnel, a loud bang was heard and the AC ordered the aircraft shutdown. Fire trucks were requested and the shutdown completed.

The aircraft suffered extensive damage to the aft rotor blades when they passed through the fuselage. The sync shaft was severed and the free-wheeling forward blades were damaged as they hammered against the aft blade that had become



lodged in the roof of the aircraft. The port stub wing was dented by one of the thrashing aft rotor blades, but the fuel tank was not punctured.

From preliminary investigation it appears the aircraft was serviceable prior to the accident. Boeing Arnprior is examining the rotor heads and blade droop stops. The initial investigation revealed that the current WADDS wind reporting system does not provide the actual wind gust spread, but rather the mean wind over a two minute running average, taken at five-second intervals and the peak gust from a ten-minute history, sampled at five-second intervals. The old U2A system allowed for near real time monitoring of wind speed and direction, which allowed the observer to advise of known gust spreads.

The ongoing investigation is focused on the wind measuring equipment and the operational impact of system deficiencies. Additionally, the wind limit charts for the Labrador aircraft are being reviewed. ♦



PASSENGER SAFETY BRIEFINGS **or**

Why, when, and how should pilots present the passenger safety briefing?

Why:

The safety briefing serves an important safety purpose for both passengers and crew. Briefings prepare passengers for an emergency by providing them with information about the location and operation of emergency equipment that they may have to operate. A well-briefed passenger will be better prepared in an emergency, thereby increasing survivability and lessening dependence on the crew to assist them.

When:

When passengers are carried, a crewmember must provide a standard safety briefing.

How:

An oral briefing by a crewmember or by audio or audio-visual means.

Content:

The required standard safety briefing consists of four elements: *prior to takeoff, after takeoff, in-flight resulting from turbulence, and before passenger deplaning.* An individual safety briefing must be provided to a passenger who is unable to receive information contained within the standard safety briefing, such as visually impaired passengers, hearing-impaired passengers, and adults with infants.

Common problems:

No public address system; too much noise in the cabin, making it impossible for passengers to hear; short flights, leaving no time for in-flight briefing. If you are facing any of these problems, conduct the briefing before the engine start-up and combine the after takeoff and turbulence portions with the prior to takeoff briefing. For example, inform the passengers that seat belts must be fastened during takeoff, landing, and turbulence and that it is advisable that seat belts remain fastened during the cruise portion of flight.

The passengers appear uninterested?

Make the briefing informative and interesting in order to maintain passenger attention. Face the passengers, establish eye contact and speak at a slower-than-normal rate. Never skip the safety briefing at a passenger's request. Frequent flier passengers are often unaware that equipment locations and operation can vary on the same aircraft type. The time and effort taken in delivering an effective safety briefing benefits both passengers and flight crew. ♦

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Transport Canada's Aviation
Safety Letter Issue 2/2001*



WHAT IF



What if the day came when you actually had to depart an aircraft in a manner other than a routine stop and shutdown? What if you had to get out...FAST? We pay scant attention to the possibility of that, but, *it could happen to us!* The next time you get on a commercial aircraft, check out how many passengers actually pay attention to the cabin crew pre-flight demo, or give the emergency card in the seatback a cursory glance. Very few. It's become routine, like checking in. Only in the last couple of years have passengers, adjacent to over-wing exits, been required to actively participate in the procedures brief. Military aircrew that find themselves in one of these seats several times a year, possibly receive more egress training from commercial carriers in this manner than we commit to ourselves. Military aircraft are involved in more occurrences than our warships, yet Navy crews drill for emergencies every day when alongside and at obscene hours when at sea. Aircrew are

And why bother? A good portion of our ALSE is long overdue for replacement or upgrade, a painfully slow and disheartening process. ALSE Officers (usually the new guy, appointed before he even clears into the squadron) are quickly discouraged even if they waded into this duty with enthusiasm and a conscientious approach. The few times that I have witnessed ALSE interest from aircrew is following an occurrence. What follows is food for thought.

A Hercules aircraft crashed in the Arctic during Boxtop 22. Loss of life resulted from exposure, and was compounded by a lack of training. Suddenly aircrews across the country started calling ALSE sections for set-up and display briefings on their arctic kits. Overheard from a CP-140 Aurora aircrew... "That tent is useless! How would we set it up at night...in rain, snow, and wind?"... "Why would you? Three ten-man rafts equal three instant igloos."

smoke, noise, and a platform that could not maintain a stable attitude.

Professional athletes drill repeatedly to deal with high pressure and time critical situations. Take a hockey team with two men in the penalty box — they shift to a practiced plan. If you had to ditch, and did so successfully, has a secondary exit been selected should the primary seize due to structural failure? What about wind and wave action? To ditch, egress, deploy, and board a raft is exhilarating enough without finding the raft drifting back into a sinking aircraft structure with numerous sharp edges and protrusions.

Can we really afford not to look at such issues more frequently? If ALSE is substandard, write an unsatisfactory condition report (UCR), staff it through flight safety officers and follow it up! Historically, grumbling in the mess over a cool one does not get you new gear. Think, plan, and PRACTICE emergency egress



merely required to go through some sort of egress routine once a year. There are a few experienced Aerospace Life Support Equipment (ALSE) personnel remaining who are mandated to conduct this training, and no established standards exist. Presently, this requirement appears to be given as much consideration as would your average frequent flyer travelling by commercial flight; except those with a fear of flying...*they* pay attention to the demos!

Not that anybody would want to jump out of the rear of an Aurora in a parachute, but they are carried should that eventuality be unavoidable. How many aircrews have ever actually strapped into one of those parachute harnesses. Years back, on a training day, I witnessed a crewmember with three years experience try to don one; it was obviously his first time! Though comical to watch, it wasn't really funny. If you had to put one on in a hurry, you could probably throw in some

procedures so that, when forced to react, action is automatic, correct, and backed up with *plan B*. Consider going over the handlebars of a bicycle — an emergency with limited reaction time. Stick your hand straight out to break your fall and all you'll likely break is your collarbone. If, at the start of the ride, you plan to tuck and roll if faced with a face plant, you'll probably be okay. (*padding would help, too!!!*) ♦

Warrant Officer Cooper

SEEK and

SAVE

Marine search and rescue (SAR) operations are the “bread and butter” of 103 SAR Squadron in Gander, NF. Our motto is “Seek and Save” and that is what we do. We take great pride in our ability to respond timely and effectively to persons requiring our assistance. Whether it’s a vessel in distress, an overdue boat, or an injured person needing a helicopter evacuation to seek medical assistance, all missions are considered equal and are reacted to as such. Our crews and support personnel are highly motivated, enthusiastic, and skilled professionals. That’s why it becomes extremely difficult when the time comes to say no.

What? Say no! Turn down a mission? You’ve got to be kidding! How, what, or why would cause you to say “no” to a person or persons requiring help; especially when someone may die as a result?

The unfortunate reality is that not all SAR missions come with an “acceptable” level of risk. Each scenario is different and when certain combinations of factors exist (factors which raise the level of risk to the point where crew safety becomes the major issue), they can dictate the feasibility of the pending mission. This can be tough. Nobody wants to turn down a mission, everybody wants to save the day, to be the hero; but when is the line crossed between courageousness and poor common sense? Being safety conscious is a systematic approach of asking questions to assure yourself, and others, that the unnecessary risks are eliminated and the necessary risks are minimized.. Nothing comes without risk. We, in the SAR world, accept this fact; it is part of what we do. It’s recognition, evaluation,, and minimization that puts you at the advantage. Reducing risk to an

acceptable level presents us with our greatest challenge. The more answers to the “what if” questions, the better. Two golden rules of thumb are to question anything that makes the hair on the back of your neck stand up and to always give yourself an out.

Enough of this boring stuff, let’s apply it to a hypothetical SAR mission. Imagine you are the standby aircraft commander (AC) in Gander with a crew of four. Rescue Coordination Centre (RCC) Halifax calls and says a patient on a Canadian fishing trawler has had a heart attack and requires your Labrador to transport him to the Health Sciences Centre in St. John’s, NF. What is your thought process? How can you identify, evaluate, and minimize all risk? You have to ask yourself questions. Let’s look at the medical condition of the patient, the aircraft/crew status, the mission details, and finally the weather.

All four aspects must be assessed before a mission can be accepted.

First, let's discuss the medical condition of the patient. Really, there isn't much to say. By that, I mean if RCC has a tasking for you, a medical physician has been consulted so there can be no question. You, as the AC, have the obligation to accept the mission based on the merits of the physician's diagnosis. If the doctor believes the condition is life-threatening, whether it be anything from symptoms of a heart attack to amputated fingers, your experience as NBC's number one "ER" fan does not entitle you to second guess the medical authority. Therefore, as far as you are concerned, when that phone rings, medically you are tasked, end of story. The risks of having the patient on board are minimal and acceptable.

The next step in the process is assessing your ability to respond — is your aircraft serviceable and your crew rested? 103 Squadron, having superior maintenance and serviceability records (that's no joke!), understands the risks involved in Labrador operations. If the aircraft is signed off serviceable, the risks involved in its application are acceptable. Crews are well trained and the aircraft are well maintained, therefore, from this angle, the mission is acceptable. Let the decision-making process continue.

Up to this point, the decision has been an easy one. Medical status and crew/aircraft readiness are rarely a question. Now we must consider what mission details affect your decision? Here, we are talking about helicopter limitations. What can the helicopter do? What is its capability? Do we have the proper equipment to carry out the assigned tasking? Can you reach the vessel and safely return? Now all of you

mathematical thunderheads, don't you worry, it's not as bad as it sounds. A few simple calculations and you can easily see if the mission is viable. Ask yourself this question...do I have enough fuel to: a) transit to the boat; b) remain on-scene to complete the hoist sequence; and c) depart the vessel with enough gas to comfortably make it back to destination? Oh yeah, and one other thing...if you do happen to lose an engine (worst case scenario), do you have enough gas to transit back on one? If you can say yes to these questions, already having passed the two other criteria, the mission is almost a go. If not, you'd better wait for the boat to steam closer. If that is not possible, unfortunately the mission must be turned down.

Now it is time to do a weather fact-finding mission. Medically, the mission is viable and you have a ready crew, aircraft, and equipment. Now comes the tricky part. Combinations of certain weather conditions will prevent the mission from being safe. As the decision-maker, you have to have the ability to foresee the future. This is not always possible, so make your best estimate using all available resources. These could include flight service stations, other aircraft in the area, vessels on-scene, and to some extent, gut feel. The key is to have the most information possible and to keep your options open. For example, if the forecast is for strong winds with the combination of heavy seas and nighttime conditions, it might be wise to wait until daybreak to attempt a boat hoist. The patient's condition may warrant an immediate attempt but don't forget the safety of your crew. You'll have a man dangling on a hook amidst waves and a rapidly moving superstructure. Unless your future

involves driving a wrecking crane, practice of this type of hoisting may prove to be futile. Icing conditions are an easy one because ICING EQUALS DEATH. Helicopters don't like icing and, as a matter of fact, are prohibited from flight in these conditions. Sometimes you may be able to avoid it but the safest option might be the most fuel-conscious one, don't start the engines. Trust me, being on the ground and wishing you were in the air is better than being in the air and wishing you were on the ground.

Okay, now let's put it all together. Let's assume the medical condition is accurate, the aircraft and crew are ready, willing, and able as always, the boat is within reachable distance, and the weather is beautiful (well, probably not in Newfoundland!), the mission can be accepted. Guess what — you've done all of this thought process and still got airborne within 1/2 an hour. Off you go!

Now, I have really generalized and watered down this scenario. Each tasking is different and deserves its own considerable decision-making effort. Some things that may not be possible one day may seem routine the next. This is what makes SAR great. Staying on your toes, planning for the worst-case scenarios, and leaving yourself safe options are the keys to keeping SAR missions at an acceptable level of risk. It is not possible to know or foresee everything. Different people will carry out an assigned task in different ways, with the end result always being the same (hopefully) — the completion of a successful, well-planned, yet uneventful mission. SEEK AND SAVE! ♦

Capt. Reid

"HAPPY CAMPER"

IS AN UNDERSTATEMENT



November 22nd, 1995 began as a normal workday at our squadron. The commander of ATGHQ was visiting and our shop was getting ready with the usual “dog and pony” show. This in itself was no big tasking, but the feeling of apprehension began. The General’s itinerary included a visit to base side and then over to our squadron for his tour and a parachute jump.

On this particular jump there would be four jumpers. We all donned our parachutes in our shop, and carried out safety checks on each other. Although these are all normal procedures, and after several years of doing this routine, there was still this feeling of apprehension throughout the entire process. Prior to boarding the aircraft, we posed for photos of all the jumpers and, for some reason unknown to me, I was the only one not smiling.

Once airborne, we carried out our post takeoff checks and proceeded to brief the jump scenario. It was to be two, two-men sticks; the General and another jumper would go first, followed by the jumpmaster and myself. Once we were established on final, the first two jumpers positioned themselves on the ramp and were given the verbal command to exit the aircraft. As the first jumper proceeded down the ramp, he contacted the raised hatch and staggered back into the second jumper, delaying the exit a few seconds. The winds were light so this was no big deal; the jumpers could easily reach the target area. Sounds good in theory; the problem was that we were jumping from 1500 feet above ground level (AGL) which is not very much altitude to compensate for a delayed exit. The first jumper successfully landed in the designated target area, however, the second jumper had to conduct an unintentional tree landing. There were no injuries on the first stick of jumpers.

Still in the circling aircraft, the jumpmaster and myself witnessed the two jumpers landing and joked about the fact that at least we didn’t put the General in the trees. We were once again established on final for the last jump when we got a “stop drop” from the aircraft commander. It was due to conflicting traffic from the tower, so we had to do another circuit. It was at this time that the feeling of apprehension returned; it was not the normal pre-jump butterflies, but something more. We continued on with the jump once the tower cleared us into the area. As soon as I exited the aircraft, I knew something was wrong; my parachute deployment was hard, to say the least. It came out of the deployment bag and the slider came one quarter of the way down and stopped; this was not good. The slider has to be fully down or you don’t have a safe parachute to land with. Keep in mind, the jump altitude was 1500 feet AGL, which is not a whole lot of airspace to correct any malfunction. I pumped my risers, and then my steering lines to try and get the slider to come down; nothing worked. Then, my parachute malfunction training took over and I found myself under my reserve chute with enough time to find a safe landing area and set up for a parachute-landing fall.

To say that I was a “happy camper” because the cut-away system worked as advertised is an understatement. Once safely on the ground, the feeling of uneasiness and apprehension that plagued me all day disappeared. The shop Warrant Officer drove up in the section truck to check on me and to ensure that I was okay. The rest of the drop zone party was collected and they quarantined my main canopy for the impending investigation. The findings revealed

friction burns on the slider control line indicating it was fouled and did not deploy properly.

After this happened, the guys were joking that had I wanted to beat the jumpmaster to the ground. They were also jokingly saying that on my next jump, I should give the parachute time to deploy. The jokes were all in fun and intended to calm me down, and they worked.

Several years have passed since this incident and I have had time to think about what happened. With regards to the first stick of jumpers, should they have exited the aircraft after the first jumper contacted the raised hatch? With both jumpers at this time unplugged from the intercom and already given the signal to exit, it’s a process that is difficult to stop once it is started. The delay of the exit was miniscule, yet long enough to cause the second jumper to land in the trees. Had I been the second jumper on that stick, I would have exited the aircraft thinking that I could hit the intended drop zone without any problems. Was this an unsafe jump? No, it was not; all procedures were carried out safely and deployment was normal, and there were no injuries.

With regards to my cut-away, I feel justified in the actions I took on that day. At some point, you second-guess yourself and wonder if you should have done the drills again or should have waited a few more seconds and maybe the slider would have come down on its own. Parachute malfunction drills are practiced on a regular basis and nobody I know ever complains that we do them too much. I can say, with personal experience, our parachute training system works as advertised. ♦

Sergeant House

THE “ADVANTAGES” OF FLYING AT NIGHT

Complacency doesn't blend well with safe flying. Unfortunately, during deployments, when flying long hours at all times of the day, complacency, along with fatigue, boredom, and many other evils, sometimes finds its way onto the flight deck.

It was the middle of the night, and we were ferrying an empty C-130 Hercules from Greece to the UK. We were part of the flow that was established to transport troops and equipment into Central Africa. We were the “vampire crew;” it seemed we hadn't seen daylight since the operation started. On this particular night, we were flying one of the newer Hercules — the HT-90 model from Winnipeg; a more modern cockpit with more powerful engines. It was the first time I had flown this particular model; being based in Trenton, we generally fly the older “E” models. Saying that the Hercules aircraft tend not to have fleet-standard cockpits would be an understatement. We seem to have almost as many cockpits as we do aircraft.

Enroute, level at Flight Level 270, we were familiarizing ourselves with the newer avionics and some of the different procedures, mostly in an effort to keep ourselves awake and alert. One of the differences was the oxygen mask, which requires the pilot to unhook a small clasp by one of the earphones on the headset, and reattach it to the mask, which enables the microphone. I decided to attempt this feat, the second pilot thinking it was a good idea. A few moments later, with my head down, fumbling

with this foreign procedure, I felt an aggressive pull. I looked up and saw the altimeter 700 feet low, descending with 30° of bank and increasing. I looked at the other pilot, who had initiated the recovery, properly hooked up my headset, and waited for Athens control to notify us of our violation. After a few agonizing minutes, and no call from Athens (it was late — luckily), we survived our embarrassment and tried to analyze what had happened.

At the same time I had started to check my mask, the other pilot also decided to check his. Both of our heads were down. Distracted and fumbling with the mask, somehow (we're still not sure why) the autopilot disengaged, putting the aircraft in the above undesirable situation. How did this happen?

Obviously, we suffered a breakdown in basic crew resource management (CRM), more specifically, communication. We were both under the impression that the other was watching the aircraft, and we were each going to check our masks. Clearly designating who's flying is essential in a multi-crew aircraft. Why the breakdown in basic CRM by a seemingly competent crew? Fatigue and boredom were two of many factors, most which couldn't be easily addressed in this story.

Complacency can creep onto a flight deck far too easily, especially during a long deployment where many hours have been spent with

all too familiar crewmembers. Different time zones and unfamiliar beds upset circadian rhythms, and long flying hours all contribute to fatigue. This is a time where cockpit procedures should probably be utilized and enforced to their fullest.

Familiarity with the equipment was lacking. A better time to learn about the differences in the aircraft would have been on the ground before start, rather than in the air flying. If we had needed the oxygen system shortly after takeoff, I hazard to guess that we may have been unsuccessful in utilizing it efficiently or effectively. Unfortunately, a fact of life is that the C-130 flight decks are not standard fleet-wide — an unfortunate circumstance that is in the process of changing — somewhat.

In retrospect, it turned out to be a fairly minor incident with many learning points. The potential for a more severe outcome was present; Athens airspace is generally congested and somewhat chaotic. However, being the middle of the night, traffic was greatly reduced — one of the few, if only, advantages of flying at this time. ♦

Captain Goulden

THE FLYING FISH

Many people, while out in the deep-blue ocean, have seen this strange scaly creature. Could it be a bird or is it a fish? Sailors long ago have told such stories about these fish that fly. But, how high and how long can a flying fish fly? Read on and you may soon find out.

It was mid-February and I was on a Forward Operating Location (FOL) reconnaissance flight. 435 Squadron was tasked to pick up our friendly neighbourhood NORAD folk down in Colorado and continue along through Greenwood, Bagotville, and Goose Bay and then on to Iqaluit, Rankin Inlet, Churchill and finally heading home to sunny and warm Winnipeg (AKA “the promised land”). “So, there I was...” (I’ve always wanted to say that. It makes us AERE types feel like cool fighter pilots of whom I have seen in the mess!) Anyway...so, there I was, in a Hercules aircraft, cruising along at 24,000 feet with a 150-knot tail wind at a ground speed of 453 knots. It’s true...it might even be a cruise speed record!! It almost makes one feel like painting the red lightning bolts back on the sides, doesn’t it? Sorry, lets get back to the story.

So, there I was, minding my own business and taking in the view from the cockpit bench. We were only three hours out of Colorado, when suddenly I saw it. I know it is



hard to believe but it was there, at 24,000 feet, in plane sight. (Sorry for the pun!) It was a flying fish! I truly and honestly did not know what to make of it. I was shocked. But then, just as quick, I heard two little words off to my left. “THINK FAST!” shouted the Flight Engineer (FE) as the navigator (NAV) turned around to see the fish coming right at him.

Just a minute here...I have a little confession to make. It wasn’t really a flying fish of the ocean kind; it was a tuna-fish sandwich of the box-lunch kind. Yes, I know, what a waste of a good sandwich. But, that isn’t really the point of this story. Of all the things that I have heard that go on in the cockpit, this is not one of them. Not only did it make a mess but it could also have had

severe flight implications. The smell, the mess on the navigation console, or the mess on the NAV... which one is worse? It would have made a great instant replay. From the NAV’s hand...over to his desk... doing three flips and a triple sow-cow and ending up in his map bag.

The moral of this story isn’t to give the NAV a few more seconds notice or a heads-up to catch the sandwich, it is to remember the seriousness of our jobs both on the ground and off, and to weigh each “crew joke” with the possibility of the bad outcome.

Now, a peanut butter and jelly sandwich would be a different story. ♦

Lieutenant Eberts

FLIGHT SAFETY IS EVERYBODIES BUSINESS

It was the summer of 1987 and one of the two runways at CFB Moose Jaw needed some repairs. In order for the Base to maintain the very busy schedule of flying training, a decision was made to temporarily deploy some Tutor Aircraft to CFB Edmonton for student training until the runway repairs were completed. A number of pilots and students were selected for the deployment. For the maintenance support personnel, the plan was to have enough qualified personnel to maintain the deployed aircraft for the duration. The maintenance personnel that were selected for this deployment were divided into two groups. Each group was to deploy for one month and then the next group would take over. I was selected for deployment with the second group of maintenance personnel. At that time, I had three years experience as a communications system technician on the Tutor. I had my High Altitude Indoctrination Training and was current on tutor ejection seat checkout. Prior to going on the deployment in Edmonton, I had approximately five Tutor flights.

While we were in Edmonton, the working hours were Monday to Friday 0730 — 1600 hrs. Permission was granted to the pilots to fly up to four aircraft back to Moose Jaw on

Fridays and return to Edmonton on Sundays for the duration of the deployment. It was arranged so maintenance personnel and pilots who decided to return to Moose Jaw on the weekend would each have a chance to do so.

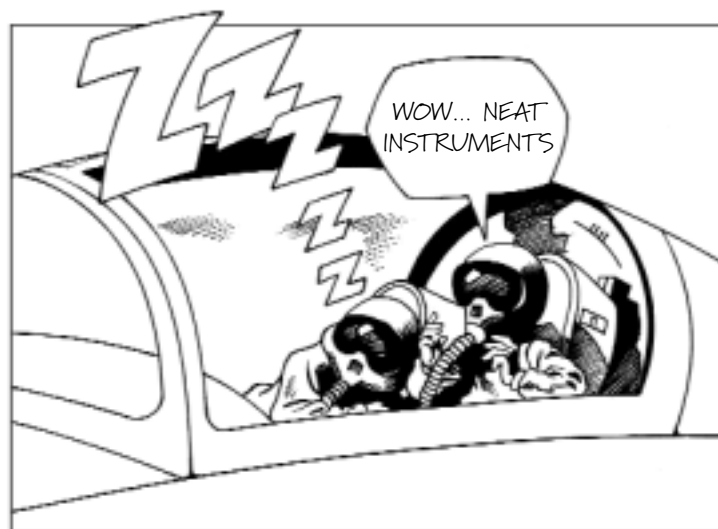
On the third weekend that I was there, only one pilot decided to fly back to Moose Jaw so I elected to go back with him. Enroute to Moose Jaw the pilot and I exchanged conversations and one of his comments to me was that he was a little tired. I did not take his comment too seriously at the time, not realizing that he had been flying that day training students. On arrival in Moose Jaw, he radioed the Control Tower for a straight-in landing. After confirmed “gear down and locked” the pilot started approaching the outer runway. This happened to be the runway that was under construction. There were no workers on the runway at the time, but one third of the runway opposite the

approach end was ripped up and had some 45-gallon drums on it. The pilot continued descent for landing without recognizing the obstructions on the far end of the runway. Once the control tower noticed the pilot was about to touch down on the wrong runway, they transmitted twice to the pilot to “pull up, pull up, wrong runway.” The pilot then aborted the landing, overshot the runway, and circled around and landed on the correct runway. During his second approach the pilot noticed the obstacles on the far end of the outer runway. During the first attempted landing I was busy looking at the instruments inside the aircraft until I heard the control tower call to the pilot, so I was not aware that we were about to land on an unserviceable runway.

The pilot was an experienced Tutor pilot, but due to tiredness from a full day of flight training, fatigue caused him to be less alert than normal. I was aware of the runway under construction and knew that the pilot was a little tired, but did not take the time to be more vigilant.

I learned from this incident that even though I was not the pilot flying the aircraft, this incident could have been avoided if I had been looking outside for any obstacles. ♦

*Master Corporal
Lindsay*



NOT AS STRAIGHTFORWARD AS IT SEEMED!

The task was straightforward: transport five generals from a lake in the range area to another lake using the float-equipped Twin Huey helicopter. I was the squadron floatplane check-pilot that summer and was nearing the end of my first tour; all in all, I was fairly confident and competent.

The pick-up was from a sectioned floating dock. Steel rods held in place by split pins connected the dock. While conducting a recce flight two days prior to the VIP trip, it was noted that the split pins had been replaced by bent nails below the water. We docked using old tires as a buffer to protect the five cell inflatable floats and I found the camp Warrant Officer who assured me that the nails would be replaced. The next day with the Army Base Commander aboard, we had the same problem. I found the Captain in charge of the VIP camp and was once again assured that the nails would be replaced.

The day of the mission arrived; the pick-up was early morning hence the sun was low enough that visibility in the water was poor. The old tires had been removed so we gently docked and the Flight Engineer (FE) tied the floats to the dock as I waited for the one-minute idle cool-down for the engines. Looking outside, to my surprise, I could see the helicopter settling toward the dock. I looked down between the float and dock and could only see foaming bubble-filled water. Visions of being trapped as the helicopter sunk pinned to the dock, rotors turning, were suppressed. I hollered at my FE to untie us as I opened the throttles and applied cyclic to counter the sinking float. The five generals were standing at the foot of the dock, waiting to board as the FE tried in vain to untie the now taut and strained ropes.

With great presence of mind, he hauled out his survival knife and cut us free fore and aft. He leapt aboard as I initiated forward movement with full left cyclic and a noticeable right side down lean. The Huey staggered into the air and climbed slowly away, with a torn float and water streaming behind. Needless to say, I was upset and, probably, so were the five generals left behind! I landed the aircraft back on a flatbed dolly at home plate and called the camp. I wasn't very polite.

The lesson is that non-aviation personnel cannot be expected to understand fully, or comply with, aviation requirements in all cases. A flight safety incident was filed and a near-catastrophic accident was avoided. I still buy that FE a beer every time we meet! ♦

Major Harvey



Don't Begrudge Those Currency

1989 was the year that the phrase "Flight Safety" had a dramatic impact on me and the rest of the instructors in the Pacific Region. That was the first year that I was an instructor, an Officer Cadet, fresh off of the Glider Instructor's Course along with eight other first year instructors.

It all began early one morning while I was doing my laundry. At Princeton, we had a trailer beside the runway in which we could do our laundry. It was there I heard the sirens, saw the pillar of smoke in the distance, and then noticed that all the aircraft and the gliders had come to an eerie standstill on the airfield. A few minutes later I learned that the Commanding Officer of the Princeton Gliding Camp had crashed just off the end of the runway. Later that day I spent a ghostly night guarding the charred crater and twisted metal, and keeping the interested onlookers away from the crash scene. This was the night that made me realize that this was no longer "just fun." We knew it was caused by a tow plane upset, which is where the glider gets so far out of position that it stalls the tow plane. This happened at about 500 feet and the aircraft spun in. The tow pilot didn't have a chance.

Two days later, with the crash still on everyone's mind, we continued with

operations. My second flight of the day was one I won't forget. My student and I were on our way up to 3000 feet for some spin training. At about 2000 feet my student was having trouble on tow. He was having difficulty keeping the wings level. He managed to get the glider in a 45-degree right bank. I then took control to try and level the glider. With full left aileron, the wings were not coming level. I thought that perhaps we had one wing stuck in the downwash of the tow plane and, since at this point the tow plane was going one way and us the other, I pulled the release knob. I then found myself in a spiral dive. The usual levelling of the wings with full aileron and rudder was taking much longer than it normally took to recover from a spiral dive. Not knowing why the aircraft was acting so strangely, my heart began to race. I had images of the accident from two days ago flashing through my mind. I'm not sure how many times we spun around, but when I finally got the gliders' wings level we were going about 80 miles per hour.

"What's wrong with this aircraft?" I asked myself. I moved the stick vigorously from side to side... nothing...the glider did not move. I started to worry even more. Then I pulled back on the stick, and the glider slowed down. A sigh of relief came about me but my heart was still pounding. At least my elevators worked, I thought. I could at least slow down for the crash. I instructed

the student who had the radio in the front seat to give a "Mayday." The only words we got out were "Mayday, Mayday, Mayday Aileron Failure." I forgot to tell them who I was, but they figured it out. It was a bad example of a Mayday call and since I was also the radio instructor, I hoped no one took notice. I finally remembered that I could use the rudder to turn and gave it a try. With the high speed we were going, the rudder worked fine. As long as I only pressed it for a few seconds, the glider would turn a bit, and the wings would stay level. I made a 90-degree turn by making several quick tromps on the rudder pedal. We were finally on downwind.

It was then that my student asked if we could respond. "Respond to what?" I asked. "The radio," he said. "Yes," I said, "sure." The launch control officer informed me I could use the rudder to turn. I ignored him; I was still trying to figure out how to land this thing with the least amount of turning, and being a glider, I only had one chance to make this approach. I kept the speed up and had the student call out the altitude every 100 feet. That kept him busy and my heart was still racing too much to read the altimeter over his shoulder. We got lined up nicely on final and touched down half way down the grass runway. I was so glad to be on the ground that I forgot to steer the aircraft on the ground. We veered off to



Checkouts!

the right, but no harm was done. “That’s OK, I’ll blame it on the ailerons,” I thought.

The airfield was swarming with flight safety personnel who had come up to the camp for the tow plane crash. I was relieved to make it down in one piece and also relieved that my student hadn’t forgotten how to fly. We took the back panels off the inside of the fuselage and discovered that a bolt in the linkage was missing. Anyways, we got another two days off while they checked all the other gliders for the same problem.

Flight safety suddenly became personal. We all knew that accidents happen in threes and we were waiting for that day, hoping it wouldn’t happen to our students or us. The students were all going “solo” now. The joke was they were going “solo they barely made it over the fence.” Two days later, it was not a joke. I was debriefing one of my students after he encountered a strong downdraft on final. He said to me, “watch the next glider, it’ll lose just as much altitude as I did.” I looked up; the next glider was plenty high enough. A few seconds later, I looked back. I could see the glider on the ground at the far edge of the grass runway. I took a second look; something was strange. The wings were at the wrong angle. I jumped up and down a few times

to alert a few others. Several of us jumped in the emergency van and headed towards the glider. As we got closer, we could see the glider had become entangled in the barbed wire fence. We went silent; we knew what a wire fence would do to a glider and its occupants. Fortunately, this student walked away with only a few minor cuts and bruises and was flying a few days later.

This accident had a greater impact on me, because this time it happened to a cadet. We later learned that the tow-plane accident was the result of the instructor letting her student get too far out of position. This was then blamed on the inadequate instructor’s course that preceded the camp, as the instructor had not been taught how to teach tow. “Tow plane upsets” was not a term we knew.

The glider crash through the fence was also blamed on the instructor’s course. In effect, the instructors were not instructed well enough to instruct and monitor their students. Two investigations had blamed the glider instructor’s course, not the students of that course. I thought this was fair. The instructor’s course consisted of only a one-week course and thirteen flights. I normally fly that many flight in a day when

taking the cadets on familiarization flight back at Comox.

In the ensuing years, the course was expanded to two weeks with pre-training at the local familiarisation sites and the standard became tougher. Later on, I remember being asked (told) to appear before a review board. They wanted to know how we checked ourselves out at the beginning of the spring and fall gliding programs. Being a new instructor, I wasn’t sure. It seemed like the oldest instructor would do a check ride with everyone else. No one checked him out and there was no review of emergency procedures. I had six dual check flights in the preceding six years.

The next year was different. We had to write exams, listen to lectures of emergency procedures. We had to have check flights that included spins, spirals, and stalls. We even had to do practice rope breaks. At first, I begrudged these checkouts, but then I remembered the summer of 1989 and realised that this was how it should have been done from the start. A few years ago, a fellow instructor at Princeton was killed in a tow plane in Central Region. Somehow he had slipped through the currency checkouts. Unlucky him, those currency checkouts would have saved his life and that of his cadet passenger. ♦



GOOD SHOW

CORPORAL DANA STADLER



Stinger 35, a Sea King helicopter, had recovered from a 2.7-hour crew operational readiness exercise (COREX) and was being turned around for the last trip of the evening. The oncoming pilots had conducted a brief walk-around prior to entering the aircraft and had both used white-bulb flashlights to

assist. The off-going pilots also conducted a visual inspection of the aircraft before exiting the rotor arc. The hot re-fuelling commenced and, except for the very dark night conditions, was routine in its conduct.

Corporal Stadler was acting as hose handler for the re-fuelling. After completing high and low level shut-off checks and signalling them serviceable to the marshaller, she took a moment to inspect the underside of the aircraft. She noticed nothing untoward but something on the ramp on the opposite side of the aircraft caught her eye. No leaks were visible from the aircraft but Corporal Stadler did not feel confident that all was normal. Once the re-fuelling ceased, Corporal Stadler walked around the aircraft to investigate.

Her suspicions were confirmed when she discovered a small pool of oil on the tarmac. Through very careful observation and the aid of a flashlight, Corporal Stadler detected a barely visible sheen of oil down the port side of the aircraft. The aircraft was immediately shut down for further investigation. Approximately two litres of fluid had been lost through the seal of the auxiliary hydraulic pump, which is attached to the main transmission. Had this leak gone unnoticed, as it did by four pilots during their turnover, the consequences for the crew during a night dipping mission over the water could have been grave.

Corporal Stadler demonstrated persistence and professionalism in the conduct of her duties that night. By not allowing the aircrew to continue until she was completely satisfied of the serviceability of the aircraft, she prevented a potential air accident. Her vigilance and attention to minute details is highly commendable and is indicative of Corporal Stadler's professional attitude toward flight safety. Corporal Stadler's vigilance prevented the possibility of the aircrew having to possibly make a forced landing, with its associated costly and difficult maintenance repairs, or, even worse, to ditch. ♦

CORPORAL JAMES MCIVER



While working in extreme heat and humidity, during a Persian Gulf deployment aboard HMCS Winnipeg, Corporal McIver decided to perform a survey under the soundproofing. This was done during a routine after-flight ("A") check, and was above and beyond the requirements of this routine check.

In carrying out this inspection, he noticed that the upper insulation blanket had fallen. Before securing it, he did a detailed survey, beyond the criteria

of the A-check, and found that the portside main fuel-supply line was rubbing on two hydraulic lines and an upper bulkhead panel. Upon further investigation, he discovered that a loose standoff and an improperly installed grommet were the source of the problem. If left unnoticed, they could have resulted in a fuel line failure, thus creating a potential hazard.

The consequences of such a failure may have been catastrophic for the flight crew. Corporal McIver demonstrated good initiative and professional expertise in the conduct of his duties. Corporal McIver's keen awareness to detail prevented a life-threatening incident from occurring. ♦

GOOD SHOW

LIEUTENANT (USN) JOHN SCHEERER / CAPTAIN ANDREW RISK



On March 13th, 2001, Lieutenant Scheerer was conducting a pilot training flight with two students on the CP-140 Aurora aircraft. Approaching the “hold short” line for runway 08 in Greenwood, he observed a CT-133 “T-Bird” aircraft rolling onto short final

approach with no landing gear extended. Lieutenant Scheerer quickly switched his radio to the Tower frequency and transmitted a “T-Bird, Overshoot, Overshoot” call just as the aircraft in question was entering the flare.

At the same time as Lieutenant Scheerer was transmitting, Captain Risk, the tower controller, was also trying to alert the incident aircraft. It is particularly difficult to ascertain the gear position on the T-33 aircraft, and the alertness of both individuals is noteworthy.

The T-Bird pilot initiated an overshoot and a potentially catastrophic accident was averted. Lieutenant Scheerer and Captain Risk’s timely intervention undoubtedly prevented serious aircraft damage and possible injury. ♦

CORPORAL GABE KATO



Corporal Gabe Kato was deployed in June 2000 from Aerospace and Telecommunications Engineering Support Squadron (ATESS) Trenton to 12 Wing Shearwater in order to assist Helicopter Operational Test and Evaluation Flight (HOTEF) technicians with the installa-

tion and evaluation of a new vibration analysis system. While looking for a suitable location to mount an accelerometer on the back of a Sea King’s Main Gear Box, Corporal Kato observed what appeared to be a structural irregularity. Despite the grease, dirt, and poor lighting created by the airframe’s cowlings, Corporal Kato’s keen eye noticed, during a glance in the opposite direction of his area of interest, a crack in the #2 Tail Rotor Drive Shaft Support Bracket. This bracket, when installed, is almost impossible to detect. It is remarkable that Corporal Kato, a CF technician not qualified on Sea King maintenance, detected the crack that had developed sometime over the previous four months and had gone unnoticed during multiple routine post and pre-flight inspections. Understanding the importance of maintaining aircraft integrity to ensure safety of flight, he immediately contacted the hangar’s servicing supervisor.

Once the #2 Tail Rotor Drive Shaft Bracket was removed, a closer inspection revealed two additional large cracks that completely compromised

the integrity of the bracket. In essence, the bracket was on the verge of total failure. Had the minimal remaining material of the bracket failed before the next scheduled inspection (three months hence) the #1, #2 and the first three feet of the #3 Tail Rotor Drive Shaft assemblies would have become totally unsecured. The short, heavy #2 Drive Shaft is hinged between two adjacent tail rotor shafts, all turning at 3030 RPM. It is a virtual certainty that had the #2 Drive Shaft Bracket failed, tremendous destructive kinetic energy would have been released, thereby causing catastrophic damage to the Tail Rotor Drive Train. This also would have caused enormous collateral damage to the surrounding airframe, including the destruction of the transmission oil cooler. In addition, had the bracket failed during flight, the destruction of the Tail Rotor Drive Train would have resulted in a total loss of tail rotor thrust. A sudden, total loss of tail rotor thrust eliminates a pilot’s ability to control the direction of the aircraft and is a condition that few helicopter crews have lived to talk about.

Corporal Kato observed a previously undetected crack in a bracket that is critical to helicopter flight. Despite his lack of qualification to render judgments regarding the airworthiness of Sea King Helicopters, his personal ethic compelled him to take steps to alert the appropriate authorities to intervene and avert an in-flight accident that would most likely have resulted in the loss of life for those on board. ♦

SERGEANT MIKE KASTNER



On 19 March 2001, during his pre-flight inspection, Sergeant Kastner, a Flight Engineer (FE), took it upon himself to inspect and check the entire area underneath the flight deck of Hercules #130326. This inspection included all under-deck electronic equipment racks and the main electronic

control and supply rack. After checking all cannon plugs, electrical connections, and the general condition of the area, Sergeant Kastner continued to inspect the serviceability of the flight control cables. In doing so, he found one cable that appeared to be out of alignment. Whilst the flight

control cables are supposed to be positioned in the center of the channels cut into the metal bulkhead, this particular cable lay on the lower edge.

Sergeant Kastner summoned the technicians from AOT 5 and they proceeded to jointly inspect and verify the condition of the flight control cable. It was found that when pressure was applied to the aircraft rudder, the cable in question would move aft and rub and chafe along the lower lip of the metal bulkhead guide channel. All concerned felt that the rubbing of the cable on the bulkhead might possibly result in the failure of the flight control cable. The technicians and the FE concurred that this was an unacceptable condition and rendered the aircraft unserviceable.

Sergeant Kastner's meticulous attention to detail, professionalism and performance of duty beyond what is simply required in the checklist may have possibly precluded the in-flight failure of a flight control cable. ♦

SERGEANT CHUCK MEARNS

During a recent deployment to Shemya, Alaska, Sergeant Mearns displayed consummate professionalism while carrying out his CP-140 Aurora flight engineer pre-external checks. He had previously selected the ground air-conditioning switch



to "on" and set the programmers to the appropriate temperature for the ambient conditions. While continuing checks in the tactical tube, Sergeant Mearns heard a faint grinding noise followed almost immediately by the slight smell of smoke. Instantly recognizing these symptoms as a sign that the air multiplier was self-destructing, he unhesitatingly ran forward to the flight station and selected the ground air-conditioning switch to "off." After securing the immediate threat, he ran off the airplane and ordered the refueling team to cease fuelling, alleviating the danger of an associated fire.

Due to his extensive experience, Sergeant Mearns was able to recognize the sound of the air multiplier unit self-destructing. His superior professional attitude and quick actions clearly averted a serious and expensive accident. ♦

FOR PROFESSIONALISM

SERGEANT DARYL BOYLING



During the engine start sequence of a CP-140 Aurora, Sergeant Boyling noticed some droplets forming on the aft windows on the port side of the aircraft. Initially, he did not make much of it, thinking it was only condensation as the air was fairly humid and the lighting was poor due to the early time of day. Unperturbed, Sergeant Boyling

continued investigating; he discovered that the starboard side windows of the aircraft were not collecting any such moisture.

Subsequently, he promptly informed the flight deck and called for the flight engineer to come take a closer look. It was determined that an oily substance was spraying from one of the engines or propellers, possibly fuel or hydraulic fluid. The engines were shut down, and a further investigation revealed that the # 2 propeller was suffering from a serious hydraulic fluid leak, which had coated much of the aircraft's starboard side.

Had Sergeant Boyling not pressed his own investigation further and spoken up about his concerns, the aircraft would have taken off in this condition and could have suffered a catastrophic propeller failure while airborne, with possible dire consequences for the ten-person crew on board. Sergeant Boyling's superior vigilance, initiative and professionalism resulted in the discovery and elimination of a very significant flight safety hazard. ♦

SERGEANT CHRISTINE KRUEGER



Sergeant Krueger, a 404(MP&T) Squadron Flight Engineer Instructor, was conducting an early morning pre-flight inspection on an Aurora aircraft when she noticed the lock-wire was missing from the #1 propeller sump-assembly drain-plug.

She immediately informed the Servicing Crew Chief who had the discrepancy rectified. The propeller sump drain-plug is difficult to see, particularly under adverse light conditions. Additionally, this is not normally part of the pre-flight inspection.

Sergeant Krueger's professionalism and attention to detail in unfavourable conditions averted the possibility of a catastrophic failure of #1 propeller and the potential for a serious airborne emergency. ♦

FOR PROFESSIONALISM

WARRANT OFFICER BRUCE RICHMOND



Warrant Officer (WO) Richmond, a Flight Engineer (FE), had just returned from an extended period of leave and was completing a 30-day check as part of a Round-Robin training flight. Prior to the flight, he thoroughly read the Aircraft Maintenance Records Set and discovered an operations restriction on the pressurization system. Furthermore, he discovered a

trend of snags, over a one-month period, which related to the pressurization/weight-on-wheel switches.

Upon entering cloud and experiencing visible ice, the propeller de-icing system was selected without result. WO Richmond quickly analyzed the problem and immediately directed the second FE to pull the appropriate circuit breaker. This resulted in the normal activation of the propeller de-icing system. WO Richmond's outstanding systems knowledge and astute analysis of this difficulty not only prevented an in-flight icing incident but also was instrumental in resolving an old snag on this aircraft.

After the completion of the mission, his diligence and thorough debriefing of technicians resulted in a long-standing system shortcoming being rectified. The potential for a catastrophic system malfunction with the possible loss of an aircraft and crew caused by related aircraft circuitry was negated through WO Richmond's sound judgment and quick actions. ♦

CHIEF WARRANT OFFICER ANDRE PIGEON

During a CP-140 Aurora pre-flight inspection on April 30th, 2001, Chief Warrant Officer (CWO) Pigeon



noticed that the main landing-gear door actuator bolt was improperly installed. The bolt was secured by a nut and cotter pin, but was installed in the reverse position. If the bolt had sheared due to being improperly installed, damage to the aircraft would have occurred. The probability of the landing-gear being damaged would have been very high. His attention to detail averted a potentially serious airborne emergency.

CWO Pigeon's exceptional airframe knowledge identified a long-standing and likely grave discrepancy. The consequence of this improper installation remaining undiscovered could have been severe. CWO Pigeon's vigilance, initiative, and professionalism resulted in the discovery and elimination of a very significant flight safety hazard. ♦

Old Pilot, New Tricks... I Think Not!



*Oh what a beautiful morning,
oh what a beautiful day....*

The aircraft just coming out of #2 periodic was ready for the test flight. All the ground handling and checks were done and everything was fine; now it was time to get airborne. Following a normal take-off roll, I got airborne and attempted to select the landing gear lever up, but it was locked in the down position. I have had that problem before; it was likely a ground safety switch so I thought I could override it and raise the gear. It worked! Before I went any further with the flight, I wanted to know if my gears would come back down, so I selected the lever down but nothing happened. I decided to stop the flight and get that system fixed, so I went for the hand pump and I began to pump. After 1/2 a stroke, the pressure was such that I could not pump any more and the gear was still up.

I had learned in my time as a maintenance test pilot that anything could happen, but if the engine is running and the aircraft is flying then the need to rush is only a function of the fuel remaining and the distance to your airport — two items

that were in my favour today. I also knew that there were many technicians ready and able to help, so I decided to call on their expertise with my problem.

But first, I thought I would try a few ideas. I pulled and reset the circuit breaker...nothing. I tried some G's...nothing. I was out of ideas, so I looked at the checklist and planned for a wheels-up landing. I knew that I would want to reduce the fuel to 400 pounds, but I wasn't sure of anything else. With the possibility of a post-landing fire, I was thinking of ejecting, but I decided against it given the very smooth landing conditions.

The technicians were now on the radio and ready to help. One of the best suggestions was something I had tried already — pulling the circuit breaker and trying the handle again. So, I tried again; I pulled the circuit

breaker, raised the landing gear handle, and lowered it again. Once again, nothing happened.

That is when I finally woke up, pulled the emergency landing gear selector handle, pumped the gear down, and landed without further incident. What had I learned from that?

Firstly, even though I knew my checklists quite well, with time permitting I could always go back to it and reconfirm my steps. Secondly, in stressful times, proper terminology might help. In this case, the landing control is a lever, not a handle and “trying the handle” as opposed to “pulling the emergency handle” might have been a better phrase to use. Thirdly, do not be afraid to ask for help; others can come up with excellent suggestions. Fourthly, do not rush your handling of the problem if you can, or you surely will make a mistake.

Lastly, do not take yourself for granted. Even with more than 6000 hours on type, I made a mistake that could have led to a damaged aircraft, serious injury, or maybe someone else writing this story. ♦

Tester 1

Flight Safety Word Search

By: Captain JJP Commodore

Hint 7 Letters "QUESTIONABLE DECISION"

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

AIRY
ALERTNESS
ALTER
AVIATION
CIRCADIAN
CLOCK
CREATION
DEGRADE
DERIVE
DETECT
DISRUPTION

EFFECTS
ERROR
EXTRACT
FATIGUE
FIGURE
FLIGHT
FOCUS
FOLD
GRAVEL
HOURS
HUMAN

IMPIOUS
LEFTHANDED
LIGHT
LINEN
MECHANIC
MODULATOR
NIGHT
OLDER
OPERATORS

PATTERN
PERFORMANCE
PETITION
POND
POWERFUL
PREDICT
RACK
RECOVER
REQUIREMENT
REREAD

SAFETY
SCAN
SEATS
SHIFT
SLEEP
TACT
TORSION
URGENT