

Learn from the mistakes of others; you'll not live long enough to make them all yourself . . . **Issue 2/2003**

Overloading Keeps You Down

The following information was provided by the Transportation Safety Board of Canada (TSB) for promotional purposes.

A privately operated Piper PA-31 Navajo departed Charlottetown, NL, on a day visual flight to Sango Bay. At takeoff, the aircraft lifted off shortly before the runway end, and was observed to remain at tree-top height until disappearing from view towards rising terrain. The aircraft struck the surface of a gravel road 1.5 mi. off the end of the runway, then slid off the road and struck a road embankment. The pilot and two passengers died in the crash, and one passenger received serious injuries.

The aircraft was 260 lbs over its maximum allowable take-off weight at departure from Charlottetown, from a 2 500-ft gravel runway. On the previous flight, the aircraft was estimated to be 940 lbs over its maximum allowable take-off weight when it departed Gander from a 10 500-ft paved runway. The cargo was not restrained, and shifted forward during the impact, striking those seated in the back of the aircraft.

Examination of the wreckage and the wreckage trail showed that the aircraft hit the road surface in controlled flight with the gear and flaps up. Ground markings showed that both engines were producing significant amounts of power, and both engine throttles were found fully open. This was the second fatal accident in the Atlantic Region in 2001 involving overweight aircraft and cargo that was not loaded in an approved manner.

The other fatal accident occurred on March 13, 2001, and involved a Piper Comanche, which was heavily laden with fuel and cargo (TSB Final Report A01A0022). The aircraft took off at night towards downtown St. John's, NL, and climbed to 1 600 ft ASL before losing control. The aircraft subsequently spun into the ground in a



residential area, narrowly missing housing. The aircraft was estimated to be 425 lbs over its maximum allowable take-off weight. The ferry tank system that the pilot had installed was not approved by Transport Canada. There were many articles of cargo on board that were not properly stowed or restrained, and some of these articles may have interfered with the aircraft controls. The aircraft was outside of its approved centre of gravity limits, which would have adversely affected the controllability of the aircraft.

In both occurrences there was overloading and incorrect stowage of cargo. In both occurrences lives other than the pilots' were placed in jeopardy. The disregard for safety whereby pilots continue to operate aircraft in excess of the maximum allowable weight limitations is cause for continuing safety concern. The entire aviation community must sustain a relentless effort to improve operator awareness of the hazards associated with flying overweight or out-of-balance aircraft. △

In-flight Break-up—Can It Happen to Me?

A sudden and catastrophic airframe failure is an event which some pilots may call an act of God, particularly if all operational limits are adhered to, and the aircraft is properly maintained and certified airworthy. However, there usually is a scientific explanation for any such event, which means we can prevent it. Granted, catastrophic airframe failures (because they rarely end up any other way) are rare, but when they do happen, they are likely associated with one or more of the following situations: violent manoeuvre induced by the pilot (excessive “G” force imposed on a wing or tail, etc.), violent manoeuvre caused by environmental conditions (wind gust, turbulence), pilot-induced overspeed, improper maintenance or maintenance error, improper assembly, and last but not least, material fatigue.

The good news is that we can control all of these situations, especially when taken individually. The not-so-good news is that if you combine any two or more, you are looking for trouble. For example, if you fly at or near maximum gross weight and you willingly impose a violent load on your flight control surfaces, you may be auditioning for a Darwin Award. If you don’t break the airplane on your first try, you may end up stalling and getting results on your second one.

While certified aircraft are designed to maintain their structural integrity above the limits imposed in the flight manual, flying at or near the certified maximum gross weight should cause you to think twice before yanking the controls around. The airframe will let you know when you jostle the controls at those weights (it is very likely that most of you have experienced such jarring rides in the past). So, a word to the wise, if you’re flying near the top end of the envelope, take it easy on the controls.

Certain types of operations put a lot more stress on aircraft than others, such as aerial firefighting, heli-logging, crop-spraying and multi-cycle operations of aircraft, which fly many short trips all day long, in all kinds of conditions of weight and weather. A recent issue of *Air Safety Week* (ASW) (Dec. 9, 2002) was almost entirely dedicated to the safety record of firefighting aircraft and associated regulations in the United States. It followed the release of the “Aerial Firefighting Blue Ribbon Panel,” which had a mandate to assess the safety of federal aerial firefighting. This panel was established after two firefighting fixed-wing airplanes crashed when their wings broke off in flight in the summer of 2002. Both accidents were videotaped and broadcast on national television.

The report highlighted several areas, including (but not limited to) increased demand on an aging fleet of aircraft, accelerated wear (the report says



that in terms of structural stresses, one firefighting flight-hour is equivalent to seven “normal” flight-hours), a deplorable safety record for aircraft and helicopters used in fire management, cultural complacency and contractual cost-cutting. On “cultural complacency,” the report states, “The [belief] that funding is never sufficient has bred a culture that accommodates risk...an admirable but hazardous ‘can-do’ ethos that pervades firefighting aviation.”

While the Blue Ribbon Panel report gave praise to the Canadian certification criteria for aerial firefighting aircraft for going “well beyond” the requirements south of the border, these 2002 summer accidents should remind our operators of the inherent dangers associated with this demanding type of operation, and the need to adjust the maintenance accordingly. For pilots involved in such operations, it makes sense to learn as much as possible about those requirements. (For more on the Aerial Firefighting Blue Ribbon Panel, visit: <http://www.nifc.gov/blueribbon/index.htm>.)

What can pilots do about airworthiness and metal fatigue?

Pilots are usually unable to detect underlying metal fatigue or airworthiness flaws visually. However, it pays huge dividends to learn more about your aircraft and about your maintenance team. Pilots who ask their maintenance staff questions tend to be more knowledgeable about the aircraft and can develop a better feel for the overall airworthiness of the aircraft. As perplexing as it may seem to some, many pilots do not scrutinize the journey log book, and even when they do, they rarely enquire about unusual entries.

The most critical requirement for pilots in this



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area is the obligation to report any airframe overload or overstress they caused, such as a high-G manoeuvre, a hard landing or if any operational limit is exceeded. If a pilot wilfully fails to disclose a "small" deviation in order to avoid retribution, it could develop into an airframe failure down the road. We all want to believe this kind of conduct does not exist within our ranks, but very few could state with certainty that it never happens.

Thorough pre-flight

What can we add about the pre-flight inspection that you don't already know? Learn more about the work done recently on the aircraft, and improve your ability to inspect the airframe. Ask an aircraft maintenance engineer (AME) to do a full walk-around with you for the sole purpose of learning more. You will all recall the Bell 206 accident in Beloeil, QC, when the main rotor mast nut had been removed for maintenance and the pilot had to do a quick flight to test another unrelated system. To make a long story short, all defences—which could have stopped the inevitable—failed, and the mast nut was not inspected visually, as

it should be when performing a pre-flight inspection on a Jet Ranger. Unfortunately, the main rotor stayed in place long enough during the start to allow a hover and a takeoff, but it soon departed and the helicopter broke apart in flight, killing both occupants. While this is not related to metal fatigue, it was still sudden and catastrophic.

Stick to the limits!

Staying within the operational limits prescribed in the flight operation manual remains the ultimate prevention tool. A few years ago we experienced a series of wing failures on ultralight aircraft; some of the failures were attributed to overload on flight control surfaces or improper assembly. If you elect to fly a non-certified aircraft, or if you are building your own (and there are many of you who do), take the necessary steps to ensure your aircraft will give you maximal structural integrity. Transport Canada and the Canadian Owners and Pilots Association (COPA) are two of the best resources you should draw on when operating non-certified aircraft. △

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Recently Released TSB reports

The following summaries are extracted from Final Reports issued by the TSB. They have been de-identified and include only the TSB's synopsis and selected findings. For more information contact the TSB or visit their Web site at <http://www.tsb.gc.ca/>. —Ed.

TSB Final Report A01O0164—In-flight collision

On June 20, 2001, at 20:05 eastern daylight time (EDT), a Robinson R22 helicopter, with only the pilot on board, departed Lindsay, ON, for the Toronto/Buttonville Municipal Airport. At 20:22 EDT, a Cessna 170 took off on Runway 18 from a private grass strip, locally known as Sandford Field, with only one person at the controls, who was never licensed as a pilot. This person planned to conduct one left-hand circuit and landing. At 20:25 EDT, the two aircraft collided in visual meteorological conditions (VMC) at approximately 700 ft AGL. The accident occurred near Uxbridge, over a farmer's field 1 NM south of Sandford Field. The helicopter's tail and the main-rotor system sustained catastrophic damage, rendering the helicopter uncontrollable. The helicopter pitched inverted and plunged to the ground, and the pilot was fatally injured. The C-170 sustained substantial damage; however, the person at the controls was able to control the aircraft and conduct a forced landing in a nearby cornfield.



Findings as to Causes and Contributing Factors—Neither the R22 pilot nor the person at the controls of the C-170 saw the other aircraft in time to avert the collision. The design limitations of both aircraft with respect to pilot visibility, combined with the intercept geometry, contributed to the R22 pilot and the person's failure to see and avoid the other aircraft.

Findings as to Risk—The person at the control of the C-170 was not licensed as a pilot, and the C-170 did not have a valid certificate of airworthiness. The TSB also added that while there were no requirements to broadcast their positions or intentions in the airspace they were flying, the

collision might have been averted had either the R22 pilot or the person at the controls of the C-170 been aware of the proximity of the other aircraft through direct or indirect communication.

Editor's Note: In discussing this accident with colleagues, it was argued that the collision may still have occurred had the person at the controls of the C-170 been properly licensed, but we will never know. Nonetheless, this accident is blatant proof that there are some people out there who disregard the system and play by their own rules, and ultimately put legitimate pilots and passengers at greater risk. If you know of anyone flying who should not be, tell someone about it.

TSB Final Report A01W0186—Collision with terrain

On July 26, 2001, a wheel/ski-equipped Cessna A185F departed Yakutat, AK, to pick up two glacier climbers who had been dropped on the Kennedy Glacier, YT, several days earlier. When the pilot aerially inspected the base camp, located at the 8 500-ft level, he noted that the climbers were not there. After searching the area where the climbers intended to climb, he found them at the 12 000-ft level. Because of inclement weather, they had become stranded, ran low on food and fuel, and were unable to descend to the base camp. The pilot landed close to the climbers. Once all were on board, the pilot commenced a take-off run. Before the aircraft could become airborne, the ski struck snow drifts and ridges associated with crevasses in the glacier. The aircraft then nosed over and dropped about 80 ft into a crevasse. When the aircraft did not return to base, a search was initiated. The aircraft, which was substantially damaged, was found the following day. Both climbers sustained serious injuries. The pilot sustained a fatal head injury.

The pilot had dropped off the two climbers on the Kennedy Glacier on July 10, 2001. Arrangements had been made with the pilot to be picked up at base camp on July 26, 2001. Because of inclement weather, the climbers did not return to the base camp; instead, they set up camp in a conspicuous location at the 12 000-ft level on Cathedral Glacier to await pickup.

On the scheduled day of the pickup, the pilot flew to the base camp, but could not find the climbers. After a brief search of the area, he found the climbers at the higher elevation. He then landed nearby and loaded the climbers and their equipment. The pilot and the climbers discussed glacier conditions and crevasses nearby, some of which were covered with snow.

The takeoff began at about 18:15, opposite to the direction the aircraft had landed, at approximately 12 000 ft ASL. The initial portion of the take-off run was down a 10° to 15° slope before it flattened out. This flat area was composed of smaller crevasses

that had been covered with snow and had the appearance of shallow depressions. When the aircraft contacted the smaller depressions, it began to skip and turned approximately 10° to the left, as shown by the tracks in the snow.

The aircraft eventually came into contact with the lip of an open crevasse, then with a large drift of compacted snow. The propeller and the skis separated from the aircraft and were found at this location. Shortly after contacting this drift, the aircraft nosed over and fell into the next open crevasse. The aircraft came to rest on its back at the bottom of the crevasse, in a nose-

down attitude, at approximately 11 500 ft ASL.



Aerial view of slide path and aircraft at rest in crevasse.

Glacier flying requires the pilot to identify the take-off path and to ascertain reference landmarks that will be visible from the ground before landing.

This would prepare the pilot for the likelihood that distant portions of the take-off surface would not be visible during the initial take-off run, due to surface undulations.

Findings as to Causes and Contributing Factors—The series of small depressions in the glacier surface and the 12 000-ft altitude most likely prevented the aircraft from becoming airborne before reaching the larger open crevasses and the associated drifts of compacted snow.

Findings as to Risk—At the time of impact, the pilot was not wearing the shoulder harness provided. This lack of physical restraint contributed to his fatal injuries when the aircraft struck the bottom of the crevasse. △



to the letter

Lowering flaps after overspeed...

Dear Editor,

I was somewhat concerned after reading the article *Wrapped Radio Cord Causes Control Problems* in ASL 2/2002. In particular the line “During a long final approach, the instructor lowered the flaps in an attempt to slow the aircraft to a lower touchdown speed.” This is an aircraft that had just been subjected to a serious overspeed condition. As was noted later on in the article, the flaps had been “extensively damaged.” C150/172 aircraft have had a number of flap asymmetry incidents due to damaged flap tracks and an overspeed is an excellent way to do exactly this sort of damage. Lowering potentially damaged flaps is, in my opinion, asking for problems. There is a risk of one flap lowering further than the other resulting in an uncontrollable roll. Additionally, there is a good chance of the damaged flaps jamming in position such that retraction might not be possible even if the pilot had time to react given the low altitude (on final) at which flaps were selected. Unfortunately, the Cessna 150 manual gives very little guidance on emergency procedures following an overspeed, and as pilots, we have little “official information” to go on in an emergency such as this. While this aircraft landed safely, it should be stressed that the procedure of lowering flaps (or making any configuration change) after a severe overspeed is not advisable unless it is absolutely critical to landing the aircraft.

Phil Laird, P. Eng., Ste-Foy, Quebec

Brakes freeze while sitting in slush

Dear Editor,

The lead article “Just a Bit of Slush” by William Ives, as published in ASL 1/2003, is excellent and most informative. I can, however, add an additional “winter flying note” based on an experience I once encountered. The outside temperature was below freezing when I was cleared to taxi to Runway 24R at Toronto’s Lester B. Pearson International Airport; the taxiway was quite slushy and the wind was quite strong at the time. I was flying a Bellanca Crusair “tail-dragger” and as it did not have a steerable tail wheel, considerable use of brakes was necessary to keep the aircraft proceeding in a straight line to the take-off holding position where I had to wait for several minutes for aircraft ahead of me to depart. Thus, it was quite an embarrassing moment for me when the tower finally cleared me to the runway to line up and hold, as even with full throttle the aircraft would not budge. This dilemma was caused by slush and snow on the taxiway being thrown against the heated brake drums on the wheels. During the 10-minute wait for take-off clearance, with the help of the wind and below-freezing temperatures, the liquid that impregnated the wheels and brakes froze solidly and prevented the wheels from turning. Luckily my passenger was another licensed pilot who was able to break the ice free at the wheels so we could continue our journey. Lesson learned—plan to keep those wheels constantly turning under such circumstances to prevent the brakes from freezing.

Bill Pepler, Ottawa, Ontario

Accident Statistics—A Quick Look

Two years ago, in ASL 2/2001, we discussed accident statistics for the 1994–2000 period, indicating the total number of accidents for Canadian-registered aircraft per year (excluding ultralights), the total number of fatalities per year, and the five-year average for each category. The numbers from 1994 to 1998 are repeated here, but the keen reader who will retrieve the 2/2001 issue of ASL will notice slight variations; the totals may vary with time as the TSB updates the database as new information is received. The occurrence statistics can be found on the TSB Web site at <http://www.tsb.gc.ca>.

Up until 1998, the numbers were relatively steady and showed little movement either way. If anything, the years 1997 and 1998 had us going the wrong way—UP! However, starting in 1999 and continuing in 2000, the numbers started a significant, constant decline. Well, the latest numbers have been released and we are pleased to report that the downward trend, which started in 1999 in both the number of accidents and fatalities, has been convincingly maintained. Just take a look:

Year	Accidents	Fatalities
1994	381	80
1995	390	107
1996	342	70
1997	356	77
1998	386	85
1999	341	65
2000	319	65
2001	295	62
2002	273	47

Source: Transportation Safety Board of Canada (TSB)

The five-year average for accidents went from 371 for the 1994–1998 period, to 323 for the 1998–2002 period. The five-year average for fatalities, during the same time period, went from 84 to 65. Taking into account that these numbers are averaged over five years, the decreases are noteworthy. They once again indicate, as they did in 2001, that we are definitely on the right track.

In the 2001 report, there were substantial decreases in the totals for the commuter and air taxi sectors of the industry, while the private sector had registered increases to their five-year averages. This time around, while the commuters have remained on average and the air taxi segment has continued its downward trend, the largest improvement in the

past two years has been registered in the private sector.

The commuter sector (fixed-wing only), for the 1998–2002 period, had 10, 13, 4, 8 and 6 accidents respectively. For the same five years, the air taxi segment (fixed-wing only) had 108, 70, 45, 37 and 40 accidents. While the numbers have steadied-out over the past two years, they are still below their five-year average (1998–2002) of 8.2 for commuters, and 60 for air taxi. Of particular interest, while the total number of accidents keeps decreasing, the numbers for helicopter accidents remain steady, with 57, 46, 53, 47 and 56 accidents for those same years. Therefore, the percentage of helicopter accidents compared with the total number of accidents is increasing every year (14.7% in 1998, up to 20.5% in 2002).

From 1998 to 2002, the private sector (including flying schools and clubs) had 153, 171, 174, 168 and 139 accidents respectively. The 2002 total, 139, is the lowest on record since 1989, when the TSB started recording these statistics.

Some amongst you may attribute these back-to-back declines to reduced flying after 9/11, but we can't help to believe that a measure of these successes can also be credited to a variety of joint safety initiatives between industry (you, the operators, and private flyers), agencies (TSB, NAV CANADA, associations, unions, etc.) and finally the government. Recent initiatives, from the 191 *Moshansky Commission Recommendations* (1989 accident at Dryden), to the 71 Safety of Air Taxi Operations Task Force (SATOPS) recommendations, to "*Flight 2005: A Civil Aviation Safety Framework for Canada*," and no less than 431 aviation safety recommendations from the TSB and its predecessor, the Canadian Aviation Safety Board, have all helped to positively affect safety attitudes throughout our industry.

But like they say, even if you're on the right track, you'll still be run over if you just sit there, so we need to ensure that we attract, recruit and retain quality people to fill all those shoes. This year's Canadian Aviation Safety Seminar (CASS) is all about people. Scheduled for April 14 to 16, 2003, in Montréal, Quebec, the theme of CASS 2003 is "*Aviation Human Resources: The Core of Our Industry*." It was developed to address the challenges the industry will face in the areas of personnel selection and recruitment, training, retention and knowledge transfer. For more information, check our Web site: <http://www.tc.gc.ca/CASS>. △

**Need to Review Your VFR Minima?
Go To A.I.P. RAC 2.7.3 or read CAR 602.114 and 602.115**

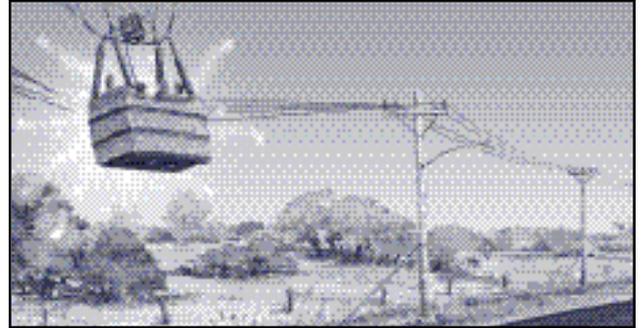
Recreational Aviation

by Serge Beauchamp, Section Editor

The Danger of Power Lines: Balloon—Aerostar RX-7

The pilot checked the weather three times before departure. The weather forecast for the flight was: winds from 280° true at 10 kts; visibility greater than 6 SM; a broken cloud layer at 3 000 ft AGL; and, temporarily [from 17:00 to 20:00 eastern daylight time (EDT)], visibility 6 SM in light rain showers. The winds, as measured at takeoff, were from the north-northwest at approximately 3 kts. During most of the flight, the weather was favourable, however towards the end of the flight, the pilot saw that the sky to the east of his intended flight path was getting dark, so, he decided to land as quickly as possible. He reported that the winds on landing were approximately 4-6 kts (7 mph) and had been relatively constant throughout the flight.

The initial landing site was at a distance of about 600 ft upwind of a road and some power lines. The landing was a little bumpy but the basket did not tip over. The pilot, who had over 500 hours of experience, then established the balloon in equilibrium and the ground crew walked the balloon closer to the road for ease of recovery. Upwind of the road and approximately 240 ft upwind of power lines, a second landing was made and the deflation process initiated. Suddenly a gust of wind picked up the balloon with the pilot and two passengers in the gondola and one ground crew hanging on the outside of the basket. The ground crew let go at a height of



approximately 15 ft, and fell to the ground. The balloon drifted with the wind, and became entangled in the power lines. An electrical arc occurred and the gondola caught fire. There were injuries and one casualty.

The balloon flight manual suggests maintaining at least 100 ft of horizontal separation from power lines for each mile-per-hour wind at the landing site. The location of the initial landing site was close to this requirement; however, when the balloon was walked closer to the power lines, the separation was lost. As winds associated with towering cumulus clouds can be unpredictable, better use of the recovery truck might have averted disaster. 🍷

Source: TSB file A01O0200.

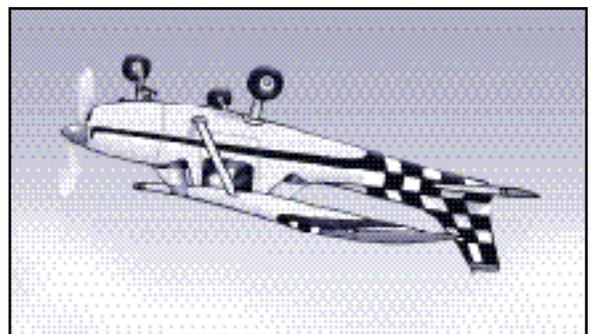
It Can Happen to You!

No one is immune to the danger that foreign object damage (FOD) represents.

An experienced aerobatic pilot had performed a thorough pre-flight inspection of a Cessna 152 before setting out on a flight. While performing a roll manoeuvre at an altitude of approximately 4 500 ft, the ailerons jammed in the full-deflection position. The pilot tried repeatedly to return the ailerons to the neutral position, but to no avail. Fortunately through the use of considerable force, at an altitude of approximately 3 500 ft, he managed to turn the control wheel to neutral and with the skilful use of the rudder, he was able to land safely.

Following examination of the controls by an aircraft maintenance engineer (AME), an upholstery screw was found lodged in the aileron control chain on the control column. Further inspection revealed that several upholstery screws were missing from upholstery trims and interior panels. The screws had probably fallen out because of the plane's vibration and because the screw holes were enlarged from repeatedly removing and installing the upholstery trims and panels. FOD is dangerous and can bring about complications that will render an aircraft or system unserviceable. Always make sure that your aircraft is free of foreign objects. After a long period of non-aerobatic use, dust, dirt and even pieces of aircraft material will often accumulate in the cockpit, so you must take care to clean, vacuum and inspect it carefully for any loose or missing screws and upholstery trim. A tragedy was averted here through the will to survive, along with a little luck. 🍷

Source: TSB file A02C0226.



Accident Reports from the TSB, NTSB¹, and AAIB²

Watch out for power lines : Avian Balloon Skyhawk. The pilot was proceeding to land in a field when he observed power lines in the landing path. The pilot and a passenger chose to jump to the ground before the balloon collided with the power lines. While the passenger sustained minor injuries, the pilot was seriously injured. The balloon was not damaged. Winds were 100° at 5 kts. Power lines are very difficult to see, but if a pilot concentrates on looking for pylons and power line poles, he will improve his chances of avoiding such obstacles. A pilot may also elicit the help of his passengers to signal any safety matter that they may observe during the flight, as this will increase the level of safety and ensure a successful and memorable outing.

Unqualified pilot, medication and unapproved modifications : A student pilot chose to fly his newly purchased, second hand, Rans S4 Coyote—contrary to the direction of his instructor. The pilot was fatally injured when he crashed immediately after takeoff. Aside from contravening the privileges of his Student Pilot Permit, two other factors may have played a role in this fatal accident. It is reported that the pilot suffered from a viral infection and may have been under the influence of cold medication. It is possible that he may also have experienced difficulty with the flight control system at takeoff, a situation that may have been related to contact between the seat and the aileron control torque tube. Mixing an unqualified pilot with medication that may impair one's ability to operate machinery is a recipe for disaster. Relying on an unqualified pilot to ensure that all components of an unfamiliar aircraft are installed and operating properly can lead to problems too. All pilots, including students, must respect the privileges of their licences and permits. If you fly, exercise care when using over-the-counter medication. If any doubt exists, consult your Civil Aviation Medical Examiner.

See and avoid : Piper Pawnee and KA13 Glider. The Piper Pawnee tow aircraft had just released a glider and was slowly making its way to the airport with its towrope hanging from the tail hook. The glider was orbiting close by and each pilot saw the other, from a distance of approximately 200 m, closing in head on. In spite of rapid avoidance manoeuvring, the towrope hit the canopy of the glider, causing damage to it and to the wings. Both aircraft landed without further damage or injury. Tow pilots should be especially vigilant when returning to the field, and take extra care to avoid manoeuvring in the vicinity of gliders approaching for landing. Gliders flying in the pattern do not usually have the luxury of speed, altitude and manoeuvrability to enable them to easily avoid other aircraft or obstacles. As a tow pilot, make it a habit to ensure that all incoming traffic is identified and cleared before proceeding to land.

Mid-air collision : Nova Axon. While soaring at 100 ft with several other paragliders and a couple of hang gliders, the pilot heard shouting but was unable to determine where it was coming from. He looked over his shoulder just as a hang glider's wing tip hit the back of his harness. He landed immediately without injury but the hang glider pilot continued his flight for another 15 min. Flying calls for the highest degree of safety and can only be assured through methodical re-evaluation of all of the factors that come into play. Both pilots should have landed immediately and reviewed the event to find out what led to the collision. A review of the incident through group discussion would certainly benefit all who fly that type of aircraft and would help to considerably reduce the risk that such an event would recur.

Wonderful emergency parachutes : Icaro Mr 2000. At the end of a two-hour thermal soaring flight, the pilot initiated a high-speed dive. As the pilot slowed the glider, it pitched up to 90° and then tumbled. Although the glider righted itself, the right wing had broken during the tumble. The pilot deployed his emergency parachute and landed safely on a grassy slope. This might have been a condition where the pilot exceeded the maximum speed and structural load factor allowed by the manufacturer, and possibly weakened the structure to the point of failure. Fortunately, he had sufficient height and control to release the emergency parachute and averted disaster. Pilots of ultralight airplanes should be vigilant and refrain from performing any manoeuvres that might inflict an overload on the structure. Furthermore, a careful inspection of the aircraft should be carried out at regular intervals and any time one feels that the structure might have sustained an overload. This will go a long way towards ensuring the continued airworthiness of the aircraft. Emergency parachutes have been found by many pilots to be well worth the investment, and the weight penalty, as they have saved numerous lives and aircraft from destruction.

Carburetor heat and full harness : Jabiru UL. When carburetor heat was applied at 500 ft AGL on the approach to the microlight strip, the engine lost power. A forced landing was carried out on a ploughed field and the microlight overturned. The full harness prevented injury to both occupants. Normally the use of carburetor heat is recommended whenever the risk of carburetor icing is present or suspected, and when at pattern altitude before landing. In this case, the selection of carburetor heat several times during the flight, and at traffic altitude, might have alerted the pilot to the presence of ice in the intake and to the possibility of power loss upon approaching for landing. It should be noted that unless a pilot holds an ultralight airplane instructor's licence, he is

prohibited from carrying a passenger. The flight has to be for training purposes, unless the passenger also holds an ultralight airplane pilot licence, or a private- or higher-qualification pilot licence approved for the type. Legislation to permit the carriage of a passenger in an ultralight airplane and a training syllabus for pilots is under review at the present time. We will keep you posted.

Loss of control on takeoff¹ : Interplane SkyBoy. A pilot received serious injuries and the ultralight airplane was substantially damaged following the loss of control during takeoff. The pilot reported that he failed to maintain optimal climbing speed before the aircraft rolled to the right and to the left and contacted the ground. According to witnesses, the

ultralight airplane became airborne at a nose-high attitude after a ground-run of 100 ft. The wings rocked from side to side at an altitude of 25 ft and the aircraft descended to the runway, inverted. The pilot had purchased the aircraft recently and only had 15.4 hours of experience. This seems to be a case of insufficient training, limited knowledge of the aircraft specifications and flight characteristics, as well as the requirements of the regulations to operate as pilot-in-command of a new aircraft. The loss might have been greater had he lost his life! Proper training from a qualified instructor would have ensured countless hours of safe flying in his newly acquired aircraft. 

¹ National Transportation Safety Board ² Air Accident Investigation Branch

Human Factors and Accidents

Year after year, we hear about pilots who are involved in accidents; sometimes even fatal ones. Often the pilot's family and friends are bewildered at the fact that this professional or private pilot was involved in an accident. We hear remarks such as, "He was such a methodical pilot; he was so careful, and he knew his airplane so well." It is quite possible that he fell victim to a condition that afflicts us all—human errors. It may have been caused by fatigue, stress, complacency, lack of recent training, or illnesses. It could have been physical, psychological or both, in nature.

Flying is always a serious business. The environment and the qualities necessary for a successful flight are demanding, whether you are flying a trike, a hang glider, an ultralight, a paraglider or a powered paraglider (PPG). The flight starts before you do the walk-around of your aircraft, and ends only after you have secured the aircraft and have ascertained to a degree that you and your passengers are safely back home.

This brings to mind two important qualities of a good pilot. The first is that he or she is serious about his or her flying and he or she gets recurrent training. Professional airline, commuter and military pilots continually get training, and the accident rate in those fields is very low. At least once a year, your money would be well

invested if you booked a certified flight instructor to review all aspects of flight with you, including a thorough ground briefing and a flight check. The second important quality of a good pilot is that he is very familiar with the aircraft's pilot operating handbook (POH) and uses a checklist during all the necessary phases of flight. Before a flight, he reviews the emergency procedures found in the POH and makes sure he is prepared, should it occur. When you fly an ultralight, a trike, or a PPG, make up a checklist that covers procedures to follow in case an emergency situation occurs.

Accidents usually happen because people fail, and less often because machines fail. Consider the fact that any deviation from the prescribed regulations or the manufacturer's instructions may void the insurance policy and opens the possibility of legal action against you or your family. The legal battles may go on for years, and are not pleasant for anybody.

Human factors affect our lives everyday, and as pilots—whether we are flying professionally or for fun—we must realize that flying takes practice and abilities beyond those required for ordinary tasks.

Such a realization will ensure the continued pleasure and satisfaction we all derive from aviation. 

Is Your Life Hanging by a Thread?

Aircraft fabric is not like the cotton from a good old pair of pants or a comfy old shirt—it won't last forever. It isn't submitted to the same stress either, as it is subjected to constant loads and changing weather conditions. How often do you ask yourself, "I wonder what the life expectancy

of the fabric covering my airplane is? I wonder if it's still airworthy?"

Since you're the one responsible for the continued airworthiness of your ultralight, microlight or amateur-built airplane, you should ask yourself those questions at least once a year and take the appropriate action to con-

firm that your synthetic fabric is indeed airworthy. The life span of aircraft fabric is affected by its exposure to the elements, the kind of flying that you do and the care that it receives. Initially though, the attention given to the manufacturer's recommended installation process is of

paramount importance to ensure that the fabric will last a long time. The protective coatings (ultraviolet light (U-V) blocker coatings and paint), the application process and the cleanliness of the fabric before painting are all extremely important as well. Aircraft fabric usually consists of PolyFiber® or Dacron®, but in some cases it may be Tedlar® or RipStop

Nylon. It may be called Ceconite®, Stits PolyFiber®, Nylon and other names but it remains a synthetic fabric. The fabric can have a life span of over 20 years if the installation is done properly and it receives adequate care, but it may not last more than a couple of years if you fail to use the recommended U-V blocker coating that serves to protect it

from molecular breakdown due to sunlight and if you let the aircraft sit outside in the weather. The weight of the protective coating on any ultralight or microlight airplane is negligible when you realize that it is spread over the entire surface of the wings and structure. Your safety resides with you. Take action! 

The Hazard of Aircraft Refuelling with Plastic “Jerrycans”

Spring is almost with us, and so too is the hazard of aircraft refuelling. When you refuel your aircraft from a plastic container that is not grounded to the aircraft, it creates a definite fire hazard. Unfortunately, many aircraft have been lost during this seemingly simple process. Aircraft and lawnmower fuel tanks do not share all of the same environmental factors that create this hazardous situation. Nevertheless, the same risk is present when you refuel a lawnmower. The difference is based on the electrostatic potential of the two machines. Given the proper temperature, humidity, barometric pressure, and wind conditions, the aircraft becomes electrically charged because its wing and structure area are exposed to air, which charges them electrostatically. Likewise, the plastic fuel container gets charged when being refuelled. If you do not ground the container to the aircraft structure, or directly to the aircraft fuel tank, with the help of a wire—preferably touching the bottom of the plastic container—and a clamp on the fuel tank before you start dispensing fuel, the difference in electrostatic potential makes the charged electrons race from the aircraft tank to the fuel container at an accelerated rate in order to establish a balance of electron potential between the



two structures. This occurs in microseconds and brings about a source of ignition of the fuel molecules in movement at the surface of the gasoline and the ensuing potential for fire. So be careful, and make sure to ground the aircraft to the ground and ground the fuel container to the aircraft before refuelling. Using a metal fuel container, a metal funnel, bonding wire and a clamp to ground all articles to the aircraft should ensure safe fuel transfer. Equally important is to have at-hand, a fire extinguisher of sufficient size to save your aircraft when refuelling. The value of your life and of your aircraft is worth countless numbers of fire extinguishers. Happy flying! 

Forest Fire Season Reminder!

Forest fire season is once again upon us, and while it concerns all of us, we had a special request by the Forest Protection Division of the Province of Alberta to raise the awareness of this important safety issue. They have concerns with aircraft violating the airspace in and around forest fires. This includes commercial operators flying both private charters and/or fixed routes on a schedule, training school students, and also the military. We urge all of you to be sensitive to the needs and requirements of those agencies involved in fighting forest fires with aircraft.

Section 601.15 of the *Canadian Aviation Regulations* (CARs) provides that no unauthorized person shall operate an aircraft over a forest fire area, or over any area that is located within 5 NM of one, at an altitude of less than 3 000 ft AGL. Refer to the “Take Five” published in ASL 3/99, which can also be found at http://www.tc.gc.ca/aviation/syssafe/newsletters/letter/asl-399/english/T5_forestfire_e.htm. 

COPA Corner—Let's Stop Talking About Safety

by Adam Hunt, Canadian Owners and Pilots Association (COPA)



I recently had a non-flyer approach me and ask about learning to fly. He asked the usual questions including the one I always hate to hear: “Is it safe?”

The easy answer is to reassure them, “Of course it is safe; otherwise the government wouldn’t let us do it, would they?” But that isn’t a truthful answer.

It would be more accurate to say; “No, flying isn’t safe,” but many people in aviation, particularly in aviation safety, would consider that heresy! But the truth is, flying is not safe.

Webster’s defines “safe” as “without risk” and that was exactly what this person was asking me, “If I take up flying, is it without risk?” The answer is no, it is not without risk.

For years we have been talking about aviation safety as if it were the way to achieve flying without risk. But that approach draws us away from the key issue—it isn’t about being “safe,” it is about understanding where the risks are and managing them effectively.

Perfect aviation safety can only be achieved by locking the hangar doors, with the airplane inside. Then you can have a situation “without risk.” Well, except for hangar fires, I suppose.

The truth is that all activities in our lives are risky to some extent. Canadians die every day from smoking cigarettes, driving their cars, jaywalking or even taking a shower. We don’t ask if taking a shower is “safe.” We take steps to manage the risks that can occur when you mix soapy feet and slippery bathtubs. We install non-slip surfaces, grab handles or perhaps don’t wash our feet in the shower.

We need to start looking at aviation the same way we do showers. We need to manage the risks, which isn’t a very difficult thing to do.

The first step is to acknowledge that there are risks in flying and that there are some activities that are more risky than others. Accident data tells us where the risks are. For general aviation, flying light aircraft at night is more risky than flying during the day, and instrument flying is more risky than VFR flying. Night IFR flying is a high risk. Low flying is more risky than flying at higher altitudes and flying really low is very risky. Flying while tired is more risky than flying while fresh. And so on...

The risks are different in each type of flying. History has shown that for airlines, VFR flying is unacceptably risky.

Once you identify where the risks are, you need to add them up and see if they are too high. If they are too high then you need to take steps to reduce the risks to an acceptable level. Sometimes that will mean waiting rather than flying. A night VFR flight home in a single pilot aircraft, in marginal weather, after a 16-hour workday filled with meetings and no time for dinner might add up to too great of a risk. Perhaps that risk could be reduced by staying overnight and leaving in the morning, after a good night’s sleep.

We don’t want to stop flying or taking showers. But we owe it to ourselves, and those who depend on us, to deal effectively with the risks of flying.

So what did I tell the prospective aviator? “Flying has its risks, but almost all those risks are manageable. We learn to identify and manage risks. That is what learning to fly is all about.”

That seemed to make sense to him.

More information about COPA is available at www.copanational.org △

Restricted Area—What Restricted Area?

by Renée Sward, General Aviation Inspector, Calgary Transport Canada Centre

Every pilot learns about restricted areas when getting their licence. What they may not necessarily know is that restricted areas aren’t marked out with big hash marks on the ground. Without using a current aeronautical chart, and accurately knowing where you are, you can’t really tell if you are flying in a restricted area. Just because you can hop in your aircraft, punch a few buttons, and fly directly to your destination, does not mean that it’s a good idea to do it. Good route planning is essential for safe cross-country flying.

Not only is flying through a restricted area without authorization a violation of the regulations, it can be really hazardous. For example, the Suffield restricted area near Medicine Hat, AB is used for heavy artillery practice. How heavy? Try to imagine an artillery shell weighing about 35 lb and traveling at near 1 000 kts. Its trajectory takes it over 18 000 ft high and it lands more than 10 km (6 mi.) away. The range personnel take every precaution to make sure the area is clear of all traffic before firing. Unauthorized traffic that is seen by range personnel causes interruptions and delays. The result if the firing range personnel do not see your aircraft could be far more serious. Please take the time to review a chart, plan a smart route, and file a flight plan when you fly cross-country. △

Time for Underwater Egress Training?

Testimonials are often used by sales people to pitch all kinds of products, from magic pills to fat-free cooking... Of course, we as consumers must use our own intuition and judgment to see if these are genuine, or simply instruments to push the deal through... But in our business, a testimonial about how such or such service actually saved one or more lives isn't something to sneer at. This is why I keep supporting companies who have put time, effort and resources into offering underwater egress training to the industry.

A Canadian underwater egress training company had recently trained company pilots from a small floatplane operator in the US, when two of those trainees found themselves submerged and inverted in water during a dual training flight. The two pilots were able to quickly egress from the cabin. They unquestionably credited the training they had received as invaluable, and largely responsible for giving them the confidence and skills needed to face this real-life emergency.

One of the real advantages of many underwater egress training companies is that they can travel to you, as opposed to you having to travel to them. They have transportable dunkers, which they bring to a local public swimming pool. This drastically reduces the training costs—**your** training costs. They also usually include a comprehensive ground school portion, which addresses survival issues, life-saving equipment and how to use and take care of them.

Explaining the underwater crash panic which takes place is not enough; pilots should experience it for themselves in a controlled environment, similar to practicing emergencies in a simulator. Most people get disoriented and would have great difficulty getting out unless they experienced the training upside down in a pool. Ms. Kathy Fox, Assistant Vice-President of Air Traffic Services at NAV CANADA and recipient of our 1999 Transport Canada Aviation Safety Award, happens to be an active Flight Test Examiner, a competitive precision pilot and a very strong advocate of aviation safety. She experienced the practical exercises in a pool in the summer of 2002. Here's what she had to say about the training:



Photo courtesy of Aviation Egress Systems.

“A dozen or so immersions in both single and dual dunkers made me experience first hand how one can become perilously disoriented and fixated when upside down under water. I left the course feeling exhausted, but more confident about my ability to survive a ditching. I think this practical egress training is essential safety training for any pilot who flies on or over water.”—Kathy Fox

An instructor also shared his concern about the C-13 life vests such as the unit found in many Canadian registered aircraft. His personal experience while training is that less than 10% of pilots have ever felt one of these life vests out of the plastic package, or even given them much thought! This could pose a problem when two people are hurt and three more are non-swimmers, and they all depend on the pilot for guidance while floundering around a sinking aircraft. He suggests that all pilots who operate over water familiarize themselves with that very important safety item, and better yet, consider wearing one in flight.

Also check your life vest's last certification date. If it is out of date, get it inspected as it may let you down when you really need it. Other styles of inflatable vests, which are wearable and comfortable, have recently been approved for aircraft use and may become more accepted by pilots and passengers. One final point the instructor wants to make, which I also endorse, is that every Commercial floatplane operator in Canada should attempt to have all their crews properly trained in underwater egress procedures. △

SARSCENE 2003

The National Search and Rescue Secretariat (NSS) is pleased to announce that SARSCENE 2003, its twelfth annual search and rescue workshop, will be held in **Kingston, Ontario, October 15–18, 2003**. SARSCENE 2003 is where you'll find participants from all across Canada and around the world who will come to share their stories and learn more about new search and rescue techniques, initiatives and products.

The local host organization will be the Ontario Provincial Police, with the support of the Ontario Search and Rescue Volunteers Association (OSARVA). The workshop kicks off with the seventh annual SARSCENE Games on October 15, followed by presentations, training sessions and the trade show over the following three days. For more details, please call 1 800 727-9414 or visit the NSS Web site at <http://www.nss.gc.ca>. △

Lessons Learned in 2002? Read and Weep...

The following occurrence descriptions were randomly selected from the TSB's Class 5 investigations for the year 2002. As you will see, there are very few new accidents. The occurrences have been slightly edited and de-identified, just enough to protect the innocent, the foolish or the simply unlucky aviators. Some locations were left in where needed for proper context.

The pilot of a Piper PA 28-180 was attempting to land on a road 10 NM south of Lloydminster, AB, when the aircraft came into contact with an unmarked power line. The aircraft struck the ground causing substantial damage to the wings, engine, and forward fuselage. The pilot, who was the sole occupant, sustained serious injuries as a result of the accident. Fuel was spilled, but there was no post-crash fire. It was reported that the pilot had landed on this road on several occasions.

Should we mark all power lines near roads? —Ed.

A Cessna 172M was departing Runway 25 at a private airstrip with the pilot and two passengers on board. The winds were estimated to be from 200° at 7 to 10 kts, the temperature was approximately 24°C, and the surface of the airstrip was soft, dry silt. The pilot selected 10° of flap for the takeoff and the aircraft became airborne after a sluggish ground roll, about 2 000 ft down the runway. On climb through 40 ft, the aircraft encountered increasing performance wind shear and the pilot selected the flaps up. Immediately thereafter the aircraft encountered decreasing performance wind shear and the aircraft entered a full-power departure stall. At that point the pilot elected to reject the takeoff/climb. The aircraft descended into the second growth vegetation on the departure clearway and came to rest upright approximately 230 m beyond the runway end cones. The pilot sustained minor injuries and the passengers sustained non-life-threatening, but serious injuries, including broken bones and lacerations. The aircraft was substantially damaged. The runway is located at 1 910 ft above sea level and the aircraft was at or near gross weight at the time.

The pilot "elected to reject" after entering a full-power departure stall...hmmm...This one is worth discussing with your flight instructor, i.e. taking off in hot weather, heavy aircraft, soft field, etc...and also about the use of flaps. —Ed.

A privately-owned Luscombe 8C was on a local flight at High River, AB. On landing, the aircraft bounced several times and the pilot elected to reject the landing and go around. As the aircraft climbed out, the wheels caught a fence. The aircraft came around beside the runway and overturned. There was one occupant and no injuries.

High fence or late abort? —Ed.

A Cessna 182 approached a 2 424 ft-long airstrip at a speed faster than normal after a parachute drop, floated a considerable distance before touchdown and overran the strip. The aircraft went through a fence and came to rest in a ditch, sustaining substantial damage. The pilot was not injured. Winds were light at the time of the accident.

High and hot? Know when to abort! —Ed.

An amateur-built Slepcev Storch was manoeuvring at low altitude when the right wing tip hit a gate post. The aircraft looped to the right, collapsing the right main gear and damaging the cowling, propeller and firewall. The pilot, who was the sole occupant, was not injured.

Must have been the Pearly Gate. —Ed.

A Cessna 175 on a pleasure trip was at low altitude to overfly a small road for landing in the future, when it encountered rough air turbulence. Soon after, the aircraft flew into some dead air and was forced down. Power was applied simultaneously as the aircraft struck a power line. It then crashed on a secondary road, and was substantially damaged. There were four people on board. The pilot was seriously injured but there were no injuries to the passengers.

Low flying, rough turbulence, dead air, power lines...nasty combination! If you're going to test fate in such a way, at least go by yourself. —Ed.

A Cessna U206G touched down at approximately the midpoint of the 2 800-ft long private airstrip and overran the end of the strip during the landing roll. The nose wheel dug into moss in the overrun area and the aircraft overturned and came to rest inverted. The pilot and two passengers were not injured; however, the aircraft sustained substantial damage. The pilot had conducted the approach over tall trees located near the threshold of the strip, in a light tailwind, and the surface of the strip was described as very wet and muddy.

Tailwind approach over obstacles on a short, very wet and muddy runway...is it a surprise the aircraft overran the end? —Ed.

A Cessna 150M was in descent when the engine began to lose power. The pilot conducted a forced landing on a dry shore area of a lake. After a ground roll of approximately 60 m, the nose gear collapsed and the aircraft nosed over and came to rest inverted. **The pilot was wearing a shoulder harness and was not injured.**

An Ayres S-2R was on a crop-spraying run over a pea field when the engine lost power. The pilot jettisoned the remaining load and landed the aircraft straight ahead into the field where the aircraft flipped over onto its back. The aircraft was

substantially damaged, and **the pilot, who was wearing a helmet and a four-point harness, sustained minor injuries.**

Two shoulder harness success stories...need I say more? —Ed.

A Piper PA-34-220T landed to the left side of Runway 03 in IMC conditions and struck a snow wind row. The left main gear detached from the aircraft, and the left wing and both propellers sustained substantial damage. The pilot was not injured. The pilot had conducted an NDB approach to the runway, and estimated the ceiling to be 550 ft and the visibility to be 2 mi. in snow. AWOS recorded the ceiling at 0 ft and the visibility as 0.2 mi. at the time of the occurrence. The wind row was parallel to and about 25 m to the left of the left edge of the runway. The edges of the runway were marked with flags and the surface of the runway was covered with 3 in. of snow.

Pilot reported 2 mi. visibility but still missed the runway laterally by more than 25 m...I'll bet on the AWOS on this one. —Ed.

One pilot was checking out a second pilot on a Cessna 210B. Following several circuits, and during what was intended to be another touch-and-go, the aircraft landed gear up. The pilots had been interrupted and distracted with ATC calls while performing the pre-landing checklist, and did not lower the gear. The landing gear warning horn sounded during the flare and was mistaken for the stall warning. The propeller and lower fuselage sustained substantial damage; however, neither occupant was injured.

Good one to remember folks. It has happened before, and it WILL happen again. —Ed.

After a short flight, the pilot of a Cessna 180 on floats landed on a lake and started taxiing to the dock when the left float rapidly filled with water. The aircraft nosed over and sank. The two occupants on board exited the aircraft safely and were taken to shore by boat. There were no injuries. The pilot suspects the plug for the left front float compartment went missing sometime during the brief flight.

This is the time to check the plugs on your floats (and your boats for that matter...). —Ed.

A Piper PA 18-150 Super Cub was overflying an outfitting camp area to check on local conditions when the pilot decided it was too windy to land. When turning around (at 45–50 kts) to return to base, a gust of wind caught the wings and nearly inverted the aircraft. A recovery was attempted; however, the aircraft stalled and there was insufficient altitude to recover. The aircraft collided with trees and came to rest in a nose down position. The lone occupant received minor injuries but the

aircraft was substantially damaged.

Low speed low bank, high speed high bank... —Ed.

A King Air 100, on a flight from Comox, cancelled IFR with the Quesnel Airport when they had Runway 31 in sight. However, as fog patches were in the process of forming, especially to the northwest, the Prince George FSS advised that the weather at Quesnel was below VFR, so the pilot asked for Special VFR, which was approved. Seconds before touchdown the pilot lost visual reference, and during the rollout, the pilot lost directional control. The aircraft went off the left side of Runway 31, ground-looped, and came to rest on a heading of approximately 130° magnetic. None of the occupants were injured but the aircraft sustained substantial damage, mostly to the propellers and engines. A runway condition report, issued 28 minutes before the accident, indicating somewhat slippery conditions, had not been passed on to the pilot by ATS.

A few issues here...unpredictable and last minute weather changes are not uncommon, so be prepared. Cancelling IFR too early in patchy conditions may not be advisable. Also, always ask for a runway surface condition report. —Ed.

A Cessna 180 on floats was departing Tofino harbour. As the aircraft floats came out of the water onto the step, the right wing began to rise and the right float came out of the water. The aircraft began turning to the left towards a barge. The pilot reduced engine power to idle to abort the takeoff, but was unable to avoid a metal beam sticking out from the barge. The left wing struck the metal beam and the right wing struck the water, causing it to bend up. There were no injuries to anyone on the aircraft or the barge. The aircraft was towed back to the docks.

This is a lesson for float operators...allow for as much lateral space as you can, just in case. —Ed.

A DHC-2 Beaver on floats began to take off from Victoria Harbour with two pilots and five passengers onboard. During the latter stages of the take-off slide, the aircraft began to turn markedly to the left and the pilot aborted the take-off run. The pilot taxied back to the start of the take-off area and began a second takeoff. About halfway along the take-off slide, the pilot was again unable to maintain directional control, and the aircraft turned quickly to the left. The pilot aborted the takeoff but could not prevent the right wing from striking the water, causing the wing tip to dig in and the left float to become briefly airborne. The aircraft remained upright and the pilot taxied back to the dock and deplaned the passengers. During takeoff, the pilot reportedly had used full right rudder and full right rudder trim. At the time of the incident, the wind was a direct left crosswind. △

Pilot Information Kiosks: NAV CANADA Provides a New Way to Access Flight Information

by Ron Doyle, Director of Safety and Service Design, NAV CANADA

NAV CANADA's Pilot Information Kiosks (PIKs) offer pilots a new way to access important flight planning information from convenient airport locations.

The new kiosks provide fast and simple access to NAV CANADA's Aviation Weather Web Site (AWWS), which offers all of the latest weather and flight information pilots require when developing their flight plans.

The kiosk also offers toll-free telephone access to professional interpretive weather briefings provided by Flight Service Specialists.

New resources, new sources —The PIK program is part of the \$27 million Flight Information Centre project, a multi-year investment by NAV CANADA into improving pilot access to vital flight information services across Canada.

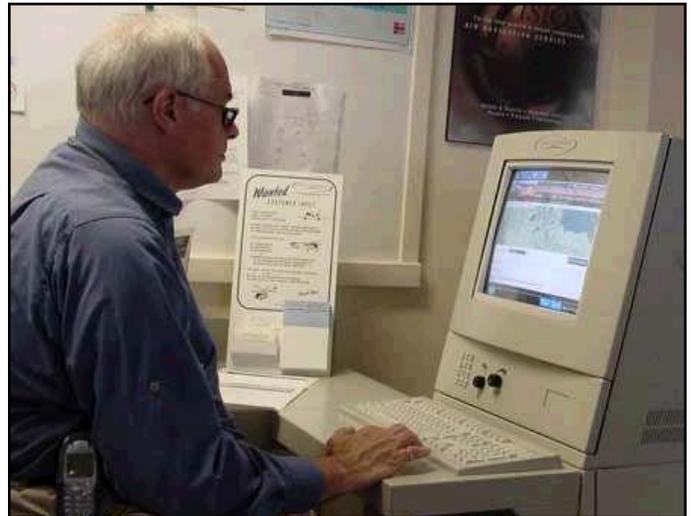
Kiosks are being installed at convenient locations in airports where pilots gather, including Flight Service Stations (FSS), flight clubs, and training schools.

Housed in a metal casing, the stand-alone kiosk features Internet connectivity to NAV CANADA's AWWS, a 17-inch colour touch screen, a full-size keyboard, a thermal printer, a touch pad and a telephone handset with speakerphone capabilities. An attached table provides a stable surface for writing and for laying out maps and other documents.

Pilots will be able to browse the AWWS and select user-defined weather and flight data, including NOTAM, for their specific flight route, a regional area, or local data tied to a particular airport. Pilots will also be able to create a personal profile through "My Weather Data," enabling them to save and access customized weather information.

Using the kiosk to access briefing services —To assist pilots in analyzing weather data, a telephone is provided at each kiosk with a toll-free direct line to Flight Service Specialists, who will provide a variety of information and interpretive briefing services in response to the pilot's requirements. To facilitate information exchange, Flight Service Specialists will have access to the same data and maps being reviewed by the pilot.

Pilots can print material at the kiosk for future reference, and then file their flight plan over the phone. A project that will allow pilots to file a flight plan over the Internet is currently scheduled to be



completed in the summer of 2003. Each kiosk will be backed by maintenance services, including remote monitoring and local support.

Roll-out strategy —At this time, NAV CANADA is installing approximately 77 kiosks at airports with FSSs. We must point out that the kiosk is most effective with a high-speed Internet connection. The unavailability of suitable Internet connections at some airports will determine kiosk locations. For those airports that only have dial-up Internet service, data download times will be slower. There are currently 48 kiosks at selected airports, with more being installed every month.

To find out where kiosks are located at airports near you, check the Canadian Flight Supplement or visit the NAV CANADA web site at www.navcanada.ca (Under "Service Projects," "Pilot Information Kiosks").

Future improvements —NAV CANADA is planning additional improvements to its AWWS, which will provide new products and improve the site's functionality and ease of use. Many of the planned changes will respond directly to suggestions made by pilots who use the site.

For additional information please contact John Footit, Manager Aviation Weather, NAV CANADA at 613 563-5603 or footij@navcanada.ca or contact NAV CANADA Customer Service at 1 800 976-4693. △

While you are taxiing, the tower signals you with a FLASHING WHITE LIGHT.

What should you do?

Answer: Return to starting point on airport. (A.I.P. Canada RAC 4.2.11)

Where You Park Can Leave Its Mark!

On August 8, 2002, a Beech 200 came in to park at a fixed-base operator (FBO) at a major Canadian airport, and was marshaled to a parking spot by an FBO employee. After shutdown, the crew noticed that they had been parked tail-to-tail with a Boeing 727, with about a 100-ft separation. As this was to be a brief holdover, the crew left the aircraft control locks off in case the FBO had to move their aircraft.

The crew returned a few hours later, and did not notice anything unusual during the walk-around or the pre-flight control checks prior to departure. After an uneventful takeoff, the crew noticed the rudder pedals no longer lined up and the rudder trim could not be adjusted. The crew consulted the pilot operating handbook (POH) and the minimum equipment list (MEL), and called their maintenance department via cell phone. After confirming they had positive directional control, they elected to continue the flight to their home base. Maintenance found considerable internal damage to the rudder system, including cracks in the trim jack housing, sheared rivets at the base of the rudder spar, torn skin on the rudder at the hinge points, and distorted bolt holes in the torque tube.

In discussions between the Transportation Safety Board (TSB), System Safety personnel and the management of both the aircraft operator and the FBO, all agreed that the situation could have been avoided, and had the potential to be an extremely serious event. It was determined that the rudder damage, which occurred during the short night holdover, was most likely caused by the jet blast of the departing 727. Given that most of the damage was internal, it would have been very difficult for the pilot to find it during the walk-around if he didn't know what he was looking for. It also took place during a calm night where external damage was not expected.



The company had made a conscious decision to leave the aircraft control locks off for brief holdovers in case the aircraft had to be moved, which in this case would undoubtedly have been a good idea. The company now uses control locks on all holdovers and places a 'No Tow' flag on the nose gear to prevent someone from moving the aircraft when the locks are engaged.

For outsiders looking in, likely without all the exact facts, it would be easy to blame any or all of the people involved in this situation. Instead, let's live by our motto and simply learn from this event. As pilots and aircraft captains, we are ultimately responsible for the proper care, and parking, of the aircraft under our guard. Always make sure your FBO has a total understanding of your aircraft and what needs to be done to protect it, including spacing between other aircraft. Let's never for a moment relinquish this responsibility to a stranger with two flashlights in his hands! △

Mystery Damage in the Cargo Hold...

Guess what caused this damage inside this forward bulk compartment of a Boeing 757? A detonation? Wrong. Explosive decompression? Try again. A mad Pit Bull? You got it! A Pit Bull in serious need of TLC escaped from his kennel in the forward bin and decided to chew through reinforced fiberglass, coaxial cables and other wires. The flight reportedly lost TCAS, both ATC transponders and a VHF/VOR receiver. The damage was so serious, it caused the operator to establish a new policy of not accepting animals of any kind with the potential of doing such damage.

Dangerous cargo takes a whole new meaning... △

