Transport Canada Transports Canada

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AVIATION SAFETY LETTER

In this Issue...

Learn from the mistakes of others;
You'll not live long enough to make them all yourself…

Canada

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Letters with comments and suggestions are invited. All correspondence should include the author's name, address and telephone number. The editor reserves the right to edit all published articles. The author's name and address will be withheld from publication upon request.

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Saying NO

by Fred Charleux, Airline Pilot and CEO, Teknoledge

Proficiency in aviation consists of two major parts: the first is written and required by the respective administrations; it is legal and tested during exams. The second part is something that is built, year after year, referred to as experience. Paradoxically, experience is exactly what we are missing and need the most at the beginning of our career as a pilot.

Before elaborating further, let's try to define what is commonly called "Experience". Do we need a certain number of hours to be experienced? At what point in our career can we say that we are experienced? Can we measure experience, and if so, how? Clearly, there are many questions and few answers. Experience seems to be such an abstract word that we would probably get a different definition from every airline pilot in the world.

However, we might agree that there is one definition that does not make any sense, and which must be eradicated from our thoughts as early as possible in our career: experience does not mean surviving! Like anything else that is built piece by piece, experience should begin with a solid foundation.

There is a fundamental flaw in thinking that experience will grow based solely on the number of hours recorded in a log book. Sometimes a non-flown hour will have more of an impact on your experience level than one that has been flown. And that is what experience is all about. I remember getting a job one time because I admitted that I had refused to fly for the previous company that had employed me.

We all know that we have to quickly log as many flight hours as possible, particularly the required 1 500, to be considered by larger operators, and we need to acknowledge the long line-ups to fly a twin-engine aircraft, especially a turbine-powered one, forcing young pilots to push their own limits through necessity. But this could be a negative experience. If the value of those hours could be gauged, the indicator would point to the negative zone. Instead, real experience could be gained through two simple letters: NO.

TSB files are full of cases where pilots have tried to develop their own experience. Even when we understand the risks of saying NO, we must recognize the benefits as well. And, in the end, this is precisely what a major operator would expect you to do. Why, at the beginning of your career, would you do the opposite of what you are supposed to do once you are ‘’experienced’’?

In conclusion, it is important to learn how to say NO. Never regret the hours you are turning down, they are not worth it. The real experience is the gain in decision making, situation analysis, self-esteem, risk assessment, refusal, and humility. Surprisingly, a young pilot can accumulate a great deal of experience without having a large number of flight hours. And that is what the serious airline companies are looking for.

There are many reasons to say NO, and despite all the judgmental comments you may hear, they are all good. The flights you turn down, and the rationale behind your decisions, should be considered in the hiring process or interview of any conscientious company.△

David Charles Abramson Memorial (DCAM) Award

The annual DCAM Award promotes flight safety by recognizing exceptional flight instructors in Canada, and has brought recognition and awareness to the flight instructor community. The recognition of excellence within this segment of our industry raises safety awareness, which will hopefully be passed on for many years to come.

The deadline for nominations for the 2017 award is September 14, 2017. For details, please visit www.dcamaward.com △

Light the Way

by Lyne Wilson, Director, Talent Acquisition and Organizational Health, NAV CANADA

There are countless books and articles that expound the virtues of remaining active and eating well as a way of taking care of one's physical health. Unfortunately, the same amount of attention is rarely given to our mental health.

NAV CANADA recognizes that our employees may experience mental health issues that can have a significant effect on their lives and their work, and understands that it is important to incorporate mental health into our corporate wellness programs. In 2012, we became one of the first private sector companies in the country to implement a mental health peer support program—Light the Way.

The Light the Way program helps to ensure an accepting workplace culture that openly acknowledges the reality of mental health conditions. Pre-screened, trained peer supporters share their lived experience with a mental health challenge, and provide confidential support to fellow employees who are experiencing similar issues, and explore options with them in terms of treatments, support systems, and resources.

It is the involvement of peer supporters that makes Light the Way a truly unique and effective program for dealing with employee mental health. These volunteers are employees who have been through their own mental health challenges and know how isolating and hopeless it can feel. While they all have their own story, what they do have in common is a desire to help their colleagues make it through the same challenges that they themselves faced, and in many cases, still face.

The role of a peer supporter has many facets, the most important of which is building a relationship with a colleague, based on confidentiality, trust, respect, genuineness, and empathy. They provide support to their colleagues as they work through their difficult time and empower them to find their path to recovery.

Richard Dixon, former Vice President and Human Resources Officer at NAV CANADA, had the following to say about Light the Way's peer supporters: "By coming forward in the workplace, they remind us that mental health impacts all of us. They inspire hope in coworkers who are facing similar situations, and help them to explore options and a way forward."

Acclaim for the program has been widespread, and in 2015, NAV CANADA received the C.M. Hincks Award from the Canadian Mental Health Association (CMHA), which recognized our efforts in advancing mental health in the workplace. The award is presented annually to an outstanding organization or individual that has advanced mental health through their work/volunteer activities in the area of reducing stigma and discrimination, addressing social justice and the social determinants of health, and maintaining and/or improving mental health for all.

NAV CANADA has a wide range of programs, activities and incentives to support employee health and wellness, including internal resources such as a LIVE WELL Web site, a Fatigue Management Program, a Critical Incident Stress Management (CISM) Program and a Chemical Dependency Education and Rehabilitation Program (CDERP), in addition to the external Employee and Family Assistance Program (EFAP) counselling services. With Light the Way, NAV CANADA employees are provided the opportunity to seek assistance to improve and maintain every aspect of their well-being. △

Fit to Fly

As the well-being of aviation personnel is so important, Transport Canada is very pleased to be organizing our very first Fit to Fly workshop, taking place in Gatineau, Quebec, on June 6 and 7, 2017 at the Hilton Lac-Leamy Hotel. The workshop is centred on supporting aviation personnel in the interest of aviation safety. Through the workshop, we aim to:

- Raise awareness on the importance of employee assistance programs;
- Provide information on practical methods of promoting a healthy workforce;
- Establish networks for information-sharing and partnerships;
- Provide health services information; and
- Clarify the ability to conduct random alcohol and drug testing.

To register, please visit: www.tc.gc.ca/FittoFly △

Underwater Egress

Article reprinted with permission from Pro Aviation Safety Training

For many, the most difficult part of surviving a ditching accident is an underwater egress. In reviewing accident reports, it can be observed that many people survive the initial impact, but needlessly drown because they were not able to extricate themselves from the aircraft.

Photo credit: TSB

A Transportation Safety Board of Canada (TSB) study of survivability in seaplane accidents suggested that fatalities in seaplane accidents occurring in the water are frequently the result of post-impact drowning. Most drownings occur inside the cabin of the aircraft, and those who have survived often had difficulty exiting the aircraft. In fact, over two-thirds of the deaths occurred when occupants who were not incapacitated during the impact drowned.

Panic, disorientation, unfamiliarity with escape hatches, and lack of proper training are some of the major factors that contribute to people drowning. Why people encounter such difficulties when trying to get out of an aircraft that has submerged can, in some cases, be traced back to learned behaviour traits that are inappropriate for this type of situation.

In an emergency situation we tend to react, and don't think. The way we have done things in the past becomes habit and often that's the way we're going to react.

For example, when getting out of a car, most people release their seat belt first before opening the door. We do this without even thinking, it's automatic. If we are strapped into an aircraft that is sinking, a common reaction is to first release our seat belt, then try to get out. We have reverted to a learned behaviour that we have developed each time we get out of our car. This simple procedure may prove disastrous in an underwater egress situation.

In many accidents, people have hastily and prematurely removed their seat belts and as a result, have been tossed around inside of the aircraft by the inrushing water. With the lack of gravitational reference, disorientation can rapidly overwhelm a person. The end result is panic and the inability to carry out a simple procedure to find their way out of the aircraft.

Before releasing our seat belt, we need to stay strapped in our seat until the inrush of water has stopped, our exit is identified and we have grabbed a reference point. As long as we are strapped in our seated position, we have a reference point relative to our exit, which will combat disorientation. Also, if we need to push or pull open our exit, it will be a lot easier if we are still strapped in our seat.

Be familiar with your exits and door handles and know how to use them with your eyes closed. This piece of advice may seem like a no-brainer, but something very simple can cause us problems. Again, think about our car example. Opening the door from the inside is not considered a difficult manoeuvre. Now think back to a time when you've been in someone else's car or a rental car and you have wanted to get out but either couldn't locate or operate the door handle immediately.

All that is needed is a slight change to something you're not familiar with, and now if you're submerged upside down in the dark, freezing water, this simple task suddenly becomes monumental. If your life depended on it, could you do it? It's easy to see how quickly simple procedures we automatically do every day can negatively compound in an underwater egress emergency if we haven't trained and developed new behaviour traits to overcome these barriers.

To help prevent panic and disorientation, we teach the following five simple steps to follow in the event you are faced with an underwater egress situation . . .

Stay Calm/ Wait for the Motion to Stop: Whether you are submerging right side up or upside down, the key to a successful egress is remaining calm. Wait for the motion to stop (count up to five seconds). This will also give you an opportunity to think about what you are going to do next. Be prepared for the possibility of cold shock if the inrush of water that floods the cabin is ice cold. Your body's initial reaction to sudden immersion in cold water may cause exhalation of air, and consequently you may involuntarily inhale some water. Don't release your seat belt and shoulder harness until you are ready to exit. If you release your seat belt prematurely, the inrush of water may toss you around and contribute to disorientation.

Open/Identify Your Exit: Have a plan or mental road map of how you're going to locate your exit. To find the exit handle, put your hand on your knee, knee against the cabin wall, and feel your way along until you find something you recognize like the armrest or a door seam, then work up from there to the exit handle. Be familiar with your exits and door handles and know how to use them beforehand. Everyone on board should have that tactile experience and know how the doors work.

Grab Hold of a Reference Point: Grab a reference point that you are familiar with in the direction of your exit. Don't release your belt without having hold of a reference point. You should always have one hand on a reference point and don't let go before you grip another.

Release Your Seat Belt/Harness: Once the exit is open, keep hold of that reference point, release your belt with the other hand and pull yourself through your exit. Never let go until you are out.

Pull Yourself Out: Resist the urge to frantically kick, as you may become entangled in any loose wires or debris. If you're stuck, don't panic, try backing up a bit and rotating a little before proceeding.

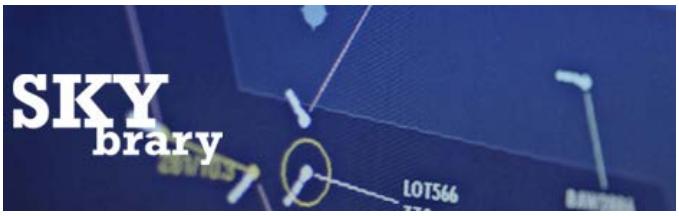
Once you're clear of the aircraft, the next thing you want to do is find a way to the surface. This can be difficult, particularly if you lack positive buoyancy that would normally cause you to float to the surface of the water.

How do you know which way is up? If you are able to release air bubbles, even if it's dark, you may be able to sense which way the bubbles are going. If you feel increased pressure on your ears, this may indicate that you're swimming in the wrong direction. Certainly, if you're wearing a life preserver, inflate it. You'll be rising rapidly in the water, so hold one hand above your head as you surface to make sure you don't come into contact with any wreckage and/or debris.

Remember that training and preparation are the keys to survival. By practising the skills for ditching and underwater egress, they can become second nature, ingrained in your subconscious, and may prevent you from becoming another one of the many people who die each year in this unforgiving situation. Knowledge and preparation are your best safety net. △

The time invested in properly briefing your passengers…
… could end up being the best investment you ever made.

SKYbrary Safety Management Reference Library



The Safety Management International Collaboration Group (SM ICG) is pleased to announce the publication of a Safety Management Reference Library on SKYbrary. The purpose of this reference library is to share safety management resources made available by civil aviation authorities. The reference library contains a collection of guidance material, tools and regulatory requirements provided by the following organizations:

- Spanish Aviation Safety and Security Agency
- National Civil Aviation Agency of Brazil
- Civil Aviation Authority of the Netherlands
- Civil Aviation Authority of New Zealand
- Australian Government Civil Aviation Safety Authority
- Directorate General of Civil Aviation in France
- European Aviation Safety Agency
- Federal Office of Civil Aviation of Switzerland
- United States Federal Aviation Administration Aviation Safety Organization
- Transport Canada Civil Aviation
- United Kingdom Civil Aviation Authority
- European Strategic Safety Initiative
- European Commercial Aviation Safety Team

The SM ICG is a joint initiative of cooperation between many regulatory authorities to promote a common understanding of safety management principles and requirements, and to facilitate harmonized implementation of safety management systems across the international aviation community. Since it was established in 2009, the SM ICG has published 20 information products for safety management standardization and promotion. These products are distributed to the aviation community via SKYbrary. Some of the SM ICG products that may be of particular interest to certificate holders *(*aka *service providers* on the site*)* include:

- Measuring Safety Performance Guidelines for Service Providers
- Hazard Taxonomy Examples
- Determining the Value of SMS△

Canadian Owners & Pilots Association (COPA) Convention

by Bernard Gervais, President & CEO

This June, Kelowna International Airport (YLW) and the Kelowna Flying Club (COPA Flight #36) will host pilots and aircraft from across the country for the COPA Convention and Tradeshow 2017. The event will feature underwing camping, information seminars from a variety of aviation stakeholders, numerous social activities, and an opportunity to network with fellow aviators from every province and territory. Can't make it to Oshkosh? Come to Kelowna and experience the best of general aviation in Canada. Thanks to the generous support of the local fixed-base operator (FBO), major discounts on retail fuel sales will be offered all weekend, so there's no reason not to fly in. And the best part? This event is open to anyone with a passion for aviation—both COPA members and non-members alike. Don't miss the Canadian aviation event of the summer! To find out more and to register, visit http://www.copanational.org. △

New Transponder Code for Gliders

Sylvain Bourque has been President and Eastern Zone Director of the Soaring Association of Canada (SAC) since 2005. He has been a glider pilot since 1995, a Class 1 instructor since 1996, and has held a Commercial Pilot Licence—Aeroplane since 2004. His flight activities primarily take place at the Association de vol à voile Champlain (AVVC) located at the Saint-Dominique Aerodrome (CSS4) near Saint-Hyacinthe, QC. He works for Radio-Canada/CBC as a national glider instructor and pilot, and drone chief pilot.

Modern gliders have a lift-to-drag (L/D) ratio extending from 40:1 to more than 70:1, which means that when they operate at 3 300 ft above ground level (AGL), or at an altitude of 1 km, they can glide over a distance ranging from 40 km to over 70 km, without taking wind into consideration. It is not uncommon to see a glider operator fly for 3 to 5 hours, and cover a distance of over 300 km when the sky is filled with small cumulous clouds, and that is without power. In soaring, the main source of energy that keeps the glider in flight is the sun. It heats up the earth's surface, and this heat is radiated into the layer of air that the ground comes into contact with. Hot air is lighter, so it rises, creating a thermal lift.

Figure 1: Jonker—JS1 Glider
Photo credit: Luke Szczepaniak

The other phenomenon that enables a glider to remain in flight is dynamic. In this case, the wind blows against the terrain, causing the air to rise and creating a slope lift. It is therefore a matter of soaring the slope, or surfing the air waves if the wind is stronger. Slope soaring is practised very close to terrain to get the most benefit from this phenomenon, while air waves are flown in areas where the terrain is particularly pronounced, and an updraft is created, allowing pilots to soar up to altitudes beyond FL 250.

Figure 2: New Transponder Code (see red frame)
Photo credit: Sylvain Bourque

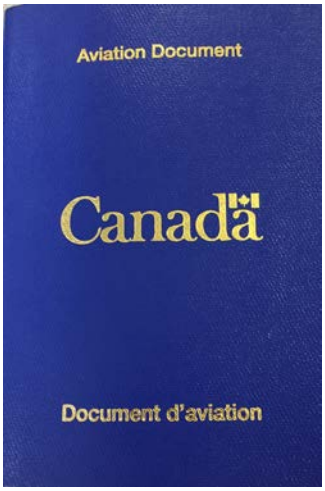
The principle of *see-and-avoid* applies to all flight rules, VFR or IFR, and all types of airspace. Given their streamlined shape, gliders tend to be difficult to see when they are in flight. That is why gliders operating in areas with a high volume of commercial air traffic, like the Toronto area, are equipped with a transponder (Mode A or C). Most Canadian gliders operating outside of controlled airspace, primarily within Class G airspace, are equipped with FLARM® and do not have a transponder. FLARM® was developed by the European gliding community to avoid mid-air collisions. It acts as a portable collision avoidance system (PCAS), with built-in software that is adapted to flights by glider operators, and includes a global positioning system (GPS) and automatic dependent surveillance - broadcast (ADS-B). An article on FLARM®, Gliders: Advancements in Collision Avoidance Technology, was previously published in *Aviation Safety Letter* (ASL) 1/2016.

Given gliders' particular type of flight, it is important for air traffic control (ATC) units to be able to positively identify gliders when they are operating in airspace. Thermaling gliders appear to be a stationary target, since they are doing tight spirals at about 50 KIAS at an angle of approximately 45° to ride the thermal lift. They can then quickly become a moving target as they manoeuvre to another lift at speeds greater than 90 KIAS. A glider operator may make sudden changes in direction to find lift.

In response to individual requests from glider operators and pilots, and supported by the SAC and the Canadian Owners and Pilots Association (COPA), NAV CANADA issued an aeronautical information circular (AIC 3/17) in February 2017 announcing the assignment of a new transponder code (1202) for glider operators in Canada. This discreet code will assist ATC in identifying gliders operating in Canadian airspace. This code has been in effect in the United States since 2012, and the Federal Aviation Administration (FAA) believes that it has been quite successful.

For more details on the use of transponder code 1202 for glider operators, see AIC 3/17. △

Transport Canada—Aviation Document Booklet



Since September 2016, the Aviation Document Booklet (ADB) has been issued with a ten year validity period instead of the five year validity in use since the inception of the ADB.

This will be of great benefit to both the licensed pilot community and Transport Canada, as it will substantially reduce the cost and time involved in the issuance of an Aviation Document Booklet, as well as double the time between renewal applications for pilots.

Pilots who hold a level 4 operational language proficiency will still be issued ADBs with a five year validity period based on the language exam date.

In January 2017, Transport Canada began back-issuing ADBs to those who received one with a five year validity directly prior to the changeover to a ten year validity. If you receive a new ADB and your validity period is still in effect, then this is part of that re-issue process.

In rare cases, a recent medical renewal by your Civil Aviation Medical Examiner (CAME) may not yet be in Transport Canada's database and, as a result, the new ADB will not show your recent renewal date.

In this case, retain your old ADB if your medical validity is current. Most pilots will be unaffected, but if you have medical validity remaining in your old ADB, you should retain your old ADB until you have a medical and have your new booklet updated. Pilots can also visit their Canadian Aviation Medical Examiner and get their medical renewal stamp included in the new booklet, which will keep the medical validity the same.

In the rare event that a pilot uses all of the space provided in the ADB for licence, permit and medical labels prior to the booklet's validity date expiry, a new booklet will be issued upon request.

Here are the answers to some commonly asked questions:

Q – Will my existing, valid ADB be replaced with a ten year validity booklet and if so when?
A – Existing, valid ADBs will eventually be replaced over the coming years, with priority given to those that have been most recently issued as a matter of fairness to the pilot.

Q – Will the application process for an ADB still be the same?
A – Yes. The only thing that will change is the validity period, from five to ten years as calculated by our database program.

Q - Will there be a cost associated with the new, extended validity ADB?
A – At this time, there is no cost for the initial issue or renewal of an ADB.

Q – I am the holder of a level 4 language proficiency. Why will my ADB continue to have a 5 year validity from the language exam date and not the new 10 year validity?
A – This is a direct result of the requirement for level 4 language proficiency holders to go no longer than 5 years without demonstrating their proficiency. Only 5% of licensed Canadian pilots hold a level 4 proficiency. If this is problematic, it is highly suggested that effort be made to obtain a level 6 proficiency.

Further information regarding language proficiency may be found at: http://www.tc.gc.ca/eng/civilaviation/opssvs/general-personnel-proficiency-2085.htm. △

New Interim Order Respecting the Use of Model Aircraft

On March 16, 2017, the Honourable Marc Garneau, Minister of Transport, held a press conference during which he announced the new *Interim Order Respecting the Use of Model Aircraft*. The new safety rules target model aircraft (recreational drone) users who do not belong to the Model Aeronautics Association of Canada (MAAC). The rules provide a reasonable solution to bridge the gap between current and future regulations, and will introduce a mechanism to enforce compliance immediately.

The new safety rules prohibit the use of model aircraft (recreational drones) in higher-risk areas (e.g. near aerodromes, heliports, seaplane bases, forest fires, emergency operations, as well as buildings, crowds, gatherings, etc.). Anyone flying a model aircraft (recreational drone) in these areas could face fines of up to $3,000. The rules apply to recreational unmanned air vehicles (UAVs) weighing more than 250 g, and up to 35 kg, that are not operated by a member of the Model Aeronautics Association of Canada (MAAC) at a MAAC-sanctioned field or event.

The number of reported incidents involving remotely-controlled aircraft (either model aircraft or UAV) more than tripled from 41 when data collection began in 2014, to 148 last year. This brings with it increasing threats to the safety of Canadian airspace and people on the ground. Transport Canada has been contacted by municipalities, aviation associations, law enforcement agencies and the general public over the last few years, with strong concerns surrounding the increased operation of recreational drones.

For the new rules, higher-risk areas were determined by location, and by occurrence of UAV incidents causing the greatest risk to aviation safety and the safety of the public. Reports by pilots and witnesses have included incidents of these aircraft flying too close to aerodromes, other aircraft, and over people on the ground.

The new rules will be enforced by Transport Canada. The Department is also strengthening its enforcement capabilities on the front line and has established a partnership with the RCMP, who will do likewise with other interested law enforcement agencies across the country, so that they can administer fines on behalf of Transport Canada.

Transport Canada enforcement inspectors and law enforcement officers will exercise discretion in taking enforcement action. In some cases, Transport Canada or the officer on the scene may speak to the operator and educate them on the rules. However, should a model aircraft (recreational drone) operator be found operating in the proximity of an aerodrome, other aircraft or over a group of bystanders, more serious enforcement actions and fines will be considered.

For more information on the new safety rules for model aircraft (recreational drones), consult the *Interim Order Respecting the Use of Model Aircraft* for the full list of provisions.△

TSB Final Report Summaries

The following summaries are extracted from final reports issued by the Transportation Safety Board of Canada (TSB). They have been de-identified. Unless otherwise specified, all photos and illustrations were provided by the TSB. For the benefit of our readers, all the occurrence titles are hyperlinked to the full report on the TSB Web site. —Ed.

TSB Final Report A15W0087— Mid-Air Collision

A Cessna 172P was conducting a day visual flight rules (VFR) instructional flight in the practice area northeast of the Fort McMurray Airport (CYMM), Alberta. A privately-operated Cessna A185E, equipped with amphibious floats, was inbound to CYMM on a flight plan from Lloyd Lake, Saskatchewan. At 19:17 Mountain Daylight Time (MDT), approximately 21 nautical miles (NM) northeast of CYMM, the two aircraft collided at 2 800 feet above sea level (ASL), or 1 300 feet above ground level (AGL). The collision separated the left float from the Cessna A185E and displaced the right float, which remained attached. The pilot, who was the lone occupant of the Cessna A185E, was able to land at CYMM. The Cessna A185E was substantially damaged, but the pilot was uninjured. The Cessna 172P broke up in flight; the student and instructor were fatally injured.

Factual information

The Cessna 172P departed from CYMM at approximately 18:41. The lesson plan for the flight included climbing and descending turns, with the student in the left seat and the instructor pilot in the right seat. Ten minutes after departure, the aircraft entered the southwest corner of the practice area, which is located 21 NM northeast of CYMM in uncontrolled airspace (*Figure 1*). The training flight continued uneventfully for the next 26 minutes.

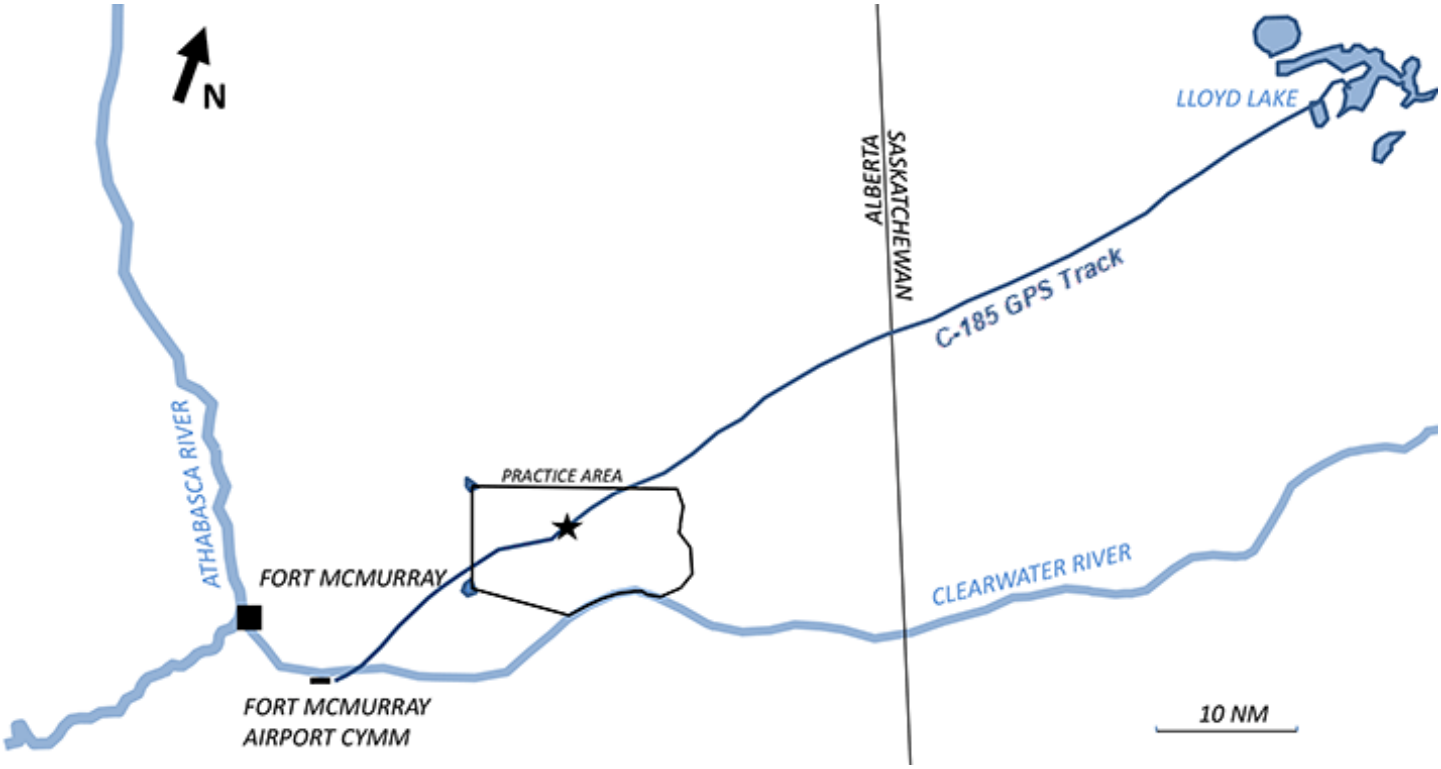


Figure 1: Location of the northeast practice area and track of the Cessna A185E, equipped with amphibious floats, from Lloyd Lake to CYMM
(Note: Star symbol denotes the location of the mid-air collision.)

The Cessna A185E departed from Lloyd Lake, Saskatchewan at 18:43, with only the pilot on board. Once airborne, the Cessna A185E proceeded direct to CYMM, climbing to an altitude of 4 400 feet ASL. A direct route from Lloyd Lake to CYMM is approximately 82 NM. At 18:49:11, the Cessna A185E appeared on radar 77 NM northeast (045°) of CYMM, climbing through 3 600 feet ASL with a ground speed of 130 knots.

At 19:15:21, the Cessna A185E entered the northeast corner of the practice area, descending out of 4 000 feet ASL.

At 19:16:44, the Cessna 172P was 1.8 NM from the Cessna A185E, climbing through 2 200 feet ASL at 80 knots. *(Figure 2)*

At 19:17:05, the Cessna 172P turned left and crossed in front of the Cessna A185E at a distance of 0.8 NM. *(Figure 3)*

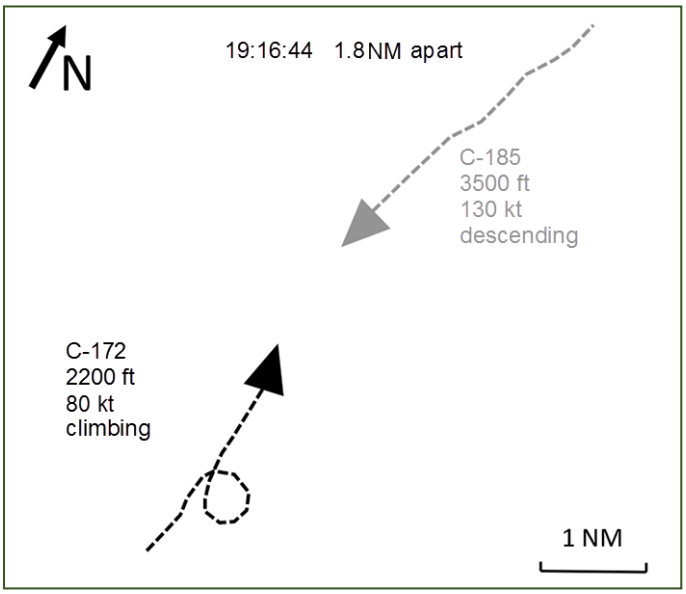


Figure 2

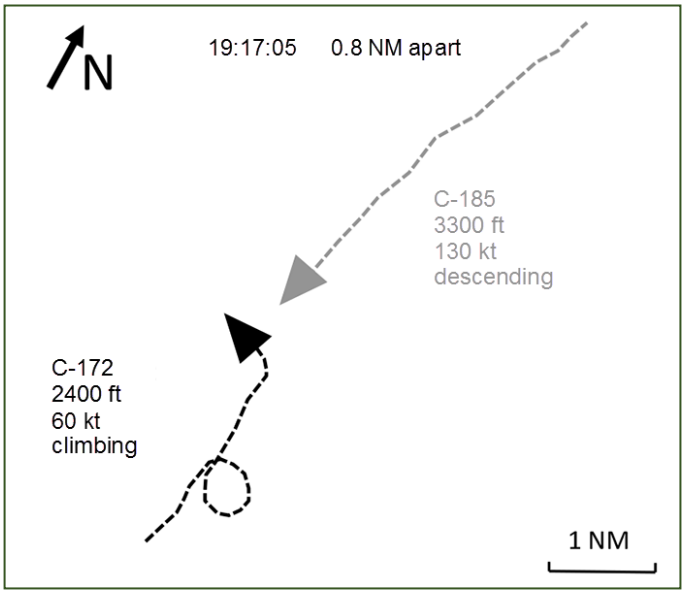


Figure 3

At 19:17:34, the Cessna A185E made contact with the CYMM tower, and was assigned a transponder code. At the time of that communication, the Cessna 172P momentarily paralleled the Cessna A185E's track in a southwesterly direction, as the aircraft continued in a gradual left-hand turn. The Cessna A185E's ground speed was greater, and the aircraft was overtaking the Cessna 172P. *(Figure 4)*

At 19:17:42, the CYMM tower controller advised the pilot of the Cessna A185E that there was a Cessna 172P in the area.

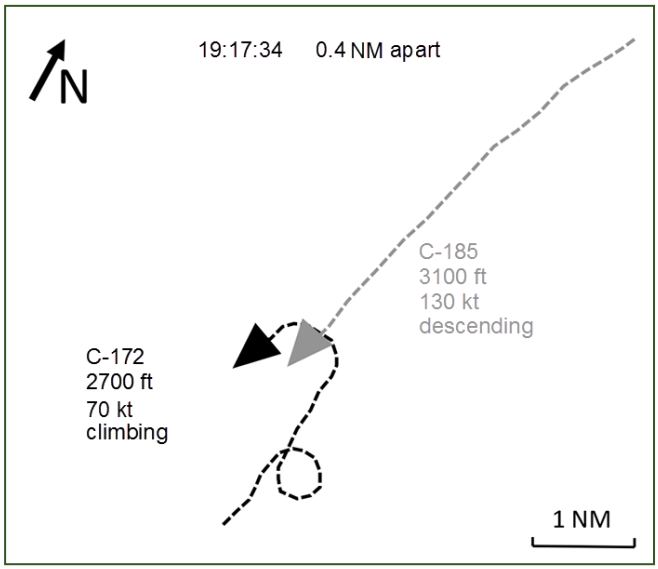


Figure 4

At 19:17:53, the two aircraft collided. The Cessna 172P broke up in flight due to collision forces and fell to the ground. Both occupants of the Cessna 172P were fatally injured. *(Figures 5 & 6)*

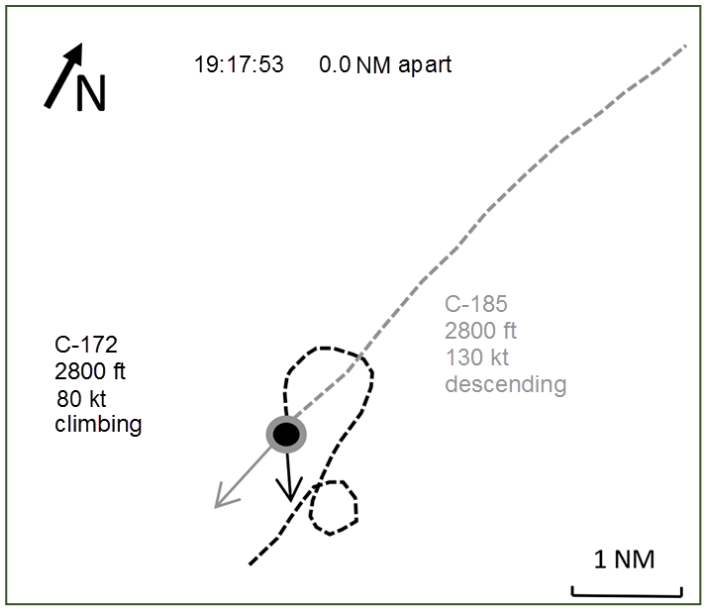


Figure 5

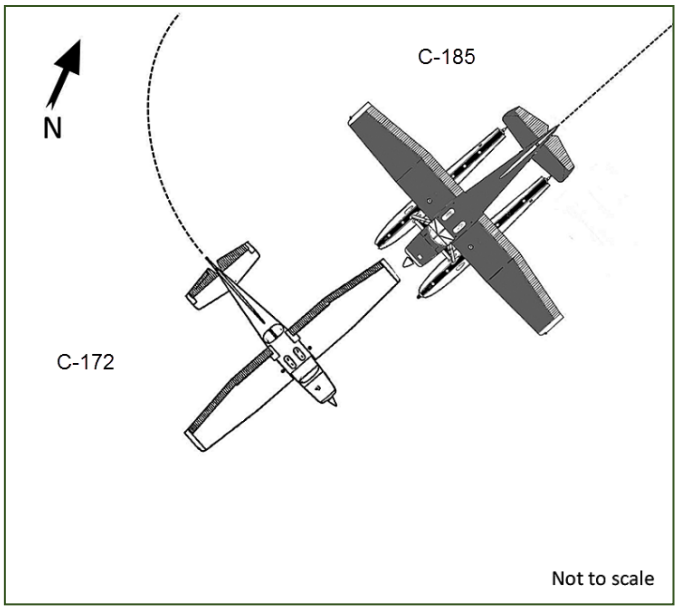
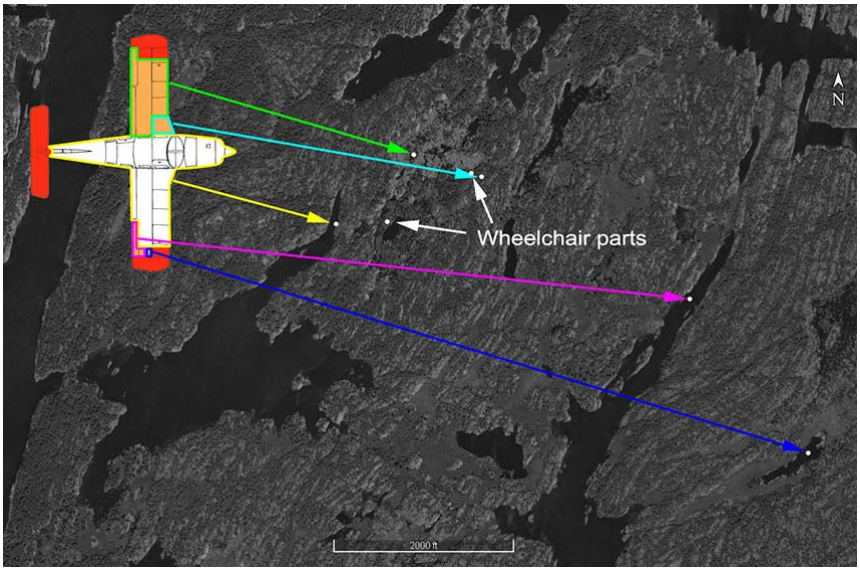


Figure 6

At 19:18:34, the pilot of the Cessna A185E advised the CYMM tower controller of the collision. The pilot of the Cessna A185E was able to maintain 80 knots, and made a plan to land on the grass infield at CYMM.

TSB Final Report A15O0031—In-Flight Breakup

On March 17, 2015, at 15:09 Eastern Daylight Time (EDT), a privately-registered Piper PA-32RT-300T with three people on board departed Sudbury, Ont., on an instrument flight rules (IFR) flight to Winston Salem, NC. Approximately 30 NM south of the Sudbury Airport, at an altitude of 10 000 feet above sea level (ASL), the pilot advised air traffic control (ATC) that there was a problem and that the aircraft was returning to Sudbury. ATC cleared the aircraft to a lower altitude, and observed it turning and descending on the radar. During the descent, the aircraft disappeared from radar at 8 900 feet ASL, then reappeared momentarily at 6 300 feet ASL and 3 800 feet ASL, after which there was no further radar contact. Moments later, the aircraft's emergency locator transmitter (ELT) emitted a brief signal that was detected by the Cospas-Sarsat search and rescue satellite system. A search for the aircraft was initiated, and the wreckage was located the following morning. The aircraft had broken up in flight, and debris was found as far as 6 500 feet from the main crash site. A post-crash fire had destroyed most of the main wreckage. All three people on board sustained fatal injuries.The accident occurred during daylight hours at approximately 15:34 EDT.



Geographic distribution of aircraft parts

Recovered aircraft parts and baggage items and their proximity to the main wreckage

Aircraft part or baggage item	Distance from main wreckage	Bearing
Left main wing	1 280	48°
Left inboard leading edge wing skin	1 880	73°
Right aileron and right outboard upper wing skin section	4 460	102°
Right outboard upper wing skin section	6 500	116°
Wheelchair	612	89°
Wheelchair footrest and headset	1 751	70°

TSB Final Report A15P0147—Engine Power Loss and Forced Landing

On July 7, 2015, at approximately 16:45 Pacific Daylight Time (PDT), a privately-operated Beechcraft A36 Bonanza took off from the Oliver Airport, B.C., with only the pilot on board, for a flight to the Boundary Bay Airport, B.C. Approximately six minutes after takeoff, the aircraft suffered an engine power loss, and the pilot carried out a forced landing on Highway 97. The aircraft struck a truck and a power pole, and came to rest on the edge of the road. The pilot was able to egress, but sustained serious burns. A post-impact fire consumed most of the aircraft. The accident occurred 0.27 NM northeast of the Osoyoos Airport, B.C., at a ground elevation of 1 035 feet above sea level (ASL), during daylight hours. There was no signal transmitted from the emergency locator transmitter (ELT).

Accident site showing the aircraft wreckage

TSB Final Report A15F0165—Severe Turbulence Encounter

On December 30, 2015, a Boeing 777-333ER took off from Shanghai/Pudong Airport, China, on a flight to Toronto/Lester B. Pearson International Airport, Ont. At 19:24 Coordinated Universal Time (UTC), 8 hours into the flight, the aircraft encountered severe turbulence at flight level (FL) 330, approximately 85 NM east-northeast of Anchorage, AK, USA. During the encounter, 21 passengers were injured, one of whom was seriously injured. The aircraft diverted to Calgary International Airport, Alta., and landed approximately 2 hr 45 min later. Damage to the aircraft was limited to interior furnishings and a V-clamp for ducting on the No. 2 air-conditioning system that failed.△

Passenger service unit damage

Transport Canada Transports Canada

TAKE FIVE...

TP 2228E-42
(05/2017)

for safety
Five minutes reading could save your life!

Flying with Floats

Preparing yourself:

- Review rules for aircraft manœuvring on water (CAR 602.20 and TC AIM RAC 1.9).
- Think of yourself as both a sailor and a pilot.
- Know your aircraft—be trained on type and current.
- Don't forget insect repellent.

Preparing the aircraft:

- Fuel—clean and sufficient.
- Pump the floats—note leaks—repair.
- Life jackets.
- Refueling hand pump, filters and fuses, paddle, float pump.
- Survival gear.
- A couple of 50' x 1/2" wing lines and a 30' throw line.
- Red-lined prop arc on floats—danger placard inside doors.

Flight planning:

- You will probably be operating in remote areas, on lakes and in open country. Make your intentions known to air traffic control (ATC), the flight service station (FSS) or a responsible person.
- Conduct a thorough review of VTA and VFR charts to locate power lines
- Assess the forecast and allow for weather changes en route, at the destination and during the return trip.
- Plan for daylight visual flight rules, as float flying is day VFR flying.
- Have an alternate—avoid pressing the weather and darkness.
- Leave yourself an out.

Preparing for flight:

- Pre-flight: complete all the checklist items.
- Ensure that the load is secure and within limits.
- Carry only approved external loads and keep wake turbulence in mind—avoid blanking your tail feathers!

Pattern for survival—Keywords

- Protection, first aid, signals and comfort

Canada

Departure:

- Passenger briefing—include the location and use of life jackets, seat belts and door releases—very important in the event of an upset.
- Note the wind and currents; plan engine start, cast off and takeoff before leaving the dock.
- Know your takeoff distance requirements.
- Check for other aircraft, boats, deadheads and other floating debris.
- When taxiing, don't bury the outside float in the upwind turn—allowing the aircraft to weathercock is the safest way.
- Don't take off across the entrance to small bays or coves as boats may suddenly appear!

En route:

- On track, on time—getting lost in remote areas is easy—skillful map reading is a must.
- Be weather wise.
- Watch for other traffic and suitable forced landing areas.
- Always leave yourself an out!

Arrival:
It is recommended that you circle a minimum of three times in order to:

- Assess the wind strength and direction.
- Check the landing run area for floating obstacles, submerged deadheads and boaters.
- Check the approach for obstructions—trees, buildings and wires (which usually run between islands and the mainland).
- Check the departure area for obstructions and remember that landing distance doesn't guarantee adequate takeoff distance.
- Know your glassy water procedures.

On the water:

- Observe the wind, current and other aircraft in the docking area.
- Brief passengers on the unloading procedure, particularly the "prop strike" threat.
- Be wary of "helpful" individuals on board and ashore.

Top 10 occurrences that relate directly to the pilot, and which happen most often during takeoff and landing

1. Engine failure/malfunction—usually from fuel mismanagement.
2. Loss of control in flight/mush/stall—due to selecting an unsuitable takeoff or landing area, improper loading and overloading.
3. Dragged wing/float/pod—due to unfavorable wind or water conditions.
4. Nose over—glassy water and too flat a hold-off attitude contribute to this one.
5. Loss of control on the ground/in the water—due to rough water and crosswinds.
6. Hard landings—caused by an improper landing flare, crosswind or glassy water.
7. Collision—with deadheads or other obstacles during takeoff or landing.
8. Overrun—due to excessive airspeed and not enough landing area.
9. Wheels down on the water—this occurs with amphibious aircraft—where's the checklist!
10. Injuries—prop contact—usually due to inattentive passenger handling—improper briefings.

When you've completed your flight
PLEASE CLOSE YOUR FLIGHT PLAN!
Learn from the mistakes of others. Asking for advice doesn't show your ignorance. Not asking does!