Transport Canada Transports Canada

Aviation Safety

Maintainer

Learn from the mistakes of others and avoid making them yourself . . . **Issue 1/2002**

Fatigue and Complacency—A Potentially Sorrowful Mixture

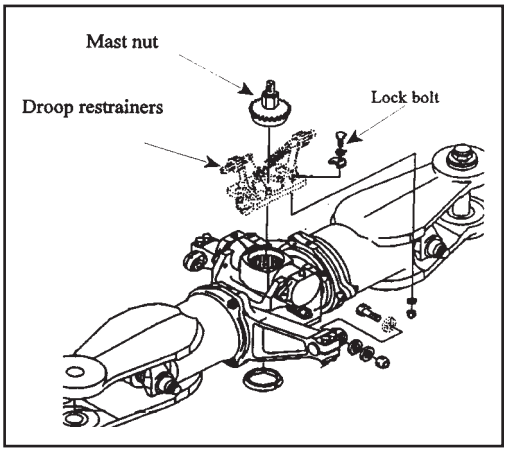
The Bell 206B had been imported from the U.S. a few months earlier and the private owner had hired a professional pilot to manage the project and to ensure the highest level of safety of future flight operations. The aircraft maintenance engineer (AME) and an associate owned and managed the helicopter maintenance facility that had reviewed the maintenance history of the craft, performed the inspection and made the necessary minor repairs in order to obtain the certificate of airworthiness.

He had asked a young assistant-AME several days before to remove, clean and repaint the droop restrainers and the mast nut that held the rotor blades to the mast of the helicopter and when his associate observed that the wrong paint had been used as a primer, the assistant was asked to redo the job using epoxy paint.

The following morning the pilot arrived at the hangar around 09:30, and informed the AME that the owner wished to make a flight the next morning. He stated that he wanted to clear the few snags that remained before the end of the day and requested his assistance.

There had been no Journey logbook entry made referring to the work that was being performed on the droop restrainers and on the mast nut. There was no warning notice at the pilot station, no warning flag on the masthead, nor any other information referring to the outstanding work regarding these major parts rework.

Around 15:30, the pilot and the AME moved the helicopter outside the hangar, got on board and started the engine. Following a few minutes of checks, the pilot lifted-off and began a hover. All seemed well and he landed to allow the owner to walk over to the craft and exchange a few words with the AME. Following the conversation, the helicopter took off for a performance check of the transponder.



Rotor head.

Ten minutes into the flight, approximately 15:40, the pilot informed the Area Control Center that he was returning to base. The controller explained that he was not receiving any code or altitude information from the helicopter transponder unit.

Shortly after the helicopter vanished from the radar screen. It crashed just a few kilometers from its home base. The two men met with a tragic fate. Each man had strayed away from common practices of checking and double-checking everything; machine, engine, logs, before setting out on the flight.

Transportation Safety Board (TSB) investigator found the first indication of a malfunction approximately 400 m from the crash site as small pieces of Plexiglas from the helicopter canopy were found on the ground. A reconstruction of the accident seems to indicate that as the main rotor blade assembly departed the main rotor hub it struck the canopy and broke it. The remains of the main rotor hub and of the propeller blades were found about 150 m from the crash site. Examination of the helicopter revealed that the mast nut, the droop restrainers and a few other parts were missing from the propeller hub assembly. The internal threads were

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intact and there was no sign of any attachment bolt failure.

A brief inquiry disclosed that the aircraft had departed with the main rotor retaining nut assembly missing from the craft. The parts were found on the engineer's worktable where they had been left for drying after being painted. Unfortunately this is not an isolated event! In one form or another, such accidents occur at regular intervals and with similar tragic consequences.

An AME is often called upon to serve as a mentor and this responsibility can never be taken lightly as there is always the risk of grave consequences as we have seen. The professional qualities and attributes that one has painstakingly acquired over the years should be passed on to junior technicians in the name of safety and fellowship.

The requirements of the regulations serve as a minimum basis to ensure the airworthiness of a flight and should be adhered to rigorously. A logbook entry of the work carried out could have saved the day. The flagging of the controls in the cabin and of the mast of the helicopter would have drawn attention at a critical moment of preflight and would have enforced the fact that critical parts were being serviced.

One must always ensure that the requirements of the regulations as well as those of the manufacturer are followed diligently. Human factors influence our life and our behavior.

Courses on Human Factors and Human Performance in Aviation Maintenance are available in Canada through various organizations. These and other similar courses will go a long way in increasing the level of awareness of human factors that can influence our performance and our work.

Bell 206L—Disk Pack Couplings Maintenance

Staying with the helicopter maintenance procedure theme, Bell Helicopter recently has made a recommendation to operators advising them through the publishing of an Operations Safety Notice, published May 31, 2002, to pay particular attention when performing tail rotor disk pack maintenance. It seems that an inordinate number of tail rotor disk pack couplings were found disconnected shortly after maintenance had been performed on Bell 206L type helicopters.

Undoubtedly, most helicopter engineers are familiar with the maintenance requirements of these couplings assemblies, but somehow under certain conditions, the human factor element comes into play and creates a very serious safety concern when the engineer fails to adhere to the recommended maintenance manual procedures. For that reason, Bell has introduced a revised torque check to be carried out 10 to 25 hr following the installation of a disk pack coupling and the application of torque seal, in order to eliminate the risk associated with a loose assembly. The engineer is directed to calculate also the tare torque value and to add it to the applicable torque value for each fastener. These disk pack couplings are somewhat simple devices to inspect and maintain; nevertheless, the failure of one will cause a loss of tail rotor drive and could result in a serious accident.

The Aircraft Maintenance Engineer and the Art of Mentoring

The two previous articles bring to mind the importance of mentoring. Most engineers work long hours and in operations where there is often minimum staff. The environment is often difficult to work in, the tasks are complex and require skill, intelligence and judgment. Most senior engineers can attest to the importance of having had a mentor that have helped them early on in their career, develop important work principles and habits necessary to become a good and safe maintenance engineer.

In many countries of the world, senior engineers have been responsible for mentoring and instrumental in increasing the level of safety in the workplace, performance and quality of work accomplished by junior engineers. Let's all accept to help, direct and assist the ones that work alongside as junior engineers and improve safety, the work environment and the efficiency of the organization.

With the competitiveness of the market, it's not always easy to find the time for mentor and because of this, the work may be short of expectations. Let's be careful out there and not fall short.

Call For Nominations for the 2003 TC Aviation Safety Award

Do you know someone who deserves to be recognized?

The Transport Canada Aviation Safety Award is presented annually to stimulate awareness of aviation safety in Canada by recognizing persons, groups, companies, organizations, agencies, or departments that have contributed in an exceptional manner to this objective.

You can obtain an information brochure explaining award details from your Regional System Safety Offices, or by visiting the following Web site:
http://www.tc.gc.ca/aviation/syssafe/brochures/tp8816/english/index_e.htm.

The closing date for nominations to the 2003 award is December 31, 2002. The award will be presented during the fifteenth annual Canadian Aviation Safety Seminar, which will be held in Montreal, Quebec, April 14 to 16, 2003.

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A Word from Your New Editor

Like many, my career in aviation started as a member of the Canadian Air Cadet League. It was certainly a time when an awareness of the high standards that applied to aviation was first brought to my attention and a time when I strived to apply at least some of those standards, as best I could, to my duties. As I graduated high school and then college, I gained further knowledge of aviation through summer jobs in aircraft maintenance for small aircraft operators. I later pursued my career in aviation working with many small outfits first as an apprentice, then as an aircraft engineer and also as a pilot. In the late seventies, times were tough in aviation and I was fortunate to find a job first as an AME and then as an inspector with Canadair, which was working hard at making the Challenger aircraft program the success that it is today.

I joined Transport Canada as an inspector in the 1980s. I keep current by overhauling small light aircraft and helping out as much as I can on aircraft major modification projects and I volunteer with various organizations such as the Experimental Aircraft Association (EAA).

Well here I am, your new editor of the Maintainer. Our world continuously changes to meet new challenges. The *Maintainer* is a newsletter that has always tried to convey messages and information that deal with professionalism and safety. I will try to serve you as best I can, just like my great predecessor Mr. Joe Scoles did for many years. He is retired, but still very active as a flight instructor, maintenance and aviation consultant, aviation writer and lecturer. We hope that he will continue to serve well the aviation community for many years to come, and we wish him the very best. For anyone wanting to reach him, his e-mail address is: scolesj@cyberus.ca.

Please write and make suggestions, rock the apple cart as they say, let's make this newsletter, one that you will keep with pride and that expresses your ideas as well.

In This Issue

Mechanical Happenings

The following aircraft incidents reported to Transport Canada from August 2001 to August 2002, are a heads-up for AMEs; they mainly focus on the maintenance outcome of the incident and do not include all of the circumstances of each flight. In most cases of component failures, it can be assumed that a Service Difficulty Report (SDR) was submitted. Again, there were numerous false warnings attributed to unwarranted activation of equipment-failure-warning system. It affected many types of aircraft and occurred mostly while the aircraft were in flight. These events do cause stress to the crew, the passengers as well as to maintenance personnel responsible for these aircraft. It is paramount that these passive systems receive the same consideration during maintenance and inspection, as do active systems. Their performance will only increase the level of safety and the efficiency of flight operations in general.

FOREIGN OBJECT DAMAGE *(FOD)*—This was found on the runway and identified as a heat shield from an Airbus wheel assembly. No damage to aircraft reported.

FOD—The Citation landed on Runway 09 and upon taxiing to the ramp, the pilot noticed what looked to be a 3-inch long piece of pipe on the taxiway. It turned out to be a piece of runway light that fell off a service truck. Airport maintenance notified.

FOD—The crew of an F-28 reported engine problem while en route. They immediately requested clearance back to Calgary and landed without incident. Maintenance found metal flakes in the engine. Further investigation revealed low pressure (LP) and high pressure (HP) blade damage probably caused by FOD during takeoff. Engine was replaced.

FOD—Cessna 560 was on rollout on Runway 32 and hit a small unknown object. Pilot phoned after examining aircraft and finding dent about 1/2 inch in depth with paint scratched. Runway inspected and nothing found.

FOD—A Cessna 401 pilot was holding on the taxiway to Runway 34 when he observed a piece of metal on the ground. Later investigation revealed that it appeared to be the inside cargo/baggage door lock of an aircraft.

FOD—A routine inspection by airport personnel revealed many small pieces of rubber on the runway. The controller checked with recently departed aircraft and a crew of a Boeing 737 advised that it might have been from one of its tires. The aircraft returned and landed safely. A brief inspection found that the No. 4 tire had suffered a tread separation down to the cord, but had retained its air pressure. The separated tread husk had extensively damaged the outboard gear door, the lower-wing surface composite panel and the mid- and aft-location of the inboard flaps. The manufacturer of the tire believes that possibly FOD may have been present during the last re-treading process, which allowed air pressure to build up between the carcass and the tread, and caused the separation.

Aero Commander 500 Shrike—The pilot reported losing all hydraulic system pressure during flight. The investigation found that a hydraulic system pressure line had ruptured due to chaffing and vibration, as it was not supported for a length of over 16 inches.

Airbus 319—The aircraft had just departed when haze and an acid smell appeared in the cabin. The aircraft returned without further incident and maintenance crew followed up by cleaning the forward and aft galley air-conditioning filters. The aircraft was returned to service.

Airbus 320—The aircraft was getting ready for pushback when the crew witnessed the smell of a fuel leak in the cabin. The Captain ordered a rapid deplanement and Airport Fire Fighters (AFF) were called out as a precaution. Maintenance found lockwire between the fuel pressure switch and the low-pressure line fitting. The wire was preventing the pressure switch from properly seating on the O-ring. Maintenance disassembled and then reassembled the low-pressure line assembly at the fuel control unit. A leak check was carried out in accordance with the aircraft maintenance manual with no fault found. Aircraft was returned to service.

Beech 99—The aircraft was on a roll when the low-pressure fuel-light illuminated. The pilot rejected the takeoff and smoke was observed coming from the left side of the instrument panel. Maintenance found overheated and burnt wiring. There was no failure of the fuel pump. All damaged wiring was replaced and fuel pump circuit breaker (CB) switch was sent for testing.

Beech 200—While doing the pre-take-off run-up, a smoke-odour was noticed by the pilot, and then, the flap motor CB popped. The aircraft returned to the hangar where the maintenance crew found the flap motor burnt out. The motor was replaced. The aircraft was returned to service.

Beech 1900—The aircraft was climbing through flight level (FL) 210 when the left side emergency-exit window popped out causing a decompression. The crew made an emergency descent and landed safely. The TSB investigation found that most of the windowpane was gone and only little pieces were left attached to the window seal. No other damage was noted. The window, seal and window-trim were replaced and the aircraft returned to service. The TSB is investigating further.

Bell 212—The helicopter was approximately 7 NM from the airport when it reported an engine failure. Investigation revealed that the pilot observed a falling oil pressure on one engine and decided to shut down the engine. The helicopter returned safely to the airport on the remaining engine. The loss of oil was due to the filler cap

having been left unlocked. Company maintenance personnel checked the screens and chip detector for the presence of metal and found none. Oil was added to the engine and the helicopter was returned to service.

Boeing 767—The No.1 generator failed shortly after takeoff on a flight from Nice to New York. The auxiliary power unit (APU) was started to provide backup power, and the flight was continued. When the aircraft was about 480 NM east of Gander the APU shutdown and could not be restarted. The crew declared an emergency, executed a contingency descent from FL 340 to FL 270. The crew requested a diversion to Gander, and the aircraft landed at Gander without further incident. Maintenance personnel subsequently found that the APU was low on oil. Two quarts of oil were added, and the APU started and ran normally. No external oil leaks were observed on the APU. The aircraft proceeded to New York.

Boeing 767—The aircraft blew two tires upon landing. Maintenance noted during the examination of the right bogie that the connectors for the anti-skid wheel-transducers for wheel assemblies 3 and 4, 7 and 8 were crossed. The connectors were repositioned and tested. The system checked serviceable and the wheels were replaced. The aircraft was returned to service.

Cessna R182—An AME discovered the fuel pressure indicator was defective. He replaced it with an overhauled unit that showed only a very low reading. The technician removed the nipple fitting and discovered that Teflon tape had been used excessively on the threads covering over 75% of the fitting opening. Small pieces of Teflon had also entered the gauge.

Cessna T210 Centurion—During a scheduled inspection, the AME discovered a horizontal stabilizer attachment bracket was severely cracked. He inspected another like aircraft and found a similar defect. Cessna Service Information Letter SE84-17 discusses this issue and authorizes the installation of an improved bracket and recommendation an inspection interval of 100 hr.

Dash-8—The aircraft was en route when the crew noticed a low-pressure oil light. The No. 2 engine was shut down and the aircraft landed without further incident. Inspection revealed that an O-ring on the pressure control unit adapter had failed, which allowed oil to leak from the engine.

Douglas DC-9—A strong electrical burning odor was detected on the flight deck after takeoff. The crew turned off the thunderstorm and cockpit overhead lights and the smell dissipated. The aircraft continued to destination. Maintenance inspected the overhead panels, lighting fixtures, and CB panels and no faults were found. The thunderstorm light ballast assembly was replaced and the aircraft was returned to service.

Eurocopter AS 350BA—The helicopter was on a ferry flight with the pilot and engineer on board. The pilot noticed the engine chip-light illuminated, and was preparing for a precautionary landing when he heard a loud bang, and the engine failed. In the ensuing hard landing from about 40 ft above ground level (AGL), the tail boom and the right-hand (RH) landing skid were damaged, but there were no injuries to the pilot and engineer. Maintenance has reported that the engine seized up. The TSB is investigating further.

Fokker F28—The aircraft was downwind for landing when the captain asked the first officer (F/O) to start up the APU. Following the APU start sequence, the APU fire warning came on for a few seconds then went off, followed by the automatic discharged of the fire bottles. The APU fire drill was completed and the aircraft landed without further incident. There was no further fire warning of the APU. There was no evidence of fire or damage. Maintenance could not duplicate the system failure and the fire bottles were replaced, the system checked and the aircraft returned to service. The fleet was issued a follow-up work in order to inspect the APU fire loop and all connections, as well as a visual inspection of the APU plenum and ducts for bleed air leaks. The fire extinguisher test switch was also to be inspected.

PA-31 Navajo—The aircraft was en route when the RH emergency-exit hatch departed the aircraft. It was reported that the aircraft had been into maintenance and the emergency-exit door had been serviced at that time. This was the first flight following the work that had been completed on the aircraft. The door was never found.

Sikorsky S-76A—The helicopter was en-route when the No. 2 engine fuel pressure light illuminated. Within 20 sec the No. 2 N1, TQ, and T5 indications became erratic and decreasing. Within 10 sec of the erratic indications, the No. 2 engine quit completely. Standard Emergency Procedures were followed and the No. 2 engine was secured. The helicopter landed without further incident. A company maintenance person inspected the failed engine and found that a "B" nut on the fuel line, from the fuel tank to the engine-driven pump, had loosened off. He tightened the loose fuel fitting. After a successful ground run, the helicopter was put back in service.

Swearingen SW4—The aircraft was en-route at 15 000 ft when the crew observed a cargo-door light warning indication. The crew made an emergency descent and after landing, maintenance replaced the two cargo doors click-clack latches. The aircraft was returned to service.

System Safety Aviation Maintenance Tool Management Program

by Norbert Belliveau, TC System Safety, Atlantic Region

Following Transport Canada's plan to increase the level of safety for Canadian air travelers and overall efficiency in the air transport industry, SYSTEM SAFETY, with its team of regional aviation safety officers from all across Canada, has developed various plans and programs to attain or surpass the objectives of Flight 2005.

Among the many programs that have started paying dividends in the industry, by improving the work environment of pilots and AMEs, is the upcoming Aviation Maintenance Tool Management Program, which has already shown great promise towards this goal.

The Aviation Maintenance Tool Management Program will address aircraft operational losses due to system failures, because of FOD brought about specifically by the mismanagement of tools or tool losses. The program will instruct technicians and maintenance organization on how to develop tool control and ensure that when a job is finished, the environment is free of FOD and ready to perform to its full capacity.

The new Aviation Maintenance Tool Management Program will include a Powerpoint Presentation, Facilitators Notes and Tool Box decals. It is designed to be both an in-house initial and recurrent training tool for approved maintenance organizations (AMO) and for approved training organizations (ATO). It can also serve as an introductory course for basic tool management concepts.

System Safety will shortly inform you and the industry on the availability and cost of this training program that will be offered in the form of a CD-ROM package, and decals.

Beechcraft KingAir and Beechcraft 99: The Dangers of In-flight Opening of the Air-stair Cabin Door

In the past ten years, the Federal Aviation Administration (FAA) SDR and the TSB databases (ASIS) have registered over 50 reports of cabin door latching mechanism incidents. In March of 2002, as a Beech KingAir was climbing through 14 000 ft after departure from Calgary, the cabin air-stair door opened. The flight crew declared an emergency and luckily the aircraft was able to return without further incident.

One can only imagine the anguish of possible impending doom that the passengers lived through as they suddenly felt the rush of the cold air, decompression and the terrible noise that was heard; all of this accompanied by a definite instability in the aircraft flight. Lives may not have been lost during this flight, but certainly the peace of mind for many of the passengers and for many, many months to come.

Violence is not always expressed physically on individuals, but it can still have and often does have psychological affects that can be to a certain extent debilitating and devastating for some of the passengers, if not for all. What you can do as an AME is far easier than the work that a psychiatrist or psychologist has to perform in order to help someone who has been hurt by such an event.

Your work consists of applying as best you can, your abilities to inspect, analyze and correct any aircraft discrepancies that come up, before it can become a risk to the safety of flight. Aircraft cabin door latch mechanisms get a lot of abuse. They have to work flawlessly in all kind of weather, ice, sleet, rain and snow. In most cases, the difficulties encountered are due to the failure of receiving adequate care. Insufficient cleaning, inspection, adjustments and lubrication are all responsible for most problems encountered with this assembly.

Beechcraft has published a number of Service Instructions and the FAA has issued several Airworthiness Directives regarding the matter of care to the cabin door latching system. It is very important for instance that before each flight, the crew confirms that it is impossible to rotate the handle from the locked position to the unlocked position without depressing the release button. When the handle is in the locked position, this button ensures that the red safety-lock arm is engaged over the plunger and unless depressed, the handle will not rotate by itself to the open position. In order for the over-center cam mechanism and the pressure lock to do their function, the handle must be fully rotated to the locking stop and left in this position. Any backing-off from this position can affect locking characteristics. A green stripe painted on the locking bolt must align with a black pointer in the sight opening when the door is locked.

There was a tragic accident several years ago involving another type of aircraft, when a crew member inadvertently unlatched the cabin door in flight, while checking for security after the pilot had observed a cabin-door-open warning light on the instrument panel. The potential for serious damage and injury is there unless you, as an AME, perform, on time, the required maintenance. You, have the last word on safety in this matter!

Fatigue and the Aviation Maintenance Engineer: A Federal Aviation Administration Study of Fatigue in the Workplace

A FAA evaluation on the effects of fatigue and workplace environmental factors on 500 maintenance personnel revealed that most slept less than 7.5-8 hr a day and that 50% sometimes felt fatigue at work and 30% said that fatigue had a negative effect on their work performance. Maintenance personnel who were equipped with sleep monitoring equipment showed the average daily sleep period is about 5 hr.

The collected data seems to indicate that day-shift respondents may take a little longer to wake up than the afternoon-shift and evening-shift. A higher percentage of night-shift respondent (35%) said that they felt frequently, very frequently and always fatigued at work compared to day-shift respondents (23.9%) and afternoon-shift respondents (16%).

Shift-work is related to fatigue

The sleep experts would argue that the population of maintenance personnel is acquiring a daily sleep debt of at least 2 hr. Most sleep researchers recommend that people sleep between 7.5 hr and 8 hr a day, and none would consider adequate the 5 hr of assumed sleep achieved by aviation maintenance personnel.

Adequate sleep is an essential element of a maintenance employee's fitness for duty, along with avoiding abuse of alcohol or drugs. Maintenance personnel should be knowledgeable of the symptoms of fatigue and should learn to recognize it in order to avoid the inevitable performance degradation and potential for errors.

The AME must minimize sleep loss by adopting habits that will enable the engineer to acquire the necessary amount of sleep. The AME must create an acceptable environment for sleep and understand the effects on sleep from alcohol, drugs, diet and exercise. Almost 30% said that fatigue had a negative effect on their work? What about safety? What about performance? Let's give this matter some serious thought.

For a copy of the study, you may e-mail the Editor, *Maintainer*, or access the Flight Safety Foundation (http://www.flightsafety.org/home.html) for the *Aviation Mechanics Bulletin* of November-December 2001.

Sharing a Passion

by Andrea Thomson, Canadian Aviation Maintenance Council (CAMC), with excerpts from ***High Flyers: Canadian Women in Aviation*** *http://collections.ic.gc.ca/high_flyers/index.htm*

"Aviation is one field in which women have entered on the ground floor and we intend to rise with it." Quote from "The Flying Seven." This quotation is poignant as it sums up what I discovered while delving into the theme for an upcoming issue of *AviNation**.

From the beginning of our research into how and why woman make aviation a career, it was clear to us that those women who chose a career in aviation maintenance and in the aerospace industry have a true passion for their work and the motivation and the desire to succeed in this very challenging field.

At the turn of the century and into the 1910s, a woman's participation in aviation was restricted to that of an observer while men whirled in the air above. At the time, it was considered inappropriate for a woman to fly. In 1919, Madge Graham received a lot of publicity when she announced that she was going to accompany her husband Stuart Graham on a flight from Nova Scotia to Quebec as his navigator—the first woman in Canada to do so. Her historic flight paved the way for woman to embark on similar adventures and by the mid 30s, more than 20 women held a pilot's license. Although many were interested in aviation, it was next to impossible for a woman to find a job in the industry and groups began to organize both in the United States and in Canada to support woman in the industry. The Ninety-Nines and the Flying Seven did much to promote the role of woman in aviation.

At the onset of WWII, members of the Flying Seven tried to enlist in the Royal Air Force (RAF), but without success. Despite their skills, their services were not required in active duty as the women were selected to "back the attack." They became female pilots teaching navigation to recruits, ferrying aircraft to squadrons, etc. At the same time, WWII brought a tremendous shortage of labour in aviation manufacturing and women played a major role filling the gap. By 1943, over 500 000 women were working in the industry, representing up to 36% of the workforce. We now find women in every field of aviation, from astronauts/pilots to aircraft engineers, and aviation industry leaders at the owner-manager level.

Women today are an integral part of the aviation maintenance team and are indeed making a difference in the industry. Let's share the passion!

For a copy of the Women in Aviation issue of *AviNation**, please e-mail: athomson@camc.ca. For more information on the programs and initiatives of CAMC, go to www.camc.ca.

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The Emergency Locator Transmitter (ELT) and You

I remember a few years back being surprised by the flight of a military C130 aircraft as it over-flew our little private airport at low altitude. I only glanced up at it in reverie, as it flew a couple of circuits around the airport, and thought nothing of it as I figured that the aircraft was probably intending to land at the nearby municipal airport. So I carried on with my work and nearly fell off the aircraft when the C130 of the Search And Rescue Unit (SAR) flew above my head at about 100 ft. At the same time, out of the corner of my eye, I saw someone racing into the large hangar and only then did it dawn on me that, possibly, someone had inadvertently activated an ELT. That's exactly what had happened.

Such a scene repeats itself, unfortunately, hundreds of times a year, and the cost is enormous as well as the risk to life. There is no need for such misuse of resources, let alone the risk that the crews run into as they fly these missions in all kinds of weather to answer a call of distress.

ELTs should only be used for emergencies or very briefly for testing by a pilot at the allotted time. Make it a habit as an AME when you enter or leave a small aircraft, in the course of your work, that you have ensured that the ELT switch is in the OFF position and when you forward a unit for maintenance, that it is disarmed and that you package it in a way that it cannot be activated during transport.

The familiar Hercules C130 aircraft of the Search and Rescue unit of the Canadian Armed Forces.

Our crews of the SAR organization save lives everyday in some part of Canada, but they also risk their lives so that others may live. Support in every way that you can, the SAR Units of the Canadian Coast Guard, the Department of National Defense, and of the Civil Air Search and Rescue Association (CASARA).

Pay tribute to these valiant men and women, to their courage and dedication. Let this spirit serve as a guiding light to follow in order that we always treat an ELT with respect. Who knows, the next life that members of the SAR Units save may be your own or that of a loved one.

Aviation Meetings and Conferences

There are several aviation maintenance-related meetings and conferences held this Fall and we strongly encourage people of the industry to attend as well as students of aerospace and anyone who believes will profit or contribute to such an exchange of information.

1. Ontario AME Symposium and Trade Show 2002, October 24th and 25th, International Plaza Hotel and Conference Centre, 655 Dixon Road, Toronto, Ontario. To register or for more information, please call Cara Tweyman at 905 405-1546 or Jasper Megelink at 905 677-8747. The registration fee ($75 after October 1st) entitles the attendee to a complimentary luncheon on Thursday and Friday provided by the 2002 Workshop Exhibitors. The exhibitors, which number over 50 and participate at the Workshop, are comprised of representatives from airlines, repair and overhaul agencies, manufacturers, technical colleges, distributors, training facilities and many others. This Workshop is an opportunity for all those employed in the aviation industry to keep current with new advances in technology and new TC regulatory requirements as well as to renew old acquaintances and establish new business relationships.
2. Two-day Human Performance In Aviation Maintenance Workshop: November 5 and 6, 2002, Victoria Inn, Thunder Bay, Ontario. Host: Will Boles, System Safety, Ontario Region, Transport Canada. To register: Tel.: 416 952-0175, Fax: 416 952-0179.
3. The North Western 4th Annual Maintenance Conference: November 7 and 8, 2002, Victoria Inn, Thunder Bay, Ontario. There will also be a tradeshow on Thursday and Friday, and a Meet and Greet on Thursday evening. Registration includes a continental breakfast, coffee breaks and lunch on Friday. To register, contact Lindsay Niven, 807 474-2570.
4. CAMC is holding its 11th Annual Forum and General Meeting in Calgary, November 14 to 16, 2002, Sheraton Suites Calgary Eau Claire, Calgary, Alberta. One of the themes of the conference will be on a Human Resource Sector Study that CAMC is doing and how the industry is dealing with this important issue. Everyone's input is invaluable to make this study a success. There will be a Friday night comedy with Ron James. Participation of TC and the TSB along with various industry representatives should make this a successful meeting and one not to miss. Additional information: http://www.camc.ca. To register: 1 800 448-9715.