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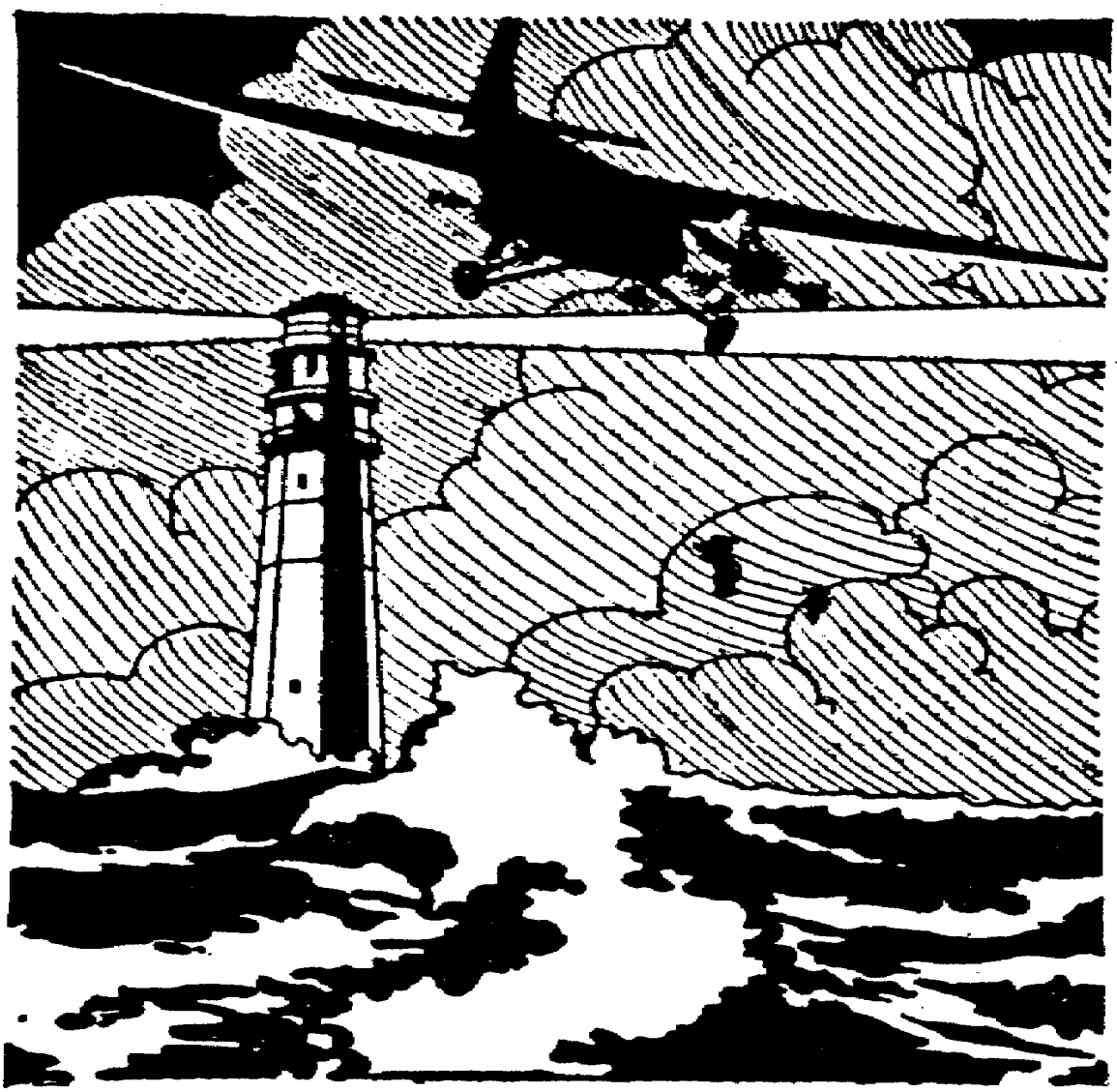
BEAR AIR

An Interagency Aviation Safety Flyer



This United States Department of Agriculture, Forest Service (USDA-FS) sponsored publication is published in cooperation with United States Department of the Interior (USDI), Office of Aircraft Services (OAS) and Bureau of Land Management (BLM). The intent of this biannual publication is to communicate aviation safety information. The contents of the publication are not to be used for advertising, publication or promotional purposes. The USDA-FS has developed this information for circulation to its employees, contractors, and cooperating federal and state agencies, and is not responsible for the interpretation or use of this information by anyone except its own employees. The use of trade, firm, or corporation names in this publication is for the information and convenience of the reader, and does not constitute an endorsement by either agency of any product or service to the exclusion of others that may be suitable.

The publication is provided to those offices that have requested to be on the mailing list. To add, change or delete your office address, please submit the information to: USDA-FS Aviation Safety Office, National Interagency Fire Center, 3833 South Development Avenue, Boise, Idaho 83705.

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Letters...

Is the National Flight Following Frequency Working?

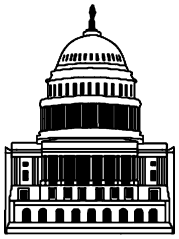
Our air resources travel all over the United States under the total mobility concept. The requirement to maintain contact while in flight has prompted some concerns of accessibility of frequencies for aircrews. The National Flight Following Frequency (168.650) was established to help solve this problem. Is it working in the dispatch centers? Are the pilots able to make contact with dispatch centers or tanker bases? Some of the problems brought to my attention are:

1) Installing the frequency on mountain top sites and in dispatch centers;

2) Centers without a dedicated aircraft dispatcher tend to miss national frequency calls during initial attack activity, when most of the aircraft are moving; and 3) calls on 168.650 bleed over from other units.

Since the publication of the USDA/ USDI Aircraft Radio Communication Guide was discontinued, no “official” source is available. In 1997, Wildland Firefighter Frequency Guide was created and printed by PJ Smith, Salmon/Challis NF, and the NIFC Incident Communication Support Unit. It has had limited distribution in part, I believe, due to the lack of National Aviation Office support. Charlotte Larson, FS Aviation Management Office and I agree that this is an important tool that needs our facilitation to provide an extra margin of safety for our aircrews. We are planning to have the Wildland Frequency Guide available for the 1999, fire season.

Larry Mahaffey
BLM Aviation Safety and Training

Washington  Office Corner

As I reflect on USDA-FS Aviation in the '90s, I think of a number of aspects that have made me particularly proud. However, there are also a few areas in need of attention by all USFS Aviation leaders, if we're to maintain the ability to adequately support the Forest Service Natural Resource mission. There have also been significant changes resulting in tremendous improvements to our programs. I am especially proud of the following accomplishments:

- The response of USDA-FS Aviation to the Florida fire activity from May to July, where we had as much as 156 tactical aircraft assisting in the effort. The ability of Region 8 to manage the overload associated with this event was impressive. At one time, over half the Regional Aviation Officers were there in a variety of leadership positions. That's putting the talent where the needs are!

- Implementation of the National Airtanker Study II (NATS) Airtanker support base improvement initiative. In '99 we'll be investing over 5 million dollars in planning, design and construction at 13 airtanker bases with more to follow in 2000. These improvements will provide for both safer and more efficient bases that will host the aircraft of the future.

- The quality work that I see being done by the Regional Aviation Officers (RAOs) and Regional Aviation Safety Managers (RASMs) is impressive. Both groups are in high gear and are doing a very professional job of staffing out and recommending solutions to various aviation policy and program management issues through the efforts of the RAO Council and the RASM Council. If any employee has questions regarding the aviation policy process, you are encouraged to contact your RASM or RAO.

- Interagency cooperation with the USDI agencies has never been better. We have worked together to tackle some tough issues with positive results.

Some conditions have changed USDA-FS administrative flying has decreased dramatically in the past decade from a high of 30% of our flight hours to a current level of about 8%. This has significant impacts on the proficiency opportunities for our employee pilots.

The overall increase in productivity of fire fighting aircraft is one of the quiet successes of the past decade. With the introduction of the C23A (Sherpa) and the DC3T aircraft, lift capacity for smokejumper missions increased significantly. The introduction of the C130A and P3A airtankers into the fleet, brought the retardant capacity of the average airtanker up by over 10% with the added plus of increased speed.

The Type I helicopter fleet build up has been nothing short of impressive. That capability has grown to about 3 times what it was in 1990. The Type III helicopter fleet has successfully integrated faster and more

capable aircraft with the Bell 407 and the A-Star 35OB2. These are a few examples of cases where aviation is making a greater contribution to the overall Natural Resources effort.

There are still concerns that we must continue to address. One challenge is our development of professional Aviation leaders and managers. We have transitioned from a point where all of the Regional Aviation Officers were or had been pilots, to a time where about half are pilots. The non-pilot RAOs have brought good management skills, diversity, and agency knowledge to the job. Are we doing all we can as an agency to develop the leadership and management talents of our employee pilots who have the desire to move up?

Another challenge we must address is our hiring, training, and retention of employee pilots. I hear a great deal of frustration from the RAOs surrounding the issues of hiring, training and retention of our own in-house pilots. There are lots of things being done and considered, including better pre-hire screening, training evaluation, and changes in organizational structure. Left unresolved, this area could drastically impair our ability to accomplish our assigned mission.

I am excited about the possibilities for USFS Aviation in '99. Lets make the last year of the millennium a good and safe one.

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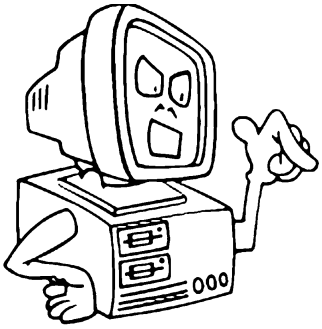
Aviation Safety Links on the World Wide Web

Aircraft Publications:
Airworthiness Directives and Parts Manufacturer Approvals www.fedworld.gov/faasearch.html
Technical Standard Orders (TSOS) www.faa.gov/avr/air/air100/TSOhome.html
Type Certificate Data Sheets and Specifications www.fedworld.gov/faasearch.html

Information for Pilots:
Advisory Circulars www.faa.gov/abc/ac-chklst/actoc.htm or www.faa.gov/avr/avrhome.htm
Aviation Safety Program Pamphlets www.faa.gov/avr/news/Ppams.htm
Federal Aviation Regulations www.faa.gov/avr/AFS/FARS/
Civil Aeromedical Institute (CAMI) www.cami.jccbi.gov

Miscellaneous Aviation Sites:
Air Safety Home Page www.airsafe.com
International Civil Aviation Organization (ICAO) www.cam.org/~icao
Helicopter Association International www.rotor.com
Aspect One-Human Error and Human Factors www.wcinet.net/~aspect
Associated Airtanker Pilots www.airtanker.com/aap/aap2.htm



Initial Attack Management System (IAMS)

Larry Mahaffey
BLM Aviation Safety and Training

Several federal agencies began to study how the USDA-FS Computer Aided Navigation (CAN) program could be applied to the BLM Initial Attack Management System (IAMS) in 1988. The original IAMS was a computerized system designed to provide intelligence that helps managers more effectively dispatch initial attack forces to incidents. At that time plans were made to develop a stand-alone system for use by all agencies.

The name was changed to Computer Aided Aviation Hazard Information System (CAHIS) and it was recognized as a part of IAMS in 1991. CAHIS ran on the BLM network with Lightning Maps and Remote Automated Weather Stations (RAWS). The cost of maintaining and operating the system was very expensive, so the program was discontinued in 1994. The lightning map and RAWS are now available on the Internet.

In 1997, I was tasked with getting the stand alone IAMS system back on line and out to the field for the 1998 summer season. Jon Skeels and Erin McCormick, from Region 2; Gary Schmunk and Alex Clarke from the Alaska Fire Service, Susan Stillings from National Interagency Fire Center (NIFC), and I were able to cut CDs, update the system and get it out to the field for the 1998 fire season. Later the system was placed on the Internet allowing users to down load the IAMS program and updates. The update site has a guide with instructions and phone numbers for help.

The Internet addresses are:

www.nifc.blm.gov/pub/iams/iams.html
This site provides the system down load data (C:\IAMS).

www.nifc.blm.gov/pub/iams.html
All three files must be loaded and placed into a known file.

1. C:\AIRBASE.EXE, (updated every 28 days)
2. C:\MILITARY.EXE, (updated every 56 days)
3. C:\UPDATE98.EXE

IAMS displays a base map of the United States with several layers including: the continental U.S. with state boundaries, roads, rivers, helibase, airtanker bases, VHF Omni-directional Radio (VOR) sites, Military Training Routes (MTRs), Special Use Airspace and BLM, USDA-FS and other agency boundaries. It has zoom capability and layers can be added or removed to meet the needs of the user. IAMS performs an analysis to locate hazards such as MTRs with bearing and distance, route number and Special Use Airspace. Military updates are available ever 56 days and FAA airport data updates are available every 28 days from the Defense Mapping Agency. There is a warn-

ing flag on these files providing the data expiration date.

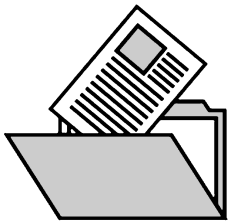
IAMS will identify the closest VOR with bearing and distance along with complete FAA airport information. It also provides information about helibase and airtanker base locations, bearing and distance from each facility, contractor, type of contract aircraft, unit manager, phone numbers, frequency and last data update.

The Temporary Flight Restriction (TFR) is implemented to provide a margin of safety while operating over a wildland fire or incident. The TFR information form allows an individual to "build" the TFR for immediate transmission to FAA or other units within the geographic area. The majority of the information that was accessed manually is automatically entered on the form (FAA ARTCC, including phone and fax numbers, requesting

unit and phone number; distance and bearing from nearest VOR; MTR and Special Use Airspace affected by the TFR). In the stand-alone mode, TFRs must be taxed to appropriate centers and users.

This program is available to the public and private users alike, who have a need for this aviation information. If the IAMS program is used on the ground it will help those in the air be more efficient and effective. The program will improve the safety for aviation personnel and above all improve mission safety.

From the SafeCom Files



Understanding the Delay

I am writing this SafeCom as this is the second occurrence in as many years that I have had a local dispatch center tell me they were getting pressure for ETD's and ETA's, and if the pilots didn't hurry to get airborne "they" were going to cancel the order. The airtanker base or Region is not relevant as this happened to me in different Regions, different GACC's, and different local dispatch centers. I don't know who "THEY" are in the chain of command, but this kind of thinking needs to be stopped as safety should always be our number one priority, not pressuring a crew to hurry through the "out of area" procedures. The following information may help dispatchers who are unfamiliar with flight crew procedures when dispatched out of the local area. By understanding these requirements, it should be easier to cope with delays.

The first thing to be done is to take on more fuel. This could be 1,000 gallons or more. Sometimes fuel trucks are servicing other aircraft. So it can be 10 to 20 minutes before a fuel truck can show up. Then you have to add the fueling time on top of that. Air-tankers normally keep only 2.5 hours of fuel on board to allow for a load of retardant that may be 18,000 to 27,000 lbs. depending on the type of aircraft. Usually a long distance out of area dispatch means they can take on additional fuel because they will not have the added

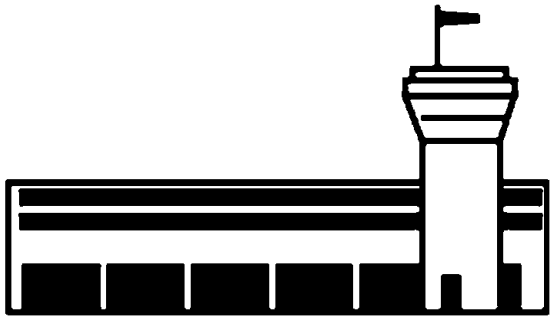
weight of the retardant. This is a benefit to the government since they won't have to stop enroute for fuel. Reciprocating aircraft may need to top off oil reserves for extended flight, or they may load a 55 gallon drum of oil to ensure they will have oil at their final destination, since many airports do not carry the type of oil required by that particular aircraft. To load this drum, a forklift is required to get it on the plane and not all bases have forklifts on site. This may add additional delay while locating one.

Pilots are required by regulation to research all information pertinent to the flight, including arrival airport, weather, NOTAMS, and any other factors which may affect the flight. They must then file a flight plan or make provision for flight following. All this work will be done through FAA Flight Service Stations in person, by phone, or through computer. Keep in mind, everyone from airlines to private pilots use these services and our tanker crew may not be the first in line for getting the information they need. If marginal weather is expected, alternate airports and routes must be checked as well. Based on all this information, the pilot will build the flight plan and itinerary. Now the appropriate charts must be gathered and reviewed to plan the exact route of flight. This entire process could take 1 to 2 hours after which they still may find it necessary to further delay if weather conditions prevent a safe flight.

I have never seen a pilot that would turn down a dispatch or drag their heels, most are eager to go and start making the preflight arrangements as soon as the resource order comes through. It is important to remember the authority of the PIC, who is "responsible for preflight planning and the operation of the flight in compliance with the Federal Aviation Regulations, Forest Service guidelines, and the contract. The pilot in command has the authority to delay, divert, discontinue, or cancel a flight when conditions do not appear suitable for the safe continuation of the flight."

All of this is authorized in the airtanker contract as well as the clause for relief from the 15-minute getaway requirement when the dispatch is out of the local area. The contract allows the crew to take the time necessary to meet the regulations and insure a safe flight. I hope this helps logistical and aviation personnel understand what takes place for "out of area" dispatches, and that it helps alleviate the pressure of urgency. Fire fighting shouldn't be an emergency, its what we do for a living. If you are dispatching aircraft, I hope you don't hear yourself saying those words "THEY" will cancel you if you don't get going, or have an ETA to pass back through the "SYSTEM". Think about what the reason for the flight is and what preparation must go into it to make it a safe flight.

Finally, do not pass on negative information when you get it from "THEM". Let it stop with you.



Medications and Flying

By Nestor B. Kowalsky, MD., MS., Area Medical Director and David K McKenas, MD., MP. H., Corporate Medical Director

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American Airlines Medical receives frequent phone calls inquiries from pilots regarding the acceptability of various medications while on flight status. The Federal Aviation Administration (FAA) does not publish a list of approved medications, because there are thousands of over-the-counter (OTC) and prescription medications, with continuous additions.

Following the appearance of a new medication, the FAA generally waits one year to determine whether its use is appropriate and an adequate profile of side effects has been established. It is important to recognize that concerns center not only on the medication and risk of unacceptable side effects, but also the condition for which the medication is being taken and whether it is disqualifying for flight status.

The following is a compilation of information from articles recently published on this subject. The list is not inclusive and will become dated, as new drugs are introduced and others are eliminated. It is crucial for pilots to consider that they must evaluate each over-the-counter medicine they are taking to insure there are no side effects which affect flight safety. It is also important that their symptoms for the underlying condition will not affect flight safety.

Dietary Supplements

Melatonin is sold in health food stores, and is not regulated by the Food and Drug Administration, as it is considered a food supplement. It reportedly helps with sleep problems. The FAA generally permits airmen to use these supplements if there are no side effects. Rigorous scientific studies of melatonin's benefits, and specifically appropriate dosage, are yet to be completed. General nutrition supplements and most herbal preparations that are manufactured and sold within the United States are usually approved for pilots on flight status, if taken in recommended doses.

Alcohol-Containing Medications

Many prescription and over-the-counter liquid medications contain alcohol, which could result in a positive alcohol breath test. The FAA prohibits airmen from ingesting alcohol in any form within 8 hours of flying.

Antibiotics

The use of antibiotics is permissible, providing the airman has been on the medication for a sufficient period (usually 48 hours), to rule out the possibility of side effects. The illness itself may be disqualifying, even before the medication is started.

Antihistamines for Allergies and Colds

The FAA permits the use of Seldane, Hismanal, and

the newer medications Allegra and Claritin, if the prescribing physician presents a note giving the indications, dose, and a statement that there are no adverse side effects. Zyrtec is not permitted for use by airmen, as it is reportedly associated with sedating effects. The FAA approves treatment with allergy desensitization injections. Documentation and declaration of use to the FAA is required. Pseudo-ephedrine is a decongestant found singly (Sudafed) or as an ingredient in OTC preparations and is generally approved for flight duty, although the FAA warns that even this medicine should be individually evaluated for personal side effects and safety. As pseud-oephedrine can cause stimulation, it should be used with care when planning layover sleep periods. All other OTC cold and allergy medications require that you wait twice the dosing interval, following the last dose of the medication, before returning to flight status. For example, you must wait at least 12 hours after the last dose of a medication that is taken every 6 hours.

Intermittent Use of Medication

Intermittent use of sedating antihistamine drugs for allergies may be permissible, provided that the airman has been cautioned and will not take the medication within twelve hours of flying (for short-acting drugs), and 24 hours (for long-acting drugs). The company medical officer or the aviation medical examiner should have this certification on file.

Pain Medications

Non-steroidal anti-inflammatory medications, such as Ibuprofen, Motrin, Advil, Aleve, Naprosyn, Voltarin and Ansaid are acceptable, provided the airman has been free of side effects for a minimum of 48 hour and the underlying medical condition is not disqualifying. Airmen are prohibited from flying while taking any medication containing a narcotic, such as codeine, (for pain or in a cough preparation), either singly or in combination with other drugs (e.g. Tylenol No. 3), Demerol, Darvon, Darvocet, Percodan, Ultram and Lortab. A waiting period following the last dose must take place before an airman may return to duty. The duration of this period depends upon the specific drug taken.

Mind and Mood-Altering Medication

The FAA does not approve the use of any of these drugs for active flight status. Included in this group are such medications as Prozac, Xanax, Paxil, Ativan, Wellbutrin, Effexor, Zoloft, Lithium, Elavil, Amitryptyline, Buspar, and others. For a pilot who has been on a course of this medication to be cleared for flight status, the FAA requires submission of reports of thorough evaluation, to confirm full resolution of the problem, clinical stability, in the absence of symptoms, off medication for a minimum of 60-90 days. Zyban, also known as Wellbutrin, is a medication recently introduced in smoking cessation programs and is a disqualifying, mood-altering medication.

Blood Pressure Medications

The FAA has approved a variety of medications for control of elevated blood pressure. The airman must have successfully completed a thorough cardiovascular examination and demonstrated stable blood pressure, in the absence of any drug side effects.

Asthma and Allergic Rhinitis Medications

The FAA does permit the use of non-absorbed steroid nasal inhalers (e.g. Nasalcrom, Beconase, Vancenase) for treatment of allergic

rhinitis. Pilots with mild asthma must have submitted results of an acceptable evaluation of their condition, controlled by approved drugs before the FAA will consider authorizing use of lung inhalers for treatment of this condition. Approval is not automatic, and each case is evaluated on its own merits.

Cholesterol Lowering Medications

The FAA permits the use of most medications including Mevacor, Lopid, Questran, Pravachol, and Zocor, used in lowering cholesterol, provided there are no unacceptable side effects.

Hypnotic (Sleep-Inducing) Medications

Over-the-counter medications such as Sominex, Tylenol PM, Excedrine PM and Benadryl are permitted for flight deck use but require waiting 12-24 hours from last dose to flight duty. Prescription drugs such as Halcion, Ambien and Restoril are not approved for airmen.

Intestinal Medications

The use of medications for the peptic ulcer diseases, such as antacids (Turns, Rolaids, Mylanta), Tagamet, Prilosec, Pepcid and Zantac, are permitted, depending upon the specific condition for which the treatment is prescribed, and provided there is no evidence of active ulcer disease. OTC preparations such as Kaopectate and Pepto-Bismol are of their diabetes. Extensive evaluation permitted if symptoms are mild. Prescription medications such as Lomotil, Bentyl, Levsin and Donnatal require a waiting period before an airman may return to flight duty use.

Headache Medications

The FAA has permitted use of certain migraine headache prevention medication, after careful review of the individual case. Injectable medications and oral agents to abort a migraine headache are generally not permitted for flight duty use.

Prostate Medications

FAA often approves the use of such effects, as well as FAA medication medications as Cardura, Hytrin and Proscar for treatment of benign prostatic hypertrophy (enlarged prostate). Long term use of this medication should be declared to the FAA.

Cancer Medications

Use of chemotherapeutic agents is not assurance that your medication use is permitted for pilots on active flight duty. Following completion of treatment, the FAA will give consideration, after results of thorough evaluation of the underlying medical condition have been submitted.

Diabetes Medications

The use of insulin for control of diabetes, is disqualifying for a first or second class airman medical certificate. The FAA has approved some pilots for flight status while taking oral medication for control of their diabetes. Extensive evaluation reports, including proof of clinical stability must first undergo FAA review.

General Precautions

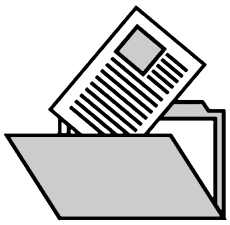
Combining medications (drug interactions) or using alcohol while taking medications can result in serious, unpredictable adverse effects.

Medications and flying is a complex issue. Be sure to carefully read the label of any OTC and prescription medication you take. The company medical department tracks developments in pharmacology and toxicology, technical information on medication interactions, elimination half-life and reported side effects, as well

as FAA medication policy, and is a handy resource for any pilot seeking information.

We welcome questions, anonymous or otherwise, on the Aeromedical Hotline at 817-967-9862. This simple call will either ensure a medication clearance notation is made in your company medical file, if you desire, or simply provide you the verbal assurance that your medication use is safe and appropriate in flight operations. The company medical department tracks developments in pharmacology and toxicology, technical information on medication interactions, elimination half-life and reported side effects, and is a handy resource for any pilot seeking information.

From the NTSB Files



This accident occurred on a National Forest and is discussed in the article "General Aviation Accident, on Public Lands".

NTSB Accident No. NYC97FA185

On September 23, 1997, about 1600 eastern daylight time, a Piper PA-28R-200, Canadian registry C-GHUE, was destroyed when it struck trees in mountainous terrain on Glastenbury Mountain Glastenbury, Vermont. The Canadian certificated, non-instrument rated private pilot and passenger were fatally injured. Instrument meteorological conditions prevailed at the accident site. The flight that departed Massena, New York, about 1455, and was destined for Willimantic, Connecticut, was operated on a Visual flight Rules (VFR) flight plan under 14 CFR Part 91.

The international flight originated in Ottawa, Ontario, Canada, about 1322, and entered the United States at Massena.

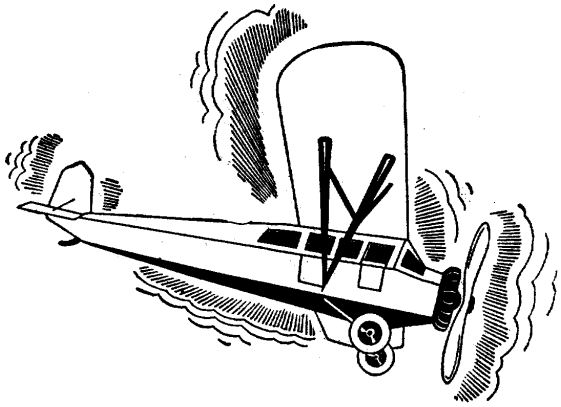
While on the ground at Massena, the pilot contacted the Burlington Automated Flight Service Station (AFSS), at 1410. The pilot reported his intended destination, and the briefer asked about his routing. The pilot reported that he was going on a direct route, over the mountains.

The briefer then stated: "Okay I would say VFR flight not recommended along... that routing, we have a flight precaution out for mountain obscuration with lower cloud cover along... mountains... occasionally obscured in cloud and precipitation and attributable to the... leading edge of the cold front, moderate turbulence can be expected as well below twelve thousand feet and icing also expected above eight thousand feet, occasional light to moderate rime or mixed icing in clouds as well as precipitation again above eight thousand freezing level forecast to be six to eight thousand feet, on departure, and looks like eight to twelve thousand on arrival."

Further in the briefing, the briefer stated, "...gonna be nice tomorrow once all this mess runs through but... I think you'd be very questionable VFR today..." To which the pilot replied, "Yeah, well, I'll file anyway and, ahh, if it looks bad I'll turn back."

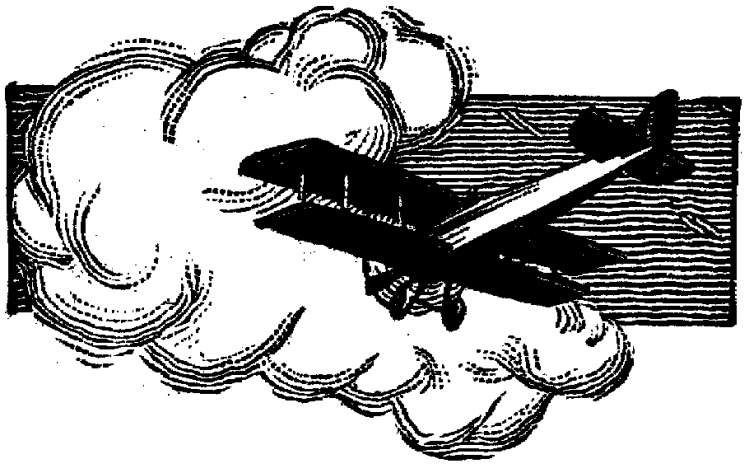
After the pilot filed the flight plan, the briefer added, “and once again VFR flight would not be recommended.” To which the pilot replied, “Okay then.”

The airplane departed Massena, about 1455, and the pilot activated the VFR flight plan, at 1459. No further communications were received from the pilot.

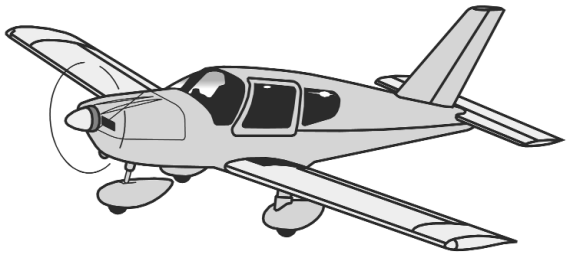


A hiker who was traveling southbound along the Appalachian Trail took refuge from deteriorating weather in a shelter near the peak of Glastenbury Mountain. He reported that he was in the clouds with visibility of about 10 feet. The rain was intermittent and cool. He said he suspected there might be freezing rain due to the temperature. Hail was also falling intermittently. The wind was from the west with strong sudden gusts that had a peak velocity of about 25 to 30 miles per hour. The hiker reported that at some time between 1600 and 1615, he heard an airplane engine for about 4 seconds. The engine was loud, at a high power setting and screaming. He also reported that he heard the engine sputter twice as if it was hitting trees, and then he heard a bang followed by silence. He stepped out of the shelter and walked into the woods in the direction he thought the noise came from, but was unable to hear anything else. He did not observe the airplane and remained in the shelter overnight.

The accident site was located about 2,100 feet southeast of Glastenbury Peak (3,748 feet high), at an elevation of about 3,600 feet, and about 600 feet west of the shelter.



General Aviation Accidents on Public Lands



Brad Bemardy
FAO Green Mountain & Finger Lakes National Forests

Around dusk on September 23, 1997 a Piper Cherokee en-route to Connecticut from Ottawa, Canada crashed on a remote portion of the Green Mountain National Forest in Vermont (see previous article, "From the Files of the NTSB"). Two hikers in a nearby shelter reported hearing the plane approach with the engine running at full power. The next sound they heard was the aircraft crashing into trees and then total silence. Although September, weather conditions were poor with wind, hail and fog present. Due to the conditions, the hikers were unwilling to search for the crash site unless human voices could be heard. The ELT was picked up about eight hours later and the Civil Air Patrol was contacted to locate the source of the signal.

As the Forest Aviation Officer on the Green Mountain/Finger Lakes National Forests, I would like to point out how this accident was handled from daybreak on September 24 through final cleanup and provide some insights to consider should this occur in your backyard.

In Vermont, the State Police have jurisdiction over search and rescue operations. We (Forest Service) were contacted late that night after the ELT signal was discovered and agreed that it was prudent to wait until first light to access the area. All-terrain-vehicles (ATVs) were used initially for quick access on an existing trail system. After locating the site and finding that neither of the two occupants had survived, ATV access was limited to minimize ground disturbance. The remains were transported down the mountain that day. One item to point out here is the need to protect the crash site immediately to prevent unnecessary disturbance. Also, individuals entering the site should be aware of possible bio-hazard. Sharp, jagged edges of wreckage and body fluids present significant risk for hepatitis, HIV, or other blood-borne pathogens. It is easy to get caught up in the moment and forget your precautions.

The next day we escorted an accident investigation team to the site. Team members included investigators from the NTSB and FAA, in addition to representatives from Piper and Lycoming (to inspect airframe and engine components). I encourage managers to assist in these investigations as much as possible. We assisted by looking for evidence around the site, conducting measurements, etc. The investigators may also rely on your knowledge of the local conditions or weather patterns. We found the investigation process to be quite interesting since even small items may have significance. One interesting find was a six inch tree branch that had been sheared off by the propeller (evidence that the engine had been running at high rpm's). One note here: the pilot's son wanted to view the crash site for personal closure. It is essential that working parties in the area are aware of the presence of next of kin and are sensitive to the emotions they may be experiencing.

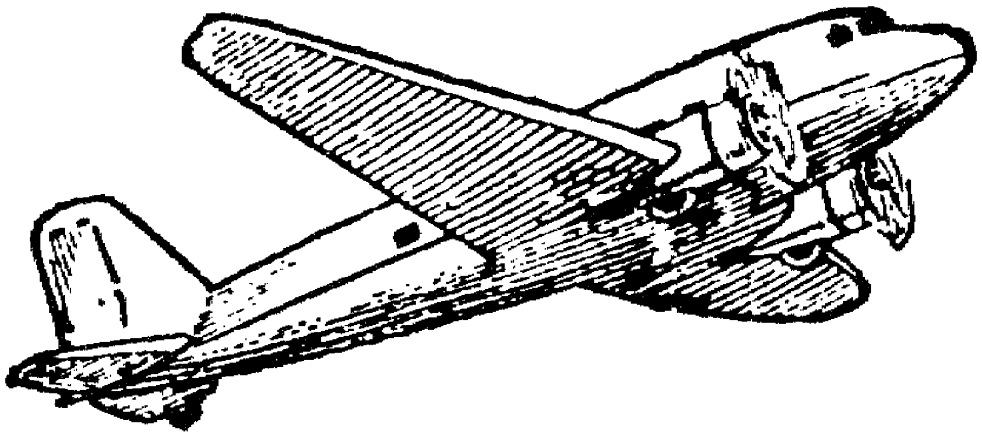
An insurance adjuster from Canada

was at the staging area to discuss removal of the plane on the second day. In most cases, the insurance companies want to have the wreckage removed quickly. It is important that the land manager maintain control of this situation. The adjuster had hired a local auto repair contractor to remove the wreckage. The contractor then called me and explained his entire plan for accomplishing this work adding that he had done two of these before and would need little guidance. He also said he planned to do this in two days. An immediate meeting was scheduled to review specifics and it became clear that portions of the plan might have put the salvage crew at risk. One item of concern was the size of the staging area in which they had planned to use a helicopter to “long-line” the wreckage to a waiting truck. The staging area was not an adequate site for this operation. We amended the plan and documented it with an internal plan of our own. Although the Forest Service is not directly involved with the salvage operation, our concern here dealt with public safety and resource protection. Our role was to act as resource advisors to ensure the site was clean and that no hazardous materials were left on site. With the assistance of a Bell 206, the airplane was successfully removed from the site in five loads.

Although the official cause of the accident has not yet been determined, investigation has found the Burlington, Vermont tower advised the Visual Flight Rules (VFR) pilot three times that VFR flight was not recommended on portions of his route. Given the account by the hikers, instrument flight conditions may have been present at the time of the crash. Icing may also have been a factor. The report will most likely show the official cause of the crash as “Controlled Flight into Terrain”.

Thousands of aircraft fly over public lands every day. Are you prepared in the event of an accident?

Good pre-planning will reduce the chance of another disaster occurring during the rescue/salvage phase of an operation and may save a life in the long run.



Disorientation is a Killer

Condensend from
Heliprops Volume 10, Number 2, 1998

A review of the 1997 NTSB statistics shows approximately 164 U.S. Civil Helicopter Accidents, resulting in 46 fatalities. A closer look shows that four of these accidents, categorized as "VFR flight into IMC", claimed six lives and caused serious injury to seven. VFR-into-IMC often leads to spatial disorientation, which can be a killer. A disproportion of VFR-into-IMC accidents account for a large percentage

of the fatalities. This has been the case for a number of years. Most VFR accidents have no fatalities: whereas VFR into IMC accidents are often fatal.

NTSB Accident No. LAX97GA325

On September 12 about 1630 pacific daylight time a Bell 205A was destroyed during a collision with mountainous terrain in the takeoff initial climb phase of flight. The helicopter was operated as a public use aircraft. The pilot and two passengers received fatal injuries; five passengers received serious injuries. The flight originated on the day of the accident as part of an on-going search for a lost hiker in the Buckhorn Wilderness Area, of the Olympic National Forest. Instrument meteorological conditions prevailed at the departure point with visibility less than 1/4 mile. The pilot had flown up for the search effort and had no prior experience in the Olympic National Forest. The accident flight was his second mission in the area and the first landing in this landing zone. According to ground and passenger witness interviews, the takeoff was vertical into fog and a very low ceiling.

A high mortality rate for VFR into IMC is understandable. Spatial disorientation is basically a temporary loss of understanding “which way is down”. This often produces a feeling of spinning, dizziness and/or a confused state of mind i.e. vertigo. Mix vertigo-induced anxiety with (1) IMC, (2) an aircraft that may not be configured for instrument flight, and (3) a pilot who may not be instrument rated or competent, and you get one of two things.

• An out of control helicopter that comes screaming out of the 200 foot ceiling at high speed in an unusual attitude.

• Or, an in-control helicopter that smashes into an obstruction or the side of a mountain.

In either case, it is understandable how the resulting high-energy impacts can and do have high mortality rates. A number of factors seem to set the stage for Inadvertent IMC events.

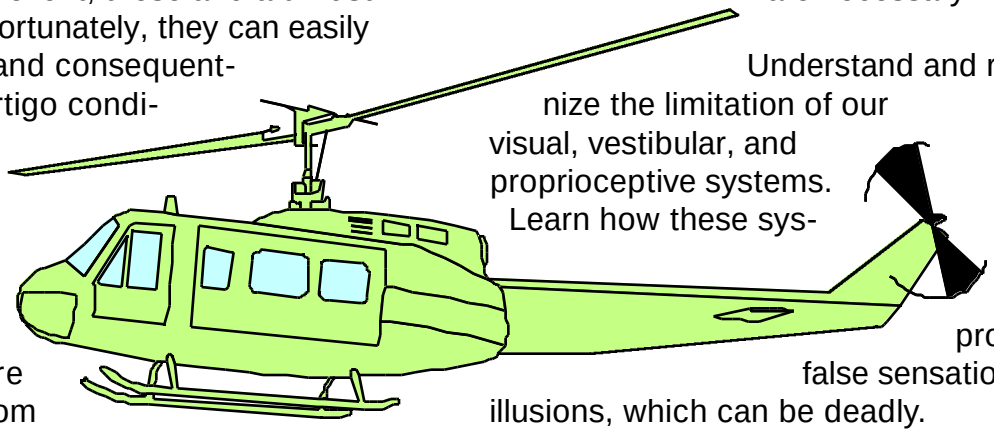
• Helicopter VFR - ceilings and visibility below basic VFR criteria are commonly and mistakenly accepted as suitable for helicopter operations. Pilots operating out of airports believe they can always get a special VFR clearance if weather gets bad; or when operating out of remote areas, they believe VFR weather does not apply to their situation, and if the weather gets

bad they can always set down in a field. The flexibility provided by helicopters creates a killer norm that permits helicopter operations in all sorts of weather.

• Unprepared pilots – It's not uncommon for a helicopter pilot to be neither instrument rated or instrument competent. Initial ratings and periodic training are costly and time consuming making it difficult to justify for a strictly VFR operation. This lack of preparedness can create a tense cockpit during the first moments of an inadvertent IMC event. A pilot in such a situation may not be successful in inventing a solution.

Prepare yourself by developing a plan and the skills to prevent and cope with these disorientating situations.

• Aircraft Stability – Many helicopters in today's operational fleet simply must be hand-flown all the time. With these aircraft, basic flight control systems do not allow extended trimmed, hands-off flight. In an inadvertent IMC event, these aircraft must be handled. Unfortunately, they can easily get out of trim, and consequently add to the vertigo condition.



• Weather reporting – A large percentage of helicopter operations are conducted to/from remote locations where there is no weather reporting facility. Without this information, the helicopter pilot faces a tough decision and often chooses to launch and check it out.

Disorientation can occur in VFR conditions as well. Even with unlimited visibility, the right combination of ambient lighting, lighted objects, haze/smoke, and surface conditions can provide the insidious condition in which visual cues of speed, altitude, and rate of climb may not be apparent.

Without a visual representation of the horizon the human body cannot provide continuous, reliable indications of spatial orientation while in flight. This inability to determine spatial orientation is not a matter of training or experience. No one - regardless of logged flight hours - can maintain spatial orientation in flight without the proper visual cues. As long as humans fly aircraft, the opportunity for helicopter disorientation accidents will remain. To avoid disorientation accidents, two actions are necessary.

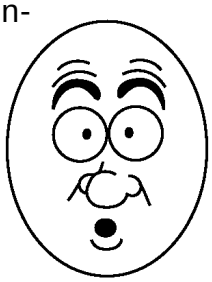
Understand and recognize the limitation of our visual, vestibular, and proprioceptive systems. Learn how these systems may provide false sensations and illusions, which can be deadly.

Why We Fail to Communicate

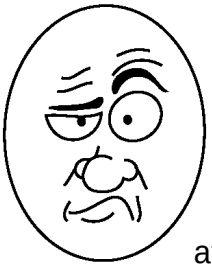
Gary Morgan, Eastern Region

A Lockheed Electra was just cleared for takeoff on a routine training mission with an experienced crew. The pilot in the left seat was not the pilot in command, but was making the takeoff. As the airspeed increased and the pilot flying switched from nose wheel steering to rudder, he appeared confused as though something was not right. The PIC queried this pilot asking what's wrong, after no response, he emphatically said, "talk to me".

Meanwhile the aircraft was accelerating past the point for a safe rejected takeoff. The pilot at controls maintained heading control with differential power and got the aircraft into the air. After the gear was raised the pilot flying now told the PIC he had no rudder control during the takeoff roll. This really got my attention since I was a jump-seat passenger on this aircraft that had just taken a minor problem on the runway and turned it into a significant problem in the air. If the left seat pilot had communicated the problem early enough, the takeoff would have been aborted and the problem checked out.



As it turned out, the rod controlling rudder movement had broken and there was no linkage between the rudder pedals and the control surface. The aircraft was successfully landed with no further damage, although the atmosphere was a little more tense than normal. This was an incident with an identified cause of mechanical failure. I believe it was much more. This was also an incident of communication failure that took a bad situation and made it worse. Any endeavor that involves complex operations or multiple players, depends or strong communication if they are to be successful. Just ask an Air Tactical Group Supervisor who is having a bad radio day.



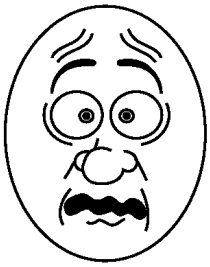
How well do we communicate within the fire and aviation community? How are we doing at communicating with aviation users outside of fire fighting (natural resource operations and administrative flights)? I believe it is safe to say we aren't doing as well as we could. We have a good method in place to report incidents, we have an extensive IBM and Internet network, there are an abundance of telephone and fax machines, so why don't we communicate as well as we could? The following obstacles are identified that may help you better understand why we don't communicate.

SENDING

Not Important: "The incident was probably not worth the time and effort to report, and it was probably just an isolated situation."

Don't Make Waves: No body wants to get anyone into trouble over a minor issue. If no damage was done, why create any more problems?

Shoot the Messenger: "If the news is going to really set them off, I certainly won't be the one to tell them."



I Can Manage: "I don't need any help with this situation and can handle it by myself."

Mechanical Failure: New network systems, unable to reach a phone, etc.

They Must Never Know: "The (WO, RO, SO, RD) office will only complicate things if they find out."

RECEIVING

Out-to-Lunch (OTL): Recipient is either physically or mentally absent.

Denial: "This does not happen at my base, therefore there is a mistake."

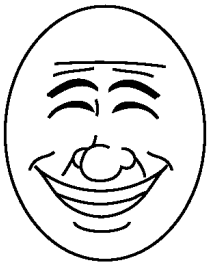
Reruns: "I don't want to hear anymore about this issue."

Misinterpretation: "If an engine had to be shutdown, we must be saving fuel, that's a good thing, right?"

Communication is a successful transfer of information involving a sender, a receiver, and a medium (telephone, Internet, voice-mail, homing pigeon etc.) If any of these breakdown, vital information may not get to those who need it. Risk managers require accurate and complete information, but they are only as effective as the sum of information available to them. This applies on a large scale as well as the two-person cockpit crew.

The most important communication tool in accident prevention is the incident report (SafeCom). For every accident that occurs, there are many incidents. These incidents are the warning signs that, if not corrected, will ultimately yield a failure (human or mechanical) with catastrophic, results. The National Business Aviation Association's top 10 list of attribute common to companies with effective safety cultures included four items considered most difficult to implement. Two of those involved communications:

1. "Inclusive system of communication for collecting, analyzing and exchanger incident data related to safety."



2: "A non-punitive environment, one that prevents retribution for submission of incident data."*

From the first attribute, we can comfortably say we have a system in place, the real key to its success is getting the employee to use it. We must now focus on the second attribute (no punitive environment for submission incident data). If we deal with the reports focusing on the problem and not an individual, we will gain far more information from the field than we have in the past. What we must do, is understand and overcome the obstacles to good communications, and continue to use the incident reporting system in a professional manner to identify and solve potential problems before they become a mishap.

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*Richard Aarons, "Safety Cultures Vital in Business Aviation *Business and Commercial Aviation,* September, 1998

Reporting Safety Events

In the last year submitting a SafeCom has been simplified for those who have access to the Internet. To report an incident or hazard, complete the following steps:

1. Access the USDA-FS Aviation Safety Homepage via the Internet at http://205.173.2.4 or the USDI Office of Aircraft Services Homepage at www.oas.gov/oassafety/

2. When the homepage menu appears, select and left-click on “Submit SafeCom”.

3. Complete the form as much as possible, using pull down menus available (indicated by downward pointing arrows at the right edge of some information boxes). Complete the narrative and corrective action sections if appropriate. If you wish to keep a hard copy of the report, click on the print icon on your browser at this point, you will not be able to print once the form has been submitted.

4. After you have completed all information, left-click on the pull down menu for the “Region” and select your USDA-FS Region. This will send it to the appropriate safety manager. If you wish to start over, or clear the form, click on the “Clear Form” button. If you are ready to submit your SafeCom, click on the “Submit” button.

Reviewing Safety Events

The best way to stay on top of what is happening by area, type aircraft, or type, or problem, is to use the SafeCom data base search program. To review this, complete the following steps:

1. Access the appropriate aviation safety homepage used for reporting incidents.

2. Select and click the “Search SafeComs” option.

3. For USDA-FS - select and click on “Public Access Area” (OAS users select and click on “Public Query of AMIS data”).

4. Identify the categories and/or data you are searching.

5. Select and click on the “Submit” button (“Submit Query” for OAS users).

Initial Attack Air Operations on the Esther Lake Fire

Steve Tome, Superior N.F.

On May 19, 1998, at 1423, Superior National Forest Helitack Foreman Fitzpatrick and Helicopter Pilot Cowan noticed a medium, gray smoke northeast of the Grand Marais Airport where they were on standby. Three minutes later, Superior National Forestís Beaver 1, who was on routine fire patrol approximately 45 miles to the west of the fire, reported seeing a smoke in the same general area which appeared to be growing rapidly. Beaver 3, who was near Grand Portage, MN, contacted Beaver 1 relay to Superior dispatch that he also had a visual on a rapidly growing smoke 20 miles west of his position and that he was heading for it and would update on it shortly. He also reported that the fire was in the Minnesota Department of Natural Resources (MNDNR) protection zone. For the next 20 minutes, Beaver 3 watched as the fire grew from 20 acres to 40 acres with intense spotting.

Helicopters from Grand Marais, Two Harbors, and a BIA helicopter that was enroute to Grand Marais from Bemidji began the attack along with both USFS. Beavers and a Baron as Air Attack. A PB4Y2 airtanker was dispatched from Hibbing Tanker Base with instructions to reload at the Ely Tanker Base on the Superior NF. It was quickly realized that even with this amount of air power on this fire, holding it in the winds and given fuels coupled with the remote, rough terrain and amount of grow resources available, would be tough if not impossible.

The Minnesota Incident Command System partners decided to call on the Ontario Ministry of Natural Resources (OMNR) to see if a CL-215 package was available (CL-215 package consists of 1 bird dog/Cessna 310 and 2 CL-215s). The OMNR in Thunder Bay said they would like to help but no "package" was available as they were busy with numerous fires in the area but would see if something could be freed up elsewhere. It turned out that one CL-215 based in Dryden, Ontario was just being released from a fire in close proximity to ours but could only work our fire for about a hour due to fuel quantity left and other provincial fire demands. The Ontario ship contacted Air Attack 10 minutes out at 1610 hrs. and joined the attack shortly.

Given time constraints and fuel running low in helicopters, Beavers, and Air Attack platforms, we opted to call Manitoba for assistance. The Manitoba Natural Resources Fire Program Division confirmed that they could provide a CL-215 package to us and asked if I would map a route to the fire and give them lat/long in decimal minutes. While plotting a course out on a Canadian WAC chart I was amused that these folks didn’t bat an eye at initial attacking a fire almost 300 statute miles away. As the Ontario ship had to depart, the Manitoba bird dog (their term for a lead plane/air attack) contacted the Minnesota Interagency Fire Center (MIFC) & Superior dispatch as well as Air Attack over the fire that they were 20 minutes out. The Manitoba "package" arrived and went to work at 1840 and continued until 2022

when they departed for the tanker base at Ely for fuel. When they arrived at the base, the fuel truck was waiting with some suppers and cold drinks.

In this initial attack phase: Three type III helicopters dropped 14,000 gals of water, two USFS Beavers dropped 6250 gals of foam, one PB4Y2 airtanker dropped 6000 gals of retardant, and three Canadian CL-215s dropped 111,000 gallons of foam.

I was really pleased to see this all come together so smoothly since considerable time was spent facilitating meetings and actual exercises with both Manitoba & Ontario to firm up frequencies, terminology & tactics between MINCS partners and them. Everything flowed smoothly, safely and effectively. The Air Tactical Group Supervisor, Dennis Danzel, and many others were literally awe-struck by the CL-215's effectiveness in the lake country saying that they actually "pounded the fire to death". The fixed wing and rotary wing aircraft were given their own portions of the fire; everyone was talking utilizing common terminology on previously coordinated frequencies. Danzel did an excellent job of airspace coordination with the 12 aircraft. The fire was held at what I first heard to be 250 acres, but after mapping turned out to be 150 acres. Without the Canadian support, I believe this fire had the potential to become an international incident much like the Sag Corridor fire in ’95.

The really nice thing is, this proved that the time, effort, and money spent planning, training and coordinating before the real thing happens, was a good investment. We had a well-organized, safe and fluid attack on a rapidly moving fire in some of the toughest, remote terrain in Minnesota with many different types of aircraft from two Canadian provinces, the MNDNR and the U.S. Forest Service.