

# MONTANA PILOTS' ASSOCIATION



## Heading Bug

May / June 2004

### NOTAMS:

Our friends in the Idaho Aviation Association are involved in a legal fight over the Forest Service closure of the four backcountry airstrips along Big Creek in the Frank Church Wilderness: Mile High, Simmonds, Vines and Dewey Moore. The IAA has set up a legal fund and according to Bob Patrick, IAA president, there is enough money in the fund for only 37 hours of lawyers fees. They need monetary help. Please contribute to the IAA legal fund, write a check to: "IAA Legal Fund" and mailing it to Gwenn McDonald secretary/treasurer, P O Box 1987 Boise, ID 83701-1987.

If the Forest Service prevails on these four airstrips where will they stop? As Patrick says: "This issue is not just about the Big Creek Four airstrips, we want to strongly assert aviation's legal and lawful right to use the FCNR for the future generations."



To Mr. Craig Denny and Big Sky Airlines,

I would like to express my apologies for the error concerning the handy-capped child who was alleged to have taken an EAA Wings Program ride on one of your airplanes in Miles City, Montana. The story was relayed to me by a friend and I did not take notes until I got home and made an error in thinking it was a Big Sky airplane. I would like to make a complete retraction of that story from both of these MPA publications (newsletter and website). I confirmed from my sources that it was another company that gave permission and flew the kids. I take full responsibility for the error and do hope that I have not caused you or your company any unmanageable embarrassment.

Sincerely,  
Bailey J. Egan, MPA volunteer writer

### President's Message:

Our current membership has grown close to 700. If you are a new member, welcome! A special welcome goes out to the new Gallatin Valley Hangar which now represents the greater Bozeman area.

You will see a MPA hospitality tent at various aviation events throughout the state this summer. The tent will be available for all attendees to stop in, sit and visit for a while, and enjoy a good cup of coffee or a cold beverage. Of course MPA informational brochures and membership forms will be available for those who choose to join our organization.

The MPA Board of Directors Planning Retreat and Board Meeting held in April focused on committee restructuring, policy and procedures, membership and communication. Our goal is to have the Policy and Procedures Manual ready for review by the fall board meeting the first weekend in October.

As summer approaches and backcountry/recreational airstrips open, we must remind ourselves of the flying ethics and regulations appropriate for each airstrip. The MPA, Montana Aeronautics and the US Forest Service are developing signs and a brochure to remind aviators of the protocol for airstrip operations on Forest Service land in Western Montana. It is our hope to have the signs and brochure in draft form for pilots to review at the Schafer Work Weekend in July, so in 2005 they will be on location at primary airstrips.

The Roundup Hangar is hosting a Safety Fly-In July 24. Steve Jones, Helena FSDO, has offered his services through the FAA-Aviation Safety Program to all MPA hangars. Steve gave a very informative presentation at the retreat.  
<http://www.faasafety.gov/>

Many MPA members are actively participating in the planning process currently under way on most national forests in Montana. These forest plan revisions will govern many national forests for the next two decades. Our goal is to have the aviation community recognized within all forest plans as a viable and valued user of forest lands. If you hear of any local community groups being formed in your area to review draft alternatives and proposed changes please get involved. We, the aviation community, do not want to wake up some morning and find out we are "locked out" of our forests.

I encourage you to attend the many summer MPA events listed in this newsletter or on our Web site [www.montanapilots.org](http://www.montanapilots.org).

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# 2004 Calendar of Events



- June 20**—Frank Bass Father's Day Fly-In Breakfast—Ft. Peck Airport (S37)—Eggs, sausage & pancakes 8 to 11am—for more information contact Lanny Hanson, 406-526-3535 or email: hpb@nemontel.net
- June 21-25**—McCall Mountain/Canyon Flying Seminar—McCall, ID
- June 28**—Museum of Mountain Flying Fly-In and Antique Car Show, EAA pancake breakfast 8-11am—Missoula (MSO)
- July 3-4** —*First Annual*—Townsend (8U8)—*Flight Festival* Saturday 7/3—food available all day by Boy Scout Troop 231 and Young Eagle Flights by EAA Chapter 344—Sunday 7/4—breakfast at airport and lunch at Heritage Park, Townsend—Fly-Out to Canyon Ferry (8U9) airstrip on the lake—contact Neil or Karen Salmi at Bueno Aviation—406/266-5400
- July 7-11**—NW EAA Arlington Fly-In—Arlington, WA
- July 17-18**—Schafer (8U2) Work Weekend—hosted by the USFS, Montana Aeronautics Division, MPA and Montana Flying Farmers
- July 24**—FAA and Montana Aeronautics Division Safety Meeting and ELT Seminar—Roundup, MT (RPX)—ELT training session with Jeannie MacPherson, Montana Aeronautics Division—FAA safety meetings led by Steve Jones, Helena FSDO, three meetings and safety inspections of your airplane—three flight instructors who will donate one hour to pilots who have attended a safety meeting, the safety meeting and instructor time qualify for the FAA Wings Program—contests, including flour bombing, toilet paper cutting and spot landing—Young Eagle Flight Program—food available all day starting with breakfast at 7am, burgers and hot dogs all day and dinner at 6pm—live music for a dance at Orville Moore's hangar
- July 27-Aug. 2**—EAA Airventure (Oshkosh)
- Aug. 6-8**—Splash-In on Lower Stillwater Lake, Whitefish, MT
- Aug. 8**—Seeley Lake (23S)—Seeley Lake Flying Club's Annual Pancake Feed
- Aug. 20-22**—Montana Fun Weekend Fly-In & Car Show—Cut Bank, MT (CTB)
- Aug. 28**—*Sixth Annual* Polson Fly-In Pancake Breakfast & Pitchfork Fondue—Polson (8S1)
- Sep. 4**—Valley Hangar Fly-In—Glasgow (GGW)
- Sep. 11**—Sidney Airshow (Montana, not down under)
- Dec. 2**—Happy 65th Birthday to the Montana Pilots' Association

**Billings area CAP unit conducts an Aerospace Education Workshop**—The local Civil Air Patrol (CAP) unit in Billings, Beartooth Composite Squadron, will be conducting an aerospace education workshop for local area teachers and youth program leaders (i.e. Boy Scout leaders, Girl Scout leaders, 4-H Club leaders, etc.) and is scheduled for Aug. 6-8 from 9am to 3pm each day. Participation in this aerospace education workshop will be limited to 20 teachers and/or youth program leaders and prospective participants must reserve their slot in advance by emailing Major Steven Heffel at hef-felsc67@hotmail.com and provide their name, mailing address and telephone number, for later contact. Please, insert "Aerospace Education Workshop Reservation" in the subject line.

Captain Kaye R. Ebelt, CAP's Director of Aerospace Education for the Montana Wing, will lead the workshop. Captain Ebelt is an expert in aerospace education and a teacher at Target Range Elementary School in Missoula and has earned several aerospace education awards. The workshop will train the participants to supplement standard academic curriculums with various simple and low cost "hands-on activities" to promote an interest in the aerospace sciences (i.e. astronautics, astronomy and aviation). The workshop will be conducted at the Billings Educational Academy located at 1212 Central Avenue in Billings. CAP is the officially recognized civilian volunteer auxiliary of the United States Air Force.

## The MPA still needs members—

Be sure and carry MPA applications with you to give to prospective members. If you do not have applications, contact your local hangar officers or Geanette Cebulski, MPA secretary/treasurer at mpasecretary@blackfoot.net. For questions, contact any of the officers listed below.

### Montana Pilots' Association, Inc.

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# Hangar Reports

## Central Montana (Lewistown) Hangar—

Our regular meetings are the last Tuesday of the month—usually September thru June, so we met on April 27, which is our regular night. We had 26 members and guests present for our dinner meeting at the Yogo Inn.

Our newly elected/re-elected officers were present, and Pres. Tim Robertson presided during the meeting. The other officers are Betty Williams - vice president, and Harrison Chadwick - secretary-treasurer. Jim Lewis, past-president and former MPA Eastern Director, represented our hangar at the recent weekend retreat in Helena, and our thanks to him for his services.

The MPA Fall Fly-In is looking for a home, and our Hangar decided to sponsor it next year (2005.) The Bataan Death March Survivors convention will be in LWT on July 15-17. The drawings of Prof. Emeritus Ben Steele, of MSU/Billings, will soon have a permanent home here in Lewistown. Dr. Steele's drawings are the only first-hand pictorial record of the Death March, following the fall of Corregidor to the Japanese forces in early 1942. The hangar is planning to have vintage planes and cars from that era on display during the gathering.

A note of sadness occurred just a few days following our meeting. Robert L. Johnson, past-president, and long-time Hangar member, passed away following a stroke on April 30. He had held a pilot's license for nearly 60 years, and had earned an ATP rating. Our thoughts and prayers go out to Anita, and the family.

Our program was presented by Pres. Tim. He, and a group of business people, had been invited to Fairchild AFB, near Spokane, and flew along on an aerial refueling mission. Tim had some spectacular videos of the F-117 Stealth fighters taking on fuel about 20,000 ft. over Utah. By *W. Harrison Chadwick, Sec./Treas.*

**Glendive Hangar—**George Sullivan, president of the Glendive Hangar, (pictured front left) welcomes the Montana chapter of the Airstream Travelers to the Glendive Airport over the Memorial Day weekend.



**Gallatin Valley (Bozeman) Hangar—**The Gallatin Valley Hangar was formed on April 23. A group of Gallatin Valley pilots held an organizational meeting at Dennis Guentzel's hangar on Gallatin Field. The first meeting was attended by approximately 50 in-



*Dennis Guentzel, President  
Gallatin Valley Hangar  
Photo by John Mckenna*

terested individuals. Chuck Manning (MPA president) and Bailey Egan from the Colstrip hangar were there to help out. Although no formal program was planned the group heard from longtime aviator, Jim Monger. Jim kept the group laughing with area history and stories of his travels around the aviation world. The group elected Dennis Guentzel, president, Mike Pearson, vice president, and Ted Mathis, sec./treas.

*By John Mckenna*

**North Central (Havre) Hangar—**Hello everybody, just a reminder that the Fly-In Breakfast & Big Kids Toy Show at the Havre Airport is June 12. Make plans to come for a great breakfast, look at lots of airplanes and other neat stuff, have fun, make new friends and visit with old friends. Breakfast served from 7 to 11am. Airplane games, Young Eagle Rides, and other things go on until early afternoon. For more information contact Eric Rasmussen 357-3894, Bob Breum 265-7394, or Charlie Inman 265-4757. Thanks, and hope to see you there!

**Valley (Glasgow) Hangar—**We had a clean up and Fly-In BBQ Saturday May 15 at Elkram. We cleaned the airstrip, filled some holes, removed some renegade sagebrush and put up a new wind sock. I flipped a few burgers for the crew. The more I cooked the more aircraft arrived. (Pilots have a good nose for a GOOD BUR-



GER.) We had a great turn out with 15 aircraft from all over Montana bringing people to help, have a burger and enjoy great conversation. Aircraft came from BZN, GTF, BIL, 6S8, HLN and GW. On behalf of Valley Hangar I would like to thank everyone for their help and support. *Article and photos by Joe S Younkin, Valley Hangar Pres.*



**Want to save the MPA some money—**The Montana Pilots' Association is offering current members the option of receiving the Heading Bug by e-mail instead of regular mail. The money MPA saves by making this offer can instead be used to preserve and protect Montana's aviation community. To sign-up, contact Geanette Cebulski, sec./treas. at [mpasecretary@blackfoot.net](mailto:mpasecretary@blackfoot.net). Please provide the following: full name, mailing address and e-mail address.

# Larry Hoyer's Super Cub ice landing trial is over!

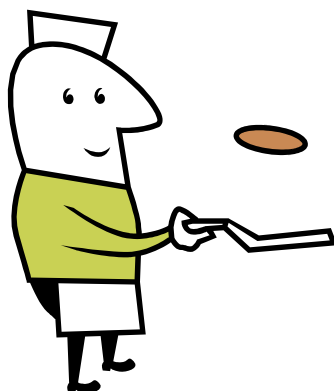
The following is from Larry Hoyer regarding his trial for landing his Super Cub on the ice of Fort Peck Lake. He landed with wheels on the ice in an area that is legal for seaplane operations. He was charged with an illegal landing. Larry chose to fight the charge and the following is his description of the outcome.

*Greetings: After a year and a half fight, the Hon. Judge Jerry Schuester ruled in Federal Court in favor of the airplane, in the matter of the ice landing on Fort Peck Lake. It was a long, costly, hard fought battle and I'm elated that it's over!*

*A big thank you goes out to the MPA and all of my supporters. Special thanks are owed to Lanny Hansen, Bob Lipscomb, Jim Rea, Jeff Skyberg (Circle Aviation), Chuck Manning and the entire Valley Hangar group.*

*Now it's time to get on with a safe, viable Fort Peck Lake landing plan that affords all pilots the same opportunities as everyone else using this resource. This plan revision is long overdue.*

*Thanks Again,  
Larry Hoyer*



## Looking for the \$100 hamburger?

*By Art Lindstrom*

The next time you fly to Idaho to camp in the Frank Church Wilderness and want something a little different for

breakfast or lunch, fly on south to Nampa, ID (S67.) The Nampa Runway Café is located on the second floor of Sierra 67 Aviation and serves breakfast all day. They are open from 6am to 6pm seven days a week. If you want a burger, they have "The Hundred Dollar Burger" on their menu and only charge \$4.95. It's a fresh ground 1/3 pound hamburger smothered in mushrooms and topped with swiss, cheddar and bacon. All their burgers are served on a grilled bun with your choice of side dishes. The Nampa Runway Café also serves sandwiches, char-broiled chicken, seafood and hot dogs.

After you have sated your hunger you will no doubt need a little exercise to feel comfortable again. Walk down the road about 100 yards and visit the Warhawk Air Museum.

Inside this 20,000 square-foot museum is a very rare collection of World War II memorabilia and aircraft on display. They have a large display of trench art, art pieces created by soldiers using shell casings, helmets and other scrap metal. There are displays of ration books, aerial cameras, V-mail, sweetheart pillows and pins, mother's flags and pins and spotter cards. They have several displays with home-front memorabilia, German and Japanese memorabilia and a display dedicated to the WASP's, Women Airforce Service Pilots. The WASP's were the first women in history trained to fly American military aircraft. You will no doubt spend time at the homing pigeon, the survival gear, or medal displays.

A P-40 E Kittyhawk, P-40 N Warhawk, P-51 C (under restoration) and a 1917 World War I German fighter DR-1 Fokker Triplane (replica) are on display at the museum. The Fokker is the airplane the Red Baron made famous. An interesting item was the pedal powered dentist chair/drill used at base camps to treat the soldiers without anesthetic because medical supplies were saved to treat those who were seriously injured. The Warhawk Museum is a privately owned museum with IRS 501(c)(3) nonprofit status and is growing fast. It is a great way to spend an afternoon.

## Spotted Bear work weekend—

The Spotted Bear work party had light rain off and on all day Saturday but accomplished everything on the 2004 list except replacing the wind sock, placing tires around the new tie downs and the annual painting. Aeronautics was unable to get the supplies in, so we will need someone to handle



that task during the Meadow Creek work weekend. The following was accomplished: rolled the airstrip, placed two new fire grates at the south camping area and were secured with rebar and cement, installed two new concrete tie-downs at the north campsite (there are now three

sets) and cut-up and burned a downed tree and brush at the south campsite. A few more trees were cleared out on the north end between the airstrip and river.

*Article and photos by  
Chuck Manning,  
MPA President*





# One Giant Step

(from *Forbes Magazine*) James M. Clash  
Editor's note—Joe Kittinger was the Friday luncheon speaker at the 2001 aviation conference in Kalispell

**Joe Kittinger** is not a household aviation name like Neil Armstrong or Chuck Yeager. But what he did for the U.S. space program is comparable.

On Aug. 16, 1960, as research for the then-fledgling U.S. space program, Air Force Captain Joseph Kittinger rode a helium balloon to the edge of space, 102,800 feet above the earth, a feat in itself. Then, wearing just a thin pressure suit and breathing supplemental oxygen, he leaned over the cramped confines of his gondola and jumped—into the 110 degree below zero, near vacuum of space. Within seconds his body accelerated to 714 mph in the thin air, breaking the sound barrier. After free-falling for more than four and one half minutes, slowed finally by friction from the heavier air below, he felt his parachute open at 14,000 feet, and he coasted gently down to the New Mexico desert floor.

Kittinger's feat showed scientists that astronauts could survive the harshness of space with just a pressure suit and that man could eject from aircraft at extreme altitudes and survive. Upon Kittinger's return to base, a congratulatory telegram was waiting from the Mercury Seven astronauts—including Alan Shepard and John Glenn.

More than four decades later Kittinger's two world records—the highest parachute jump, and the only man to break the sound barrier without a craft and live—still stand. We decided to visit the retired colonel and Aviation Hall of Famer, now 75, at his home in Altamonte Springs, Florida, to recall his historic jump.

**FORBES GLOBAL:** Take us back to New Mexico and Aug. 16, 1960.

Joe Kittinger: We got up at 2 a.m. to start filling the helium balloon. At sea level, it was 35 to 40 feet wide and 200 feet high; at altitude, due to the low air pressure, it expanded to 25 stories in width, and still was 20 stories high! At 4 a.m. I began breathing pure oxygen for two hours. That's how long it takes to remove all the nitrogen from your blood so you don't get the bends going so high so fast. Then it was a lengthy dress procedure layering warm clothing under my pressure suit. They kept me in air-conditioning until it was time to launch because we were in the desert and I wasn't supposed to sweat. If I did, my clothes would freeze on the way up.

## How was your ascent?

It took an hour and a half to get to altitude. It was cold. At 40,000 feet, the glove on my right hand hadn't inflated. I knew that if I radioed my doctor, he would abort the flight. If that happened, I knew I might never get another chance because there were lots of people who didn't want this test to happen. I took a calculated risk, that I might lose use of my right hand. It quickly swelled up,

and I did lose use for the duration of the flight. But the rest of the pressure suit worked. When I reached 102,800 feet, maximum altitude, I wasn't quite over the target. So I drifted for 11 minutes. The winds were out of the East.

## What's it look like from so high up?

You can see about 400 miles in every direction. The formula is 1.25 X the square root of the altitude in thousands of feet. The square root of 102,000 feet is 319 X 1.25 = 399 miles. The most fascinating thing is that it's just black overhead—the transition from normal blue to black is very stark. You can't see stars because there's a lot of glare from the sun, so your pupils are too small. I was struck with the beauty of it. But I was also struck by how hostile it is: more than 100 degrees below zero, no air. If my protection suit failed, I would be dead in a few seconds. Blood actually boils above 62,000 feet.

I went through my 46-step checklist, disconnected from the balloon's power supply and lost all communication with the ground. I was totally under power from the kit on my back. When everything was done, I stood up, turned around to the door, took one final look out and said a silent prayer: "Lord, take care of me now." Then I just jumped over the side.

## What were you thinking as you took that step?

It's the beginning of a test. I had gone through simulations many times—more than 100. I rolled over and looked up, and there was the balloon just roaring into space. I realized that the balloon wasn't roaring into space; I was going down at a fantastic rate! At about 90,000 feet, I reached 714 mph. The altimeter on my wrist was unwinding very rapidly. But there was no sense of speed. Where you determine speed is visual—if you see something go flashing by. But nothing flashes by 20 miles up—there are no signposts there, and you are way above any clouds. When the chute opened, the rest of the jump was anticlimactic because everything had worked perfectly. I landed 12 or 13 minutes later, and there was my crew waiting. We were elated.

## How about your right hand?

It hurt—there was quite a bit of swelling and the blood pressure in my arm was high. But that went away in a few days, and I regained full use of my hand.

## What about attempts to break your record?

We did it for air crews and astronauts—for the learning, not to set a record. They will be going up as skydivers. Somebody will beat it someday. Records are made to be busted. And I'll be elated. But I'll also be concerned that they're properly trained. If they're not, they're taking a heck of a risk.

# "We're here to help you"—the friendly FAA

## Online now, the new web-savvy FAA...

In the past, getting a replacement certificate meant being grounded four to six weeks while awaiting the official paperwork in the mail. (The Feds remind us that it is illegal to fly without an airman certificate.) But if you're one of those unlucky sods who washed your airman certificate along with your last pair of jeans and now need a temporary replacement, rejoice! The agency has now set up an online service (<http://registry.faa.gov/airmen.asp>) to send you a temporary certificate via fax or e-mail in hours or days instead of weeks or months. In addition, you can also a permanent certificate and pay the whopping \$2 fee for it online. FAA spokesman Roland Herwig tells AVweb that the agency typically processes about 50,000 applications for replacement certificates each year. However, in the last 10 or so months that has spiked to about 100,000 because pilots want the cool new laminated certificate with hologram introduced last year at Oshkosh.

*From AVflash, May 20*

## ...and the FAA taketh away "N" numbers...

While you're online checking out the new airman certificate it would be a mighty good time to update your address as well. As part of an increase in the FAA's regulatory enforcement program, aircraft owners must, within 60 days of June 1, have current addresses in the data base or face suspension or revocation of their registration and cancellation of their tail numbers. The FAA says having accurate addresses is a safety issue, so pilots can get Airworthiness Directives and safety and maintenance information. Ah, but what about homeland security? "Let's just say that all modes of transportation have been impacted by security issues in the months since 9/11," FAA spokesman Roland Herwig confirms to AVweb.

*From AVflash, May 20*

## ...sport pilot rule back under White House review...

The long-awaited Sport Pilot and Light-Sport Aircraft initiative has been resubmitted to the White House Office of Management and Budget (OMB) for approval. In March, the FAA temporarily withdrew the proposed rule so that the agency could address questions about the economic cost/benefits raised during the OMB review. Under the initiative, pilots of low-performance aircraft would be able to use a driver's license in lieu of a medical certificate. "It means that pilots who are otherwise healthy but unable to obtain an FAA medical certificate will be able to continue flying," said Andy Cebula, an AOPA senior vice president. AOPA has made it easy for pilots to find answers to their questions about this initiative via a new Web page (<http://www.aopa.org/epilot/redirect.cfm?adid=4464>) that pulls together all of AOPA's resources.

*From AOPA ePilot, June 4*

## ...the FAA wants your urine...

If your company builds the nut that goes onto the bolt that is screwed into the widget that eventually goes anywhere on a commercial jet, you could soon be subjected to the FAA's drug- and alcohol-testing program. And the costs, in dollars and hours, could be steeper than some want to pay. If the FAA pushes forward with its plan, the airlines will be affected to be sure, but so will general aviation.

Aeronautical Repair Station Association (ARSA) Managing Director and General Counsel Marshall Filler says the FAA's plan has not considered the day-to-day practicalities. "They seem to be saying 'don't confuse us with the facts,'" Filler tells AVweb. The FAA fact thus far is this: Any shop of any type that even touches something that will eventually be used by a Part 121/135 aircraft MUST have an FAA-approved drug- and alcohol-testing program. GA is directly affected by the inclusion of Part 135 in the proposal. Any businesses that do work for on-demand charter services are also included in the drug/alcohol rule. "This is additional regulation at a time when the industry can least afford it," bemoans Filler.

"Everyone I've talked to is disappointed. All the FAA has done is basically reissue their first rule." After the rule was initially proposed in 2002, ARSA led a coalition of 14 members who spent months working with the feds to come up with something that balances safety and common sense. But the May 17 FAA Supplemental Notice of Proposed Rulemaking (SNPRM) pulls all businesses up and down the line into the drug/alcohol testing fold.

*From AVflash, May 23*

## ...caught in the middle, I lost my medical!

I lost my medical for three months this winter because my doctor's office failed to send in my medical file for five weeks following my FAA medical exam. On top of that, they only sent the results for two of the three tests I was required to take causing a split of my file and the loss of the third test. I was not notified by the FAA that they were missing the results until three months had passed and my old medical had expired. This was not the fault of the FAA; I just got caught in the middle. I called the FAA begging and pleading for help and was told the only thing I could do was start the process over. My next call was to the legal defense department at AOPA. I do not know what they did but within a week AOPA sent me an e-mail saying my medical was in the mail. The e-mail came from a medical certification technician at the website of [www.AOPA.org/members/medical/medform/](http://www.AOPA.org/members/medical/medform/). Maybe this information will help some other MPA member and is another reason to be an AOPA member.

*Martin Hale, Flathead Hangar and Montana Seaplane Pilots' Association member*

## EQUIPPED TO SURVIVE (tm) EVALUATION FINDS 406 MHz EMERGENCY BEACONS NOT CREATED EQUAL

All GPS-equipped 406 MHz Personal Locator Beacons (PLBs) and marine Emergency Position Indicating Radio Beacon (EPIRBs) are not created equal. In a finding of a recent test of PLBs and EPIRBs from three manufacturers, the GPS location function of one manufacturer's product routinely failed to acquire a GPS location when tested under less than ideal conditions. An equally important test finding was that the international standards to certify the GPS-enabled 406 MHz beacons fail to take into account the real-world conditions that often exist when beacons are activated.

PLBs became legal in the continental U.S. last July and many pilots have purchased them as a practical and affordable alternative to installing a 406 MHz ELT. The FAA has gone on record as recommending them to General Aviation pilots who want the advantages of 406 MHz distress alerting. They have the added advantage of being able to be taken along on outdoor sports or boating activities and not just tied to the aircraft as an ELT.

The test was conducted by the Equipped to Survive Foundation and funded in part by Boat U.S. Foundation for Boating Safety and Clean Water and West Marine. The beacons were specifically tested for their GPS functionality, or their ability to "self-report" their location to Geostationary (GEO) satellites, which can relay the location information nearly instantaneously to rescuers. Other issues such as battery life and signal attenuation in some real-world conditions were also examined.

All of the tested emergency beacons primarily use the 406 MHz distress alerting frequency in conjunction with the COSPAS-SARSAT system of Low Earth Orbit satellites and Doppler principles to provide position information. The report did find that all of the tested beacons successfully allowed a Doppler location to be derived - even in circumstances such as the bottom of a narrow and deep gorge - a minimal acceptable level of distress alerting. However, the purpose of GPS-enhanced 406 MHz beacons is to save precious rescue time by supplying much more precise location information via their own GPS-derived location through GEO satellites rather than waiting for an orbiting satellite to appear in viewer computed location.

Equipped to Survive Founder Doug Ritter said, "Unfortunately, in the testing, the off-the-shelf McMurdo Ltd. 'Precision 406 MHz GPS EPIRB' (also known as G4 406 MHz GSP EPIRB) and McMurdo Ltd. 'Fastfind Plus 406 MHz Personal Location Beacon' (also known as the Fastfind Plus 406 MHz PLB) failed to reliably acquire a GPS location 'fix' under operational 'real-world conditions.' This lack of GPS data could result in tragedy that might have otherwise been prevented," continued Ritter.

Boat U.S. Foundation President Ruth Wood said, "Emergency beacons are often called upon to send an

alert during inclement weather or less-than-perfect conditions. We tested the six beacons aboard a life raft, floated them in the water tethered to an inflatable or held by a swimmer in moderate one-to-eight-foot swells, the study showed clearly that the not all these beacons operated equally," she said. Inland performance was mixed, with McMurdo's PLB failing to acquire a GPS fix where handheld GPS receivers had no difficulty acquiring a location.

The evaluation was divided into three phases: Baseline, Maritime and Inland. Within each of the latter two phases, a series of tests was designed to replicate real-world conditions, with variables such as sea state, limited horizon, forest canopy, mountains and the number of GPS satellites in view.

On the water, the McMurdo beacons failed to acquire a GPS location in all planned scenarios tested. The ACR EPIRBs acquired a location in all but one tested scenario.

Inland performance was mixed, with McMurdo's PLB failing to acquire a GPS fix in a small forest clearing where handheld GPS receivers had no difficulty acquiring a location, in a simulated rain scenario, or when initially activated with an obscured sky view and then relocated to where it could view the GPS satellites. In the baseline testing, the McMurdo PLB failed to acquire a new location when relocated. McMurdo's marine GPS-enabled "Precision" EPIRB did similarly poorly in the marine tests. The ACR Electronics GyPSI PLB and Techtest 500-27 PLB fared much better.

Additionally, the study identified other factors that could impact a 406 MHz beacon's GPS performance, as well as some generic 406 MHz beacon flaws worthy of note. A PLB that relies on an external GPS source is entirely dependent on the performance of that external GPS source - and the quality of GPS receivers varies significantly; submerging the base of some PLBs' antenna in water can adversely affect their ability to successfully transmit an alert under some conditions or to provide an effective 121.5 MHz homing signal.

The Equipped to Survive Foundation issued 17 specific Conclusions and 23 critical Recommendations for action based on the test results. "The bottom line is that while the international COSPAS-SARSAT system does an extraordinary job of saving lives, the COSPAS-SARSAT testing standard for GPS performance needs to better reflect real-world conditions. Consumer expectations regarding performance of these emergency beacons are very high - this is one area where those expectations must be better met," Ritter said.

A detailed summary of the 200+ page report is available on the Equipped To Survive web site at:

<http://www.equipped.org>

*Article from the Aviat Husky Mailing List and submitted by Jerry Cain*

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