



The ThunderWord

Thunderbird Field EAA Chapter 1217

January, 2006

Scottsdale, Arizona

PRESIDENT'S CORNER

Greetings from my corner of the hangar! At our last meeting, Vic Hannig brought over his LSA aircraft for us to have a look at and tell us about the great programs they have available for Sport Pilots. We didn't have a meeting or newsletter in December because of the holiday party and the fact that our Editor deserves a break over the holidays.

This year's Holiday party was a success thanks to Ron Landon and his wife Sherrie who hosted this year's event. About sixty folks attended and were treated to music from the Sonoran Horns. We had plenty of food and wine and no one went home hungry.

New Year's Day morning has always been the traditional fly-out to Deer Valley for brunch for everyone in the sport aviation community. I managed to drag myself out of bed fire up the Cub and blast off on the first flight of the New Year. As I taxied out David Roberts and Jack Pollack were donning dead animal hides and trying to get David's Waco to come to life. After flying down to the Pavilions and looking south I soon saw a gaggle of planes headed for DVT. I swung around to join up and saw David's Waco taking a shortcut through the TCA to form up and I joined up beside an R-44 helicopter. There was a bunch of cool planes, lots of Stearmans, a Buecker, PT-23, RNF and the helicopter. Terry Emig was leading the bunch and must have been disoriented because he circled around Squaw Peak before figuring out which way DVT was. At Deer Valley, it was apparent that the high cost of fuel hadn't put a damper on anyone's flying and planes were double-parked. As I tied down the Cub, a Spitfire and two Harmon Rockets roared overhead and did a perfect

break, I couldn't think of a better start to the New Year!

Hope to see all of you at this month's meeting!

Curtis

JANUARY CHAPTER MEETING

The first meeting for 2006 of Thunderbird Field EAA Chapter 1217 will be held on Thursday January 19th in the Scottsdale Airport Terminal Building. The time is 7pm. This month's guest speaker is Gary "The Burner" Born from beautiful Eloy, Arizona. Burner will be there to share some of his high flying stories about hot air ballooning, and to bring us up to date on his latest adventures. Burner spoke to our Chapter about four years ago and had everyone absolutely in stitches with some of his tales. He even had his record setting homebuilt balloon on display for us to check out. This will be a great meeting so plan to attend and remember guests are always welcome.

CACTUS FLYIN

March third and fourth are the dates for this year's Cactus Fly-in at Casa Grande. This will be the forty-eighth year the event has been put on by the Arizona Antique Airplane Association. For the past couple of years Chapter 1217 has provided most of the hardworking volunteers to run the fly-in. We will have a hospitality center set up with food and drinks for Chapter 1217 volunteers as well as Cactus Fly-in shirts for everyone that helps out. It will be a great time so be sure and mark the dates on your calendar. For more information go to www.CactusFlyin.org

NAME BADGES IN

We have received a shipment of nametags, so if you are on this list you can pick yours up at the next Chapter meeting.

Ray Brown, Jackie Hoffman, David Robert, Billy Walker, Denny Myrick, Marty Williams, Shawn Moon. Jim Beauchene, Chip Johnson, Tom Velvick, Katie Velvick, Mike Hime and Bob Chitwood

COOLIDGE FLY-IN BREAKFAST

Coolidge Airport will host a Fly-in Breakfast the first Saturday of each month until further notice. These are great events and draw some really interesting planes.

E-MAIL THANKS

The Chapter received the following thank-you note in the form of an e-mail.

Thanks so much for your organization's Young Eagle event last week in Casa Grande. One of my boys that I had there had never flown before, and to have his first flight be in a Stearman bi-plane was exceptional, and he will never forget it. Your participation in events like this makes our jobs as scout leaders that much easier and more enjoyable. And, I hope that you all liked the breakfast. We look forward to doing it again next year.
Larry Bates, Crew 9507, Cook

TOOLS WANTED....HACKSAW

We sure have some interesting characters around the airport. Many of you will remember this guy, he had a BD-10 jet, T-33 painted in Thunderbirds paint scheme, and a T-2 Buckeye. Well apparently his ability to purchase the aforementioned toys was not on the up and up. A federal jury found Andrew Taylor guilty in May of scheming creditors by filing for five bankruptcies in six years with no intention of paying the creditors.

Jurors also found him guilty of fraudulently hiding the fact that he had hundreds of thousands of dollars with which he could have paid off his debts. U.S. District Judge Neil Wake sentenced Taylor, 51, to 33 months in a federal prison on Dec. 12, and ordered him to pay about \$55,000 in restitution and a fine.

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www.ThunderbirdField.org

One question is where is the BD-10? Well apparently it is in Mark Sherman's hangar at Stellar Airpark with the wings off since Mark bought it from Andy last year.

SHOULD I CONSIDER A NEW 406 MHZ ELT?

By Bill DeRouchey, EAA Chap 119

The Search & Rescue (SAR) function took a massive step forward in 1984 when the Cospas Sarsat polar satellites were launched. The system was designed from the beginning to locate 121.5 & 406 MHz signal origin using Doppler techniques. In addition, the 406 MHz channel was designed to receive data packets. On February 1, 2009 the 121.5 receivers will be shut off leaving only 406 MHz signals to be detected by these satellites. What caused this change and what are our choices?

Life was simple. You purchase a \$200-\$300 121.5 MHz ELT and are comfortable knowing that when it triggered a flock of Civil Air Patrol (CAP) people would knock themselves out to find you. But, look at your odds: 1) The search doesn't start until somebody reports you missing. 2) After satellite location there are still 400 sq miles to search. 3) The false alarm rate is 95%.

Let's look at the technology, FAA regulations, and then our choices. The 121.5 MHz ELTs have the following characteristics:

- 1) Conform to TSO-C91A
- 2) Locate within 20nm radius
- 3) 100mw power continuous
- 4) 95% false alarm rate
- 5) Activation rate 25% for TSO-C91 and 75% for TSO-C91A equipment
- 6) Satellite coverage 60% of world.

The 406 MHz ELTs have the following characteristics:

- 1) Conform to TSO-126
- 2) Locate within 2 nm radius
- 3) Five Watt power sending a data packet every 40 seconds
- 4) Approx 30-40% false alarm rate

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- 5) Activation rate 80-90%
- 6) Satellite coverage 100% of world
- 7) Can include owner information in packet
- 8) Can include GPS coordinates in packet to locate within 100 meters

The owner information is extremely important. With the 121.5 signal, the SAR team waits for additional confirmation that somebody is missing to cull out the false alarms. This could be a VFR flight plan that timed out or somebody calling the FAA. Thus, several hours will pass with no action. If the owner can be identified from the distress signal, then a proactive search for this owner can be conducted immediately. In every technical aspect the 406 MHz is a big win. What is the FAA's position? On January 1, 2005 all General Aviation (GA) aircraft operating on extended flights over water or designated remote land areas are required to have 406 or 121.5 MHz ELT's; and that's it. Since the new ELT's represent a price increase the FAA is going to let the GA community choose for themselves. After 121.5 is disabled from Cospas-Sarsat satellite system the only distress detection will be from other pilots or towers that routinely monitor this frequency. After several reports this information could be triangulated to determine your rough position. Clearly, the probability of being rescued in reasonable health when using the 121.5 MHz technology is dim today and will become dimmer in the future. The Artex ME406 is the only reasonably priced 406 MHz ELT at \$900. Its Lithium batteries last 5 years, but cost \$200. Unfortunately, this unit will not transmit GPS coordinates.

Other lower cost manufacturers will enter the market at a lower price and with the GPS feature to scoop Artex. They will require you to run a serial connection from your GPS into the ELT which reduces their costs, but none of these products are yet available. So, What to do? If you need to purchase an ELT for some reason then it's a fairly simple decision. But for most pilots there is no compelling reason to change and, after all, "I've always been lucky". If you typically fly in

our local area, or with multiple aircraft, then 121.5 MHz will work fine. However, if your mission is cross country flying then the 406 MHz technology becomes a real partner in a real emergency.

From the FAA web site :

The Cospas-Sarsat system has announced the termination of satellite monitoring and reception of the 121.5 MHz and 243.0 MHz frequencies in 2009. The Cospas-Sarsat system will continue to monitor the 406 MHz frequency. What this means for pilots is that after the termination date, those aircraft with only 121.5 MHz or 243.0 MHz ELTs onboard will have to depend upon either a nearby Air Traffic Control facility receiving the alert signal or an over-flying aircraft monitoring 121.5 MHz or 243.0 MHz detecting the alert. To ensure adequate monitoring of these frequencies and timely alerts after 2009, all airborne pilots should periodically monitor these frequencies to try and detect an activated 121.5/243.0 MHz ELT.

TYPES OF CORROSION

We often hear the term corrosion when discussing older airplanes, but did you know that there are more than one type of corrosion?

1. Uniform Etch Corrosion

The surface effect produced by most direct chemical attacks (as by an acid, for example) is a uniform etching of the metal. On a polished surface this type of corrosion is first seen as a general dulling of the surface. If allowed to continue the surface becomes rough and possibly frosted in appearance.

2. Pitting Corrosion

The most common corrosion on aluminum and magnesium alloys in aircraft is referred to as pitting. It is first noted as a white or grey powdery deposit similar to dust which blotches the surface. When the deposit is cleaned away, tiny pits or holes are observed in the surface. Pitting corrosion may occur in any kind of metal or alloy.

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3. Intergranular Corrosion

Intergranular corrosion is an attack on the grain boundaries of a material. A highly magnified cross-section of any of the commercial alloys reveals the granular structure of the metal. It is seen to consist of quantities of individual grains. Each of these tiny grains has a clearly defined boundary which, from a chemical point of view, differs from the metal within the grain center. The grain boundary and grain center can react with each other as an anode and cathode like the two poles of a battery when in contact with an electrolyte (conductive medium). Rapid selective corrosion at the grain boundary can occur.

4. Exfoliation Corrosion

Exfoliation corrosion is a form of intergranular corrosion and exhibits itself by "lifting up" of the surface grains of the metal by force of expanding corrosion products occurring at the grain boundaries just below the surface. It is a visible evidence of intergranular corrosion and is most often seen on extruded sections where grain thickness are usually less than rolled forms.

5. Galvanic or Bimetal Corrosion

Galvanic corrosion occurs when two different metals are connected (in electrical contact) and exposed to an electrolyte (water or water containing dissolved salts). For example: Aluminum and magnesium sheets riveted together in an aircraft wing forms a galvanic couple. When aluminum pieces are attached with steel bolts or screws, galvanic corrosion can occur between the aluminum and steel in the presence of moisture. An electrical potential is set up, current flows between the two metals, and an effect similar to that which occurs in batteries is produced. The greater the potential between two metals, the more rapid the attack.

6. Stress Corrosion Cracking

Cracking of a metal caused by the simultaneous effects of both stress and corrosion is known as stress corrosion cracking. This type of corrosion is similar to intergranular corrosion in that it generally follows the grain boundary, but is different in that it is nearly a straight line through the metal structure and manifests itself as a crack in the metal not necessarily accompanied by obvious corrosion. The stress can either be applied stress or one resulting from cold working of the metal without proper stress relief, such as preloading the part during installation. Stress corrosion cracking occurs in both aluminum and magnesium alloys. It is recognized only after the cracking has occurred and is too late to do anything except replace the part.

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Thunder Ads

FOR SALE

SHEET METAL TOOL KIT & RV-6/8 VIDEOS

Never used, Cleveland Complete Sheet Metal Airframe Tool Package (paid \$1670 2 yrs ago); C-Frame Table; Set of 4 "From the Ground Up" RV-8 construction videotapes (cost new \$80); Set of 10 George Orndorff RV-6/8 construction videotapes (cost new over \$200). Asking \$1500 for everything. Will sell videotapes and tool set individually. Contact Chapter 1217 member Denny Myrick 480-502-0547.

MISCELLANEOUS PARTS, ETC.

Lancair Dynafocal engine mount with cowling and two new fiberglass wing tips. RV-6 constant speed spinner painted white. Vernier control cable 3/4" 10-32 with bearing from RV. New stainless oil line pre-bent for Lycoming gov to constant speed prop. Gascolator new. Two new Facet 1/8" port electric fuel pumps. New landing light with 100-watt bulb. Carb airbox bowl fits any carburetor. Fuel cap and mount. Two new Matco break cylinders with reservoir 1/2 in. bore. Call Fred 480-661-6613

MUSTANG II PARTS

Parting out Mustang II. Lycoming IO-360A1B6, Hartzel CS prop, located in Arlington Washington. Tony Burdo tburdo@msn.com

CESSNA 140 WHEEL PANTS

Set of wheel pants for a Cessna 140, never installed, back plates, wheel nuts included. \$400 obo. Rich Bursley 623-521-4104.

GlaStar Fixtures

All fixtures to build a GlaStar airplane. Will take \$150. Bill Grieme 480-998-9164

Lycoming 0-235-C1

673 SMOH, Sky Tec starter, removed from Long Eze for 0-320 upgrade. \$6500. Mark Boram 520-883-0672

RV-3 Parts & Misc

RV-3 wings, flaps, ailerons and wing tips \$1000., 2 US army flight helmets, 8 new David Clark listen only headsets \$100. each, 2 yellow tagged cranks for an 0-320 and an 0-290-G. Dick Wall 602-788-9848

COZY 3 PLACE PROJECT

Fuselage finished thru Chapter 8. Have most raw materials to finish fuselage and wings. Includes plans, landing gears, metal kit, epoxy pump, news letters, etc. Asking \$1500 (firm) for all. Jim Stevens 623-872-7531 after 3 pm. Location: Avondale, AZ

Skybolt Project

Most major work complete. Hangered at DVT. \$10,000. Stuart McDonald 602-954-9343

JEFFAIRE BARRACUDA PROJECT

Fuselage on gear, wings built. Instrumentants, gauges and a whole lot more. 80% complete. Must sell for only \$9,900. Hangered at Glendale, AZ. Call John 480-704-3250

SERVICES / WANTED

Instrument Instruction

Get your instrument rating with a club member J. Robert Moss CFII, expert in Garmin 430 / 530 IFR operations, Cirrus checkouts. Call Jeff 480 699-7447

Designated Pilot Examiner

Chapter member. Paul Jones 520-251-1251

Prop balancing, Annuals, Prebuys

Jim Berdick AI 623-581-9152

Annuals, Restorations, Fabric Work

Eloy Airport Julie White 520-466-3442

Aircraft Welding and Restorations

Evans Aviation 480-585-3119

Airmen Physicals

Dr. Henry Givre AME, Chapter member and RV-4 owner. 520-836-8701

Aircraft Photography

Mike O'Connor CrashOConnor@aol.com
480-515-5105

BFR's

Fred Lloyd 602-234-1940

Flight Instruction

Learn to fly, get a new rating, or BFR. Samir 480-518-5346.

Machine Shop

High quality parts fabrication for homebuilts at a reasonable price. David Leverentz 520-898-4321

Want to see your aircraft-related ad here in the Thunderword?

Send an E-mail to EAChapter1217@aol.com

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