



# The ThunderWord

Thunderbird Field EAA Chapter 1217

September, 2005

Scottsdale, Arizona

## **PRESIDENT'S CORNER**

Greetings from my corner of the hangar! We had a great turnout last month to hear Chris Copeland from Arizona Aeropainting talk about his family business of painting planes. He is the third generation of painters in the family and they are all still walking upright so paint stripper can't be that hard on your health! He basically repeated the old mantra of the secret to a good paint job is in the prep work. When he passed around the photo books of the over 1200 planes they have painted since 1974 you had to appreciate the hard work that went into all those paint jobs!

This month I have been putting the finishing touches on my Breezy engine. With a new stainless exhaust, prop extension, and the three bladed Performance Propeller added to the pile of parts on order I have to hope that the end is near from money spending viewpoint. I feel like the V8 slogan "for this much money I could have had an RV". It was great for Chapter member Brian Ryckmen to stop over and unravel the mystery of installing a Helicoil, which turned out to be a pretty simple task. Maybe next month I will actually get the engine bolted to the skeleton, which passes for a fuselage. It is hard to believe in 1974 my Dad and I looked at a Cub in the old Thunderbird Field hangar and the guy wanted \$1,500., now a wooden prop for a Breezy costs more than that!

Hope to see all of you at this months meeting!

*Curtis*

## **SEPTEMBER CHAPTER MEETING**

This month's Thunderbird Field EAA Chapter 1217 meeting will be on Thursday September 15<sup>th</sup> at 7 pm. The location is the Scottsdale Airport Terminal Building. Our featured guest speaker will be Chapter 1217 member Captain Billy Walker, who will share with us an interesting look into his career and flying in general. Remember guests and family are always welcome.

## **WELCOME NEW MEMBERS**

We have had two new members join at the last couple of meetings. Welcome aboard to Shwn Moon and Michael Hime.

## **YOUNG EAGLE AIRLIFT**

Saturday October 22<sup>nd</sup> is the date of our annual Chapter 1217 Young Eagles Airlift. Excitement is building with the Boy Scouts who are coming down to go for rides. We need to get all of our Chapter members involved in this great event. Besides planes and pilots, we need loaders, people to escort the kids and lots of help keeping the ramp safe. The City of Casa Grande has donated the use of their Terminal building for our use. We also are putting out a call to pilots of four and five passenger planes, like Bonanzas, Cessna 182's, and Comanche's to come down and help haul the kids, having a bunch of planes, and helicopters, makes the day go a lot quicker. We all know that fuel is getting expensive but when you just one of those million dollar smiles on a kid that just went for a ride it will be money well spent.

## HOLIDAY PARTY

Mark your calendars for the afternoon of Saturday December 17<sup>th</sup> as the day of our EAA Chapter 1217 holiday extravaganza. Ron Landon and his wife Sherrie are opening their house to host our annual party. With all the conflicts in scheduling events, work, and holiday shopping we are going to try an afternoon event, so please set aside that afternoon to get together with your EAA Chapter friends.

## COPPERSTATE (A Trade Show, an Air Show and a Great Fly-In)

*This is a letter we received. It is an invitation to every EAA Member and aviation aficionado from Bob Hurni, Vice President, Arizona Council of EAA Chapters, (and all around good guy..Curtis)*

The 2005 Copperstate Fly-In will be held at **Casa Grande Municipal Airport from October 6 through October 9** (note the change in location). Specific information on the event regarding arrival frequencies, etc. will be on the website, [www.copperstate.org](http://www.copperstate.org) , within the next few weeks.

The purpose of this invitation is to make you (and your chapter) aware of the significance of the event with regard to your interest and/or enthusiasm for aviation. As you know much of general aviation is constantly under scrutiny, if not attack, by politicians for everything from noise pollution to concern for the safety of the non-aviation public. For that reason and to help insure the long-term availability of the skies in this United States of America, it is extremely important that the Copperstate Fly-In maintains its status as the premier regional aviation event in the Southwest.

Here are some facts about the event:

- 1.The Copperstate Fly-In has been presented more than 32 times, making it one of the oldest aviation events in the nation.
- 2.The Copperstate Fly-In (as a Trade Show) is the largest EAA event in the Southwest at which a large number of aviation suppliers and manufacturers are regularly present.

3.The Copperstate Fly-In supports and maintains an educational forum program designed to provide information to the builder, the pilot, and the public.

4.The Copperstate Fly-In supports every phase of general and sport aviation including custom built aircraft, antiques, classics, warbirds, light sport aircraft, helicopters, ultra lights and powered parachutes.

5.The Copperstate Fly-In presents nearly 50 awards each year to attendees and show planes.

6.The Copperstate Fly-In is a consistent supporter of the EAA Young Eagle Program.

7.The Copperstate Fly-In is self-supporting with very little sponsor support.

8.The Copperstate Fly-In has always been, and is currently being, managed by a totally volunteer staff, making it the largest volunteer-managed EAA event in the U.S.

9.The Copperstate Fly-In successes are the result of the commitment of a sometimes quite small cadre of volunteers.

10.The Copperstate Fly-In attendance over the years ranges to 1000 aircraft and 15,000 paid attendees.

11.The Copperstate Fly-In is almost totally dependent, financially, upon the paid attendance.

12.The Copperstate Fly-In maintains fees for attendees that are at or below those of almost every other public festival or event.

13.The Copperstate Fly-In annually spends more than \$70,000 before the show starts for facilities, air show performer expenses, and peripheral support for utilities, security, etc.

This year's event promises to be one of the best ever. The City of Casa Grande is providing a large air-conditioned facility for vendors that will make shopping and browsing a very pleasant and relaxed experience. Additionally, plans are in place to expand the paved ramp aircraft parking, through the generous endowment of the Emig Foundation. Also, plans are underway to put in place significant new facilities for future events.

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The City of Casa Grande is anxious to see Copperstate grow in both size and stature.

Finally, I ask you to appreciate and support the Copperstate Fly-In through your attendance, your personal promotion, and, if possible, your volunteer efforts. The \$7.00 wristband that you purchase as an EAA or AOPA member (or \$10 for non-EAA or AOPA members) is a small price to pay to help keep general aviation in the Southwest (and the USA) strong. Whether you fly or drive, your attendance is a statement of your involvement in the promotion of general aviation in the region.

Check the NOTAMS for **CGZ!**

## **VALLE FLY-IN**

Valle Airport (40G), just 25 miles south of the Spectacular Grand Canyon National Park, will, in conjunction with local EAA Chapters, host their first annual gathering of Antique, Homebuilt, and Warbird Aircraft during a one-day fly-in on October 22. Several Parades of Flight are scheduled along with Sack Bombing, Young Eagles Flights and aircraft judging. Grand Canyon Airlines expects to bring their Ford Trimotor down and will be offering rides in this historic aircraft. There will also be a sanctioned Chili Cook-Off and a vast number of antique cars. The ever-enlarging "Planes of Fame" museum will be open to all participants. Special Grand Canyon Flights and unforgettable River Trips will be available on Sunday, with discounts to pilots. There will be limited camping available on the airport. This Fly-In will provide a weekend of adventure and awe in a setting of unbelievable grandeur. The emphasis will be on lots of hangar talk, lots of flying in the local area, good food, new friends and laid back FUN! There is a registration fee of \$10 per aircraft and every registrant will be taking home a memorial, highly collectible Valle Airport Coffee Mug. Local accommodations are available. Contact Norm for more information at 928-635-5280.

The event is open to all airmen and we invite you and all other EAA members to come by plane, train or car for a day of excitement, enjoyment and camaraderie.

## **IFR GPS INSTALLATION**

By Ron Kassik

Comanche N7551P's avionics were in dire need of an up-grade. The avionics stack included a rather tired Narco Mk12d with a frequency readout that often went blank in the heat of typical Arizona summer flying. Also missing was any GPS capability other than a handheld unit placed on top the instrument panel. The handheld provides information about where you are, speed, etc., but is not at all adequate, or legal, for the GPS approaches being defined for many airports. Therefore; 51P needed a panel mounted, IFR certified, GPS unit.

The avionics stack was rearranged with the Mk12d removed to make room for a Garmin GNS 430 positioned just below the audio panel. A Garmin GI-106A CDI was located on the panel just to the right of the altimeter. This unit displays course deviation and glide-slope information from the GNS 430's GPS and VOR / ILS receivers. It includes indicators to show which mode it is in. A circuit breaker panel was added at the bottom of the stack for the avionics breakers and the Avionics Master Switch. A blower was added to cool the Garmin and a Narco NCS 812 also in the stack.

The installation of the Garmin units was done in accordance with the installation manuals and AC 43.13-1B and -2A. The wiring was not a simple matter; connectors on the back of the 430 have some 147 pins as well as connectors for four antennas. A number of the connections are done with twisted, shielded wire pairs. I suggest that if one doesn't have experience with similar installations they should have it done by someone who does. After the units were installed and 51P pulled out of the hanger to

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get a view of the sky, the Garmin was run through its self-test and checkout procedures. Everything worked fine.

The next big step was getting the FAA to bless the GNS 430 and CDI for use in IFR operations. An FAA Approved Flight Manual Supplement is required which must be carried in the aircraft at all times. Getting the Supplement signed off required several phone calls and trips to the FSDO, to learn just what was expected, and then to submit the required documentation. The local FSDO has four people who are responsible for avionics, and I got the impression that each one may have different opinions about what's required. So, it's best to try to work with only one throughout the process.

The FSDO requires an appointment to meet with their personnel. My experience was that if I called at any time during the week I would always get their voice mail; I'd leave a message asking for an appointment. On Friday, they had the uncanny ability to know when I was out of the house so they could reply to my call leaving a message on my machine, letting me know what day they would be in the next week, and asking that I call then about an appointment.

The first document required was the Form 337 (Major Repair and Alteration) form that described the installation of the Garmin GNS 430 / GI-106A, as well as some other modifications done to the instrument panel. References were made to Installation Manuals, FAA Advisory Circulars, etc., used to guide the installation. Also required was a statement that a placard had been installed stating "**GPS VFR ONLY**" pending flight tests. This Form 337 signed off by the installing A&P (me) and my friendly IA, and submitted to the FAA allowed 51P to be returned to flight status.

Next, my son Ryan (CFII) and I conducted several flight tests of the Garmin GNS 430 as installed in 51P. Ryan had taught in other aircraft equipped with the 430 so he is familiar

with its performance. The tests were conducted per the Garmin installation manual and AC-20-138A. Among the tests were 360 degree turns at 30 degree or greater bank while looking for any dropout of satellite reception. Using the GPS function, holding patterns and various approaches were conducted in VFR conditions to visually confirm that the GPS was providing proper guidance. We also checked out the VOR / ILS / Glideslope performance of the unit.

Garmin has provided a sample of the Flight Manual Supplement with the requirement that non-applicable sections be removed and the sections renumbered as appropriate. For 51P, the removed sections referred to interfaces with an autopilot and equipment that provides lightning strike data and traffic advisory data, etc. A section was added that defines the specific installation of the Garmin equipment in 51P. Included were descriptions of physical locations of the units, the circuit breakers, and avionics master. The interface between the Garmin and the audio panel, and the locations of the antennas used by the Garmin were described.

A final Form 337 was generated that was identified as a follow-on to the previously submitted form (referenced by date). It stated that a functional flight evaluation was successfully conducted by Ryan, with his CFII certificate identified. A statement was then included that the system is approved for GPS VFR and IFR operations Enroute, Terminal and Non-precision approach. It also states that the built-in, IFR certified, VOR / Localizer / Glideslope receivers can be used for all IFR operations including Precision approaches. This 337 also stated that the GPS VFR ONLY placard was removed.

The final step in the process was another meeting with the FAA representative to review the data and get both the Form 337 and the Flight Manual Supplement signed off. This required an appointment with both my IA and

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me in attendance. Activities, since submittal of the first 337, were discussed. The final 337 and the Supplement were reviewed. When all was found in order, the FAA representative applied a stamp to the 337 that states in part "the data identified herein complies with the applicable airworthiness requirements and is approved only for the above described aircraft- - - ". Below this statement he placed his signature.

Only after he signed it did he allow me and my IA to sign the 337. This constitutes a "Field Approval" for this 337 and the 51P specific Flight Manual Supplement. He then proceeded to sign the Supplement and initial each page.

Thus, I now have a GPS in 51P and an FAA Approved Flight Manual Supplement that authorizes it to be used for IFR Operations.



### **BELLANCA CRUISEMASTER FLIGHT**

Capt Billy Walker reports that he and Miss Cheryl, his wife, had a great flight to Colorado and Wyoming in the Cruisemaster. 14.2 hours of uneventful pleasure, smooth, fast,

and comfortable. Not bad for a 55-year-old airplane and a slightly older custodian. Mike Bragger, Jim Thorne and Walker have enjoyed being assigned to look after N6RJ.

# Thunder Ads

## FOR SALE

### MISCELLANEOUS PARTS, ETC.

For Lancair: Dynafocal engine mount with cowling and two new fiberglass wing tips. RV-6 constant speed spinner painted white. Vernier control cable 34" 1032 with bearing from RV. Oil line, new stainless, from gov to prop pre-bent for Lycoming constant speed prop. Gascolator new. Two new electric fuel pumps - Facet 1/8" port. 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

### REPUBLIC SEABEE PROJECT

Hangered at DVT. Fuselage assembled. Professionally built to this point. Many parts are new. Call Tod at 602 272-1347.

### 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. Instruments, 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

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