

# Concho Valley Aviator

Monthly Newsletter, Chapter 493, Experimental Aircraft Association

## REFRESHMENTS 2012

January  
February  
March  
April  
May  
June Tony Marcum  
July George Spinks  
August Pat Nuytten  
Sept Joe Christian  
October Dave Dierker  
November Don Smucker  
December Christmas Party

June 2012 Newsletter, San Angelo, Texas

## *June Meeting*

This month's meeting will be held on June 19th (third Tuesday) at 7 PM at the Amateur Radio Club building next to the baseball field at Mathis Field airport.

This month's program TBA.

Bill Yeates, Editor

## *Minutes*

Chapter 493 Minutes for May15, 2012.

President Pat Nuytten called the meeting to order at 7Pm. There were no visitors. The treasurer was absent so no report was given. The minutes as published in the newsletter were approved.

New Business - It was reported that long time EAA member, Paul Shacklette had died from complications of diabetes and heart problems. Don Treadwell asked about sending flowers. Bud Greene moved to send flowers not to exceed \$50. Seconded by Don Smucker. The motion passed. Nancy Treadwell volunteered to purchase the flowers.

There was to be a BBQ at Skyline Aviation, Saturday May 19 at 1 PM. This would conflict with the Brady Flyin – but no obligation to stay.

George reported that fuel at Eldorado will be available for \$4.70 for about a week, then go to \$4.85.

Old Business - Treasurer Joe Christian is in Guatemala installing a radio station and will return next week.

Program – Bill Yeates gave the program showing some old photos from the 1930's featuring both military and civilian aircraft.

Refreshments were provided by Pat and Kathy Nuytten.

Minutes notes were taken by Nancy Treadwell in Richard Martin's absence.

## *Showcase*



**Paul Shacklette, 1926-2012**

Paul Shacklette was a long time EAA member and nationally known restorer of Stinson aircraft of the 1930's and 40's. Above is the last photo I took of Paul last year when we went to the Texas Air Museum to visit his old airplane. Paul and the old Stinson had quite a history. He first rebuilt the plane in Panama from the pieces of 5 Stinsons that had been wrecked by a local airline. After flying it for several years, his engine lost power and he was forced to put it down in the Panama Canal. When he returned to the US, he shipped the pieces home and restored in its role of WW2 AT-19. This began his career of specializing in the big Stinsons.

Bill Yeates

## *What Our Members are Building*

### **RV-10 First Flight**

Edward Earwood and Chase Snodgrass began their project in February 2008, naively anticipating completion of two RV-10's in about 18 months. Ha! Four years and four months later their first ready-to-fly RV-10 emerged from the womb of creation, a small but well equipped hangar in Presidio, Texas. The RV-10 is an all aluminum four seat cross-country marvel that normally cruises at about 200 mph. Presidio is one of the most isolated and remote settlements in the continental United States, and this is the first airplane to have been built in its entirety at Presidio-Lely International Airport.



The following is an account of the first flight from test pilot Chase Snodgrass.

An airplane is a project that can never really be finished; only flown. For our first flight preparations, we arrived at the airport a little after 6:00 AM on Tuesday, June 5, 2012. We did our last minute checks and double-checks and triple-checks and pulled the airplane out into the early morning sun. Volunteers arrived to help record the historic moment. Retired Border Patrol pilot Johnny Williams of Marfa, accompanied by an eager young videographer, flew the chase plane. They boarded a beautiful Beechcraft Bonanza, and within seconds, the sound of their engine broke the desert silence. As I began to have that “the time has come” realization, I remember having strange and rare sensations that made the event seem unreal – perhaps with an altered sense of time or a dreamy state of awareness. The non-verbal communication between Edward and me relayed that he was having that same sense. We sort of communicated what could not be said in words, but the translation might be “Godspeed”! The preflight feeling was similar to my first solo flight some 35+ years ago in Sonora, Texas when I was just 16 years old. That unspeakable voice of doubt: the non-physical “demon” thought forms interrogating me with awful questions like “What the heck do you think you’re

doing?” and “Are you sure you checked that fuel fitting that passes through the firewall?” and candidly, “You realize you could die, right?”



Then, I felt courage and faith muster inside me and the fear and doubt were cast out, and I heard my own voice in the headset boldly broadcasting, “Presidio traffic Experimental RV-10 November One Zero Four Echo Papa departing runway 17 Presidio, local traffic” To say that it was surreal is, well, an understatement. The choice to use a Bose A20 Bluetooth headset in the airplane was a great idea. Edward was

standing beside the runway with a handheld aviation radio and his own Bluetooth headset. He stayed with me on the iPhone for the entire flight recording technical information, while Johnny and I exchanged flight information on the local VHF common traffic advisory frequency. I was too focused to recognize or enjoy any emotion, calling out engine data the throttle moved smoothly forward – RPM 2700, make that 2650, Manifold Pressure 26”, Oil Pressure 81, Airspeed at liftoff 65 knots, etc. - my own words became insignificant as I heard joy pour out of Edward over the cell phone connection when the wheels broke ground and the RV-10 and I became airborne: “Oh man..oh my goodness... what a beautiful sight” his voice quivering with unconscious light laughter and joyful nervous energy. I moved the stick instinctively right and left just a tiny bit at liftoff to confirm I had roll control. “Whew! We have control” the test pilot within me spoke gratefully to the gods.

Now looking around for the chase plane...The chase pilot’s primary function is to observe and report anything out of the ordinary and alert the test pilot to any perceived unsafe condition. The Bonanza should be able to outrun the RV-10 because we intentionally removed the speed fairings from the landing gear for this first flight. However, the Bonanza cannot begin to climb the way the RV-10 can! Wow! Two hundred sixty roaring horses plus a 6% boost from the dual electronic ignition bolted to the nose of this hot rod. The light and strong riveted aluminum airframe carries me rapidly toward the heavens. Despite the high desert elevation, we’re at 2000’ above ground level by the time we turn a tight downwind leg circling box over the airport. Within a couple of minutes, we’re leveled off high above the airport, always keeping the runway in sight in case this engine decides to take an unauthorized break. All temperatures, pressures, and parameters remain perfect and the plane flies hands off with trims centered. Wow! Wow! Wow!

Experts had recommended that I avoid pulling the throttle back on the 540 cubic inch engine while it’s new, but this time machine feels like it will climb to the limits of the atmosphere if I don’t ease off on the power. And besides, I want the chase plane to be able to capture a few photos. So I decided that now was an appropriate time to explore the slow flight characteristics of the airplane. Feeling for and finding that first indication of aerodynamic stall ensures me the airplane will handle as expected during the landing approach.

Everything is right in the world. The airplane tracks, turns, banks, climbs, and descends the way a high performance aircraft is supposed to. The big Lycoming releases its energy smoothly through the Hartzell blended airfoil propeller the way it’s supposed to.

OK, let’s see if we can put this thing back on the ground! Landing checklist complete; all systems good.



The RV-10, though a thoroughbred performer, exhibits docile handling and is a piece of cake to land.

As I taxied back to the hangar and opened the door, all the stored up emotions – from impatience to eagerness, from frustration to anticipation, from disappointment to satisfaction, were replaced by the RV grin and a joyous “whoop”!



Truly, building and FLYING an airplane like this is one of the most satisfying and joyful things a person can do!

Chase Snodgrass



## *Mystery Plane*

Jim O'Hara sent the following picture and letter. Look at the picture and see if you can tell what kind of aircraft it was before you read the letter.

The email is from George Pappas who lives in Anchorage, Alaska. He has become a good friend. He is responsible for my replacing the Tigre engines with the Continental engines. George spent most of his adult life running an airplane repair shop in Anchorage. Much of his business entailed flying to air strips in remote areas, getting banged up airplanes flyable and flying them back to his shop in order to complete the repair job.



If you think you have identified the aircraft, read the letter from George about it:

Yes, my airplane is really a Globe Swift. Just very modified. The Feds kept wanting me to get approvals for the things that I did to it, so I got away with licensing it as a Home Built. This way, they leave me alone, and I leave them alone. Win, Win. I'll briefly outline some of the changes.

First of course is the engine change. It's a Continental IO-360-A with a Hartzell prop. I used an engine mount from the aft engine of a Cessna 336 and installed legs that fit my firewall. All the baffling and exhaust, etc. was scratch built. The nose cowl is from an early Cessna 180, and it is blended in to the original Swift cowl.

Then, moving aft, I scratch built the canopy. It runs on rails and bearings and is actuated by a hand crank from inside. There was a lot of cut and fit to get it to work right, but eventually it came out quite well. It closes very tight with no wind noise. I installed a .250 inch thick windscreen, and the side windows are .187 inch. The seal at the aft edge is the thin rubber seal from a Bonanza door. I pressurize it with ram air to make it tight.

Everything is flush riveted. This makes it paint up nicely. I would like it adds to the drag reduction also. My objective from the start was to get it to indicate 200 mph. While it will exceed this at full power, I only get about 185 at cruise. I ran the Sun 60 race at Sun-n-fun in 1991, and ran it pretty hard and averaged 196. The fun part was that the guy that was in charge of the event entered a Cessna 210 and I beat him.

I built a retractable tail wheel. Now the Germans were no slouches when it came to aerodynamics and I notice that they didn't bother with this. I proved them correct because I can't detect any increase in speed. It does

make it look nice though. I guess that the boundary layer that far back is thick enough that the tailwheel really doesn't drag that much. It was a fun project, trying to put ten pounds of stuff into a five pound bag. It folds up like a Swiss Army knife. It involved making a couple of lost wax castings for the fork and support, and the drag struts were machined from plate. It is plumbed into the existing hydraulic system and works with the mains.

When Lopresti was working on trying to put the Swift back in production, they found that the rudder was critical (flutter) at 190 mph. The vne is 186 so that didn't leave much margin. I routinely operate outside of the original envelope so I made a new rudder. The original was skinned with .032 and had a thick trailing edge which made it extremely unbalanced. I built the one that you see in the photo and it is skinned with .020. In the leading edge of the tip I was able to get enough lead to achieve static balance. The overall weight is about the same but since the lead is so far out, I strengthened the fin. I did the same treatment to the elevators. They too are static balanced.

That leaves the wings. The center section is very robust, due to having to support the landing gear. The outer wings were a bunch of crap. I originally just beefed them up with some doublers on the spar caps but I was never comfortable with the results. I was able to get copies of the original engineering and it confirmed what I had suspected. When they tested a wing to go to 1710 pound gross for the GC-1B they broke three of them before they got one to "almost hold". I don't know how they ever sold that to the CAA. The spar was inferior but even with some reinforcement the fittings had no margin. I just started from clean sheet of paper and made new wings. The only original part is the aileron bell crank. Peter Garrison sells a lofting program and it was a blessing. You enter the airfoil and cord at the center station and again at a station at the tip, and this damn thing will drive a plotter to draw a rib at any station you select. It will offset for material thickness so the form blocks are drawn to size, including percent stations for spars and lightening holes. When I formed my leading edges, everything nested perfectly. I got ahold of some Beech wingtips and shortened the wings until the cord matched. This resulted in an overall span reduction of 63 inches. I was after increasing the wing loading but due to the fact that the wing is tapered, I ended up reducing the span a lot more than the area. With the reduced span and the new spar caps and fittings, I have no reservations about the wing strength.

That covers the major changes to the airplane. Ruby, in her bookkeeping language always referred to it as "a work in progress". It was a lot of fun doing it, and I only wish that time and energy would allow me to start over with another one.

## *Where Our Members are Flying*

In May, four Chapter 493 members in two aircraft flew to the fly-in at Ranger, Texas. There were lots of interesting airplanes and a two hour aerobatic show. Here is a sampling of the aircraft there.



## FOR SALE



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Add engine, mount, prop, and paint  
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## UPCOMING EVENTS

June 16 Fly-in Snyder, Texas

July 23-29 EAA Airventure Oshkosh, Wi

See you at the meeting.

Bill Yeates, editor