EAA THE SPIRIT OF AVIATION™

RUNWAY 35

The Official Newsletter of EAA Chapter 35, San Antonio TX

April 2013

Volume 55 Issue 4

Inside this Issue

Next Event

April 13th

Fly-In /Drive-In Breakfast

8:00-10:00 am

Chapter 35 Clubhouse at 8T8

Runway 35 is published monthly by EAA chapter 35.

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EAA 35 Visits the Legends

Y'know, there are times when it is just pretty cool to live in San Antonio. March 2013 was one of those times. EAA chapter 35

enjoyed a private viewing of the Lewis Air Legends collection housed right here at KSAT. Fifty some odd aviation buffs piled into the immaculate, I mean *immaculate,* hangars to be engulfed in a dozen or so better-than-museum quality, absolutely perfect examples of some of the most storied aircraft military aviation history.

Mr. Rod Lewis, founder, president and CEO of Lewis Energy Group is an avid aviator and supporter of aviation preservation. His website notes that he was the son of an Air

(Continued on page 3)

Only the Best

An Interview with Bob Cardin

Chuck Fisher

Each month Runway 35 features a member of the chapter and their construction or restoration project. This month I was fortunate enough to spend some time with Bob Cardin, who manages the air fleet owned by Mr. Rod Lewis and who led the expedition to recover and subsequent restoration of "Glacier Girl". The history and details of the recovery and restoration are widely known and I have reprised a few facts in the accompanying article. However my interest in this discussion was in the man and the story behind the aircraft.

In 2004 Smithsonian Air & Space Magazine published an article that started thus: "Bob Cardin is as prickly and no-nonsense as a piece of

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Featured Event

EAA Chapter 35 Fly-in/Drive-in Breakfast

Saturday, April 13, 2013 8:00 to 10:00 am

San Geronimo Airpark (8T8), San Antonio

Menu: All you can eat pancakes, sausage, juice and coffee

Non–8T8 pilots bringing aircraft eat free!

All others $7 each (honor system)

Servers and cooks needed! Show up early for your assignments

PRESIDENT'S COCKPIT

Chapter 35 Friends,

I am devoting this month's President's column to recognizing and honoring those individuals who have constructed a flying aircraft. For the benefit of our membership, let me explain:

There are a multitude of discussions, resources, opinions and guidelines to review that have been created solely to assist the homebuilder transitioning from building their project to the flight management phase of their hobby. For the past few months I have experienced the opposite journey: ending my eight years of aircraft ownership and flight, and becoming a ground based aircraft builder once again. While I am admittedly distracted with other items, since the day I have placed the Cozy project in my hangar (105 days ago) I have accomplished:

- the construction of the large work table as outlined in the plans
- building a heated epoxy storage cabinet
- completing two trial fiberglass lay-ups and testing the results and
- inventoried the parts and performed a portion of the inspections needed.

That's it! And thus … my realization of the appropriate focus of this month's column.

Realize that airplane drivers in America (that's us) represent less than one tenth of one percent of the population. Those individuals completing a flying aircraft are within our unique small subset that exists within aviation in the United State of America. They are nothing less than our heroes. We all recognize and admit the needed expertise and determination, but rarely due we showcase these achievers. Also, know these individuals are not all that far removed from well-known-world-famous achievers such as Gustave Whitehead or the Wright Brothers.

And an additional thought for your consideration: while I have been privileged to chat with homebuilders about their aircraft, the details, their modifications and the building process, in the 29 years that I have been involved in this wonderful sport (that's a lot of fly-ins and gatherings!) never, not once, have I experienced one of these persons bragging about their accomplishment. That says a lot for the caliber of pilots we are able to call friends.

So, the next time you find an owner / builder standing next to their flying project, give 'em a firm handshake and an extra "thank you" and "well done" for all of our membership. These are the people that make things happen, have contributed a significant part in creating opportunities and have made our world what it is today. I simply call it "success".

Be safe, fly safe, taxi safe, fly happy,

Nelson Amen

2013 AIR ACADEMY SELECTION

MAARTEN VERSTEEG, CHAIR

EAA 35 is once again sponsoring a future aviator to attend the Air Academy at EAA Airventure this year—and YOU can help.

This year we selected **Mr. Carson Casey** from a roster of excellent, competitive choices. Carson is a junior at Ronald Reagan High School and his goal is to work with NASA and eventually be part of the manned space program.

Carson is ranked in the top 1% of his class, is an eagle scout, a church leader, a class officer and has won more academic and competitive awards than would fit on this page. He has distinguished himself in leadership and academics and will compete for a coveted Air Force Academy selection.

His dad is a pilot and Carson's plan is to begin work toward his own private license this summer. So, with the help of EAA chapter 35 Carson will attend the incredible EAA Air Academy and learn many of the basic skills that will help him to become a successful pilot/builder. Perhaps he is the next generation's Burt Rutan. We expect him to fly his Experimental Homebuilt to the launch site!

Here is where you can help. EAA chapter 35 is a not for profit organization whose charter includes launching young careers and passion in aviation. YOU may, as you look at your taxes this year, find that a charitable donation might be warranted—whether you need a deduction, or just find yourself blessed. In any case, we urge you to contact Dee Brame about contributing to our Air Academy fund. Every dollar helps—and you can be proud to have contributed to a very worth cause.

LEGENDS (CONT)

(Continued from page 1)

Force pilot who began his aviation career as a mechanic long before he became an oilman. His collection of priceless aircraft is unique in that each of them is not only flyable, but regularly flown. And, he flies them himself. We are extremely grateful to Mr. Lewis for allowing us to visit his collection, but especially for working so diligently to preserve our aviation heritage.

Unfortunately, not everyone in attendance could hear the excellent discussion about the recovery and restoration of the "Glacier Girl" over the lovely, but loud, whine of jet turbines. What follows, then, is derived of our conversation and materials available on the websites and in publications referenced at the end.

The P-38 now known as "Glacier Girl" was built to be a front line fighter in the rapidly expanding European theater of WWII. Built as a P38E, glacier girl was modified with more powerful engines and a tip-over canopy of a P-38F with just a logbook entry. In 1942 the brand new aircraft was part of a flight of P-38s accompanying a pair of B-17 bombers to the European theater via Iceland. Having left their stopover in Greenland, however, they encountered severe icing and snow that prompted them to attempt to turn back to their base in Greenland. They received radio signals that led them to believe a base was in the relative clear and had ceilings sufficient for them to land. However, the base was socked in, and thus, low on fuel and several hours from their destination, the decision was made to make a forced landing on a smooth (appearing) glacier.

The first aircraft went in gear down expecting a firm ice surface. However, the gear punched through the ice layer and the aircraft flipped on its back. The pilot emerged uninjured though. Subsequent aircraft landed gear up and sustained little damage. The Glacier Girl was landed with props feathered and sustained little damage on landing. All but one blade of the props was salvaged in good condition decades later.

The aircrew of all of the aircraft emerged from their forced landings relatively uninjured and set up camp on the glacier. They improvised heaters and had sufficient rations and shelter for a couple of weeks. And, within a few days they were located and supplies were air-dropped to them. Several days later rescue forces arrived by ship and dogsledded to the crash site. The crews endured a difficult 17 mile trek to the coast where a rescue vessel awaited. Amazingly all survived what one website describes as the largest forced landing ever.

Over the next several decades the "lost squadron" was photographed, visited, and surveyed as it disappeared beneath the glacier. Although WWII aircraft are extraordinarily valuable, and some would say priceless, today all the way up to the 1970s there was relatively little interest or enthusiasm in recovering and restoring the antiques. Following WWII most warbirds were sold as scrap by weight or outright destroyed. So, though the "Lost squadron" was the stuff of legend, who would ever want to spend the big bucks to recover the planes?

Fortunately, by the 1990's interest in warbirds was rampant, their value high, and the economy was strong. So, In 1992 financier Roy Shoffner financed the Greenland Expedition Society, a team formed by Patt Epps and Richard Taylor, to launch a costly and complicated expedition to recover a survivor of the squadron. Patt Epps chose Bob Cardin (see interview in this issue) to lead a diligent team of experts on what is perhaps the most famous aircraft recovery expedition to date.

Because there had been several other surveys previously, the location of the planes was pretty well known, so it did not take the expedition long using sonar type equipment to locate the aircraft. A camera located through a pilot hole verified the plane was relatively intact...under 50 years and 25 stories of ice.

The expedition had devised and made a large dreidel-shaped device they called the "gopher" into which they injected hot water. It bore a large hole the hundreds of feet down to the plane. Then, workers lowered deep into the well began to use hot water/steam to melt out a cave around the plane. There they worked for weeks disassembling every part and raising it to the surface while standing in ice water with ice falling about them. The plane was eventually airlifted by heavy lift helicopter to a waiting ship and brought back to Kentucky to Roy Shoffner's hangar.

The initial plan had been to clean up and use pretty much the whole plane, straightening or replacing those few parts that needed work. However, undoubtedly to the team's disappointment, after 50 years entombed under tons of ice moving uneven-

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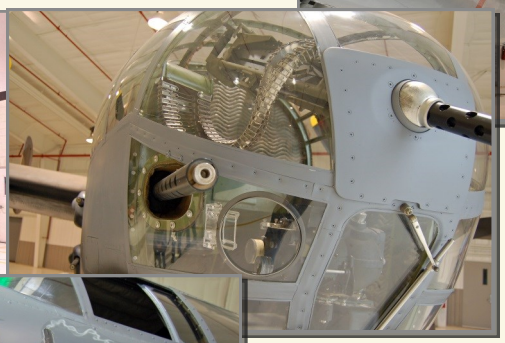
LEGENDS (CONT)

(Continued from page 3)

ly toward the water, very few parts were or could be made airworthy. Thus, using original parts as templates, much of the plane was re-built piece by piece.

Yet, despite the damage to the aluminum structures the ice had preserved her as a time-capsule. Original paperwork and log-books were still in the cockpit, the propellers and nearly new engines were in excellent shape and would be restored and overhauled. All of the guns (the only complete set in the world) and armament were preserved. Even the paint was intact.



The restoration took over 10 years of full-time labor. About 80 percent of the aircraft was eventually retained in the restoration and the remaining parts that could not be fabricated or salvaged were located (with difficulty) from collections, warehouses and salvage yards around the world. She finally flew in 2002, and in 2006 Mr. Lewis purchased Glacier Girl and brought her to San Antonio.

Asked about the rest of the lost squadron we learned that it is unlikely that there will be further salvage attempts. As it turns out, not only was Glacier Girl probably the least damaged aircraft, but she was also the furthest from the leading edge crevasse. The rest of the lost squadron of P-38s and B-17's, as they inch closer to the leading edge will or have already be stretched and crushed by the accelerating ice that will eventually crack and form crevasses. Even in 1992, the team determined the B-17s were already destroyed beyond repair. Thus, it seems likely Glacier Girl will remain the lone survivor of the "lost squadron".

The rest of the collection we had the opportunity to view included an immaculate B-25J Mitchell "*Russian Ta Get Ya*" painted as a Russian Lend-Lease aircraft (that also gets the author's vote for best nose art ever), TF-51D Mustang "*La Pistolera*" in Luke AFB colors, P-47D-40RA Thunderbolt "Balls Out", P-40C Tomahawk, FG-1D Corsair, F8F-2 Bearcat "*Tai Wun On*" painted in the colors of the Thai Air Force, F8F-2 Bearcat, F7F-3P Tigercat "*Here Kitty, Kitty!*", F7F-3P Tigercat "*La Patrona*", CF-5D Freedom Fighter, and an glistening L-39C Albatross in Blue Angels colors. For as incredible as this collection was, there are many more rare birds in the Lewis collection.

I encourage readers to check out these websites, books and videos for more information on this collection and the amazing, diligent work that has returned some amazing aircraft to the air for all of our benefit. http://www.lewisairlegends.com, http://p38assn.org, The History Channel's *"The Hunt for the Lost Squadron"* available on DVD from several vendors (e.g. Sportys, Amazon) and *The Lost Squadron: A Fleet of Warplanes Locked in Ice for Fifty Years* by David Hayes.

LEGENDS (CONT.)

THE BEST (CONT.)

(Continued from page 1)

barbed wire. He is short and powerfully built, with a gravelly voice and a tough, working-class Rhode Island accent. He gets to work at seven every morning, seven days a week, and doesn't go home until the job is done." Jeesh, this might be a hard interview! Actually, what Bob Cardin is, is a master manager-leader who oversees a wide array of business and logistical aspects of a multibillion dollar company – one aspect of which is maintaining a fleet of 41 aircraft, most of which are priceless, currently flying warbirds. Yeah, he gets right to the point, but when it comes to talking planes he is in his sweet spot.

Like so many success stories, Bob relates a story of opportunity, fortune and skill intersecting just at the right time. After 20 years as an Army helo and fixed wing pilot he hung up the uniform and moved over to a corporate pilot job in Atlanta and managed a logistical operation there. Along the way he hooked up with an expedition hoping to salvage a B-17 from the Lost Squadron in Greenland – the Greenland Expedition Society. The mission launched in 1990 ultimately failed, but the information they had learned inspired Mr. Roy Shoffner to engage and fund the Society to recover one of the P-38's. And, when Patt Epps asked Bob to be the team lead he jumped at the chance. He quit his job and became the full-time project lead although he had never attempted anything like this before.

His success, though, was largely due to his management skill. His expedition to a remote location with limited re-supply required tremendous foresight, envisioning potential contingencies, and meticulously planning the logistics of each step. Likewise, the lengthy restoration relied on anticipating and finding stepwise solutions to thousands of problems large and small. He orchestrated teams of skilled workers from as few as 3 up to about 25 to recover and restore the aircraft, and he feels it was management skill, not his restoration or aviation skills that made his role so successful.

Restoring the "Glacier Girl" ended up taking slightly longer than planned – a decade or so longer – because she was so well preserved. The original plan had been to fix her up for display – there were lots of P-38 parts still around and the team bought up a warehouse full. However, once they took a good look they realized she was a time-capsule. Priceless. This plane had 62 hours on the airframe and 72 on the engines. Everything was brand new from the factory and had never been manhandled or altered. The focus became not just putting it back together, but on being absolutely accurate - exactly like she was when she left the factory. That warehouse full of surplus parts were largely leftovers from end of war P-38J and beyond models and would not be right for a pristine P38E/F. So, using original drawings and as much as possible original factory tools the aircraft was reconstructed to assembly line specs. The font on the side, for example, was not in any database. So, rather than using a font that was visually similar, Bob had the original font re-created so the lettering would be exactly as it was. In the end, he estimates that about 80% of the planes original parts were straightened or repaired and re-used. Some parts like original electronics were unsalvageable and had to be located (with great difficulty).

Bob and his team of craftsmen were meticulous in every respect. The tubing for the plane was reformed on original equipment to exact specs – not just bent sort of correctly with a hand bender. Where original AC parts were unavailable or unsafe, AN parts were used, but they were refinished to match AC parts in appearance.

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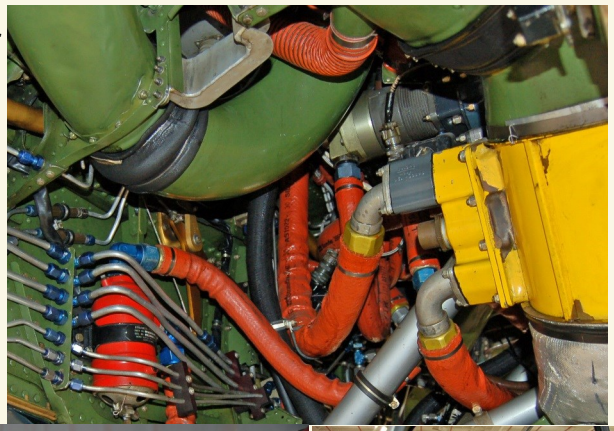
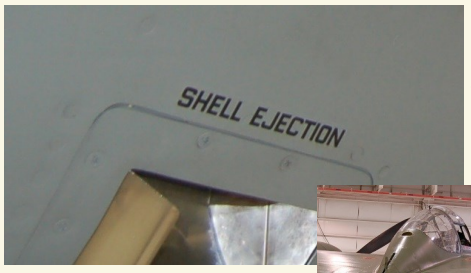
THE BEST (CONT.)

(Continued from page 6)

I asked what was the hardest part of the restoration, expecting to hear of a long lost part or inability to locate anyone who remembered how something went. "Probably the hardest part was getting the little bands that hold the tail to the boom to fit", he said. I turns out that these critical parts are a complex multi-curve structure that was nearly impossible to get just right. In the end they actually had to hire an engineering firm to assist with the 3 dimensional part.



"Skilled craftsmen were not hard to find", he related. As word of the project spread, workers with considerable skill and dedication made themselves available. Likewise, parts were located largely by word of mouth. Back then there was no Internet and certainly no "Google". Parts were acquired by visits, phone calls and lots of hand-shakes. Fortunately, the late model P-38 parts were actually useful as trades as no one else really needed early model P-38 parts.



In the end, after over a decade of work, Bob Cardin's team rolled out a P-38E/F that he feels is probably the most authentic flying warbird anywhere.

Most of us would be pretty content to end on that line. But not Bob Cardin. When Mr. Shoffner passed away, San Antonio oilman and pilot Mr. Rod Lewis purchased the Glacier Girl for his collection. And he asked Bob to not just continue to take care of her, but to manage his entire growing fleet of aircraft.

So, today Bob manages hangar's full of meticulously maintained warbirds ranging from a rare Spitfire to modern high performance jet aircraft. His fleet is not a museum fleet though. Every plane is regularly flown so although they are true to their heritage, the aircraft are equipped with modern safety and communications equipment, and are maintained to certificated standards or higher. So a look in wheel-wells and engines will reveal modern AN fittings, new lines and fasteners. They are not museum pieces.

And this leads a few pearls from the man who has probably had more hands on experience with priceless warbirds than most anyone on the planet. Bob related these points (as well as I can read my writing):

1) Restoration takes deep pockets and lots of time no matter how small the project is. Make your longest time estimate – then double it (and be happy if you make that deadline).

2) Use your common sense. The world is full of "experts" who will "help" you. Do your own research, learn the details, and don't accept "sort of right" or "should work"

3) Use top tier maintenance and building techniques. Just because a warbird is "Experimental" is not a license to do anything you want. Never be sloppy or unsafe. Experimental aircraft should be maintained to the same or better safety standards than any certificated plane. There is no room for cutting corners or taking chances in any aircraft.

Well, I certainly did not find any barbs in Bob Cardin's demeanor. But, having seen his aircraft, I can only imagine that his team has to be as meticulous, dedicated and driven to perfection as Bob Cardin. And, I suspect that he would cut little quarter for someone who tries to cut corners or do sloppy work. As I look at my own antique plane Bob's words and ethics ring loudly in my ears. Look at yours – would it pass his muster? Time to get to work!

This is one of a monthly series of articles featuring local builders/restorers and projects of interest to the general membership. If you would like to show off your project please contact me at eaa35news@gmail.com. Of course the editor reserves the right to show up unannounced at any open hangar!

I LEARNED FROM THAT!

THE BICYCLE CHAIN PLANE

ROBERT H. DRUMM
Lt. Col. USAF (Ret.)

No, the airplane I'm going to discuss did not have pedals. However, it did have bicycle parts. And yes, we thought only the best and latest equipment and aircraft were at our disposal l in WWII. By 2013 standards this equipment would be quite archaic.

http://www.daveswarbirds.com/usplanes/photos/t-50.jpg

At the age of 18, I found myself a member of the US Army Air Corp pilot Cadet program. Normally, the age for this program was 21 to 26 1/2 By 1944, due to the loss of air crews to daylight bombing raids over Europe, the United States ran out of a population in this age group to go into replacement training. To compensate for this loss, the age was dropped to 18 and raise to 27 1/2.

My training went reasonably well until the first solo night session in the advance course. This was with another pilot cadet by the name of Don Eller. The flight was in a UC-78 twin engine trainer. The bird went by a number of nick names, such as Bamboo Bomber, Pecos Bow Fighter to Double Breasted Cub. Its official name was a Cessna Bobcat. Other designations were the AT-17, T-50 and the Navy JRC-1. The Canadians called it the Crane.

At the night in question, I was flying from the left seat with Don in the co-pilot seat. Another a non eventful take off I flipped the, "wheel up" toggle switch to the up position. A continuous grinding sound came from under the pilot seat and the gear indicator light stayed red. Putting the switch in the down position made no change, the light remained red . The emergency procedure to lower the gear was to take a crank, similar to one used on an old model T Ford and crank the gear down through a small hole in the wing spar behind the pilot's seat. Don must have turned that cranked a hundred times with no results.

After a low fly-by inspection by people on the ground, it was determined that the wheels were retracted. By now the Commander was on the radio and instructed the co-pilot, Don Eller's, to remove the emergency crash ax from the bulk head in back of the cabin. I believe Don had to break a glass cover to get at the ax. All I did was fly the airplane. He was doing all the work. Don was instructed to cut a hole in the aluminum covering the spar around the crank hole using the crash ax. He chipped away and finally revealed an electric motor with two large bicycle sprockets. No, he didn't chop through the spar or I wouldn't be here to tell this story.

This is where the situation becomes interesting. Don was told to locate two bicycle chains about twenty-five feet long that were attached to the sprockets. Don tapped me on the shoulder and told me there were no chains. Apparently the chains had broken and fallen back into each wing. He reported this situation to the Commander. It was then that the radio became very silent. In a few minutes, that seemed like an hour, the Commander told us to fly around for the next three hours to burn off fuel after which he would get back to us with a solution to our predicament .

For the next three hours Don and I laughed about our situation; just like any normal 18 year olds. We really didn't realize the hazards we were facing. Maybe we did but wanted to put up a macho front to help calm the other guy.

Right on schedule, the Commander called on the radio three hours later. He told us to come in and land. What! No special instructions? Things after that got quiet. What we had to land on that night was a one mile square piece of macadam or what's commonly called asphalt. To outline the direction of traffic a mobile tower, lovingly called the out- house, was set along one side of the one mile square. Aircraft would take off on the left side of the tower and land to the right side.

When we approached we noticed there were no other planes in the air. It was told to us later that the Commander didn't want

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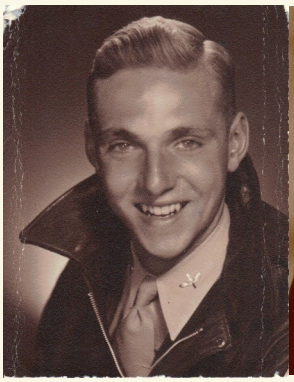
I LEARNED FROM THAT! (CONTINUED)

(Continued from page 8)

the other cadets to see the coming mess. I set up a normal landing pattern and aimed for the right side of the tower. Everything was fine until I was passing the tower. There was the fire truck, ambulance, and the Commander's car all lit up with flashing red and other lights.



Before I had a chance to react to this shocking sight Don and I instinctively got busy doing what our training dictated. We turned off the two Magneto switches, master switch and the gas line valve to the off position. As I was rounding out, we got closer and closer to the ground. As the plane settled to the ground it rolled as smoothly as if it were on wheels, but we were only about six inches off the ground. The right wooden propeller, lovingly called the "butter paddle", shattered as it hit the ground. The left one stopped horizontally with no damage.

Don and I were out of the airplane and running alongside when the Commanders car caught up with us. He yelled for us to get in the car. He immediately drove us to another UC-78, told us to take off right away and finish the practice landings we were scheduled to do with the other plane. He must have been an ex-cowboy, you know, if you bucked off the horse you get right back on before you get afraid of the animal. This time Don got in the left seat and I in the co-pilot seat. We immediately took off and climbed to about 3000 feet. After we leveled off, each looked at the other and almost in unison yelled, "Did we just do that?"

Prologue:

My children have asked me for many years to put this story in writing. I did and then went looking for Don Eller to verify the story. I located Don in Ft. Pierce Florida after looking for him on the internet for the past five years. We must have talked on the phone for over an hour. He and his wife were both on the speaker phone. When I asked if the story was true, his wife answered, "Oh yes! He's been telling that same story for the past sixty two years."

I LEARNED FROM THAT!

DRIVING ON THE LEFT

Robert Dunn MD

My late father, Capt. Charles W. Dunn was a navigator in the 92 Bomb Group (BG) when it went overseas in August 1942, a couple of weeks after the 97th BG (which included Paul Tibbets of Enola Gay fame) and a month before the 91st BG (of Memphis Belle fame). After flying several missions my Dad's B-17 and crew were reassigned to North Africa where they performed a variety of tasks. One was to ferry VIP's from England to Gibraltar. As the first American service personnel seen in Gibraltar, the officers of his B-17 were invited to dinner on the HMS Warspite by Admiral Cunningham, Commander of the Mediterranean Fleet. Another task was to help squadrons of P-40's and P-38's navigate from Land's End to North Africa. Their B-17 would be flying at maximum speed and the fighters at a low cruising speed. If one of the fighters' electric propellers 'ran away' it could not fly slow enough to remain in formation.

Dad would ask the pilot his IAS and using his E6B he would say "Stay on this course and in 63 minutes Oran should be on your left." The story I want to relate concerns navigating a B-17 back to England late in the day during the winter of 1942-43. The sun sets at 4pm. Often the weather was lousy. Using dead reckoning, they would descend through a total overcast and try to locate an airfield to land. Low to the ground and in poor visibility Cornwall (England) and the Brest Peninsula (France) look very much alike and it was *important* to know which one was below.

So.....A thoughtful item was added to their pre-landing checklist. *"Check—Traffic driving on the left side of the road."*

RECOGNITION 42 YEARS LATER

Dennis Scheidt

The Federation Aéronautique Internationale (FAI), who oversees and recognizes records for all classes of aviation, has a program of awards for gliding pilots to mark increasing levels of soaring ability. The FAI has designated the Soaring Society of America (SSA) to administer the awards in the United States. First there is an ABC program. A badge for solo flight, B badge for a 30 minutes flight after release, and C badge for a one hour flight after release. These requirements were established a long time ago when they were fairly difficult to achieve. With modern sailplanes and instrumentation, those requirements are more easily achieved but are still recognized by the FAI. The ABC awards are administered by a designated SSA Instructor in each area in the US. When I began flying gliders, there was no person designated in the San Marcos area so I never got those awards. The FAI also has Silver, Gold, and Diamond awards for successively higher levels of soaring achievement.


Certificate of Achievement
1-26 Association
1-26
This is to certify that
Dennis Scheidt
Has completed all requirements for the
FAI SILVER BADGE
For soaring achievement in Schweizer 1-26 S/N 300
Issued this 27th day of November, 2012
Mike Havener
President
Ron Schwartz
Record Keeper

I decided to try for the Silver Badge which required an altitude gain of 1000 meters or 3281 feet, a flight of 5 hour duration after release, and a distance flight of 50 kilometers or 31.07 miles. These could be done in one, two, or three flights. I decided to do them in three flights using our soaring club's Schweizer 1-26, a small single seat glider with relative low performance, L/D=23. This particular glider (serial number 300) was purchased from Neil Armstrong. You may remember him as the first person to set foot on the moon. I still have the bill-of-sale signed by him in my scrap book.

Our club required that the five hour flight be completed before you were allowed to take a club glider cross country or beyond gliding distance from the takeoff airport.

All flights had to documented with witnesses and/or a barograph (an altitude recording device) and certain rules had to be complied with.

The 3281 foot altitude gain was the easiest so I started there. I had made that altitude gain several times before but never had a barograph with me. On June 7, 1970 I had a barograph aboard and Bill Snead as my qualified observer on the ground. Gaining the altitude after release and notching the barograph was the easy part. My altitude gain was approved by the SSA.

The five hour flight after release took a few tries. On Aug. 8, 1970 I completed the five hour flight with a flight of 7 hours and 40 minutes after release. I landed with the sun sitting on the horizon and was met by my wife Gail with a cold beer in her hand. I was so happy I just sat there in the cockpit drinking my beer. My observer was Bevo Howard. The duration flight was approved by the SSA.

The distance flight was accomplished on the second try. This required an observer, a barograph, landing witness, and a low release height. The maximum tow height above the landing site had to be less than 1% of the distance traveled. A bit difficult if the flight distance is short and the landing site is lower than the take off site as was the case with my flight. I completed the distance with a flight from San Marcos, TX to Gonzales, TX on Aug. 28, 1970. Bevo Howard was my qualified observer. This distance flight was also approved by the SSA and they awarded me Silver Badge number 1923.

I am a life member of the 1-26 Association, a type club for those who fly the Schweizer 1-26 single seat sailplanes. This association has awards for pilots who earn the Silver, Gold, or Diamond FAI badges using the relatively low performance Schweizer 1-26 sailplane. The following appeared on the Schweizer 1-26 Association website on November 27, 2012 written by Ron Schwartz, the 1-26 Association Record Keeper.

"The 1-26 Association's Certificates of Achievement are intended to recognize those who have earned their Silver, Gold or Diamond Badges in a Schweizer 1-26. The only requirements are that you are a present member and that all the legs were flown in a 1-26. There is no time limit.

Forty two years ago, in 1970, Life Member Dennis Scheidt completed his Silver Badge in 1-26 #300. Despite the extended period of time since that event, I am pleased that he has recently requested a handsome Certificate of Achievement for his accomplishment. Congratulations Dennis."

THE BUILDER'S CORNER

CLAMPS

Mark Julicher
EAA Technical Advisor

A necessary part of airplane design and operation is the art and science of directing various fluids throughout the aircraft and keeping the fluids inside their respective systems. When fluids escape, bad things happen. Most of us are familiar with loss of oil, fuel, and brake fluid, but consider also battery acid or lavatory water, and how about gasses such as carbon monoxide or oxygen? Every fluid can cause an accident when not contained within its designed system. So it becomes obvious that hose clamps play a vital role in aircraft safety, but rather than beat a drum and make lofty pronouncements about clamps and safety, let me rather offer a few examples of clamps and give a word or two about each one.

Hose Clamp

Perhaps there is an airplane that has none of these ubiquitous clamps, but I have not yet worked on it. Hose clamps are usually made of stainless steel; although sometimes the worm gear itself is not stainless. Most commonly, the worm gear rides in parallel slots cut into the clamp band, and turning the screw tightens or loosens the band. Some models substitute a series of parallel ridges in place of the parallel slots. The screw head may be Phillips, slotted, hex or perhaps a combination of these.

Advantages of the hose clamp are that it is inexpensive, available almost everywhere, and in a pinch, if you need a really big diameter you can daisy chain two or more to get the length you need. Common hand tools are used to install these clamps and they will last through many install-remove operations before they wear out.

Disadvantages are that an underlying hose can be extruded into the parallel slots, it is difficult to get sufficient clamping pressure to hold high pressure fluids, and often times the actuator screw slips and slides out of position whilst you try to tighten it. If you overtighten this clamp it will usually come apart.

Oetiker Clamp

Oetiker is a company in Zurich Switzerland and they make many styles of clamps, but depicted here are clamps common to aviation. Oetiker clamps are often used on pressurized hoses such as oil and fuel lines. An Oetiker clamp can withstand high pressure and is much quicker to use than to fabricate a flare fitting and B-nut on a flex hose. Common sizes run from 5/16 to 1 inch. Special tools are used to close the "ear" on the Oetiker clamp and once the ear is closed it squeezes the hose via spring force. Proper closure of the "ear" leaves a 1.5 mm gap but never a fully closed ear. Oetiker clamps with either one or two ears and made of either stainless steel or zinc plated steel are most common in aviation applications.

One-eared **Oetiker Clamp**
Photo Credits - Ideal-Tridon Co.

Advantages of the Oetiker clamp are that it is quick to use and that it applies constant, circumferential pressure even during temperature changes. This even pressure is less likely to leak than some other style clamps. The eased edge of the clamp won't cut the underlying hose.

Oetiker Clamp Pliers
Photo Credits - Ideal-Tridon Co.

Disadvantages are that it is a onetime use clamp and must be cut off to remove it. It may be difficult to close the ear because the special tools (end clamp and side clamp) may not be wieldy in close quarters. Finally, the clamp must be on the hose before the hose is slipped onto its respective fitting.

Fuel Injection Clamp

The fuel injection clamp is used in high-pressure service – especially on fuel injection systems -- just to state the obvious. A screw action tightens and loosens this clamp.

Advantages are that it applies even, circumferential pressure and that it may be used multiple times being installed with common tools.

Disadvantages are that clamping pressure will change with temperature, so it is possible for leaks to develop at low temperature.

Tower clamp

Tower clamps were once very popular on intake manifold tubes. Tower

Photo Credit, AWAB Co.

(Continued on page 12)

BUILDERS CORNER (CONTINUED)

(Continued from page 11)

clamps are found with thumbscrews (shown) or screw heads or hex heads. Advantages are their ability to apply even pressure and they fairly simple to use. Disadvantages are that they occupy a large-ish bit of real estate and thumbscrews are difficult to tighten sufficiently.

Band clamp

Band clamps are typically found on small fuel lines and small air tubing such as on a lawn mower or leaf blower. They are most easily installed using duckbill pliers; however, one slip and they twang off into the darkest corner of the shop. The spring steel is prone to rust. If the underlying hose has extruded or taken a set you can expect a leak. If you have any of these on your plane, consider changing them for something else.

T-bolt Clamp

Photo Credit: CF Fasteners

T-bolt clamps are used to apply tremendous clamping pressure. Certain exhaust systems use specialized T-bolt clamps where the band is actually a V channel that keeps flanged sections of exhaust tubing firmly joined. T-bolt clamps are expensive, but when you need extra holding power or you have high pressure, these may be what you want.

Band-it of Denver CO

Photo Credit, Deep Blue Yacht Supply

This last clamp is not used to keep fluid in a hose, but rather its most common use for the experimental aviator seems to be for installing fire sleeve. Once again, you may have guessed that band-it style clamps are used in many more applications than just aviation. There are hundreds of uses. You see band clamps on bundles of lumber, stacks of bricks, and around appliance boxes.

Photo Credit: Band-It Co.

The clamps are inexpensive and easy to install. Using the special installation tool reminds me of opening corned beef tins or coffee cans in the 1960s. One brand of the installation tool is about $20 and another is about $100. Considering how may fire sleeves you will install on a homebuilt project, the $20 version will serve you well. Advantages are cost, and the ability to apply firm even pressure on the fire sleeve without crushing the life out of it. Disadvantages are that it is a one shot clamp and must be cut off. Caution! A slip during installation can produce a nasty cut.

Bandi-it installation tool

So there you have it, a brief review of common hose clamps.

Mark Julicher is an EAA technical advisor and frequent contributor to this newsletter for which the editor is immensely grateful. He can usually be found at Bulverde Airpark and would love to help you with your technical issues. His contact information is in the back of this Newsletter.

TEXAS RAIDERS READY TO GO!

Steve Jones

Doc Hecker, Freda and I spent some time at David Wayne Hooks, helping get the B-17 'Texas Raiders" ready for it's first 2013 appearance. There's plenty left to do, but she's really coming along. We're looking forward to seeing Texas Raiders at Hondo in May.

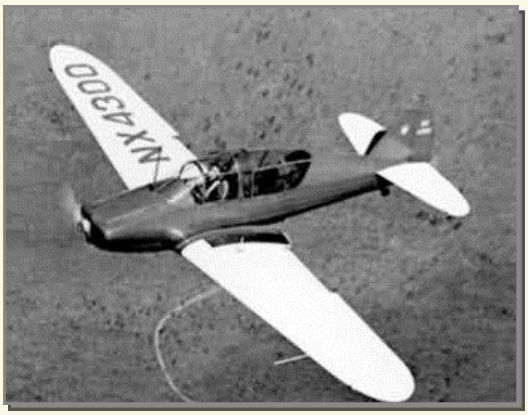
"Texas Raiders" plans to be in San Antonio the weekend of August 10th for static and flying tours. "TR" is in the livery of the 381st Bomb Group (H), a 1st Division, 8th Air Force combat unit stationed at Ridgewell, England from 1943-1945. The 381st was formed in Pyote, TX in January, 1943 and arrived in England in May/June, 1943. It was the only individual B-17 Group that originated in Texas, and that is the reason why "Texas Raiders" proudly displays the "Triangle L". The 381st Memorial Association will hold their reunion in San Antonio in August...come on by Signature FBO at 3:30PM on Saturday, August, 10, 2013 to meet the last of this group.

Of note: Doc Hecker's dad, Major Mel Hecker was an original 1st pilot with the 381st and led "A" Flight of the 535th Squadron over the Atlantic in late May, 1943. He completed his 25th combat mission as a "lead" pilot over Berlin in March, 1944. Doc Hecker is following in his dad's footsteps (see related note on page 13.

MARCH MYSTERY PLANE REVEALED

Doug Apsey

Thank you to Ed Seurer for providing the March mystery plane. I think Ed came up with the most challenging mystery plane we have presented so far. It turns out this is a one of a kind airplane produced by Piper Aircraft and designated the PT-1.



http://1000aircraftphotos.com/Contributions/Shumaker/3396.htm

Designed by David Long and built in 1943, the PT-1 was Piper's first low wing design. It had a tube and fabric fuselage with wood wings and tail. It was powered by a Franklin 6AC-298-D, 130hp engine giving the airplane a reported top speed of 150 mph. The PT-1's main landing gear retracted using a manual system. Piper was hoping to interest the military in purchasing the airplane as a primary trainer but the end of WWII also brought an end to the PT-1.

http://www.pipermuseum.com/Projects/Museum%20Projects.html

CHAPTER 35 MEMBERS NEWS

RB "Doc" Hecker was approved by the Commemorative Air Force on March 25, 2013 for transition flight training as a Co-Pilot in the B-17. He completed the required B-17 Ground School on March 9, 2013 and is awaiting flight training with the CAF's B-17 Check Pilot in order for him to qualify as a rated SIC in this type aircraft. In addition, Doc completed an add-on upgrade on March 13, 2013 to his Commercial Pilot License for Airplane Multi-Engine Sea. His seaplane multi-engine training and commercial PTS check ride was accomplished in a 1951 Beechcraft Model D18-S on Bristol manufactured EDO 7850 floats. The "Twin Beech" is powered by P&W R-985 engines of 450 HP. He now holds Commercial/Instrument privileges for both single and multi-engine land and sea airplanes.

NAME THE PLANE

Doug Apsey

OK fellow EAA'ers, this month's "Mystery Plane" might be a bit easier than previous ones. Some of you may even know the designer! Be the first to contact me with the following information and breakfast is on me at the 9 April Chapter 35 fly-in.

- Who designed and built it?
- What is its designation? i.e. C-172, PA-24, etc.
- What engine does the designer recommend?
- Within 3 years, what year did it first fly?

E-mail answers and comments to dapsey@satx.rr.com

CHAPTER BULLETIN BOARD

Return to Kerrville Reunion

Fly-in

April 27, 2013

Come for the Day or stay the weekend!

No Agenda

Just reacquaint with old friends and make new ones.

Bar-B-Que Lunch hosted by Joe Kennedy of Kerrville Aviation

Location

Kerrville-Kerr County Airport

Under Wing Camping allowed

Free Transportation to Hotels Available

Questions
Kerrville Convention & Visitors Bureau
Lodging Information
1-800-221-7958 www.KerrvilleTexasCVB.com

For the April Fly-In Drive in we are going to be flippin' pan-cakes. Feel free to bring other stuff to share

We could use some help serv-ing and cooking.

Wish for nice flying weather!

IMPORTANT FLYING SAFETY NOTAM

Watch your NOTAMS! Reuters News Agency (http://www.reuters.com/article/2013/03/22/us-usa-towers-closures-idUSBRE92L11J20130322) has reported that as many as 149 control towers will close 7 April 2013 as part of fiscal belt-tightening. This, of course, may be further affected by current congressional actions,. Therefore, pilots are strongly advised to check NOTAMS before travelling to or transiting any of the following Texas airfields that are slated to have reduced operations or outright tower closures:

KBAZ New Braunfels Muni, New Braunfels Tx

KBRO Brownsville/ South Padre Island Intl Brownsville Tx

KCLL Easterwood Field, College Station Tx

CNW TSTC Waco, Waco Tx

KCXO Lone Star Executive, Houston Tx

KGTU Georgetown Muni, Georgetown Tx

KHYI San Marcos Muni, San Marcos Tx

KRBD Dallas Executive, Dallas Tx

KSGR Sugar Land Rgnl, Houston Tx

KSSF Stinson Muni, San Antonio Tx

KTKI Collin County Rgnl At Mc Kinney, Dallas Tx

KTYR Tyler Pounds Rgnl, Tyler Tx

KVCT Victoria Rgnl, Victoria Tx

Country Store

Brian Goode

There are still some Chapter 35 Tervis Tumblers available for sale through the Country Store. The embedded logo is a embroidered patch between the insulated lavers of the tumbler, not a stick on label.

They can be purchased at any of the Chapter 35 functions or by stopping by Hangar 53 at San Geronimo Airpark when you are out visiting your aircraft. The price remains at $16.00 each and are packaged in quantities of four. Give Brian Goode a call at 727-709-1159 and reserves some today.

The Chapter is excited to introduce a new locally designed and produced (Yup Made in Texas, USA—*Really*!) product to tell you about, the Aero- Camper Chocks. These wheel chocks are lightweight, portable and durable. Designed for use on grass or dirt parking areas, they work equally well on pavement or tarmac.

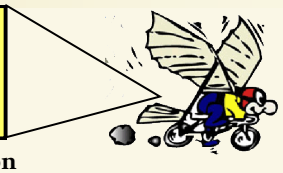
These units are precision water-jet cut from 6061 aluminum extrusion, hand finished and powder coated. Chocks are 2-1/2" X 5" long. At only 7.5 oz. for a pair of chocks, they provide secure chocking without sacrificing useful load or space.

These wheel chocks are available for a $21.00 / pair donation to the Chapter. Most people are getting two sets, one for each main wheel. They will soon be on display at all Chapter 35 functions, or you may call the Country Store at (727)-709-1159 to reserve a couple sets.

EAA CHAPTER 35 CATOLOGUE

Caps:	
Cloth Chapter 35 and EAA Notional caps	$10
Mesh Chapter 35 logo caps	$5
SWRFI caps (collector's item)	$8
Denim Shirts: Only 2 Large Short sleeve left	$20
Tervis Tumblers	$16
Chapter 35 cloth logo patches (sew on)	$3
Bumper stickers	$2
Chapter 35 logo stick-on stickers (Per inch)	$2

2012 EAA Chapter 35 Contacts List



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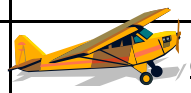
Lew Mason 210-688-9072 lewnan@sbcglobal.net

CHAPTER CALENDAR

APRIL	13	 FLY-IN BREAKFAST EVENT Chef, Prep Cooks, Servers Needed	EAA Chapter 35 Clubhouse 8:00-10:00 am
MAY	11	SPRING CLEANING!! Yard/Chapter Building Work Party	EAA Chapter 35 Clubhouse 10:00 am – 12:00 pm Lunch Served at Noon
JUNE	8	ANNUAL CHAPTER 35 PICNIC Chef, Prep Cooks, Servers Needed	EAA Chapter 35 Clubhouse 11:30 am to?
JULY	13	 FLY-IN BREAKFAST EVENT Chef, Prep Cooks, Servers Needed BOD Meeting	EAA Chapter 35 Clubhouse 8:00-10:00 am 10:30 am
AUGUST	10	DAYTIME MEETING Speaker TBD	EAA Chapter 35 Clubhouse Lunch 11:30 am Meeting/Program 12:30 pm
SEPTEMBER	14	DAYTIME MEETING Speaker TBD	EAA Chapter 35 Clubhouse Lunch11:30 am Meeting/Program 12:30 pm
OCTOBER	12	DAYTIME MEETING Speaker TBD	EAA Chapter 35 Clubhouse Lunch 11:30 am Meeting/Program 12:30 pm
NOVEMBER	9	ANNUAL CHILI COOKOFF Annual Membership Meeting	EAA Chapter 35 Clubhouse Lunch 11:30 am Meeting 12:30 pm
DECEMBER	14	CHRISTMAS PARTY	EAA Chapter 35 Clubhouse Social Hour 12:00 pm Lunch 12:30 pm Gift Exchange 1:30 to 3:00 pm

Upcoming Events (200 mi of 8T8)

Aviation Calendar of Events websites

Aero Vents http://AeroVents.com

EAA http://www.eaa.org/calendar

Fly-ins http://www.flyins.com

9-14 April—Sun 'n Fun

Friday, Apr 12, 2013
Victoria, Texas (KVCT) Customer Appreciation Day

12 - 14 April
9:00 AM
Fort Parker Flying Field
Central Texas Taylorcraft Fly-In

Saturday, 13 APR
9:00 AM - 3:00 PM
KETN Eastland Municipal Airport Eastland, Texas, USA
EAA CHAPTER 956 SPRING FLY-IN

Saturday, April 13, 2013
10:00 AM - 2:00 PM
Airport Day T82

Saturday, Apr 20, 2013
Mustang Beach Fly In
Port Aransas, TX

Saturday, April 27, 2013
9:00 - 3:00
Bluebonnet Picnic
Cannon Field, San Antonio, TX, USA
http://www.als-cannonfield.com
Contact: Gene Jensen 210-842-0429,

05/24/2013 -to- 05/25/2013
Ranger Fly-In & Airshow No.6 (Air Show)
Ranger Antique Airfield - Ranger, TX

29 July—4 Aug—Airventure (Oshkosh)

WANTED AND FOR SALE

FOR SALE: Complete RV-8 Quick Build Kit with O/H Lycoming IO-360 engine (minus starter/mags/prop) - $50K Contact: RB "Doc" Hecker at www.assenddragonavaiation.com or tcflying-doc@yahoo.com

FOR SALE: Early RV-3 kit. Tail; feathers, flaps and ailerons finished and primed. Wings are finished but are the old version and only useable for parts. Have cowling, windshield structure, gear parts, wheel pants, engine mount, etc. All sheet metal and formed bulkheads for fuselage. Zero time Lycoming O-320-E3D engine with all new parts. Include engine log book and builder's log. Health forces sale. Tom Gould 830-663-4448 or nazca9t@hughes.net

FOR SALE: Stolp Starduster Too SA 300. Eng. Lyc O320 (160 hp), newly rebuilt, constant Speed Hartzell Prop, 30 gal fuel tank, new Ceconite fuselage cover, full flying surfaces rejuvenated. MUST SELL -Make Offer. Call Dan Cerna at (210) 688-9345.

FOR SALE: Subaru EJ-22 engine, Ser. # 589390. Includes single 4-barrel carburetor, Mallory ignition, planetary reduction drive. Proven system, removed from flying aircraft. $3100 Chuck @ 979 218 6153

FOR SALE: Hegar brake master cylinder. 7" single control, Bore size - 5/8" (0.625). Includes brake bleeding kit, misc. fittings. $95 Chuck @ 979 218 6153

FOR SALE: Main wheels for UL or light experimental. One pair Matco Model MH6B wheels, with brake calipers, new brake pads, new wheel bearings, new Air Trac 15X6.00X6 4-ply tires. $295 Chuck @ 979 218 6153

FOR SALE: One unused Air Trac 15X6.00X6 4-ply tire. $40 Chuck @ 979 218 6153

FOR SALE: Garmin GPS 195 with all original accessories. Outdated, but simple and fully functional, good for navigational assistance in VFR conditions. $100 Chuck @ 979 218 6153

FOR SALE. All items were functioning normally prior to being removed as part of the panel upgrade on my RV-6A.

- Apollo GX-60 GPS/Com, Apollo ACU (annunciator), and Jeppesen Skybound The GX60 is TSO-C129a Class A1 approved for IFR non-precision approach operation. The com function supports monitoring the stand-by frequency. I'll also include a Trans-cal model SSD120 altitude encoder (passed IFR check (3/12). - $2500.
- Vertical Speed Indicator - United model 7030, 0-3000 fpm, $100
- Altimeter - United part no 5934PD-3, Lighted (passed IFR check 3/12), $150
- Airspeed Indicator - United part no 8125, $100

Pictures available on request. Contact Dick Flunker, email RFlunker at ATT dot Net, or call 214-793-5546.

HANGAR SPACE FOR RENT (8T8): Several new hangars will soon be available for rent. If you are interested in renting a brand new 40 foot wide by 32 foot deep hangar, please contact one of the following EAA Chapter members (listed in alphabetical order): Brian Goode, Richard Gramling, Joe Killough, Lew Mason or Ron O'Dea. Their phone numbers are listed in the new EAA Chapter 35 Directory. There might be others for rent, but we don't know about them. The hangars have concrete floors and will have electric and water service run to them.

HANGAR SPACE FOR RENT (1T8): I will have a t-hangar (30A) available 6-1-2013 Contact. Doc Hecker. 210-391-1072.

Paste Address Label Here

Ron O'Dea, Membership Chairman
15464 FM 471 W., #14
San Antonio, TX 78253

The Official Newsletter of EAA
Chapter 35, San Antonio, TX

Chapter 35 meets

Each Second Saturday of the Month

April 13th

Fly-In & Drive-In Breakfast

8:00-10:00 am

Chapter 35 Clubhouse at 8T8

EAA Chapter 35 is part of the worldwide network of EAA chapters. EAA embodies the spirit of aviation through the world's most engaged community of aviation enthusiasts. EAA's 170,000 plus members enjoy the fun and camaraderie of sharing their passion for flying, building and restoring recreational aircraft. Our clubhouse and building facilities are located at San Geronimo Airpark (8T8) located off FM 471 (Culebra Rd) West of San Antonio.

For over 50 years Chapter 35 has represented aviators of creativity who share a passion for flying. Come join us!