RUNWAY 35

The Official Newsletter of EAA Chapter 35, San Antonio TX

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December 9

Holiday Luncheon

1130 Chapter Clubhouse

Runway 35 is published monthly as a free service for our members and our flying community by EAA chapter 35.

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HOLIDAY LUNCHEON AND GIFT EXCHANGE

Yes folks it IS already the holiday season! It is time to get your tickets for the chapter Holiday Luncheon and turn on those creative ideas for the gift exchange to follow.

The Luncheon will be fully catered by Jonny and will feature a New York Strip Steak or a Turkey dinner option. Get your tickets online now as there are a limited number of available meals and we cannot guarantee tickets at the door. Friends and family are welcome!

Purchase your tickets today at www.EAA35.org or click 2023 Holiday Luncheon (eaa.org)

We'll start at 1130. We'll have tea and water, but you are welcome to bring beverages of your choice.

Following that we will hold a gift exchange. This has traditionally been a rolling gift exchange where a gift may be "stolen" by a subsequent person.

Please bring one wrapped gift per person who wants to participate. Your choice of gift is up to you...but you might end up going home with your own gift...so try not to be too tacky!

This is always a wonderful, fun afternoon and I hope everyone will find time to join in the fun!

AIRFIELD CLOSURE NOV 30—DEC 8

The runway at 8T8 will be CLOSED Sunset Thursday November 30th----thru---Friday December 8th. The POA is having new Runway Sealcoating, Crack Sealing, Runway Dashed Center-lines Repainted and the Runway Approach numbers Repainted.

PLEASE ENSURE WIDEST DISSEMINATION. If you know of anyone who might be planning to use our airport during that time period, let them know about the closure. If you will need your aircraft that week, please make arrangements to stage it at another airfield.

CONGRATULATIONS NEW OFFICERS

Congratulations to your new officers: President Ian Heritch, Vice President Paul Wurster, Secretary Ron O'Dea, Treasurer Dee Brame. They will officially take the reigns 1 Jan...or after the holiday luncheon.

HOLIDAY MEAL AND GIFT EXCHANGE

1130 9 DEC

PURCHASE TICKETS AT WWW.EAA35.ORG.

Bring one wrapped gift per person

FROM THE PRESIDENTS COCKPIT **CHUCK FISHER**

This will be my final President's Cockpit as my term as your president is complete.

You've heard me say before how proud I am of this chapter and its long, storied history; and I am thrilled to have been allowed to be part of it.

I think our brief, impromptu Veteran's day remembrance illustrated to me the character of this chapter…as each member, guest, and friend named a veteran who was in their heart, and their mind, at that moment. For some it was emotional. For all it was memorable. Thank you.

During the past two years we continued to emerge from a global pandemic stronger, larger and perhaps even more active than we had been before. We resumed our Young Eagles programs and returned to Stinson and rekindled a partnership with Women in Aviation International. Despite having several weather and equipment cancellations, we still introduced lots of kids to aviation and we achieved our goals for the 30th year of Young Eagles.

We held a two successful Eagles events as well that introduced a whole new group of adults to aviation and hopefully resulted in some new pilots out there.

We started 2022 with a massive effort to clean and upgrade our builder's facility. This included new first aid kits, eyewash stations and an entire new set of over a thousand new hand-tools. This turned out to be fortuitous as Bill Fahey had to perform some major repair work on his gorgeous steed, which turned into a superb youth build project. And we have taken on a second build project, the historic BK-1 prototype; though it is currently stalled.

We moved the VMC club to Saturday mornings and attendance jumped from a half dozen to over two dozen attendees consistently. Matt VanDeWalle provided a truly expert experience for all of us. Way to go!

We were fortunate to add three more Ray Scholars to our cadre of students and we added chapter scholarships as well. The chapter partially funded a Ray Scholar and through the generosity of Ms. Jane Kellogg, fully funded another as we watched two of our scholars earn their "wings".

Our chapter and our FAA partners were honored to award two more Wright Brothers Master Pilot awards, and in keeping with our mission, we hosted some excellent safety oriented programming.

Our outreach and participation was good. The team at Southwest High School completed, certified and flew an RV-12 and has begun on another (they need you to help keep it going!), and at AirVenture there were Chapter 35 shirts or caps visible in volunteer and vendor booths from end to end as we once again had a couple dozen chapter attendees make the pilgrimage.

Ah but….there is still work to do. We did not get to hold our annual cleanup and repair day due to inclement weather, so we are behind on some facility maintenance projects. The BK-1 project, likewise, has languished for the past few months as the project lead has been totally consumed with work-responsibilities, and we have work to do developing programming to draw in and retain new members and to engage our new folks as volunteers.

If you are not already helping as a chapter volunteer, officer or chairman, I'd really encourage you to do so.

And on that note, I want to very specifically thank the officers and Board of Directors members for their faithful service and camaraderie. I want to thank each of the chairpersons and project leads for working so diligently to make this a great chapter. I treasure those memory-snapshots of Bill Fahey and John King over in the hangar with a group of kids pulling rivets and rebuilding wings, Dean Doolittle sweating away keeping the grounds during the hottest, driest summer on record; Rebecca, Dean and Marylin herding dozens of kids for the Rallies; Matt (the professor) leading an engaged VMC club discussion; Ron with an ever-present smile greeting everyone, Nancy who has recreated our country store into a really cool…store!. And, of course I owe a special thanks to Peggy, BJ, Roxanne, Pam, Danny and MaryAnn setting up nights before and starting early every morning to put on a first rate event every time.

I know I have not named everyone and for that I apologize. But please accept my most sincere…THANK YOU.

OK…buy your tickets…and let's have an awesome holiday gathering!

New Members

It is TIME TO RENEW. Please renew your membership online at www.eaa35.org or click Join-Renew (eaa.org) . And, of course you can always renew in person!

Right now It'll cost you a whopping $2 a month. Can you afford that?

CHAPTER BULLETIN BOARD

WE NEED YOU!

Need Volunteers for:

- **Historian:** Capture and keep the legacy of Chapter 35 for generations to come
- **Newsletter Editor:** Let your creative juices flow! EAA Chapter 35 is in search of newsletter editor beginning with the Jan 2024 issue.

Contact president@eaa35.org

From the Kitchen:

Thanksgiving has come and gone, and I hope all had a great time and spent it with those they enjoy. I say our chili cookoff was quite a success. We had so many chilis that it was hard to decide which was the best. Congratulations to all who placed in the competitive yet fun contest. Also, I thank all who brought the desserts and cornbread.

Many thanks to BJ O'Dea who helped with the setup, shopping, as I was out of town the week prior, and day of the event activities. I would also like to thank Roxie Beavers who helped with all the cutting up of things and last-minute set up. Mary Ann Schlattman helped by cutting desserts and helping keep the tables stocked. I would also like to thank those who helped with the cleanup, which includes taking out the trash, emptying coolers and vacuuming among other things.

December will be our annual Holiday Gathering which is catered. Make sure and get your tickets if you have not done so already. The meal is being catered by the same person who has done it for the last couple of years and he serves a wonderful meal. We will do our fun gift exchange with maybe some visitors from the North.

Everyone have a great month and remember to RSVP and get your tickets for the great Christmas Event. It promises to be a fun time.

Reminder: PLEASE stay after the presentation and help clean up. After every gathering the trash needs to be taken out, dishes done, serving items put away, carpets vacuumed, etc. It is all of OUR clubhouse, please help keep it nice.

YOUR Articles Needed

This Newsletter is YOUR newsletter. I put the articles in it, but ***you*** have to write 'em! Your chapter needs YOUR contributions. Please share your experiences, skills and wisdom, photos, humor and announcements with our membership. What may be common knowledge to you, may be priceless for a new pilot or builder. Even if you are not a Pulitzer level author—send me your words, I'll buff up the grammar if needed. Send input to: **eaa35news@gmail.com**

CHILI COOK-OFF

The competition was brutal with 10 pots of steaming chili of all varieties…and *all* were delicious! I absolutely could not in good conscience vote without tasting most of them twice.

In the end, the members of EAA Chapter 35 crowned the ***2023 all around chili champion Roxanne Beavers!*** Second place went to a first time entry (Col) Chris Grussendorf and Third place to Jim and MaryAnne Schlattman. Congratulations…and Thank YOU!

FROM THE CRUISE DIRECTOR (VICE PRESIDENT)

Ian Heritch

As December and our final event come into view, I'd like to take a moment and thank all those who made meaningful contributions to our chapter programming this year. I would especially like to thank: Chuck Fisher, Peggy Fisher, Dee Brame, Danny Beavers, our dedicated and hard-working kitchen crew, Dean Doolittle, Matt Van De Walle, Jim Humphries, Nancy Duepner, Charley Brame, Darren Medlin, Ryan Newman, Travis Uhlhorn, Garry Mitcham, and Paul Yura.

Most of all I would like to thank all our members who every month maneuvered through miles of road construction traveling out to San Geronimo Airpark for our VMC Club Meetings and Chapter Gatherings. Much appreciated.

On Saturday, December 9, 2023, we will celebrate the season with a Holiday Luncheon. The lunch is catered by impresario Jonny Hale who so deliciously catered last year's Luncheon. Our social hour begins at 11:00, lunch will be served at 12:00, and the gift exchange will follow (please bring a wrapped gift valued at ~$15, and try not to be too embarrassing).

This year we have a menu with two delicious choices: New York Strip Steak with garlic burgundy mushrooms, jumbo prawns, and asparagus with garlic mashed potatoes; Sliced Turkey Breast with mashed potatoes and brown giblet gravy, broccoli rob and carrots, and cranberry sauce. Each entree will come with a choice of Caesar Salad or a fresh garden arugula salad with either ranch or pomegranate vinaigrette dressing. We will be providing iced tea, coffee, and soda…but you are welcome to bring your own wine, or other holiday beverage, for yourself or to share.

Each plate is $31.25 which is all-inclusive including waitstaff and gratuity. You can purchase your tickets here: https://chapters.eaa.org/eaa35/2022-holiday-luncheon (the link is correct). I look forward to seeing you on the 9th.

From the Skies to the Stars: My Journey with NASA Part 2

Jeffrey Davila

Prior to traveling to Ames Research Center for the onsite portion of this program, we were required to complete a two-week-long pre-session where our team would receive the topic of our proposal. My team's proposal was to be based around the concept of Advanced Air Mobility (AAM), which is a rather new idea that has been proposed by various companies and organizations within the aerospace industry. During these two weeks, I met with the rest of my team virtually and began to throw around some ideas. We started off with a concept that entailed using a piloted electric Vertical Takeoff and Landing (eVTOL) aircraft to transport people from rural to urban communities. The idea was to give people the possibility of living away from a large metropolitan area without the fear of having to commute to and from work for hours at a time. We then came up with having urban-based transportation, meaning that it would act more as an aerial taxi service for larger metropolitan areas, which would help reduce inner-city traffic. We ended up incorporating both concepts into our proposal, as we felt that the aircraft would be effective in both missions. Many people may be wondering why we decided to incorporate electric propulsion into this proposal. Well, why not? The whole idea of this project was to be innovative, no matter how crazy it appeared to be. Within the team, it was our goal to create an aerial public transportation concept that stepped away from the traditional internal combustion engine and jumped into the realm of electric propulsion. It was a large risk, but one that we were willing to take. Before we knew it, the two-week pre-session was over, and it was time to travel to Ames Research Center, which I was incredibly excited for.

When I arrived onsite, it almost didn't seem real. I quickly remembered a time when my family and I traveled to Houston to visit Johnson Space Center. I was still young, probably about six or seven years old, but I remember it vividly. I remember the impact it had on me. The sense of wonder it gave me, a young boy who was stepping into a new world of discovery and research. After the initial shock of everything went away, it became time to get down to work. As students, it was our job to take the knowledge and research given to us by the NASA mentors we were going to shadow and somehow implement it into our proposal. There were a lot of people we had to talk to in order to gather the necessary information for our topic, since our proposal was based on a public transportation system. We had to discuss logistical concerns with various people, especially those who oversaw past transportation-related research, electrical engineering experts to gather more information on lithium- ion batteries and their limitations, wind tunnel researchers to understand the drawbacks of using tilt-wing and tilt-rotor designs, as well as people who had an in-depth knowledge of current FAA and government regulations. It took us nearly the entire time we were there to find the information we needed. During all of this, we had the opportunity to tour many of the unique facilities that are located at Ames Research Center. We got to tour the Vertical Motion Simulator, which was used to train astronauts who were going to fly on the Space Shuttles, the world's largest wind tunnel, which is 80- by 120- feet in size, the onsite warehouse, which is used to store many of the old scientific instruments used by NASA, as well as a few other facilities used for aeronautics research. After the first three days, it became time to put together everything we had gathered in preparation for the presentation. No one on my team had ever done a presentation like this before, so each of us was nervous about it, especially since we were to present in front of a panel of NASA engineers and employers, many of whom had experience with similar research concepts. The next two days were spent doing nothing but practicing. We must've gone over our presentation about half a dozen times just to make sure that everything was as close to perfect as possible.

Before we knew it, it was day five, the last day of NCAS. Nearly eight months of work had led to that very moment, one that would be judged by some of NASA's most experienced professionals. Our group, Ames Research Center (ARC) Gold, was called up to present first, and things could not have gone better. Everyone was on cue, and we finished just within our designated time limit. Before we left, we were told that a guest who was in the audience wanted to talk to us. Little did we know that Huy Tran, the Director of Aeronautics at NASA's Ames Research Center, had been sitting in on our presentations. She was so impressed with the quality of our work that she asked the facilitators of the NCAS program to send our proposals to her for further research and review. To say that my team and I were proud would be quite an understatement.

Almost as quickly as everything seemed to happen, the program

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From the Skies to the Stars: My Journey with NASA Part 2 (Continued)

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finally came to a close. When I embarked on this journey, I had very little idea that I would make it all the way through the program. It was the first program of its kind that I had ever participated in, so it was certainly my goal to do my best, and the opportunities that have come from NCAS have reflected that. I have made many friends along the way, I have made many professional connections within the aeronautics industry, and I have gained further insight into what it is that I would like to do in the future. This program, although challenging, has broadened my understanding of what it means to be part of NASA and what it means to make a positive difference in the world with a little bit of creativity and imagination.

For Weather Nerds

Marylin Doolittle

I hang around with a lot of pilots and have come to understand that they are all weather nerds. As a result, I have learned a lot about weather over the years by osmosis. At Oshkosh there are always several good weather seminars that I enjoy attending. I especially like the ones about cloud formations. You get a full color takeaway poster illustrating all the different types of clouds. My favorites are the "mare's tails" which resemble the trailing end of horses riding in the sky, and lenticular clouds, which hang around hill tops looking very otherworldly. One of the more interesting seminars I attended one year had a speaker who said to throw out all those posters and just remember this: if the clouds are fluffy, the air is rising, and if they are thin and stretched out, the air is falling. Huh.

Derecho (weather.gov)

Well, after all these years I thought I heard it all (e.g., BR really doesn't mean "baby rain"), until a few weeks ago. As background, we moved to Bandera from Houston a little more than two years ago. Hill country weather is not the same as Gulf Coast weather, but I was about to be introduced to a weather phenomenon that I never heard of before. In the wee hours of September 25, a storm rolled in. More lightening than usual, and about two inches of rain in a very short period. But the more significant thing was the wind. We usually get a lot of wind up on our little hill north of Bandera, but this wind was like almost nothing I have ever experienced. We have a self-contained weather station on the property that reported gusts of over 60 miles per hour (at one point it said 80 miles per hour but I have to believe it was just getting hysterical). I looked outside at the trees tossing about and the sideways rain and thought it looked exactly like the hurricanes I had experienced in Houston.

When sunrise came, the result was heartbreaking. Several large and small trees were either uprooted or snapped in half, and our garage essentially exploded. We have a roll up door that got ripped from its tracks and flew out flapping like a sheet on a laundry line, when there was a significant and sudden drop of air pressure. Many of our neighbors lost trees, fences, roofs, well houses, etc., and the general thinking was that it must have been a tornado. However, there were no tornado warnings or watches, and no actual reports of tornadoes on the news the next day. It was notable that all of or downed trees were felled in the same direction: to the south. This meant the wind came from the north the whole time. And here is the new thing that I learned: "a derecho." Derecho is a Spanish word that means "straight." And what this phenomenon turned out to be is a very strong and sustained straight line wind with forces similar to tornadoes and hurricanes. This one came from the north which explains the orientation of all the fallen trees on the ground.

The National Weather Service has this to say about a derecho: A derecho (pronounced similar to "deh-REY-cho") is a widespread, long-lived wind storm that is associated with a band of rapidly moving showers or thunderstorms. Although a derecho can produce destruction similar to the strength of tornadoes, the damage typically is directed in one direction along a relatively straight swath. As a result, the term "straight-line wind damage" sometimes is used to describe derecho damage. By definition, if the wind damage swath extends more than 240 miles (about 400 kilometers) and includes wind gusts of at least 58 mph (93 km/h) or greater along most of its length, then the event may be classified as a derecho. https://www.weather.gov/lmk/derecho

IT'S THE GROUND

Chuck Fisher

"It's usually the ground" was the reply to an inquiry on my type-club bulletin board.

My IO-520 powered plane starts easily most all the time, though she can be a bit cantankerous if she doesn't fire immediately on a hot start. But, over the last several months, I'd noticed the starting grew weaker and weaker, eventually barely getting a blade of rotation on many starts. The TCM Gil battery was 3 years old, and there was a pretty dramatic voltage drop with starting, so I figured the battery was on its last legs. Indeed, a new battery improved the situation, but the start was still weak and seemed to be getting worse even on a fully charged battery.

I immediately went to the grounding braid. I cleaned the ends, cleaned up the contacts and bolts on both ends, and made sure everything was good and tight. That did not help. I cleaned every other contact along the way. That did not help. I tried another fresh battery. That did not help. I tried a different starter. That did not help. I got lots of advice…and all said something to the effect of "It's always the ground". I KNEW that. That's where I started.

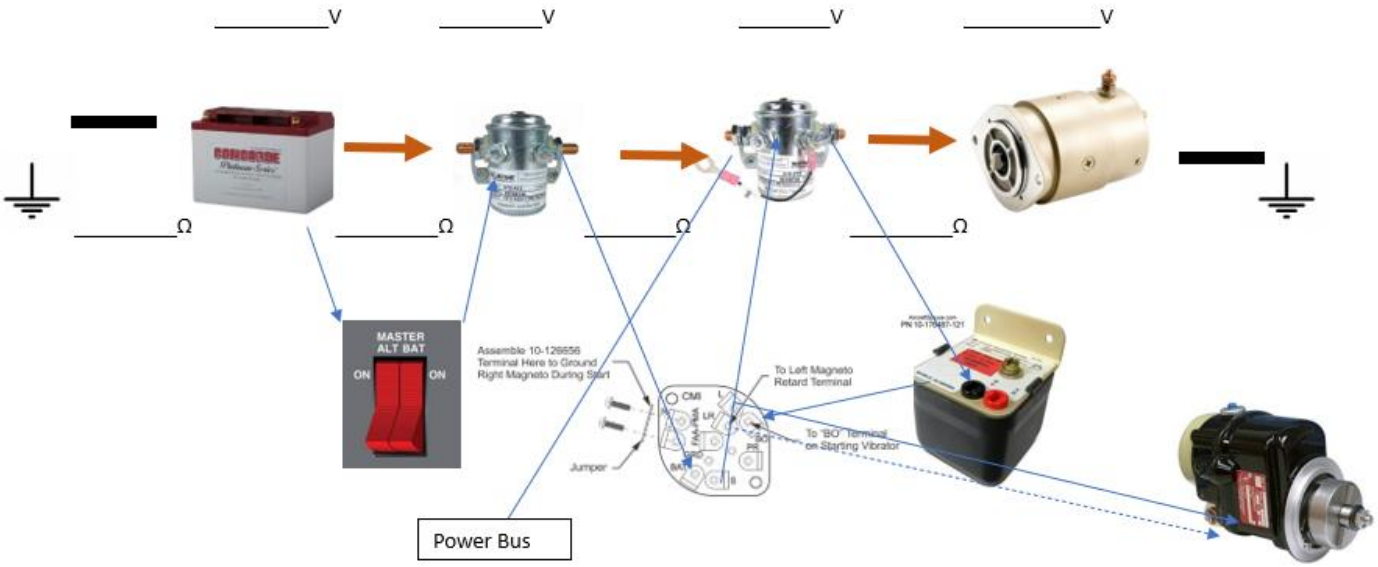
I thought I'd share some of the diagnostic tests I did with a huge disclaimer that I am NOT an expert, and you should consult with your mechanic. There is an excellent online tool that covers some of this at skytec.aero/aircraft-starter-performance-issues.

Electrical systems like our starting systems are easy to visualize if we just consider it in fluid terms. Energy flows from the positive end of the battery, through relays (solenoids) that act as on-off switches, and the (in my case) long cable to the starter, then back through the ground to the fuselage then back to the battery. So, somewhere along the route of flow there had to be either something causing high resistance or something drawing off power. The trick was to figure out where.

I researched several sites and then made an illustration of my starting system connections. So I figured I'd share one way to help assess the starting system using a standard volt-ohm meter. Before doing this you will need a volt ohm meter with alligator clips and have a clear area to "motor" the engine. Chock the aircraft and verify for each test that the fuel is off and mixture out.

In case your volt ohm meter is new to you, the two settings you will use for this algorithm are the DC voltage and the Ohms. On most meters I have used, the DC voltage is indicated by a solid or dotted line (the wavy line is AC) and for 12 volt you'd use the 20-volt setting. The Ohms of resistance is the setting indicated by an omicron (Ω). You'll typically be using the lowest setting for Ohms.

The battery: Your (12V) battery should have a resting voltage of 12-13 volts fully charged. Check the battery voltage and write it down. Now let's see how much electricity is completing the loop from the battery to the starter and back again. Hook the alligator clips to the correct battery terminals and put the meter where you or your assistant can see it. Verify fuel and mixture are off and "Motor" the engine. You should see a drop in voltage but generally if the battery



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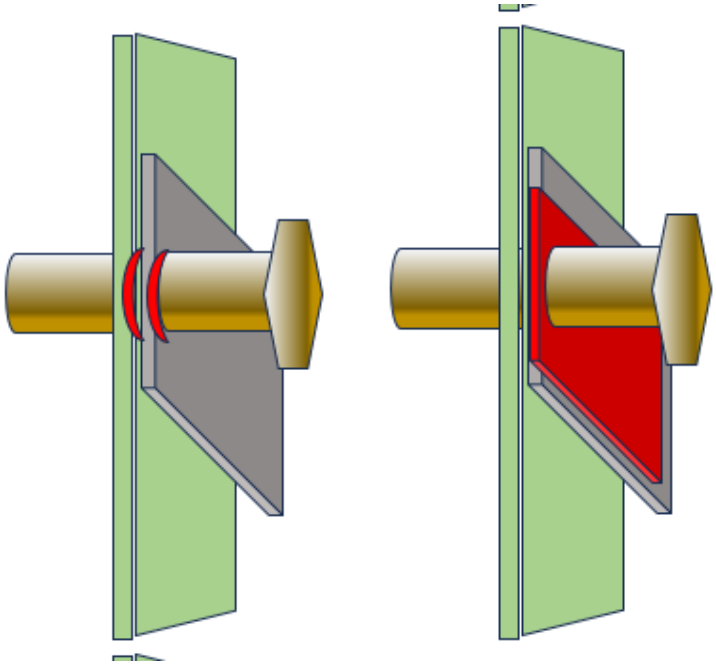
is healthy the voltage should stay above about 11 volts. Write that voltage down.

Now hook the alligator clips to the starter power terminal and the other to ground. Make sure everything is clear then motor the engine and see what the voltage is that is actually getting to the starter. Write that down. If there is a huge difference between the battery voltage and the starter voltage, proceed to investigate each wire connection and device. In this case moving from the battery to the starter and back to the battery ground.

The Battery positive terminal is connected to a large post on the side of the master solenoid, which is usually located near the battery. When the "battery" switch is activated, it opens the circuit from the center post of a solenoid usually located near the battery. This energized post causes a magnet to move a connector upward connecting the two large posts together. If the solenoid contacts are worn or the connections poor, the solenoid will not allow all the energy to transit to the other side. To check this, then, connect the alligator clips to each side post (being careful not to contact the case or the fuselage frame). Open the "battery" or "master" switch. You should now see battery voltage. Write that down. Now motor the engine and see what the voltage is across the solenoid. Write that down.

From the Master Solenoid the electricity travels up to the starter solenoid up on the firewall. Just like the master solenoid, when the starter is activated either from the key or from a starter button, the center post is activated causing the magnet to push contacts against the two big posts. Check the voltage at the "in terminal" to ground (should be 12+ volts). Hook the alligator clips to each big post. At "rest" the voltage should be zero. Then activate the starter and write down the voltage that transits the solenoid. Write that down.

In my case, everything was normal, so I wanted to investigate the connections and grounds. I did so by using the Ohms setting of the meter. Connect one probe to the ground post of the starter and the other to the fuselage. Write down the resistance.



Electrical contact surface area (red) of the grounding post to frame before and after removing paint from the structure

Connect the meter to each end of the cable between the starter solenoid and the starter. Write down the resistance. Do the same for cable between the master solenoid "out" and the starter solenoid. Then do the same for the cable between the + terminal and the master solenoid.

Finally, connect one terminal to the – terminal and the other to the fuselage ground. High resistance (high ohms) would suggest a bad crimp, corroded wire, or bad connection.

In my case. Everything was nominal...except the voltage drop and lousy starting.

The rest of the story.

I did all this...and everything was normal, except that the voltage dropped off...a lot. Typically this would mean a weak battery. But this happened with two different fully charged batteries. Hmmm.

It HAS to be a ground. I rechecked the ohms of resistance and the grounds were intact. But this is where an experienced A&P I/A's gut experience saved the day. "It HAS to be the ground".

We removed the grounding strap again. My grounding strap was connected via an AN-4 sized post/bolt through the a structural member. The bolt was tight and the strap, bolt and washers tight. However, we found the "flat" of the bonding strap was against a painted surface. That meant that the only actual contact between the frame and the ground bolt was the edge of the hole where the bolt went through the structure. Perhaps that hole was even a little larger than the bolt, so the actual contact area was some fraction of the actual circumference of the bolt. My A&P explained that it was quite possible that the ground was good, but that it could not carry the load of the starting cycle.

Indeed, we used a Dremel tool and removed the paint and ensured the strap was firmly against bare aluminum.

And the engine whirred with gusto.

So, after a very thorough investigation and lots of head-scratching. The bottom line was exactly what everyone had advised and my A&P's gut told him.

It's the ground.

NOVEMBER VMC CLUB AND VETERAN'S DAY REMEMBRANCE

CLASSIFIEDS

1947 85HP Aronca 7AC CONV Champ
with electric start. In Annual & great condition!
Many good upgrades. TTAF 4801 SMOH 685
Located San Geronimo 8T8. Asking $29,900
Call or TXT Stu for more photos 770-584-2272

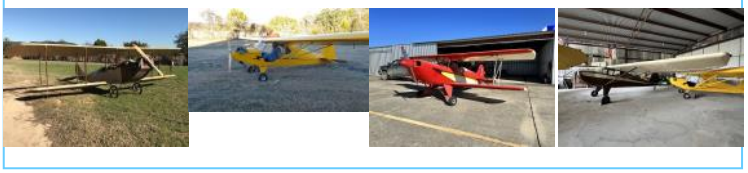
BUILDER's SPACE: 10x20 builders space in the chapter hangar, access to chapter tools, equipment and room to temporarily expand (e.g. to mount wings, etc.). This is about the size of a garage with lots of extra room and for building up till you need a full sized hangar and costs less. Contact Rebecca at youngeagles@eaa35.org or chuck at president@eaa35.org

Here are a few Ads of Local Interest!

1) 2/2 home with hangar in San Geronimo Airpark. Asking $425,000 Call/txt Andrea (Broker) 210-413-7392 for more info

2) Assorted aircraft for sale *from Estate of Jerry Sides*, **J3 Cub**, **Luscombe**, **Replica Jenny** & **SC5**, **Pup** Call/txt Andrea 210-413-7392 for more info.

Thru DEC 2023



Rotax 503 for sale. Freshly overhauled Rotax 503 engine with muffler, new pistons and rings, rebuilt carbs and ready for your airplane. TTSN 150 hrs. TTSO 0 hrs. Asking $5000. Contact Tim Carter at 210-289-1780

YOUR AD HERE!

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You must be an EAA Chapter 35 member. Ads are FREE and will run for 3 Months from the last date you re-verify that the item is still for sale.

PLEASE Notify me when your item sells!!

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25%	$ 8	$ 86.40	10%
50%	$ 15	$ 153.00	10%
100%	$ 30	$ 324.00	15%
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THE WORKSHOP

A PRIMER PRIMER

Mark Julicher

Reciprocating engines must be primed. Your car is primed via the fuel pump. This happens as soon as you turn on the key. Your fuel injected airplane is also primed via the fuel pump. Older cars are primed by stepping on the accelerator a couple times and letting the accelerator pump squirt fuel into the carburetor. Before the 1970s, it was also typical to have a manual choke to richen the starting mixture.

But carbureted aircraft engines and generally primed using a manual primer.

Happily, all the little nuances of car starting are handled by a computer, but your airplane does not have these modern niceties. Priming fuel is up to the pilot. How much is dictated by air temperature, engine temperature, and perhaps a bit of pilot judgement. In any case, sometime before taxiing, that manual primer must be locked. That is in the checklist.

Photo 1: Kohler Primer

Let's examine how a manual primer works and what failure modes it may encounter. Look at photo 1.

The photo shows a typical Kohler primer. There are other manufacturers, but mostly they look and work like the Kohler. As a pilot you are familiar with the left side of the photo – the knob that you unlock and actuate to prime the engine. The right side of the photo is where small fuel lines enter and exit the primer. At the fuel line connections there are two tiny check valves. One check valve allows fuel to enter the primer by being sucked up from the fuel strainer. The other check valve allows fuel to exit and go to the cylinders but prevents fuel from flowing back into the fuel strainer.

Photo 2: Primer with the plunger removed from the cylinder.

It is very simple. When the primer is unlocked, fuel can flow rather freely from the gozinto side to the gozoutta side. But fuel does not just begin flowing by itself because it is uphill from the fuel strainer to the primer. Gravity prevents an open primer from free-flowing and draining the fuel tanks. However, actuating the primer squirts fuel rather generously – about a half ounce per stroke.

So far so good. Now look at photo 2.

In photo two you can see what is on the other end of the plunger knob. That's right, it is a piston and cylinder arrangement. The pointed end is a needle valve. When the primer is locked, the needle valve closes the passage between the gozinto to the gozoutta valves. The two black stripes just near the needle valve are O-rings. These O-rings provide the necessary seal between piston and cylinder – yes! they are piston rings.

So, what could possibly go wrong with the ultra-simple device?

What if the primer is closed but not really locked? You know, that pesky little tab just could not find the detent and latch firmly. Hmmm. What will usually happen is that once the engine is started, vibration will cause the knob to back off and the needle valve will open. In that instance, suction during cylinder intake strokes will grab extra fuel through the check valves and the mixture goes very rich. The engine starts to lose power! Being the sharp aviator that you are you step through the procedure Mixture Rich, Fuel Pump On, Switch Tanks... Holy Toledo! You have an over rich condition, and everything called out in the ENGINE OUT CHECKLIST is there to provide more fuel. Look at your Pilot Operating Handbook. Is there a step calling for CHECK PRIMER LOCKED? Probably not! But an unlocked primer might just be the only problem.

What else can go wrong?

Rubber O-rings are generally good for about 5 to 8 years before the rubber gets hard and begins to disintegrate. Rubber lasts longer if kept in a wetting fluid and less time if allowed to go dry. If your primer is just not picking up fuel and squirting it back out, it is almost always the O-rings. True, the little copper fuel lines can crack or the compression fittings get loose, but old O-rings are always suspicious. It is not good for bits of disintegrated rubber to go into the primer lines. It is not a catastrophic failure, but it can be annoying to repair.

What else? How about a stiff primer knob?

Operating the primer should be easy. Like two fingers easy. If you find yourself having to really tug and push on the primer knob it is the easiest thing to fix. Your mechanic (not considered a pilot maintenance item) should remove the piston from the primer, change the O-rings whilst it is open, and apply a light coating of EZ-Turn on the O-rings. EZ-Turn used to be called Fuel Lube – and that is what it does. The primer will work like new!

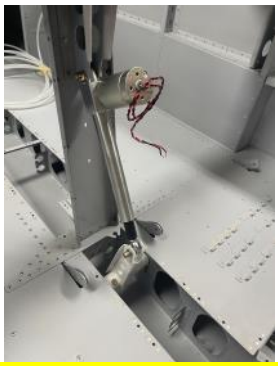
So there you have it. The primer is a simple system, but failure to use it correctly can be bad news. Give that knob a little tug when the checklist calls for PRIMER LOCKED.

RV Build Progress

Paul Wurster

After getting the fuselage joined, there has been a couple of interesting new areas of development. I have gotten the baggage floor installed. Lots and lots of pulled rivets helped make quicker work of it. Once the floor was in, I was able to pull the rudder cables underneath and connect them to the pedals. Once I get the rudder installed, I'll be able to finally rig it permanently. Finally, I got the flap actuator system installed. This involved match drilling the torque tubes at the correct angle using a template provided in the kit. Then they slotted into delrin bearings that I had previously installed. The motor was installed and connected to the new torque arm assembly. It all looks good, and I'm excited to keep showing some progress. Next up is the upper front fuselage and all the structure that will be behind the dash. Hopefully, I'll have an update next month on the status of my final kit.

Follow my progress here: HTTPs://eaabuilderslog.org/?s=Brother%27s_RV-14



Scholarships and Giving

Allen Inks, Scholarship Coordinator

We currently have 5 scholarship recipients who are on the cusp of taking their check rides. Additionally, as you will recall Ray Scholar Thomas Reyna got his Private Pilot-Airplane license earlier this year. And we are going to keep on going...we have funds for one Kellogg Youth Aviation scholarship and are going to be applying for another Ray Aviation scholarship for next year. I think we can all agree that this is a wonderful opportunity for the young people who are the recipients of this scholarship money It is one of the ways that EAA Chapter 35 stays an active, vibrant chapter. Completing a Ray Scholarship program is one of the criteria used to evaluate EAA Chapters and recognize chapters that have demonstrated outstanding commitment to general aviation And EAA Chapter 35 has been recognized as a chapter with among the highest levels of commitment in the whole of the Experimental Aircraft Association, (as shown by our gold level award).

I'm proud of the support that our chapter has shown to introducing young people to aviation: In Young Eagle flights, in youth education with such projects as the "Return of the Joker" teaching young people (and older people) how to do such things as reskin an aluminum wing, AND in the support of our scholarship recipients. And NOT just monetarily: Our Secretary, Paul Wurster, is teaching an on-line course to get our scholars ready for the oral portion of their check rides. (These sessions are being conducted online via Zoom and are recorded... contact Paul if you know someone who is preparing for a check ride who might benefit from reviewing these materials and strategies.)

But of course, scholarships need money too. Flight training costs a lot more money than it did when we were younger. Right now, flight training at my local airport flight school is $240 per hour for aircraft and instructor flying a basic Cessna 172, AFTER a discount given to our scholarship recipients .

We have collected a few scores of dollars in a couple of "pass the hat" donation events, but the bulk of our scholarship money has come from two sources: The Ray Foundation (as administered by the national EAA), and, of course, the very generous donations of our own Jane Kellogg, who set up a youth scholarship this year which was awarded to Raegan Rait, and has funds already donated to fund a second youth scholarship next year. But the Ray Scholarship we are seeking next year will require CHAPTER 35 to put up some matching funds.

Rather than continuing to rely SOLELY on the extraordinary generosity of one chapter member, we would like to broaden the base of chapter members who are willing to step up and say, "Yes, I agree with EAA that 'Inspiring young people to experience the freedom of flight is one of EAA's greatest obligations to assure a strong future for aviation.' And to back that up, I want to support the scholarship programs here at EAA Chapter 35 with a donation!"

I will refer you to my article on page 5 of the November 2022 EAA Chapter 35 newsletter, in which I wrote about ways to donate to EAA Chapter 35. I will note that of the ways to donate I listed in that article, #6 - Amazon Smiles, has been discontinued – Amazon shut down that program for everyone.

Which is best? It really depends on your particular situation. Read the article. Just note that IF you want the donation to be directed to a particular purpose, such as to support Chapter 35 scholarship programs, you should include instructions to that effect when you make the donation.

Thank You...

Chapter 35 Youth Scholars

Ray Aviation Scholarship: My Experience **Nolan Haecker**

When I was awarded my Ray Aviation Scholarship last year, I was so excited, I had no idea what waited for me ahead. The experience that I have earned over this past year has been truly unforgettable. And to know that this has only been the very beginning of my future in aviation is such a blessing to me. I have been extremely grateful for this opportunity and the education I've gained. While it has been an amazing experience, there are some things that I wish I could have done very differently.

One thing I wish I would have done differently when starting off my time learning to fly is planning the future of my education. By planning I mean to look forward to each flight lesson and ground school session, looking to see what I need to gain out of these. By planning a better way to learn, I would have had to schedule less unneeded flights and could have learned more efficiently. I think that this would have been good for me to do, but not the most important part of my flight school that I could have improved. By looking into the future of my flight schedule, I would have been able to solve a problem that I am dealing with now.

My biggest regret that I am still dealing with is not valuing my time over summer. With so much free time, I scheduled four flights a week, and took advantage of this, but I should have focused on something much more important. While flying is obviously the most important (fun) part of flight school, ground school is equally as necessary. I should have devoted more time to studying for my Written Exam. I scheduled my written exam halfway into my first semester of my senior year and this was not a great idea. This year has been extremely busy for me and while I was able to fly on weekends still, my time I could've had to study for my Written Exam was taken over by school work. I am rescheduling my retake written for this Christmas break and I hope to finally break my poor planning, third time's the charm!

With these two things I wish I would have changed, I hope that all the readers have gotten a good idea of easy mistakes to tell others, and how planning is a very important aspect of all life. Although I regret these things, I will always cherish my experiences, and will never regret my time spent with the EAA and what a blessing it has been for me to be a part of such a wonderful group.

Raegan Rait

As many of you know, I'll be heading up to North Dakota next fall for college, where I'll be majoring in Commercial Aviation at the University of North Dakota. Up there, they have a nickname for the period of time in which North Dakota shows what it's most known for, the strong winds and freezing rain, and that nickname is "No Fly November."

I'm currently working on the last part of my syllabus for my Private Pilot Course, which is my solo cross-countries, and it's given me a bit of a rude awakening that North Dakota isn't the only place with "No Fly November," that Texas decided it needed one too. Between the low ceilings and rain we've been having, as well as the windy days that are far out of the maximum I'm endorsed for, it's been hard to get out there.

It can be difficult to cancel flights after I've stayed up to make sure everything for the flight is planned out and the weather decides that forecasts can't tell it what to do. It is, however, a very important lesson in aeronautical decision making, more specifically the E in the acronym PAVE. The E in PAVE stands for external pressures, and it can be very easy to let the thoughts of "I need to get this done," or "This is the second time I've had to cancel, I just want to go out already" creep into your head, but as pilots we must learn to silence these thoughts and think rationally for the safety of ourselves and others. And we must remember that, as all things do, the sky will clear, the wind will calm, and you will get your chance.

I was reminded of this when everything fell into place and I was able to make my way down to Uvalde's Garner Field for my first solo cross-country. I guess "No Fly November" couldn't get the best of me this year.

Evan Carroll

Hey Everyone! I have exciting news! I am going to hopefully get my checkride done by the end of the year.

I meet really cool people at the fly-in Reklaw every year and this year was no different. Adam Plunkett of Oak Grove, Louisiana has offered to get me some super cheap flight time in his Aviat Husky, he has connections to a local DPE that would be willing to do my checkride in the same airplane.

The dates are December 7th-10th so I appreciate it if you all would pray that I have a productive and safe trip! Thank you all for your continued support

Country Store

Nancy Duepner

Happy Holidays !!!

The Country Store is offering fleece hoodies in limited colors and sizes. They are embroidered with our Chapter 35 logo and will make a nice addition to your cold weather wardrobe.

For those members who have asked about merchandise with a little "bling".....stop by the store and check out the new jewelry items.....necklaces, bracelets and earrings in a variety of finishes and styles. Pictures will be on the website soon!

The holidays are fast approaching and the Country Store has logo items for gift giving and for decorating. If you're not able to stop by the store in person merchandise can be purchased through our website.

As always, if you have suggestions for items that you would like or think other members would like to have in the store, please let me know!

Safe Flying,

Nancy – countrystore@eaa35.org

(954) 675-8462

	Inventory	Member Price
Glass Christmas Ornaments—choice of colors w/laser engraved logo	19	$3.00
Texas Flag Fishing Shirt w/ embroidered logo—Lake Fork/Magellan (short sleeve)	4-S 2-M 3-L 2-XL 2-XXL	$46.00 (XXL+$2.00)
Port Authority L100 Polo Shirt w/ embroidered logo (Ladies') / Color choices: Carolina Blue, Gusty Grey **fits a bit smaller than size**	1-L(grey) 2-XL(blue/grey)	$31.00 (XXL+$2.00)
Ladies' Polo Shirt w/embroidered logo	1-L (grey) 1-XL (blue)	$25.00 (cash or check)
Port Authority K100 Polo Shirt w/ embroidered logo (Men's) / Color choices: Carolina Blue, Gusty Grey	2-L(blue/grey) 1-XXL(blue) 1-L(Black)	$31.00 (XXL+$2.00)
Men's Polo Shirt w/embroidered logo	1-XL (white) 1-S (yellow)	$25.00 (cash or check)
Texas Flag Apron	1	$26.00
Baseball Cap w/ embroidered Ch35 logo	7-regular 3-TX Flag	$19.00 $21.00
Bucket Hats w/logo "patch"	2-gray	$19.00
Lapel/Hat/Tie Pin	135	$3.75
Airplane Key Ring/Bottle Opener	29	$2.00
Bumper Sticker	Multiple designs	$1.00
Coffee Mug Clear Glass or White Ceramic w/ laser engraved Ch 35 logo	12	$4.00
Clear glass mug w/ laser engraved Ch 35 logo	5	$5.00
Decals – stick on	Multiple	$0.50
Duffle Bag	1	$25.00 (cash or check)
Koozies	Multiple	$4.00
Remove Before Flight Key Tag	27	$5.00
Sew-On Logo Patch	9	$3.00
Iron-on Logo Patch	15	$3.00
Wash Wax Products	Very Limited	$8.00 & up
Wheel Chocks – Aluminum	3 sets	$40.00
Metal Art Propeller-Ch 35	6	$35.00
Stainless Steel Tumblers w/ laser engraved logo	10-20 oz 3-12 oz	$12.00 $10.00

CHAPTER CALENDAR — CONTACT VICEPRESIDENT@EAA35.ORG - *PROGRAMS ARE TENTATIVE AND SUBJECT TO CHANGE!*

2023		
December	**9**	**1130 Chapter Holiday Catered Luncheon** and Gift Exchange!
2024		
JANUARY	**13**	1000 VMC Club **1130 Chapter Gathering**—Program TBA
FEBRUARY	**10**	1000 VMC Club **1130 Chapter Gathering**—Program TBA
MARCH	**9**	1000 VMC Club **1130 Chapter Gathering**—Program TBA

Upcoming Area Events:

https://Socialflight.com
https://eaa.org
https://funplacestofly.com
Facebook Group: Texas Aviation Event Calendar

April 2024

April 6 **The Great Texas Airshow** JBSA-Lackland (KSKF)

Are You Registered for the SportAir Workshops Coming to McGregor, Texas? December 12-17, 2023

If you're ready to build or restore an aircraft, join us for our signature two-day SportAir Workshop courses in McGregor, Texas! Classes include sheet metal basics, electrical & avionics, and fiberglass techniques for RV.

Save time, money, and frustration by learning proper techniques right from the start, taught by experienced and accomplished professionals. Courses fill up fast – secure your seat today!

SHEET METAL BASICS: TWO DATES!
During this workshop, learn all aspects of sheet metal work with lecture, two detailed projects, and lots of hands-on practice using the special tools and techniques used to build a sheet metal aircraft.
December 12-13 › | December 14-15 ›

ELECTRICAL & AVIONICS: December 16-17
When you enroll in this course you will learn proper soldering techniques, connector installations, multi-pin connections, and more. Problem areas encountered in electrical system installation in aircraft will be discussed and solutions presented.
Enroll today ›

FIBERGLASS TECHNIQUES FOR RV AIRCRAFT: December 16-17
This course will provide training in composite techniques required for completion of non-composite aircraft kits such as the Van's RV series of aircraft and others.
Sign Me Up ›

EAA SPORTAIR ONLINE 24/7/365
Can't attend the live sessions? EAA SportAir Signature Courses; Electrical Systems & Avionics, Fiberglass for RV Aircraft, and Fabric Covering are now available at EAA SportAir Online at special member discounts. Enroll and participate in the course right from your home.
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EAA Chapter 35 Leadership

Personal and Home e-mails have been omitted for privacy. Please consult your member directory for complete contact info

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Vice President	Ian Heritch	vicepresident@eaa35.org
Secretary	Paul Wurster	secretary@eaa35.org
Treasurer	Dee Brame	treasurer@eaa35.org
Board of Directors		
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Past Presidents	Darren Medlin (2020-2021	darren.medlin@eaa35.org
Past Presidents	Ulf Balldin (2014-2015)	ulf.balldin@eaa35.org
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Member At Large	Dean Doolittle	dean.doolittle@eaa35.org
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Tool Crib/Hangar	Bill Fahey	
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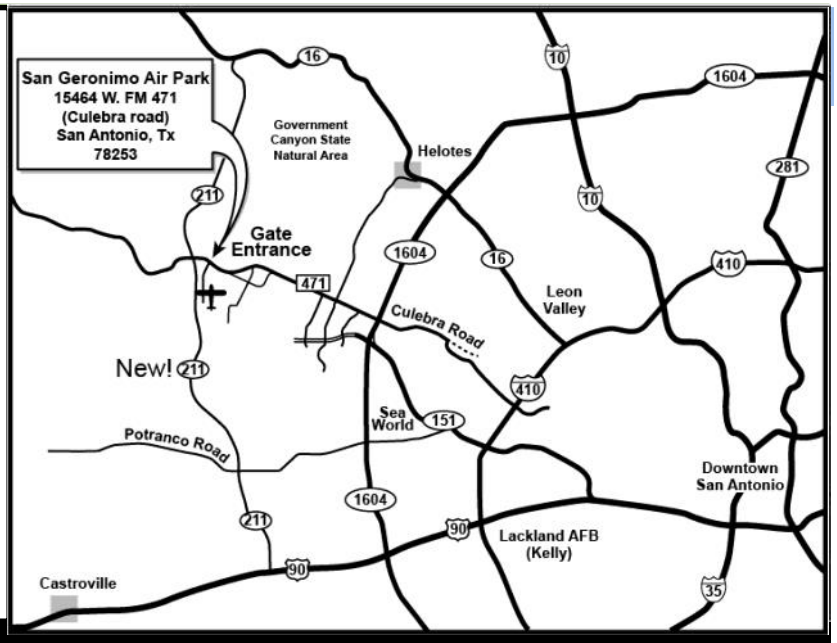
Flight Advisors		
Flight Advisors	RB 'Doc' Hecker	
Flight Advisors	Mark Julicher	
Flight Advisors	Doug Dodson	
Technical Counselors		
Technical Counselors	RB 'Doc' Hecker	
Technical Counselors	Mark Julicher	
Technical Counselors	Steve Formhalls	
Technical Counselors	Nick Leonard	
Technical Counselors	Lew Mason	
Technical Counselors	Doug Dodson	
Technical Counselors	Wm Fahey	

NEXT EVENT
DECEMBER 9
1130 HOLIDAY LUNCHEON & GIFT EXCHANGE
Chapter Clubhouse



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

Click Here for Link to 8T8 on AirNav.com

Ron O'Dea, Membership Chairman
15464 FM 471 W., #14
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Spray On - Wipe Dry

Wash Wax *ALL* Degreaser
All purpose Degreaser/wax that you can safely use for those tough, greasy, oily cleaning jobs such as, aircraft engine and exhaust areas, landing gear, car wheels and tires, boat transom and water line. Removes dirt and black streaks without scratching.
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Belly Wash
The quickest and easiest way to clean the dirtiest aircraft bellies, engine areas, and landing gear. Safely removes grease, oil, hydraulic fluid, and exhaust soot without scratching the surface.
Spray On - Wipe Dry

PlexALL
leaves an anti-static protective coating on all aircraft windows, both plastic and heated glass. Plex ALL is also safe to use on cockpit instruments and displays.
Spray On - Wipe Dry

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Waterless Wash Wax Mop - Faster, Easier, Safer. NEW
The only mop with two sides. one wet and one dry. Now you can waterless wash and wax with the *reach and leverage* of an extension pole. This allows you to clean a much larger area faster and with less effort, while also eliminating the safety hazards associated with constantly climbing and moving a ladder. Our customers report time savings of up to 50% over waterless hand application.

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All purpose microfiber towel. Super soft, absorbent, long-lasting, and lint-free. The best towel for all of your cleaning needs.

AeroDiaper
Soft, absorbent, lint-free, 100% cotton 1-ply diaper for all your cleaning and polishing needs.

NEW

Waterless Wash Wax Mop Starter Kit
All you need to get started with the new Wash Wax Mop.

Starter Kit
All you need to get started with Wash Wax ALL.

Leather/Vinyl Kit
All you need to clean, restore and protect leather and vinyl in one kit.

Cabin Cleaner
Cleans and removes beverage spills and stains from carpets, seats, tray tables, side panels, cockpit, and galleys.

SafeSolv
All purpose citrus solvent. Removes tar, oil, hydraulic fluid, adhesives, and gum. A safe, effective, alternative to toxic chemicals that is safe to use on paint, plastic, glass, bare metal, carpet, and seats.

Leather Soap
Safely and gently cleans leather and vinyl. Removes dirt, grime, body oils, and lotions.

Leather Care
Restores, moisturizes, conditions, and protects leather and vinyl. Repels dust and dirt without leaving oily residue. Provides long lasting protection.

Rubber Care
Easy to use water-based rubber and de-ice boot care product. Restores and protects rubber, giving that new semi-gloss look, without leaving an oily residue. Excellent on weather stripping, tires or any rubber or plastic item.

Water Spot Remover
Quick, easy, safe way to remove hard water spots from paint, plastic, vinyl, clear coat, gel-coat, bare metal, and other hard surfaces. Use Wash Wax ALL to prevent hard water spots.

PolishALL
Easy-on, easy-off liquid polish. Removes oxidation and fine scratches from paint, plastic, aluminum, silver, and other metals. Can be used by hand or with power polisher.

Wash Wax Clay
Safely removes surface contaminants allowing wax to bond better. Removes overspray, tree sap, acid rain, & rail dust. Safe to use on paint, plastic, glass, chrome, gelcoat, and other hard surfaces.

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