



March 2020

Volume 67 Issue 3

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Next Event

March 14,
11:30 am
Program to Follow

Runway 35 is published monthly as a free service for our members and our flying community by EAA chapter 35.
 Publisher: Chuck Fisher
 Editor: Andrea McGilvray
ea35news@gmail.com

B17 coming October 2020

By VP Chuck Fisher,

Aluminum Overcast! 8-11 October 2020

At our February meeting I announced that we have agreed to host the EAA Aluminum Overcast in October 2020! This will be a great opportunity to show-

At one time, more than 1,000 B-17s could be assembled for mass combat missions. Today, fewer than 100 B-17 airframes exist and less than 15 can still take to the air, including EAA's Aluminum Overcast. EAA's B-17G-VE, serial number 44-85740 - nicknamed Aluminum Overcast - was delivered to the U.S. Army Air



case our chapter while honoring those who have given of themselves to preserve freedom around the world.

Corps on May 18, 1945. Although delivered too late to see action in World War II, the airplane has an I

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**FEATURED
SPEAKER**

Chris Hiatt

The Baby Great Lakes!

PRESIDENTS COCKPIT

DARREN MEDLIN



Thanks to the over 70 attendees who attended our February gathering. We enjoyed some golden fried deliciousness from Freda Jones and her extraordinary kitchen crew. Thank you to everyone that contributed to the delicious lunch. Speaker Jeff Burns from the San Antonio FSDO gave a great talk on certified and amateur build maintenance

issues.

In addition to lots of announcements we took time to celebrate Chapter 35 being recognized as a "Gold Medal" winner for 2019.



Starting in 2019 EAA scored chapters on ten criteria associated with the most successful chapters. These include things like Young Eagle programs, growing membership, having a dedicated building, VMC club, and even responding to the annual chapter member survey. We've always thought we had a great chapter and according to EAA we are in the 98th percentile, or top 2% of all EAA chapters. Way to go! Look for this new banner on the wall to the right of the movie screen in the clubhouse.

A big EAA 35 thank you to Louie Viggiano for the donation of his partially completed Tayler Titch airframe and blueprints to the aviation program at Southwest High School. Nelson Amen donated moving services to get Louie's donation safely to the shop. Much appreciated.

Part of the big attendance at February's meeting was this hand drawn flyer distributed at an elementary school in the Alamo Ranch development. One daughter and mother brought it to the meeting. With "ALL Free" written on it I felt compelled to pay for the 10-year old's lunch. I don't know who our mystery publicity person is but thanks! This gives me some ideas for changing up the look of our website :-). It was really great to see so many fresh faces at the meeting.

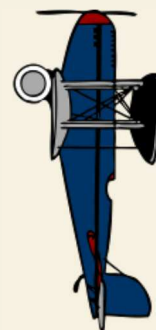


See you in March! Darren Medlin



This is just a reminder that EAA expressly prohibits the following activities at a chapter gathering or fly-in.

- Aerobatics - Paid or Unpaid (Does not include IAC contests)
- Airshow requiring Waivered Airspace
- Anything with respect to waivered airspace
- Balloon Breaking
- Endurance Flights Involving Fuel Exhaustion
- Flour Bombing
- Night Airshows
- Parachute Jumpers
- Participation in an uninsured event
- Pyrotechnics/Fireworks
- Racing of any kind
- Ribbon Cutting
- Sale of Alcoholic Beverages
- Simulated Aerial Combat
- Wing Walking



CHAPTER BULLETIN BOARD

HELP is NEEDED!!!

Chapter 35 needs your help

Who can help with meals?? Freda is looking for help!

Please contact Freda Jones at ea35facility@gmail.com, or call (210) 570-9435.

Main Course: Pulled Pork Sandwiches. Nowhere else will you find pulled pork sandwiches made from the finest pork tenderloin. Why do we do it this way? Love. It's the love of the meal, the love of the comraderie, and all the smiles. It's you. You make it worthwhile. That's why we do it this way.

Side Dishes: potato salad, cole slaw, baked beans

Condiments: dill pickle slices, sliced onion, mayonnaise and mustard, and home-of-the-brave jalapeño slices.

Desserts: requesting pies, cakes, cookies, brownies or anything you like

To drink: water, soda, iced tea, lemonade and coffee

Thanks to everyone who made February's Fried Chicken Extraganza such a success!

Days of preparation:
- Roxanne Beavers

Chefs:
- Roxanne Beavers – home-style mashed potatoes
- Steve Jones – Chicken Fryer
- Peggy Fisher – Gravy

Servers:
- Roxanne Beavers
- Peggy Fisher
Porter (dishwasher):
- Steve Jones

Thanks also to everyone who contributed to the meal!
- Ten volunteers contributed desserts and other meal items. I wish I could call you all out by name, but my notes are in San Antonio, and sadly, I am not. I can't say where I am at the moment, but you can rest assured, it's not Indiana. <https://www.youtube.com/watch?v=cRWuwrjiEeM>

If I missed you, I sincerely apologize. Thank you all for your support.

- B. J. O'Dea – Chocolate Chip Cookies
- Georgia McCarley – Assorted Cookies
- Chuck Fisher – Dinner Rolls
- Peggy Fisher – Lemon Bars
- Susan Smith – Some awesome confections dusted with powdered sugar that defy description
- Dee Brame – Apple Pie
- Ulf Balldin? – Pecan Pie



EAA
Master the Art of Aviation

Join a community of pilots willing to share experience, promote safety, and help improve your flying skills.

Chapter Gatherings
Third Friday of the month
Meeting: 6:00 p.m.

Location
San Geronimo Airpark 15464 Culebra Rd
San Antonio, TX 78253

EAA Chapter 35
787-644-7828
ea35vmclub@gmail.com
www.eaa35.org

Continued ... B17 coming October 2020

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interesting history. It was purchased as surplus from the military inventory for \$750 in 1946 and since then has flown more than 1 million miles as a cargo hauler, an aerial mapping platform and in pest control and forest dusting applications.

In 1978 it was purchased by a group of investors who wished to preserve the heritage of the magnificent B-17. The group, "B-17s Around the World," was headed by Dr. Bill Harrison. The group donated the B-17 to EAA in 1983. Since that time, an extensive program of restoration and preservation was undertaken to ensure Aluminum Overcast would be a living reminder of World War II aviation for many years to come. The restoration has taken more than 10 years and thousands of hours and has included locating, restoring and replacing its original military equipment including the Norden bombsight, Restoration of the navigator's position, Installation of the waist guns, Rebuilding original radio compartment, Installation of a complete tail turret and Installation of a replica top turret.

We will host this amazing aircraft October 8-11 at Stinson Airport. We will provide volunteers to help with sales, tours, crowd control and flow, though EAA staff will be with us to all the way. Thursday will be a press and VIP day. Friday, Saturday and Sunday mornings will be flights, then every afternoon static display and tours. Static tours are free for veterans and military by the way.

The chapter is welcome and encouraged to advertise the chapter, and to hold events in conjunction with the visit, so plan a busy weekend with lots of chapter activities that entire weekend. We'll be looking for lots of volunteers and plan to make this weekend a remarkable event and maybe a once in a lifetime experience!



Join us for this special event!



Our Hobby... Our Future | #FightForFPV

As it's currently written, the RemoteID legislation is hard to understand as well as often impossible to comply with. Simple changes to address amateur builder, cost, and privacy concerns will avoid the impending problem of large-scale noncompliance. The drone and model aircraft community has been operating safely for decades. Regulating it out of existence will take away an amazing experience for many kids as well as hundreds of thousands of others. **Help stop FAA NPRM FAA-2019-1100**



THE BUILDER'S/MAINTANCE CORNER

By Mark Julicher

Changing oil in different season?

OIL ACEITE OEL

Your engine needs it. You check it before every flight. But what does it do?

Oil has five functions. It inhibits corrosion, it makes a film between moving parts, oil detergent cleans away combustion deposits, oil seals between the piston rings and cylinder, and it cools the upper part of the engine.

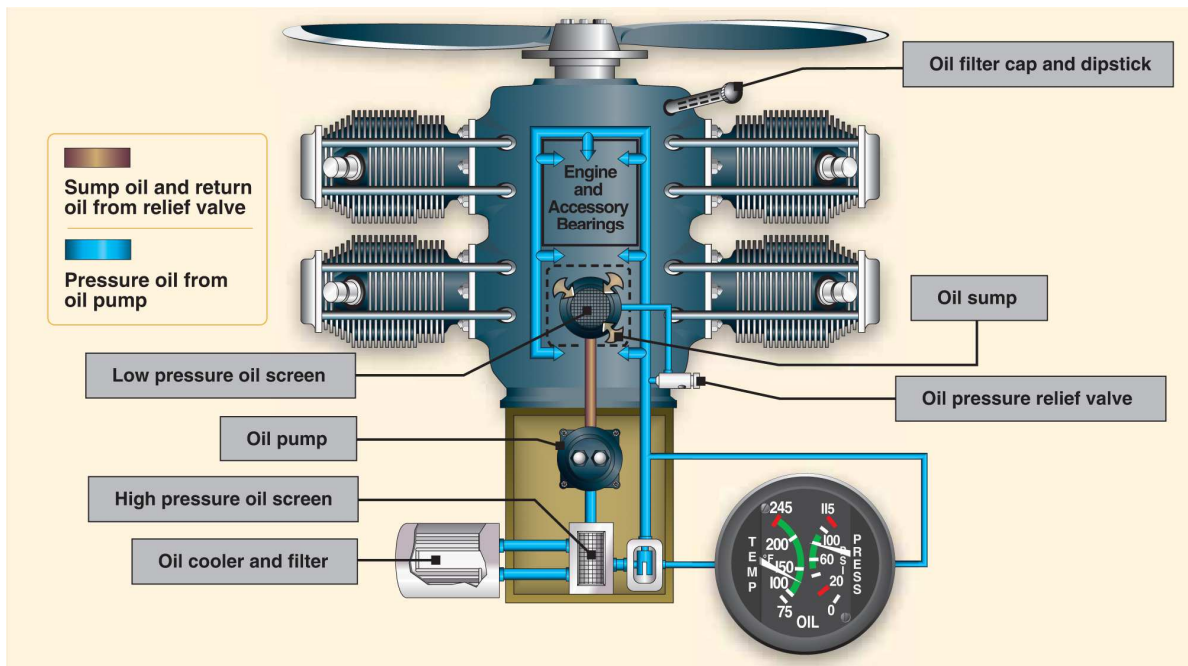
I am not a chemist, but it is apparent to me that oil chemistry is very sophisticated indeed. Let's examine the five functions of oil a little more.

oil is so saturated with contaminants that it is no longer working as a corrosion inhibitor. *Before* that point it is time to change the oil.

The rule of thumb is to change oil at 50 hours if there is an oil filter and at 25 hours if there is no filter. I don't know who originated these rules. I have seen them written in engine service manuals and have heard many mechanics assert them as gospel. Perhaps the origin is lost in antiquity, but in any event you can afford a lot more oil changes than engine changes. Change your oil and you will save money in the long haul.

Film Between Moving Parts

The engine's oil pump forces oil into all the moving parts of your engine. In the bearings, oil pressure makes a continuous film such that the bearing bosses and the bearings do not actually touch one another. Unless of course you have low oil pressure in which case there will be some scuffing of bearings. Zero oil pressure happens during engine start, so avoid the dreaded 2500 RPM engine start and give your oil pump a chance to build pressure.



Other locations such as piston walls are lubricated by oil spray or with splash oil. Have you ever seen cold molasses splash or spray? Well neither does cold oil. Cold engines do not get much splash or spray, they must warm up first. Multi-viscosity oil mitigates much of this problem. Multi-viscosity oil is less viscous (i.e., it is "thinner") when it is cold than single viscosity oil. This allows splashing and spraying to happen sooner during those wintertime starts.

Before multi-viscosity oil was available, most engine manufacturers recom-

mended 50 weight oil at warm ambient temperature, 40 weight oil at lower ambient temperatures, and even 30 weight at rather cold temperatures. You can still follow this practice, but multi-viscosity oil is a better solution in most cases. Some mechanics recommend using single weight oil in summertime because it will cling to the upper parts of the engine better than multi-viscosity. But of course the

Inhibits Corrosion

Products of combustion include several corrosive chemicals and especially water. Oil washes these products away from engine parts and coats metal so that these chemicals can't do harm. You have certainly noticed that old oil is darker than new oil. That means that the oil is doing its job collecting contaminants. At some point the

(Continued on page 6)

....THE BUILDER'S/MAINTANCE CORNER CONTINUED

(Continued from page 5)

super viscous consistency of 50 weight is a disadvantage during winter time starts unless you preheat your engine.

Detergent Cleaning

No, it is not laundry soap in your oil, but there are detergent additives designed to clean and also make your oil extra slippery. Some literature says the detergents have a limited life and hence require oil changes. I can't vouch for this information, but if I ever meet a bonafide petroleum chemist I would like to ask about this. Oil refiners are so secretive about their formulations that I suppose I will never know the answer to this question. Suffice it to say that detergents are your friend. Except during break-in, use detergent oil.

Break in oil has no detergent. During break in it is desirable to have a little extra friction so that parts wear in as they should. I use break in oil after an overhaul or after a cylinder change. I run break in oil until the next oil change or at least until I see a sharp oil temperature drop as the engine wears in. This topic could make a whole other article for another time.

Piston Sealing

It stands to reason that adding a viscous film between the piston rings and the cylinder wall will aid in compression. That is one reason why a compression check is often much better after running the engine than when the compression check is done cold.

Compression gasses getting past the piston rings is known as "blow-by." Every engine has a little bit of blow-by, but when blow-by becomes excessive, combustion gasses are directed into the crankcase. Oil in the crankcase becomes contaminated with gasoline and carbon and turns black very quickly. This is not good for your engine and messy oil vapor blows out of the breather tube. Sometimes an air oil separator minimizes the oil residue blown out onto the aircraft and sometimes I swear that air oil separators are just useless.

Upper Engine Cooling

The intake and exhaust valve are lubricated with oil. The exhaust valve is an especially hot part of any engine and therefore oil moving past the exhaust valve is particularly important. That is not to say that other parts of the engine are not cooled by oil, but the exhaust valve is subjected to temperatures approaching 1500F and it

can't last long in this environment without oil cooling. If your oil temperature is showing too hot, the exhaust valves may be in trouble for two reasons. First, the metal in the valve is approaching its design limit and second, the oil may start to cook, leave sludge and cause sticking valves.

Remember that the oil temperature sender is located in places where the oil is already somewhat cooled. In other words, you are not reading the temperature of the hottest point in the oil system. Your operating handbook tells you the safe, upper limit of oil temperature based on the way your plane and engine are set up. The same engine in two different planes may have different operating limits, but the limits are based on the installation, not necessarily that the engine can actually take more heat in another plane.

Other Semi-Useless Information

Many aircraft from the golden age had oil dilution systems. Realize that big round engines typically use super viscous 60 weight oil. The pilot or flight engineer would check the weather forecast and if it was going to be a cold night the oil dilution system was activated for a certain amount of time. This put raw gasoline into the oil system. The oil was thinned by the gasoline. The next morning during a cold engine start the engine could turn over without burning out a starter or running down a battery.

After the engine had run for a while the gasoline would evaporate and leave the oil back at its regular viscosity. Of course if the oil diluter were accidentally left on the engine would seize or make expensive noises.

Air cooled engines have humongous clearances between the parts - at least by engineering standards. Your liquid cooled car has much closer tolerances between moving parts so the proper oil is both less viscous and remains cleaner longer. Automotive oils may contain additives that cause

oil foaming at high altitude so leave that Rotella and Castrol GTX in your garage.

Some antique automobiles had hand-operated oil pumps that allowed the driver to establish oil pressure before cranking the engine - brilliant!

Castor oil was used in aircraft engines during WWI. Castor oil was readily available and has a very high burning point (about 800F) compared to other oils. Of course those early engines slung oil all over the place so pilots wore a scarf to wipe off their goggles. I can't vouch for this, but it is reported that no pilots had constipation during the war.



Spin Training: Flying by the SEAT of your Pants!

By Andrea McGilvray

I am NOT an Instructor!!! BUT this is what I have learned. Why would you want to learn to spin an aircraft? If you ask me, you will get a very different answer than someone fly's straight and level all the time. I use it on many occasions to reduce altitude when I am practicing my Aerobatics. I will attest that my Aerobatic training has changed the way I fly. I have learned to feel and fly by the seat of my pants. I hear the engine, airframe, wind sound, I feel the airplane and controls better and my touch is lighter on the controls. These keep me out of a potential accidental spin.

Here are some reasons that are I personally think it is good to know, besides that if you get into one, you can react instantaneously and a spin is not developed, rather just a wing drop.

The man I purchased the Yellow Pitts from told me that if he would have not had experience in flying in it, he would be dead 3x.. wow.. I cannot imagine one time! He is a Crop Duster.. and ya, I can imagine that if something goes wrong, it goes wrong fast.

Here is what Patty and her instructor told me and told all those after me. We humans are used to 1g.. ONE G that is our normal weight on planet earth, but if we find ourselves in less than that quickly without any forewarning, our body is confused and does not know what to do. The ONLY way to get past this point is to learn to do it. Trust me, it is not hard nor scary if shown and done correctly. When the body is confused at a low altitude and your reaction is not instantaneously, then you hit the ground. Ouch!

When I went to my basic Aerobatic class at Patty Wagstaff's school, her school had a revolving door of people of all kinds wanting have spin and upset training. Some were individuals and some their employer asked them to go. I even met two NTSB employees that were there for the same training.

I am not an expert or an instructor (yet) in explaining the details yet, but I personally will push the limits and will spin my airplanes on a very regular basis both directions. I realize that most people that have gyro's should not be going out and practicing spins and Most GA aircraft are prohibited from spins unless certified for spins. CG's are critical and the airplane does need to have the means to recover and be certified to do so, but here is what I think is important.

Get to know your aircraft at a very slow speed and in slow flight at a



high altitude. I practice between 4000-5000 ft above ground. In slow flight, the ball will be able to move a lot easier and yes if it is clean and it is a fast airplane and you will have to work harder to keep the ball centered. Here is a trick I learned from Budd Davison when I was out there learning to fly the Pitts. AND it is 100% transferable to any aircraft. Take a pilot friend with you to do this!!!!!!!

Slow your airplane down, close your eyes and keep them closed, have your friend yaw the airplane a little bit. Then have your friend give the airplane back to you (keeping your eye closed) and you push on the rudder to correct for the yaw. (GENTLY!!!) you will be surprised at how your body can learn this feeling. Repeat and rinse and repeat until your body becomes the ball. This is called flying by the seat of your pants. So when you get into the turn from base to

final and you are not co-ordinated, you will feel it as it becomes second nature.

Another thing I do is stall the aircraft in straight and level flight, then do a stall in a turn! I'm not talking about a hammerhead aerobatic maneuver, but a just a 30-45 degree turn and stall it. Do yourself the favor and go up in an airplane that is certified in spins with an instructor and get comfortable in spins. IF you never come close to spin in your airplane, then the training was a success! If you do find yourself in that circumstance, you can get out of it before it develops.

I play with the controls to see how they affect the spin. BUT here is what happens if you don't do as you have been taught.

IF you go into a spin and DO NOT remove power, you cannot unspin the airplane. IF you have aileron in, one way or the other, it will aggravate or flatten the spin. IF you push too far forward, you can get into an inverted spin and most airplanes are NOT certified to do that! the engine will go quiet and the recovery may confuse you!

When I trained with Steve Wolf for my final training before I got my own Pitts, he showed me what happens, ok, let's say, I did all the wrong things and I showed myself! I was dizzy after that. 1st we stalled, then into a spin, added opposite aileron, then pushed forward keeping full opposite aileron in, then added power! YIKES!! that is a spinning top! to exit this spin, I just reduced power to idle, let the stick go, and pushed opposite rudder and recovered from the dive.



A Tale of Two Leaks, by Allen Inks

I fly a Pipistrel Sinus aircraft, powered by a Rotax 912 engine. Rotax aircraft engines, if you don't know, have air-cooled cylinders, with water-cooled cylinder heads. The water cooling system is very similar to that in your car, with a water pump, a radiator with a radiator cap, and an overflow tank with a cap that has a small vent hole in it. When the engine heats up, the water expands, the spring-loaded valve portion of the radiator cap opens to vent excess fluid from the radiator into the overflow tank; when the engine is shut off and cools down, the water in the system contracts, causing pressure to drop... and a check valve in the radiator cap opens, allowing fluid from the expansion tank to pass back into the radiator. At least, that's the way it is supposed to work.

So, Rotax owners, how do you check that your coolant system is ready for flight? Most every Pipistrel pilot I know does this from the oil check door on the right side of the cowling, shining a flashlight over to check level in the coolant overflow tank on the left side of the engine compartment. My new to me Sinus doesn't have an oil check door in the upper



cowling, so I take off the cowling after the last flight of every day, to do a post-flight inspection, and to be prepared for burping oil before the next flight. I could easily check that there was plenty of coolant in the overflow tank. Great, right?

Some time ago, as I was prepping for flight (cold engine), just for the heck of it, I took off the radiator cap. I was shocked to see the water level significantly below the top of the radiator, even though the overflow tank was half full, like always. It turns out we did have a leaking (weeping) hose connection, and were slowly losing coolant. But we weren't losing level in the overflow tank!

We fixed the weeping hose (Leak #1), refilled the radiator fully, and ran the aircraft to heat up and transfer coolant to the overflow tank. When the engine cooled down, however, the coolant wouldn't transfer back out of the overflow tank, and there would be air in the radiator again. We figured there had been an air bubble in the coolant system that migrated to the radiator. So we drained the overflow tank back down to starting level, put the coolant back into the radiator to top it off, put the cap back on... and repeat. And it still wouldn't suck water back from the overflow tank. That's when we noticed that there was an air bubble in the hose from the overflow tank to the radiator neck.... with the bubble extending down to a level that just happened to be at the same elevation as the water in the overflow tank. There should be no air in that overflow hose. So we...filled the radiator, used close fitting hose to carefully suck on the radiator neck until water was drawn all the way up to the radiator neck from the overflow tank, clamped the over-

flow hose, ensured that the water level in the radiator neck was higher than the hole opening to the overflow hose, put the radiator cap back on, removed the clamp, ... and watched the water level in the hose drop back down equalize with the water level of the overflow tank! It shouldn't do that if there are no leaks!

We replaced our radiator cap with a spare one we had on hand, and repeated the of filling the overflow hose. And water remained sucked up at the radiator neck level. Thereafter, we took note of the overflow tank level, ran the engine, saw that the level in the overflow tank had risen, but, as the engine cooled down, the coolant level in the overflow tank dropped back to the

original cold (pre-run) level. Thus, Leak #2 was identified as an air leak where the radiator cap was supposed to seal to the radiator.

Fortunately, we don't seem to have overheated the engine or damaged it from the low coolant level. Thankful about that!

Based on this close call, my advice is to:

1. a) Verify that coolant level in your overflow tank is higher immediately after a flight than it was before (when the engine was cool). If not,

it could be an indication of a large air bubble in the radiator (coolant compresses air bubble when it expands, and air is blown into coolant tank, and bubbles up and out the vent in the top of the coolant tank cap, instead of transferring coolant to overflow tank. Of course, you can't do this if you can't discern a discrete level in the overflow tank from your oil fill door when the engine is cold, so adjust the level in the overflow tank so that you can see one. If coolant level in the overflow tank hasn't changed level when the engine is hot, versus what it was when the engine was cold, investigate.

b) if you take the next flight in the same aircraft after it has cooled off, verify coolant level in the overflow tank has returned to the original level. If not, investigate.

Even renters can check 1a), and often can check 1b) too. Those of us who are the only people who fly our aircraft can do both. I have my overflow tank



marked with black magic marker now at the 75% full level, and verify that level is there when cold, but higher when the engine is hot after a flight.

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—SEE MORE AT <https://www.facebook.com/ea35/> AND ON E-VERSION PAGE 22



— SEE MORE AT <https://www.facebook.com/ea35/> AND ON E-VERSION PAGE 22



EAA 35 Safety Brief

From Ron O'Dea



--" Distractions and interruptions can severely compromise flight safety if they occur during critical phases of flight. To help prevent this, the General Aviation Joint Steering Committee (GAJSC) recommends awareness training on how to properly cope with interruptions and distractions while flying. General aviation pilots are particularly at risk because they usually do not have additional flight crew members to assist them."

Keep Your Focus

Interruptions and distractions may be brief, but they can be deadly. They can cause you to lose focus, which could lead to catastrophic errors. Interruptions and distractions break your train of thought, but sometimes they can also convey information that is critical for safe flight. The key is to learn how to safely manage the inflow of competing information.

Examples of interruptions/distractions include air traffic control (ATC) communications or alerts, head-down work, or having to deal with an unexpected situation. If not managed properly, distractions can set a deadly chain of events in motion.

Pilots are trained to manage several tasks concurrently, and for the most part, this is a skill pilots execute well. However, it's important not to become preoccupied with one task over all the others. *Do you remember the December 1972 L-1011 crash, where the crew became so preoccupied with a landing gear light malfunction that they failed to notice that someone had erroneously turned off the autopilot?* Similar events can happen to the GA pilot. Don't let it happen to you!

Reduce the Risk

- Realize that you may have control over some interruptions and distractions, and not over others.
- Realize that the actions under your control, like head-down work, including standard operating procedures and checklists, should be conducted during periods of minimal disruption.
- Observe the FAA's "sterile cockpit rule," and make sure that passengers understand your need to focus at critical junctures of the flight.
- Keep communications clear and concise.

Responding to Abnormal Conditions

Because some interruptions and/or distractions may be subtle, the first priority is to recognize and identify them. Then, you will need to re-establish situational awareness. Identify what you were doing, and where you were in the process when you were distracted. Determine what action you need to take to get back on track.

Prioritization is key. Remember:

1. **Aviate**
2. **Navigate**
3. **Communicate, and**
4. **Manage**

Be ready to postpone some lower-priority actions until you are in a position to safely address them.

More Tips on Dealing with Distraction:

- Recognize that conversation is a powerful distracter.
- Recognize that head-down tasks greatly reduce your ability to monitor the status of the aircraft.
- Schedule or reschedule activities to minimize conflicts, especially during critical phases of flight.
- When two tasks must be performed at the same time, avoid letting your attention linger too long on either task.
- Remember that your job as pilot in command is to fly the aircraft. That is your primary focus.
- Treat interruptions as red flags.
- Remember, "Interruptions Always Distract."
- Identify the interruption when it occurs.
- Ask, "What was I doing before I was interrupted?"
- Decide what action you will need to take to get back on track.

Remember....*Keep Your Brain in the Game!*



(Continued from page 8)

2. Periodically, take the radiator cap off, and verify the actual level in the radiator is essentially at the top. This will, of course, let the water in the hose to the overflow tank to drop to the level in the overflow tank, but after you put the cap back on, and run the engine once, this air bubble should be vented out the vent on the overflow tank by the hot coolant expanding out of the radiator. If the radiator level is not at the top, investigate. If the air bubble remains in the hose to the overflow tank after the next time you run the engine....yep, you got it: Investigate.

3. Be aware of the smallest hint of a weep of something (oil, coolant, etc.). The hose connection on the #3 cylinder head outlet (top of the engine, in back) was weeping from the back of the hose elbow, running unnoticed down and around the cylinder (quickly obscured by wiring, hoses, etc... and down on to the lower cowling, where it collected until blown out during flight...I just didn't see it until we went looking for it, and even then, I thought it was coming from the water inlet at the bottom of the cylinder head, not the outlet at the top. It's interesting to note that the cause of this weeping connection was either that the hose was slightly too long on the elbow fitting... and with the hose being pulled to one side by bearing against the inner curved surface of the elbow fitting, the hose clamp was being slightly expanded and not sealing tightly; or because of a fine, longitudinally extending scratch in the outer surface of the elbow fitting - both potential causes were corrected, and the leak stopped.

While not all of you are lucky enough to fly a Pipistrel, several members fly aircraft with Rotax engines, and this tale may be useful. Additionally, I think we can all use a reminder to be alert to the possibility of a double failure when trouble-shooting system problems.





Country Store

RICHARD VINAS

This could be my last input to the newsletter as manager of the Country Store. Rick Vinas has agreed to take over the reigns next month. It has been great working with the membership in providing some classy Ch 35 logo merchandise, since 2013. With your purchases, the Country Store has provided a significant amount of revenue to your Chapter.

*On the road again,
Brian & June*

The shirt is 100% ring-spun combed cotton pique. Solid dark blue back.



The 36" long X 34" wide apron is made of stain resistant material. It has 2 pockets on the front and a thermometer/pencil pocket on the bib and an adjustable neck strap.



TEXAS FLAG POLO SHIRTS	Sold Out - Can be ordered	\$39.00
TEXAS FLAG FISHING SHIRT	One Medium- Men's	\$46.00
YELLOW POLO SHIRTS	One Small	\$31.00
	One Medium	
YELLOW FISHING SHIRT	ONE Small Men's	\$40.00
KHAKI FISHING SHIRTS	ONE MEDIUM	
	ONE LARGE	
TEXAS FLAG APRONS	3 left	\$26.00
Additional Items available		
BASEBALL CAPS (with logo)	SIX NEW ONES	\$12.00
CHAPTER 35 DUFFLE BAGS	Only 2 left	\$31.00
COFFEE MUGS	EIGHT	\$7.00
REMOVE BEFORE FLIGHT KEY TAGS	Plenty	\$5.00
KOOZIES	Plenty	\$4.00
BUMBER STICKERS, DECALS AND PATCHES	Lots of them	\$1.00 - \$3.00
ALUMINUM WHEEL CHOCKS	3 Double sets	\$40.00
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FEBRUARY MYSTERY PLANE REVEALED

DOUG APSEY

Kudos to Charlie Brame, Ira Wagner and David Baker who quickly identified the February mystery airplane as the Lisunov Li-2, a Soviet built version of the DC-3.

In July of 1936 a production license was awarded to the USSR to produce DC-3's. Boris Pavlovich Lisunov spent two years at the Douglas Aircraft Company translating the design. The initial plan was to make only minor changes to the DC-3 design but, in the end, there were 1,293 engineering change orders to the original Douglas drawings. These included changes to parts, dimensions, materials and building processes. The major changes resulted from the "metrication" of the design - translating US units to metric units.



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Production of the Li-2, originally designated the PS-84, began in 1939 at the State Aviation Factory (GAZ) 84 in Khimki, Russia. After Germany invaded the USSR, production was moved to GAZ-33 in eastern Russia. Like the DC-3, the Li-2 fulfilled many civilian and military roles in the USSR including civilian airliner, military transport, cargo hauler, reconnaissance, glider tow and paratroop drop. There were several military versions of the Li-2 which were modified to carry bombs under its wings and fuselage. Some were fitted with a nose mounted machine gun and a gun turret on the top of the fuselage. After WWII ended, production of the Li-2 continued at GAZ-126 until 1950 when the plant switched to producing the MIG 15.

The Li-2 was powered by two Shvetsov M-62 9 cylinder air-cooled radial engine producing 900 hp each. These were Soviet versions of the US built Wright R-1820 Cyclone 9 radial engine used in the early US DC-3's. One of the more identifiable features of the Li-2's were the "shutters" in front of the engine cylinders that are often seen on Russian aircraft to allow for operations in extremely cold temperatures. Other identifiable changes included the passenger door moved to the right side of the aircraft rather than the left and the cargo door added to the left side. An additional window was also added behind the pilot's window. Most of the changes were less obvious such as the wingspan being 8 inches shorter than a DC-3's wingspan. Also, the aluminum skins which were slightly thicker because

of the metric skin gauges resulting in the Li-2 being heavier than the DC-3. This resulted in less load carrying capability and slower cruise speed than the DC-3.

Production of the LI-2 ended in 1952. While the exact number of Li-2's built is not known, it is estimated to be at least 4,937 although some sources report that the total number may be over 6,100. Several Li-2's were known to be in operation well into the 1980's in China, Vietnam and North Korea. It is difficult to know how many Li-2's are currently flying since some may still be in use in North Korea. Probably the best known Li-2 still in operation is the Hungarian registered HA-LIX that was operated by MALEV Hungarian Airlines until 1964. It has been fully restored and is now used for sight-seeing tours and participates in air shows around Europe.

Sources for this article include:

https://en.wikipedia.org/wiki/Lisunov_Li-2

<https://www.globalsecurity.org/military/world/russia/li-2.htm>



NAME THE PLANE

DOUG APSEY

Here is your March mystery airplane. Who will be the first to email me at dapsey@satx.rr.com with the following information about this month's mystery airplane?

1. What is its designation/name?
2. Who designed and built it?
3. What year did it first fly?
4. What is the primary purpose of the design?
5. How many were built?



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CHAPTER NEWS



Hello fellow EAA Chapter 35 members, I am Rafael Cortes, I come from Puerto Rico, and I am writing about myself since Andrea kind of encouraged me! LOL.

Personal life: I am happily married to my beautiful and patient wife, Lourdes, and have two daughters, Emilie and Celimary, we also have 4 small dogs as part of our family. My day job is in the Information Technology field, and I really enjoy it, but not as much as flying.

Aviation life: I've been flying my entire life, but decided to become a pilot in 2014, and got my license in 2015. I have an elder half-brother who's been a pilot with the airlines for over 25 years, but I never was able to pursue the career myself. I decided to get my pilot's license after a former supervisor at Microsoft noticed that I spent too much of my free time at work (in volunteer projects, and just helping off-the-clock) and got worried that I may burn-out, so he recommended I get a hobby to improve my work-life balance; I immediately decided that this was the right time to finally pursue my life-long dream. I started taking lessons in a Quicksilver Sport, and bought an ultralight, soon after got lucky and was able to buy my first 2 seater, a Rans S-12, and from there I've flown and tried a few more airplanes until I got my current Zenith Zodiac 601 XL. In the future I would like to learn more about bush-flying, that part of aviation really speaks to me.

If I could talk to my younger self, I would definitely encourage me to find the opportunities that are out there to become a commercial pilot and make a career out of it. The fact that I didn't think it was possible for me, moves me to encourage the young generation who show interest to actually pursue it, and try to show them that even if they don't see it as possible, there are many opportunities and assistance to make a career in aviation. And my kids I encourage to pursue whatever careers they are passionate about, and will help them get there as much as I can, be it in aviation, or any other field they wish to pursue.

I hope to see you all in future VMC Club events, and of course, the Chapter meetings and all of the events that this great chapter do!



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Our dear friend and member Gerald Meloni passed away recently. His family is now looking to sell the CH-650 kit he was building. The aircraft is hangared here at San Geronimo Airpark. You may contact Nicole at: nicolemmeloni@gmail.com.

Anyone selling a 12v Turn coordinator ? IF so, please contact me: [Erick Vasquez <eric.vasquez7@icloud.com>](mailto:eric.vasquez7@icloud.com)

To post a classified—contact the editor at aaa35news@gmail.com

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CHAPTER CALENDAR — CONTACT EAA35VP@GMAIL.COM - PROGRAMS ARE TENTATIVE AND SUBJECT TO CHANGE!

MARCH	14	11:30 Lunch; Program: Chris Hiatt, Restoring and flying the Baby Great Lakes
	20	6:00 pm VMC Club; 7:30 pm Movie
	26	San Antonio Aviation and Aerospace Hall of Fame 2020 Awards Dinner https://www.deehoward.org/saaahof-2020-dinner
APRIL 	11	9:00 FLY-IN BREAKFAST (Chef, Prep Cooks, Servers always Needed) Board of Directors Meeting to follow
	17	6:00 pm VMC Club; 7:30 pm Movie
	18	Optional Activity (Fly-Out/Rally) TBA 
MAY	9	10:00 SPRING CLEANING! Bring your work-clothes, gloves, and energy! Lunch to follow (If you've done your chores)
	15	6:00 pm VMC Club; 7:30 pm Movie
	18	Optional Activity (Fly-Out/Rally) TBA 
JUNE	13	11:30 ANNUAL CHAPTER 35 MEMBERS PICNIC
	19	6:00 pm VMC Club; 7:30 pm Movie
	20	Optional Activity (Fly-Out/Rally) TBA 
JULY 	11	9:00 FLY-IN BREAKFAST (Chef, Prep Cooks, Servers always Needed)
	17	AIRVENTURE - <i>No VMC club or Movie this month</i>
AUGUST	8	11:30 LUNCH; Program: Casey Fox - Reincarnating a Warbird (T-6)
	14	6:00 pm VMC Club; 7:30 pm Movie

UPCOMING EVENTS

Aviation Calendar of Events websites

Aero Vents <http://AeroVents.com>EAA <http://www.eaa.org/calendar>Fly-ins <http://www.flyins.com>Fun Places <http://funplacestofly.com>Social Flight <http://socialflight.com>Council of Air Shows <https://www.airshows.aero/Page/ASCalendar>Milavia <http://milavia.net>EAA Facebook Page: <https://www.facebook.com/pg/ea35>February 29: *Let's Fly Now* with the 99's. Stinson Airport!

March 5-8 Fredericksburg fly-in

March 12-15 Gainesville (GLE) [Lonestar STOL](#) Competition/Flyin

VMC: March 20: Topic: Dealing with fire and smoke in cockpit and practice for it on the ground.

Description: The scenario for this month will have us deal with an unexpected fire in the cockpit, and the resulting smoke that will complicate matters. We will discuss what would we do in the situation, and how to prepare for it by practicing certain tasks on the ground.

March 26, 2020 San Antonio Aviation and Aerospace Hall of Fame 2020 Dinner and induction of Honorees which will be held on March 26, 2020 at Kelly Airfield at the GDC Building
Contact: wfagan@deehoward.org. For tickets!

April 3-4 (5th Rain day) IAC Competition
Edna Texas 26R.



April 4-5 Hondo Airport Main Runway
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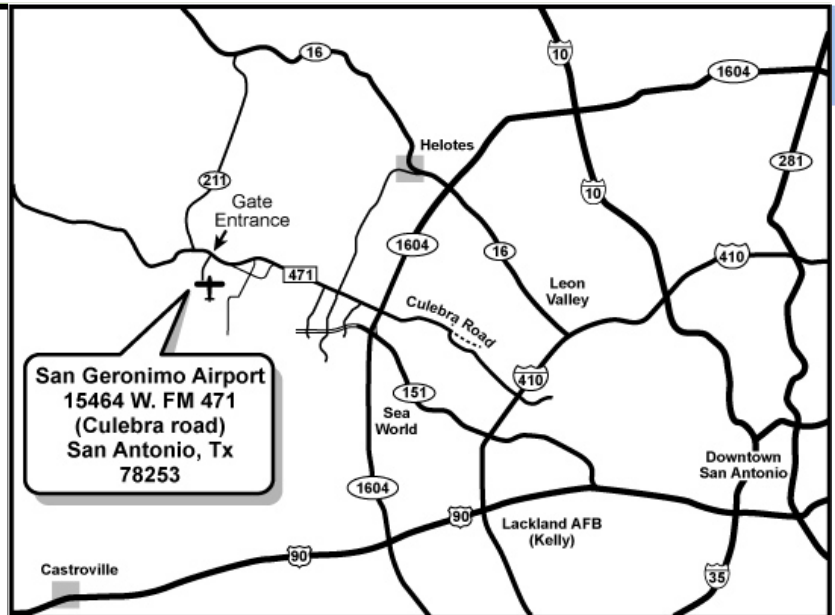
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Chapter 35 meets Each Second Saturday of the Month



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

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