

EAA Mount Rainier Chapter 326 Newsletter

Thun Field – June 2007

102

Meeting Notice

**Tuesday, June 12th, 7 PM
CAP Building, Thun Field**

Program: Jim Errington, Lamar Technologies.

Lamar is in Marysville and makes electrical products such as voltage regulators and monitors as well as the new lightweight starter and Master Control Unit. Jim will give a tutorial on electrical wiring for experimental aircraft.

Refreshments: Dave Vermeersch

Minutes: May 8th, 2007

The meeting was called to order by President Jeff Liebman.

Treasurer's Report was given by Norn Pauk.

Visitors:

Joe Kirby: Ordering RV-8 Kit.

John Gallo: Building Thatcher CX-4

Progress reports:

Lance Newman: RV-7 wings done, emp done, fuselage 40%

Joe Hoskins: Kit coming Friday

Mike Dougherty: RV-7A electrical

Randy & Bob Brooks: RV-9A finishing empennage

Doug MacArthur: RV-9A empennage

Randy Crothers: RV-7A Subaru engine done, final assembly

First Flight RV-6A: Scott Cutler. Congratulations Scott!!!

Jeff summarized TFAC meeting. Carl and Betsy chronicles.

Jeff also announced "Scales are a done deal."

Young Eagles: Lance and Bernie will host a dry-run of YE Oplan procedures and a barbecue at their hangar (16) on Sunday, June 3rd, 4-6 pm.

Jim Triggs gave us another of his insightful first flight preparation briefings. Jim has really brought the Flight Advisor program to life. Scott Cutler related how Jim helped him achieve an uneventful and enjoyable first flight. More and more folks approaching the big day are getting aboard this program.

Chino Trip Report

I thought we'd have some company but Pat & I made the trip solo. Chino (KCNO) is in the L.A. basin just south of Ontario International. Lots of airports and very complicated airspace at first glance. But if you study the Los Angeles Terminal Area Chart long enough, it isn't bad at all.

Chino is the home of the "Planes of Fame Museum," an incredible place. All kinds of WWII aircraft and many others...over 100, many of them still flying. I attended the airshow on Saturday and saw their B-17, B-25's, P-38's including Glacier Girl, P-40's, Corsairs, Spitfires, eight P-51's, Sea Fury, F-86, Mig 15, all the Grumman and Douglas WWII planes. For me, the most memorable part was all these aircraft starting up and assembling for the mass gaggle flyby. All those planes idling on the tarmac was an incredible sight and sound. Wow.

Watching the gaggle of bombers lumbering by at 180 knots, if that, can get boring real quick so they had typical airshow stuff like a wing-walker on a Stearman, Zlin "Tumbling Bear," Sea Fury solo aerobatics, along with Navy F-18 and Air Force F-15 racing around in full burner.

We left here on Thursday morning at 9 AM and it was VFR all the way. Some headwind but not bad. We stopped at Chico for lunch and gas...it's just south of Red Bluff and a little over half way. A good place to stop. The next flight was fine until Palmdale where it was a rough ride until we got through Cajon Pass and into the basin. We landed at Corona Municipal instead of Chino because of rental car convenience and price, plus the fact that we wanted to leave on Sunday and didn't want to be stuck at Chino with the airfield closed for the airshow. Corona (KAJO) is only 5 miles south of Chino and it worked well for us. The transient tiedown is at the east end of the field and "Fly Corona" is the flight school there. They are a friendly bunch and open every day of the week at 9 AM.

Pat has a first cousin that lives south of Corona so we stayed at a hotel near them in Temecula. Could the Pechanka Casino have something to do with that decision? No kidding. Fancier than anything Reno has to offer. On Friday morning, Pat and I drove to the Planes of Fame Museum to take the tour. Then we drove to the historic Flabob airport to see what the big deal is there. Flabob is the home of EAA Chapter 1. Ray Stitts was the founder and he is seen there almost every day. I had a very enjoyable chat with some of the antique hangar bums. Great stories unleashed on the new guy.

On Saturday, Pat went to the Casino and I flew to Chino for the airshow. The valley was fogged in as usual and Chino was IFR and scheduled to close at 1115. I gave up waiting for VFR, took off and requested a special VFR from Chino Tower. They said they had two IFR arrivals and three other special V's ahead of me and weren't sure if they would be able to get me in prior to airfield closure. Vis was 2 miles with broken clouds at 900 feet. I held over Corona dodging other traffic in the pattern there until I

finally got a clearance. I was the last to land before the field closed.

I parked with 30 other RV's between hangar rows on the north end. That's where Dan Checkoway, the weathermeister.com guy, and the SoCal Wing of Van's Air Force hang out. A great bunch of guys. They had a big food layout and a huge hangar from which to watch the airshow in the shade. Speaking of huge hangars...row after row that could hold a couple Citations each. Massive bi-fold doors. I saw one upstairs office that looked like a skybox at Safeco Field. One guy pushed out an Allison V-12 (V1710) engine in the middle of the RV's and started it. The noise was deafening and I was afraid if it blew up it would destroy a dozen RV's and even more bystanders. I read where over 60 percent of WWII fighters were powered by this engine. Not sure what this guy's objective was but he ran it at about one hour intervals and then pushed it back inside and worked on it some more. Lots of tire kicking and questions about my airplane. Most had a hard time believing it was only five hours from Seattle. Well it really wasn't but it would be, nonstop and no wind.

We departed Corona at noon on Sunday. We flew VFR over Disneyland, the Queen Mary and up the shoreline over LAX. A good plan all for naught. We were at 4500 feet with clear skies but a marine layer gave us a solid undercast so we saw nothing. It cleared up by Ventura and we flew northward along the Pacific Coast at 8500. Our destination was Half Moon Bay on the ocean just south of San Francisco. When we checked the weather, flight watch told us the winds were gusting to 40 at the International. We could see white caps on the ocean but our ride was real smooth. We changed our destination to Santa Rosa which is north of SFO and inland, thinking it would be less windy away from the coast. We flew over Half Moon Bay and listened to their AWOS and surprisingly the wind was down the runway (30) at 12 knots. Some kind of wind tunnel across the International I guess. We were cleared through the SFO class Bravo along the coast at 6500 so we got a good view of the city, Golden Gate Bridge and Alcatraz.

Santa Rosa (STS) is in a beautiful valley. The winds were gusting to 22 but straight down the runway. I was to follow a T-Craft but I didn't extend the base leg far enough and despite s-turns with numerous stall recoveries I kept gaining on him. His ground speed must have been have been 20 knots. Tower finally told me to go around. Good advice.

We had worn t-shirts on the first leg and it was even hotter at Santa Rosa so we did the same. Big mistake. The clouds began south of the Siskiyous and we had to stay at 12.5. Not bad at first but the further north, the colder it got. We tried to descend a few tomes but the clouds were too thick and very rough. We were barely on top at 12.5 and we had a 30 knot headwind. I thought we'd be able to descend after we passed Medford but no luck. The OAT was 19 deg F and we were freezing. Pat's always cold in the back and she usually dresses for it and also keeps a big blanket with her. The front is warmer and that is the first time I've ever been cold. A sweatshirt has always been enough when the sun is shining. We were in sunshine but this was about 5 PM. Flight watch said the freezing level in Tacoma was 4000 feet and there were pilot reports of moderate rime ice. Hey it's May for crying out loud. We picked up an IFR clearance over Eugene

with the thought of turning around at the first sign of ice. Actually we stayed on top at 10K and could not see any cloud build ups above us on our flight path. Good thing we arrived as late as we did because all the bad weather had moved east of Thun Field and our actual IFR time was minimal.

jb

Selecting an Approach Speed

Kevin Horton

Many type-certificated aircraft, especially Transport Category aircraft, have a landing reference speed (Vref) that is equal to 1.3 times the stall speed. Some owners of amateur-built aircraft believe that they can select an appropriate approach speed by simply noting the indicated airspeed reading at the stall, and multiply this by 1.3. This approach is not appropriate in many cases.

Many aircraft have significant airspeed system errors at low speed. A landing reference speed (Vref) of 1.3 times the stall speed only provides the expected margin from the stall if it is based on calibrated airspeeds. I.e multiply the CAS at the stall by 1.3, and then fly at this CAS. Many airspeed systems under read at the stall. If the IAS at the stall is multiplied by 1.3, one may be much closer to the stall than expected. For example, the POH for the Cessna 182Q that I fly once in a while says the max weight, aft CG landing configuration stall is at 50 KCAS or 38 KIAS. If we fly at 1.3 times 38 KIAS, that is 49 KIAS. The position error chart says that 49 KIAS = 55 KCAS, or 1.1 times the stall speed. Anyone who tried to fly an approach at 49 KIAS would likely get a nasty surprise when they tried to flare.

It is quite unlikely that very many amateur-built aircraft owners have the means to determine the calibrated airspeed at the stall. So there is no practical way to determine an approach speed that is 1.3 times the CAS at the stall. What is a fellow to do? I recommend the following, based on the flight tests that are used to determine minimum safe approach speeds for both light aircraft and transport category aircraft:

1. Fly the aircraft enough to have developed a consistent normal approach technique.
2. Ballast the aircraft to max landing weight at forward CG. Make sure the ballast is well secured.
3. Climb to a safe altitude, and conduct a series of simulated approaches and landing flares, using the same technique as you would use in a real approach and landing. Reduce the simulated approach speed by a knot or two each time. Note the aircraft controllability at the approach speed, and note the ability to flare. Note the minimum speed where the aircraft has satisfactory characteristics.
4. Pick a day with very light winds and no turbulence or wind gusts. The best time to find such conditions is right after sunrise, but even then there may be several weeks between days with suitable conditions. Be patient. Don't

risk a hard landing by doing these tests on a day with gusts or turbulence.

5. Fly a series of approach and landings, using your normal approach and landing technique, but reducing the approach speed by a knot or two each time. Pay attention to how the aircraft responds to the flight control inputs in the flare. Note any signs of inadequate control, impending stall, difficulty in obtaining a satisfactory touchdown, etc. As you reduce the approach speed, eventually the aircraft will start talking to you. It will tell you that you shouldn't reduce the approach speed any further, or you will risk a hard landing, etc.
6. Caution - Don't be too aggressive about trying to demonstrate the absolute minimum possible speed. This path leads to a hard landing, and possible aircraft damage. Stop the investigation when you have a slow minimum speed that allows an acceptable flare and touchdown, using your normal technique.
7. The following restrictions, from the requirements for type-certificate aircraft, are recommended to ensure that a minimum speed approach and landing demonstration is not a "party trick":

Once the power has been brought to idle, there should be no need to increase the power. By all means, if you need to increase power to achieve a safe touchdown, increase the power. But you should conclude that perhaps the approach speed was too low, and the minimum approach speed should be increased.

The power changes that are made should be the same as would be made during a normal approach and landing. e.g, if a normal approach and landing has the power brought to idle in the flare, it should be possible to do the same during the demonstration of the minimum approach speed.

8. Add a comfortable increment (perhaps 5 kt) to this minimum demonstrated approach speed, and this becomes your minimum operational approach speed, to only be used in calm conditions. If the conditions are not smooth, add a few more knots, so that as the airspeed bounces around in the bumps, the bottom of the bounces is no lower than your minimum operational approach speed.
9. Confirm the ability to safely manoeuvre at your minimum operational approach speed by conducting turns at that speed at a bank angle that is a bit higher than the highest you would use in service. You should be able to maintain a stabilized turn without encountering stall warning. Increase the minimum operational approach speed if required to obtain satisfactory manoeuvring capability.
10. If you have a short field landing technique that differs from your normal landing technique (perhaps you keep

power on until touchdown, and use a minimal flare, etc), repeat the above series of tests using a short field technique. You may have different minimum approach speeds for normal and short field landings.

If you later change ASIs, or make any changes that affect static system errors or stall speed, repeat the above series of tests.

Helicopter Flight

A bunch of spare parts flying in close formation. Anything that screws its way into the sky flies according to unnatural principals. You never want to sneak up behind an old, high-time helicopter pilot and clap your hands. He will instantly dive for cover and most likely whimper...then get up and smack the shit out of you. There are no old helicopters laying around airports like you see old airplanes. There is a reason for this. Come to think of it, there are not many old, high-time helicopter pilots hanging around airports either so the first issue is problematic.

You can always tell a helicopter pilot in anything moving: a train, an airplane, a car or a boat They never smile, they are always listening to the machine and they always hear something they think is not right. Helicopter pilots fly in a mode of intensity, actually more like "spring loaded", while waiting for pieces of their ship to fall off. Flying a helicopter at any altitude over 500 feet is considered reckless and should be avoided. Flying a helicopter at any altitude or condition that precludes a landing in less than 20 seconds is considered outright foolhardy.

Remember in a helicopter you have about 1 second to lower the collective in an engine failure before the craft becomes unrecoverable. Once you've failed this maneuver the machine flies about as well as a 20 case Coke machine. Even a perfectly executed autorotation only gives you a glide ratio slightly better than that of a brick. While hovering, if you start to sink a bit, you pull up on the collective while twisting the throttle, push with your left foot (more torque) and move the stick left (more translating tendency) to hold your spot. If you now need to stop rising, you do the opposite in that order. Sometimes in wind you do this many times each second. Don't you think that's a strange way to fly? For Helicopters: You never want to feel a sinking feeling in your gut (low "g" pushover) while flying a two bladed under slung teetering rotor system. You are about to do a snap-roll to the right and crash. For that matter, any remotely aerobatic maneuver should be avoided in a Huey. Don't push your luck. It will run out soon enough anyway. If everything is working fine on your helicopter consider yourself temporarily lucky. Something is about to break.

And remember the fighter pilot's prayer: "Lord I pray for the eyes of an eagle, the heart of a lion and the balls of a combat helicopter pilot."

It's never skill or craftsmanship that completes airplanes, it's the will to do so. Patrick Kenny

end

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