



RVator's Log

Newsletter of the Twin Cities RV Builder's Group

Shop Notes

-Doug

March 2016

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Upcoming Events

March 12 – Twin Cities RV Builders spring meeting. Lake Elmo Airport, 10 am.

See page 8.

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**Minnesota Wing
Van's Air Force**

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184 passengers stiff-armed against the seatbacks in front of them as the boss verifies you can stop a fully loaded 757 in 3000 feet.

Now granted, no rules were violated here. Large transport aircraft are designed to land in a crab (many have to be). And we all get paid the same whether it's a greaser or a crunch. But this guy had just taken all the fun out of the game. Where's the pride in doing a good job and providing a comfortable ride for the

Is flying fun?

It was the end of a 4-day trip. After years of working weekends and holidays, I was senior enough now to bid reasonably good trips during the week. Generally I flew with the same small group of equally senior captains. 99% of them were true professionals: proficient and competent with safety always at the top of the list. The goal was to stay out of the chief pilot's office and make the best job in the world even better.

On this particular trip, the assigned captain was a stranger to me. I don't recall if he was a reserve guy call up to fill in or what. During our time together he really didn't do anything dramatically unsafe. It just seemed like his heart wasn't in it. Example: on each takeoff, the wheels weren't in the wells before he had the autopilot on, unlatched his shoulder harness, and slid the seat back. Hard works done... time to push buttons and "manage" the systems!

So it went as we crisscrossed the country. To me it seemed like his airmanship was 100% by rote. It's just a job, right... why knock yourself out? He was the pilot flying on our last leg into MSP. I was tired and eager to get home and relax. It was a visual to 30L with about a 45-degree crosswind at 25 knots. We were rocking and rolling all the way down final. Or I should say the autopilot was rocking and rolling as the boss was still in the "systems manager" mode. We crossed the runway threshold in a big honkin' crab, on speed at 130 knots. Just as the radar altimeter calls out "thirty... twenty... ten..." he finally clicks off the autopilot. I assume he'll lower the left wing and bring the nose straight but I can see that it's not happening. Instinctively I cringe a little as we smack sideways onto the pavement and sash-shay around the centerline as millions of innocent rubber tire molecules are burnt to oblivion. Then the nosewheel falls down with a bang and then it's on the brakes really hard to make the next turnoff. I visualize



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folks in the back. A number of colleagues that I flew with in the good old days looked on flying as just a job. Maybe no different than driving an 18-wheeler or a city bus. But I'll propose that flying is not only challenging, rewarding, and ultimately supremely satisfying, it is also downright "fun"



If you are building an RV or have finished your dream project and are now enjoying the fruits of your labors, I hope you consider it an enjoyable and pleasurable pastime. I've been driving airplanes around for 50+ years and almost 20,000 hours and I still find it a blast. And I can think of no better fun flying machine than an RV. Was the building process fun? Sure! What a sense of pride and accomplishment in realizing that one can assemble all of the myriad of aluminum parts, rivets, wires, hose, and so forth into a viable aircraft. It is capable of taking you out for a couple rolls on a clear morning or across the country to see sites that few ground-pounders even know exist. Wrestling a RV tail-dragger onto the ground in a screaming crosswind may straddle the line between fear and fun, but after you have done it and you realize everything is in one piece, that sense of accomplishment is worth every frantic heartbeat!

If you're building, keep telling yourself this is REALLY fun (even fiberglass!). And if you're flying you already know it's the greatest!!

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Hours... who's got 'em

- Doug

So if RVs are so much fun to fly, do we fly more hours per year than the average private aircraft owner? Those statistics are hard to find. I have seen numbers showing the average private aircraft flies less than 50 hours a year (most probably a LOT less). Why is that? It could be cost, time constraints, weather, who knows. It does seem like a lot of hangars at Lake Elmo airport are shut tight most of the year.

I have just passed the 4-year anniversary of the first flight of my -7 and have 450 hours logged. Personally my goal is to try and fly close to 100 hours between annual inspections. That depends a lot on whether we go on any big cross-countries during the course of the year. Let's face it; RV flying is WAY more fun than droning around the pattern in a clapped out Cessna 172 (the Chevrolet of aviation!) Thus we fly more.

Here's a short list of some of our members who belong to the "1000-hour club". Are there any more out there??



RV-8 builder and pilot Tom Irlbeck has been logging time in his "Bear" for a long time. He has over 1950 hours on the blue machine decked out in his Navy squadron colors. Tom splits his time between Minnesota and Florida and has recently become really involved in soaring. He'll be back in town when the temps reach 70-plus!!



Resident CFI and tech counselor Tom Berge is past the 1800-hour mark. Much of the time is flight instruction as you know but he throws in a couple long trips each year. The yellow bird has served him well.



Pete Howell ranks up there at the top of the list for miles logged. With about 1565 hours on his -9A we have lost track of all of the cool places he and his wife Andi (and the kids) have visited over the years. Many trips were boxer rescue missions.



Recently I had the pleasure of giving a BFR to Alex Peterson in his RV-6A. He too has passed the 1500-hour mark with many memorable trips including his most recent to Arizona last spring. His Aerosport O-360 keeps humming along.



RV-10 driver Tim Olson (who will be our guest speaker at our March meeting) has touched down in all 50 states and then some in his RV-10. Based out of Eau Claire, Tim's -10 is the ultimate family travel machine. Don't miss his talk on March 12th!!

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Ed note: **CFI Tom Berge** begins a four-part series of ground instruction topics he covers in his RV transition-training course.

Part 1 - Controls and Trim

-Tom Berge

It's been a few years now since earning my CFI certificate. I had this plan to do transition training in RV's and have a lot of fun doing so. Sure, there are times I scare my students and also times they scare me though I seldom let them know it. That's the trick to this, sitting there all nonchalant, acting without a care in the world, knowing full well that, while not trying to kill me, they are at least trying to seriously injure or maim me. Yeah, it can be a sporting experience.



Before I start flying with a new student, I usually do ground school to impart some wisdom on what to expect as they learn the nuances of RV flying. This involves taking out the fire hose, turning it on full blast and offering a drink. I know some of the nuggets will stick, but most will bounce off a saturated

mind. I usually see lots of head nodding seemingly to agree with my way of doing things leaving me with the impression they do the same. But through experience, I have learned there is a gap between what is said and what is done. This is where the fun starts.



I've decided to write a series of articles laying out my ground school to give future transition students something to think about as

they maintain their currency in whatever is being flown before the big event. And right there is helpful hint #1. You are continuing to fly while building the plane of your dreams, right? Flying skills erode quickly and having to relearn what is forgotten is truly a shame. The techniques I try to pass along apply to most anything you would find yourself flying in the GA world, so fly something on a regular basis. And no, drones don't count.

The first subject is about controls, what's different from previous planes flown and what's not. I usually start on my white board writing in big bold letters, "STOP MOVING". If this one simple to say but difficult to do task is adhered to, flying an RV becomes so much easier. Some would say RV controls are sensitive, touchy or some other similar word but I like to characterize RV controls as "responsive". Isn't that a better word? RV's have no slop and no lag in the controls. You move a control and the airplane moves with the control. This is different from the certified planes most of you have flown in the past. I remember flying 172's, moving a control and then some time later, the plane responds. Well, maybe not that bad, but you get the picture. In an RV, if you are moving your hands and feet, the plane is moving. STOP MOVING!

A little psychology is in order. About 40 percent or so of everything you do is controlled by habit. There's a book called "The Power of Habit" by Charles Duhigg which explains how we function and is very insightful. The controls in a certified airplane are sloppy in comparison to an RV and as a result, your hands become accustomed to constantly moving in the dead zone where nothing is happening while the airplane remains stable. Unfortunately, you're moving mostly for the sake of moving and it becomes a habit. This becomes very evident when you wrap your fingers around the stick of an RV. I've had many students who swore they were still until looking down at the stick. What a revelation to see their own hands moving like they're stirring something. The term I like to attach to those times is Pilot Induced Turbulence. The closer we'd get to the threshold, the more stress creeps in and the more old habits re-surface because old habits die hard. In fact, changing a habit is frustratingly difficult. Just ask a smoker, nail biter or nose picker. So, STOP MOVING! And while you're at it, slow your hands down. We're not in any hurry.

While it may sound counter intuitive, a responsive handling airplane requires a slow hand. Think quiet hands.

Another control misused by far too many is that pesky trim system. I've had students tell me they were taught to trim after level off in cruise and then never again. While finding that hard to believe, I unfortunately witness this behavior on a regular basis. TRIM THE AIRPLANE! Every configuration change requires a trim change. Lower 1/2 flaps, re-trim. Lower full flaps, re-trim again. Don't wait to see if it needs a re-trim, I guarantee it's needed. And by the way, the constant you are trimming for is airspeed. Add a fist full of power while in cruise without re-trimming and the airplane will want to climb. Pull the power and down you'll go. After 3-4 phugoid cycles, the airspeed will settle very close to where you were trimmed before the power



change. A specific configuration and trim setting will produce a specific speed. Then adding or subtracting power will control the altitude. This technique produces a nice, stabilized approach. If your technique is to shove the nose over to stay on the desired glide path, then your speed will increase and the approach destabilizes. Conversely, pulling the nose up to stay on glide path, a sign you don't have enough power to reach the runway, can lead to a stall. So trim for your desired approach speed and adjust power to stay on glide path. My high tech trim checks involve letting go of the death grip on the stick to see which way the nose goes. And speaking of death grips, white knuckles on your stick hand are very unattractive.

Lastly, I'll stir a hornet's nest by saying primary speed control is the stick/elevator and the primary altitude control is the throttle. Yes, I know the opposite works as well, and most fly this way, but I said primary. If your scan notices the airspeed is low, the instinct should be to lower the nose. You are looking at your airspeed on occasion, right? Besides, if I take away your power, you won't have any altitude control, other than down. Better yet, how does a glider control its airspeed? If sometime down the road, should you be so unlucky as to have an engine failure, aren't you a glider? Wouldn't it be nice to have a nicely formed habit to control your airspeed with stick instead of throttle? Just a thought....

For the next newsletter article, let's deal with taxiing and takeoffs. I'll prove the airplane is way smarter than we are as to when it's ready to fly. Now go out and fly.

Weekend Flyer for iPad and iPhone

- Tom Court, Minnetonka, MN

Since completing our RV-6A 5 years ago, my co-builder/co-owner Bruce Fishbeck and I have taken it quite a few places, including: Yellowstone, Durango, and Salem Ohio. The airplane is a fantastic cross-country airplane even in our basic VFR configuration (all we've got for gyros is a turn-bank indicator).

But for every trip I took, I thought about the even larger number of trips I avoided taking. Thinking back at all of those forsaken trips I realized they had one thing in common, concerns about the weather. And for anything but a day trip, it wasn't concerns so much about the weather outbound, it was worries about the weather for the return.

As you can see from this chart, the typical NWS preflight weather sources are of limited help making sure you can get home tomorrow if you fly somewhere today.

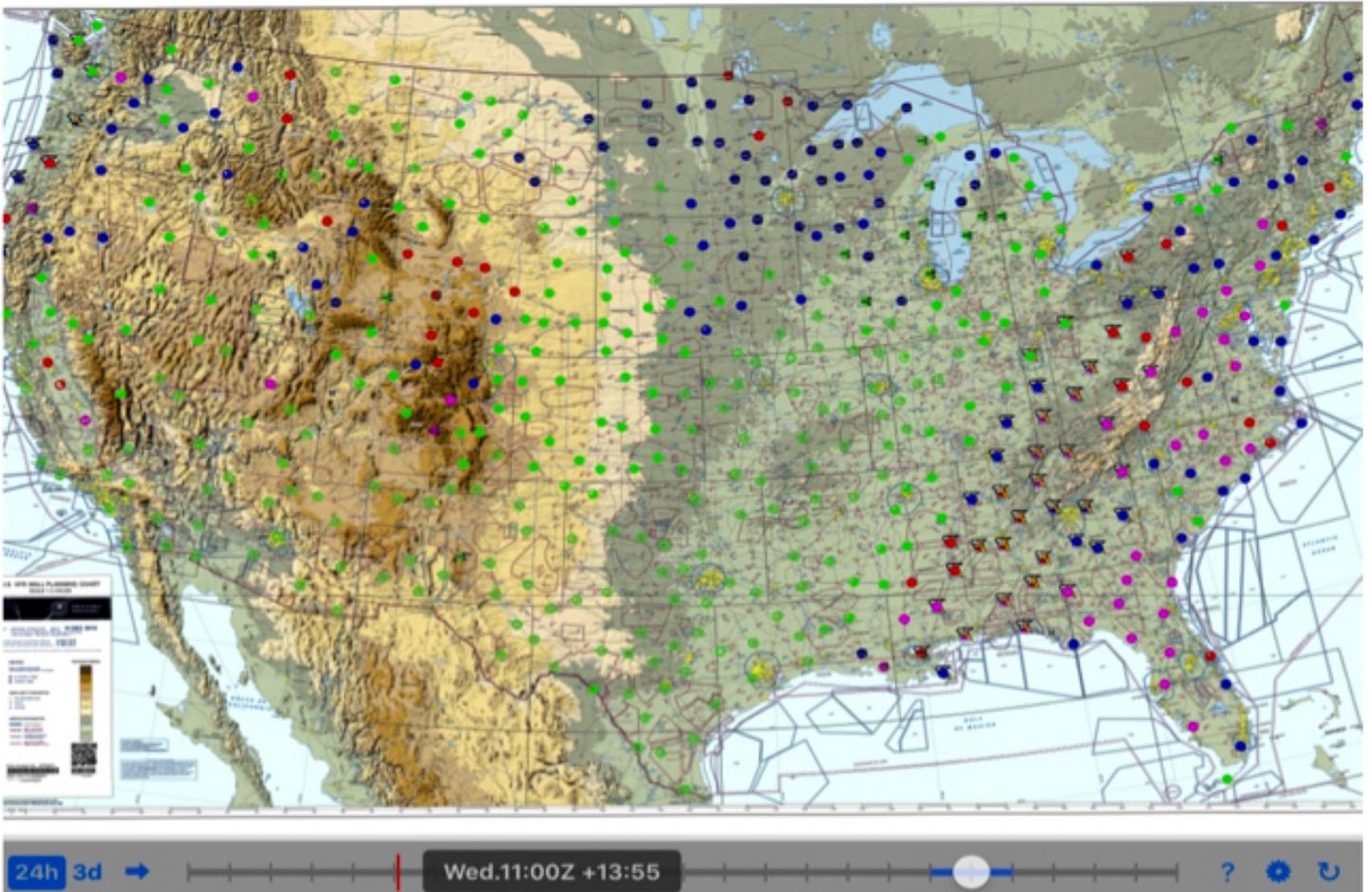


	Forecast Period	Issuing Interval	'Effective' Forecast Period
TAF	24 hours	6 hours	18-24 hours
Prog Charts	24 hours	6 hours	12-18 hours
Area Forecasts	18 hours	7-9 hours	9-18 hours
G-AIRMET	12 hours	6 hours	6-12 hours
LAMP	24 hours	1 hour	23 hours
MOS	66 hours	6 hours	60 hours

The NWS does have detailed forecast data for over 1500 airports in the lower-48 states called LAMP and MOS. LAMP cover the next 24 hours and MOS covers the next 2 ½ days. Unfortunately the NWS hasn't created an easy way to see LAMP or MOS forecasts. They do let you view the data one airport at a time though.

In defiance of the quote "everyone talks about the weather but nobody does anything about it", I decided to do something about the weather, weather forecasts that is. After 6 months of programming I've developed an iPad app I'm calling Weekend Flyer. The name is based on the app giving you a forecast for your return flight Sunday afternoon before you depart Friday evening. It takes the LAMP and MOS weather forecast data and displays it in an easy to interpret way.

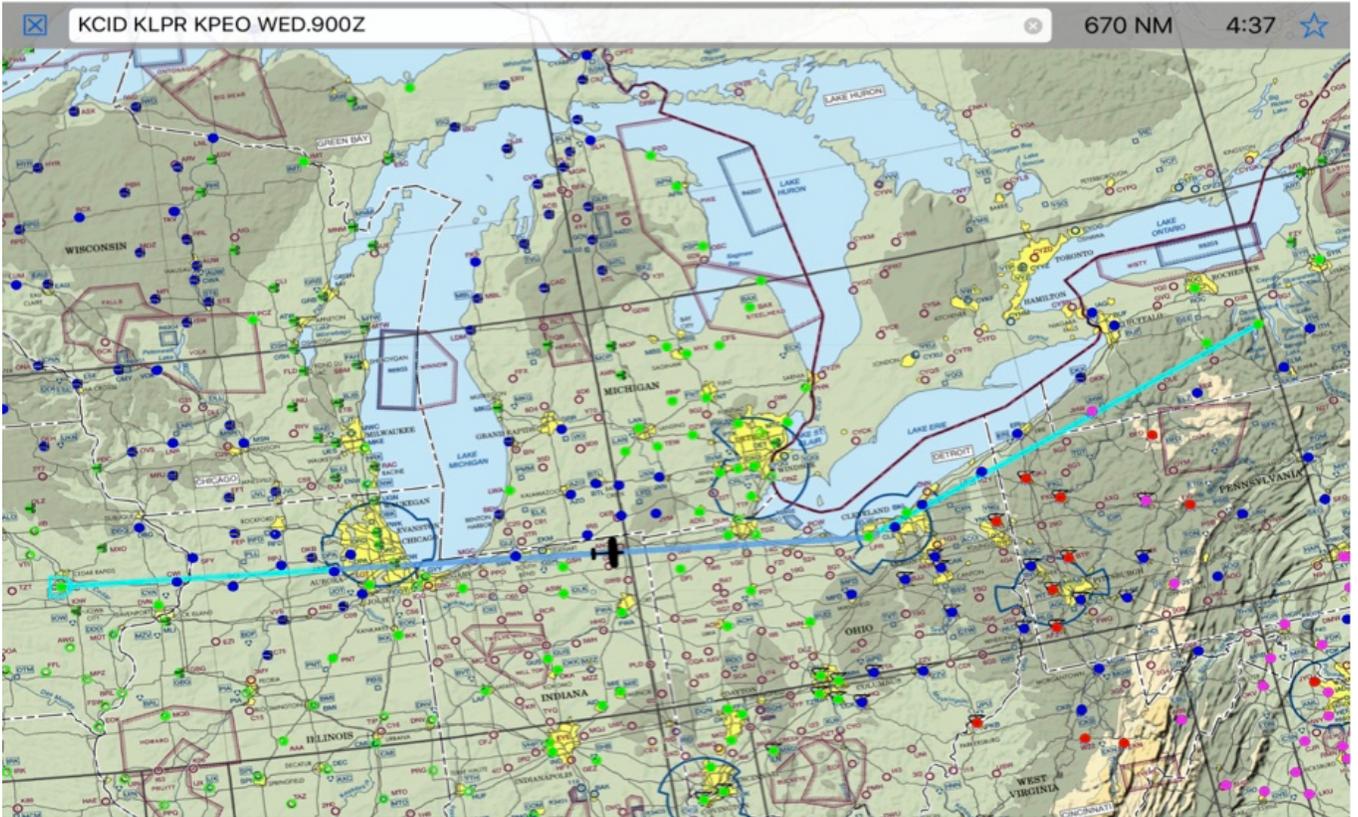
Here is the app showing most of the United States:



All of the significant weather information is shown on a single screen. The flight categories are shown with color, cloud coverage with pie chart symbols, high winds are shown with a blowing swirl icon and thunderstorms are shown with an anvil cloud and lightning. The map behind the weather symbols is the VFR Wall Planner you often see at airports.

The screen is showing the forecast for Wednesday 11:00Z. Changing the forecast time is done by sliding the ‘thumb’ along the time control ‘slider’ on the bottom of the screen. I spent significant effort to make sure the app ‘animates’ the weather quickly and smoothly.

You can also plan your route and even set a departure time to ‘simulate’ your flight before you depart. Now when you change the time using the slider the airplane symbol shows where you expect to be at that time and the weather you will likely encounter.



There is a lot more to Weekend Flyer than what I've explained, but I hope I've interested you enough to try it out. It's free for the first month, \$0.99 per month after or \$19.99 for forever. **You can download the app at the Apple APP STORE. Search for "Weekend Flyer."**

I've found it useful during its development this fall and winter. And I'm really looking forward to using it for my flights this spring.



Chicago RV-8A driver Dane Sheehan is seldom without his noble co-pilot "Buddy." What is it about a bulldog that just cracks me up? Especially a flying bulldog!!!! Especially a flying bulldog in an RV!!!

Twin Cities RV Builders Group
 12 Island View Lane
 North Oaks, MN 55124

First Class

Twin Cities RV Builders “Spring” Meeting

Saturday, March 12, 2016, 10 am - noon
Doug and Paul’s hangar
41C Mooney Lane, Lake Elmo Airport



Our guest speaker will be RV-10 traveler Tim Olson. Very few families have traveled the country like Tim, his wife Andrea and his two girls. Yes, they have hit all 50 states and 4 countries. If you want inspiration don't miss this meeting!! And... as a special bonus, tech guru Pete Howell will update us on his latest ADS-B receiver that will NOT break the bank!!

Coffee, goodies, and great friends as usual. See you all at Lake Elmo!!!!

Directions:

From I-94 eastbound, take the Manning Ave. exit and go north 3 miles to Lake Elmo airport. Turn right at the north entrance (just before RR tracks). Follow road past Valters Aviation and just past the Civil Air Patrol hangar turn right. 4th hangar on the left. Flyers can park on grass (or snow!) at east end of hangar row. Restrooms at Valters Aviation.

If lost, please call Doug at 651-398-1184 or hangar phone at 651-779-0747