



RVator's Log

Newsletter of the Twin Cities RV Builder's Group

Shop Notes

December 2014

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Upcoming Events

December 13 – Presentation and tour of the only flying Fairey Gannet in the known universe. New Richmond, WI. See page 8 for details.

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Minnesota Wing Van's Air Force

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Abraham

It is 6690 nautical miles from Lake Elmo airport to Addis Ababa, Ethiopia. Nine hours on Delta, a 2-hour stopover in Frankfurt and then 7 hours squished into the middle seat on a Lufthansa A340. Or to put in in RV terms, it would be about 44 hours and 400 gallons of 100LL in my RV-7. It's just a long, long way. Two countries not only separated by many miles, but two ends of the spectrum in regards to culture, economy, government, and life-style. It's easy to run out of adjectives in describing in life in Addis and the surrounding Ethiopian countryside. Americans use the term "third-world" which by our standards is probably close. The big city is a jumble of chaotic traffic, eye-stinging air pollution, dirty rivers, minimal infra structure, crowded markets and high unemployment. In the countryside, hard scrabble farmers and ranchers eking out a living as best they can.



Load 'em if ya got 'em.... street scene in Addis

I've made three mission trips to Addis over the past several years. For me, the first was downright scary. A 0400 "wakeup call" by the chanting street preachers with their bull-horns below our window. Horns honking as hundreds of blue taxis fought their way through the traffic. A bustling business at the used goat market across the street. This was WAY out of my comfort zone. Yet after 10 days I felt an unusual affinity to the Ethiopian people. To a fault, they all were friendly and gracious, fun loving and engaged in their community and country.

Jean came along on trip #2 and by then, we were beginning to form close friendship with the folks we worked with. In fall of 2013, we returned for another visit with our partner church south of the city.

Here we met Abraham who would serve as our translator, guide, and general "go-to" guy for a portion of our stay. In just a few days, he became a trusted and dear friend. And of course, eventually our conversations turned to airplanes! Tell someone here you are a pilot and suddenly you are a celebrity (and rightly so!!!... just kidding!!) GA is virtually non-existent in Ethiopia (there were no light aircraft at the airport... just a couple wrecked ag-planes moldering in the weeds). I told Abraham if he ever came to the states, we'd go flying.

Earlier this year, I got an email that said that he just might be able to come to the U.S. for a visit in the fall. He had traveled several times outside the country having got his masters degree in Ireland. He later worked for the British Council and several other aid agencies, which allowed him to visit the U.K. on occasion. But this would be his first trip to the U.S. I told him if he could find a way to get to Minneapolis, he was welcome to stay with us and yes, we'd go flying!

After getting a visa and taking a leave from his job in Addis, he flew to the U.S. in September. He has several friends and relatives in Atlanta, Washington, DC, and Chicago so he had places to stay during his month-long trip. We made plans for him to come to stay with us and so in mid-September, I picked him at the Union Station in St. Paul after an all-day bus ride from Chicago.

The next morning we wasted no time heading out to Lake Elmo to show him the RV. Even though Abraham spent two years in the Ireland, coming to the U.S. was mind-boggling for him. The whole concept of private aviation is off the radar, but building your own airplane is just astonishing. The weather was rotten that morning so I thought I'd take him over to Key Aviation at ANE and check out the corporate jets and get a tour of the hangar. Manager Mike Lawrence was more than accommodating so we checked out the heavy iron.



Abraham and a new Cirrus



One of LifeLink's new medevac helicopters was on the ramp and by chance my friend Ford Peterson was one of the pilots on call that day. So Ford gave us the super tour and Abraham got to try out the pilot's seat. What a cool experience!!!

Hmmm... a brand new \$6 million machine!!

That Saturday was our RV picnic so that was Abraham's first light airplane ride. We had a great time and he had a chance to meet many of our club members and check out the whole RV experience. On the way back we toured around the St. Croix valley some even though it was a rather bumpy ride. He loved it!!

As it turned out, we went flying several more times during his stay with us and he became a "seasoned" right-seater. One morning we were having coffee in Stillwater and as we were leaving a squadron of Harleys was thundering through town about to cross the bridge to Wisconsin. "What is all this???", Abraham asked. The whole concept of a "hobby" was foreign to him. People just don't have enough extra money in Ethiopia to have a "hobby". Whether it is Harleys, RVs, boats or whatever, we are so fortunate to have the extra time and extra resources to indulge in our fantasies.



Only special VIPs are allowed to clean off bugs!

The rest of Abraham's visit was a pleasure. We had some long conversations about the differences in our cultures and I learned a lot, especially about life for the average Ethiopian in Addis. Hopefully he can come back and visit again and the right seat will always be open!

* * * * *

Congrats to Steve!!

Stephen Denmark's new RV-9A made its first flight recently with Tom Berge at the controls. This note from Steve:

My RV-9A, N126SD, took its first flight on the 11th of October. She has an Aerosport IO-320-D1A with Hartzell constant speed prop, dual AFS 4500 EFIS, Navworx ADS-B, Garmin 327 and 430W. It took me about 6 1/2 years to complete. She flies very well...

There is a long list of people to thank; Mike Hilger as my tech councilor extraordinaire, Vince Bastiani and Brad Benson for unknowingly letting me take hundreds of pictures during their construction, Stein, Jed and Christer for all the help not just swiping my CC...), Pete Howell, <http://www.smittysrv.com> (a great detailed website), and lastly Tom Berge who helped with questions, transition training, pre-DAR inspection and had the courage to fly off the first couple hours.



So What's New??

As I type this, it's the second week of November and the second day of winter. At least that is what it looks outside the window. Suddenly the RV is trapped in the hangar at Lake Elmo with a nice coating of ice on the ramp and 4 inches of snow on top. Where did that beautiful fall go? At least we have nice memories to start our annual test of weather endurance that lies ahead.

Yep, we did enjoy several great weeks of flying activity. Back when I was working on the -7 project, I actually looked forward to those cold, miserable winter days. It was a lot easier to concentrate on the building project when you could do nothing else.

I haven't heard much from our local builders lately. The usual local RV pilots though seem busy especially our tech counselor Tom Berge. I can hardly ever keep his projects straight these days. He is constantly on the go, doing pre-buy inspections, working on someone's RV, or giving transition training. Hmm.. some retirement!

Peter Fruehling installed a new Garmin GTR-200

comm radio in his RV-4. Garmin always seems to be on the leading edge of innovations for his homebuilders and this compact radio is no exception. It has all sorts of cool features and I can attest Peter's transmissions are of Boeing 787 quality.



BTW, I'd good to see my old RV-4 is so well taken care of. Peter's daughter Teagan see's to it that all screws are in place and torqued to MIL specs!

The RV Man Cave

Once you have committed to start an RV project, the first item on the agenda is to find a place to work on it. I remember WAY back in the annals of aviation history, I had this grand idea to build a Thorp T-18. I may have mentioned before that I "squandered" most of the money given to us at our wedding on a couple rolls of aluminum, a pair of aviation snips, and some drill bits (it really did seem a good idea at the time.) The problem quickly arose that I really had no place to work on the Thorp. We lived in a tiny studio apartment and the kitchen table just wasn't quite big enough. So if memory serves me right, I moved the crude pieces of aluminum I had hacked out down to the apartment complex laundry room and spent many an hour cutting and filing between loads of laundry. Ah... the naiveté of youth! Thus the T-18 never got too far along before I gave up on that crazy idea.

Having a warm, dry, and well-lit place to work is pretty important. Not a lot gets done if you're freezing and can't see what you're doing!

BUT... most of us have to compromise and this recent post on the VAF forum from our own Aaron Arvig shows you gotta be flexible:

SHOP!

As my project has progressed, I have added kids to our home (3) and all the trappings that go with them. When I first started my tail kit I had a 22 x 22 foot shop. After I began running out of room in the garage, I had to down size my shop to a 19 x 14 foot side load garage.

Well, the kids get bigger, bikes all over, cars running out of room, lawn mowers, snowblowers and a boat and what do you know, there is no room for my plane! Once again it gets moved. To an even smaller area of the house. The basement utility room. Just enough room to GET ER DONE.



8 x 22 feet long. It gets tight but it's enough to build two wings. Did I mention that there is all of our home storage in there too? Big pluses of building inside...its climate controlled. Wouldn't change it for the world, although some soundproofing might help improve those late night drilling sessions...



Another reason I wanted to show these pic's is that so people wondering just how much space is needed to build a plane...well my current set up is smaller than a one car garage and I am hoping to be able to finish the plane to final assembly stages in this room.

ADS-B on the (Kinda) Cheap

-Pete Howell

I have watched with interest as the hoopla has built around ADS-B. Free Traffic! Free Weather! Well nothing is free, but when my hangarmate bought a GDL-39 and allowed me to use it, that was close enough, and the hook was



set. The information is rich and the cost is right. It is not perfect, but it is pretty darn good.

Just to set the stage, my goal here is not to explain how ADS-B works or what equipment is best – Stein is much better equipped to help you with that. I just wanted to tell you how I set myself up and how I use it.

So to start out, I had a borrowed GDL-39 (\$0 – thanks Bernie) and I am using a 2nd generation Nexus 7 tablet (refurb \$155) running Garmin Pilot for Android (\$75/year) to connect to it using Bluetooth. The Nexus 7 is the 32GB model and has plenty of storage for maps, music, books on tape, etc... It also has a very bright screen that works well in the RV-9A cockpit – no readability issues. I have the tablet mounted with a Ram Tab-tite mount that uses spring jaws to hold the Nexus without removing the case - this in turn is mounted to the cockpit side wall. All is secure and right where I want it. I did add a dual 2.1 amp/1.0 amp USB charging port in the cockpit (\$12.50) for long XC flights – Andi likes it for her Ipad, too!

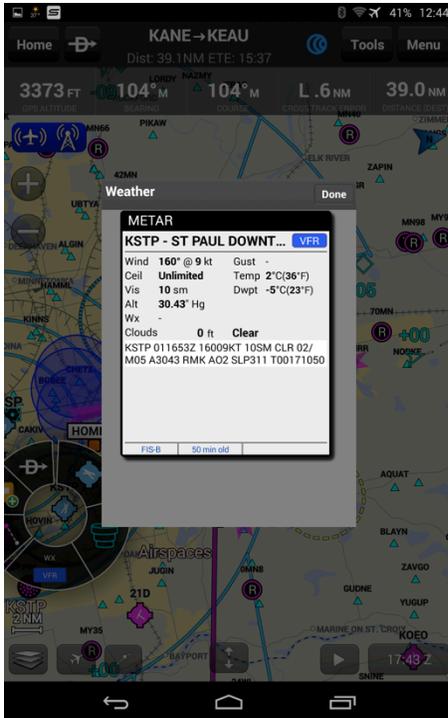
This setup got me a nice “ADS-B in” platform. There were however, some growing pains with the Android app, but the Garmin software guys are right here in the Twin Cities and once I proved to them I was neither crazy nor stupid (still debatable on both counts) we formed a nice working relationship. At least 2 releases of the Android app were the result of my work with them – a good group of people! I was now getting all the WX and “some” traffic. There are lots of good technical articles out there that will detail the “some” traffic, so I won't embarrass myself and try to explain. Garmin does a nice job with this and their info can be found here: <http://www.garmin.com/us/intheair/ads-b>.

Some screen shots will let you see what is available in the cockpit with my setup:

NEXRAD



METARs



I flew with this for months and loved not having to pay for WX - I dropped XM a while back because I found I only really needed it a few times a year, but when you need it, you really need it! The weather is not as fast as XM, but has become better in 2014 and is just fine for a VFR guy like me. I found that if I pre-load all the weather before I take off via wi-fi, FIS-B (Flight Information Service- Broadcast) will fill in the data as it gets updated while in the air.

One thing really bothered me though; I really never trusted the “some” traffic. The Mark 1 eyeball has always been and will always be my #1 traffic detector, and I had a Zaon VRX in the panel to slap me upside the head to tell me when to start looking harder!! This setup worked OK, but I don’t have the vision I used to, and the Zaon only gave me altitude and distance, but no direction. Then came the “event”. Andi and I had flown to Madison to have lunch with the not so little Badger boy. On the flight home, somewhere near Sparta, we got close enough to a 182 to see the whites of the occupants eyes. Andi was a-sleep, but I was a-speechless. I never saw them till way late. No metal was swapped, but it was way too close. I had been on flight following out of Madison, but they dropped me, and I did not call back for advisories. At that moment, the attraction of a controller’s “God’s eye” view of other people trying to kill me was very compelling. The order was placed that evening.

My “vintage” Collins TDR-950 would be replaced with a spiffy new Trig TT-22 (\$2250). The TT-22 is a little tiny box that does a whole lot of things. It is a solid-state mode-S transponder and it is an “ADS-B out” solution when paired with a position source. I’ll use my “also vintage” Garmin 396 as a

position source until a cheaper FAA blessed position comes out or until the Feds make me do it in 2020. Install took a weekend and was really a piece of cake. I also bartered some services for my own GDL-39 so Bernie can actually use his now! Spruce has used GDL-39s for about \$350, so the cost is really reasonable.

TT-22 and USB Charge Port Install



How do I like it? I’ll tell you what, I love it. It is a game changer for me. I now see what a controller sees – everywhere, all the time. I know there are planes out there with no transponder and gaps in radar coverage, that is why I still use my eyes, but this thing shows traffic – it actually scares you a bit to see what you have been missing. TIS-B (Traffic Information System - Broadcast) shows you position, distance, altitude, closing speed, direction trend, altitude trend, and tail numbers for some planes –lots of data. If it says there is a plane 2 miles off your right wingtip, keep looking, it IS there.

This setup really paid for itself when that knucklehead set fire to Chicago Tracon. Mom just had a knee replacement in South Bend and I needed to be there. There was no flight following, because there were no controllers, but the radars all still worked! I was fat, dumb and happy seeing all the traffic in my cockpit- I had better situational awareness than some corporate jets!

Traffic View 1



The Enlightened RV Nerd

Traffic 2



-Doug

Seems to be that those of us retired pilot guys of a certain age tend to hang on to those “old school” ways. Yep, even though I have a glass cockpit in my RV-7, I still find myself feeling I can interpret a panel full of steam gauges easier and faster. And yes, I still faithfully read the morning paper front to back relishing in the rustle of real newsprint that electrons on a computer screen just don’t provide.

But I won’t deny that after tossing the last section of the paper on the floor, I fire up the little iPad and enter that portal to information overload. I run through the emails, delete multiple requests from eastern Europeans for my checking account number, waste a few minutes on Facebook and check the latest cat videos. Then the good stuff... airplane stuff!! RV guys gravitate first to Van’s Air Force. I think most of us are familiar with what has become the worldwide center of the RV universe. It’s always fun to see new RVs taking to the air, check out the building tips, and pursuing the latest postings. Lot’s can be learned there but remember: we know its ALL TRUE BECAUSE IT’S ON THE INTERNET!! Right?? You can generally find an answer to your question but don’t forget “trust but verify”.

In addition here’s a list of some of the other great resources on line that I subscribe to (all free) that keeps me in the aviation loop. Some I have mentioned before and I’m sure there are zillions of others.

Mastery Flight Training – Flying Lessons Weekly (one of the best!!)

AvWeb

AOPA Aviation Ebrief

EAA Email newsletter

Air Facts Journal (remember Dick Collins from Flying Magazine?... he’s still writing here)

These are just the one’s that I receive and it’s real easy to get into information overload to the point that you freak out. But the bottom line is that as RV builders and GA pilots, we need to stay informed to stay safe. With the rapid changes in technology and regulatory changes, it is a moving target.

Hey, computers are cool but my coffee table is still stacked with *Flying*, *AOPA Pilot*, *Sport Aviation*, etc. all made from REAL trees!!!

Let’s add up the costs and benefits of my solution.

Costs:

GDL-39	\$350(in my labor)
Nexus 7 (2013, 32GB)	\$155
Garmin Pilot	\$75
Trig TT-22	\$2475
Total Spend	\$3055
Less sale of TDR-950	-\$350
Net total cost	\$2705

Benefits:

- 1) Solid State Hardware - more reliable than TDR
- 2) Free FIS-B Weather
- 3) Free Traffic Everywhere - same as a controller sees
- 4) Might save your life
- 5) Did I mention Free Traffic and Weather?
- 6) A geek rating of 8/10 - nuff said!

I am very happy with the setup and feel it delivers real bang for the buck! Questions? Shoot me a note at fly.rv9a@gmail.com.

My advice is worth what you pay for it....maybe a bit less!

Minnesota Wing – Van's Air Force
 65 15th Ave. SW
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First Class

Twin Cities RV Builders – Winter Meeting

Saturday, December 13, 10:00 am

Wings of Steel Foundation (hangar 13-3), New Richmond, WI (KRNH) airport



One of the most unusual flying machines on earth is right in our own backyard. Join us for a guaranteed amazing presentation on the restoration of the only flying Fairey Gannet in the world. Harry Odone will be our host and he will present an remarkable story on how this unique aircraft ended up in

New Richmond. Coffee and goodies as usual plus some special offers for club members on battery tenders and Fairey Gannet models (Christmas is coming!!)

For more information , please go to our website at <http://www.mnwing.org>
Questions or lost? Call Doug at 651-398-1184

Directions:

From Minnesota: Cross into WI on the Stillwater Lift Bridge and follow Rte 64 towards New Richmond. Turn left (north) on County Rd CC. Go north and then turn right into the airport at 200th Ave. Follow the map below:

