Newsletter of the Jet Pilot's Organization

Contrails

Summer 2020 Volume 32, Issue 2

President's Report

Bob Klenke

Wow, what a truly weird time! What can I say about it that hasn't already been said? Not much, so let's move onto other topics.

Unfortunately, most of the larger events we attend have had to be canceled. This includes First in Flight, Kentucky Jets, and Super Jet South. We're still hopeful for the Tiger Meet in South Carolina in October, but you never know.

Fortunately, in addition to being able to get some jet flying in at our AMA field, several smaller events in our area were able to go forward. From June 12th - 14th, we attended the Virginia Jets event in Tazewell, VA. Tazewell is located near the extreme western edge of Virginia, a stone's throw from the West Virginia border. It's a 5-hour hike from where we live in Richmond, VA, but it was worth the drive. Besides, if Marty Gurewitz can drive all the way down there from New York, we could certainly do it!

The airport in Tazewell is a great setup for jet flying with its 4300' paved runway and large grass area for tent setups. It's also in a very beautiful area of Virginia right on the edge of the Appalachian Mountains. The only issue though is that the airport is literally on top of a chopped off mountain that is 2600 feet above sea level and at least 1000 feet above the valley below. Just 20 feet off of the far edge of the runway is a steep drop-off with a slope of probably 30-degrees or more – steep enough that you can't easily climb down it. Needless to say, the prudent pilot stays within gliding distance on the downwind legs of the pattern!

In spite of this, and a pretty strong crosswind on Friday, everyone in attendance had a great time with somewhere around 15 pilots, from Virginia, New York, and both North and South Carolina attending the event. Here are a few pictures of the flight line and some of the aircraft there.

The week before the event, our intrepid JPO Vice President, Jim McEwen was taking a jet flying road trip to visit with the Nashville Jet Band. On his way back home to sunny Connecticut, he stopped by the event. He brought his Juniaer Modelismo (https://en.juniaer.com.br/) *Tucano* powered by a Kingtech K-45TP turbo prop unit. It's a very nice looking aircraft, as you can see from the picture at the top of the next column.

Here's another picture of Nationally Known and Regionally Recognized Larry Lewis, Josh Bunn, and Marty Gurewitz giving Jim some much appreciated commentary on his flight!

Later that afternoon, Larry took to the skies with his T100 Hawk.

Lee Levinson, from South Carolina was there and getting many flights on his CARF Rookie.

President's Report (cont'd) — Bob Klenke

Bob Neal flew his BVM/JL 1/6 scale F16.

Here's the aircraft from the Virginia crew (plus Marty and Jim). Jim's Tucano, my scratch-built Panther, Marty's T-1 Mini, his BVM/JL 1/6 F-16, and the tail end of Bob's F-16.

All in all it was a great and very relaxing event which was an excellent relief of stress from the goings on in the world. We plan on attending next year, and if you're in the area, you should attend too.

Later in June, I attended the Jets Over Thornburg event hosted by the Fredericksburg RC Club (https://www.fredericksburgrc.com) at their excellent flying field. They have two parallel-runways, an air-conditioned club house, and air-conditioned restrooms (no 120 degree porta-johns, yea!). There were over 30 pilots in attendance from as far away as New York, Pennsylvania, and Indiana and Frank Noll was the event CD. Here are a few pics of the event.

The folks from HSD Jets were there, holding down one end of the flight line.

Frank Noll flew his 1/5 BVM/JL F-16 a number of times, including this takeoff as part of a 3-ship formation with two other 1/5 F-16's.

Greg Alderman attended all the way from Indiana and brought his very nice 1/5.5 BVM/JL F-18.

Unfortunately, I was only able to fly one day during the event, but it was great fun hanging out with the guys there and getting in a few flights on my TopRC *Cougar* on Saturday.

I hope all of you get a chance to get out and fly jets. See if there are any smaller events that are going on in your area, or consider organizing a jet get-together at your local jet field. It's really important to do some things that you really enjoy to stay healthy, mentally and physically, in the current situation we're in.

Let's hope we can get back closer to normal in the 2021 flying season. Stay safe!

Bob

Vice President's Report — Jim McEwen

Greetings! Normally at this time of year we would be in the middle of event season but our lives have all been disrupted, to varying extents, by the coronavirus outbreak; if a family member or friend of yours has passed on or if you have lost your job, my heart and sympathies go out to you.

It was (for me) a long cold winter but I kept myself busy building my Juniaer *Tucano* turboprop, performing upgrades on my *Spitfire* "gasser," and doing maintenance on the rest of the fleet. Along the way, I learned a couple of tricks that I thought might be of interest to you so, here goes ….

For those of you who also fly warbirds, I learned a trick that is worth sharing. I had purchased the *Spitfire* where the builder had installed about 3 lbs of lead shot mixed with epoxy inside the cowl (which is only held on by five 4-40 bolts through the cowl. Needless to say, the bolt holes in the cowl were all walleyed out and the cowl would move and touch the spinner. Clearly the issue needed to be addressed. While there is lots of space in a radial engine design (*Hellcat* or *Corsair*) to mount weights on the firewall, there is limited space in a *Mustang* or *Spitfire* nose. To minimize the amount of nose weight required, you'll want to mount it as far forward as possible. A buddy shared with me his technique of installing a 1/8"-thick aluminum plate in front of the engine (sandwiching the engine between the plate and the standoffs). To determine the outside shape of the plate, a wood disc is spot-glued to the standoffs and balsa strips are individually glued radially to the disc, such that they extend to about 3/16" from the inside of the cowl. The disc/sticks are then removed and used to develop a pattern which is the outside shape of the plate. The inner portion of the disc needs to be cut out to clear the engine, but pick up the mounting bolts. In the case of the *Spitfire,* this left a horseshoe-shaped plate, about an inch wide, to which the lead will be bolted. I couldn't find any weights of an appropriate size, so I poured a set of custom weights. Working with molten lead sounds difficult and dangerous, but is actually pretty easy. I didn't even set off the smoke/fire alarm in my apartment.

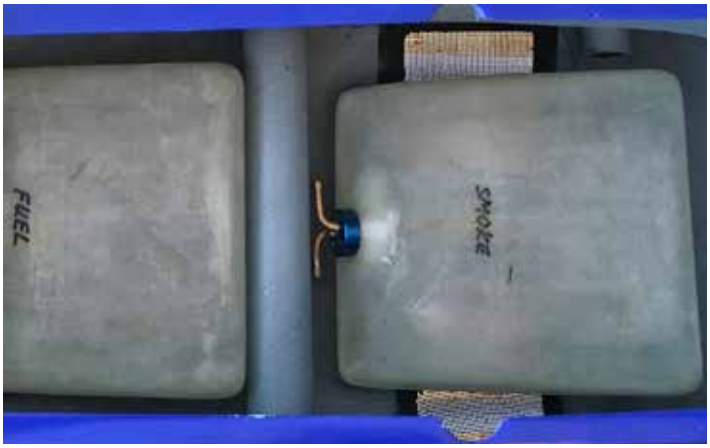
Using that area of the template and the density of lead, I determined that the weights needed to be about 5/8" thick. I bought a 8" wide plank of ¾"-thick pine at Lowe's and cut two pieces 8" long. Using the pattern as a guide, I made three cutouts (to make three weights of one pound each) so I could do three small pours instead of one big pour. This was a lesson learned from the first attempt. The second plank was screwed in place as the bottom of the mold. Dowels were used to form thru holes (for bolts to mount the weights to the aluminum plate) which were installed and then the mold was painted with three coats of BVM ceramic paint. Aluminum pellets were obtained via Amazon, a regular propane torch from Lowe's, and the most critical piece … a can of tuna fish was bought from the grocery store. Why a tuna fish can you ask? Because it is the perfect size with a large base perfect for heating, and is pressed from a single piece of metal (so the bottom can't drop out suddenly and splash you with molten lead). Using vice grips to hold the can and oven mitts to protect myself, I used the torch to burn out the plastic liner from the can. After cleaning the can, I put about 1-1/2 pounds of lead pellets into the can and melted them with the torch which took about 5 minutes. Then the molten lead was carefully poured into the mold right there in my kitchen. This process was repeated twice. Once the lead had solidified, I carefully ran water over the lead/mold. After it had cooled, I cut up the mold (now swollen with water) and removed the lead. The wood dowels were easily drilled out for the mounting bolts. The weights were then bolted to the aluminum plate and the plane was final balanced by trimming off a bit of the lead as needed.

Three custom lead weights to fit in the irregular and narrow space between the engine and cowl in my Spitfire. The outside edge of the weights clears the cowl and the inside shape clears the DLE55 engine.

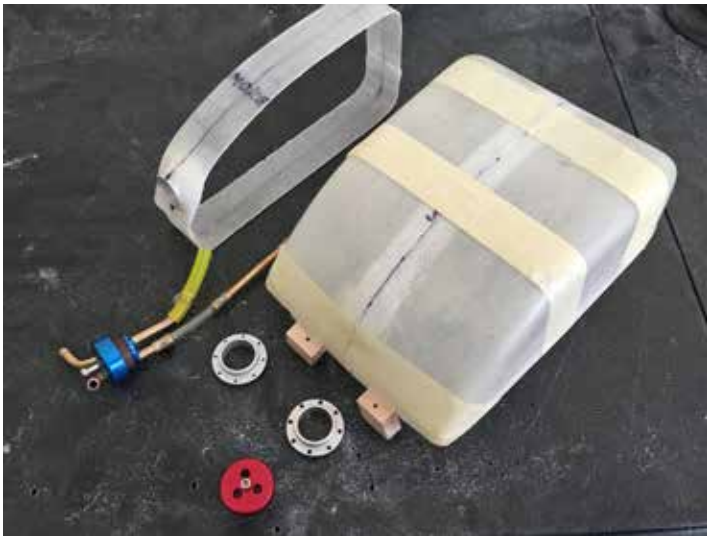
Weights installed on plate mounted in front of engine mounts. Weight at left side of photo was trimmed as needed to balance the plane.

My other "build" item potentially worth sharing is a modification to the smoke tank provided with the Juniaer *Tucano.* The kit comes with two identical 57oz composite tanks (one for fuel and the other for smoke). While 57oz of fuel is enough for 8 minutes of flying with a Kingtech 45TP, it doesn't leave much of a reserve, and 57oz of smoke fluid is overkill. Also, the smoke tank partially blocks the vents where air enters the fuselage and is later sucked into the engine. As such, I decided to modify the smoke tank to make a "combi" tank with compartments for both fuel and smoke fluid. The process is quite straightforward and is shown in the photos below. The result was a fuel load of 81 oz (enough for 12 minutes of flying) and 21 oz of smoke fluid.

Vice President's Report (cont'd) Jim McEwen



The original fuel and smoke tanks are 57 oz each. Barely enough fuel and too much smoke. The smoke tank also partially blocks the vents.



The smoke tank was cut to remove 1-1/4" from the center (including the molded port for the stopper)

A 1/16" thick piece of G10 was Hysoled into the tank to separate the fuel and smoke compartments. ¾" wide strips of 0.010" thick G10 were then glued 3/8" inside of the tank (leaving 3/8"-inch protruding past the edge).

The G10 strips align the tank halves during reassembly and provides additional bonding surface and strength. After joining, ¾"-wide fiberglass cloth is then wrapped around the joint and glassed.

The completed "combi" tank is narrower and doesn't block the air inlets, yet provides an additional 24oz of fuel (12 minutes total) and 21oz of smoke fluid.

Onto the flying … After knocking the accumulated winter rust off my thumbs, I was excited to get the *Tucano* in the air. The maiden flight and early flights went fine but I bounced a landing and chipped the 3-bladed carbon fiber propeller. Damn, they aren't cheap. I had used the Biela 22x12 3-bladed Turbo-rated non-scale prop and the similar sized Corsair scale Turbo-rated prop which worked well with the Kingtech 45TP, but I thought it would be handy to have a bit more ground clearance (if only to cut down on the number of grass clippings). I experimented (at ~$130 per prop + $75 for the spinner cut for that prop) with a few combinations and, so far, I've settled on the Biela 20x14, 4-bladed Corsair Turbo-rated prop.

I had a week-long furlough in early June and figured that, if I wasn't going to get paid, I was at least going to have a good (but safe) time. A state-by-state review of Covid status, trends, and restrictions indicated that a road trip to the great state of Tennessee could be accomplished with little risk.

Vice President's Report (cont'd) — Jim McEwen

After three months of lockdown, it felt great to be on the open road again, though I wore a mask and gloves when stopping for gas. I overnighted in Bowling Green, KY where I dropped by the SKYMAC field in hopes of finding some evening flying. The field is gorgeous and features an asphalt runway and start up areas.

The next morning, I was off to "Area 52" better known as Russellville-Logan County Airport (about an hour North of Nashville) where I met up with the Nashville Jet Band who were having a small and informal jet-together. The jet modelers have an enviable relationship with the airport authority and local full-scale pilots. It was a glorious sunny day filled with plenty of jet flying and comradery. David Jackson did a perfect maiden flight of his new J-10, Scott Harris wowed us with his big *Havoc*, Glen Sheppard got in a few laps (nice landing) with his 1.9m *Futura,* and Hank Miklich (host extraordinaire) flew his new CARF *Joker* powered with a Kingtech 85. This appears to be a great little jet that's perfect for road trips without a trailer.

A Happy David Jackson after his maiden flight of his J-10.

Elvis Olmeda and his big *Futura*.

Love those Canada schemes! Jeff Bown with his big *Hawk.*

After a great day of flying, Hank and I headed off to a restaurant outside of Nashville. This was a real treat for me as Connecticut restaurants were still closed. There was quite a wait (limited widely-spaced seating due to Covid) but it was well worth it for some good ol' Sawthern cooking. Hank was intent on getting me to eat fried catfish but I told him that I don't eat anything that is uglier than I am. Glenn Sheppard noted that really isn't much of a menu limitation.

Hank and I spent the next couple of days eating, drinking, flying, and tinkering with models in his workshop. It was like the best vacation ever! I got to participate in "build night" and "music night" with the Nashville Jet Band hosted by Glenn Sheppard who is quite the guitar wizard and fiddle maestro in addition to his jet building/flying and Model-T mechanic skills. Many thanks for the NJB t-shirt; I shall wear it with pride!

I had brought along my 84" span *Spitfire* and an EDF foamy so Hank brought me to Nashville's Peeler Park which has a 400-foot asphalt strip. Jeff Bown joined us and brought along his Shulman Aviation *Turbinator* with an old school propane P-80. The strip was more than long enough to safely operate the plane which got me to thinking that a scratch-build version from Ziroli plans with reinforced gear mounts, a modern lightweight Kingtech K70, and trailing link gear might be a workable jet solution for the 400-foot bumpy grass strip a few minutes from home. I may have found a new project for the upcoming Connecticut winter!

Alas my time in Tennessee was drawing to a close and I had to head back to New England. A big thank you to Hank and his family for hosting me; I had a superb time.

The jet flying wasn't done yet, as JPO Prez Bob Klenke let me know that there was a jet rally in Virginia. Woo hoo, that's on my route home! Virginia Jets was a great little event at Tazewell County Airport which is located on the top of a mountain that had been bulldozed flat, and the view of the surrounding countryside is beautiful. There were about 20 pilots in attendance and it was quite easy to observe social distancing yet be social. I'm sure that Bob covered the event in his column so I won't steal any of his thunder other than to say that I had a great two days of flying the *Tucano* before I had to head back to Connecticut.

I chat with people all over the country from areas where there hasn't been a Coronavirus outbreak to areas that were, or are, "red zones".

I respect that this is a country born of revolution and where freedoms are cherished. However, if this was Covid-1776, I'm pretty sure that George Washington, Ben Franklin, Thomas Jefferson, and the rest of the Founding Fathers would think it reasonable to wear a mask to prevent a pandemic and would have done so without complaint; they were pretty smart and civically-responsible people used to dealing with far greater challenges than we face.

So please wear a mask and maintain social distancing. The life you save may be yours or a family member's. My daughter, who is a doctor in a hospital ICU, assures me that it is not pleasant to suffocate (or to watch it happen) due to a Covid-compromised pulmonary system. Many thanks to all the doctors, nurses, EMTs, and healthcare professionals who are putting in long hours to help us through this. May God bless them and the research scientists searching for a vaccine, and all of you too. Stay safe!

Jim

District III Report

Mark McCracken

Ohio

Pennsylvania

West Virginia

It has been a little while since I have posted anything in *Contrails*, and I hope all are well and safe from this pandemic we are in. For me, all is good and the family is safe, and with almost four months off or slow with work, I was able to finish up a few projects and build a few others.

Within the past 18 months, I purchased a *Turbinator* kit, a Skymaster *Viper XXL*, a Top R/C *Odyssey* in the Honda Scheme, my old Turbo *Raven*, and I just bought the new *Elan*, which will still be in a box probably 'till September ... and ... I did a few trades along the way.

As for the *Turbinator* kit, not much to say. It's a standard/ usual build/arf. I stuffed an older P-80 into it then added some Sky Candy lights and she flys great.

While I assembled the *Odyssey,* it seemed that I had gremlins with me in the shop. Everything that could have gone wrong did, but if I must be honest, most of that could be me. As for quality of the kit? It's a beautiful kit, easy to build and actually comes with a good hardware package. But my problems soon followed.

When I ordered my *Odyssey* jet, I also ordered the electric gear for it. Nice fit for the gear, but when I proceeded to cycle the gear, it went smooth a dozen times, then the nose gear stopped and I saw smoke coming out of the controller.

It seems the controller has printed on the front cover the voltage: 7.4 - 11.1. So I used a 3-cell LiPo. BUT - it can only use a 2-cell. Thankfully, Mike sent out another controller. But, I came to find out that when I burnt out the first controller, I also burnt out the nose gear and when I tried the 2nd controller I burnt out the 2nd controller from the faulty nose gear ... sigh!

I got a new motor for the nose gear, but I ordered a different controller, the Xicoy-12 retract and brake controller, and all is good. It turns out that I wasn't the only one to use a 3-cell LiPo, so If you have the controller from Top RC, use a 2-cell!

This was just the start of the gremlins. I installed a P-120 with low hours and it fired up and ran great. I head out to the field all ready to fly and taxi out, give it full power, and nothing ... the fuel pump quits. So I took out the P-120 and installed my K-140 and a few weeks later, it's ready to go again.

Then, the gremlins made their last showing. The jet is on the stand, ready to go with tanks full, just giving it one last look over as it has been a very long time waiting to fly her. And ... there it was, fuel leaking out of the stopper/fill valve.

For those of you that have not built one of these jets, getting the tanks out is not easy. You have to uninstall everything and split the fuse to get them out. Finally, three days later, all is good and *Odyssey* is ready to fly. But no, it just sits! Here in the great state of Pennsylvania we have been in the hottest July ever. Where normal temps are at 82 degrees this time of year, we have been in the mid 90's most of July and yesterday, July 31, it was 104 degrees.

The big one, My *Viper XXL* has been a slow build, but I am at the final part, setting up the Powerbox radio system. My last article was mainly about the build and items I used in the build.

I am working with a radio system I have never used before, the Powerbox *Royal-SRS*. I have many other aircraft with older Powerbox systems like the Powerbox 10/24 which is a plug-and-play, all-around great receiver.

For me the *Royal-SRS* was a learning experience, but once I went from start to finish, I think it is a system I will use again. Three little buttons and a viewing screen made for an easy set up. I spit the receiver in half, meaning the first bank I set up to 5.9-volts and the larger bank I set up to 7.4-volts as most of the servos are the MKS 777A+.

Matching servos and the outputs took a night to figure out as there are some preset channels, but I cleared them all and started with a clean receiver. As of today, all I have left on the list of things to do before the *Viper XXL* can fly is to figure out the door sequence set-up in this radio, set the throws and balance. I will have pics of her flying in the next *Contrails.*

As for Covid-19, it has been the cause for many events to be canceled. As of today, there is an event scheduled for this coming weekend in Kutztown Pa. The club is run by Kerry Sterner and his crew with Erik Rudjord as the CD. This is listed as a Giant-scale event, but something tells me, with this (BCAM Flyers) field being just a few miles from the old Farview/Hamburg field, this is going to turn into a nice event with maybe a few more jets than props....

For the next issue of *Contrails*, I will have plenty of coverage of the Giant-scale event at the BCAM club field. Until then, stay safe, enjoy the summer as it is quickly flying by, burn plenty of jet fuel, and try to attend a few of the events that are still open....

Mark

District VII Report

Tim Toutant

Iowa
Michigan
Minnesota
Wisconsin

I haven't had much in the way of noteworthy information to put out since winter came. Now comes summer with a virus on our heels keeping a lot of us homebound. I have had to work during this time continuing to keep my family and myself safe. However, I have had a couple projects to work on. One being a Freewing AL-37 which I dedicated to my grandson Noah and a Boomerang Sprint in the *Snowbird* scheme to honor the fallen Snowbird PAO Capt. Jennifer Casey.

The AL-37 was a great project with Callie Graphics all the way on this one! The other dedication on this aircraft is for the Judson Center here in Michigan, which just celebrated 95 years of hope and giving to families of children with special needs. Their (appropriate) theme this time was "Judson Center Takes Flight". The Radio Control Club of Detroit was contacted and had R/C planes to display. Albeit at the time there wasn't anyone with an airliner for display. So I got the Freewing AL-37 from Motion RC and went to work. I installed a sound system to include engine start up and run up and back to idle. A great looking aircraft for sure.

Next was the Boomerang *Sprint* in the *Snowbird* scheme to replace the one I crashed last year. Thanks Larry Roper! The build was straightforward and also included Skycandy lighting and an awesome cockpit installed by Salvatore Apice. I installed a KingTech 120 and the special fuel/smoke tank from CM Jets Composite by Carlos Marquez of Spain. What a great fit in the *Sprint* to include a Slimline Showtime Smoke pump. Everything worked perfectly. No leaks on first engine run-up after repair of the turbine, thanks to Barry Hou of Pacific RC Jets. The maiden was a success with two flights on it to dial it in with the flaps. A winner in my book for those wanting an inexpensive first time turbine training jet.

Now welcome to June, the virus somewhat at bay and some flying to be done. The first jet rally of the year was the West Michigan Jet Rally held at the Baldwin Airport, MI. What a great facility and led by Len Todd the CD/MC. There were quite a few entries and on Saturday a nice crowd of locals showed up for the festivities with social distancing maintained and masks worn. I completed my maiden on the *Sprint* here after the 5pm close Friday evening. I was airborne about 9pm just before the sun went down. The Skycandy lighting was amazing and the smoke system was really cool to see.

A couple of surprise full-scale aircraft showed up to include a ¾-Scale P-51 *Mustang* (below) and an L-29 training jet. Both are awesome-looking aircraft.

Great flight performances were done by Larry Peterson with his wife Jordon spotting, flying a BVM *Renegade*.

Mike Terfehr with his fabulous Singapore-schemed F-16.

District VII Report (cont'd) — Tim Toutant

Shirish Shah and his beautiful F-16 (above) flew several flights in loose formation with Mike Terfehr and his F-16..

Fraser RC Club EDF Jet Rally

A great time had by all at the Fraser RC Club EDF Jet Rally held Sunday July 26th. There quite a few Avanti's and Migs. The weather was extremely hot but everyone still had a great time. Prop Shop Hobbies provided four - $30 gift certificates for the event. We even had a six-plane flight gaggle of Avanti's.

Till Next time stay safe and COVID-free.

Tim

Amanuel Zaya's Mig-21 accelerates for takeoff.

District VII Report (cont'd) — Tim Toutant

Chris Miller (T-33) and Amanuel Zaya (Mig-21) prepare for a "combat" sorti.

Treasurer's Report — Marty Gurewitz

Beginning Checking Account Balance (1/1/2020)		**$4,610.71**
Member Dues:	**$1,495.99**	
Total Income:	**$1,495.99**	
Expenses:		
JPO Website:	**$168.00**	
Smith Petty Event Trophies	**$550.00**	
Total Expenses:	**$718.00**	
Ending Checking Account Balance:		**$5,388.70**
Total Cash on Hand 6/30/2020		**$5,388.70**

District VIII Report

Ron Schwarzkopf

Arkansas
Louisiana
New Mexico
Oklahoma
Texas

Hello fellow mask-wearers, from District VIII… It has been an interesting (?) few months for all of us, so I hope you've been able to squeeze in a little bit of jet flying during this Covid-19 event we're living through. Since our last issue, two events I normally go to have been canceled, and a couple more have been rescheduled for later in the year. If you haven't made any events this year yet - like myself - I hope you're getting some building done. There's the bright side of it, perhaps!

Upcoming events in District VIII

Sept. 10-12: 38th Southwest Jet Rally, HOTMAC Club, Waco TX, Larry Garrett CD
Oct. 15-17: SHARKS Jet Rally, Shreveport SHARKS Club, Shreveport LA, Terry Monroe CD
Oct. 17-18: 1st Jet Rally, Fort Worth Thunderbirds RC Club, Benbrook TX, Tom Blakely CD
Oct. 30-31: Jetoberfest, Bomber Field RC Club, Monaville, TX, Woody Lee CD

Some notes regarding these events … Due to Covid-19 concerns, concessions will be very limited at the Southwest Jet Rally – so bring your own food or hit the local restaurants. The grill may be available for use.… Also, due to same reason, the SHARKS event will be held at their club field, and not at Minden airport.

Fort Worth Thunderbirds RC Club are looking to host their first (that I'm aware of) jet fly at their home field, on the South side of Lake Benbrook. This is certainly one of the nicer maintained model fields in the area, with a few years young 40 X 480' runway with taxi and pit areas. Due to current park rules and layout, there are no RV hookups available at the model field, but within the entire park there are some camping sites that may be available. Please check out www.fwthunderbirds.org for more information!

All listed events should be considered tentative. And, if you're in doubt, BYOM is the rule. (Bring Your Own Mask.…)

Bomber Field Jet Rally – June 26-27, 2020

This event was originally scheduled for March, but was rescheduled to June due to you-know-what… and Woody Lee once again CD'd this event. I was not able to make the event this year, unfortunately, but 29 other pilots did. Weather was clear for the event, with exception of a small amount of rain that quickly passed thru on Saturday. Looking through some of the pics from the event, it appeared there were many models that showed up that I've not seen at previous events. A big thank you to Mary DuBuisson, who acted as event photographer, and supplied me with some awesome pics for this column! (In the next column!)

Derrick Martin and Ashan Shams F-86.

James Hillin showing a curious kid his airplane.

Terry Monroe showing off his repainted *RebelPro.*

District VIII Report (cont'd) Ron Schwarzkopf

RebelPro and Futura Taxiing.

My Current Build Project – Sukhoi Su-17 *Fitter*

Since I've not been going to any of those pesky jet flying events this year, I've been making good progress on the 1/6 scale *Fitter.* The fuselage has been seamed together, and most of the hatches have been worked to fit in place. I still need to define how a couple of the hatches will be held in place, but I don't regard any as a show stopper.

What I've spent most time on lately were the wings. All wood structure was laser-cut from Bob Leserve at www.laser-design-services.com.

The structure was epoxied into fiberglass/carbon wingskins, per the rest of the model. For the wing pivot mechanism, I used a concept similar to what the Skymaster F-14 uses, with changes adapted to this model: The outboard wing-panels plug into a somewhat bulky aluminum arm that holds a pair of tapered bearings, pivoting about a 5/8"-diameter pin. The pin is held in place relative to the inboard wing, using upper and lower carbon fiber plates – these plates get tied into the inboard wing spar structure with Hysol and various locating tabs. If all works as planned/hoped, the pivot pin has no reason to rotate within the carbon plates, so hopefully wear will be at a minimum.

Per the actual aircraft, the outboard wing has leading edge slats, an aileron, and a trailing-edge flap. A harness for the servos will pass thru the leading edge of the inboard wing, to the fuselage. This model I suspect would be a good candidate for using Futaba S-Bus, but since I've not had reason to play with it in previous models, we'll continue on. I do intend on using an Advanced Radio Smooth Flite power expander to handle the channels with this model, but I can touch on that in a future column.

The inboard wing has a single trailing edge flap, an Actuonix linear actuator for the outboard wing sweep, and the main landing gear installation. The leading edge flap servos and sweep actuator are the remaining items still to be installed in the wing. The inboard wing also has 3 fences to be installed. The largest fence essentially wraps around the entire wing cross section, at the wing pivot location. I have not installed it yet, but it is a complication I didn't really consider too much early on. I also have been using main landing gear tire "simulators" (3D printed) for sizing, with the intentions of casting the final tire shape, so the whole "tire casting experiment" should be coming up soon.

I've made enough progress to at least put parts together to see the basic airplane shape, so I've included a couple in this column. While the model was being disassembled on my driveway, I also checked to see if the fuselage (wing removed) would fit into my vehicle, and was happily surprised that it did indeed (barely) fit, so that was a big milestone. I was dreading having to unbolt and remove the passenger seat…

Happy building, flying, and mask wearing…

Ron S.

Inboard Wings, Lower Sides in the Molds.

Current Wings Swept Forward.

District X Report

David Reynolds

Arizona
California
Guam
Hawaii
Nevada
Utah

Greetings from the sun, AKA Arizona in summer, where it doesn't matter that the flying field is closed due to pandemic, it's too dang hot to go flying anyway!

Just because events have been canceled, it doesn't mean nothing is going on. I have a few things to share from the shop in the last few months. One of those things is a 3D printer that a got myself for Christmas. Once my printer was set up I hit the website https://www.thingiverse.com/ and looked at all the many different things that can be made. Car logos, keychains, a flute for the lovely wife, all sorts of stuff.

Then I got serious with it. I found a sport plane and printed that. It has yet to be flown due to the loss of my local field, but it went together easily enough once I printed an entire wing's worth of settings that didn't work first.

Once that was done, I started wondering about printing a fan. Back to thingiverse and type EDF in the search and it comes up with some interesting ideas on what an EDF is. Some are obviously low power toys, some are just, well, no. I did find a few larger fans that looked good, but I didn't want to put too much power into something that I wasn't sure if it would blow up or not.

I settled on a design for a 64mm fan that look like it had possibilities. I also like the fact that the rotor had an outside ring that would help keep things together. The fan printed in five different parts: rotor, shell, motor mount, intake ring, and center section/stators. I also printed a spinner but ended up not using it. Print time was around 6 hours.

The first happy surprise was how easily the rotor balanced. While a bit of sanding was needed, I would say that the overall density must be very consistent. Once it spun up it felt rather smooth as well and ran true, so the printing seems to be precise, even with my low-end machine.

Once I was convinced that it wouldn't immediately self-destruct, I went with some full power runs. With a 2s pack and a 3500Kv motor it pulled 20-amps and generated 120-watts. It was at that point that I noticed the motor wires getting warm so I decided to regroup.

I wasn't all that surprised that it was a bit of an amp hog with 20 blades. Well, what happens if I cut out every other blade? Still on 2s the watts went up to 130 and amp draw stayed the same and the wires didn't get as hot.

On to 3s! 3s pulled 37 amps and 400 watts. Not a barn burner, but not bad considering the design either. I'm currently looking at ideas for putting this little fan in the air, possibly a twin. After all, all it takes to make counter rotating fans is to flip the file before you print it.

Also getting some shop time is my FMS A-10. It's a fun jet to fly however as I may have mentioned I like things on the different side. More and more I have found myself looking at firebombers and in some of the darker corners of the internet there are a few pictures of a design proposal that was made to the US Forest service to convert A-10s for firefighting. It never went any further than paintings and a few desktop models as the idea was given a hard pass.

A bit of paint and some new stickers from Calligraphics and the Firehog is a reality. Enjoy the pictures on the next page.

That's all I have for this issue, I hope everybody is staying safe and healthy and until next time, keep the low passes where they belong.

Dave

District X Report (cont'd) David Reynolds

Canada District Report

Jeff Daly

Hello everyone. It has been an exciting year for me since I last submitted a report. After an 18-month process, I finally retired from the RCAF as a senior engineer with the CF-18 Hornet fleet to become a civil servant engineer within Canada's National Defence Department. I'm happy working as the Program Manager for a large upgrade program for the CF-18 as its retirement has been extended into the 2030s… job security for sure. So, I must apologize for being absent with the *Contrails* reports.

The COVID-19 crisis in Canada has had an obvious impact on our jet events … lots of cancellations like in the US. I expect some events to resume in the September time-frame, and I really hope that happens as I haven't flown a jet in almost 10 months. I hope that you are all doing well coping and keeping healthy. Here is what I'm tracking for jet events in Canada:

REMAINING JET EVENTS in CANADA

23-27 Sept: Thunderthrust over Chatham-Kent, Chatham, ON
TBA: Wingham jets, Wingham ON (pilots only)

In this edition, I have some event coverage of the Thunderthrust event from 2019 and some discussion on trailers for our RC jets.

7th annual Thunderthrust over Chatham Kent jet rally.

I remember it being an awesome event! Not only was the airport facility perfect over the half-week-long event, the local area offered lots of fun, restaurants, pubs and nice people to hang out with. Chatham is so close to the Detroit border that some our friends from Michigan attend, but I'm surprised that more don't. Many pilots arrived on the Wednesday and left on Sunday. Peter Doupnik, event organizer extraordinaire, made a deal with Mother Nature for 5 days of sunshine! The jets ranged from turbine-powered foamies to ¼-scale beauties. Saturday night was the awards dinner and some unique trophies were awarded such as the "Confetti Maker" and "Variable Center of Gravity Champion"…lots of fun. For the ladies attending, each was presented with a special cup called "The Housewives of ThunderThrust" to thank them for supporting the pilots. Lots of prizes were donated, such as gyros, servos, UATs, gift certificates and even a case of beer! To top it off, JPO sponsored a Top Gun award, which went to Bob Bennett for sharing his knowledge and helping out others inbetween his great flights. Thanks again Peter to you and the volunteers for the memories. I can't wait until this year's event in September. Here are some photos compliments of David Penchuk.

Larry and Jorden from Michigan with their new award winning F-86.

Jeff Truemner and his Sab Avio Jets M169 *Havok* from rpmjets.com

Canada District Report (cont'd) — Jeff Daly

Peter Doupnik, event CD, and his Sab Avio Jets K175 *Drake*.

Mike Stevenson and his Russian jet.

Blair Shrubsall's Skymaster F-5 in 419 Sqn colours.

Doug Boyle and his new large Skymaster F-4 *Phantom*.

RC Trailers

With no flying yet for me this year because of COVID, I thought to have a discussion on a topic we don't talk about too much, our trailers. I bought a trailer a couple years ago and there is a lot of thought that goes into buying one and configuring it for carrying R/C jets. Here are my personal thoughts and logic for selecting a trailer and setting it up.

Do you need one? That is a fundamental question. The selling point for me was the convenience of taking everything with you to a jet event, parking it at the airport near the set-up area and being able to store my jets in it overnight. I would never blame anyone, but I am fairly certain I lost a jet from an H-stab crack caused by someone accidentally banging into it inside a storage hangar at night ... the H-stab failed in flight. Since then, I store them in my trailer for protection.

Size? Size does matter, and you will need to get a trailer that will meet your needs for next 10 years. You obviously need one that will fit your jets, maybe some of your friends' jets, shelters, fuel, support equipment, etc. A trailer that is too big and heavy will cause some trouble for your tow vehicle and excessive fuel consumption. I went with a 12ft x 7ft with a 3ft wedge front (15ft inside length). That provides lots of storage up front and in the rear with the jets in the middle. I went with a 7ft wide so that I can push my jets inside without taking them apart for overnight storage. For height, I went with a standard-height trailer that provides plenty of height for double-decker beds for the jets and it will fit in my garage if needed … I'm 5'10" and can walk freely inside without hitting my head.

Wedge front or not? We fly airplanes, so we know aerodynamics is important. The wedge reduces trailer drag and provide some extra space inside. Some trailers have a 2ft wedge and some 3ft … the longer the better in my opinion! I have a 3ft wedge on mine and have both a small table and shelving unit for storage of lightweight items.

Number of axles. A dual axle provides more safety for long hauls, in case of a blown tire, and adds directional stability in crosswinds. Plus, the front axle should have electric brakes, which really helps for controlled stops on lighter-tow vehicles like SUVs. A dual-axle also doubles the weight capacity, if you want to use the trailer to haul something else heavier than R/C jets. I went with a dual axle with brakes and it tows very nicely.

Canada District Report (cont'd) — Jeff Daly

Torsion axle vs Leaf Springs. I seriously considered torsion axles thinking that it would provide a softer ride, but decided against it from a cost perspective and indications that you apparently still need sufficient weight in the trailer for the torsion system to be of advantage. I went with standard springs, but run my tires at 30 psi and strap everything down … no problems.

Aluminum or steel construction? This factors into how long you want a nice looking trailer, storing it outdoors, trailer weight and esthetics's. I have an SUV and wanted to keep the weight down, and keep it outdoors during flying season and store it indoors over the winter, so I went with an all-aluminum trailer. It cost a couple thousand dollars more, but it is low maintenance and since you have to have nice wheels, it has four aluminum wheels too!

Rear ramp or doors? Doors take up less space when open, but the ramp makes it easier for loading and offloading. Even by myself, I can load most of my jets by walking up the ramp. Also at the end of a day's flying, I push my jets up the ramp on their wheels and into the trailer for overnight storage, ready to be pushed out in the morning. Most trailer companies do not charge extra for the ramp, but some do.

Setting up the inside. This is entirely your preference, and I've seen all kinds of solutions. I do like the e-track system for the walls and floor. For the walls, I mounted vertical track so I can position two beds at the height needed for the jets. The end fittings for a 2x3 or 2x4 make it easy to attach the beds to the track. Also, I have e-track on the floor to strap shelters and other containers to the floor, especially at the back of the trailer near the door for weight distribution. I found that with wedge front trailers, the tongue weight can be higher than non-wedge trailers. My empty trailer weighs approx 1800 lbs, but the tongue weight was over 300 lbs. So, I bought a 45 gallon tote at Home Depot (Husky brand) to contain the fuel jugs and other heavy items, and I located it at the rear of the trailer strapped to the e-tracks. That moved weight to the rear, along with some tables to reduce the tongue weight.

Security. You can spend a lot of money on your trailer, and securing it from theft can be a concern. If a professional thief wants to steal it then I don't think there is much to stop him/her, but I can make it difficult. I found this cool chain from kryptonitelock.com, called the *New York Fahgettaboudit chain*, made from 14mm hardened manganese steel with an impressive disc shackle, and is 5 feet long. I use it to chain both wheels together on one side of the trailer with the shackle on the inside of the wheel well. Chain cutters will not cut it, so a thief would have to use a torch or grinder to get through the chain, which would raise quite a bit of attention in the neighborhood from the noise.

Anyway, if you don't have one, talk yourself into getting a trailer and enjoy it. Here are some pictures of mine, made by the Canadian Trailer Company in Goderich, Ontario, Canada.

Until next time, be safe!

Jeff

View from the side door, looking forward.

Canada District Report (cont'd) — Jeff Daly

An awesome Husky brand 45 gallon tote from Home Depot.

e-track on the floor.

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Tim Toutant captured this full-scale L-29 “joining the fun” at the West Michigan Jet Rally .