

Newsletter of the Jet Pilot's Organization

Contrails

Winter 2015

Volume 27, Issue 1



Chris Wolfe's JHH A7 Corsair
powered by an e-Turbax is caught
hauling the mail in front of the
Superstition Mountains at the AZ
Jet Rally in Mesa, AZ

President's Report

Bob Klenke



Building is back! Well, it really didn't go away, but the sheer number of arfs available in the past five years or so has made building from scratch, or a kit, take a back seat for most of us. Rest assured, I like arfs as much as anybody - Louie and I have four right now, two CompARF, one JL, and one Xtreme ARF. It's just that there is something uniquely satisfying about creating an aircraft from a box of parts (or a box of wood), not to mention having something at the field to show off that is completely unique.

You might ask, "what made you think about this?" Well, I noticed a general increase in kit/scratch-built airplanes at the fly-ins during the past season and from the number of build threads on the internet forums, I expect that there will be quite a few more this season. Here are some of the notable efforts that I've come across recently.

Larry Wright, from Swoyersville, PA, wanted a unique 50's style Navy jet. He had already scratch built a Ziroli *Panther* which he powered with a Jetcat P-80. For his new subject, he selected the North American FJ-1 *Fury*, which was the first jet aircraft to reach operational service in the US Navy. Larry started by making his own plug for a fiberglass fuselage, making the molds, and pulling several fiberglass fuselages from it. He designed built up wings and tail surfaces and a fully detailed cockpit. The end result was a fantastic and totally unique scale model that flies as good as it looks. Larry won the "Pilot's Choice" award at the 2013 Hamburg Jet Jamboree with his *Fury*. If you'd like to see more of Larry's efforts, his build thread is here: www.rcuniverse.com/forum/rc-jets-120/11282739-fj-1-fury-1950-navy-jet.html



Ron Stahl, our new JPO District IV Vice President, has been in the hobby and a professional UAV builder for many years, and has been an associate of Nick Ziroli for many years as well. Ron scratch built a Ziroli *Turbinator* and liked how it flew so much, he decided to blow one up to 125% of its original size. It took Ron a couple of years to complete his effort, but the result seems to be well worth it. Ron campaigned his big *Turbinator* at quite a few events last season and he, too, took home a "Pilot's Choice" award, this one at the Summer Afterburner event (also in Hamburg, PA). Ron, who is from Reistertown, MD, detailed his building effort for the big *Turbinator* online and you can see it here: www.rcuniverse.com/forum/rc-jets-120/10793168-enlarged-ziroli-turbinator-125-size.html



Sean McHale, from Malvern, PA is a prolific builder and flyer (see his webpage at: <http://www.strictlyscale.com>). Sean documented his recent build of an Avonds F-104 kit with a time-lapse video taken in his shop. The next time you have 20-30 minutes to spare, you owe it to yourself to watch the time-lapse video of his build of the F-104 on YouTube at www.youtube.com/watch?v=sBNXOnnAM7E&sns=em). It's fun, fascinating, and will give you some excellent building tips - even for the next time you tackle an ARF. Of course, the end result is an excellent example of a scale model of the "missile with a man in it."



President's Report (cont'd)

Bob Klenke

Our JPO Vice President, Jim McEwen (AKA "Mr. Gripen"), is building an Airworld *Gripen* kit in preparation for the Jet World Masters this summer. Not only is Jim building the kit, but he's expending a great deal of effort fixing numerous scale "errors" in the kit and adding additional scale details. Jim has access to a *large number* of excellent pictures of the full scale aircraft upon which to base his efforts, and he too, is fully detailing his efforts in a comprehensive build thread. As in these other efforts, it's a great source of inspiration and many techniques to use on our own projects. You can see Jim's work here: www.rcuniverse.com/forum/rc-jets120/7900053-jas-39-gripen-owners-build-thread-39.html#post11911013



There are more examples out there for sure, and I've listed a few others below. Take a look at them - they may inspire you to get a new project on the bench. It doesn't have to be complex, and it doesn't have to be finished for this flying season in a feverish two month building session, but I have found that mixing some building projects in between the arfs can lead to a longer-lasting, and more satisfying experience in the hobby. That, and we all get to enjoy seeing the results of our fellow jet builder's efforts at the flying field.

Other recent build threads to check out:

- Long-term 1/7th F-14D design and build thread by Thomas White, North Port, FL
www.rcuniverse.com/forum/rc-jets-120/8868360-1-7th-f-14d-scratch-build-thread-building-started.html
- *Big* A-5 *Vigilante* design and scratch build by Joe Felonk, Willow Springs, IL
www.rcuniverse.com/forum/rc-jets-120/11595506-big-5-vigilante-build.html
- 1/4 scale *Vampire* scratch build by Jerry Bern, IL
www.rcuniverse.com/forum/rc-jets-120/11610857-new-1-4-scale-build-starting.html
- Sabre XLT - Scratch built flying wing sport jet by Gary Jones, Saint George, SC
www.rcuniverse.com/forum/rc-jets-120/11612087-sabre-xlt-large-scratch-built-flying-wing-sport-jet.html
- Mick Reeves Hawker *Hunter* kit build Bob Klenke (yep, that's my humble effort!), Richmond, VA
www.rcuniverse.com/forum/rc-jets-120/1231873-building-mick-reeves-hawker-hunter-12.html#post11948122

If you have other build thread that the community would be interested in (I'm *SURE* that I missed many), please let me know and I'll mention it in a future column.

Until next time!

Bob

Treasurer's Report

Beginning Balance as of October 1, 2014	\$2,538.12
Income	
Dues - Cash/Check	\$250.00
Dues - PayPal	\$743.07
Canadian Postage Refund	\$9.55
Total Income	\$1,002.62
Expenses	
Stamps	\$19.60
Postage	\$74.50
Contrails	\$1,087.55
Trophys	
Total Expenses	\$1,181.65
Ending Balance as of December 31, 2014	\$2,359.09

Respectfully submitted: Carol Brusa

Vice President's Report

Jim McEwen



Greetings! I write this at the end of January and I, first of all, want to say that I hope you all had a wonderful Christmas and New Year's celebration with your family and friends. I also hope that perhaps there was a new kit, turbine, or radio under the tree and if that whole naughty vs nice thing got you and you ended up with a lump of coal, well ... better luck next year!

I'd like to touch on a few subjects in this column including UAVs (drones), events, and documentation for scale building.

Drones - Let me start by saying that overall I feel that the development of drones could, in general, be a good thing for the hobby. UAVs are interesting high-tech flight vehicles that offer hobbyists a new facet of recreational activity and can help grow & perpetuate the hobby. All of this must be done safely, of course, and in such a way that the privacy of people is respected. It seems to me that most of this could be accomplished with a little bit of common sense.

I think that any reasonable person would object to a video drone flying over their backyard on a Sunday morning while they are sitting at their patio table reading the newspaper while wearing a bathrobe, and then having the video appear on YouTube. I am astounded by the continued instances of drone enthusiasts out there who seem to think that it is perfectly acceptable to fly a quadcopter in the approach path to an airport (JFK, for example) because it seems like fun or perhaps they'll get some cool video. Other well-publicized incidents include people flying the drone down a crowded beach to get some bikini videos, or around a downtown area, or near the White House. Has society deteriorated to the point where people don't even bother to ask themselves, "Is this a good idea?" or "Could something go wrong?"

I recently saw a video of a children's toy that was both a car and a plane. Take it out of the package, drop in some batteries, and take off from the street. The toy weighs about a pound, flies at about 40 mph, and seemed to be providing the ten-year old pilot with great enjoyment right up to the point where he put it through his neighbor's window. One thing missing from the video was any form of parental supervision.

I seriously doubt that regulation is the answer, as some in government would have you believe. The guy who crashed his drone on the White House lawn was reported to be drinking, and he took off from an urban area in the most heavily-regulated airspace in the country. What was missing was common sense. Unfortunately, common sense is all

too rare these days and I fear that our hobby will take the brunt of negative effects of these and similar incidents.

Education and personal responsibility, not more regulation, is the answer. If you see someone flying anything in an unsafe area, it might be a good thing to politely strike up a conversation and suggest that maybe what they are doing, or where there are doing it, isn't a great idea. It may not result in a behavioral change, but it is worth an attempt. As for the total idiots who fly near the approach path of commercial airliners, I'm all for jail time or even more draconian methods of weeding them out of the gene pool.

Okay, I'm off my soapbox and on to our regularly scheduled column, starting with:

Event coverage - The 26th Annual Arizona Jet Rally at Superstition Airpark (it is a Real Flight, flight simulator "photo field" so check it out!) was held back in November. George Kreyling did a great job as CD of his first event. There were 43 registered pilots, which is large enough to give some variety but small enough to allow for as much flying as you want. There is a substantial electric presence at this event and I expect that District X VP Dave Reynolds will be covering the event in his column. I don't want to steal too much of Dave's thunder but I would like to comment on a few planes & pilots that I found impressive.

"Electro" Bob Belluomini made the trek from Ohio and brought along his JePe F-22. When it comes to electric performance, Bob is the man, so it was no surprise that he took home the Best Ducted Fan or Turbine award. A gorgeous BVM F-100 owned/flown by Sylvain Allard caught everyone's eyes; I mean this thing was sweet. The plane had suffered a previous over-G situation at 0 feet AGL which resulted in extensive damage. Sylvain's builder, Rollie, did a fantastic job in the repairs and refinishing and the plane won Best Scale Markings. And last, but certainly not least, *Contraails* editor Greg Moore received the CD's Choice for his F-15 in Japanese markings. Well done Greg!



"Electro-Bob's" JePe F-22 returns from a sortie.

Vice President's Report (cont'd)

Jim McEwen



Sylvain Allard's F-100 taxiing back after a successful re-maiden.



Myself, Bob Belluomini, and Greg Moore with our rides. Greg is the guy on the right with the really big smile.



Greg Moore's F-15 on approach to land after another successful mission!



Dave Shoffner's F-86 landing at Buttonwillow.



Chris Wolfe's Mirage climbing out in afterburner with the Superstition Mountains in the distance/below. The flying site is a "photo field" in Real Flight simulator.



Ray Olsen's FW *Flitzer* made from an *Elan* kit.

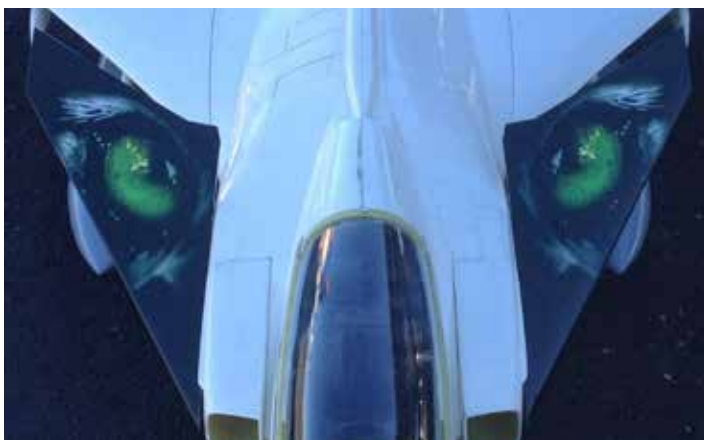
Vice President's Report (cont'd)

Jim McEwen



The *Flitzer's* cockpit.

Recently, I purchased from Callie Graphics (www.callie-graphics.com) a set of custom vinyl prints for the canards and fin of my Airworld *Gripen*. It was fast, simple, and inexpensive. I emailed a pdf file and received the vinyls by Priority Mail four days later, all for the awesome price of \$36. Callie can print any graphic up to 28" wide x unlimited length so give her a try the next time you need graphics for your project.



Gripen canards with Callie Graphics vinyls.

Documentation for Scale Building - There is an old saying to never build a competition-scale model unless you (or a friend of yours) has access to the full-scale aircraft. I couldn't agree more, as it is highly unlikely that web searches or books can provide all the photos and information that you will need. Luckily, museums can provide a solution and a simple web search can provide you with a list of museums that have *the* aircraft on display. With some luck, one may be near you.

Jet Team USA Captain Andy Andrews is building an Air-C-Race F-89 *Scorpion* for competition both at Top Gun and

the Jet World Masters. Fortuitously, the PIMA Air and Space Museum in Tucson (about 90 minutes from home) has a *Scorpion* on display. The PIMA planes are not behind barricades so I was able to walk right up and get all the measurements and photos (about 600) of scale details that were needed. Unfortunately, the plane has been baking for many years outside in the desert sun so the paint has faded or flaked off. The USAF Museum in Dayton, Ohio, also has an F-89 that is in pristine condition on display, but it is behind a railing. Andy contacted the museum who graciously provided access to the aircraft as well as a staff volunteer who escorted us as we snapped a couple of hundred more photos of all the markings and compared all the paint colors with color chips.

Things that you should bring on such a trip include tape measures and wooden yardsticks (which don't reflect a camera flash), tripod-mounted spot lights to fill in any shadows from the museum lighting, spare camera batteries, a fan deck of paint color chips (see www.fed-specs.com), and a checklist of all the photos & colors that you need. It is guaranteed that you will miss something without a checklist ... we did!



Comparing the color of markings to a Fed Std color fan deck. FS13655 paint.

Pictures of markings (like these) can be easily turned into dry transfers or printed onto adhesive back vinyl.

In my case, the only *Gripens* on display are in museums in Sweden and are not in my desired Czech Air Force color scheme. However, given the global information age in which we live, I was able to get the needed photos from fellow modelers in both Sweden and the Czech Republic, as well as from the squadron itself. Never say never!!!

Well, that covers it for now. My next article will include coverage of the Monster Invitational Jet Rally near Palm Springs, CA.

Until then: Fly Safe!

Jim

District I Report

Brian Lloyd



Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Happy New Year! Man, what a fantastic year we had in 2014. Sorry folks, for missing the fall *Contrails* - I don't have an excuse so I won't make one up.

August found us in the furniture capital of the world - Gardner, MA. where Jeff Lyndz and Karen (we all know Karen runs the event) treated us to a fantastic weekend of flying. The event is always well attended and extremely well run. At the end of each day is the famous "happy hour" during which the participants all bring a pot-luck item. We relax, enjoy good food and good friends, and do some evening flying. On Saturday night, Jeff and Karen outdid themselves with a local guitarist, a catered meal and an evening of foamy flying for all the pilots. Jeff added a special touch to the event with a balloon-burst contest utilizing your favorite (or not-so-favorite) foam airplane. A cash prize was awarded for busting all three balloons and yours truly dominated the event, however, Jason Plumer certainly gave me a run for my money.

Happy Hour, while a lot of fun, can also get the pilots into trouble. My wife sent a batch of cookies with me with strict orders not to eat them. Throughout the day the cookies seemed to disappear and my attempt to replace the home baked cookies with "Chips Ahoy" was discovered by Karen.



I immediately placed the blame on my buddy Domenic - who was then placed in the specially created Impound Area.



Domenic later redeemed himself by winning the District I Top Gun Trophy along with the F-86 *Sabre* microjet, which he generously donated to one of the young spectators. In the true spirit of the hobby. Ray Labonte of Ray and Robin's Hobby Center in Falmouth, ME then donated a transmitter to the young man. Kudos to both of these guys.



The following month brought the pilots up to Maine, to Ray Labonte's spectacular event. Ray goes through great pains to put on a fantastic show. I don't know how Ray does it, but he always manages to schedule his event during the four hot days that Maine has each year. Despite the heat and humidity, and many melting pilots, the show went on! One of the main sponsors of the event is Team Horizon, which was well represented with skilled pilots. Well, the boys from New England stepped up to the task also - we were also well represented and not wanting to be left out, in good spirits we proudly posted our own signage.



District I Report (cont'd)

Brian Lloyd

Ray's event not only centered around jet flying, but in the spirit of growing our hobby, also had areas for r/c cars, helicopters, and the exploding area of our hobby - electric foamies. The event was well attended - I suspect there were a couple hundred pilots in total. Ray also has an evening dinner, complete with Maine lobster and night flying. A big thank you to Ray and his crew for a job well done!

Unfortunately, here in New England, the winds picked up and the cold weather rolled in. We were able to have one more event at Plum Island in Newburyport, MA. This was a small, local event that is open to all types of r/c aircraft, and they welcome jet flyers with open arms. For the weekend, we are able to co-exist, with gas, glow and electric aircraft of all sizes and types. We said goodbye to our friends for the winter and headed down to our basements to get ready for the following flying season.

In early December, my wife dragged me out of the basement, kicking and screaming, covered in sawdust, epoxy, and CA glue, and told me we had our third annual jet-together that afternoon. This is a true wrap-up to the season. Forty-three pilots and their significant others crowded into our humble home for an afternoon of camaraderie and friendship. It was a pot-luck event - the food was plentiful and people somehow went home with more than they brought. We often find all of the men in the workshop, but we come up for air, food and drink on occasion - and the women always seem surprised we are there. We anticipate this event with mixed emotions - it truly is the end of the flying season, and we won't see many of our friends until the snow melts and the smell of kerosene is in the air!



And last but not least, let's welcome Jamie McDonough to the fold - new waiver holder and promising jet pilot. Great job, Jamie - welcome!

Finally, from The Co-Pilot's Seat: Karen has enclosed a photo and comment: Ladies, I will leave you all with a little bit of eye candy..... This priceless photo of the view from the pit area! Those are our guys out there. Somebody has to love them!



Until Next time!

Brian

District III Report (cont'd)

the light and activates the LED with a single flip of a switch on the radio.



Now I know that you're thinking that if you decide to order from Unilights, the shipping will take weeks, if not longer, which is NOT true. Both times I placed orders via their web page, I had the lights in less than a week. The second order I placed a few weeks ago on Sunday night, and on Wednesday afternoon Fed-Ex left a slip on my front door

asking for my signature and delivered the package the next day. Yes, only four days From Austria! If you should have any questions prior to ordering or after you have received your lights, they are quick to reply via e-mails.

Please DO NOT look directly at the lights when they are powered up! Trust me, you will see dots for a while!

Pros and Cons

Pro: quick shipping, mini-controller, top quality products, easy programming on the 4-channel unit, great technical support.

Con: the computer programming takes time to figure out how to use it. Unilight needs to post instructions, either via a YouTube video or in written format to help understand the use of their computer software.

Until next time!

Mark



District III Report

Mark McCracken

Ohio
Pennsylvania
West Virginia

Like me, are you tired of the cold weather in District III? As I sit here writing this article, the shades are open and I am watching what they are calling "The Blizzard of 2015."

In the Fall issue, I spoke about a new light package I am working with. Let me say that these lights are amazing and easy to set up. Unilight.at is a company you don't want to forget when you are looking for lights. As I mentioned in the last article, when you visit Unilight.at, click on the International Web-shop. This page is in English, as the main page is in several languages since Unilight is in Austria. Once you're on the international web-shop page, feel free to check out every page, as it is a candy store for our lighting projects.

I ordered lights for several aircraft, and the first aircraft was a simple set up, just landing lights for my *Raven* turbo-prop.

I mounted the lights directly to a 7.4 LiPo battery with a kill switch inline. The kill switch that I used was an Evolution brand "Optical Electronic Ignition Kill Switch". This kill switch is a plug and play unit and works well with the spot lights I am using, and best of all NO controller is needed for this set up. The kill switch is plugged into the receiver and is operated by an empty toggle switch on the radio. The spotlights I used are 8Wx2 Ultra power spotlight-white.

Another aircraft I purchased lights for is for my L-39. Over the winter I decided to take my L-39 apart, replace the fuel tubing, install all new wire extensions, air lines and a new color scheme (red and white Swiss colors) as the black-diamond, gray, black, and white colors made it very hard to see on a cloud-covered sky.

On Unilight's web page, look under "Sets" (at the top of the page), then scroll down and you will find a few options, including "Bundles." Once you get on the bundles page there are 12 aircraft to choose from. I ordered the L-39 bundle and it includes everything I needed to light up my aircraft: red belly strobe, white top strobe, wing tip-tank landing lights, and wing tip strobe/navigation lights with a four-channel programmer. Installation of the lights was easy as I had already installed another light kit.

The ordering process was easy, and all lights came individually packaged and grouped in separate bundles. I have found that the lights work best at 7.4 volts. I had the lights on my turbo-prop powered by a 6.6 volt LiFe battery

and they worked well with plenty of visibility in bright sun, but they work even better with the change to a 7.4V - 2S LiPo. Also included with the lights are resistors if you should be using 12 volt.



When I started working on the set for the L-39, I turned the radio and receiver on, plugged the 4-channel controller into an open three-position channel in the receiver and connected the lights in the marked locations. First position lights off, 2nd position all navigation and strobes are on, and 3rd position activated all lights plus the landing lights. On the controller is a small black button, which when pressed, changes the blinking speed of the flashing strobes. What I like best about the controller is that it is only 3-4 mm thick and about the size of a standard servo.



Mounting the lights was simple and easy, all of the strobes were supplied with clear durable covers and enough lengths of wire to complete the install.

I also ordered an eight-channel receiver for another project and found the programming a little different from the four-channel controller. With the eight-channel controller, you can custom program your lights via a computer. There are downloads on the Unilights web page that are free to use. I have a usb cord that plugs right into the controller from my laptop which I choose to use, giving me the option to make adjustments to the lights at the field if needed.

One of the many options with the eight-channel programmer is that there are two servo ports. I ordered a drop down spot light operated by a Savox servo which is supplied. When activated from the radio, the servo drops

District IV Report

Ron Stahl



Delaware
District of Columbia
Maryland
North Carolina
Virginia

Hello everyone. It is the middle of our winter season and if I have won your vote as the new District IV rep, let me say thank you and introduce myself to those of you in District IV that don't know me. My name is Ron Stahl. I've been a life-long modeler and have had a three decade career in the UAV industry with AAI/Textron Systems. I started flying rubber-powered models as a child, moved on to control line and then progressed to r/c while in high school. I still remember seeing BV flying at the old PGRC field in southern MD with his then state of the art A-4 *Skyhawk*, back in the seventies when I was in high school and visiting my cousin's business near the field. Once DF planes became commonplace with the Byron F-16; my friend and mentor Danny Yarchin had to have one even though he couldn't really fly well enough to handle it. I was nominated to be the test pilot and I was hooked right then on being a jet pilot.

During my twenties I learned composite fabrication while working for Knights of the Air in the ducted-fan side of the shop and have built dozens of jets from BVM, JMP, Yellow Aircraft, Byron Originals, Bob Parkinson, Sterner Engineering, JHH, and from scratch. After an offer to work at AAI in their R&D shop on UAVs in the early eighties I left KOA. I have been at AAI/Textron twice in the last thirty years with an eight year break from 1994-2002 to run GPA hobbies for the well known and respected modeler Eric Baugher who passed away way too young four years ago. It was Eric who encouraged me to buy my first turbine, a JPX, with him and our first *Bandits* from BVM at the Fentress rally back in the nineties.

But, I digress. After a several year lapse in my JPO membership, I rejoined after the recent Farview Fliers club summer and fall jet rallies. I decided to rejoin because I wanted to provide some support to the District IV members who couldn't attend the events and help out the newbies. I have spoken to Lee Reightler and I want to thank him for the many years of service he provided our district and wish him all the best in the future. I do hope to see him at an event this coming year.

The summer and fall rallies at the Farview Fliers field in Hamburg, PA. were well attended by District IV members and, as usual, the members of the Farview club did a great job of preparing the field and running the events that both included a Saturday evening pig roast just prior to the awards being handed out. We had the usual corn to deal

with at the summer event, but it was not really a problem unless you had an off-field issue, of which there was only one. The fall rally saw us with a new airspace and time limit restriction that each and every pilot did a great job in complying with; we had to stop turbine flight at 5:00pm but could fly until we were tired and couldn't see with the electrics. Subsequently, the edf guys and others took good advantage of the fall skies. The club is having a neighbor issue, and have reached out to try and solve it, and we all hope they can resolve the issue. I think the two biggest hits of the events were the four man A-10 formation flights at the fall event and how many families were in attendance with children flying after hours at both events. Getting young people involved is paramount to our hobby's well being and future growth. We adults have enjoyed our hobby and need to continue to act responsibly at our club fields and at events. We also have to help those newbies like our brother jet pilots did for us in years past. Below are some pictures from both events and hopefully I will be seeing all of you in District IV at other events nearby soon.



Anthony Dimaio says lets go I'm next.



Sean McHale's son enjoying a rubber-launched glider provided by Reggie Showers to the kids. He does this at every rally I've been to with him in attendance.

District IV Report (cont'd)

Ron Stahl



Dillion flying with my 12x. He ran his TX batteries dead flying so much, so how could I turn him away?



The Virginia gang's planes at the summer event. Bob Klenke has been a great mentor to his son Louie and is our new JPO President.



A rarely seen F-86 D model by new jet pilot Bill Raia who got his waiver and became member of the Farview Club at the summer event.



Most of my jet buddies from the RCMB club. We are all building 125% *Turbinators*, mine just got done first and took Pilots Choice at the Farview Fliers summer rally. Bob Frantz and Jim Klapp are both working on getting their turbine waivers, and Dillion (Jim's grandson) just got his solo wings and put in 29 flights after hours during the event, and even got checked out on a micro *HABU* Sunday morning provided by Bob.



This last picture was taken from my seat at "Oriole Park at Camden Yards" during the Blue Angels recent visit to celebrate the 200 year anniversary of the composition of our national anthem. They flew over and around the stadium on Friday and Saturdays games and threw out the first pitch on the second game of the Friday night double header. I was able to meet all of them as we were getting into the elevator to go to our seats they were arriving and rode the elevator with us. Still a big thrill to see them fly and to do it around downtown Baltimore was even more so.



Bob Frantz's *Shockjet* just before his first turbine landing on the buddy box

In closing I hope to do a good job representing all of you in District IV!

Ron

District VIII Report

Ron Schwarzkopf



Arkansas
Louisiana
New Mexico
Oklahoma
Texas

Hello again from District VIII. If you're like me, you probably have not had much opportunity to get any recent flying in. Our weather has been quite overcast and mostly cold, but of course, it is great weather for building model jets! Before the weather breaks, now is a great time to go over your models and check batteries, servos, fuel tubing and so on. How many hours do you have on your turbine - the hours can build up quickly! What about that annoying slow leak you might have with your retracts or brakes? I've been wanting to send in my transmitter to improve on a flaky touch-screen issue....

Since I have not been able to attend any recent events, this column will be a bit short on photos. But, I can report on a new tool I've picked up, so hopefully this might hold you over until the next column!

Upcoming events in District VIII

March 26-28: 3rd Annual Houston Jet Rally at Bomber Field
Robert Bernal CD
April 10-12: Fort Bend Jet Rally, Rosenberg TX
May 14-16: Texas Jet Rally, Mt Pleasant, Gus Hudson CD
June: Hotter than Hell Jet Rally, Bomber Field TX, CD: TBD

New Tool for the Model Shop

At my workplace, we employ various equipment and techniques to design, fabricate, and test wind tunnel models. To accomplish this expeditiously, one process we've used for decades has been using Rapid Prototyping (RP) equipment to form accurately shaped parts quickly - mostly for parts that are subject to lower stresses. This family of RP equipment can include Stereolithography, Fused Deposition Modelling, and several other processes. The final outcome is you have a part made from a resin, plastic, or even sintered steel. The array of materials used in this process is continuously expanding.

Similar to the turbine model world, over the years the technology is improving - and getting more affordable to a wider audience. I've been watching developments in the RP field and have considered how these tools can be employed in my hobby. So at the beginning of this year, I picked up what is now commonly known as a 3D printer. I am by no means breaking new ground with this. Perusing through the RC Universe forums display results of other modelers using these tools - I just felt it's time I join them. Following, I'll

briefly describe the requirements, the build process, and the final part output.

There are several printer types out there, and not fully knowing what I was getting myself into (I don't need another hobby - I want to use the device as a tool to support my modeling needs), I picked up a desktop 3D printer that is capable of building items within a 6" x 6" x 9" volume. This printer is capable of making parts from ABS (Acrylonitrile Butadiene Styrene - a plastic similar to that used for plastic models). There are several other plastics the printer can use, but I've only experimented with ABS so far. The ABS plastic is supplied to the printer with a spool of ABS plastic filament - imagine an eight inch diameter spool similar to what is used on a gas or electric weed eaters for your yard.



Desktop 3D Printer - takes up approximate space of a 2 foot cube, like a small refrigerator - assembly time!

Before building your parts with the printer, one has to design the part needed within a CAD (Computer Aided Design) program, such as Turbocad, Solid Works, Autocad, etc). Google even offers up a free program called Sketchup, but I have no experience with it. The main requirement is that you be able to export your part file to an *.STL file, or other similar format (which is essentially a file that contains numerous XYZ coordinates to describe the outer surface of your part).

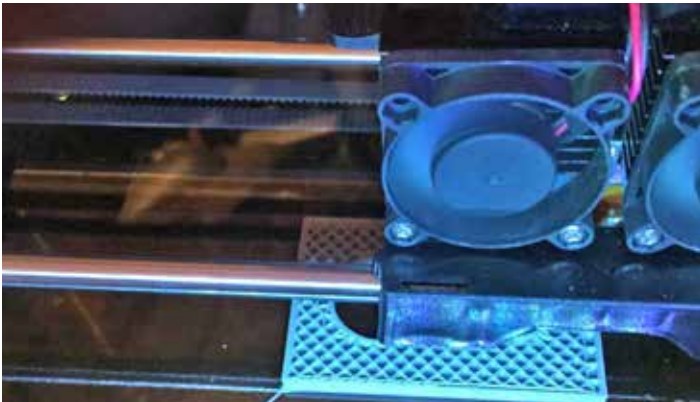
This file is then run thru a post-processor which converts your *.STL file into a file that contains "G-Code" - a large text file that your printer will interpret and follow, to make your part.

Once this file is input to your printer, the printer will use the spool of ABS filament to build what you've designed.

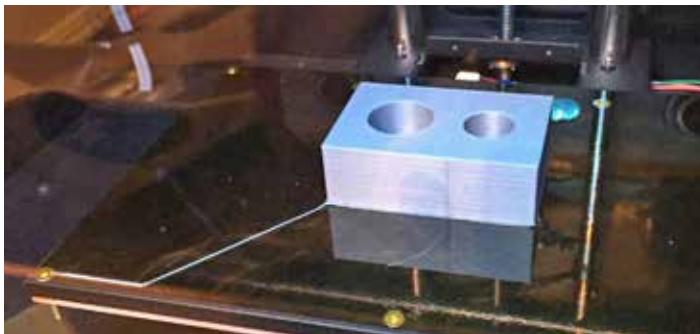
District VIII Report (cont'd)

Ron Schwarzkopf

This particular printer can be described as if it were a heated "glue gun nozzle" that has the ability to accurately move the nozzle via stepper motors in the X, Y, and Z directions. The G-code previously input to the printer will direct the path of the nozzle tip and draw out a thin filament of ABS in an X and Y direction - the shape of your part at a particular Z or height. The built part is then lowered a very small increment, and the nozzle tip then draws another cross section on top of the previous layer. This drawing or stacking of cross sections continues until the full part is made. The layers of cross sections can be on the order of .01 inches height each, so this will be a time consuming process - but if the printer is working properly, you can be off doing other things (working on other aspects of your models hopefully, and not watching TV!)



Close up pic of the printer nozzle (obscured by cooling the fan) starting to build a 1 inch tall test rectangle.



Test rectangle is finished! Sitting on the build plate of the printer.

Setup for the printer I have went relatively smoothly (the internet can be your friend sometimes as a lot of information is out there from manufacturers, reviewers, forums, etc). After trial building some simple blocks to check final part sizing, I decided to use the printer to make contoured sections for the bypass male plug shape I started on for my MiG-21. This plug shape was previously modeled in a cad program, to contain my Jet Central Cheetah and the MiG-21's existing tailpipe. Note: the parts I'm making with the printer are to make a tool to lay up a fiberglass bypass around - the parts from the printer are not actual parts of the

bypass itself due to temperature limits of the ABS plastic. These contoured bypass plug parts could have been made with a lathe or using templates, etc - but heck, this is the 21st century!

The forward and aft portions of the bypass plug shape I've made took build times of approximately 8 hours each on the printer. As mentioned earlier, there is no need to watch the printer as it operates (but no doubt you will, for the first few simple parts you start out with). I am very happy with the bypass parts the printer made and I can really see where this tool will be useful, from creating cockpit and landing gear details or small molds, and perhaps some flight-worthy brackets. The limits are up to your imagination. Various printer types will yield varying surface finishes. If these printed parts are used on the actual model, one will need to do varying amounts of surface smoothing (sanding).



Gray parts shown to be epoxied to a PVC tube to make a plug shape, on which a fiberglass bypass will be laid up.



Gray printed parts epoxied in place to form the bypass plug shape.

I know this topic might not be particularly interesting to all jet modelers, but for those who like to design and build their models, this can be another tool in your shop - one that makes less dust and mess. Also, an ARF modeler could also use this tool to add scale details to your model. The sky is the limit!

Happy Building!

Ron

District X Report

David Reynolds



Arizona
California
Guam
Hawaii
Nevada
Utah

After last year's rains, the Arizona Jet Rally returned to form this past November with mostly sunny skies and fair winds. As usual, it was a gathering of all types of jets, ranging from the smallest edf to large highly-detailed turbine-powered jets and everything in between. Just about every type of flying machine was represented, including an edf-powered tricopter.

Each morning started out with time dedicated to edfs that could fly without violating the noise restrictions. Once the fingers were warmed up and the pilot's meeting took place, the sky was opened up to everyone. Airspace was respected by all with faster craft flying in groups, and then some of the slower airplanes would take to the air to keep conflicts due to speed differences down. What made this truly great was that noone had to be told to do this. Everyone talked with each other and respected each other. A lot of credit goes to the crew that has been putting this event on for over twenty-five years now. The Arizona Model Aviators have worked hard to achieve this balance by trying many different things over the years and listening to the pilots.

For those lucky enough to get to the field Friday night, pizza and wings were enjoyed, as well as bench flying. Saturday night saw us taking over a local Mexican restaurant for more bench flying (oh yeah - and dinner).

One of the rather entertaining activities at the AZ Jet Rally is the jet gaggle. The premise is simple. If you have a 70mm or smaller edf you are welcome to join in. Everybody lines up at the assigned time and takes off at the same time. This year had somewhere in the neighborhood of fifteen foamies on the runway at once, all doing an aeronautical version of the pioneers land rush towards the sky. It sounds like mass pandemonium and in some ways it is, yet there has never been a mid-air that I know of. Some bragging rights go to the last one down but mostly it's just fun. Be sure to bring your small foamie to the AZ Jet Rally and join in next time.

That's it for this go around. Until next time, keep the low passes where they belong.

Dave



Prodigious scratch builder Clark Hans flew his own-design edf *Concorde* many times during the event.



Bob Belluomini brings his JePe F22 in to land.



Mike Warren departs for a sortie with his edf *Mirage*.



JPO VP Jim McEwen tries to solve the mosquito problem in the Superstition Mountains with his *Re-Phantom*.

District X Report (cont'd)

David Reynolds



Roger Hecht designed and modeled this gorgeous F20 *Tigershark* for 70mm edf. He and son Brent flew their fleet all day, each day. A fantastic flying plane!



Reports of a flying tri-motor at the event were correct ... that is, an edf-tricopter. David flew this prototype numerous times. Can you envision a flying Apollo Lunar Module?



Brent could not live with the stock color scheme and "other non-scale things," so he redesigned and re-built this great flying F4 *Phantom* from the E-Flight arf.



This Freewing, 80mm edf A6 *Intruder* not only looks great from a distance, but up close as well. When you then put it against a scenic background (below) the question then becomes: is it a model, or the real-deal?



CD George Kreyling managed to get some flying done with his BVM e-*Bandit*.



David's 20+ year old *Jetster* (L) and dad Bob's *Fantasia* (R) re-design share the ramp space. Both fly very well on inexpensive edf uits and motors, and ye-olde editor enjoys getting stick time on both of them!



Greg Moore gets in another flight with his C-arf *Flash*.



District XI Report

Bob Brusa

Alaska
Idaho
Montana
Oregon
Washington

Now that the new year has begun, I hope everyone had great holidays and are ready to start on their new projects for 2015. My new project, which is a carryover from 2014, is continuing to build my Van's RV 12, full-size, light-sport aircraft. I started it last July and hope to have it finished this fall. I have a partner, so the building is going along at a good pace. It's not jet-related but anything to do with airplanes is fun to talk about! If you would like to see what it looks like, just Google Van's RV 12 and you will be able to see many photos.

With the new year, that means JPO dues once again need to be renewed. If you haven't already done so, you can renew online at the JPO website via PayPal, or send a check to our treasurer, Carol Brusa. Her address is on the website and on the back inside cover of *Contrails*. Dues are still just \$25, and JPO thanks everyone for their continued support.

My term of the Dist XI VP expires at the end of this year, and like I stated in the last issue of *Contrails*, I am looking for someone interested in replacing me. I will continue to assist Carol in her role as JPO Secretary/Treasurer, as it can be very time consuming and it's nice to have two people working together and sharing responsibilities.

The district position does not require a lot of work - just four articles (if possible) a year for the *Contrails* magazine. There are a few conference calls a year with the entire group to keep everybody updated on the latest events and discuss any issues or concerns. Give me a call if you are interested and we can discuss it in further detail.

If you would like to submit an article to *Contrails*, please contact me. Technical articles are especially welcome. If you have expertise in a particular area, or a hot tip to share, please let us know. Perhaps you'd like to post some pictures of your latest project, or photos of an event you attended - those would be great, too.

We have some log books available if anyone needs one, or has filled up their old one; they are \$5 each. We have some JPO Tee-shirts left, size large only - and they are also \$5. Let Carol and me know and we will send them to you.

The dates for the some of the events in the Pacific Northwest this year are: May 28-31 for Princeton Jets in Princeton, BC; JOW from Aug 28-30 on Whidbey Island,

and another Princeton Jets from Sept. 17-20. There is usually a Jet event in Parma, ID, near Boise, in June every year, but the dates have not been posted yet.

I have attached two photos - one is of a Canadian pilot at Princeton Jets in Princeton, BC - Sal Shenato, and his beautiful new BAE *Hawk*. The next photo is a female friend of one of the pilots at Princeton Jets who is flying an R/C plane for the first time in her life - and it was a Boomerang *Elan*! She actually flew it quite well with the tutoring of her instructor - Kelly Williams - also from Canada.



Hope to see some of you at the events this year.

Bob

Canada District Report

Jeff Daly



Hello fellow Canadian jet jocks. By the time you get this edition, you'll be seeing more sunlight and maybe above-freezing temperatures. Being building season, it's also a good time to plan for your upcoming events. Here's an impressive list of what's going on in Canada for 2015, and for the Canadian pilots out there, don't forget to renew your JPO membership for 2015!

UPCOMING JET EVENTS in CANADA

May 28-31: Princeton Jets Spring Warm-up, Princeton, B.C.
 June 6-7: Forest Jets, Forest, ON
 July 3-5: Jets over Iroquois, Iroquois, ON (NEW)
 July 23-26: Jets over Cayley, Cayley, AB
 July 24-26: Wingham Jets, Wingham, ON
 Aug 14-16: Sky Harbour Airshow, Goderich, ON
 Sept 17-20: Thunderthrust over Chatham-Kent, Chatham, ON
 Sept 17-20: Gerard McHale Memorial Jet Rally, Princeton, B.C.

SKYMASTER F-4 Build

In the previous *Contraails*, I mentioned that I was going to report on the build/assembly of my 1.7.75 scale Skymaster F-4E. It was ordered in a custom European camouflage paint scheme that is still in active service as a QF-4E at Tyndall AFB, FL.

My first impression of the quality of the kit was very good. I was very happy with the scale features and the custom paint job by Skymaster. Even the markings were fairly accurate. Of course, there were a few errors: Skymaster mounted the main gear on the wrong sides (the wheels were facing outboard), mounted the nose gear door on the wrong side of the fuse, the six MK-83 bombs were only built with two fins instead of four, and they did a poor job at cutting out the rudder counterweight. All easily rectifiable, but it will require more time to correct.

The biggest challenge that I'm still working-on is fitting a Jet Central *Mammoth* with a bypass into the jet. It fits, but much modification was needed. For those interested, here's some more info.

So why did I chose to go with a bypass? For many good reasons. It offers fire containment, noise reduction, better engine cooling, and most importantly aerodynamic efficiency at flight speeds. I am an aerodynamic engineer in the RCAF, so I just couldn't put a turbine in a plenum chamber with all that drag as air tries to find its way out of the inner fuselage. You can expect some static thrust reduction at low

airspeeds, but an increase in performance at normal flight speeds. If you've owned a BVM jet, you will understand the flight performance gains.

The bypass is nicely sized for the *Mammoth* and is 100% carbon-based. Its interior diameter is 152 mm with the turbine being 124 mm, so that's 14.5 mm clearance around the turbine. The objective was to fit the bypass in with the turbine as far forward as possible without having to remove too much material from the front of the bypass, as it's properly shaped. I ended up removing two inches from the fuselage intake exit and 0.5 inches from the front of the bypass. I had to remove the intake support and fabricate new attachment points for the front of the engine mounting beams to allow the bypass to move forward.



The engine mounting beams had to be moved outboard due to the width of the bypass, and modified to make room for the side fuel tanks.



Because the bypass is moved forward, it will interfere with the wing carry-through rod. As you don't want to mess with the rod, I had to remove some bypass material to allow the rod to come into the bypass space. It's not much, and I will reapply carbon cloth to the bypass to eliminate the hole, but formed around the rod. (Shown at the top of the next page).



The tail section and pipe had to be modified as well. Essentially, the openings in the aft mount for the tailpipe had to be enlarged to allow it to move rearward, up to the elbow in the tailpipe. The exhaust pipes now project more rearward, but only up to the ends of the tail cones, not beyond.



However more room was still needed to ensure a 40 mm or 1.5 inch gap from the turbine tailcone to the necked down portion of the tailpipe entrance. To get this dimension, I removed 0.5 inches from the front of the tailpipe. To do this, I had to break the welds holding the pipe straps in place and relocate those more rearward. Tin snips worked well to remove the stainless material from the tailpipe. I then glued the nozzle section onto the front of the tailpipe with



Permatex Ultra Copper high temp RTV silicone. I also added two 4-40 bolts through the straps, tailpipe and entrance nozzle to give the assembly more integrity. Note that the entrance nozzle is 152 mm in diameter and necks down to 100 mm. That is suitable for a *Mammoth* according to the Jet Central instructions. Note also the slight angle offset of the entrance nozzle on the tailpipe. Even with the down-thrust angle of the turbine and bypass, more angle is needed to have a better flow through the system. For added security, I will also use two 4-40 bolts to secure the pipe entrance nozzle to the lower bypass.



I have not yet attached the bypass or the turbine, nor attached the tailpipe straps to the engine bearers. Because of the short turbine mounting straps, I first have to fabricate some extension plates to pass 6-32 bolts into the mounting structure. In the figure, you can see the bypass cover placed on top, and it will be mounted using 4-40 bolts. More photos of the final installation later.



Overall, I'm happy with this installation using all parts provided by Skymaster. The engine is a little more rearward than desired, but I have the F-4E with a longer nose for any noseweight and I intend to fly with an aft C of G at around 305 to 310 mm. I hope this was of some interest and in sufficient detail for your similar installations.

Cheers,

Jeff

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Chris Wolfe's JHH *Mirage* passes an F86 while making a pass at the Arizona Jet Rally at Superstition Airpark. Real Flight uses this field as an option in their flight simulator.