Newsletter of the Jet Pilot's Organization

Contrails

Summer 2016

Volume 28, Issue 3

Steve Bock captured a thrilling demonstration flight by Scott Marr and Ali Machinchy with their Airworld F-104s at The Wingham Jet Rally.

President's Report — Bob Klenke

Its been a really busy summer – lots going on!

In May, it was the First in Flight Jet Rally in Wilson, NC. If you've never been able to make it to FIF, you should really try to attend. Larry Lewis, Robert Vess, and the First in Flight Jet Club put on a great event. The Wilson Industrial Air Center is an ideal place to fly and the airport personnel are very supportive of the event. The flight line is right in the middle of the main runway which is 150' wide and 4500' long. The area around is completely devoid of trees – although there is a wind sock pole out there that some pilots have noticed (ouch!). The airport has continuously made improvements to the pit area to remove the necessity for "Wilson boots" when it rains, and the local community is very interested in the economic impact that the event brings to the area. Of course, on top of all this, is the fact that it is one of the first jet events of the season in the Mid-Atlantic area and attracts pilots from Canada to Florida and many points west. It's a great way to start off the event season!

In July, it was Kentucky Jets. For us, this is a marathon of eight or more days flying at the great facility that is the Lebanon/Springfield Municipal Airport in Kentucky. Lewis Patton and his crew put on a terrific event as well, with a lot of support from the airport and local community. This year the weather was hotter, but much drier, than last year, thankfully. Marvin and the rest of the flight line crew did a great job keeping the flight line moving and even at the busiest of times, it was controlled and relatively relaxed. In all, it was a great event with lots of great flying.

On the Saturday of Kentucky Jets, July 16, Jim McEwen, our JPO Executive VP, and I drove up to Muncie IN, to attend the AMA Executive Council (EC) meeting. We started off the discussion by giving a brief presentation to the EC about the JPO and the jet community activities – you can view the presentation on the JPO website (go to http://www.jetpilots.org/#!resources/keui3 and select the button to download the presentation in PDF).

We presented the recent activities of the JPO with respect to the turbine thrust rules change, the new JPO website, and the turbine waiver-holder survey. Next, we talked about the level of activity in the jet community and the types of events we put on and attend. Consider the number of jet events held around the country, the fact that most draw 40 or 50 pilots or more, a lot are held at full-scale airports, have active local community support, and draw larger numbers of spectators than any other type of aero-modeling events, especially from the general public. We are very fortunate to be able to do this and jet modelers are great ambassadors for the modeling community and the AMA. This is the sense of the jet community we were trying to convey to the EC and I believe that message was positively received. In fact, several of the AMA District VPs approached us afterwards to ask for assistance in getting jet flyers to attend some events in their areas.

Finally we wrapped up with some frank discussions on moving forward, rules, and rules compliance issues. We identified some things that we can work together on in the near future and reiterated our desire for a strong relationship with the AMA leadership. In all, our discussions lasted for over an hour and were very positive.

After the meeting, Jim and I took a few minutes to look around the National Flying Site, watch some Warbird pylon racing, and take a very impressive selfie (see Jim's column). Then it was time to make the 4-hour drive back to Kentucky Jets. Jim drove all the way up and most of the way back, but asked for some understandable assistance in completing the last hour or so of the driving. We arrived back at Kentucky Jets just in time for the Saturday night dinner. In all, it was a very productive, but very long day. One only needs to drive through the upper Midwest in summer to realize that there is a lot of corn in this country – and a lot of beans, too!

On the regulatory front this summer, the FAA finally published the long-awaited Federal Aviation Regulations (FAR) Part 107 (see https://www.faa.gov/uas/media/Part_107_Summary.pdf for a summary) governing the operation of small Unmanned Aerial Systems (sUAS). While this FAR does not directly apply to model aircraft operations (i.e., us as hobbyists), it is good news for us on several fronts.

First, FAR Part 107 codifies the exemption of model aircraft operations from federal regulations as expressed in Section 336 of the FAA Reauthorization Act. This is the well-known "336 exemption" that allows us to fly as we have always done in the past as long as we follow AMA rules. Section 336 was put in place after a lot of hard work by the AMA and its leadership and clearly it's being directly referenced by the FAA in this new FAR shows how important it is in preserving our right to fly – well done to the AMA.

Second, FAR Part 107 gives commercial operators of sUAS, a well-documented, reasonable way to fly in the National Airspace (NAS) for business purposes. That takes a lot of pressure off of us as hobbyists because the commercial operators used to point to us and say: "How come they can do the same things for fun that we want to do, but for pay its "illegal?" Now they can go about their business in the NAS under Part 107 and the FAA has some way to monitor and control them – while leaving us to operate safely in the NAS as we have been doing for the past 80 years or so.

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

Finally, the U.S. Congress took their usual tack and kicked the can down the road on the next FAA Reauthorization Act until September 2017. That means that the status quo, with respect to our flying, will definitely remain intact until then. This also gives the AMA Government Relations team more time to work with Congressional leaders (after the election) to make sure that they don't include any damaging provisions in the next bill. Hopefully, by that time, things will have quieted down enough that the subject will not be the hot button it was in the past year. Anybody else notice with all of the other happenings in the world and the elections going on that media reports of "drone near-misses" have gone essentially to zero? Imagine that.…

Let's talk about one more thing – rules. The jet community, with respect to the turbine waiver, is the only segment of the AMA that has its own set of safety rules for normal (i.e., non-competition) operations and an associated "operator's license" requirement. These rules are important, mainly to maintain safe operations for us as participants and for the general public. They are also important in maintaining the modeling community's and general public's impression that we are safe and responsible operators of these highly complex model aircraft. Doing so is vital to our continued enjoyment of the ability to fly turbine-powered aircraft. Thus it is all of our responsibility to ensure that we, and our fellow jet modelers, follow these rules. I've said this before and I'm sure that I speak for the entire JPO Board when I say that the function of the JPO is to serve the jet community – the JPO is not a rules enforcement organization. That job is the responsibility of each of us individually as is the case for all AMA members. That means that, as the saying goes, "if you see something, say something." It's much easier to have a conversation with a fellow modeler about their flying behavior at the time that it occurs than to wait until a later date, or to where the behavior gets worse and causes an incident. You don't have to be mean-spirited or belligerent about it, just point out the specific behavior, be it excessive speed or altitude (in certain conditions), too close to the flight line/spectators, turns into the flight line/spectators, etc. and request that the pilot cease that activity – for the benefit of all concerned. If you're on the receiving end of such a comment, you should immediately cease the behavior in question and after you have had some time to think about it, consider the viewpoint and perceptions of the other pilot and the other people watching. Usually, they are right about your actions being outside the rules, or there is something about what you were doing that gave them the impression that you were outside the rules. Either way, take their comments as constructive and work to be a better, safer pilot – both in reality and perception.

Whew, finally, that's about it for this time. As I said, it has been a busy summer. I'm still looking forward to Super Jets South in September and the Tiger Meet Jet Event in October. Then it will be time for some rest and the start of the building season for next year! I hope to see you out there!

Bob and Jim's Excellent Adventure

Jim's Selfie of all selfies.

Entrance to AMA HQ and the National Flying Site.

Vice President's Report — Jim McEwen

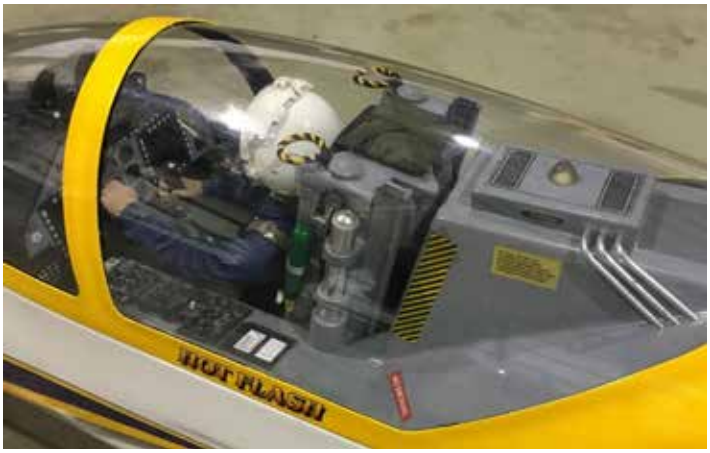
Greetings, I write this at the end of July having just returned to God's Blast Furnace, a.k.a. Phoenix in the summer, where the temperatures regularly hit 115F. I had a wonderful trip back east and north and would like to share with you some details.

I flew down to Jets Over Kentucky on the Wednesday evening and found my jet crate was safely/securely stored in the hanger. Many thanks to Lewis Patton not only for that, but for everything he does for us at the event. I assembled the jet and put in a test flight after 5pm Thursday. I hadn't flown since Tucson Jets in mid-March and found my thumbs were a bit rusty so rather than running with the big dogs on Thursday/Friday, I chose to stay on the porch (ground). Better to be safe than sorry and perhaps cause a problem for someone else because of being out of practice. Instead, I spent my time socializing, talking to folks about the JPO, and checking out some of the fantastic planes at Kentucky. Here are a few that particularly caught my eye….

Marc Morgan refinished his *Eurosport* with an amazing tiger scheme using metallic orange. It was the first time he has painted a jet and I certainly was impressed; pictures don't do justice to the jet. He also added matching pylons, tanks, and ordnance which make the jet look even better. I made him promise that if he ever wanted to sell it, he'd call me first. Keith Myers did an outstanding job decking out his *Flash* by adding a detailed cockpit, lights, and a checkered flag custom paint job. Way too cool!

Marc Morgan & his *Eurosport.*

Keith Myers & his *Flash.*



***Flash* cockpit.**

***Flash* Wing – great airbrushing!**

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

Andy Andrews & his BVM PNP 1/5th F-16.

Greg Arnette's BVM 1/5th Mirage F-1.

Jim Brown with his *Super Scorpion*. Kris Gunter in the background prepares his Top Gun winning F-15 for flight.

Lance Campbell added detailed cockpits to his amazing SR-71 model.

Panoramic view of the start-up area at Jets Over Kentucky. Lots of room, blue sky, and green grass. What more could a jet modeler want?

Bob Violet Models brought a fleet of planes including their new 1/5th scale PNP F-16. Scott Harris took delivery of one which we "built" in the pits on Thursday night. The build was pretty much just install the receiver, batteries, and turbine/ECU/pump and it even featured detailed instructions and radio setup for a DX-18. Scott maidened the jet on Friday after hours; it flew perfectly; of course. These latest PNP's are immense at about 12 feet long. Wow, I remember the days when we all thought a BVM *Rafale* was "huge". Greg Arnette was fine tuning the new 1/5th scale *Mirage* F-1 and put in several flights showing off the bird which should be available soon. I spoke to Dan Asher, who heads up production of the PNP products overseas and am told a two-seater of the Mirage will also be available.

Before the Friday evening dinner, JPO Prez Bob Klenke and I gave an informal talk about the JPO to the gathered pilots. The talk focused on the recent JPO activities and achievement especially revising the turbine rules to increase the allowable thrust (as installed) to 50 lbs so all our 200-220 sized turbines are now within limits without having to turn down the max RPM. We also spoke about the recent developments/regulations with the AMA/FAA and how the JPO is here to represent the specific concerns of jet modelers.

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

We distributed back issues of *Contrails* and picked up many new memberships.

Bob and I drove up to Muncie on Saturday to attend an AMA Executive Council meeting. Many thanks to the EC for the invitation and it was good to meet with them face-to-face. Bob will be discussing this meeting more fully in his column but I wanted to touch on it briefly. Our presentation was well received and was followed up by open discussion of items of interest/concern to jet modelers including thrust ratings, LTMA procedure, waiver procedures, FAA/regulation, and communication practices with our respective memberships. Overall, I'd say it was a very open and honest exchange of thoughts and ideas which certainly laid the basis for improved relationship and communication between our organizations in the future.

After the meeting, we took a brief tour of the grounds as neither of us had been to Muncie before. The National Flying Site appears well equipped and spacious with about a half-dozen fields (R/C, CL, and FF) as well as on-site camping. It's quite a nice facility, certainly jet-capable, and we found a Warbird pylon racing event in progress. This is a new class in pylon and the competitors were happy to tell us all about it and show off their planes. We didn't stay too long as we had a four-hour drive back to Kentucky and didn't want to be late for dinner and the awards ceremony.

Sunday morning I packed up the *Phantom-Reaction* in preparation for its trip to the Great White North, eh. Many thanks to Jim and Ann Brown for hauling the plane up to Wingham Jets and saving me the shipping hassles, not to mention the customs brokerage fees. I returned the favor by supplying fine barley-based beverages which are a well accepted form of currency in Canada.

This was my first trip (but not my last) to Wingham Jets. This appeared to be the year of the F-104 with at least five (3 Airworld and 2 Skymaster) examples in attendance. These were no hanger queens either with the models flying many times over the weekend including a thrilling demonstration flight by Scott Marr and Ali Machinchy of their Airworld F-104s. Saturday's demos also included a mass foamy launch which thrilled the spectators and pilots as it was quite the "fur ball" of dogfighting. Doug Boyle maintained the heading, speed, and altitude with his T-28 for just a bit too long and Zavi Machinchy locked on and cut off his tail for a confirmed kill!

The main taxiway/pit area at Wingham.

Trond Hammerstad and his beautifully built models.

The hot section on the Hammerstad-built Airworld F-100. Amazing paint detail!

Pennsylvania native Mike Lesher & his A-10.

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

A great Canadian hi-viz F-104 scheme.

Doug Boyle's T-28; A confirmed kill for Zavi Machinchy during the foamy mass launch.

Many thanks to Wingham CD Blair Howkins, his lovely wife Tamara, their kids, and the whole volunteer crew at Wingham for all their hard work. There were 70 registered pilots (the most ever) and I dare say we all had great time at this well-run event.

Spotters – There have been several incidents recently which underlined the importance of the spotter, particularly when flying at large meets where there is a lot of action. Because the pilot can't take his eyes off the model in flight, the spotter's job is to look everywhere else and inform the pilot of potential traffic and hazards and suggest a course of action (eg don't climb, turn out, stay high, don't taxi out) to mitigate the hazard. Please don't fall into the habit of just watching your own pilot's jet; you'll be doing a disservice to your pilot and the other pilots flying at the time.

Combining Gear/Brake Pneumatics – Historically, many of us built separate pneumatic systems in our jets for gear/doors and brakes. A few years ago I analyzed this setup and think I've found a better option. Some folks who have seen my setup asked me to share it as a "tech tip"…

While separate systems have been often been called "redundant," they aren't. Indeed, if you have a failure in your gear system, the air in the brake system is useless since it can't be accessed; indeed, the underside of your jet will be serving as the brakes for the next landing. Similarly, if you've lost pressure in the brake system, any remaining air in the gear system is unusable. A separate brake system can have an undetected failure … let's say a leak developed in your brake system and bled off the brake tank during flight; because there is no failsafe on brakes, your first indication of the failure would be ineffective brakes during the landing rollout which may be too late especially if you landed a bit hot. Finally, two separate systems typically use two fill valves and two air gauges. Apart from adding to the cost of the jet, I found these items to be the main source of leaks (excluding the gear/door cylinders).

To address these issues, I now connect all the gear/door and brake tanks together into a single system with one fill valve and no gauges (since I have a gauge on my compressor). The supply side of the brake valve is "tee'd" into the gear down airline. A failsafe (or air pressure telemetry sensor) is added to monitor the system. To me, this setup has several advantages:

Having both tanks connected means you can use all of the onboard air for gear and brakes as needed.

Because the brake system isn't pressurized when the gear is up, any leak in the brake system won't bleed down the tanks in flight.

The failsafe provides feedback on the health of both the gear and brake systems. This eliminates the undetected brake failure mode mentioned above. If your failsafe doesn't activate, you can be confident that you have air available for both gear and brakes.

If there is a leak in the gear system, having the "brake" tank connected serves as an additional source of air that will make it more likely that the gear will be successfully lowered/locked.

If the failsafe activates and lowers your gear, you know that (depending on the leak rate) you may or may not have good braking when you land. As such, you'll know not to come in too fast such that you'll have to depend on your brakes.

You can eliminate one fill valve and two gauges and the associated tubing fittings. This eliminates potential leak sites, reduces the cost of the jet, and increases the reliability which is a win-win situation.

Well, that is it for now. Please remember to have a fun and SAFE jet flying season.

Regards,

Jim

District I Report

Brian Lloyd

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Greetings from New England! We are driving home now from Frankfort Highland Regional Airport, and I've just be told by my wife that this article has to be written immediately. As in - right now – in the car! I always seem to wait until the last minute, and once we get home we are both busy preparing for a 15-day motorcycle trip to Maine, New Brunswick and Nova Scotia – so I guess she is right.

The season has started off quite well. We had a great opener at Plum Island Airport in June. This event was well attended and seems to grow larger and better every year. It was a three-day event with approximately 40 registered pilots. We had three fantastic days of flying, a Saturday evening potluck dinner, and a huge fire pit Saturday night. The hardest part of having a fire pit is keeping Don from overloading it with wood. Janet and I left at about 9:30 and could still see the glow from our home an hour away! (Just kidding.) Don can't help it, as he always does things big and it was a great time! The New York boys even provided the makings for S'mores – how does it get any better?

This was the second year for the potluck dinner and it always amazes me how generous the flyers and their wives are – we always end the dinner with more food that we started with! Being the first event of the year, it also tends to be one of my favorites – as we get to see all of our friends after a long New England winter. My wife is always remarking what a wonderful group of people we are a part of, and I have to agree. After all, anyone who can tolerate me year after year with a smile has to have a heart of gold.

District I Report (cont'd) — Brian Lloyd

Following that event, there was a small fun-fly at Plum Island that was open to all types of R/C aircraft, including jets, but unfortunately my schedule did not allow me to attend. We heard it was two days of non-stop flying despite the 90+ degree heat.

July found us at Frankfort Highland Airport in New York at a three day event, hosted by the Firebird club and Art and Barb Arro. Once again they rolled out the red carpet for us. Except for a couple of torrential rain showers on Friday, the weather was fantastic with three days of non-stop flying. We had to pack up around 2pm on Sunday, but the flight line was still full and the jet-flying was allowed until 6pm. I am sure that with the light winds and favorable temperatures, Art had to chase the last few stubborn flyers away with a broom at 6pm on Sunday night!

I've spoken about this event in the past – as it was poorly attended – but the Firebirds decided to give it another try and this year it was very successful. The dates are already being set for next year! Art, Barb and the Firebirds are fantastic hosts and I encourage all to attend. The very modest entry fee includes a bag of goodies, a pizza party (with salad, wine and dessert) on Friday night, as well as perfect runway conditions! Saturday we were treated to Barb's "salted potatoes," a regional delicacy – and due to my begging and pleading she doubled the amount she usually makes. I'm hoping that the sad look on my face when she sold out will encourage her to double the recipe again for next year!

On Saturday night, the majority of the group went out for BBQ. Unfortunately I am married to a vegetarian ... which sort of makes me a "vegetarian" too. I heard that the BBQ group had a great night, and after dinner headed out for ice cream. On my end, we found an Italian restaurant where I got an order of MEAT lasagna that was so big it took four people to carry it to my table (yes, I know that I'm sort of a vegetarian, but the meat was hidden by the noodles). Anyway, if you haven't attended this event, give it a try next year!

District I Report (cont'd) — Brian Lloyd

Gyros ...Gyros ... Gyros – they are taking over! We all know that I am a huge advocate of the Cortex gyro. This past Saturday afternoon brought some pretty stiff breezes. One of our fellow flyers had purchased a gyro, but it was not yet installed. He decided to take a break and we all got together to install his Cortex gyro. After we completed the installation and programming, he proceeded to take a couple of flights. The look on his face told me what I already knew – the stabilizing effects in turbulent air and gusty winds was amazing and made flying that afternoon much more enjoyable.

I know a lot of you guys out there think that using a gyro is cheating, but we are really just using available resources. What these gyros in effect do is make the aircraft feel bigger and give them more stability in higher winds under turbulent conditions. In essence, they make much better flying aircraft. If a flyer shows up with a large, expensive jet, by its nature it is going to be a more stable platform. For those of us who don't make such an investment, a couple hundred dollars (the gyro) will give us all of the benefits – but leave enough money for a big piece of meat lasagna at the end of the day!

Until next time!

Brian

District I Report (cont'd) — Brian Lloyd

From the Co-Pilots Seat

Hello everyone! I hope everyone is enjoying the summer – I know I am and it was a fantastic start! It was a beautiful June Friday around lunchtime, most of my team was on the road, and my boss poked her head into my office. "Let's be discreet and get out of here", she said. You didn't have to tell me twice – it was the season opener Jet Rally at Plum Island! I grabbed my laptop and was out the door in record time.

Forty-five minutes later I arrived at Plum Island Airport, and it was so great to see everyone again after a long winter. The weather was beautiful and the guys were all excited to be back in flying mode. I usually try to leave work early on Fridays when there is a jet meet, but this time I got to spend the whole afternoon. It was a great start to the weekend.

Brian and I also belong to GWRRA (Gold Wing Road Riders Association) and we had told our local chapter about the R/C jets. Some of the members were interested in attending an event, so I planned a nice route for a motorcycle ride on Saturday morning (yes, I planned the route because Brian has no idea how to get anywhere since he moved to my hometown 7 years ago!). We led a ride through the winding back roads of New Hampshire and then down along the coast to Plum Island. The weather was absolutely beautiful for both the ride and the rally. I cannot tell you how impressed our GWRRA group was with the jets – they ended up staying for the entire day! It seems that I am now planning another trip for even more motorcyclists for the upcoming New England Jet Rally in Gardner in August!

Saturday night was the potluck dinner and fire pit – to me the highlight of the weekend (sorry guys, but I'm really more about the socializing). There was fantastic food and a nice fire – which was good to warm up before the cold ride home on the bike…..

The July event was in Frankfort, NY – and I love a good road trip. I can't say enough good things about the hosts of this event – and especially Barb – who makes everyone feel so welcome. Frankfort is a beautiful area with lots of farmland, and I even brought my bicycle so I could explore the area during my visit. Just a side note – while beautiful, this area is also VERY hilly, and at one point I found myself going downhill at 30 mph (all the time dreading the ride back up the hill, which was at about 1 mph). The guys flew like crazy this weekend – the weather was a bit breezy, but as you read in Brian's article the gyros really help. The wind didn't seem to slow anyone down and flying continued even after we left on Sunday.

Also in Frankfort, we were all witness to a surgery taking place on one of the jets – you can see in the photo how serious these pilots are about their planes! Apparently the AMA also stands for the American Medical Association. The good news is, the patient survived and was flying again later the same day!

I'm looking forward to the August event in Gardner – it will be good to see everyone again, and I really enjoy the Saturday evening dinner and entertainment. Jeff and Karen really put their hearts into this event and make it a great time for everyone – please attend if you can! The Northeast chapter of this group is a friendly bunch, has great comradery, and I'm so glad to have gotten to know everyone over the past 8 years….

Janet

District VIII Report

Ron Schwarzkopf

Arkansas
Louisiana
New Mexico
Oklahoma
Texas

Howdy from District VIII! For me, work trips along with a pesky prop model I've been trying to finish have been wreaking havoc on my jet building and flying schedule - but as the kids say, "It's all good," and soon I'll be back with a jet model on the building table, and all will be right with the world! We've reached the midpoint of the year when it's quite toasty outside, but we still have much nice flying weather coming up on the calendar. We also have a few more jetflys scheduled in our district this year, and hopefully one or two I'll try to attend outside of District VIII. Apologies to both events in the Houston area that I missed (Fort Bend and Bomber Field events in June) – my schedule has been screwy lately. Let's get on with things ....

Upcoming events in District VIII

Sept 8-10: Greater Southwest Jet Rally, Waco, TX, Larry Garrett CD

Oct 6-8: West Texas Jet Rally, Lubbock, TX, John Johnson CD

Oct 27-29: Jettoberfest, Bomber Field, TX, Robert Bernal CD

Texas Jet Rally – Mt Pleasant, TX

I missed this event last year due to a work trip, but was able to make it this time around – and I'm glad I was able to. The weather was the best I've ever attended at this event. Gus Hudson and the Mt Pleasant R/C Club hosted this 3 day event in early May, and once again did a great job – drawing R/C jet fliers from Oklahoma, Louisiana, Mississippi, and Texas. Scott Marr and Joey Tamez put on a great show with the big Tomahawk F-86s, but when they were not flying, there were a host of Comp Arf *Flash*es filling the sky, Pirotti *Rebels*, a turboprop *Tucano,* and it was good to see Sam Snyder flying his scratch built RQ-16 fictional UAV. The raffle included a Kingtech KT-160G turbine, but alas I did not win it. If you've not been able to make this event, I of course will recommend it!

Pics from the Mt Pleasant event are from Paul Bloxham's camera, as I forgot mine. Thanks Paul!!

Happy Flying,
Ron S.

Dereck Martin's *Tucano* buzzes the field.

District VIII Report (cont'd) — Ron Scwarzkopf

Treasurer's Report

Income

Dues - Cash/Check	$ 75.00
Dues - PayPal	767.82
Sold JPO Shirt	5.00
Total Income	$847.82

Expenses

Contrails	$917.66
Stamps	9.40
Bank Fee	6.00
Envelopes	2.49
Postage	30.13
Klenke Internet	184.95
Thumb Drive for Gates	8.66
Total Expenses	$1,159.29

Ending Balance as of July 31, 2016 $4,749.61

Respectfully submitted: Carol Brusa

District X Report

David Reynolds

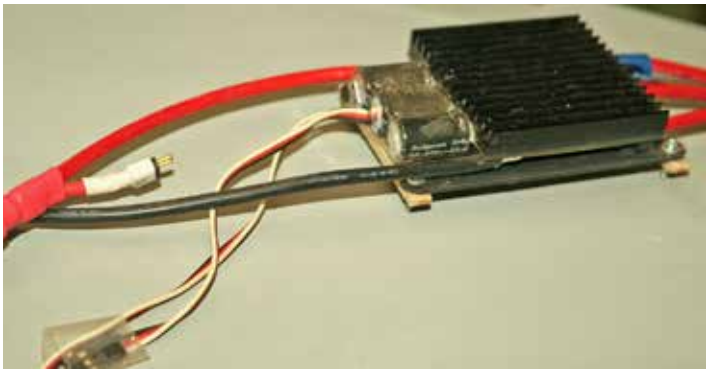
Arizona
California
Guam
Hawaii
Nevada
Utah

Programming note – This issue's column is more beginner oriented. If you already know it all, please feel free to skip it or send me notes and pictures of your projects or events.

Question – How can you tell the guy that flies high power EDFs? Answer – He's the one that gets nervous every time he plugs in a battery and he has burn marks on his finger tips.

OK, it's not a funny joke but it does illustrate one of the issues that we deal with as our EDFs gain more power and start needing larger batteries - that big spark when you plug in your battery. More than startling, that zap can cause issues beyond the temporary heart attack for those not ready for the noise. On the equipment side, it is hard on the connectors. The connector pictured below is in an EDF with just a 6S system that has only about fifteen flights on it and is already showing signs of abuse. I have seen connectors half eroded by that constant sparking when plugged in. There is also the safety aspect as well, if you are not careful you can get a pretty good burn from that spark.

What causes it and why don't my park flyers do that? The cause of the spark is the ESC itself. Close examination of your ESC will show some little electronic thingies (trying not to dazzle too much with the technical jargon) on one end. Those thingies are capacitors.



A capacitor is basically a battery that can charge and discharge rapidly. It is that rapid charge when you plug in that causes the spark.

As ESCs get larger and have more capacity those capacitors also get larger and more demanding. They want POWER and they want it NOW! We then go and supply large capacity batteries with plenty of power that can be provided quickly so we get a nasty spark. Smaller systems have smaller capacitors and less voltage to supply so that is why the spark is much smaller, if it happens at all.

So why not just get rid of the capacitors? The answer to this is in the way an electric motor behaves when it accelerates. Simply put, when you advance the throttle, an electric motor works much harder to get up to speed than when it is running at a constant speed, let alone stopped. This creates a voltage spike every time you punch it. The further you advance the stick, the bigger the spike. Left unchecked, this spike can temporarily be more draw than the battery can supply, more commonly known as a brown out. This is where the capacitor steps in; because it can charge and discharge rapidly it steps in when you punch it and fills in the gap to cover the spike.

The solution is to slow the charge of the capacitors. To do this we need to use a resister before final plug in. You can search the internet for resisters or you can just head over to Xtreme Power Systems and pick up one of their Anti-Spark Devices. The price is reasonable and they are shipped ready to solder in. I have a few on my bigger jets and they make plugging in a high power system a non drama affair. Just plug in the negative lead first than jump the positive lead with the leads from the Anti-Spark and hold it for a few seconds and then plug in your positive lead.

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

Dave

Canada District Report

Jeff Daly

Hi folks. Thanks to all the Canadians for joining JPO… thanks again for your support!

Flying season is here once again and I've been spending much time preparing the jets for fun in the sun. Thanks to Skymaster for standing behind their product and providing me with a replacement F-4E that was lost in a dramatic accident last year. The new one is almost ready for flight tests and I can't wait. Since I found the F-4 really liked a 3-axis gyro, I decided this time to go with a Powerbox Royal SRS with an embedded GPS gain controlled i-gyro. We'll see how that works out. The F-4 also sports the latest Jet Central *Mammoth* SP with the new ECU that can have its vitals telemetried to the pilot ... I'll be checking that out later.

In this edition of *Contrails*, I have reported on both Ottawa Valley Jets and Wingham Jets, both successful events in the Ontario region. Here's an update to the remaining forecast of events in Canada:

UPCOMING JET EVENTS in CANADA

23-25 Sept: Princeton Jets Fall Event, Princeton, B.C.
22-25 Sept: Thunderthrust over Chatham-Kent, Chatham, ON

Ottawa Valley Jets, Ontario, 2 July 2016

This rally was an inaugural event in the town of Carp, located at the west end of the Nation's capital, Ottawa. Over the past couple of years, a group of jet flyers were searching for a flying facility to host a jet event in the Ottawa region. Last year, we tried the town of Iroquios, which was a truly unique location, but had challenges with the narrow runway and start-up area. Carp airport was approached and the airport manager graciously allow a jet event for one day as a trial run. The facility was perfect with a 100 ft wide runway, hangar storage, and camping on-site.

Despite the one day opportunity and the hurricane-winds, 14 pilots showed up from the Montreal and Ontario areas. CD, Ken Park, did an excellent job organizing the event, and dazzled the spectators as the announcer. Larry Ingram was on-site and took some amazing photos that he has allowed to be published. We are hoping that Carp airport will allow a multi-day event in 2017, which should attract more pilots.

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Wingham Jet Rally, Wingham, Ontario.

The Wingham Jet Rally (WJR) just finished and was an incredible experience once again! The WJR is the place to fly, have fun, and hang out with your jet friends ... simple as that! Blair Howkins, CD extraordinaire, pulled it off again with help from his family, and from volunteers from the Guelph Gremlins and the Sky Harbor model clubs. Seventy-three registered pilots and 150 jets set a new record this year with pilots coming from Quebec, Ontario, Pennsylvania, Illinois, Texas, Michigan and from Norway (Trond!). It was the most successful WJR to date with 250 cars being parked on Saturday. The deserving award winners for WJR were:

Best Military - Michael Warner with his Trond built F-100.

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Best Sport Jet -Scott Marr with his *Leonardo.*

Best Civilian - Peter Ayache with his turbine-powered Glider.

Best Electric - Jean-Claude Terrettaz with his C-ARF *Spark.*

Wingham Jet Rally Top Gun - Ali Machinchy
Pilot's Choice - Ali Machinchy

JPO Top Gun - Greg Wright for his outstanding modeling and piloting of his Golden Centennaire F-86, and for being a great team player.

Smackdown Aerobatic Challenge - Ali's son Zavi was the winner.

A big thank you goes again to Ali Machinchy for coming to the event to enjoy some down time while helping out the other pilots with test flying and tuning their jets. On behalf of all the pilots, we thank you Ali!

Thanks also to Bryan Mailloux for being the unbiased judge for the second holding of the Wingham Jet Club Smackdown Aerobatic Challenge. *The Challenge* was designed for fun and for any jet aircraft. Bryan was the winner from last year, earning himself as the judge for this year. Zavi Machinchy took 1st place flying an electric TurboFoam *Super Viper* jet. Well done Zavi!

It was also a pleasure having Jim McEwen, JPO's VP, attend the event. Jim is a fellow Canadian who really enjoyed being back north with his old friends.

Now, enjoy the amazing photos by Steve Bock!

For the Canadian pilots out there, don't forget to renew your JPO membership for 2016! Your support is much appreciated. Enjoy your flying season and be safe!

Jeff

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Membership/Renewal Application

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Address: _____

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Email Address: _____

Home Phone: _____ Cell Phone: _____

*AMA membership is required for U.S. Residents. JPO Annual Membership Fee is $25.
Renewal can be online at: www.jetpilots.org via PayPal or credit card; or you canfill out and send with check or money order made out to: “The Jet Pilot’s Organization” to:
Sid Gates, JPO Secretary/Treasurer, 2380 S. Holly Place. Denver, Co 80222

Steve Bock caught Ali Machinchy and his very large F-86 showing the plan-form while down low, at the Wingham Jet Rally.