

Contrails



David Reynolds captured Brian O'Meara's Skymaster Cougar at the AZ Jet Rally in Mesa.

President's Report

Bob Klenke



It's not quite the flying season for most of us, but it's just around the corner. I'm jealous of the guys who went to the Coachella Jet Jam, for sure! While we're waiting for the temperatures to rise and taking a break from jet building/maintenance, let me jump on the soap box and talk about one of our favorite subjects – RULES! After all, it's everybody's favorite subject, right?

Nobody really likes rules, but in reality, they are a necessary evil. In the past, I have heard some folks comment that the JPO should be the rules enforcer for the jet community – as some have termed it, the “J-POLice.” I don't think that's a good plan and it's not how we operate the JPO. There are several reasons for that, the first being that the JPO is a SIG of the AMA, and as a SIG, the JPO doesn't have the “authority” to enforce the AMA rules – only the AMA does. Second, and MOST IMPORTANTLY, we should not need to have dedicated rules enforcers because we ALL, as AMA members, should be enforcing the rules!

There were two situations that arose recently with respect to rules within the jet community. The first involves a very successful and well-known R/C field in the northeast. This field has been the site for many events in the past, including two jet events every year. Unfortunately, the R/C club and field owners have recently lost an appeal to keep the field open. Part of the arguments that resulted in the loss of the appeal, and the resulting loss of the field, were safety concerns resulting from numerous crashes of aircraft on neighboring properties and numerous overflights of surrounding properties in spite of prohibitions of doing so.

We all have witnessed thousands or even tens of thousands of R/C flights in our hobby careers and, except for our models, wallets, and pride, when they crash, nobody gets hurt. However, it's hard to try and make that point to outsiders when they have model aircraft overflying and raining down on their property, or even their houses. The net result of this failure to fly responsibly and safely in accordance with the rules was the loss of a terrific flying site that was enjoyed by a really large segment of the modeling community.

The second situation involved an R/C jet demo at a fly-in benefit for the general public. During this demo, the jet in question was flown on low, close-in passes *significantly* above the 200 MPH limit, followed with hard vertical pulls and vertical rolls at the jet's maximum roll rate. As could be expected, at some point, something in the jet let go, and all control of the jet was lost. It went down in a vertical dive around a mile from the airfield in the direction of a housing

development. To make matters worse, someone called 911 and reported a jet crash, with the response from the authorities that you would expect. Subsequent searches for the aircraft failed to turn up any evidence of it – which was actually a very good outcome. Had the aircraft gone down in the middle of the housing development and worse yet, in the middle of someone's yard or house, the damage to the *entire* modeling community would have been significant.

What makes this very troubling incident even more troubling was the fact that there were numerous experienced AMA member jet pilots, and even some AMA officials, present at this event who witnessed the obvious breaking of important safety rules during the flight, and *nobody* said anything to the pilot.

The point of these stories is that irresponsible flying puts *all* of our hobby at risk and it's our duty, to ourselves, our fellow AMA members, and friends to do something about it. That doesn't mean you have to be obnoxious about it, there are ways to approach these situations in a forceful, but tactful and diplomatic manner. The bottom line is, if you see something, *say something*! The hobby you save will be your own!

While we're on the subject of rules (still?! Yes, sorry!) we're all familiar with the AMA's limit for aircraft weight of 55 lbs, ready to fly, with fuel. Jets are getting bigger and bigger and we all know that those 1/5, 1/4 and even 1/3 scale jets are *not* under 55 lbs ready to fly. It's the owner's responsibility to ensure that their aircraft is either *really* under 55 lbs, or they have a Permit to Fly under the AMA Large Turbine Model Aircraft (LTMA) program. To not do so is a clear violation of the AMA Safety Code which puts their, the CD's (if flown at an event), the club's, and the site owner's liability insurance at risk. In addition, the Federal Air Regulations (FAR) Part 101.41 states that in order to be considered a model aircraft, “The aircraft is limited to not more than 55 pounds unless otherwise certified through a design, construction, inspection, flight test, and operational safety program administered by a community-based organization.” That means that if your aircraft is over 55 pounds and you do not have an LTMA Permit to Fly, you are in violation of this FAR which subjects you to potential criminal penalties and fines should you be caught.

The LTMA certification process is not that difficult, especially if the aircraft weight is under 77.2 pounds, and there are some changes to the rules being considered that will make it even easier. Even if the aircraft is over 77.2 lbs, there are many jet flyers who are Large Model Aircraft Inspectors and would be happy to help you out getting your model certified. There's no good excuse not to comply with this rule and many potential problems if you don't – as the saying goes, “get 'er done!”

OK, time to hop off the soap box, for now, and return to thinking about flying jets! I hope to see you all out there! Fly safe and help us all follow the rules.

Vice President's Report

Jim McEwen



Greetings! While the 2017 flying season is underway here in Arizona, much of the country is hunkering down for the winter building season, and though much of your time/energy may be spent building a new project, please don't forget to do some maintenance on your current stable of models to keep them in top condition! A close inspection of the entire plane is a good idea as you never know what might have come loose. It's a good idea to remove the pipe to inspect the rear fuselage, especially the servo wire routing to make sure that the wires are still secure and away from the pipe. The air system should also be inspected for leaks or damage to any tubing, and mechanical valves (such as the Robart blue or red valves) need to be cleaned and lubricated. Fuel system tubing tends to harden over time, and leaks may develop at the fittings, additionally, you should consider removing the fuel tanks to check the clunk for proper operation. Also, check the performance of the batteries by cycling the packs and checking the numbers to make sure that each cell is performing correctly. Don't forget to check your transmitter battery, too! It's far better to find out if you have an issue now, rather than an event.

Speaking of events, I attended the 28th Annual Arizona Jet Rally this past November at Superstition Airpark. The event draws about 40-50 pilots from around Arizona and points beyond. I'm sure David Reynolds will cover the event in his report, but I did want to mention a couple of planes that caught my eye. James Lashmett brought his smoke-equipped *Flash* that was blistering fast.



Dave Evans put on an excellent flight display of his BVM PNP F-16 at dusk. He kept the plane in nice and close and

demonstrated the slow speed maneuverability of the plane with excellent energy management!



Buck Garza had BVM *Rafale* freshly repainted in a splinter-style camo scheme and did a great job putting the plane through its paces. The plane looked and sounded so good, that I was motivated to get mine repaired.



Our friends from the other side of "the pond", Jonathon and Johanna Smith, were in attendance with their venerable Bobcat. J&J "wintered" here in AZ and have been enjoying the flying in the AZ sun and blue skies. Not much of that in England, so I'm told.



Vice President's Report (cont'd)

Jim McEwen

To wrap up, Bob Ruff flew his Freewing F-104 *Starfighter* in an impressive display starting with a scale takeoff with low angle departure and just the smoothest landing ever. I was so impressed that I used my smart phone to order one while at the event!



I didn't do much flying in 2016 as I was still recovering from being burnt out by the 2015 season. Getting my Airworld *Gripen* ready for Top Gun involved six months of work, every day, until at least midnight. The 2015 Jet World Masters also took a lot of energy and I was drained when I got home and pretty much just slept for a month. Fortunately, the time away from the hobby did me a lot of good and I'm looking forward to attending Top Gun this year (after I put in some serious practice to "sharpen up the thumbs").

I decided that I'll take my BVM *Rafale*, which is in need of some repair after an unfortunate taxi-light encounter at Route 66 Jets a couple of years ago. The plane was previously owned by Craig Gottschang (who won Top Gun Pro-Am with it back in 2005 or so) and is painted in a scale two-tone grey scheme. Well, full-size combat planes are painted grey for a reason; it makes them hard to see (at least to my old eyes). I decided that a new high visible color scheme was required so I set to work stripping the jet of its basecoat/clearcoat.

For those of you who haven't had the experience of removing paint from a jet, I can tell you that it isn't a lot of fun. The old fashioned way is wet sanding (320 or 400 grit) which cuts through the paint pretty well, but tends to remove some of the surface detail.

In my quest to make the job easier, I have tried several paint strippers - though this has to be done carefully to make sure the underlying fiberglass isn't adversely affected. Kleen Strip's Fiberglass Paint Remover tends to soften the paint such that it could be stripped off with a razor tool (which can also take some of the gel coat as well). Citri-Strip had a similar effect, but also softened the fiberglass, unfortunately.

However, I did have some luck with SEM 39913 Urethane Bumper Stripper (in an aerosol can) which had the dark grey paint bubbling up almost immediately in most areas though there were a few stubborn spots that needed scraping with a plastic scraper. A bit of lacquer thinner on a cloth removed any remaining paint to reveal the gel-coat surface below, complete with surface detail.



Rafale surface detail after stripping paint with SEM.



New paint scheme for my *Rafale*. Should be a bit easier to see.

The new paint scheme will be sprayed using Model Master acryl paint. This paint is commonly used for plastic models, but it worked really well on my *Phantom-Reaction* and has easily withstood three years of abuse. The paint is available in a wide range of Fed-Std-595 colors so you can be sure of having the right scale colors for your project. The downside is that you have to buy a whole bunch of the little 1/2oz bottles, but HobbyLinc.com has a great price. It cost me about \$150 for enough to paint the jet, but it is still cheaper than a typical basecoat/clearcoat automotive paint job.

Just past is the Coachella Jet Jam in beautiful Palm Springs Valley followed by Gunsmoke - our local ScaleMasters qualifier, then Tucson Jets, Top Gun, Winamac, and Wingham Jets. I hope this will be a great year for all of us in the jet community.

Regards,

Jim

**REMEMBER TO RENEW YOUR
MEMBERSHIP!**

District I Report



Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Happy New Year and greetings from New England! I want to start off by apologizing for missing the last issue – despite many warnings, the due date came and went. My only explanation is that after all these years, the side effect of burning kerosene is finally affecting my memory. I guess my only option is to stop flying jets or sacrifice my memory to the turbine gods. I forgot where I was going with this ... but let's wrap up the last jet season in anticipation of the 2017 flying season.

As you may recall, I was forced to write my last article while driving home from Art Arro's fantastic event in Frankfort, NY. Now I'm being forced to write this article under the evil stare of my wife because apparently this should have been done a few days ago. You know what I say – never do today what will irritate your wife tomorrow! But of course, she is typing this so I may be sleeping with my jets out in the trailer tonight.

Moving on, the next jet event after Art's was in Gardner, MA – the New England Jet Rally, run by Jeff and Karen. Once again, they did an outstanding job! Over 40 pilots were in attendance, and we had plenty of flying with three days of beautiful weather! I didn't get to burn as much fuel as usual because Janet and I were visited by another group that we belong to – GWRRA Chapter A, which is a pretty rowdy motorcycle club. Once up there, we gave them a grand tour of the jets. The guys were extremely impressed, while the women stayed in the shade under the tent and talked about gang related topics like knitting and quilting. Even though this was last summer, the group still talks about this event at our monthly meetings and weekly coffee breaks. As usual Jeff and Karen had a fantastic catered meal on Saturday night, along with live music. This went well into the evening, and to keep everyone's pilot skills honed – Jeff once again hosted his famous balloon bust. It was carnage as usual – with the winner walking away with \$25 and only needing about \$85 in repairs on his airplane.



Brian Lloyd



We got a break for a few weeks, and then headed up to Sanford Regional Airport in Sanford, ME. Ray LaBonte once again pulled out all the stops and succeeded in hosting another fantastic event. Although scaled down from his previous Horizon-sponsored air events, this event was well attended and there was a fantastic half-time show for spectators that included a BD-5 full-sized microjet. While talking to the pilot (who did half time demonstration shows), he explained that the jet was capable of over 200 mph, can fly for approximately one hour, and cost about \$250,000. My wife immediately saw that "look" in my eye, and told me that I could and should purchase one! The only caveat was that it had to come with an apartment. Since the pilot barely fit in it, I suspect it did not come with an apartment. Therefore, I do not have a BD-5. I figure I am pricey enough in other ways...!



District I Report (Cont'd)

Brian Lloyd



But on the brighter side, my buddy Domenic and I were invited to fly in the half-time show also – we were nicknamed “Team Hard Hat.” We did our famous high-speed racing passes, combined with some head-on passes. With speeds approaching 200 mph each, this made our approach speeds nearly 400 mph. This could not have been achieved without our pit crew and spotters who kept an eye on our positioning, and every once in a while whacked some common sense into us (a big thank-you to Bob Radford and Bob Michaud). I don’t want you to think this went to our heads, but you will note the picture where we were signing autographs. Mike Turocy requested an autographed pair of my “unmentionables.” The next day (although I dare not include the picture), Mike now owns a bright red lacy pair – autographed by the entire team. I hope he is proudly displaying them – as he should be! A big thank you to Ray for hosting this event – for those of you who have not traveled to Maine, it is well worth the journey.



October found us in our own backyard flying at the Plum Island Aerodrome. By this time, my head had reduced to its normal size – I was no longer the half-time celebrity that I had been just a few weeks earlier. Plum Island is a spectacular way to wrap up our year of flying. It is starting to get chilly, the sun is a little low, but we still saw about 30 pilots and their significant others. Plum Island is a great place for the women, as there are beaches, gift shops and quaint Newburyport nearby. The first thing in the morning – the women disappear, and generally come back in the afternoon heavily laden with their new purchases. Once those are all tucked away and the jets are safely put to bed, we have time to reacquire with a potluck dinner followed by a bonfire.



A highlight of the weekend is a costume contest sponsored by Boomerang Jets – the winner received a jet kit at 50% off! The rules are simple – wear your costume all day, so, as a result, it is not uncommon to see a ballerina with hairy legs or Chewbacca out on the flight line flying a jet. Needless to say, many spectators stop – we are not sure what makes them stop – the jets flying overhead or the hairy ballerinas. Star Wars took this year’s prize – with Chewbacca (Matt) and Princess Leia (Kim). A great big thank you to Larry Roper, Michael Fiorito and the rest of the crew for putting on this great event!



District I Report (Cont'd)

Brian Lloyd



It is worth mentioning, although I am not the owner of a BD-5, over the past three years I have been building a full-sized airplane called a *Minimax*. This is just an indicator of how this hobby can get out of control. I will hopefully have it flying this spring and do plan on flying it into a couple of local events. As a result, I have not added any new jets to my fleet – but I'm in the process of overhauling my existing jets with badly needed maintenance.



See you all in the Spring for Jet Season 2017!

Brian

From The Co-Pilot's Seat

Happy New Year to all! As I've mentioned before, I'm not really sure how I have ended up in this aviation themed life, yet here I am. I have two airplane ceiling fans – in the kitchen and the TV room, a full sized propeller on the living room wall, and an altimeter clock in the kitchen).



District I Report (Cont'd)

Brian Lloyd

But, I've met such great people over the years - which brings me to the topic of the new year: Jet-Together 2016!

Brian and I love to entertain and each year in December have our world famous (to be just a bit more accurate, "region-famous") Jet-Together. This year brought nearly 50 people to our house in Dracut, MA. The weather held out - cold, but at least no snow. We had people from Massachusetts, Connecticut, and New Hampshire - no easy feat since Dracut is not really close to anything (including a highway). The dinner is a potluck, and people brought all kinds of delicious dishes to share. We transform our "gym" into the food room (guess if you eat too much, you could hop onto the elliptical and work some off? Maybe do a little Bow-Flex, or an exercise DVD?). The front porch was the meeting place for beverages, including a huge punchbowl of Sangria - my specialty. I froze the leftovers, so if anyone comes by ... well, we still have sangria!

At the end of the night, I had containers for everyone to take some goodies home - everyone was able to take as much as they wanted, cleverly disguised as cottage cheese (yup, I eat a lot of cottage cheese and these were the only containers I had). Again, if anyone stops by - Sangria and cottage cheese will be served!

A highlight of the evening was the Photo Box. I had purchased a box of photo props, including hats, glasses, bowties, mustaches We had a lot of fun posing for pictures and being a little goofy. Many of our guests, including the women, look surprisingly good in a mustache (especially after some Sangria). Of course, with these disguises nobody can recognize your true identity....

Thanks to all who came by to celebrate another great year, and we are looking forward to the 2017 season!

Janet Bell



District III Report

Mark McCracken



Ohio
Pennsylvania
West Virginia

Those who have known me since I started flying jets 15 years ago, know that I have always had a *Facet 2300*. I bought it directly from Kerry Sterner back at the end of 2003. I learned how to fly jets using this *Facet* and even obtained my waiver with the help of Kerry Sterner on a cold winter day with a very heavy cross wind. It seems we all remember the day we earned our waiver, at least most of us do.

Two years ago my *Facet* was getting tired, so I spent the winter of 2015-16 gutting it, repairing damaged areas, reinstalling all new air and fuel lines, then recovered it back to the original color scheme that we all saw years ago in the magazines.

Mid summer of 2016, I finally had a chance to re- maiden the jet after that complete rebuild. It flew great just needing a few clicks of trim here or there. I fueled her up for the second flight, and as you can see by the photo, it did not go well. I rolled out on take-off and went into a full power climb, then at about 400 feet, I started to lose power. It was the longest tail slide from 400 feet I have ever performed. Flawless aerobatics at its best until my *Facet 2300* finally turned itself around and, when it did, the ground was right there to greet her.



No flames or fires, but there were parts all over. Nothing saved. It was a sad day to say goodbye to an aircraft I have had for 13+ years with almost 500 flights. You're thinking why I am writing this? Well, I came home, left the jet, still in pieces all over the back of my truck (yeah, I know; I should have known that the kerosene would leave a smell for weeks!), but I immediately went to work on finding another *Facet 2300*.

I looked everywhere, but my search fell short. Then I received an email from a friend telling me he knows of one and gave me a name. I then contacted the seller and spoke

a few times and I was interested in seeing what he had. Tom was only an hour ride from me and, let me say, as for kit bashing, I was amazed by what he built.



I am giving credit here to Tom Castellano for a one-of-a-kind A-6 *Intruder*. Everything added to the *Facet 2300* was all hand-built, painted and installed by Tom, with the only outside help being from a friend who molded the canopy. The jet is just sitting on one of my work tables for now, as I am trying time to finish my *Ultra Flash* and another project that has been on the table for a few years....

I now have another one-of-a-kind *Facet* to fly this coming summer. That will make both *Facets* I have one-of-a-kind. My other *Facet* is the *Facet 1700RG*. It is the only one. If memory is correct, it is 17% smaller than the 2300, is powered with an 19-pound thrust turbine and it has Robart 630 retracts.

Upcoming events:

June 23-25: Jet rally at Titusville PA. It is a fantastic site with great people. No big party tents, no half-time shows, enough paved runway and plenty of over-fly area. Bring your tents chairs and food There are plenty of hotels near by.

August 17-20: Jets over the Valley OH. Night Hawks jet rally North Jackson OH. www.Nighthawksrc.com

Aug ???: (Almost) End of Summer Fun Fly, Titusville PA

A few dates not jet related:

June 2-4: Reading PA. Full-scale airshow. This is one not to miss.

Aug 4-6: Lycoming PA. Wings over Piper. Full-scale and R/C-related airshow relating to *Cubs*.

As I write this, there are six weeks left to winter. Hopefully we all get our projects finished and see you all in the spring.

Mark



District V Report

Rex Briant

Alabama
Florida
Georgia
Mississippi
Puerto Rico
South Carolina
Tennessee

Well, so far we have had a pretty mild winter in the southeast which has given us some good flying days here and there, between the rain! I'm grateful we have been getting the rain though! But, it's time to start planning to attend events in 2017... you can see RCU Jet Event threads starting to pop up now... which gets the blood pumping, looking forward to another great season!

Many are planning to make it to Florida Jets, March 15-18, it's always an awesome gathering of jet jockeys from around the world. I will be attending the Mississippi Afterburner April 20-22, and flying the JPO banner high. I know we have some great events before that but it will be the first one I can attend in 2017. Vernon Montgomery always hosts a great event in Clinton, MS at a tremendous full-scale airport venue. I can't wait!

For our District, I am hopeful we will gain JPO members in a huge way. As I mentioned in the last *Contrails*, in relation to turbine waiver holders in our District (420+), we are less than fifteen percent (15%) strong in members! I would love to see EVERY turbine waiver holder in my District support the JPO! Why? Because it has and will continue to advocate and work for Turbine Waiver Holders! We all have received the benefits of the JPO over the last many years, navigating us through the FAA rulings, keeping us flying the types of planes we love to fly and working to change LTMA-1 and 2 requirements as the industry and technology changes!

How can you help as a member? That's a good question! Challenge your other jet buddies and clubs you are a part of to join! If it were about money, dues would be higher than \$25 a year! It's about COMMUNITY and numbers of members! Also, RENEW your membership every January 1. **(You HAVE already RENEWED, Right?)**

I look forward to seeing many of you this season! If anyone has build ideas, troubleshooting ideas, product reviews, etc ... please let me know. I will include your thoughts, articles and ideas in *Contrails* publications. Keep 'em Flying!

“Shop Talk...It's Winter and I need something to do in my shop!”

Winter is not a great flying time (except for those in south FL), but it can be the BEST TIME to do some basic aircraft maintenance and updating. There are indeed some airframes that need little-to-no scheduled maintenance, but by and large, it does us well to go through our planes at least

once a year, looking at some specific items ... such as the thrust tube or turbine pipe.

I was rounding 50 flights on my *Rebel Pro*, when I saw something I hadn't noticed before ... because I rarely look into the tail section of the *Rebel* when taking it apart or putting it together. This time I did - and saw some major discoloration AND a servo lead hanging down, where a zip tie used to hold it.

I got the *Rebel* home (gratefully in one piece) and pulled the turbine to get to the pipe. I found the pipe was about done (cooked) and I was really close to losing the rudder servo (I was amazed that it still worked with the servo extension being almost completely burned through). Then I began wondering if that could have caused a short-out and killed my Rx at some point, too!



I did check the turbine alignment to the pipe before pulling it, wondering if that might be the issue ... it was not. Actually and honestly, I could assume the pipe was done just by the way it was made and wouldn't last. Or, I could assume the servo lead sitting on the pipe, while melting, caused the pipe to overheat on the outside skin, causing the pipe to get "brittle" in that spot. Either way, the pipe was done and so was that servo lead. And, I needed to check the rudder servo now, too. By the way, the servo lead got loose because the Zip Tie "post" I had positioned above the pipe and glued onto the inside of the fuselage skin had fallen off.

This took about an hour to get everything out and on the table. It also gave me some time to look over the whole tail,

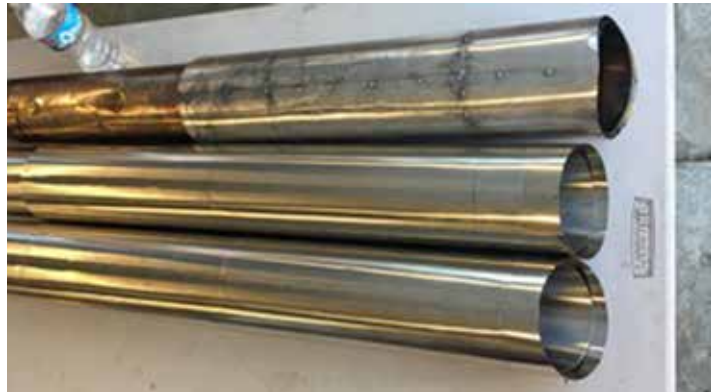
District V Report (cont'd)

Rex Briant

(elevators, stab, rudder assembly) just to get a good look at things back there. I found the stabs to be getting a bit loose at the front, where the anti-rotation pins go into the faring, so I pinned each stab with a 4-40 bolt, making it bulletproof once again! You never know what you might find if you spend an hour and look through the airframe!

I ordered a replacement pipe from Tam and had it in my hands in about a week. It was pretty much a drop in, except for a little bit of fitting and aligning on the former that holds the pipe in the tail.

Now, I am not going to go into "factory" pipes and their "quality" but there is nothing like a custom pipe! These pictures are what I received from Tam. The last picture is a factory *Rebel Pro* pipe (top) next to a few Tam Pipes. Tam says, that when at idle, the pipes get pretty hot but when in the air, with correct offset of the turbine and pipe alignment, the outer skin cools dramatically, to the point, if you could touch it, your hand would not get burned!



While I had it on the stand and in my shop, I took the gear and servo hatches/plates off and took a look around these areas. I took the wheels and tires off and put some O-Ring lube on the brake gaskets, tightened the setscrews on the main struts and BAM! All looks good now.

And BAM again, I have confidence in my *Rebel Pro*, to be ready to fly for the 2017 season!

Now, I think another area that needs some regular looking at are the fuel tanks! Those are hard to get to for the most part...but it can save you BIG TIME to check the clunk lines and even change them out every so often. You never know what you might find in those tanks! At least cycle the fuel system to see if the side tanks are draining evenly (if you have those).

One more area, I have a buddy that changes out his Spektrum Satellite extensions every season just as a practice of safety for his radio setup - just some good stuff to think about during the off season and when you want to at least put your hands on the hardware when it's cold and rainy!

Rex

District VIII Report

Ron Schwarzkopf



Arkansas
Louisiana
New Mexico
Oklahoma
Texas

Howdy from District VIII. Weather in the Central Texas area hasn't been too bad this time around, and some of us have been able to get some flying in. If you haven't been able to, I hope you've been able to do some jet building – now is the time for that last “push” with your project, to get it ready for our upcoming flying season! As you can see below, flying events are already lining up:

Upcoming events in District VIII

- Mar 18:** Jet Lag Jet Fly, ARCA Club, Austin TX, Mike Gregory CD
- Mar 30- Apr 1:** Jets Over Houston, Bomber Field, Robert Bernal CD
- May 11-13:** Texas Jets, Mt Pleasant RC Club, Gus Hudson CD
- June ???:** Fort Bend RC Club, Rosenberg TX, Ray Blair CD

Pirotti Models Rebel

My projects tend to be either something off-the-wall, or something that came out a year or two ago – I guess I'm just slow with having the latest and greatest ready to fly So to continue with that unintended tradition, earlier last year I picked up an original-size *Rebel* kit (79-inch span) through Scott Marr of Elite Aerosports. During the fall of 2016 I started digging into the kit, and, for the most part, it is ready to fly. Remaining items to work include installation of the smoke system and final CG measurement, although, if weather is nice I may skip the smoke system for first flights. I've installed one of the latest Jet Central *Rabbits*, so it should be a nice combination – not a slug, but not a missile. The model went together quite well – kudos to Pirotti Models in Italy!



The wood parts to be installed in the kit (just a few nose landing gear bulkheads, and a few hardware support plates)

are of nice quality, but I decided to replace or eliminate some of the pieces to reduce weight. Plus I cannot resist changing stuff! Initial CG shows no weight should be necessary to get the model to balance properly.

Since I really like the shape of these models, and I think the color scheme variations are plenty and look nice, I decided to get an all-painted version. This will also provide an opportunity to try the Electron electric retracts and brakes - the included landing gear hardware look nicely made.

Of course, we all know a larger Rebel Pro (102-inch span) was released last year, with many flying in 2016, and they appear to fly great – so maybe I'll consider one of those in the future... Just continuing my tradition with being a couple of years late!

Rebel Needs a Smoke Tank

The Rebel kit comes with a nice, straight-forward fuel tank from CM Jets, but did not come with a smoke tank. I could order one from CM Jets, but why take the easy road when I can make my own? (That is how my brain works...)

I've made model fuel tanks before – the most popular one-off method being where one carves and smooths out a tank shape out of blue foam, performs a check fit with the model, then proceeds to glass the outer surface of the foam with fiberglass cloth and resin. Later, the blue foam is melted out with gasoline or some other nasty chemical, and one is left with a totally usable fuel tank. This time around I decided to use the method of creating a plug or pattern of the tank shape, then making fiberglass upper/lower molds of the tank. This way, I can then lay up several tanks if needed. The tank was modeled up on a cad system, then the plug shape was “grown” using my FDM machine (3D Printer). The cad system said the tank design should hold 33 ounces of fluid if I remember correctly - I haven't filled it up to measure it yet, but my goal was to hold more than the 26 ounces I carried on my BVM *Bandit*, so I think it will work well.



I am for the most part happy with the result. I also ordered a few fuel line items from Dreamworks for the smoke line fittings. The tank fits in the fuselage just aft of the wing spar, and just ahead of the turbine bay. Because of the clunk entrance into the tank, and because I like flying aerobatics with these types of sport models, I've also assembled a

District VIII Report (cont'd)

Ron Swarzkopf

small header tank with a filter pickup in the center of the header, in an attempt to minimize smoke outages due to aircraft orientation (ie, clunk flopping around to locations in the smoke tank where there may be an air pocket). So we'll give all of this stuff a try when the weather gets nicer. No rush!



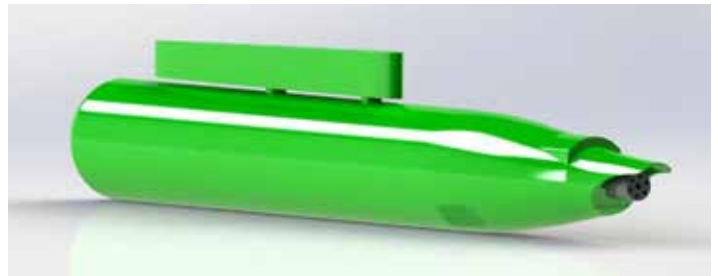
If you need a smoke tank for a *Rebel* and would like to try one of these out, feel free to get in contact with me – I may go ahead and lay up a few of these tanks.

F-4 needs a Gun Pod

Buck Garza recently picked up a Skymaster F-4 *Phantom* model (1/7.75 scale), and asked if we could somehow make a centerline gun pod for the model. The real F-4 originally rolled out without a gun installed, because the thinking back then was all air-to-air combat would be performed beyond visual range, using missiles. Well, it didn't exactly turn out that way, and so the SUU-16/A appeared – a gun pod which housed an M61, 20-mm cannon. These gun pods were mounted on the centerline station of F-4s, when the mission required them. I am trying to research if this gun pod was used on any other aircraft other than the F-4. If you know, please email me!



Luckily there is an F-4 on display in Fort Worth with such a gun pod installed, so we made a trip to the display *Phantom* to get our documentation (took pictures and made measurements). I will be using the same method of design and fabrication that I did on the *Rebel* Smoke Tank to work the Gun Pod. I may have to experiment with some plastic casting of the nose of the Gun Pod, but we'll figure that out when we get there. So far, the plug or pattern shapes are nearly finished. Mold making should begin in the next week or two, depending on weather and my schedule.



Well, that's all for now. Happy building and flying!

Ron

TREASURER'S REPORT

Beginning Checking Account Balance			\$3,697.76
Income			
Member Dues	\$1,420.41		
Total Income		\$1,420.41	
Expenses			
Web Site Hosting	\$155.00		
Total Expenses		\$155.00	
Ending Checking Account Balance			\$4,963.17
Current PayPal Account Balance			\$72.23
Total Cash on hand			\$5,035.40

Respectfully submitted: Sid Gates

District X Report

David Reynolds



Arizona
California
Guam
Hawaii
Nevada
Utah

In the July 2016 issue of EAA Sport Aviation you will find an article by former NASA chief astronaut Charlie Precourt titled Normalization of Deviance. What exactly is normalization of deviance and why should you care?

One way to put it, is getting away with doing “stuff” you probably shouldn’t be doing, but nothing bad has happened, so no worries, right?

A more chilling example that Mr. Precourt uses in his article is foam breaking away from the external tank of the space shuttle on lift off. This had been going on for years without a problem so nobody worried about it. Over time it became an expected thing that was not a concern.

Mr. Precourt states - “However, in both *Challenger* and *Columbia*, the big discovery was the engineers’ and managers’ behaviors were mistakes, not misconduct. Looking at the data it became clear they had not violated rules at all; they had met all NASA requirements. As risks arose in the program, they analyzed the new information and wrote rationale to explain why those risks were acceptable and “within the existing rules.” They had normalized deviant behavior.”

Put more succinctly – “...when we see an unexpected behavior and nothing bad happens we have a tendency to accept the deviance and think of it as safe; we normalize it.”

This article got me to thinking about some of the things we do as modelers that could fall into the normalization of deviance category. Not too long after I read the article, one of the local club members had an accident at the field that ended up with a trip to the emergency room. His model quit while taxiing out to the runway. Rather than pick his plane up and take it back to the starting table, he started it there where it stopped. He had done it hundreds of times without issue.

Closer to what we are doing, at a recent event there was a pilot doing high speed 360s right at show center all weekend. What’s the issue, people do it all the time, right? Later in the weekend that same plane that had been pulling high g’s while pointing at the crowd, and pits folded while performing a knife-edge pass. The debris field stretched about a quarter mile from the point of impact. Take a moment to think about what the fallout could have been if that plane had folded up while pointed at the place where paying public had been told to sit.

How many of you have a conversation with your buddies while your jet goes through its startup routine? It may seem to be harmless, but again at a recent event I watched as it took a mad panic of about four guys to hold down a large twin-turbine as it went to full power in the startup area. Nobody had a hand on the transmitter; it was sitting on the ground unattended. Granted, it probably only took about 30 seconds

for somebody to pick up the transmitter and cut the throttle, but I’m sure it felt like a lifetime to the guys hanging on.

EDF pilots are not immune to this normalization. At another event, a twin EDF went to full throttle in the pits and traveled a good 40 feet before slamming into a catch fence. This is why most field rules state that electricians are not to be armed in the pits. Yet many pilots still plug in the batteries before heading out to the flightline. After all, nothing bad has happened.

I should point out that I don’t consider any of the pilots mentioned in these events to be dangerous or irresponsible. In some of these cases, I would in fact say the opposite in that they approach all aspects of model aviation with a degree of professionalism that is to be admired. They did, however, fall into the trap of Normalization of Deviance. Maybe they did it once in a hurry. Perhaps it was a moment of laziness. Whatever the reason, it was only a matter of time before they experienced another term from the article in Sport Aviation – “predictable surprise.”

So take some time when you next hit the flight line and think about what you may have been getting away with. How can you mitigate danger? What habits do you have that deserve a second look? What habits should be reinforced? I always check the control direction every time before I taxi out. Any guesses as to why? As the saying goes, good judgement comes from experience, and experience comes from bad judgement. Look out for each other and spread that experience around so that others don’t have to gain it the hard way.

I’ll leave you with that thought and some shots from the Arizona Jet Rally. As always if you have any upcoming events let me know by sending me an email or you can post a flyer up on the JPO District 10 Facebook page, like Skip Blatar did for his High Sierra Jets event in Reno, NV happening April 8-9.

Until next time, keep the low passes where they belong.

Dave



District X Report (Cont'd)



District X Report (Cont'd)





Canada District Report

Jeff Daly

Hi folks. No jet event coverage for this edition, but I have a couple general interest topics. One on the new Mobius2 HD actioncam, and one concerning Jet Central's turbine software.

Just a reminder to renew your JPO membership for 2017, and to register in the US UAS Registration Program to ensure you have no obstacles from flying in the US.

So, for jet events in Canada, here's an impressive list, as of January 31, of what's going for 2017:

8-11 June: Princeton Jets Spring Warm-up, Princeton, B.C.

9-11 June: Forest Jets, Forest, ON

16 -17 June: Ottawa Valley Jets, Carp Airport, ON

21-23 July: Wingham Jets, Wingham, ON

28 Sept-1 Oct: Princeton Jets Fall Event, Princeton, B.C.

21-24 Sept: Thunderthrust over Chatham-Kent, Chatham, ON

Your support is much appreciated being a JPO member!

Mobius2 Miniature High Definition Action Camera

Santa brought me the new Mobius2 action cam for Christmas this year. I had not yet bothered to mess with video cameras that could be mounted to jet aircraft until a friend of mind (Ken Park) showed me his Mobius mini cam. After seeing the size, orientation, and quality of the video recordings, I thought I'd ask Santa for one.

I ended up getting the last version of the Mobius camera, the Mobius2. I now intend to mount this to my F-4 for some in-flight video and maybe telemetry the video to the ground as FPV.

Mobius2 has the same small size as the original Mobius, but does not use a mounting sleeve, and the buttons have been placed in the side instead of the top. The heat sink has been moved from the top to the bottom and is integrated with a removable brass mounting adapter for a standard 1/4-20 tripod mount. It has a 130-deg wide-angle lens, but most notable is its improved video resolution, 1080p at 60fps and the ability to change camera configuration to be able to be mounted in the flat, inverted or vertical position without post video processing. The user also has the ability to adjust audio from Off, Low, Medium & High. The software to change the internal settings of the camera is very easy to use and sufficiently sophisticated to manipulate any setting to suit its intended purpose as an on-board video cam. The best thing is its price...\$99 Canadian (or \$75 USD).

Some other important specs:

- Time Lapse photo supported. JPEG
- Two video modes and one photo mode of operation, which can be customized to suit your application.
- Memory: Micro-SD memory card, Class 10, Cards up to 200GB supported.
- Internal lipo battery: 820mah. It can record over 120 minutes of 1080p 60fps Full HD videos on a full charge
- Power Input: standard USB DC5V, with over voltage protection (5.6V-25V)
- Outer Dimensions: 64mm(L) x 36.5mm(W) x 18mm(H) (or 2.5in x 1.4in x 0.7in)
- Weight: approx 45 grams with battery included (or 1.6 oz)
- Can be adapted to Gro-pro camera mounts
- Can be modified with other lenses from other lens manufacturers



Just recently for this article, I mounted it on a wing pylon to provide an idea of its size. I apologize for the messy shop and background clutter, but note the minimal frontal area and small size of the camera. With the camera software, it was programmed to be configured in the inverted position, so the video download will be correct. And, yes, I look forward to getting some in-flight video this coming season!



Mobius2 mounted on the inner wing pylon on my Skymaster F-4.



Front view of the Mobius2.



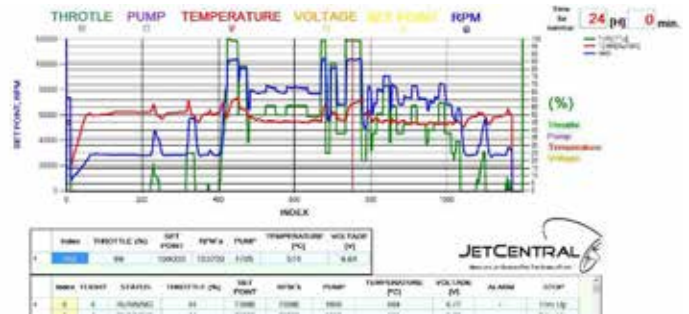
View from the camera itself. This view should provide an interesting in-flight video at 1080 60Hz resolution.

Jet Central Engine Software

Another topic of potential interest is the new Jet Central Black Box Software that accompanies their new SE series of turbines. I have a Mammoth SE that has a download

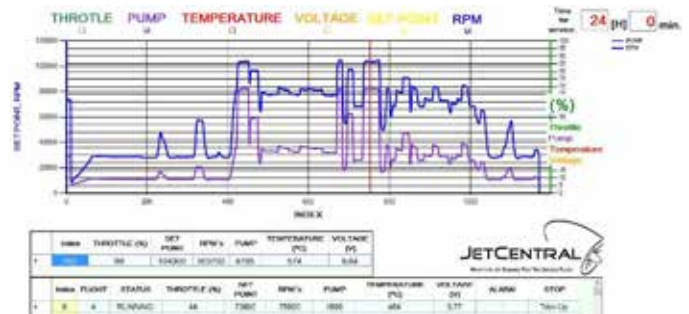
capability from the Powerpack/ECU to a micro SD card. The Black Box software allows the PC to view the data collected from the ECU. The application displays the following information in graphical chart form and tabular form: Throttle %, Pump Pulse Width (PW), EGT, ECU Battery voltage, Set Point, and Turbine RPM. In the graph you can select/deselect the data to view and zoom in to see a compressed section of the data. The data displayed in the tabular area also includes any fault/alarm information.

So, how can this capability benefit the user? For one, my turbine installation in the jet (F-4) is in a bypass. I often get some overheating in the bypass that causes the BVM heatshield to lift off and burn. So, I was curious if the engine was also overheating. Looking at the temperature plot, the engine is actually running cooler when airborne (about 20 deg C cooler) than idling on the ground, which is a good sign. In fact, the temperature in flight ranged from 498 deg C to 607 deg C at max power with 50% throttle at about 442 deg C.



That is excellent, and less than what I expected. So, I'm not worried about the engine being in a bypass. The bypass overheating could be by a too restrictive tailpipe, of which it actually has a smaller outlet area than the inlet area (not the greatest design here).

I also noted the excellent throttle response as rpm changes were demanded. Pump power also shows that it never exceeded approximately 70% of its max limit, which indicates that the fuel system is flowing satisfactorily (I use a CAT tank).



Anyway, Jet Central's turbine software can be very useful if you have the desire to understand what is going on with the engine, or to help troubleshoot any problems.

Have a safe and fun flying season in 2017!

Jeff

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Membership/Renewal Application

Please add/renew my JPO membership!

Name: _____ AMA Number*: _____

Address: _____

City: _____ State: _____ Zip: _____

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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 can fill 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



Buck Garza's Rafale climbs out for some cloud surfing.