DRAGONFLY BUILDERS AND FLYERS NEWSLETTER

THE OFFICIAL VOICE OF DRAGONFLY BUILDERS ALL OVER THE WORLD

Volume 89 ***January / February 2001***

Saturday mid morning forums were quite enjoyable, from the Corvair engine presentations, to Brad Hale's tale of his, not one but 2 surprise landings at the now defunct El Toro Marine Base.

By Don Stewart

The Mountain States 2001 Canard Wing Fly-In at Laughlin NV (Feb 23/24) turned into a Q event, same as Ottawa this past year. This is the very first Fly-in that I have ever put on where it has snowed! Thursday was gorgeous, 75 degree day, scattered evening clouds, hint of mist over the airport after sunset when I arrived. Friday started with SEVERE CLEAR through about noon, then high clouds and somewhat cooler temps, and

Continued inside

Dinner at the Flamingo with "the guys"

ended with a nice dinner at the Flamingo with the Dynamic Q-Duo of Bob Farnam and Jim Patillo (Livermoore CA), the mustachioed Q-guy Sam Kittle, DFers Bob Boydston (Sedona) and Howard Beck (Clarkdale) and, of course, our significant others: Debbie, Jennifer, Mary Lou, Jo, and Jan.

Saturday again opened with SEVERE CLEAR, then immediately clouded over. Temps dropped, and the sky thickened.

After morning air ops (those Q-guys Farnam and Patillo will fly through most anything to give check rides) and the arrival of Mike Reese in his Yankee with his significant other, Larry Brown in his 310 Twin with his golf clubs (we know where his priorities are), and a host of folks flying in the four wheel kind, we retired to the hangar to escape the cold and launch the Engine Forums, which quickly turned into the Corvair Confab.

Dinner at the Flamingo with "the girls"

Pat Panzera showed off his sparkling engine (I'm now too embarrassed to take the cowl off my engine ever again), lots of buffing wheel and elbow grease created that spit-shined beauty. (Appropriate Ooooh's and Aaaaah's were voiced.) The mirror-like CorvAIRCRAFT name routed in the bright red top plate of the engine stole the show.

Charlie Johnson (Utah), also know as OneSkyDog, showed off his alternative to the William Wynn endorsed Safety Shaft on the Corvair engine (which is designed to retain the prop hub should the crankshaft ever let go of its 20,000 lb grip of the crank flange to which the hub is bolted). Charlie's solution for his peace of mind is several pounds lighter and consists of a spiral lock ring, engaged in a precision groove cut in the crank snout, just outboard of the pressed-on crank flange, which has been face-surfaced to provide the needed setback from end of the crank snout to accommodate the groove. As Charlie says, the spiral lock ring is easily obtained, inexpensive (under a buck), and visible for inspection between flights. And the crank flange does NOT need to be removed from the crank for flange-facing or groove-machining, so the crank maintains its 20,000 pound factory grip.

I'm pretty sure that William Wynne (the Corvair authority) will be pretty tickled with this solution when he finally sees it.

Bob Sutcliffe, know for his brevity when public speaking, was up next and surprised us all with a really complete look at what you can expect from his machine shop when you order any of his conversions.

He is especially proud of his "Bob's Big Boy" conversion, a 2700cc Corvair engine to a whopping 3100cc's - BIG power for draggy planes and slippery plastic planes. Bob is a dune buggy guy and builds these

Bob Sutcliffe of SC Performance, La Verne CA

Bob Sutcliffe with John Moyle's 140hp 3100cc engine (custom built by Ted Hansen of Fresno CA) with Warp Drive propeller

power monsters for riding up and down sand dunes at Pismo Beach CA.

His energies go into bullet-proofing these puppies from the power surges that a suddenly spinning wheel might produce (and quickly kills less robust engines). He is one of the rare breed of 4 wheel guys who is willing to step into the risky arena of our flying boats. And he's a nice guy, too.

I found out at Laughlin though, that it appears that almost all Corvair engine conversion proponents (at least of those who spoke at our Forum) are so painfully quiet that I promise

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next year to bring (along with the dancing girls) a PA system so everyone didn't have to sit in the front row to hear every morsel that these guys gave out. I promise.

The exception was John Moyle who startled the crowd with his enthusiasm for his 3100 Corvair conversion built for him by Ted Hansen.

His powerplant is destined for his own design airframe, the details of which are still under wraps. But that definitely looked like a ground adjustable carbon fiber three-bladed prop going on the pointy end.

Brad Hale shared with us his unintended vacation stopover at lovely and friendly El Toro Marine base, which was neither a vacation, nor lovely, nor friendly.

Brad Hale tells of his experience at El Toro

Jim Patillo (back to the camera) answers questions as his passenger climbs in, and as Ted Hansen watches in amazement.

His story is one of an emergency put down on El Toro's runway (which has been closed to civilian traffic for some time) due to a failure of the only certified part on his airframe - the magneto. After crummy customer support, Brad finally got a respectable replacement installed and was pressured by the "suits" to get out as soon as possible, even if it was in the rain. Once airborne, Brad felt that the weather was unsafe to fly in (at least that is his story and he is sticking to it), so, without leaving the pattern, he again landed at El Toro, much to the chagrin of the "suits". He got out

the next day before they found a way to make his DF (and him) a permanent fixture of the airport. I guess it is comforting to know that bureaucracy hasn't changed one iota in Orange County.

The weather outside the hangar where we were meeting hadn't improved much, but that didn't stop the mighty Dynamic Duo of Farnam and Patillo to again propel Q and DF wannabe's alike into the thin air above Laughlin for another hour or so in their Q's

Jim Patillo coasts along the long down hill trip from the flight line to the tie down area, after giving yet another ride.

While we were freezing outside watching the flights, John Moyle had the sense to stay in the warm, dry FBO, in the company of some of the equally smart spouses.

Folks enjoying the good time back at the room

Bob blinked first and called it a day, but Jim flew another half hour then packed it in.

Those of us on the ground swear that Bob successfully flew through some snow that had developed at pattern altitude at the downwind/base turn. Bob says he was scurrying pretty good, but all of a sudden saw the ground coming up faster than it should have and had to apply some power to complete the turn.

Lots of smiling folks got rides thanks to Bob and Jim. Now that air ops were over for the day, the winds, (which were gusting to 30 mph) subsided, the mist dissipated, the sky went to broken in places and we all headed over to the "River Palms **Mountain States Fly-In** Suite" for the Award presentation and Hors Devoures. And honest, I did NOT promise dancing girls this year (check my emails and newsletters) despite anything Panzera says.

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Charlie Johnson (aka OneSkyDog) shows his new snap ring retainer for the Corvair crank gear

Also, despite more Panzera rumors, this “rich fly-in guy” only rented the Suite for ONE night - he stayed in regular rooms the rest of the nights. So there! It was rather interesting having 28 guests in the MS Fly-In Suite for beer, soda, coffee and pizza. I had a great time.

Next year: repeat the beef & onions, ham & pineapple, olives & mushroom, but replace the cheese & cheese with anchovies & peppers! Thanks to all who put a few bucks in the donation canister, it went a long way to help pay for the food and part of the room fees.

The esteemed judges (who shall remain nameless for their own safety) selected Bob Farnam's Q as the 'Best of Show'. Jim

Charlie Johnson’s snap ring

Patillo's Q was a real close second. The Award praises Bob for his continued support of Experimental aviation, generally, and Canard Wing aircraft, specifically, through his participation and support of the **Mountain States Fly-In**. Congratulations, Bob!

Several of us selected the River Palms buffet (shorter walk, you understand) and arrived to find Pat Panzera full of food, collapsed at his table with his wife messaging his neck, telling him something like "it's not really that far of a drive home..."

The pilots and attendees arranged a Fly-Away breakfast for Sunday morning, which I blissfully slept through, sorry. Us old guys need our beauty sleep (maybe it was that bubble bath in the sunken tub that did it).

The weather on the west coast looked like there was a window of opportunity, so Bob and Jim

Best of show winners, Bob (far left) and Jim (far right) with Bob’s fiancée Jan and Jim’s wife Jennifer

John Moyle didn't have his GPS with him and got a little lost in the towers, so he didn't get to the Suite until things had died down a bit and we were ready to leave to invade the buffet for dinner.

launched to take advantage of it. When I checked in at the airport after taking care of the hotel business, the tarmac was empty

The view of the airport, overlooking the Colorado river, from the Riverside Hotel and casino

and the hangar had no planes in it, so I figured that Bob and Jim have gotten on their way.

they decided to stay another 2-3 nights at the casinos to weather it out!

Almost everyone learned something new at the forums

Wrong. After I left the airport and headed for home, Bob and Jim had sneaked back to the airport claiming that the weather was inhospitable further on, and

It was a great educational experience for all who attended (even for the tower personnel who don't get a lot of opportunity to see these funny looking airplanes). The check rides really help those who are close to being done building their planes and just need that little extra boost in the home stretch, and for those who have forgotten why they are building in the first place.

The presentations help those who are trying to put a picture to all those written instructions they collect, read and reread over time during their building experience. There hasn't been an Ottawa or **Mountain States Fly-In** where I haven't been able to pick something up that made the trip worthwhile due to these Forums. And of course with the Internet and email discussions groups responsible for an even greater and greater exchange of building information, the Fly-Ins are a great place to put a face with a name.

The Ottawa Kansas Field of Dreams Fly-In and **Laughlin Nevada Mountain States Fly-In** will continued to provide that equation for success for Q and Dragonfly drivers and builders.

Thanks to all the pilots who flew or drove in, to all the builders and wannabe's who attended, and to the presenters who took time out of their busy schedules to come.

I'm convinced more than ever that Laughlin is the right place to be, just not on the last weekend in February!

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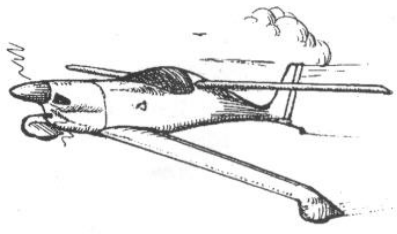
Don Stewart at the Corvair engine forum

As I have done with the Ottawa Fly-In in Kansas, I will be moving the date of the next **Mountain States Fly-In** in order to find a more suitable climate. The **Mountain States Fly-In** 2002 will be held on March 15/16, 2002 (the third weekend in March, 2002). Don't rush out and make hotel reservations just yet. Let first check that there isn't anything else major going on that weekend that would drive hotel prices up.

Pat Panzera and his Corvair engine

While I'm on the subject of Ottawa, the Field of Dreams Fly-In at Ottawa Kansas, will be held during on the last weekend in September, **Sept 28/29, 2001**. This is one week earlier than last year to take advantage of slightly warmer weather. There is a Nascar event scheduled for Kansas City during that weekend (it is always something) which will affect flight availability in and out of Kansas City MO to a lesser degree, and the availability of rental cars at the airport to a greater degree.

Hotel/Motels at Ottawa will not be affected. Please be sure to reserve your air and ground transportation as early as you can so you won't be disappointed. Again, I predict SEVERE CLEAR for the Fly-In weekends scheduled for Laughlin and Ottawa. Regards to all, Don Stewart



X-Plane

By Andrew Aurigem

From Sunny Florida. You may have heard some mutterings of a computer simulation program called **X-Plane**, and have been wondering if it was anything worth checking out. Well, this article can not answer that question for you, but it can introduce the program and inform you about its capabilities and limitations.

First things first: **X-Plane** is a very large, computer resource demanding software package that allows you to "fly" a dragonfly aircraft on your computer screen.

It is not a game. There is no shoot-em-up lasers or guns, or bombs.....at least I never saw any.....or points to win. There is real time fuel burn, g-forces, roll, pitch and yaw reactions to the pilot inputs. There are cross wind components to handle and mechanical failures to make live interesting. There is deep stall if you aft load your 'Fly out of the envelope, or add to much canard to the front. There are hours of simulated blue sky with fluffy white clouds that can turn to thunder storms as you approach them. There are communications with the tower, other aircraft, airspace restrictions, and little tuffs of smoke from your wheels as you touch down on the runway. There are no nasty calls from the FAA if you bust the restricted airspace of the Kennedy Space Center and shoot a landing on the 15,000 ft shuttle landing strip.

There is gravity, drag, lift, inertia, g-force induced blackouts and consequences for allowing your carb to ice up on that long glide down from 5k feet ASL.

There are crash landings. There is going off the runway and getting stuck, realistic ground handling routines, canard pitch

Charlie Johnson showing off a bit with his full IFR panel and his coordinated 45° banked turn

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buck, stall recovery, aileron washout, midair collisions and low fuel warnings. But the most important thing to know about **X-Plane** is that it comes with a reset button that allows you to try that landing again and again.

he computer requirements vary a it from system to system, but in general you will need a 300+ MHz processor, 64 megs of RAM, 75 megs of hardrive space you can dedicate to the program, a CD-ROM, a good (3d) joystick, and an accelerated graphics card that can handle the work load. If you bought or built your computer in the last 18 months, you should have enough "spunk" in it to get the job done. If not, plan on spending some money to come up to speed.....cause this simulation makes no excuses for itself.....it eats slow machines for breakfast. There are new revs on the software almost monthly (all are free and all make more demands on the system).

The program sells for anywhere from $18 to $40 (US dollars) and only comes on CD-ROM. It has detailed scenery for most of the world (the US at least) and has about 40 different aircraft simulated and ready to fly. The website http://www.x-plane.com/ has links to hundreds more planes that people have made and given to freeware usage. The dragonfly simulation is not among them (that I know of). To fly a dragonfly aircraft in **X-Plane**, you can (1) learn the Plane Builder program that comes with the package and create your own model.....or (2) ask to borrow the models that were created by the Mad Rocket Scientists Team. (see note)

Charlie Johnson at the controls of Andrew's Dragonfly simulation (at the 2000 Ottawa fly-in) was overheard saying it flew quite accurately, very similar to his own Dragonfly

X-plane simulations will be an enjoyable break from building. The sims will allow you to play "what if" and "lets find out if that will work" from the safety of your computer screen. You can add, subtract or change wings with the click of the mouse. You can explore the realm of tandem wing flight from top speed to the edge of deep stall. It only takes the time to get aquatinted with the program (about 30 minutes) and the will to go exploring.

NOTE : The models developed by the Mad Rocket Scientists Team are accurate replications of the Dragonfly Mark 1, 2 & 3. The simulations have been flown by several of the "guys" that own and fly real dragonflies. The simulations we developed will take off, fly and land very much like the real thing..... and are free to borrow. There is a "no liability clause" you will have to accept, you may only use our models on legally obtained versions of **X-Plane** software, and you may not redistribute them or make a profit from them in any way.

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A New Editor.

I hope you are enjoying my first issue. It's not been an easy task, but I'm having a great time with it so far.

As the subscription forms rolled in, I found little notes written on the forms, or added in along with it.

I've received lots of words of encouragement, for which I'm truly grateful, and I thought I'd recognize a few of the fine people who offered these words, by printing what they had to say.

"Thanks for taking on this tough but critical task. Good luck!!" **Louis Beverly, Rockford IL**.

"Keep the information coming. Some day I'll be inspired enough to build or buy a Dragonfly." **Reyman Branting, Pittsburgh PA**

"Good luck with the newsletter. Always enjoy reading it. Will give you an update on my project soon." **Günther Kälberer, Drachenfelsstr Hennef, Germany**

"Been reading your posts on the DF list, checked out your website, well done! The newsletter is in good hands. Good luck! Weather permitting, see you @ M/S fly-in (Oregon Xpress)" **Jocko John Grenier, Bend OR**

"Pat, Please sign me up for another year of DBFN. I'd like to take this opportunity to thank you for taking up the challenge of editor for the newsletter. More than anything I believe the DBFN has held the group together and kept the design alive. Thanks! Sincerely, **Preston Gabel, Hillsboro, OR**"

"Well done Pat. I really appreciate your efforts"**. Graeme Davey, Culcairn N.S.W. Australia**

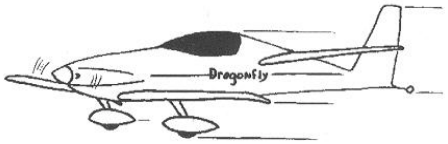
"Thanks for taking over the newsletter. We all appreciate the effort! Best regards, **Brian Forsyth, Thunder Bay, ON Canada**"

"…I was glad to read your history in Spud's last issue. I'll send him a lot of thanks for the 9 years. I'm an old long-time member of the Arizona gang, which began in 1984. I went to Eloy many times for swarmings…. We are all glad you are taking over for Spud. I have enjoyed the DBFN all these years. Regards, **Bob Boydston, Sedona AZ"**

"Pat, Congratulations for your courage, following Spud work is not a easy job and will be time consuming, but our community needs people like you. I send you to day a mail check at your address. I enjoy also today flying my Dfly over sunny Picardie in the North West of France. To introduce myself, I am the designer of the MK3 drawings sold by Viking. Best regards **Philippe Soulas, France**"

And there are many (too many to list) who simply wished me luck. To all of you well-wishers, I'd like to offer my sincerest thanks. Kind words go along way.

Pat



X-Plane (cont. from page 9)

For more information, please contact Drew at http://www.angelfire.com/on/dragonflyaircraft/

The Classifieds

Classified ads are published free for those who are current newsletter subscribers. All ads must be renewed after 2 issues.

For Sale: **Dragonfly MK II** N189SM, with 80hp Continental A-80. 150-hrs SMHO by Skeezix Adkisson, and dual Savier electronic ignition. 3 blade Warp Drive prop w/ Gary Hunter blades. Curses 145-150 mph on 4.9 gph. 21+ gallon fuel capacity, dual throttles, hydraulic brakes, ELT, cabin heat, oil cooler and filter. Garmin 195, vortex generators, electric pitch trim. All for **$25,000** or

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possibility trade for 2 place side-by-side, tri-gear with turbo or bigger engine. See photos in the recent KITPLANES ® magazine, featuring details on electronic ignition. Call 618-594-2681 and ask for Terry, or
e-mail: troneill@midwest.net

For Sale: **Dragonfly MK II.** Excellent workmanship. Complete plane except the canard and gauges. Everything to complete a new canard except the landing gear. The canard is on the table, awaiting final lay-up. The spar is laid up, the gear leg boxes are installed and all cloth / carbon fiber to complete the project is included. The aircraft has always been hangered, and it comes with a HAPI 1835 cc engine, with dual electric ignition, and latest mods. New Props Inc. 52/42 prop, spinner included. Beautiful red cloth seats. Fuselage is complete with new forward hatch cut out, but not finished. The wing and the entire paint job are both in excellent condition. I would entertain splitting up the engine from the airframe. Priced for quick sale **$4800.00** Call Bill Brutsman at 913-888-8942, Lenexa KS, Fax: 913-599-1290 e-mail: wdbrtsmn@aol.com

For Sale: **Dragonfly Firewall Forward Package** HAPI 60-2DM with 6 hours test stand run time on the engine. Includes motor mount, Warneke prop, exhaust headers, and Posa carb. The engine is still on the test stand so you can see and hear it run. Send your e-mail address and I will forward pictures of the engine to you. **$2500 OBO** Call Terry Bailey, (home) 706-778-2462, (cell) 770-654-1663 or
e-mail: baileyt@hemc.net

For Sale: **Dragonfly Covers** constructed of TYVEK® marine fabric made by Dupont ®. Superb UV protection, dirt and dust protection, easily handled and stored, soft inner lining. Straps are (4) behind and in front over wing, and in behind canard and around cowl. Very light and compact. **$195.00 US** Shipping to US is $15, overseas in $25. personal checks drawn on a US bank account are accepted. AIRRYDER Aviation and Flight Center, PO Box 1990 Hanna, Alberta, Canada. Phone/Fax (403) 854-4541 or
e-mail: airryder@telusplanet.net

For Sale: **Carbon Fiber NACA Inlets and Spinners.** Spinners are $250 each, including back plate, but w/o front bulkhead. Inlets are $30 per pair, set in glass. Contact Charlie Johnson, 2228 East 7875 South, Ogden UT 84405 (801)-479-7446 or
e-mail OneSkyDog@aol.com

For Sale: **Dragonfly Firewall Forward Package**: Balanced 2180cc VW engine package, not yet removed from aircraft. All systems go with the package - Intake, Ellison throttle body, alternate air box, cabin heat muff, exhaust system, baffling, 40 amp alternator, geared starter, oil cooler, spin-on oil filter, bendix mag, electronic ignition, aluminum finned (cast iron sleeve) barrels, extra heavy heads, force one prop hub, Dragonfly Task cowling, engine mount, hydraulic lifters, chrome spinner and Great America prop. This is a bolt-on and fly program. Price **$4,000**. I am installing a very special C-85 engine in my Dragonfly. You may contact John Mason by phone @ 559) 626-4491 or
e-mail: jmason@lightspeed.net

For Sale: **Dragonfly Firewall Forward Package**: 1835cc VW conversion w/ HAPI accessory case and direct drive external 60a alternator. Complete with headers, engine mount, oil cooler, dual port heads, Tillison carb, carb heat, baffles for stock cowl (cowl not included…. yet). Warneke "almost constant speed" mahogany prop duplicate, composite spinner. 50hrs SMOH. **$2000 OBO** plus shipping. Engine is still hung and COULD be started. Logs are included. Contact Pat Panzera at (559) 584-3306 Engine is located in Central California. e-mail panzera@cnetech.com for photos

For Sale: **Canard and wing** ready to install, new with complete documentation of manufacturing process. Info at: http://home.t-online.de/home/hans.graesser/prefab/index.htm

Good engineering is forever

The U.S. standard railroad gauge (distance between the rails) is 4 feet, 8.5 inches. That is an exceedingly odd number. Why was that gauge used? Because that's the way they built them in England, and the U.S. railroads were built by English expatriates.

Why did the English build them that way? Because the first rail lines were built by the same people who built the pre-railroad tramways, and that's the gauge they used. Why did "they" use that gauge? Because the people who built the tramways used the same jigs and tools that they used for building wagons, which used that wheel spacing. So why did the wagons have that particular odd spacing? Well, if they tried to use any other spacing, the wagon wheels would break on some of the old, long distance roads in England, because that was the spacing of the wheel ruts. So who built those old rutted roads? The first long distance roads in Europe (and England) were built by Imperial Rome for their legions. The roads have been used ever since. And the ruts in the roads? The ruts in the roads, which everyone had to match for fear of destroying their wagon wheels, were first formed by Roman war chariots.

Since the chariots were made for (or by) Imperial Rome, they were all alike in the matter of wheel spacing. The U.S. standard railroad gauge of 4 feet-8.5 inches derives from the original specification for an Imperial Roman war chariot.

Specifications and bureaucracies live forever. So the next time you are handed a specification and wonder what horse's butt came up with it, you may be exactly right, because the Imperial Roman war chariots were made just wide enough to accommodate the back end of two war horses. Thus we have the answer to the original question.

Now for the twist to the story... When we see a space shuttle sitting on it's launching pad, there are two booster rockets attached to the side of the main fuel tank. These are solid rocket boosters, or SRB's. The SRB's are made by Thiokol at their factory in Utah.

The engineers who designed the SRB's might have preferred to make them a bit fatter, but the SRB's had to be shipped by train from the factory to the launch site. The railroad line from the factory had to run through a tunnel in the mountains. The tunnel is slightly wider than the railroad track, and the railroad track is about as wide as two horses' rumps.

So, a major design feature of what is arguably the world's most advanced transportation system was determined over two thousand years ago by the width of a horse's butt!

Subscriber's Information

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Back issues of DBFN #89 through present are available for $4.00 each, from Pat Panzera at the above address.

For issues #88 and back, send $3.00 for each issue to: **Bill Spornits, 1112 Layton Drive, Olathe, Kansas 66061 (913)-764-5518**

(559) 584-3306
panzera@cnetech.com

... And let's not forget that weight and balance!

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