

Jean and Charlie (a.k.a. OSD)

The Adventures of OneSkyDog and a report on the fly-in at Jean, Nevada

as told by Tim Iverson

Before you spend your precious time reading this article you must realize one thing, "pilots are people too!" The reason I say this is that sometimes in a blissful state of mind and matter, when flying around and touching the sky, the feeling that we airmen have as one with man and machine is special. Far be it from the truth; it's more like man and machine are filled with all kinds of defects, and that in order for things to work according to plan (to fire on all cylinders) you must be trained and knowledgeable, mechanical, responsible, inquisitive, cautious, lucky and the list of adjectives goes on and on. This story is a little bit about Jean and much more about Charlie.

I first met Charlie Johnson (*OneSkyDog*) in the summer of 2002. It was at the Second Annual Livermore Tandem-Wing Fly-In. Our Q-200 hosts Jim Patillo and Bob Farnum brought together no fewer than ten tandem-wing aircraft. In the last four years interest has grown and now Livermore boasts of having eight Q-200 aircraft hangered on the field! Recently (4/28-4/30/06) we enthusiasts met once again at the spring fling in Jean, NV which was hosted by Pat Panzera of *CONTACT!* Magazine. This gathering of composite aircraft and aficionados of plastic planes was billed as, "The Third Annual Alternative Engine Roundup". The forums were great, although I must be honest and tell you that I may have been truant more than present and accounted for.

The weather was wonderful, the hotel/casino was nearby and we didn't have a care in the world. In attendance were four Dragonflies, four Q-200s, two Cozys, a couple LongEZs, a Vari-eze, a Velocity, an RV-6 with a 302 Ford six and an eight-cylinder monster EZ! We took many pictures and videos from the non-towered field which was a mere 20 miles southwest of Las Vegas. We enjoyed a few high-speed passes down the runway from our experimental aircraft. On the other runway there were sailplanes and skydiving operations. I saw some fascinating air-to-air pictures of Jim's award-winning Q-200 shot on Sunday morning. But that is not the whole story and that is not why I decided to tell this story. This story is about a Dragonfly and its captain *OneSkyDog*.

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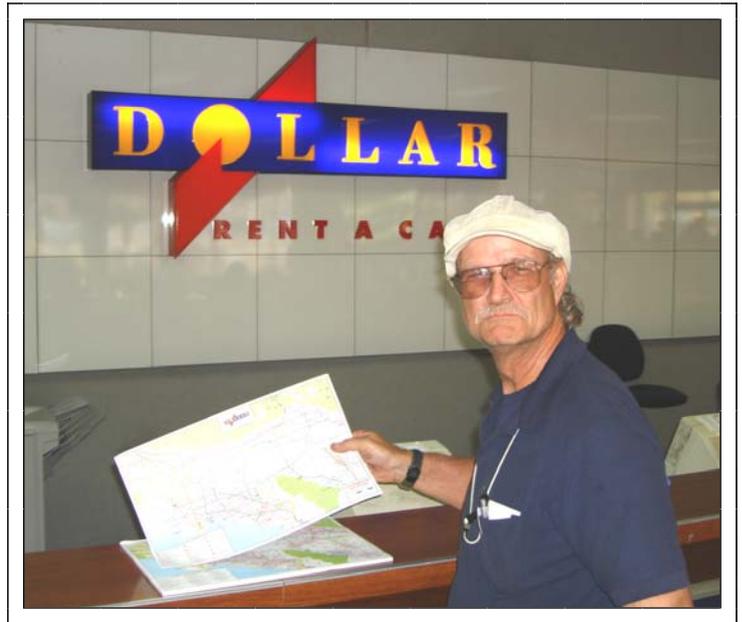
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Johnson and Johnson (Bob and Charlie) first discovered the Dragonfly in the early-80s. So this fly-in was probably the boys 100th to date. Listening to them I have pieced together some of the untold history of my airplane and its builder Troy Burris. Troy helped Jules Geiger build a good portion of Charlie's airplane (157JG) in Chino, CA in the mid-80s. The constant discussion at these fly-ins are suitable powerplants to fly behind (or in front of if you are a pusher). So, the Alternative Engine Roundup was a very important weekend for all of us. We experimental pilots just aren't certain if we should be piloting Continentals or Lycomings; VeeDubs, Suubs, Vairs or Jabirus; something else, or nothing at all. Often our planes are underpowered. I fly behind a 60-HP HAPI Volkswagen modified with Great Plains parts just like Charlie and a few others do. I also have an O-200 on the bench. What I am about to share with you gives me a greater urgency to scrap the VW and go with the O-200.

Our story continues when Charlie and I depart Jean, NV for Mojave, CA in search of an engine mount for my O-200. Charlie followed me and we arrived together, met with Chuck (the seller), made the deal, grabbed a bite to eat at the Voyager Café, met a movie producer who wants the Dragonfly in his next picture, checked out the activity at Scaled Composites, then departed for Torrance direct. One hour later we flew the corridor over LAX and arrived at Torrance minutes later. This is the second year in a row that Charlie has followed me into the L.A. Basin on a business trip. Four days later, on Thursday afternoon, Charlie would meet with me planning to fly out to Visalia. On Friday I had planned to arrive at the Columbia, CA fly-in while Charlie would head towards Carson City, NV – at least that was the plan. So what happened to the plan you ask? Well, things got kind of messed up, just ask Charlie.

When we landed at Torrance on Sunday, Charlie went for fuel and I headed straight for my hangar. On Thursday, Charlie taxied from transient to my hangar and I went the other way to visit the pump. Traffic at the pump kept me there for twenty-five minutes and, when finished, I phoned Charlie to tell him that I was taxiing back to the run-up area. All-in-all Charlie had ran his engine about ten minutes, three different times before we met at the run-up area. We did our normal run-up and then we showed each other two fingers. I taxied to the hold-short line and was just two seconds shy from keying the mike to inform tower that we were ready to depart as a flight of two. I heard Charlie say, "Wait



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Tim, Wait". I swung a 180 and saw that he had shutdown his engine. I wondered why. He exited his Dragonfly and then turned the prop and it spun wildly like a broken toy. Something was terribly wrong. In hindsight, if it had happened 45 seconds later we would be remembering Charlie and not just remembering his engine. So, from that perspective, Charlie was extremely lucky.

We found a hangar for his plane next to a Waco, a Cub and a Pietenpol. Charlie moved in and we removed the engine. We found that the HAPI prop hub had failed and it destroyed the case. (*Charlie has since reported that the washer failed, then the hub, the crank keyseat and it ended with the bolt backing out enough to let the prop freewheel.*) I let Charlie weigh his options. He wanted an expert's opinion so he phoned Joe Horvath of Revmaster Aviation in Hesperia, CA (we heard Joe speak at Jean a few days earlier). After a few minutes with Joe on the phone Charlie decided that he wanted to make the 100-mile drive and show Joe what was left of his engine. He wanted to see if Joe had a solution for the damaged 1835cc. Charlie left Revmaster more knowledgeable but without a solution. Depressed and dejected we went shopping. Aircraft Spruce & Supply was our fix. I purchased baffling material intending to move forward with the O-200. Charlie got a pair of tires. A pair of tires? He can't even taxi! *OneSkyDog*, I'm sorry to say, is *OneGroundHog* temporarily.

As night approached, Cinco de Mayo in L.A. (how crazy is that!) Charlie decided to split town, but not for good. He rented a car and drove to Reno. As soon as he got there he left for Ogden. Wasting no time he got Bob, a truck and a trailer and headed for Torrance. They arrived early Tuesday morning and I met them at the airport. A dozen hours later they were packed, secure and ready to return to the road and the 14 hours that separated them from home, but not without a good night's sleep.

This is the first installment of the Adventures of OneSkyDog. It's one thing to have a flying airplane one day and the next day have a major project ahead. We will monitor Charlie's progress over the next few months and give him support, technical and emotional, along the way – this we would do for any and all of our members in this exclusive club of Dragonflies and homebuilders. We'll watch him as he nurses his beloved and wounded bird back into the sky. So stay tuned and be informed.



Builder Profile—Mike Wright

by Mike Wright

For some time now I have been building away at my Dragonfly all alone here along the southern coast of Africa. I often, much to my wife's dismay, go to bed with one of my files which contain my back copies of DBFN. She often asks how it is possible for me to read those dust collecting sheets of paper so many times over.

I'm sure some of my fellow builders will agree we just can! Any way more to the point of this insertion for the this issue, of DBFN, it was during one of these bed time "READS" that I came across a builder profile about Fred Worrall and so I decided to write about who I am, and how my project is coming along. Jeff bugged me for an insert so here goes.....

I am, by profession, a Certified Financial Planner here in South Africa, 40 yrs old and have been flying on a private pilot's ticket for since 1998. I am night rated and was almost instrument rated but do not fly enough at present to warrant maintaining the proficiency required. I grew up building and experimenting with model aircraft from about the age of 6, as I am sure many of us did. I love anything relevant to aviation, and decided to learn to fly only because my folks, citing all the dangers as their reasons, refused to let me do so. I am very successful in my practice and as a result am able to allocate some time to my hobby, and plan to complete my commercial, instrument and instructor ticket for my retirement profession.

I have amassed around 500 odd hours on many different types of aircraft, not much I agree, but they are paid for hours and that while raising two wonderful kids, with my wife Kerry. They are,



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Jenna 4 and Mitchell 9. I consider myself very fortunate to have a family who support my love for things aviation.

Building, the "African Dragonfly" began in Sept 1995, and has progressed slowly from year to year. I have moved home twice in this time, completed my post graduate degree, and have not as a result built on my plane for the last two years. During the last move I insisted that my current home have enough space to complete my project, so as a result ended up financing and building a new work shop, which now links the garage and the main house.

To date my African Dragonfly, as a scratch build, is structurally complete. All the different components have been made and assembled to fit to the plane. I have recently completed fitting the canopy, and am in the process of beginning to fill in areas of the fuselage. The tail is filled and profiled. I reckon one of the reasons for a long build time is also due to the fact that my Dragonfly has outboard control sticks with a center throttle, and also a LS1 mod canard. These mods always add to the original build time.



The plane will be set up for systems installation as soon as the filling process has been completed. I have built sub assemblies for some of the systems, such as the brake set up. Here I mounted the rudder pedals and brake master cylinders on a false floor, which sits on top of the canard. It is fastened to the forward canard lift bulkhead and the fuselage walls. Its purpose is mainly to prevent delamination of the canard due to my heels knocking/vibrating on the canard surface, and also to make removal of the canard a lot easier. The whole false floor remains in the fuselage when I drop the canard, with enough lead in the hydraulic lines to allow the canard to be removed. The next project is to load the canard to simulated stress loads, and to send the results to the CAA for approval to use the canard as an alternative to what was called for in the plans.

I have completely reassembled and blue printed my turbocharged fuel injected EA 81, using Reg Clarks videos and suggestions. The engine is at present having all the brackets made for the mounting process, as well as having custom made radiators & engine mount welded up. I had to import all my Subaru parts from the USA for this rebuild. I sourced these from RAM PERFORMANCE ENGINES & I can really recommend the services of Ron at RAM PERFROMANCE ENGINES in Clinton, Ohio.

This gent sent the incorrect water pump to me for my turbo engine. When it arrived at my end of the pond, I called him up and inquired if the mistake was mine or his. Without hesitation he agreed to replace it at his cost, which he did, and within a week I had my new pump, and it was the correct one. I generally am sceptical about international internet business deals, but this guy has really gone the extra mile. (pardon the pun). By the way I found him on the internet and he provides complete variations of the EA81 engines, at seemingly good prices.

Anyway, my plane is coming along and I hope to be complete by the middle of next year. I am also very friendly with Dave from Dart Industries and am involved with them in a small way, in that I assist them with promotional and builder support. This I do for gratis, but Dave is a generous chap so now and then he provides me with a part or two that he has in excess stock.

So that is Mike Wright for now and I hope to see some more builder profiles in future editions of DBFN.

A Dragonfly History Lesson

by *Chris Gentry*

Dragonfly Mark I or II or III? That is a very good question. Well, Bob Walters original design was beautiful with the wheels out on the tips of the canard. When we built the very first canards we quickly learned 3 things:

1. We had to be very careful not to bounce on landings because you would be spring boarded into the air and the second bounce would be worse and the best thing to do is go around.
2. The canard is not strong enough to take too much of a bounce without breaking it and the prop and we broke a few.
3. Ground handling could be quite difficult if one main wheel runs over any small obstruction.

Of course if you can master these draw backs, and many have, then you will have a Dragonfly with the least drag and the lightest weight and the sleekest. Next we beefed up the canards to help prevent canard breakage and to make them stiffer, but people still would break props after the 2nd bounce. So then we designed the inboard wheels in the canard and later a hoop gear.

I built the first inboard canard for Viking Aircraft (Rex Taylor) and I think it is still flying. This corrected all 3 problems with one exception. That exception is that some people have a little difficulty handling any tail dragger, even though many people love tail draggers.

Then the tri-gear was designed. We went through all of these iterations, but now we have built a rather unique Dragonfly that can be either a Mark II tail dragger or a Mark III tri-gear. This can be switched from a Mark II to a Mark III in one day.



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Dragonfly Engines? That is a very good question. Bob Walters original design had an 1600 VW but he immediately changed that to an 1835 VW and of course from there on we have used many different engines. We were very impressed with the performance of the Turbocharged EA81 Subaru with fuel injection that Reg Clark designed and built, his Dragonfly went over 200 mph. It also seemed very reliable with a good power to weight ratio. So, with Reg Clarks help by making an intercooler and intake manifold we elected to go with that design to start with. Later we had planned to use a turbocharged Mazda single rotor engine.

Since the Subaru and the Mazda are both water cooled so a P51 style cooling system was designed. The cooling duct is also a little unique in that the intake mouth of the scoop can be adjusted in flight for high performance and minimum drag. The picture shows the opening at maximum for take-off. At cruise it can be closed to less than a one inch opening. There is also an oil cooler inside if you look close.



In this upper left photograph you can also see the low drag tail dragger landing gear.

What type of canopy opening? The plans call for a side opening, which is fine, but many people like to have the canopy open forward and this might be better and seems to be the most popular. We had a little different idea, in that, if the canopy was split (very carefully I might add) and if the aft part could be cantilevered up and back like some fighter planes this would have some advantages. This turned out great but was a lot of extra work. This allows for an easy exit on the ground and in the air, that is, if you have a parachute or you want to do some canard walking (smile).



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It has been great building, flying, selling kits, writing the first monthly newsletter for a couple of years, designing and most of all meeting a lot of great people that love the Dragonfly design, but after reaching 67 years old I cannot find the time to build the Dragonfly any more. I have decided to concentrate on just flying my other airplanes that are already airworthy. I have decided to sell all of the Dragonfly designs. The one mentioned above, which I was going to name "Firedragon", has been sold. It shouldn't take long for it to get in the air with all of you Dragonflyers in the group.



16th Annual Field of Dreams

Hello Everyone,

I want to give everyone an update on this years Field of Dreams Tandem Wing Fly-in at Emporia, Kansas on September 22nd, 23rd & 24th.

I do need to apologize though as I'm running behind schedule on getting the web site set up to supply information and registration on the event. Life and work has been a little crazy lately but seem to be settling down and should have the web sight set up by Memorial day.

There are plenty of things in place, the airport is ours for the weekend, the Friday night arrival dinner is all set up at the Sirloin Stockade (Where else!!!). Bob Horn will be there Friday evening through late Saturday afternoon supply us with refreshments, snacks, breakfast and lunch.

In the Saturday forum schedule department we of course will have the regular Quickie and Dragonfly forums, but I have just gotten confirmation that Bob Nuckolls of AeroElectric Connection (www.aeroelectric.com) will be there to give us an 1 ½ to 2 hours seminar on aircraft electrical systems.

An area where I'm getting some mixed feed-back is in regards to the Saturday night awards banquet location. I've had a few people e-mail or call expressing a preference to have the banquet at the airport, closer to the planes, etc. Now I had a couple of spots, one being the college where we could really have a really nice event, hor'dourves, nice meal, more con-

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trolled atmosphere, etc. I'd like to get some more feedback from tentative attendees to this years event what they would like to do (needs to be soon though!!). You can contact me at (913) 764-5118 or e-mail: spudspornitz@comcast.net

Talk to you soon,

Spud Spornitz
Kansas

Wing/Canard Incidence Check

by Justin Mace

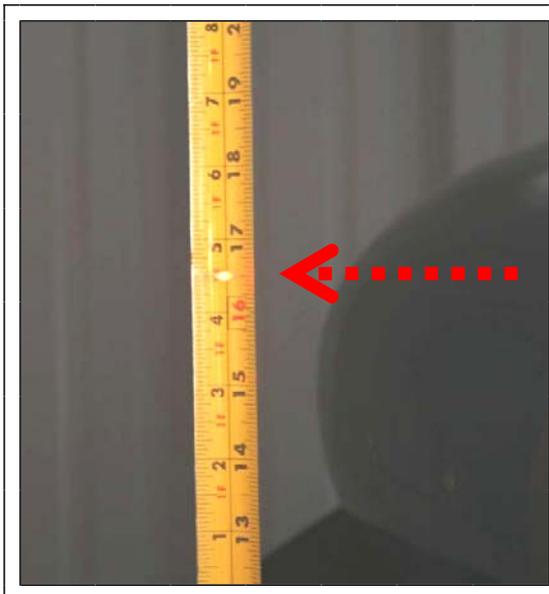
This is a very easy check to determine if your Dragonfly wing incidence is close enough to fly safely. Take some sort of straight edge and place it under the front wing with the back end of it just fwd of the elevator. It needs to extend just forward of the front wing leading edge enough to set a tape or other measuring device on the top of it.



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Then, using a laser level hold it under the rear wing in the same position. The rear of the level should be just forward of the aileron. The laser light emitter should be as close to the bottom of the wing surface as possible. It helps to have a friend or two to help hold things, however, it can be done alone. Turn on the laser and while holding a tape or measuring device with the 0 end down on the straight edge protruding from under the front wing read where the laser spot hits the tape. The spot hits the tape on my plane at about the 16-1/2" mark. Other planes that have been checked measured within a couple of inches of this. I believe that Charlie Johnsons plane measured at about 19". His plane had a severe incidence problem and was corrected to the 19" mark. If a plane measures above 20" it may have a problem with improper incidence settings. This is a very quick and easy check. It does not take into account any other angles. Only the difference between the front and rear wings. Normal performing Dragonfly's should be close to these numbers.



I measured my MK-IIIH when I first got it back in September 2004 using Justin's instructions. I actually measured both sides and they were within 1/16" of an inch. The left side on my airplane measured 15 5/8" and the right side measured 15 9/16". I also used the wing and canard templates and a digital level and came up with a differential of 2 degrees on the left side and 1.2 degrees on the right side. The problem that I have seen with the templates is that it is very easy to move the templates around to make the digital level read what you want to see. In any case, it is critical that the incidence (at least the difference between the canard and wing) be as close to perfect as possible. Using Justin's instructions you can easily check the incidence on a plane that has already been built to know things are close to where they should be.

Jeff

Editor Ramblings

I hope this newsletter finds you happy and healthy....and of course building and/or flying your Dragonfly!!! The Illinois tandem wing fly-in went off without a hitch the first weekend in June. Attendance was just 4 tandem wing airplanes, but I am sure all of the attendees had a great time talking about tandem wing airplanes. I was unable to attend due to my parent's 50th wedding anniversary party. I was planning on attending the fly-in, but my sister looked at me really funny when I told her that I was planning on flying my homebuilt airplane powered by a Beetle engine from Cuba, MO to Casey, IL to hang out with a bunch of strange people (hey I resemble that remark) and talk about airplanes on the same day as the party. I guess she put things in perspective for me...of course family comes first. I will see you guys there next year.

I have been more busy working on rather than flying....and not even working on my Dragonfly. I agreed to help out a new Dragonfly owner from Nashville, TN with tweaking his new baby a little. The aircraft is a MK-II built by Gene and Guy Evans from California. The new owner bought the aircraft without first seeing it, and I am sure that he will not be disappointed once he gets the airplane. He hired a retired airline pilot to fly the airplane from CA back to TN for him. The pilot had never flown or even talked to a Dragonfly pilot (other than the previous owner who had only flown the aircraft briefly) prior to flying this airplane. He reported to the new owner that the airplane had some problems and that it did not fly like anything he had ever flown before, this made the new owner a little nervous.

I am not a Dragonfly expert, but I do have about 100 hours in Dragonfly's (mostly in my MK-III, but a little time in 5 different Dragonfly's). I was very happy to report to the new owner that this airplane actually flies quite nicely. There were a few problems that I am correcting, but nothing really out of the ordinary. I am just finishing up some aileron servo tabs for the airplane and hope to be flying it again in the next few days. These tabs are slightly larger than mine at 24" x 2 3/4" (mine are 24" x 2 1/2").

I have installed a new prop on the airplane. The climb performance stayed the same and the cruise speed at 3200 RPM at 2000' MSL increased about 10 MPH IAS (from about 133'ish to 143'ish). This airplane is very nicely equipped and hopefully will give the new owner many hours of great service. I will try to post some pictures in the next issue.

Jeff

Classifieds

For Sale: Dragonfly MK-III. Engine: Modified HAPI/VW with pulley driven alternator, Airflow performance fuel injection, etc. Engine and airframe 170 hrs. The aircraft is located in Norway, all ways hangared and in good condition.

For more information, pictures etc. contact Torvid Lensebakken via E-mail at lensebakken@telefonica.net



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For Sale: NACA Flush Inlets designed for 1/2" sandwich structures. These make a good looking functional inlet to replace the hand carved per plans ones. Inlets are \$40 per pair, plus \$4.00 shipping. Note: Spinners no longer available. Contact Charlie Johnson, 2228 East 7875 South, Ogden UT 84405 (801)-479-7446 or email: OneSkyDog@aol.com

For Sale: Composite spinners for the Dragonfly \$180.00. Call Tim at 310-386-8354 or email dflypilot@yahoo.com

For Sale: Polystyrene Blue Foam For Sale – Make offers – Some of the foams have already been professionally hot wired - canard, wing, rudder, elevator etc. Some are blank/uncut. Also have 1/2 " Clark foam Located at the South Lakeland Airport (X49) in Florida. Pictures and more detail available via email request. (863) 646-2612 or email cgentry12@msn.com

For Sale: Dragonfly Fuselage For Sale -- \$600 Firm -- This includes fiber glassed sides, bottom, front and rear turtle decks, fuel tank/seat, engine cowl, motor mount and bulkheads. This would be a good start for someone. Just start putting it together. Located at the South Lakeland Airport (X49) in Florida. Pictures available via email request. (863) 646-2612 or email cgentry12@msn.com

For Sale: Dragonfly Type 1 converted to hoop gear. Porsche 1800 engine (big VW) converted to 2400 with parts from Great Plains. Airframe complete & wings & control surface mounts are finished. Cleveland wheels & brakes. Ed Sterba prop. Very nearly complete. Asking \$10,000. Call 815-397-1533 or email stiegrinding@aol.com



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Dragonfly Builders & Flyers Newsletter (DBFN) is currently published Bi-monthly at a rate of \$3.50 per issue / \$21.00 per year in the US, \$3.75 per issue / \$22.50 per year in Canada, Alaska and Mexico, and \$4.60 per issue / \$27.50 per year (US funds) per year for foreign subscribers. Send remittance to and make payment payable to:

Jeffrey A. LeTempt
1107 Murry Lane
Rolla, MO 65401
(573) 364-2545
letempt@fidnet.com

For hard copy back issues send \$4.00 for each issue to Jeffrey A. LeTempt at the above address.

Issues #89 through #106 are available electronically from Pat Panzera for \$4.00 each.

Patrick Panzera
PO Box 1382
Hanford CA 93232-1382
(559) 584-3306
panzera@experimental-aviation.com

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