

Volume 128

July/August 2007

THE OFFICIAL VOICE OF DRAGONFLY BUILDERS AND FLYERS ALL
OVER THE WORLD

Dragonfly Builders and Flyers Newsletter



Inside this issue:

Charlie Johnson's	2
Current DBFN Subscriber List	9
Editor's Ramblings	10
Classifieds	11

Charlie's

by *Charlie Johnson—aka One Sky Dog*

The snow had pretty much melted off of the lower elevations and the annual condition inspection was in the log book. The Tandem wing gatherings start out with the Mountain States Fly-In that has been held at Laughlin NV for several years. Last year, May of 2006 Jean NV was selected for the fly-in.



I had to attend to some things in Carson NV and following the fly-in I had a business appointment in Long Beach, CA. I packed the plane and called flight service to final check the weather and was soon in the air headed west. In order to get out of Ogden going west you have to funnel into a corridor along I-80 or risk the dreaded F-16 intercept. I left Ogden crossed over the Great Salt Lake and 45 minutes later was passing by Wendover, UT/NV climbing through 9000 to my cruise altitude of 10,500 it was another hour and forty five minutes to my first fuel stop at Battle Mountain NV. With a quick turnaround for fuel I was on my way to Carson NV. I arrived in Carson about noon and took care of the things I needed to do before I left for the fly-in.

I left Carson and flew south feeling pretty small flying along the Sierra Nevada mountain range. Soon I was approaching Mono Lake my turn point to cross the Owens Valley and decision point whether to stop at Bishop for fuel or slow down stay high and continue on to Jean NV. I decided that I had enough fuel to make it to Jean and continued on contacting flight watch for flight following as I was flying into barren dessert. Crossing the Inyo and White mountains by going through the passes I was soon on the north end of Death Valley listening to a couple of F-18's maneuvering around the mountains. As I passed by Baker I was on the downhill to Jean NV.



I gave Sam Kittle a ride and the climb-out was not impressive with about a 2 mile departure climb before I felt it was safe to turn. We flew south west along I-15 trying to hook up with Jim P. in his Q-200 until we were at the CA border then turned back to Jean and flew loose formation back to Jean. Actually I just went straight at WOT and Jim flew circles around me in his hot Las Vegas Quickie. Sunday I departed with a gaggle of Dragonflies and Q-birds headed for CA. Tim Iverson and I set a course for Mojave Spaceport for lunch and to pick up some parts for Tim.

Taking off from Mojave little did I know that this was to be my last take off in N-157JG. Making the turn point at Santa Monica airport we entered the VFR corridor at 3500 MSL over LAX with a scattered cloud deck below us. Ten minutes later we were rolling out at Torrance CA. I tied up in transit parking and Tim gave me ride to Long Beach. During the next week Tim and I decided to go to an air-show at Columbia CA and we would leave Thursday afternoon.

(Continued on page 3)

(Continued from page 2)



One of my office mates dropped me off at the Torrance airport and I packed the plane with my luggage and waited. Tim called and said he was running late and would meet me near the run-up area. I decided to taxi over to Tim's hanger and shut it down while Tim was getting his plane out. On the way to Tim's I smelled something burning but dismissed it as coming from the hanger construction site as I could smell hot tar wafting by intermittently. Tim decided to top off his fuel and taxied to the fuel pumps. I started up and taxied out to the end of the hanger row and messed with the mixture because I was getting just a hint of roughness and was trying to determine if it was real or it was just me being nervous about the airspace dance coming up. I cycled the engine up and down a few times but didn't pick up on anything being wrong and shut down the engine.

Tim returned from fueling and I started my engine and got taxi clearance and followed Tim out to the run-up area. I did a quick mag, mixture, and carb heat check and indicated to Tim that I was ready to go. As I applied power to pull out on the run-up area and line up at the hold short line and pulled the engine back to idle I noticed something strange. My prop did not seem to be responding to the change in engine speed? I called Tim and asked him to hold and shut my plane down and jumped out. As I rounded the canard tip and looked toward the prop I saw oil running down the bottom cowl. I approached the prop and went to check my compression by pulling the prop through. I can't describe the feeling when the prop spun around and went through 3 revolutions before stopping.

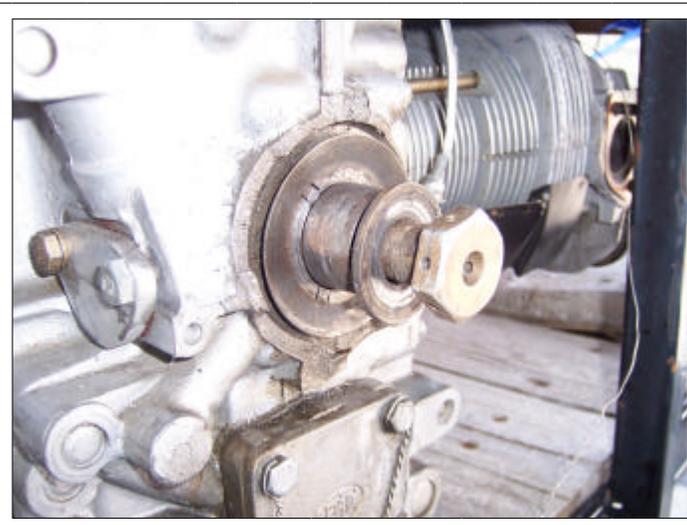
(Continued on page 4)

(Continued from page 3)

With the help of the EAA members at Torrance I was able to store my plane in a hanger until I could return the following Wednesday with my brother Bob to help me disassemble and transport the plane back to Ogden UT. I was unable to separate the elevator torque tube from the elevators due to corrosion between the aluminum and the steel tubes. The elevators were cut off at the root to get the canard off. The plane was packed up on an open trailer and transported 750 miles to Ogden Utah.



The engine case and crank were wiped out when the hub failed as you can see in the following photos. I made a decision not to buy another VW engine for the Dragonfly. In spite of Bob Walters admonishments to not put a larger engine up front or increase the gross wt. (it can't be more dangerous than flying in my neighborhood with a VW climb rate) I decided to install a Corvair engine on the plane. In addition it had been flying for 18 years and I put over 500 hours on the plane plus it had 325 on it when I bought it. At Hill AFB they bring planes in for heavy maintenance cycles strip the old stuff off and refurbish them. I guess this is Depot cycle time for my Dragonfly as it is 18 years old and has 850 plus hours on the airframe.



(Continued on page 5)

(Continued from page 4)

I surveyed the plane as is sat there in pieces and decided it needed more than an engine change. I formulated a list of items to be taken care of during this major modification.

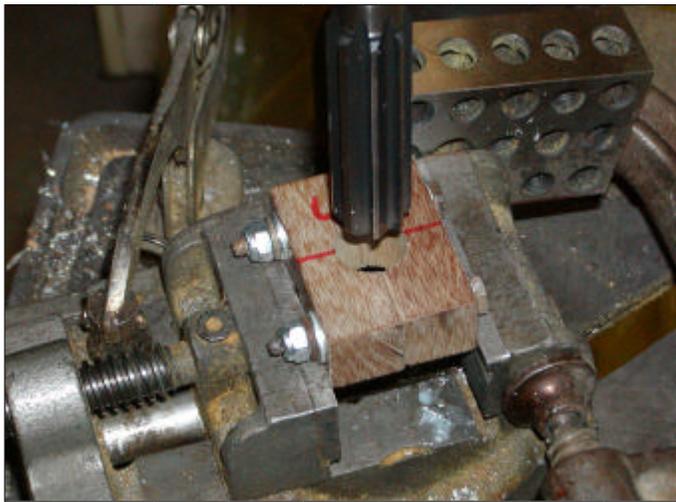
1) Replace the VW engine with a Corvair 110 HP engine. Decision based on poor climb performance of VW engines and 3 successful O-200 powered Dragonflies and the success of the KR group with Corvair conversions on the KR planes.

2) In order to comply with the plans elevator torque tube revision, plus the fact that I could not disassemble the elevators. Torque tubes and bearing blocks were completely removed.

3) Elevators needed to be mass balanced to handle the speeds the Corvair will be capable.

4) The wiring was frightful when I first bought it things would stop working and then start working later. I had an offer from a real good wire guy to rewire my airplane but he required that I remove the canard. Hmm canards is off and engine wiring to bus needs to change anyway so complete rewire job.

5) I wanted to put in a reflexor every since I had a ride in Justin's O-200 powered Dragonfly, it trims so fine.



6) I really never liked the cheeks on N157JG and they needed help no matter what I did up front.

That is a big list and so far I have managed to fabricate one piece elevator torque tubes and mounting bearings and install them. The elevators were mass balanced.

Engine is hanging on the firewall Dec 2006!!! I had to modify the engine mount that I bought from Dave Morris to fit my firewall and add a lower truss to the back tube. I load tested a mount like this to 3.5 G's so by similarity I am confident that this mount will be adequate for the flying that I do.



(Continued on page 6)

(Continued from page 5)

Now the work begins to fabricate all the systems and make it fit into a cowl. Here is the WW holey cowl sitting on the aluminum baffling. Intake runners of mild steel will join for the under-slung Ellison throttle body carb.

I am trying a "Y" with 90 bends to go up the back of the engine and to the heads. I welded it up from purchased bends and laser cut flanges from Pat Panzera. I finally got it to pass a leak test, it is amazing how hard it is to consistently produce a gas tight weld. The carb end will connect to the head elbows with rubber tubes and hose clamps to relieve any pressure on the head flanges. The exhaust will collect into a single aft facing pipe with the carb heat box around the "Y" junction collector. I now think that the tubing on this exhaust manifold is too big and will make another set out of 1 3/8" OD tubing.

A custom air-box for the K&N cone filter to sit in. I plan on a velocity stack behind the prop feeding the sealed air-box. I decided against heat mufflers for cabin heat and plan on using Cadillac seat heaters and a pair of 200 watt ceramic heaters. This will require some power so I have decided on an East Coast mini alternator with a 50 amp output. These things are rated at continuous service at over 14,000 rpm. The pulley sizes are the same as on my GMC suburban truck.

Well February of 06 and things are moving slowly the alternator is interfering with the baffle tins and I just read an article on the realities of baffle airflow.

Mark Langford built plenums that are working good for him so I decide to make plenums. This took about 3 months but I think that they will work fine. Four molds make the two plenums the tops and bottom ramps are bonded together. Well I think that everything that needs to go under the cowl is mounted on the firewall. The engine is wrapped in plastic to keep excess foam out. The nose-bowl is

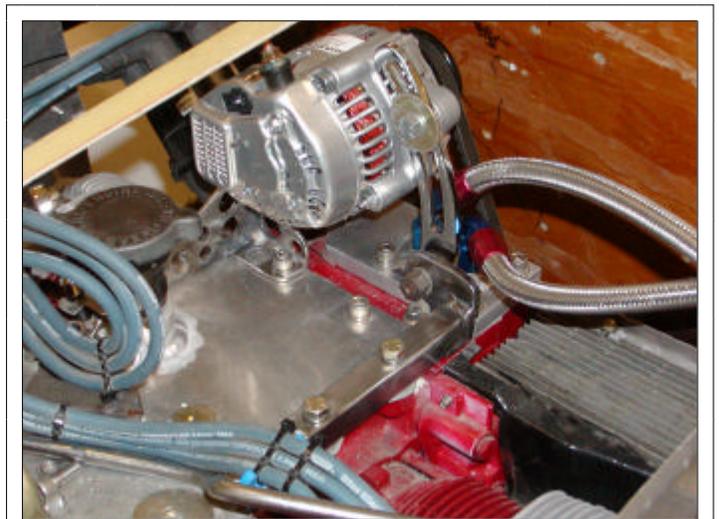
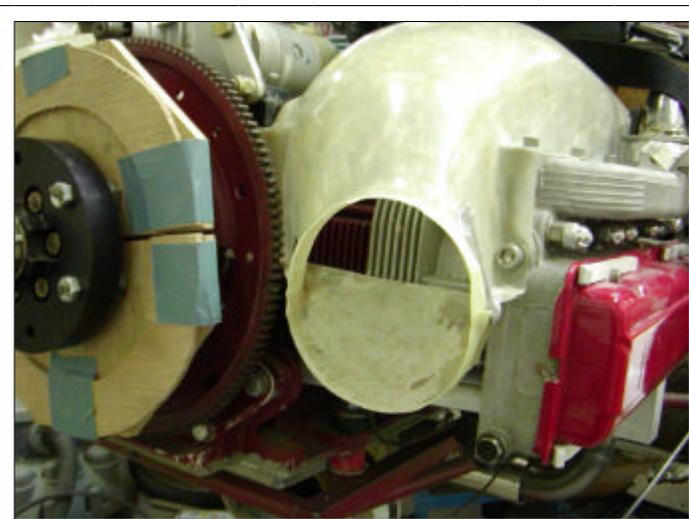
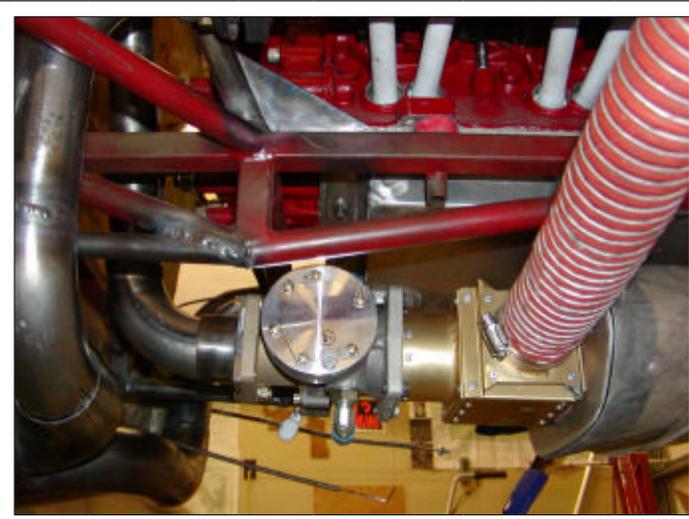


(Continued on page 7)

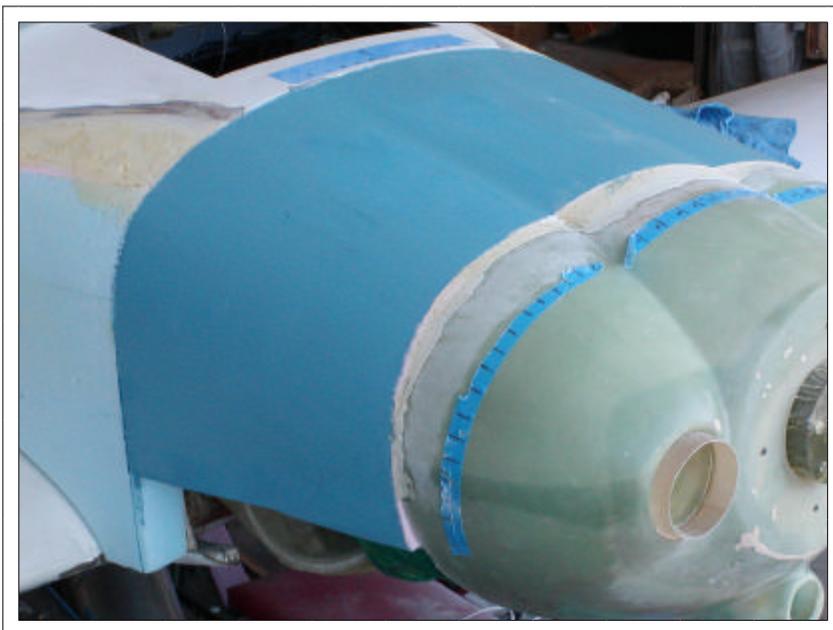
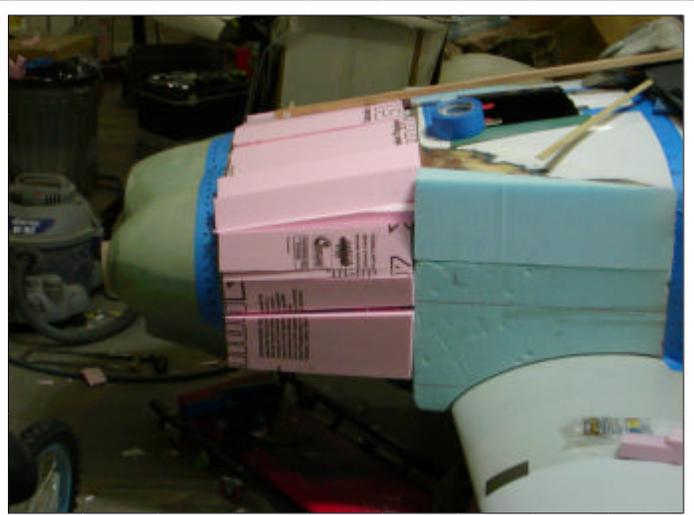
(Continued from page 6)

ready to be aligned with the hub and positioned 1/8" behind the hub. Drywall screws hold it to the wood flange behind the hub. Tubes that will be bonded into the cowl are temporarily positioned over the plenum ducts.

Here we have the nose-bowl, the shaped foam on the fuselage, and the sacrificial plug section in the middle sealed with latex paint and 6 coats of wax and a coat of Partall #10. Now the glass for the cowl top and the fuselage sides are laid up and sprinkled with micro balloons.



Look for more about Charlie's Corvair powered Dragonfly in an upcoming issue—Jeff



DBFN Subscriber List

Last Name	First Name	City	State	Country	Last Issue
Carey	Norman	QLD		Australia	130
Pope	Darren	Falls Creek New South Wales		Australia	130
Wegner	Ron	QLD		Australia	130
Wood	Geoff	Parkside		Australia	130
Clarke	Reg	Lethbridge	AB	Canada	130
O'Connor	Patrick	Sarnia	ONT	Canada	130
Wright	Mike	Republic		South Africa	130
Price	Gerry	West Sussex		United Kingdom	130
LeTemp	Jeffrey	Daleville	AL	USA	N/A
Mathers	Bobby	Mobile	AL	USA	130
Richardson Jr.	Dave	Trussville	AL	USA	130
Hartly	Rick	St Joe	AR	USA	130
Boydston	Bob	Sedona	AZ	USA	130
Huston	Jack	Camp Verde	AZ	USA	130
Sticht	Jeanne	Mesa	AZ	USA	130
Wiebe	Fred L.	Phoenix	AZ	USA	130
Iverson	Tim	Torrance	CA	USA	130
McGoldrick	Dennis	Torrance	CA	USA	130
Panzer	Pat	Hanford	CA	USA	130
Terry	Richard J	Walnut	CA	USA	130
Tinlin	Philip J.	Hartsel	CO	USA	130
Keating	Lawrence A.	Newark	DE	USA	130
Aurigema	Andrew	Oak Hill	FL	USA	130
Ufkes	Charles	Ocala	FL	USA	130
Wood	Robert	Okeechobee	FL	USA	130
Knox	Bryan M.	Elkhart	IA	USA	130
Nordgarden	George	Council Bluffs	IA	USA	130
Born	Waldo L.	Charleston	IL	USA	130
Claytor	Carl	Alton	IL	USA	130
Devine	Terry	Jacksonville	IL	USA	130
Dudkiewicz	Richard	Freeport	IL	USA	130
Eagles	John	East Moline	IL	USA	130
Schiller	Douglas J.	Oregon	IL	USA	130
Simpson	Tad	Paxton	IL	USA	130
Worrell	Fred	Decatur	IL	USA	130
Moehlenkamp	Bob	Evansville	IN	USA	130
Shearer	Ron	Quincy	IN	USA	130
Sporintz	Spud	Olathe	KS	USA	130

Last Name	First Name	City	State	Country	Last Issue
Strawn	Owen	Wichita	KS	USA	130
Lamar	David W.	Owensboro	KY	USA	130
Steffen	Craig	Middlesboro	KY	USA	130
Jones	Richard C.	Millis	MA	USA	130
Christiansen	Phil	Oronoco	MN	USA	130
Rennick	Wally	St. James	MN	USA	130
Anthony	Joseph	Foristell	MO	USA	130
Sisk	Ricky	Washington	MO	USA	136
Werner	Richard	Chesterfield	MO	USA	130
Wilson	Steve	Cairo	NE	USA	130
Calhoun	Keith A.	Overton	NV	USA	130
Nash	George	Sandy Valley	NV	USA	130
Dziminowicz	A.V.	Poughkeepsie	NY	USA	130
Hoch	Richard W.	Angola	NY	USA	130
Cundiff	Chris	Mechanicsburg	OH	USA	130
Schuette	Mike	Ostrander	OH	USA	130
Wise	Ron	Napoleon	OH	USA	130
Kunz	John	Owasso	OK	USA	130
Bombard	John T.	Trenton	SC	USA	130
Ulvestad	Wayne	Volga	SD	USA	130
Crawford	Jon	San Antonio	TX	USA	130
Johnson	Robert L.	Ogden	UT	USA	136
Johnson	Charlie	Ogden	UT	USA	130
Grantham	Dale	Richland	WA	USA	130
Hayward	Ken	Lynden	WA	USA	130
Beyder	Ilya	Milwaukee	WI	USA	130
Corso	Michael	Twin Lakes	WI	USA	130

Editor Ramblings

WOW is this newsletter way overdue.....I am sorry. So why is this issue so late? Well I am in the process of moving from MO to LA (Lower Alabama). I accepted a new job at the home of Army Aviation, Fort Rucker, AL. Fort Rucker is in the southeast corner of AL near Dothan, AL. I am still an Aviation Safety Officer as a Department of the Army civil service employee, but in a significantly different capacity than I have ever worked.

I oversee the safety program for the contractor that performs all the maintenance for the entire fleet of helicopters for the U.S. Army Aviation Warfighting Center (USAAWC) that consists of 432 aircraft. USAAWC conducts rotary wing flight training for new Army aviators and experienced aviators transitioning into new helicopters. The fleet consists of the TH-67 (Bell 206B3), OH-58C, OH-58D, UH-60, AH-64, CH-47, and believe it or not the good old UH-1 Huey.

USAAWC flies 25,000-30,000 flight hours per month—**YES, I said 25,000-30,000 hours per month!!!** There are about 3,400 contract employees who maintain the training fleet here at Mother Rucker at five differ-

(Continued on page 11)

(Continued from page 10)

ent base airfields including the biggest and busiest heliport in the world, Hanchey Army Heliport. Hanchey is home to the AH-64D Longbow Apache and the all weather, all terrain, steely eyed, death defying, interceptor OH-58D Kiowa Warrior (that is how my good friend and true American hero Chief Warrant Officer 5 (RET) Dudley Carver referred to our scout helicopters).

My wife is still back in MO trying to get our house sold, so I am a lonely geographical bachelor. I can not even do any flying because my Dragonfly is still back in MO. I have been here in AL since October 1st and am still in the learning mode at work and was without a PC in my apartment until December it has been difficult to work on the DBFN. Another serious problem is the lack of newsletter article contributions. With my work schedule, I can not spend much time writing articles like I used to be able to do. I need your article contributions more than ever. If we want to keep the newsletter alive, I need your help...please send me something to share with the our subscribers.

Jeff

Classifieds

FOR SALE: Dragonfly project originally built as a MK-I. Wheel farings have been cut off the canard for a conversion to MK-III configuration. Wingtip position and strobe lights, forward hinging canopy that has some deep scratches that could possibly be buffed out (no guarantee). Engine cowl that has had some of bottom section cut out. MK-III fiberglass main gear. Raptor style modifications that include belly speed brake, cut-down door modification, aileron servo tabs, elevator anti-servo tabs, forward access hatch, rear belly hatch, removable center console, aluminum main fuel tank (not totally done), seat bulkhead moved aft 3" at the bottom. Plans built by engineer. Good solid project rolling on its landing gear. No instruments, avionics, or FWF. Price - \$2,000 OBO. Contact Jeff LeTempt @ (573) 578-6700 or email jeffrey.letempt@us.army.mil

FOR SALE: MK-III Dragonfly project. Aircraft experienced an off-field landing that resulted in the landing gear being torn off and broken canard. The fiberglass hoop main landing gear got ripped off the airplane, but there was almost no damage caused to the fuselage or landing gear. The only damage to the main gear was that the fiberglass mounts were broken off the gear, this is an easy fix. The instrument panel was damaged and has since been cut out, a new fiberglass instrument panel has been laid up. The electrical system was not done very well, so it has been completely removed. The airplane had a 2180 VW (not included). There is a VW engine mount that is included. This is a very nice airplane with beautiful wing with wingtip position and strobe lights (need strobe power supply). Forward hinging canopy, single center stick, aileron control modification that eliminates motion changer, reflexor, top mounted brake and rudder pedals. Matco disc brakes and wheels, forward access hatch, removable wing cover. Very minor fuselage damage (easy repair that is partially complete). No canard, instruments, avionics, nose landing gear, or FWF. Price - \$3,500 OBO. I have recently (late APR 07) purchased a Corvair FWF package off a flying Dragonfly, professionally cut canard and elevator foam cores, and the CF for the spar cap. The price does not include any of these item. This is the aircraft that I plan on fixing myself, but would still consider selling it with or without my recent purchases. I could sell you the Corvair for less than it would cost you to build up a new engine. It has all the goodies including a nitrided crankshaft. Contact Jeff LeTempt @ (573) 578-6700 or email jeffrey.letempt@us.army.mil

FOR SALE: Dragonfly MK-II project. Task fuselage, fiberglass MK-II gear legs and standard HAPI lateral displacement disc brakes, wheels, and tires, single center stick. No canopy, but there is a canopy frame with repairable damage. Engine cowling, removable wing cover, fuselage is very nice - only section that is not very nice is the

(Continued on page 12)

(Continued from page 11)

transition area on the front turtle deck to canopy area. Large cabin air NACA inlets. No instruments, avionics, or FWF. This aircraft is a diamond in the rough. This airplane has a lot of potential with the Task fuselage. Price - \$4,000 OBO. Contact Jeff LeTempt @ (573) 578-6700 or email jeffrey.letempt@us.army.mil

FOR SALE: Dragonfly MK-II project. Aircraft was built at the Fun Flight Center (Dragonfly factory builder assist center), Task kit. Canard and wing incidence angles were set at the perfect settings in a controlled factory environment with precision measuring equipment. Canard has wingtip strobe and position lights, single center control stick, forward access hatch, engine cowling fitted with very nice ram air inlet, canopy fitted, but no hinges have been installed. Task header tank with site glass installed, large cabin air NACA inlets, fiberglass MK-II gear legs with brakes, wheels, and tires. No instruments, avionics, or FWF. This has the potential of being the nicest Dragonfly out there!! Price - \$10,500 OBO. Contact Jeff LeTempt @ (573) 578-6700 or email jeffrey.letempt@us.army.mil

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, phone (801)-479-7446, or email OneSkyDog@aol.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. Contact Chris Gentry at (863) 646-2612 or email cgentry12@msn.com

For Sale: Dragonfly MK-I 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. Nearly complete. Asking \$10,000. Call 815-397-1533 or email stiegrinding@aol.com

For Sale: Dragonfly MK-I completely built and assembled. All controls installed, light weight factory built honeycomb fuselage, servo tabs on ailerons & canard. Electric Ray Allen servos on all tabs and reflexor. LYC 0235 engine 800 HR since major, Jeff Rose dual electronic ignition, remote oil filter, light weight starter. Complete Terra radio system 760 Com, Nav w/loc and G/S ELT, Narco TR-50 transponder. 2 Lorans; one Fly/Baby and one 360 round, both with full databases. Heated pitot w/angle of attack orifice. Hyd toe brakes, engine instruments, and 25 years of aviation parts etc. Price \$16,000. Contact Phil Tinlin, 84 Panuard Ln. Hartsel, CO. 89449, phone (719) 836-0213, or email pc.tinl@juno.com

Subscriber's Information

Dragonfly Builders & Flyers Newsletter (DBFN) is currently published Bi-monthly at a rate of \$22.00 per year in the US, \$24.50 per year in Canada, Alaska and Mexico, and \$29.50 per year (US funds) per year for foreign subscribers. An electronic version is available for \$16.00 per year regardless of where you live. Send remittance to and make payment payable to:

Jeffrey A. LeTempt
1107 Murry Lane
Rolla, MO 65401
(573) 364-2545
jeffrey.letempt@us.army.mil

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

Ideas and opinions expressed in DBFN are solely those of the individual author. The information is for entertainment only! Application of these ideas and/or suggestions contained in DBFN are the sole responsibility of the experimental aircraft builder, and should be applied at one's own risk. Application of any of the instructions or ideas contained in DBFN could result in injury, death, or worse.

Letters, pictures and computer supplied data submitted to DBFN are subject to final screening by DBFN / Jeff LeTempt, and may be restricted, deleted, revised or otherwise edited as deemed necessary for content or space requirements. Materials will be returned by request only, and with the proper postage paid.