

VW Powered Single Seat, All Metal Aircraft At Oshkosh 2010

by Rob Wyland

I must admit to having a love affair with single-seat, VW-powered airplanes like the Taylor monoplane, Jodel D9, and Druine Turbulent. To me, these planes are the essence of what homebuilt sport flying is about: simple, economical, and fun. The downside is that they are small in every way, and I probably would never fit in one, so I bought a more modern classic of the genre, a partially completed Corby Starlet.

However, I have come to doubt my ability to match the tenacity of the pioneer homebuilders to finish a plans-built craft, or to fit my increasingly large and overweight body into the plane. So while I should really finish my Starlet project, my eyes have strayed to more modern metal construction, more detailed construction plans and kits, or partial kits that still encompass the design philosophy of a single-seat, VW-powered plane.

I am not alone. There seems to be a rebirth of single-seat, VW-powered planes, yet with modern aluminum sheet metal construction. Don't get me wrong; single-seat VW planes have been continuously around from the early 1950s to the present, some even in sheet metal (such as the Teenie Two, Minicoupe, Quail). However, the new crop has taken advantage of the larger displacement VW conversions, pulled rivets, AL 6061 construction, and computer assisted designs. This gives them higher performance, more useful load, easier builds, lower maintenance, and larger cockpits.

The designs I saw at Oshkosh are the Thatcher CX4, Sonex Onex, Bruce Kings BK-1, and Hummel H5. These designs all are LSA-compliant, have a gross weight of 850 lbs, and are tail-draggers. I developed my impressions of each model for this article by either sitting in on a presentation or talking directly with the company.

The Onex was the plane that I was most excited about seeing, even though the prototype is not quite complete. I really am in love with the folding wing



concept, and particularly the Onex's method of folding the wing up like the WWII Corsairs. The folding wing concept has been around a long time, and the British in particular had many light plane designs utilizing this feature in the 1930s. I guess hangar space was at a premium then, just as it is now. The Onex's wing fold is simple, quick and solid feeling. The wing has a center section with no dihedral out to the folding point, and then all the dihedral is incorporated into the wing from that junction out. The aileron control linkage at the folding point is achieved with two mating bell horns, each with two push-push paddles and gap adjusters. To fold the wing, you release a locking lever and pull a larger lever, and the wings fold up in less than 30 seconds. It is truly a functional foldable wing. It will definitely not create the thought, "Do I really want to spend the time to fold the wing?" Beyond the folding wing, the plane is straightforward Sonex, and in fact looks like a narrower version of the popular two-seater. I easily fit in the Onex's cockpit, which is about 27" wide, and the mock canopy cover indicated I would



have plenty of head room. I would consider taking advantage of this generous head-room to install seat back padding to bring me to a more upright seating position, as I did not like highly reclined seat position. While Jeremy Monnet is cautious about the release date of approximately one year from now, I am anxious to see it come to



President's Corner

Air show. By the time you read this, the Watsonville Air Show will be in progress or has successfully completed. Successfully I am sure. We have a bunch of great people signed up to do various jobs and we seem to be ready. The stuff

for the hot dog stand is staged for assembly, food is ordered for the pancake breakfasts, AV gear is identified for the seminars; the speakers are primed and ready to come. It should be fun. The speakers this year are: Skip Holm, 4 time winner, Reno Air Races; Jon Huggins, U-2 and T-38 Pilot; Gary Aldrich, US Air Force Test Pilot Training; Alan Brown, Lockheed Skunk Works and F-117 Night Hawk Program.

The sad news of Gabe Suarez and Bryan McCullah being killed in a Sierra Nevada airplane accident was a sudden shock for all of us. Bryan was a flight instructor many of us knew around the airport and Gabe was probably our most successful Young Eagle youth to date. He was often here at rallies helping with the ramp or hot dogs for the kids, we sent him to the Air Academy at Oshkosh, he got his pilot's license and he was in a Daniel Webster College aviation program in New Hampshire. At 21, he was on his way to a great life. We will have more about him at the September meeting and the board will ask for donations to be applied to an aviation scholarship set up in Gabe's name by PVAA.

At the Chapter meeting on Tuesday, September 7th, the program after Gabe's memorial will be a trip report from Christopher Randolph on his session at the Air Academy. After that will be show and tell from those who went to AirVenture this year. Bring your favorite pictures and we'll throw them up on the screen. Bring your stories and I'll hand the floor to you.

Many thanks to everyone who assisted with the August Young Eagle rally, 55 kids got rides despite the early fog. Flights started about 11:30 and were complete by 2pm. There wasn't enough popcorn for Leslie Grate so he donated the money for a larger popcorn machine and we got that with some change left over! Thanks Leslie! We'll put it to good use!

I've said this before; I've had a good time being your chapter president. But my term will end at the end of this year. I regret not being able to go to Oshkosh either of these years, they totally wine and dine chapter presidents. You should consider that as an incentive to put your hat in the ring to be the next EAA Chapter 119 president. Think about it. Again.



I don't think they'll all fit!



Ocean Air Offering Ground School

Ocean Air Flight Services has a ground school class starting August 30, 2010. Come join us Monday and Thursday nights from 6:00 pm to 9:00 pm for private pilot groundschool, offered at Ocean Air: 170 Aviation Way, Watsonville, CA 95076. Call (831)763-0290 for more information. EAA members are always welcome.

Chapter 119 Membership

"Flightline" is published monthly and sent to all Chapter 119 members either by email or in hard copy. Membership in Chapter 119 is \$15 per calendar year. Checks payable to EAA 119. Mail to: 60 Aviation Way, Watsonville, CA 95076

continued from page 1

fruition and see what the kits really sell for.



The Bruce King BK Flier 1.3, featured in *Air and Space* (January 2007), to me is the most beautiful of this bunch. I think it has to do with the solid flush rivets and the tapered wings. What's not to like about tapered wings, other than the difficulty of making ribs that are each a different size, and the tapered spars... Actually, I think this is one of the most unique features about this plane. I had the gall to directly ask Bruce King, the designer, why the Clark Y airfoil he put on the plane looked as if the center section was stretched with straight segments in the middle to increase the chord length. He explained that is exactly what he did. I looked puzzled, and he explained his genius plan. This wing form means the chord-length to chord-depth ratio is greater at the inboard end, causing it to stall first (since the angle of attack that an airfoil stalls at is related to the length/depth ratio). Thus, without having to incorporate washout in the wing, he gets desirable stall characteristics and a wing that is easy to build because it has a spar of constant depth and a flat bottomed airfoil that can be built on a flat table. When I asked about the discontinuity in the airfoil at the 'stretched' section, King chuckled and said, "It flies great, and I don't think the airfoil is that sensitive at these sub-mach speeds." This plane appears to be a great design, with great plans and detailed instructions, and not too hard to build. Bruce's Beta Builders, about eight of them, are on the verge of completing their planes, so the claims about the plane will soon be verified. King intends to sell not just the plans, but also the more difficult-to-make parts.

The features of the Hummel H5, recently reviewed in *Kitplanes*, that stand out to me are the large wing with a fat airfoil, the telescoping landing gear, and the fighter-like canopy. The surprises for me are the comfort in the cockpit, a bed-mounted engine, all push-pull rod controls, and the extreme lightness of the design. The narrow canopy gives it a bit



of a fighter look, and also gives the false impression that there won't be much room inside the cockpit. Yet when I sat in it, it was very roomy and had an adjustable seat back. Even with the seat in the most upright position that I prefer, I still had a hand's width of space on top of my 6' height, which has a very long torso and neck. The round fuselage cross-section makes for plenty of elbow and shoulder room, contributing to the plane's comfort. One unusual feature is the rather large diameter push-pull rod for the rudder controls running on the left side of the cockpit, which looked even larger as the rod was wrapped partly in pipe insulation.

I was surprised to see the engine was bed-mounted. Not many VWs are mounted this way. This installation, an integral part of the fuselage, looked light yet difficult to construct with its unusual shape and use of solid rivets. The landing gear employs oleo struts mounted at the end of the straight wing center section, one of my favorite configurations. However, the landing gear wheels and brakes looked extremely light, and I wondered what kind of abuse it could withstand. All the lightness of construction appears to have paid off with a sub-500-lb empty weight and a useful load of over 350lbs. I would be tempted to change some things for durability's sake at the expense of useful load. The plans and kits are ready to go, so no waiting here.

The Thatcher CX4 was recently featured in EAA's *Sport Aviation*, and it sure is a beauty. It is the longest of the bunch, thus less short-coupled and probably more docile handling. That is confirmed by those who have flown it, including a young 17-year-old, sub-80-hour (four hours of tail wheel) pilot. The CX4 is slender not only in fuselage, but in wing plan as well. It is one of the few VW-powered planes to incorporate a sliding canopy, which lends it an air of sophistication found in higher end planes. This design has many builder completions already, strong builder support and community, and pre-fab parts available through licensee Peter Beck. In fact, this is about as close as you can come to a kit plane, without it being a kit plane. The mere fact that so many people



continued on page 5

Local Tragedy



The lives of two fine young men ended on Friday 13, 2010 in a canyon in the Sierras, near Emigrant Gap. I, and many others, knew one well, Gabe Suarez. The other, Bryan McCullah, was a flight instructor at United Flight Services. All who knew these two young pilots were heartbroken, devastated on hearing of the fatal accident.

EAA Chapter 119 sent Gabe to Oshkosh, WI some years ago. The Pajaro Valley Aviation Academy (PVAA) awarded him several scholarships. He was an intelligent, articulate, appreciative and generous young man. Everyone involved with Gabe had big emotional investment with him. "Breaks my heart. Good kid with clear goals"—remarked Mike McIntyre, PVAA member of the Board of Directors and President of the

Watsonville Pilots Association.

I'm reading a book, *The Fight of the Gin Fizz*. The author found a statistic comparing aviation and auto travel on a trip by trip basis. Aviation is 99.990% safe; travel by automobile is 99.999% safe. In other words you have to go to the thousandth place to find a difference between aircraft and auto trips. Those figures were from around 1995, and General Aviation safety has improved since then. The two modes of travel have something in common, that safety varies depending on decisions, situation and conditions.

Gabe and Bryan were flying a Piper Arrow on a mountain flying orientation flight. The NTSB has not yet made a formal accident report.

Dan Chauvet

EAA 119 member

2009 /Chapter 119 Officers and Position Holders

President	Tom Hail	831-336-5393	info@eaa119.org
VP	Scott Randolph	831-728-3646	info@eaa119.org
Secretary	Gryphon McArthur		info@eaa119.org
Treasurer	Mary Doherty	831-423-3610	maryatscruz@aol.com
Director	Chris Laws	831-786-0988	info@eaa119.org
Director	Mike Nelson	831-750-0013	info@eaa119.org
Director & Hangar Boss	John Davi	831-688-2809	info@eaa119.org
Young Eagles Coordinator	Rob Wyland	831 457-2932	info@eaa119.org
Membership	Bill McBride		info@eaa119.org
Tech Advisor	Dennis Thomas	831-479-7986	info@eaa119.org
Tech Advisor Flight Advisor	J.R. Warmkessel	408-768-8654	jr@warmkessel.com
Flight Advisor	Larry Baker	831-227-0755	info@eaa119.org
Director & Webmaster	Richard Yee		webmaster@eaa119.org or www.eaa119.org
Newsletter	Brian Moffet	415-665-9621	moffetb@cruzio.com
Copy editor	Naomi Brokaw	415-665-9621	wordstakewing@skyhighway.com

October 30th – The Annual Watsonville Regional Airport Promotion – PAC Dinner

A member of the “Third House”, Kathy Lynch, will be the 2010 featured speaker at the annual WRAP dinner, Saturday October 30th at 6:00 pm at the Green Valley Grill, in the banquet room, top floor.

Kathy Lynch, an experienced lobbyist in Sacramento, is involved legislation affecting airports and aviation. Kathy will be speaking about state government (and lobbyists role) and legislation from the “30,000 foot level” and then come down for some lower altitude particulars. Specifically she’s been involved in SB 1141, regarding airport land use commissions in California. In addition she monitors other important legislation affecting aviation business, like the notorious AB 48 and its fix, SB 1140. The really interesting stuff could come from your questions and answers.

The Schedule:

- 6:00 to 6:15 visiting with candidates, the speaker and others
- 6:15 Introduction of organization officers, candidates, public office holders, and column writers; (please try to be attending by then).
- 7:00 Dinner of Tri-Tip of Beef, Grilled Chicken Breast, and Wood Grilled Alaskan Halibut. Select one, two, or three.
- 7:15 Featured Speaker, Kathy Lynch

The purpose of the WRAP Dinner is twofold. #1 is to have an interesting, informative program. #2 is to raise some funds for the PAC. WRAP supports local candidates that will support, protect and keep Watsonville Airport safe.

Yes, it’s kind of a dress up affair, with men wearing a sport coat and tie (if they want to), and women wearing the usual, anything they want. The cost is \$50.00 per each. There are no tickets. Just an attend list. You get on the attend list by calling Chairman Dan Chauvet at 831-724-5256, or CFO Hal Zamora 687-0719 or by email. Or better yet, send a check made out to “WRAP” to: 147 Mesa Verde Drive, Watsonville, CA 95076-0949. We need to know projected attendance ahead of time. Thanks for supporting KWVI (airport identifier).

Dan Chauvet, WRAP Chairman
Grant Wrathall, Vice Chairman
Hal Zamora, CFO/Treasurer

continued from page 3



have jumped on this bandwagon and been successful says volumes about this plane. It reportedly is easy to build, has great plans, performs well, and can be built inexpensively. My only hesitation is that the plane seems to be coming out with less of useful load than originally hoped for. Builders are getting empty weights in the high 500s, some eclipsing 600lbs, making the useful load between 250-300lbs. That number is still workable for most of us when you consider this plane has a VW engine which is not going to suck up too much gas and has only a 9-gallon fuel capacity. Mr. Thatcher sure knew what he was doing when built and designed the CX4. This is a beautiful and fun plane that anyone should be able to fly.

There sure is a part of me that wishes there was not a Corby Starlet in the garage waiting for me to finish it, as I sure would like to have one of these all-metal, VW-powered single-seaters. Time will determine if there really is a market for such a thing. The main drawback I hear cited is that you can’t get checked out by a CFI before you take off for the first time, and there is no room for a friend. Yet this is the ultimate economic (aka cheap!) way to satiate the selfish desire to fly for the fun of it. This type of plane has been around for a half-century, and it is good bet there is still some mileage left in the genre.

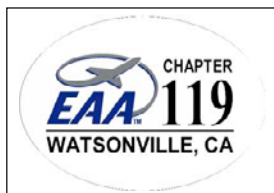
Wanted / For Sale

CLEAN 1957 CESSNA 182A. TT 3568. Engine 721 SMOH, prop 818 since full service. Only \$49,500. King Avionics, Complete logs since new. Annual due July 2010. Contact Doug Glass at (831) 334-9166 or (831) 661-0710.

Four coffee cups to complete my collection of Air Show Coffee Cups for the years, 1964, 1965, 1968 and 1969. I have a dozen or so extra cups from the the 70’s, 80’s and later that I will trade two for one for the cups I need. Dennis Thomas 831-479-7986 or 831-345-3788.

Watsonville Chapter 119 Experimental Aircraft Association

Watsonville Municipal Airport
60 Aviation Way
Watsonville CA 95076



**YOU'RE
INVITED TO
STOP BY
EAA 119
OPEN HANGAR
Noon – 5 PM**

WATSONVILLE FLY-IN & AIR SHOW
Friday, Saturday & Sunday- Sept. 3,4, & 5

Skip Holm, 4 time winner, Reno Air Races
Friday 4:00 PM

Classic Movie Night
"Memphis Belle"
Friday 8:00 PM

Jon Huggins -US Air Force U-2 Pilot
Saturday Noon

Gary Aldrich, US Air Force Test Pilot Training
Saturday 4:00 PM

Alan Brown, skunk works & F-117 Night Hawk
Sunday Noon

*Local Chapter Members look forward to
hangar- flying with you.*

For more information on the speakers and the EAA 119 go to:
www.eaa119.org

**Classic Movie Night !
"Memphis Belle"
Friday 8:00PM
EAA 119 Hangar**

**Free
Popcorn**



**Pancake
Breakfast**



**Saturday & Sunday
7 am – 11 am
EAA 119 Hangar
\$7 adult \$4 kids**

**FREE Sunday Breakfast ticket included
when you register your aircraft!**