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## Ryan's Rant on VW-Powered Homebuilt Airplanes

**Based on 3 decades of RESEARCH, 10 years of building 2 separate projects, and ZERO flight time in any of these designs. Take it for what it's worth, and what it truly represents. It is to real experience as a book report on "*Huck Finn*" is to life on the Mississippi in the 1800's.**

### Notes on Engines

moved [here](#).

### On to the Airplanes!

I recently remembered that Janes All The World's Airplanes back numbers are chock full of valuable information on homebuilts. Perusing my dad's while on vacation ~~last~~ several ~~month~~ years ago reminded me of several designs I had forgotten. Look forward to more updates as I access the local library's copies. Don't hold your breath.

And I got an interesting history lesson on VW powered homebuilts in the US via [Hugh Beckham](#), who is currently building a Sonex.

[Aerosport Quail](#) - High wing single place tri gear, all metal design by Harris Woods. One [fan](#) of this design [emailed](#) me with the news he is revising and reviving it, and plans to have plans and kits available "soon". I like high wing, I like all metal, hmmm. This [very nice example](#) had an article on it in [Sportsman Pilot](#). Check out the [Yahoo Group](#).



**Aerosport Scamp** - All metal single place aerobatic biplane, also designed by Harris Woods. I think this one had a fatal accident associated with it early on. You can find an article on it in *Kitplanes*, *The Scamp-No Tramp*, Mar. 1990, p. 28, and in EAA's *Experimenter* FEBRUARY, 1991, page 9 *Aerosport Scamp . . . Building, Testing, Enjoying* by Parker B. Mudge. More EAA articles are [listed](#) on their web site. At left is a picture of one at the Sun & Fun Museum. Apparently, this design is also being revived. [Pictures](#) and more on the [Yahoo Group](#).

Here is a conversation from RAH about this design:

From:  
hshehane@earthlink.net

Organization: EarthLink Inc. --  
<http://www.EarthLink.net>

Newsgroups:  
<rec.aviation.homebuilt>

Date: Monday, January 15, 2001 9:45  
PM

Subject: Re: Scamp Pilots/Builders

The prototype had an 1834 cc VW engine, and it worked just fine as

long as you did not load the airplane up with an electric

system(starter, alternator, radios, transponder, ect.) It was a fun

plane to fly, with outstanding control harmony. It would rotate at

around 50mph and cruise around 85 or 90 mph. It was a great airplane

to slip while landing, making very rapid descents. All in all, a very

FUN airplane to fly.

Hope this helps.  
Best,  
Harold

On Mon, 15 Jan 2001 23:59:49 GMT, "Capt.Doug"  
wrote:

>How about a short pilot report? Is the VW engine strong  
enough for the

>design? Are there any deficiencies in the plans that you

would change if you

>were building one today?

>

>D.

>

><hshehane@earthlink.net> wrote in  
message

>> I have 27 hours in the prototype Scamp and a few others  
in my area.

>> Woody was a good friend of mine. If you have specific  
questions,

>> I'll be glad to try to answer  
them.

**[Avid Flyer](#)** - Although not designed for the VW, several are flying with this engine, and Great Plains sells a [firewall forward package](#) for this airframe that costs about the same as a Rotax 612 installation!

**[Airdrome Airplanes](#)** - Robert Baslee's got some of his designs for WWI replicas setup for VW power. All are riveted aluminum tubing, rag covered. The [Fokker D-VII](#) parasol 3/4 scale replica and the [D-VII](#) 7/8th scale biplane crate both are spec'd with VW power as an option.

**[Avions Pottier P-180 ,P-130](#)** - Monsieur Jean Pottier (President of the RSA, the French EAA) does have [E-mail](#). P-180 is Low wing, a little more modern in styling than the Jodel's, stick and rag. See the entry below on the Blue Citron for more info on the P-130, as shoulder wing design resemblings the Cygnet.

**[Barnard M-19 Flying Squirrel](#)** - Single place high wing enclosed cockpit wood, foam and fiberglass plans built taildragger. [Oscar Zuniga](#) has pictures of his project and the prototype. Alleged to be simple to build, with better performance than a Volksplane. It looks a lot like the high wing Fisher Flying Products kits, or a miniature C-150 Texas Taildragger. This design was inspired by the JN-1. Construction of the prototype looks a little rough to my eye, but this could be the quickest, cheapest plans built plane on this list, although Oscar sure is taking his sweet time finishing his. Read more about it in the EAA Experimenter, May 1998, page 19, *The Flying Squirrel* - "Marvin Barnard's tenacity helped him overcome some pretty unusual obstacles to complete this airplane", by Bill Bederaux-Cayne. Marvin his ownself talks about his charging system in another Experimenter article, October 1998, page 33, *M-19 Electrical Charging System*, "Here's how I made the charging system for my Flying Squirrel", by Marvin Barnard.

**[Bradley Aerobat](#)** - I get more comments about this airplane than any other, and I've been reluctant to even mention it. I believe the performance claims are exaggerated, the price too high for value received, and no mention is made of the fact it's a clone (albeit heavily modified) of a Teenie Two. Don't *even* get Calvin Parker started on this subject! UPDATE: *now that Calvin is dead, he probably doesn't get as worked up about it, you think?* However, I've lately had a fascinating [E-mail conversation](#) with someone

involved with the development of this design, and I'm willing to be a bit more open about it. On web page I can no longer find there were some builders listed, and what looked like at least one customer completion, and have seen completed airplanes for sale on E-Bay. There was also some negative feedback on a a ultralight consumer satisfaction page that no longer exists.

**Brandli Swing** - "a new Max Brandli (bx-2 Cherry) design, single seat. It appears to be more of a composite than the Cherry (which has a wooden structure to take the loads with foam and glass forming the shape,) and sports quick-fold wings. It is a very pretty little machine, low wing, tricycle gear and VW powered. If it flies as good as it looks and Max sells plans or a kit, then it could prove popular in the single seater stakes." Brian Hope, reporting on the 1997 RSA Suisse annual rally.

**Brugger MB2 Colibri** - Another Swiss design, this one is a single place enclosed taildragger. 100 mph cruise on 1834 cc. This [Canadian web page](#) has some specs and an address for the designer, way down the page. And this [British enthusiast](#) has pictures of his machine and another English example. [Another English](#) owner has E-mail.

**BX-2 Cherry** - Swiss low wing side by side wood and composite, bubble canopy. Apparently tedious to build, very nice looking. The Austrian example I used to have a link to, now broken, was powered by a C-90.

**ChuckBird** - Named after it's Texas designer, a Mr. Beeson, this is an aluminum tube fuselage parasol open cockpit single seater, sort of a Pietenpol Sky Scout for the later days of the millennium. Mr. Beeson and friends have built 60 + of these little parasols. From Richard Lamb <lamb01@flash.net>, who built one, updated the plans for the design, now called the **Texas Parasol** and is building another one, had this to say:

Â· VW-powered parasol wing experimental Parasol, built from 6061-T6 extruded angle (3/4x3/4x1/8) and AD470 driven rivets. Rugged little beast. Single seat. Chuck (designer, hence the name **ChuckBird**), has a hangar on Zuehl (I-10 east of San Antonio), with another 5-6 planes in it. He's there nearly every Saturday and Sunday. Canopy? We don need no stinkin' CANopy. Main fuel - 5 gallons under the panel. Aux fuel - 7 gallons in the leftwing. Instrumentation (HA!): Tach, oil press, oil temp, dual cht, Airspeed, altitude, and a spare 3" hole. The engine is a 1600 cc VW. The magneto is internally geared to run at 1/2 the drive speed. It is driven off the crankshaft. I tried to keep stuff as simple and stock as possible. The airplane is as simple as it can get. Also about the cheapest thing to build for flitting around in. If ya can, grab the June 1988 issue of Experimenter. There's a great article in there about Chuck and the Birds. Empty Weight 350 pounds Wing area 125 sq. feet FuelCapacity 5 + 7 fuel burn is about 3 1/2 gph Cruise 60 to 70 mph. Tennessee Props 58x23 shortened to > 56 inch diameter. Turns 3100 RPM static.

The pictures Richard sent reveal a [wicked cute airplane](#), and a [straight-forward looking fuselage](#). Try this [Google Groups URL](#) to read an excerpt of the builder's manual. This technique can be used on other slow speed tube and rag airplanes such as stuff from the "Flying and Gliding" Manuals, Pietenpols, etc. Wings are foam ribs over aluminum spars, fabric covered. I think this is an airplane that will appeal to a lot of people. Richard now has a [web page](#), and has started (early 2000) to build his second airplane. Several biplane variants are shown, apparently mid-wing is also possible. There is an [Yahoo group](#). **UPDATE** Richard has passed plans sales to Sirius Aviation, and is just about finished with his second plane. Several others are under construction, including a big mess of them at a [Canadian EAA chapter](#).

**Corby Starlet** - Mid-wing wood aerobatics mount, originated in Australia, where homebuilts used to

basically follow the full certification rules. There seem to be few flying in this country, but the pictures I have seen have been of beautiful little planes built by master craftsmen. May be a little ambitious for beginning builders without compensatory experience in boatbuilding or woodworking. Also there is no one I know of making a true inverted oil system for the VW, and stroker engines are probably not a good idea for this design due to the greater stress on the crank, and the case mods required for a stroker, compounded by aerobatics stresses. [Nice Canadian Web page](#) has lots of pictures, and rumors of a steel tube fuselage version. It seems many Corby's are succumbing to Jabiru or Rotax fever. This airplane is allegedly the inspiration for Dan Rihn's One Design. For *An Inside Look at Ray Downs' Corby Starlett*, consult the MAY 1990 issue of the Experimenter, page 10, more EAA articles [listed](#) on their web page.

[Clutton FRED](#) - Parasol open cockpit wood and rage single seater, with folding wings. The [designer](#) now lives in the US. An enthusiast has started a [nice web page](#) with specs, pictures, information about the designer, etc.

[Currie WOT](#) - Single place biplane taildragger. Very early design, for a homebuilt, first flew before WWII. [PFA](#) has plans.

**Cub Clones** - These high wing, usually single seat designs come and go. Check the latest Kitplanes annual for the latest batch of them. Nice if you have an interest in this type, but there hasn't been a dominant well supported design in this arena, which may say something. If I wanted an airplane with this sort of function, I'd go with a Cygnet instead, but you wouldn't have the Look. Here's a reader comment:

I think some of the cub clones are neat.  
For instance I'm thinking seriously about building a Preceptor Ultra Pup. It doesn't go 200 mph, but I think getting there is most of the fun. It cruises along about 90-95, been using Mosler engines (now called t.e.c.) for years. I think I'll put a Great Plains in it. If I wanted to go fast, I still think I would have something with v.w. power, Sonerai, kr2s, dragonfly. I've been flying for 25 years and getting places in a big hurry isn't my bag anymore. I need to fly like I think,,,, slowly. But I still don't want it to sound like a weedeater.

Ken Morgan

[Cvjetkovic's CA-61\(Mini Ace\)](#) – Croatia's gift to the American space program, [Anton Cvjetkovic](#), designed this wood taildragger for Mechanix Illustrated (or at least they published an article on it, and, for a time, sold plans). I was pleased to find that plans are again readily available (Either the [MI reprints](#) for \$10, or the [full scale plans](#)). Most flew with C-65's, but VW's are also allowed for. Anton also has about the simplest, lightest retractable gear mechanism available for small homebuilts, plans for which are sold [separately](#). Comments in RAH indicate that this is a nice handling airplane, but you'd better have a big garage for the one piece spar - also a problem with Jodels and many european wooden crates.

[Cygnet](#) - An airplane that deserves to be better known. It's a shoulder winged 2 seater with a touch of forward sweep to keep the center of lift right where it needs to be while still having the wing spar pass behind the cockpit. The wood wings use geodetic construction, fabric covered, attached to a steel tube fuselage. Designed by Bert Sisler, it's a fine little bush plane, it's one of the three designs that HAPI promoted to sell engines for (the other being the Dragonfly and the Corby Starlet). I have seen few completions, it seems pretty labor intensive, the wings in particular have a lot of little wooden parts. There doesn't seem to be much a builder community for this airplane. A British builder confirms the agony of the wing construction (link now dead). KITPLANES did an article recently, "[Sampling a Sisler](#)

*Cygnets*", June 1999, p. 6. Viking Aviation, run by Rex Taylor's son, apparently still sells plans, as of 1999. I just (May 2002) had an E-mail from the designer: "Am currently completing restoration of original Cygnets and have installed a Jabiru 2200. Originally had a 1835 VW and performance was fine, but wanted electrics. Latest I know about plans is they are being sold by Pat Taylor @ Viking Aircraft Ltd P.O. Box 646, Elkhorn, WI 53121."

**Der Cricket** - All metal Bi-Wing, Taildragger. Sport Aviation article JUNE 1974 'Der Cricket' . . by John W. Dooley, page 24. KITPLANES, DECEMBER 1986, page 10, "FLYING DER CRICKET" This single-seat biplane features an all-flying tail and cantilever wings; by Don Downie. These plans were mentioned in a Rec Aviation Homebuilt discussion about the worst plans ever experienced, along with Teenie Two plans. Uses a NACA 4412 airfoil.

**Dragonfly** - To my mind, this is a tandem-wing 2 seater done right. Plenty of Dragonflies are flitting around on 1835cc VW engines. They seem to have fewer landing accidents than QII's. (Some of my recent reading has given me some cause to revise this. D-flies land flat and fast, try it steep and slow, and you will break the airplane.) And for some reason they don't seem to be as chronically overweight as KR-2's. This is one I'd consider seriously, even given my personal hatred of composites (from hard-earned experience as a Boat Slave, although we called ourselves by a slightly less PC name!). The newsletter is very good; they have an active listserv, and a few good [web pages](#). In the top 3 in terms of numbers encountered at fly-ins, along with the KR-2 and Sonerai (which are common only in the Midwest, very few Sonerai in the West of the Rockies in my experience). The rights to this design have recently been sold, and there is talk of kitting the airplane again. The inboard gear makes ground handling easier, there was also a tri-gear option. For the same power, slower than a Q-2, but better climb. EAA has a [page listing articles](#) and specs.

**Druine Turbulent** - A tiny French single place low wing open cockpit design. This is another airplane that enchanted me as a child (KR's were the other). I went wild over a Flying Magazine cover story on this plane back in the early 1970s. This plane was designed to use 25 hp Kubelwagen engines, so it will fly eagerly, if not fast, on the smallest common VW conversion. It was once certificated and manufactured in England by Rollason and by [Stark](#) in Germany. Falconair in Canada used to sell plans for this and a Jodel design of roughly the same general layout (the D-9), but less charm. Dave Stuart in NZ has [one](#), scroll down past his KR-2 to see it. [The British Tiger Club](#) has a formation flying team of 4 of them. Try the [PFA](#) for plans. Bob Hoover, of VW Sermons fame, sent me an [E-mail](#) with more information on this charming design. There was also a Druine Super [Turbi](#) and Condor, about which I've found ....nothing. Luckily, [Henry Moreau knows](#) more than I do. [Hugh Beckham](#) also speaks about this design

**Easy Eagle** - Utterly traditional single seat biplane. I've not seen this one or read anything about it, so I can't render even my usual ill-informed opinion, other than it [looks](#) a lot like a Baby Great Lakes.

**Evans VP-1 & 2** - Low wing wood. Slow and uncomfortable, but cheap (although given how much plywood it uses, there may be cheaper designs), easy to build and sturdy. Another very malleable design, but you'll never make it pretty, or fast. A Fly Baby or Pietpenol by other means, with similar virtues and vices. More plans sold than any other homebuilt. The [designers web site](#) makes no mention of the -2, and plans for it are no longer available. The Australian Aviation Authority lists it as a marginal 2 place, as it does most VW-powered 2 place planes. [List](#) of EAA articles (many!) on their web site.

**Falconar F-9** - Canadian derivative of the Jodel D-9, low wing wood and fabric taildragger single seat, open cockpit or canopy. Wings are redesigned both in structure and planform. Link shows a Cessna type spring gear, which is atypical for Jodels, I have no idea if this is shown in the Falconar plans, which are in English.



**Fisher Avenger, Youngster and other Fisher Flying Products Designs.** Mostly wood, Youngster is a biplane, the [Avenger](#) is a low wing, most of the rest are high wing. Some have folding wings.

**Flaglor Sky Scooter** - Tony Bingelis built one of these high wing wooden single place designs with the engine just above the pilot's head! The tractor prop turns inches in front of the pilot's face! Very weird looking, see Tony's 2nd book for pictures. The Pima Air Museum has one of these [oddities](#) too.

**Flying Flea** - Originally designed in France by Henri Mignet, there are many [variants](#) on this tandem wing design, taildragers, tri and quad gear, open and enclosed cockpits. Many of them fly/flew with VW power. Plans may still be available from Falconair in Canada. See the February 2000 issue of Sport Aviation for a couple of articles on this family of flying machines. Or visit the [Flying Flea Archives](#).

**Flitzer Z-21 and SK-26** - British biplane designs, look like 1920's airplanes. The Z-21 seems to be based on a German plane of the period, while the SK-26 uses Douglas Fir rather than endangered Sitka Spruce, and looks like a Soviet Makarov biplane. See KITPLANES ("*Meet Mr. Flitzer*", Lynn Williams, July 1997, p. 26) and POPULAR FLYING for more details. After a web hiatus of a few years, [Lynn is back](#), and there is now a [Yahoo Group](#) set up to exchange information on this design. I particularly like that Lynn has continued to develop this design, and he has lots of matter of fact flight qualities data posted on his site.

**Graham Lee Replicas** - Although originally designed as ultralights with Rotax engines, the [Dawn Patrol](#) and others have shown they fly very well behind VW power. The [Nieuport 11](#) single seat scout replicas can also be built as a Nieuport 17; 24 bis or 27 by using a different cowl and fairings. A [Nieuport 12](#) two place observation airplane replicas are available. Aluminum tubing riveted together, fabric covered. Another group building 14 (!) of these planes in Oregon is the [Noon Patrol](#). Plans are now available for a [Sopwith Tabloid/Baby](#), and a [Morane Saulnier](#) monoplane, and all of this via the Internet. I also like his [Miranda](#), a single place Sesquiplane cabin job, which hasn't been built or flown yet. It's not advertised, but he also has plans for a Heath Parasol using his construction techniques that would be nice with a stock displacement VW, [E-mail him](#) for details.

**Hummel Bird** - Morrey Hummel's adaptation and improvement of the Watson Windwagen is truly a "Poor Man's Airplane". I don't think a plans built homebuilt of similar performance can be built or flown for less than this low wing, all aluminum single place little fighter. The plans have been much improved, and several vendors sell plans for 1/2 VW conversions, some of which can be assembled without machining. It's a plane I can imagine a handy teenager building with his/her paper route and lawn mowing money. Maybe mine. *Revised Opinon: Morry was and is a gifted aviation sheetmetal man. Things he can do easily with simple tools, you and I can't do at all. There are more curved surfaces on this airplane than on say a Teenie or a Thorp, and therefore it MAY take a little longer.* This airplane evolved from the Teenie Two, and here's a useful [web site](#). There is now the Ultracruiser, which is a legal Ultralight, and the [UltraCruiser Plus](#), which is NOT, and will be using the FULL VW engine. Read what Bill Spring has to say about it, he redrew the plans and built two of them, in EAA's Experimenter, June 1993, Page 10, *Of Hummel Birds, Windwagons and 1/2 VW's* by Wm. C. Spring. A correspondent offered this comparison of the Teenie Two and the Hummelbird:

Subject: Teenie2 vs.  
Hummelbird

From: cooks@\*\*\* (Cook)

Date: Sat, 04 Dec 1999 05:16:43 GMT

Friend, I have plans for both and a half-built Teenie Two

on the lanai, and I think I can tell you some differences.

The H'bird is built for a small, if not tiny pilot, whereas

the T-2 is made more for us normal-sized people. Past that,

there is a more important difference. The T-2 plans

<colorful adjectives Deleted> are scary.

Almost all of the copious dead time that I've had while

building this plane has been from "head-scratching" time,

where I just stood back and tried to figure out what Calvin

meant to happen at this point. The H'bird plans, in

contrast, have been reworked by Bill Springs.

Anyway, the H'bird plans are max'ed out. I mean, not only are they clear and concise, they spell out every detail and option. The difference is like night and day. I guess the other difference is that the H'bird only uses half a Bug motor and the T-2 uses both halves. Good luck and drop me a line if you build a T-2; we may need to confer to figure it out!

Randy Cook



**[IBIS RJ.03](#)** - A French 2 place tandem canard, mostly wood, with some foam and glass. I was very seriously interested in this design, but after the proof of concept airplane landed in the top of some trees on a hot day in Provence, I kinda lost interest, and I didn't notice any more articles about it in Kitplanes for quite a while. [Limbach](#) has a picture of the first plans-built airplane on it's web site. Plans are available in English from the Designer. I've had the chance to talk with the [first US builder](#), who's happy with the plane, but it consumed about 2000 hours to build, and the summertime climb is still a little pokey, but on pace with a Cessna 150. Plans in English are good, but arrangement of the details on the plans is a little Gallic, a little random. Not like Thorp or Pazmany (and apparently now Sonex, the new gold standard in good plans) where the details follow a rigid hierarchy of assemblies and details.

**Jodel [D-9](#), [D-18](#), [D-19](#), [D-20](#)** - The [D-9](#) is the " Ur-Jodel", the root of this diverse family of French wooden homebuilts, perhaps the most popular series of designs in Europe. They are all low wings, with a very distinct "cranked" planform. All the dihedral is in the tapered outer panels. Picture a T-18 with taper. The cranked section also has a lot of washout, and basically doesn't work at all until high angles of attack. The overall package apparently works very well, and after looking at it a lot more, I'm sorta used to it. Anyway, the D-9 was the first (1948?), it's open cockpit (many have been fitted with canopies), taildragger and flies very nicely on even the smallest VW conversion. It's also a legal Advanced Ultralight under European and Canadian regulations. The [D-18](#) is a 2 place cabin taildragger for larger conversions, designed relatively recently (late 70's ?), the D-19 is a tri-gear version. Apparently with flaps, both the D-18 and D-19 can also slip in as Advanced Ultralights in countries that allow such things. Plans, canopies, etc are available from the designer, who is still active well into his 80's. I've found links to a bunch of D-18's lately, in [Ireland](#), [Wales](#), [France](#), and [Denmark](#). Redrawn and somewhat modified plans for the D-9 and D-18 are available in English from [Frank Rogers](#) in Australia. They come highly recommended. There is a [mailing list](#), and an [archive](#) for it. The D-20 seems to be designed around the JLA Advanced Ultralight rules, and uses the biggest of conversions, the big Limbachs and JPX's, and is the newest Jodel design, also two place. The canopy is slightly different than the D-18/19, and while I do not have complete specs, I would bet it has more wing, a lower stall speed, and perhaps flaps to meet the rather low maximum stall speed requirements of these regulations, upon which the proposed US Sport Pilot regulations are loosely based. Plans for the D-20 are NOT available, kits are.

**[J-6 Karatoo](#)** - This Jesse Anglin design for a 2 place side by side high wing tube and rag taildragger. Looks like a real nice airplane for grass strip adventures. Read about it in EAA's Experimenter, JUNE 1995 *Gordon Slattery's J-6 Karatoo* , page 31. This [Canadian company](#) is apparently the new marketer, under a new name.

**[KitFox](#)** - Although not originally designed for the VW, several are flying with this engine, and Great Plains sells a [firewall forward package](#) for this airframe that costs about the same as a Rotax 612 installation. NOTE: Skystar has discontinued the airframe best suited to VW power, the Kitfox Mark IV. However, so many of them have been sold, finding a project at any stage of completion on the used market should be pretty easy. The Mark I Kitfox will not easily take a VW, the later variants are much improved in many ways anyway.

**[KR-2](#)** - In spite of my [misgivings](#) , this is still an airplane worth consideration. Wood fuselage, wood spars, foam and glass skins. I don't like the rather sketchy connections between the wing skins and the spars, and between the two spars (as built to the plans, the premade skins use real ribs), but the abysmal accident record of this type reads more like a testament to builder/flyer incompetence than design error. The performance numbers are wildly optimistic, as are the stated empty weights. The plane is too small for humans over about 5'8" in the original length fuselage without modification. Many airplanes I have seen or read about have been seriously overweight. The original retract gear requires a lot of pilot attention, and is very vulnerable to damage. The wooden fuselage is not very crashworthy, neither is the fiberglass fuel tank in your lap. But the good parts: this is as cheap a composite airplane gets. Even if

you make heavy use of prefabricated parts, you can build using all new materials for well under \$20K. The fixed gear options ([Diehl](#) mo betto than RR, but both have their idiosyncrasies) have reinvigorated this design, as has the stretch version. It seems to be faster for a given horsepower than a Sonerai, even though the seating is side by side. It looks right. The design is very malleable, you can easily make of it what you will. The cowling is a little roomier than a Dragonfly or Sonerai, so a tuned exhaust, starter, twin magnetos, carburetor heat box, oil coolers, etc, fit a lot easier. There are some many plans out there and projects for sale that a sharp, **careful** (there are is some appalling junk out there for sale) scrounger to pick up some real deals. There is a fine newsletter with a long history, a listserver, and a bunch of [fine web pages](#) for this design (although the [Rand Robinson](#) site is weak). I think this is a fine airplane for a builder committed to keeping it light and recognizing it's limitations as a Day VFR sportplane. Please read Neil Bingham's [excellent teaching](#) on KR-2's. [Mark Langford's site](#), where Neil's article can be found, is a great source for KR info, although the airplane Mark is building is so heavily modified, it can hardly be called a KR-2 in my view. You can now read every known Sport Aviation article on this design on the web (link lost, try the [KRNET](#) to find it), or read back issues of the first of 3 succeeding [newsletters](#).

**KR-1** - Much of the above applies. The plans are worse for this plane than it's larger brother (and those plans are not a marvel of clarity, although they improved radically over the years). But it's a mover, even with a 1600 VW. Few premolded parts available, basically only the cowling. Bill Reents has [a nice page](#) devoted to this design, although he's sold his plane after 20 years of flying it. Also worth consideration is the KR-1 1/2, a growing trend, which is a 2 set up for one centrally located pilot.

**La Cocinnelle** – *“Within the framework of its program "Bleu Citron" of assistance to the access to construction, the Network of the Sport of the Air diffuses an airplane simple and economic, the Ladybird, whose plans are free for the members subscribed to the magazine of the RSA.”* A very appealing looking shoulder wing, side-by-side taildragger, stick and rag. If you can read French, it could be a very nice project. Given that it has the designation P-130, and Mssr. Pottier is the Presidente of the RSA, I would guess he had a hand in her design, mais oui? Here is a [page in French](#) describing the “Bleu Citron” project and this airplane’s role in it. The project is interesting enough to [quote from their dossier at length](#) (Translation by Babelfish).

**Luton Minor** - 1930's British single place parasol conventional gear monoplane, like a Baby Ace, only in wood. [PFA](#) has plans for this one.

**Nicollier HN 700 Menestrel II** - Yet another French design, 2 place, probably wood, low wing, definitely a taildragger. Read about it in KITPLANES, Oct. 1989, p. 26, " Song of the Minstrel (VW-powered)". . . .

**Pataplume** – Looks like a tandem place Mini-Max - mid wing, wood and rag, with a 1600cc conversion. *“Fabien and Jean Claude Leger have conceived this two-seater ULM being able to take along a passenger behind the pilot in front place. It is a simple and light machine for the pleasure of the entertaining flight.”* So quoth the RSA, as translated by [Babelfish](#). There is now a side-by-side [Pataplume II](#) - still wood and rag, but with a low wing, and a bigger mill.

**Pazmany PL-4** - Conventional gear single seat low wing all metal T-tail Aerobatic. Laszlo got tired of taking heat for how long it took amateurs to build PL-2's, and the energy crisis was upon us, so he designed a VW-powered plane that only took 3000 hours instead of 6000 hours to build. The belt reduction 1600cc engine didn't make the power he thought it would, and very few, if [any](#), other than the [prototype](#), were actually built with the engine it was designed for. A rugged, well engineered airplane, with exceptional plans and [builder's manual](#). I'll say that again, you will not find a finer set of plans, and the assembly manual is a complete education in building a metal airplane. I'll bet with a bigger engine,

and one of the Smith Engineering belt reductions that GPASC sells it would go pretty good.

**Pober Pixie** - Lovely conventional gear single seat parasol, adapted by Paul Poberezney from the Corbin Baby Ace. Few examples [flying](#), most with small Continentals.

**Preceptor Ultra Pup** - two-place tandem high wing enclosed tube and rag Kub Klone. Folding wings with flaps. This design was pretty heavily pushed by Mosler, the first HAPI successor company. It seems to have survived the demise of Mosler. The quoted performance numbers seem perhaps slightly more than usually inflated (1400 FPM climb? It does have a lot of wing...). There is also a single place version for the 1/2 VW, a parasol called the Stinger (like the original Taylor Cub!), and another single place with the full engine, the Super Pup.

**QII** - Two place side-by-side tandem wing (near equal span canard is another way to put it). Reading the excellent newsletter for this class was very illuminating. There seem to be very few flying VW powered airframes anymore. And the conversion to an A-65, A-85, O-200 or O-235 is a non-trivial exercise on a built airframe, and leads to an even higher wing loading. At the very least, there is some question about ground handling with the original gear (wheels on fwd wingtips). Not an airplane I would personally consider building or flying. There's a guy from the EAA chapter 1000 at Edwards who's reports on his [Q-200 project](#) on their web site, check it out. See the [Quickie Builders Association](#) web site for more information. Another thing to remember is that unlike the Dragonfly, this design was never intended to be plans built. You need the premolded fuselage pieces to make a go of it. If you want one, there seem to be enough of them half built out there, go get one.

**RagWing Designs** – Lots of these to choose from, several of them can carry the weight of a VW conversion. Range includes ultralight and Experimental replicas of Heath, Church Mid Wing, Pietenpol, Storch, and Pitts Special.

**SKYTEK/CARLSON SPARROW** - Tube and rag little high wing jobs. The Sparrow is a legal ultralight with a Rotax 277. The Sparrow Sport is a clipped wing version, still single place, which will take a small VW conversion, among other choices, and is mildly aerobatics. The Sparrow II and Sparrow XTC are two place versions, very happy to follow our favorite aero engine around the sky. All use sturdy looking aluminum spar extrusions, and aluminum ribs. Complete kits available. Owner of the company was killed summer of 2000 (apparent in flight heart attack); I wonder how that will affect availability of kits.

**Sonerai I** - Much of my discussion of the [virtues](#) of the Sonerai II series apply here as well, although this is very much a hands-on airplane, with little stability (but lots of control authority) in any axis. The cockpit of this airplane is also a little tight, although not as bad as a V-Witt. This airplane was designed around the original Monnet VW conversion, which had a prop extension and an outboard bearing. The original cowling only fit this type of conversion (which has gotten a shaky reputation), not the much more common Econo Vee conversion developed later for the IIL, which mounted the crank directly to the crank. Notice how the leading edge of the cowling cheeks sweeps aft from the spinner? That's a Super Vee cowling, over the corresponding Monnet Super Vee conversion.

A look at [Blueberry's engine](#) will give you an idea of what this setup is like. These original conversions and cowlings are very scarce these days. Check the [Formula Vee](#) magazine classifieds for these rare parts. Several people have fabricated similar crank extensions from plate and the new Great Plains flywheel end drive may work, or you can use the V-Witt extension, which Aircraft Spruce sells plans

for. Building a I with the newer cowl and conversion may result in an aft CG on a plane that tends to be slightly tail heavy anyway. [Speedy](#), maneuverable, cheap, goood looking! Very few [web](#) pages though.

[Sonerai II, IIS](#) - The airplane I was building, I've now sold the project. You can read, at length, [why I chose it](#), and what it was like [building](#), you can read my [puff piece](#) on the design, you can stare at numerous [pictures](#) of flying airplanes, or you can get the story from the current source for plans and parts, [Great Plains Aircraft Supply](#). It's a great design for an inexpensive, good performing 2-place sport plane. There is a [Yahoo Group](#), and Fred Keip, the newsletter editor, is a regular poster. . There are a few [web](#) pages. Read the following EAA Experimenter articles for more info: MARCH 1989, Page 8, *Sonerai N2EX First Flight*- by John Giordano; OCTOBER 1991 Page 29, *Sonerai Sonata* by Joseph Hillebrand; MARCH 1995 Page 20, *Carrying on a Family Tradition*. "Like his grandfather's airplane, Mark Elyea's Sonerai IIL is powered by an auto engine" by Mary Jones (I've seen Mark's airplane, it is flat out beautiful. Some pictures of is are [elsewhere](#) on this site.) More [EAA articles](#) and some other commentary.

[Sonex](#) - This all-metal side-by-side low winger is the latest effort from the designer of the Sonerai, Monerai, Monex, and Moni. Available in taildragger and nose roller variants, as well as a [Y-Tail](#), and a [motorglider](#), I find this design exceptionally compelling for the type of flying I want to do, and if I was starting from scratch today with sufficient funds (about \$20K it looks to me), I'd be tempted build one. This airplane is attracting a strong [builder's community](#), always a good sign for a new design. Join the either the [active](#) or the [semi-active](#) Yahoo Group. As of today, 4 April 2005, there are 25 of them flying under VW power listed on their web site.

[Stern ST-80, ST-85](#) – *“Rene Stern included/understood, well before the hour, all the importance of the foldability of a plane and designed his family of machine by exploring the various ways possible with the saving in space.”* So quoth the RSA, as translated by [Babelfish](#). So, we may presume folding wings, yes? Stick and rag, single place, there is a 2-place version, which may be suitable for the largest conversions. Rather nice looking, tapered outer wing sections, tricycle gear.

[Stewart Headwind](#) - Parasol open cockpit job, looks like an Aeronca C-2. Designed by [Don Stewart](#). Low and slow. Don Stewart also has plans for a vee-belt reduction drive. I like the looks of this drive better than any other I have seen. And as I study the old “Flying and Gliding Manuals”, I like the looks of this airplane better and better.

[Stolp Starlet](#) - Perhaps the prettiest airplane on this list. Beautiful parasol open cockpit taildragger, wood wing, tube and rag construction. My recollection is this plane, and it's biplane sister the [V-Star](#), were designed to use VW power, but the current promoter does not mention this in their materials. Plans still available! Call now! [List](#) of EAA articles is on their web page.

[Taylor Monoplane](#) - Another very early VW-powered homebuilt, this low wing single place open cockpit [plane](#) is reputed to be a very nice handling [plane](#). Plans are still available from the designer's widow (~~he died of natural causes, a welcome change of pace in this field~~ UPDATE: “Hello, Browsing thru your site I noticed your notation of the late John Taylor dying of natural causes. Not true. I purchased a set of Monoplane plans from Mrs. Taylor in 1973 she told me at the time her husband (John) died while flying his second design the Taylor Titch. You are correct in stating that the KR-1,





KR-2 are a copy of the Taylor Monoplane all you have to do is compare the plans together. Sincerely, Ken Rakowski) via an advert in "Sport Aviation", or see the above link for an address I don't think is completely correct.

Ken Rand and Stu Robinson used this airplane as the basis for the KR-1 (stu did most of the designing, while Ken built the first prototype), and rumor has it Taylor based his plans on an unknown, even earlier Italian airplane. Small Cockpit alert! Tall may be okay if open cockpit, but wide is definitely out. Gets a [picture](#) because it has spawned so many imitations. And due to a recent history lesson delivered by [Hugh Beckham](#), it's clear this design is "airplane Zero", at least in the US, for the whole class of VW-powered homebuilts.

**Team V-Max** - Low wing single place wood and fabric kit. Probably the quickest construction of all the designs on this page. Faster than a Volksplane. Good [factory](#) support. Tim Moosey of Texas built an outstanding airplane from their kit. Bob Capozzi in Tennessee has another one.

**Teenie Two** - All metal low wing single place. The only one I have personal direct knowledge of had a bad CG problem resolved by a longer tail. Which is odd, because in general they tend to be tail heavy, I've later learned. The magazine reports I have read for this older design seem to be pretty positive. This airplane was the inspiration for the Watson Windwagon, which in turn became the Hummelbird. There are new enthusiasts for this design, a [discussion forum](#), and a [picture gallery](#) for exchanging construction details. [Veeduber](#) has a few favorable things to say about this airplane. IF you've read this far, you've already seen Randy Cook's less favorable words about the plans. The Teenie One, or Jeannie's Teenie is a whole nother kettle of fish, the all flying tail without an anti-servo tab makes it a real handful to fly. Read a pilot report in "Sport Aviation", JULY, 1970 "Flight Report on the Jeanie's Teenie", by Dr.H.E.Bartee, page 6. More EAA Teenie articles are [listed](#) on their web site. The Bradley Aerobat is a heavily modified derivative of this design. I bought a set of plans and am starting construction on one myself. Yes, the plans suck, but I'm working with the forum members to try and resolve some of the most glaring problems. As of Winter 2001, Calvin Parker, the promoter of the design, is in a nursing home; kits and plans are not presently available, but we're working on it, consult the forum for the latest poop. **UPDATE** Calvin is still in a nursing home, but the rights to the design have been sold to [Ron Dixon](#), who also flogs the Mini-Coupe (a slightly larger Teenie derivative design) plans. He also got the original prototype, and plans for another Calvin Parker design, the Tinwind. **FURTHER UPDATE** - Calvin Parker has Gone West, but his legacy lives on.

**Thatcher CX4** - A new US design. I just heard of it in 2004, but it looks like it's been flying for a while. Low wing, all 6061 T6, single place. Nice looking, reminds me of a Piel Emeraude or perhaps a Taylor Monoplane, but it is a completely new design by David Thatcher of Pennsacola Florida. A little heavier than similar single place designs, but with a good bit more wing. [E-Mail him](#) for a spec sheet or to buy a photo file or plans. From the designer: "Thank you for your interest in the CX4. It is a completely new design plane. I have drawn the plans and done the engineering myself, and of course built it and now fly it. it has been very well received by all who have seen it, especially at Oshkosh. I have sold 16 sets of plans for the plane since I got back from Oshkosh, and answered over 100 E Mails. The airfoil I used is a 4412. The prop is from Tennessee Props, a 54X38 wooden prop." Already about a half dozen builders hammering away, and a [Yahoo group](#).

**Tipsy Nipper** - a Belgian wooden Mid-wing single place wooden airplane of the 1960s nearly as odd looking as it's name. They still fly, I recently read of one converted to a Jabiru engine, and [plans](#) and even kits might perhaps still be available!

**[TRC-1](#)** - A [new design](#) by long-time Formula Vee Czar Jim Vliet. Steel tube fuselage, composite wing with tapered outer sections. Exists so far only as a rendering. A two place version is projected.

**[WD Flugzeugleichtbau Sunwheel](#)** - German (how'd I know?) wooden(?) two place biplane taildragger. Lots of wires.

**V-Witt** - Wood mid wing Formula Vee racer designed by Steve Wittman. Sharp looking, and undeniably fast, it's rumored to be a tight squeeze in the cockpit. Aircraft Spruce, which now distributes Tailwind plans, is definitely selling plans for the plane, and the prop extension, which could be very helpful for Sonerai I builders. Jim Vliet's Wittman tribute page has a picture of this plane at the bottom of the [page](#).

**Zenair Zodiac** - All metal low wing side by side. Comes in two versions, the original Hershey Bar wing, and a faster version with tapered outer wing panels. A little slow, and some (but not all) reports I read were lukewarm about flying qualities (ailerons not very effective is a common criticism. When I saw the airplane in person, I was underwhelmed. Details weren't well worked out, and I didn't care for the looks of the airplane. But it is clearly pretty easy to build, seems sturdy, support seems pretty solid from the factory. It's worth a look. Few seem to have been built with VW power, and the [factory](#) seems lukewarm about it, although their builders list shows some people either [flying with VW power](#) or thinking about it.

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