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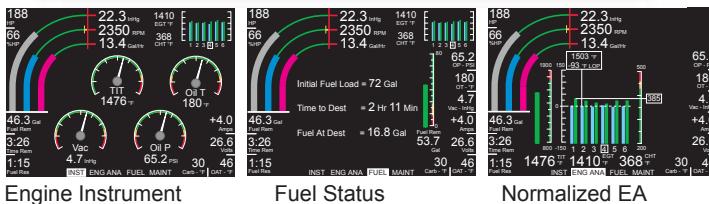
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Getting it right: Ideal flying qualities are hard to develop, easy to misplace.

I don't know about the rest of you—though, frankly, I have my suspicions—but I have no patience for poor-handling airplanes. Hmmm, let me back up. Maybe not *none at all*, but very little, unless the airplane does something else pretty extraordinary, like make low Earth orbit or carry the famous Cello Posse—a group of four exceptional college-age cellists of my acquaintance—and their entourage in one flight. Think about it: If we wanted to fly crummy-handling airplanes, we could buy any number of them right off the lot. We wouldn't bother building them.

Good handling is, I confess, a subjective matter—at least to some degree. I think we can all agree that our airplanes need to have reasonably docile stall characteristics—and I don't necessarily mean like a Piper Warrior, which really doesn't have much of a stall—and predictable behavior. But assuming the airplane doesn't have any truly bad habits, the remainder of the handling impressions often come down to preferences. Do you like the controls light? Can you easily manage the airplane if the entire control-stick movement describes a box the size of an Andes mint? (Flat, not edgewise; though I've flown a couple airplanes with just that kind of roll/pitch mismatch.) Do you have the upper body strength to wrestle something like a Cessna 210 into the flare at its forward c.g.?

How any airplane comes by its flying qualities is through a marriage of design (intentional) and execution. In matters of design, we're at the mercy of the team (or individual) that developed our kits or plans in the first place. Some kit manufacturers get it right—I'd have to say that the Van's designs achieve universally good handling qualities—because they spend hours and hours test flying the prototypes and tweaking until it's just right. This effort requires knowledge of the design, an understanding of the mission, patience and practice.

This month we have an interesting example of good intentions gone awry in the Excalibur II. (See Dave Higdon's flight review on Page 7.) Based on the Quad City Challenger, the Excalibur received a host of seemingly simple changes—among them, an extended cockpit and repositioned prop arc by use of a different engine/gearbox combination. In addition, the company changed from a cable control system to pushrods for pitch and roll. Individually, these alterations should not have had a dramatic effect on the airplane's flying qualities, but they did. Its lazy roll response, pronounced pitch change with power and unwillingness to rotate cleanly on takeoff aren't, individually, damning traits; together, however, they can make an otherwise fine design something less than pleasant to fly. (The good news here is that Excalibur is working on fixes. I'll risk sounding churlish to say that they should have been done long before the design was released.)

And, it has to be said, this is not the only airplane to have such traits. I can think of several certified, production-line aircraft that have the same runway habits—namely, they need more pitch input to rotate than is necessary to maintain the initial climb pitch angle. On these aircraft, you must quickly pitch up to rotate and immediately release the stick pressure. On landing, these designs tend to plop the nosewheel onto the runway an instant after the mains touch, no matter what you do with the stick. It's possible to work around these handling qualities, sure, but the result is an airplane you might tolerate flying but probably won't love.

Don't underestimate the implications for the rest of us. By and large, the manufacturers of the kits we buy—just look at them all in our 2006 directory, starting on Page 29—develop all parts of the control system to achieve certain flying qualities.

With this in mind, as you're working on your airplane, think twice before making any modification to the control system, even something very small. Let's say, for example, that the aileron bellcrank under the seat seems too long—wouldn't it be easier to assemble if it were just a half-inch shorter? Please, resist the temptation to shorten it. You have no idea of the knock-on effects of such a change until you begin flying. (Or, if you really insist and absolutely know what you're doing, make such a change only if it's reversible.) Aircraft dynamics are, by now, extremely well understood, but that doesn't make them any less fussy. Don't undo the hard work of your kit's manufacturer with control-system mods. You may end up with an airplane that's different from the factory's efforts but not necessarily better.

Your Thoughts On LSA?

We've reported extensively on Light-Sport Aircraft over the last few months, and we're watching closely as new designs arrive, many of which carrying the promise of evolving into ELSA form; that is, as super-quickbuild kits based on the "certified" LSA aircraft. So far, however, the manufacturers have told us it's way too early to be thinking about making kits.

I am curious to know what you think about this category. Do you find the airplanes enticing? Would you be willing to build an LSA from an abbreviated kit even with the current weight and performance limitations in place? And how about our coverage? Should we keep reporting on these new factory-built designs or keep to Experimental/Amateur-Built designs? Send your comments to editorial@kitplanes.com. Brian Clark and I are always keen to know what's on your mind. ✚

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Letters

A Tale of Two Quicksilvers

Very nice picture of N6573R, the gray GT 500 on Page 15 [of the September issue]. But Jon doesn't own it, I do, and have had it apart and stored for six years. I bought it from the Quicksilver factory as parts many years ago. It was crashed by a couple of pilots who dropped it in from 30 feet, their normal flare height, I assume. I received it less engine, nosewheel assembly, engine and drive, with a broken windshield and a lot of hidden damage such as brackets and such. I did a complete rebuild on it. But I found it lacking compared to my side-by-side Quicksilver clone and stopped offering lessons in it. I added several neat things to it such as electric flaps, electric elevator and rudder trim with dual controls front and back. I predicted that not having the gauges available to me, not having the trim nor flaps in the rear seat, made for an uncomfortable session with a brand new student up front. I decided to only use this plane for transition training and advanced lessons with the higher speeds. Side by side is still the way to go for basic training, so I wish Quicksilver all the best in the SLSA market. But they went bankrupt getting this plane certified in the mid-1990s, so I hope that Sport Pilot doesn't do them in again.

Mark Smith

Thanks for filling out the story, Mark. We do know that we had two different airplanes in the magazine, one belonging to Thornburgh and one photographed in 1993 when this magazine's Editor-in-Chief was but a young pup working for AOPA Pilot magazine. We were slightly amazed to learn that photographer Lonna Tucker—now a hotshot landscape shooter—had all the original art from the period. As for the GT 500 bankrupting Quicksilver, that's a dramatic oversimplification of the matter. Many factors entered into it, including a flood at the factory and difficult economic times for all of general aviation.—Ed.

The Phenolic Age

Regarding the October 2005 KITPLANES® article on about shopping for a used Rotax engine: The picture at the bottom of the page talks about rocker arm bushing evolution. It is stated that first came iron, then phenolic, then bronze. This is incorrect. The proper sequence is iron then bronze then phenolic. This can be verified via Rotax service bulletins.

Brett Walmsley ✚

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Zenith Debuts Quickbuild Kits for Zodiac XL, CH 801

Zenith Aircraft Company, manufacturer of kits for the popular Zodiac XL, STOL CH 701 and STOL CH 801 designs, has announced the availability of quickbuild (QB) kits for the Zodiac XL and 801. The Zodiac XL QB option promises to reduce construction time by 50%, from an estimated 500 building hours to about 250. Similarly, the 801 QB should drop build time from 750 to less than 400 hours.

For the Zodiac QB kit, the entire airframe will be factory-jigged before delivery. Nearly all major components will be pre-aligned with rivet holes pre-drilled. Once Cleco'd together in jigs, most sections are then taken apart again for shipping. Final re-assembly by the builder is completed with easy-to-set blind rivets.

The 801 QB kit is similar to the Zodiac, but it goes even one step further: the fuselage and horizontal tail sections are actually riveted together before delivery.

Price for the Zodiac QB is \$23,975 (compared to \$15,890 for the standard kit), and the QB version of the 801 increases the price from \$20,950 to \$31,950. Both QB kits meet the FAA's 51% Rule.

Additionally, Flight Crafters in Zephyrhills, Florida, offers seven-day builder assist workshops for each design. For \$3995, Zodiac builders will be able to complete the assembly of the rudder, horizontal stabilizer, elevators and wings in seven 8-hour days. CH 801 builders will complete the tail surfaces and wings in the same amount of time, resulting in an airplane that's said to be 90% complete.

For more information on either design, contact Zenith Aircraft at 573/581-9000 or visit www.zenithair.com. Flight Crafters can be contacted at 813/779-1156 or www.flightcrafters.com.



New Altitude Hold System from Trio Avionics



Trio Avionics, manufacturer of the EZ Pilot autopilot for Experimental aircraft, announced that it has begun shipping its new EZ-1 Altitude Hold system. The EZ-1 is designed specifically for Experimental and Light-Sport Aircraft, yet the company says it has performance and safety features not found on many certified systems.

The system incorporates a solid-state MEMS gyro for pitch stability, an accurate pressure sensor to measure altitude and accelerometers to monitor G forces. Fine adjustments to altitude can be accomplished without disconnecting the system—simply rotate the encoder knob to adjust the aircraft altitude in increments of 5 feet.

A unique feature of the system is the push-button actuator switch, which incorporates a graphics-capable LCD screen to display system messages, alerts and warnings. When used in conjunction with the rotary encoder, it allows the user to adjust parameters such as system gain, LCD brightness and contrast. It also notifies the pilot when the aircraft is out of trim.

According to Trio, the EZ-1 was designed with safety as the primary goal. Four microprocessors monitor all major system activity and provide redundant error checking. The G force sensor monitors positive and negative vertical acceleration to detect excessive G forces. When the acceleration exceeds acceptable norms, it sounds an alarm and disconnects the servo from the elevator control system to avoid the possibility of structural damage to the aircraft.

The EZ-1 sells for \$1795. For more information, contact Trio Avionics at 619/448-4619 or visit www.trioavionics.com.

To submit a press release on a homebuilt-related product, e-mail a detailed description and high-resolution photograph to editorial@kitplanes.com. Mailing address is **KITPLANES® Magazine, New Products, PO Box 124, Liberty Corner, NJ 07938**. Visit www.kitplanes.com/freeinfo.asp for instant information on "What's New" items and advertised products. Select the issue in which the item appeared, and then select the categories of information or individual advertisers you're interested in. You'll receive an e-mail response from the companies selected and have the option to receive printed catalogs or brochures if they're available.



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Another Way to Turbine Your Lancair IV-P

Advanced Aviation has developed a firewall-forward package for the Lancair IV-P kit using the Garrett TPE 331 turbine engine. (Lancair's own PropJet uses the Walter 701E.) According to the company, five aircraft are part of the early development, with one flying and another just about ready to fly at press time.

Advanced's use of the TPE 331 provides more power than the Walter—894 shaft horsepower compared to 750—and is said to burn 20% less fuel. In addition, the company says, the Garrett has better altitude performance, posting a 150-hp advantage at Flight Level 250 compared to the Walter. (Turbines act like normally aspirated piston engines, slowly losing power with altitude.)

According to Advanced, the Garrett's fixed-shaft design provides less turbine lag. Initial performance numbers are a cruise speed of 315 knots true (366 mph) at 10,000 feet—well below the engine/airframe's optimum altitude—with the expectation that 350 knots (403 mph) is in the cards.

The FWF kit, which will come only as a quickbuild—with the fuel and oil systems already mounted—costs \$40,000. The cost of the engine and prop package will vary according to total time and condition, but should be in the range of \$100K to \$200K. The FWF assembly includes new carbon-fiber cowlings, a stainless-steel, ceramic-coated exhaust system and wiring harness.

For more information, contact Advanced Aviation, Inc., at 541/330-5817 or visit www.advancedaviationinc.com.



Stratomaster Adds to Line of Glass Instruments with the Ultra Horizon XL

Pilots crave flexibility—call it the Type A personality in all of us—and Stratomaster has provided just that in the new Ultra Horizon XL. This monochromatic EFIS has new user-configurable screens that allow for personalization; these screens can be customized to place the “instruments” in different places on the display but can also be disabled easily for a simplified layout.

In addition to the normal flight information—altitude, rate of climb, airspeed, heading and attitude reference—the Ultra provides up to 12 channels of EGTs and CHTs, manifold pressure and engine rpm, oil temperature and pressure, and up to two fuel-level inputs. It will also accept fuel-flow readings with an optional flow sensor.

The Stratomaster comes as a dual-box system, with a panel display and remotely mounted “Remote Data Acquisition Computer.” One of the more clever features of the Ultra Horizon XL is the ability to automatically log flights in the unit's memory. The flight parameters recorded include: date and time; highest altitude reached; maximum speed; and Hobbs meter reading.

Prices start at \$1095 for the basic Ultra Horizon. Various compass/attitude sensor packages run from \$125 for a compass input to \$875 with the full compass/attitude kit. Engine-monitoring add-ons run \$159 for 12 thermocouples to \$239 including a manifold-pressure sensor; this is plus the cost of the probes/sensors themselves. A full-house kit for a four-cylinder engine (including fuel flow) runs \$2640.

For more information, contact Stratomaster dealer Sport Flying Shop at 877/8-FLYING or visit www.sportflyingshop.com. †

Control Vision, Zoon Team to Produce Integrated Traffic System

Control Vision, makers of Anywhere Map, Anywhere WX and Pocket Plates, and Zoon Flight Systems, makers of TrafficScope portable collision avoidance gear, announced that they are jointly producing a new version of TrafficScope XRX integrated with Anywhere Map.

Several companies including Zoon have offered low-cost traffic awareness systems for some time. These recognize nearby aircraft with active Mode C transponders responding to radar. Previous systems such as TrafficScope VRX register the presence, relative altitude and proximity of nearby aircraft, but not the bearing to the target aircraft.

Zoon recently announced aviation's first portable standalone personal collision avoidance device able to show bearing, altitude and range of multiple nearby aircraft. A collaborative effort with Control Vision will result in an integrated system displaying traffic on Anywhere Map's high-resolution moving map along with weather, terrain and obstacle avoidance.

The TrafficScope XRX costs \$1795, and deliveries were scheduled to begin in November. Prices for the Anywhere Map system depend largely on your hardware requirements and which software features you wish to use. One iteration—Anywhere WX, the moving-map navigation system with color weather data overlay—sells for \$1495 on an iPaq 4705.

For more information, contact Control Vision at 800/292-1160 or visit www.anywheremap.com. Call Zoon at 888/340-8055 or visit www.zoonflight.com.

Sword Flight



The Excalibur II may be descended from the Quad City Challenger,
but it's become its own deal.

BY DAVE HIGDON

Imitation may indeed be the sincerest form of flattery, but it often moves on from there rather quickly. Call it human nature: We all want to feel like we could do something better than the next guy. In airplane design, like much of life, there's no guarantee that the best of intentions translate to the desired results. Airplane design is notoriously finicky, an endeavor haunted by unintended consequences down every darkened hallway and behind every creaky door.

No doubt Tom Karr, owner of Excalibur Aircraft, gave this issue some thought as he developed the Excalibur II, a two-seat machine produced by his company that is a direct descendant of the Quad City Challenger. Related, yes, but significantly different in many areas.

Karr decided to enter the kit-aircraft market after retiring at an early age from the film business. "I was able to take about 10 years off before I decided I wanted to find something new that would give people pleasure," he says.

Learning the Business

Prior to launching his own company about eight years ago, Karr explained, he worked at Quad City Ultralights "to learn the business" of producing aircraft kits. "Nice folks up there and I learned a lot. And I figured out how to improve on a basically good design," he says of the Challenger that Quad City has produced and improved

steadily for 22 years.

Out of his Challenger experience Karr took his ideas to Florida to put them into practice in the Challenger-inspired Excalibur Aircraft. Basically, the Excalibur employs the same lines and riveted-aluminum structure Karr learned working at Quad City Ultralights. The fuselage structure, wing



Excalibur *continued*

structure, high-wing mount and strut-braced approach Karr employed in the Excalibur are pretty much dead ringers for those same parts in the Challenger.

Following Challenger Form...

The Excalibur mirrors its Challenger progenitor with a structure of tubes and gussets riveted into a fuselage structure onto which the builder installs the wings, powerplant, gear and control linkages.

The fuselage comes from the factory pre-built and ready to cover and take the components installed to it. The wings are framed out and ready for the installation of the ribs and, in turn, covering and finishing. In overall dimensions, layout and construction methods, then, the Excalibur and Challenger are very much alike.

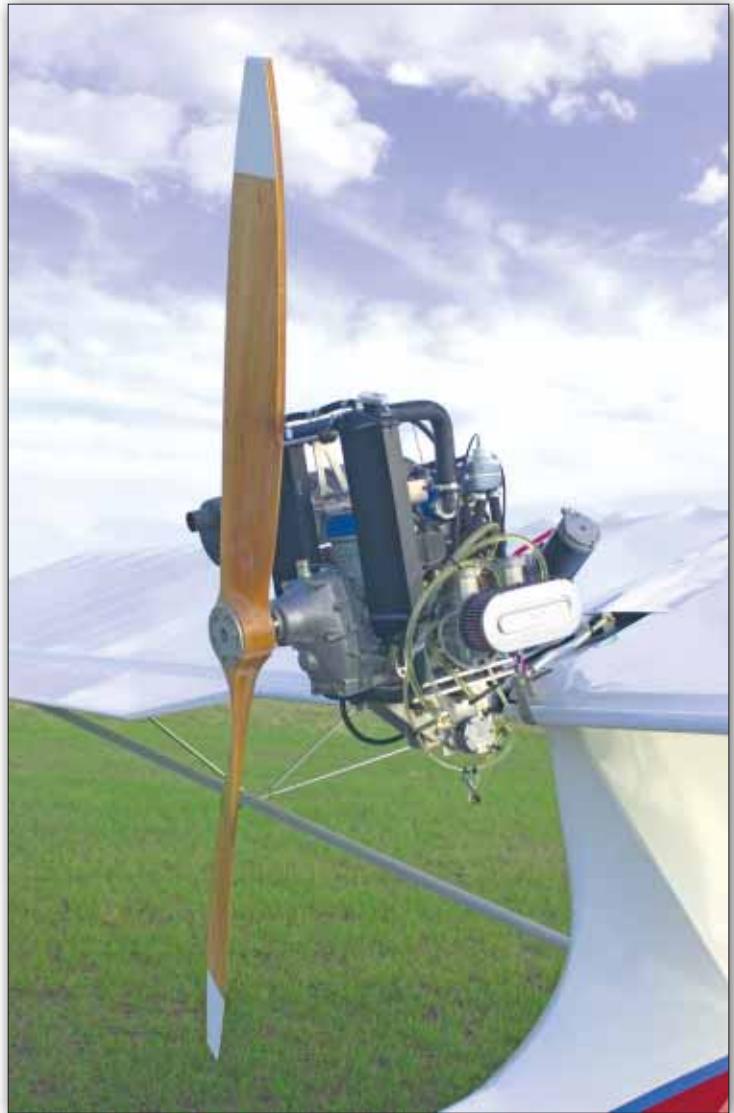
...And Departing From It

Karr then set about departing from Challenger norm in the quest for a better airplane. For example, he stretched the fuselage some to make the tandem cockpit less cozy between the two seats. This is seldom a bad thing if all the weight and balance considerations are dealt with; no pilot ever minded more room.

The other big design departures:

- The Excalibur employs a standard front nose pod and windscreen to enclose the instrument panel, rudder pedals—generally the front of the machine—while the Challenger employs a more-encompassing cockpit-forward structure with stringers to support a fabric finish.

- The Excalibur's main gear uses aluminum legs with



One change Excalibur owner Tom Karr made from the Challenger on which he based his creation was to use the standard Rotax engine and upright gearbox, as shown here with the 582 on the factory demonstrator. The difference puts the thrust line above the wing and allows power changes to influence pitch settings.



bungee suspension and fixed braces, while the Challenger uses spring legs and cable bracing on its main gear legs.

- Karr's Excalibur mounts the pusher powerplant upright instead of inverted in order to use the Rotax gearbox. Quad City mounts the engine inverted and employs a belt to drive the prop on the Challenger.

- Finally, the Excalibur's control system employs torque and push-pull tubes to make the connection between the stick and elevators and ailerons. The rudder pedals connect through cables. The Challenger uses an entirely cable-actuated system. Meanwhile, the Excalibur's tail surfaces are somewhat larger than those on the Challenger because, in Karr's words, "they look and work better."

An observant set of eyes would likely notice other differences between

The Excalibur's instrument panel provides sufficient space for anything from a simple set of gauges to a full panel with electronic instruments and avionics. The mechanical brakes activate with a pull on the motorcycle-style lever mounted on the center stick.

these two very similar airplanes. But in terms of design differences, these are the most notable and the ones Karr stresses on the Excalibur web site.

Test Bed: Typical Excalibur

The Excalibur flown for this report was newly finished by the factory staff, according to Karr, and showed off nicely what a well-constructed version should be. The fit of the SuperLite covering system and finish of the paint presented well and invited a close examination.

The pull rivets used were well set and symmetrically installed; the control surfaces links on the tail and full-span ailerons were visible and easy to check. The gear attachments and installation of the shock bungees were well executed, as well. The airplane had nylon locking nuts installed in all critical locations. Safety wire, however, was rare.

Stepping over the cockpit sill wasn't as difficult as I imagined, once a friendly hand raised the tail to plant the nose back on the ground. After I settled into the front seat, fastening the belts and adjusting to allow me to reach anything on the panel, factory demo pilot Buddy Shelton settled into the back. He talked me through the process of starting the Rotax 582 installed on the factory bird. After priming the engine, give it a little choke, crack the throttle, hold the hand brake and turn the key.

The 65-horse engine fired quickly and settled into that low, metallic growl of a two-stroke Rotax and its gearbox rousing from slumber, and the two-blade wood prop whirred quietly.

After a short taxi to the runway, the Rotax humming nicely, I gave the powerplant a complete magneto check, cycled the throttle up and down to assure myself of full travel, then turned to watch the tail surfaces respond to a quick control-linkage check.

A Few Surprises

In line with Buddy's coaching, my plan for the first departure called for a neutral stick, full throttle, ease back on the stick at 40 mph, fly away at 45 and accelerate to 60 to keep an unimpaired view over the nose during the climb to pattern altitude.

J.P. Instruments



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For reasons not understood at the time, the Excalibur followed its own plan, accelerating to more than 60 mph before lifting off and then increasing pitch angle rapidly—until, that is, I eased off the aft stick pressure needed to achieve rotation.

Nose lowered, the Excalibur accelerated quickly toward its posted red line of 100 mph indicated, so a power reduction seemed the sane thing to do. Eased back the power to about 65 percent—and the nose pitched up strongly.

Somewhere in my mind, a light bulb began to glow with a thought: Add some power.

And the nose pitched down. *A-ha!* It's that high thrust line. Maybe, just maybe there was a good reason for the Challenger's inverted engine and belt-drive apparatus that placed the prop hub closer to the waterline of the aircraft.

At any given power setting, the

Excalibur responded easily to pitch changes. Finding a trim setting, though, wasn't difficult, I found on subsequent flights.

For the moment, though, my first instinct was to fly the pattern once and return to land where I could better talk with Buddy about my flight.

Long since level at pattern altitude—and still over the runway—I kept the Excalibur on runway heading until passing over the departure end.

A Turn For the...

Turning for the pattern, I eased in some right stick...then some more right stick... *then some more.* A few heartbeats later, the Excalibur finally unstuck from its heading and started rolling to the right as desired. The Excalibur exhibited little adverse yaw—one of the claimed benefits over the Challenger, by the way—but a little rudder improved its response turning from the crosswind leg to downwind.

We flew at about 75 mph until easing back on power in search of a 700-fpm descent; working to decelerate to 60 through a descending turn to base and got a bit past 900 fpm before rolling level briefly. Starting the turn to final, the Excalibur still felt resistant to aileron input, but once roll started the plane coordinated easily with little rudder needed.

The transition to ground bound from airborne worked OK after Buddy stopped me from cutting power from my descent setting—not a good place for another unanticipated pitch up. So, I tried to hold off the nose through the ground effect of a 50-mph arrival—but the Excalibur plonked down with a solid three-point finality that made no mistake of its intentions. *We were down.*

So, What Happened There?

Thinking about the quick flight: The handling seemed sluggish...no, make that roll felt sluggish to downright resistant to normal input. In pitch, it lacked noth-

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Excalibur *continued*

ing in response. But the power-related pitching action was worse than most airplanes of this type that I know of. But nothing to this degree in the CGS Hawk or Hawk Aero; not the Quicksilver GT 500 or Sport; not the Kolb designs or Drifters flown in my past. *Not like this.*

And then there's the rotation glitch. Is the reluctant pitch-up on takeoff roll related to the thrust line under power? Is it control architecture or air over the tail? Or is it weight related—that is, with less weight would the elevator work more willingly?

We sure weren't overweight, not by Karr's numbers. Buddy, myself and about 8 gallons of fuel came to less than 450 of the Excalibur's 500-pound useful load; maximum gross weight is 950 pounds.

Leaving Buddy behind—actually it was, "Let me out and you try it solo," he chimed in when I stopped—and the Excalibur transitioned to airborne more quickly and climbed faster, as you'd expect.

Solo, the nose did rise slightly sooner, but still far later than my stick position requested and with more pressure than necessary. (This is, in retrospect, a classic pitch bauble in which the airplane requires a lot more up elevator to rotate than it needs to sustain the desired climb attitude. Even a few production airplanes have this glitch. Typically, this aberration is the result of the main landing gear being placed a bit further aft than is ideal.) In flight, the pitch changes with power was about the same, too.

However, the Excalibur did feel slightly lighter in the ailerons. Not more responsive in roll, overall, just less pressure needed to hold the desired bank angle until it rolled after the now-expected delay.

In talking with Buddy, my demo pilot, he suggested the weight might be the issue, but not in the way I was thinking. Might a lighter front-seat pilot experience a different result? Could the fuselage stretch that Karr implemented several years ago have put the front seat a little too far for-



Simple bolt-together hardware makes up the bungee-sprung main landing gear and strut-to-fuselage attach points.



The nosegear of the Excalibur is a simple assembly that suffered a little from firm landings or quick turns on the ground.

ward? Buddy, some 20 pounds lighter, took my place, headed to the runway and powered away, flew the pattern then returned. The plane seemed to come off the runway a little quicker with Buddy; but it still took considerable aft stick, he said.

Other Traits to Note

Some aspects of the Excalibur were not so challenging, others equally so. Together they make up a picture of a plane not quite as mature as some of its kin.

The reluctance to roll remained unchanged in several subsequent hops. Leading firmly with rudder improved the response, as noted before. But roll pressures felt

disproportionately higher than pitch pressures at any given speed and response equally proportional—almost too fast in pitch, too slow in roll. One possibility is that the switch to a push/pull roll system resulted in the loss of some stick leverage; if you've ever flown a faster Mooney, you know what heavy roll is like, and it's for the same reason. (In subsequent discussions, Karr revealed that the 2006 model will have shorter, 6-foot-long ailerons, which should reduce effort slightly—although it's also likely that they'll have a bit less effectiveness.)

The rudder centered itself with zero input; input, though, required more pressure than pitch and less than roll—and response was swift. The hardest aspect of the light rudder for me came in dialing up a centered ball without yaw oscillation.

The pitch-trim system was installed to work backward; pushing the lever forward trimmed the nose up and vice versa. Maybe my earlier pitch problems were trim-system related? Nope. Even with that quirk taken into account, the pitch difficulty remained.

Power-off stalls solo arrived straight ahead at somewhere around the 30 mph indicated Karr's specifications describe. Power-on stalls really didn't come at all; the Excalibur sort of mushed into a nose-high sink of low to moderate rate—175 to about 300 fpm. The rudder provided plenty of power to keep the ball centered.

During one approach through particularly smooth air, the Excalibur let me dial in my approach and fly the airplane to the runway. The stick was near full aft, but balancing power let me touch down with something akin a flared landing's lightness. The nose barely trailed the mains in touching that time, the closest I came to a two-point landing in this trigeared aircraft.

Performance Aspects

Cruising along, the Excalibur keeps up a good clip for its power, showing about 75 mph at about 70 percent power and 2500 feet.

And there's no doubt the view from either seat is quite good. The clear screen mounted to the Excalibur cock-



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Excalibur *continued*

pit fairing affords a good view over the sloped nosecone. The placement of the lift struts leaves the front seat ahead of all four for a great view all around.

No Bonding Here

We who do flight reviews are only human—and, after all, humans are intended to fly these things. And I confess that a light plane of the Excalibur's ilk usually starts feeling comfortable to me after an hour or so. Getting under my belt a handful of approaches, a couple of stalls, couple of normal landings, a short-field version, a slip and a rejected landing should have given us a chance to get to know one another, this little aircraft and me. But the Excalibur merely shook hands with me; we never found a comfort level that let us embrace. (At least it didn't hit me over the head.)

Whether this Excalibur represents the typical owner-built example, I can't



The elevators (and ailerons) move through a series of push-pull and torque tubes while the rudder gets its movement from a cable system; all control surfaces come pre-assembled and ready for hinges and finishing.

honestly say. But my past encounters with factory-built versions of any kit have conditioned my expectations for an incarnation as close to perfect as possible. Maybe not fitted with all the goodies and gadgets an indulgent owner might install; but certainly with the best possible flying traits.

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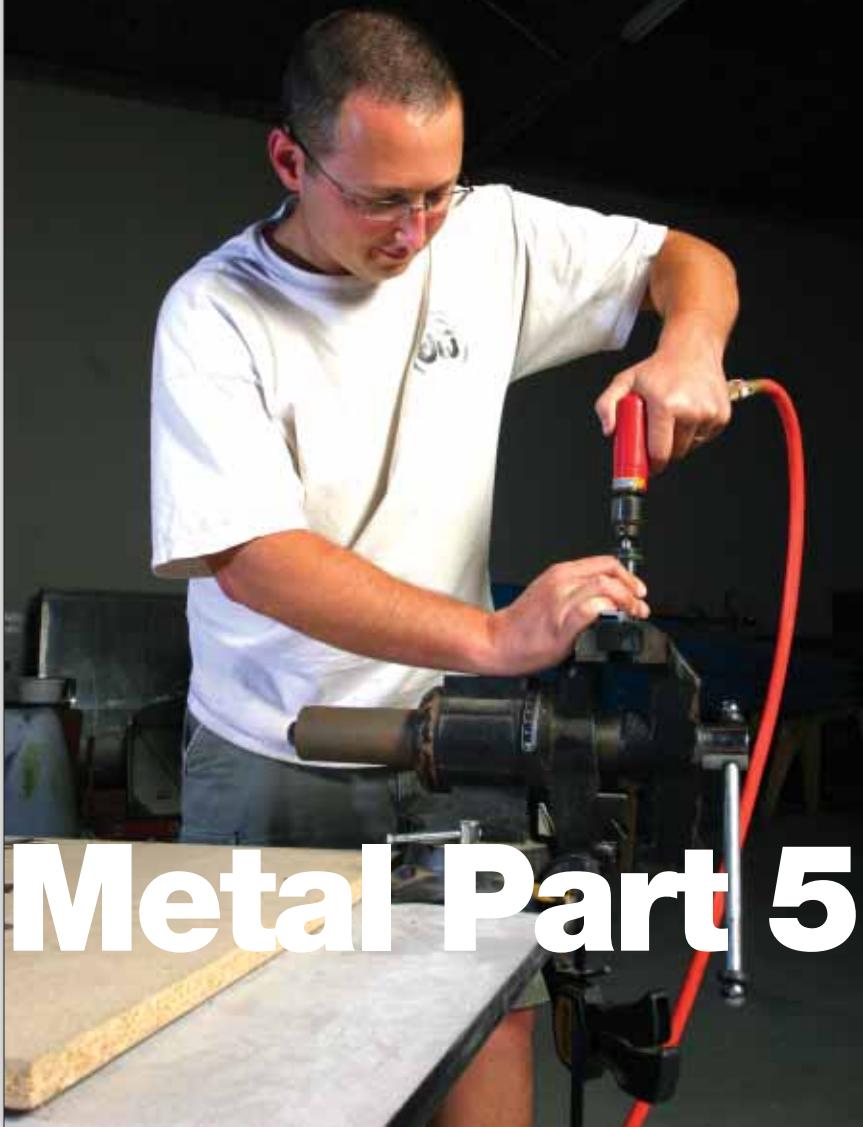
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Build Your Skills



Metal Part 5

**When is a dimple not a dimple?
When it's a countersink.
Dig in to find out more.**

BY DAN CHECKOWAY

We left off last month on the topic of countersinking holes for flush fasteners. In the November issue, we covered dimple countersinking, and this month we'll dive right back in and talk about machine countersinking. (For those of you just joining the series, dimpling is used to create a bevel in thin material whose purpose is to accommodate flush rivets or countersunk-head screws, while what is most often called machine countersinking is reserved for thicker materials.)

We'll be using an entirely new set of tools for this—and this time we'll be making a mess. Some hardened airplane builders would argue that you're not a true

builder until you've tracked aluminum shavings through every room of your house—as well as the carpet in your car or truck. Let's make a true builder out of you...

The Longer Example

Let's look at a specific example of countersinking a thicker material—say we're talking about the longerons on your fuselage, which are usually 1/8-inch thick or so. You've got a skin that's .025-inch thick that will be riveted to the longeron, and you've drilled all of the holes. As you know from last month's Build Your Skills, that skin can be dimpled. The longerons, however, which are thicker than the .040-inch dimpling threshold, can't be. They must be machine countersunk.

In this process, you're actually going to cut away material, forming a crisp, clean bevel around each hole. The bevel needs to be the same size as the dimple in the skin, so that each countersink forms a perfect home for the respective dimple.

At the core of the countersinking task is the cutter. A countersink cutter is like a drill bit in that it threads into a shaft that gets spun by a drill, and it cuts through metal. But that's where the similarities end. First of all, the cutter has an integral "pilot," which is just a smooth shaft with a rounded tip that sticks out the front. The pilot doesn't do any cutting. It will be the same size (or a few thousandths of an inch smaller) than the hole you're countersinking.

The purpose of the pilot is to keep the cutter centered as it does its job. Past the pilot is where the cutting portion of the tool begins. The cutter tapers out to a larger diameter, with the taper being 100° from one side to the other. This coincides with the 100° angle of aircraft rivets, screws and other types of fasteners. 100° is the industry standard...we'll get into that in more detail in a bit. The flutes are just portions of the cutter that have been cut away, leaving a sharpened edge that essentially "shaves" the material as the cutter is pushed into it (remember I mentioned aluminum shavings?). The deeper you push the cutter into the



The five stages of countersinking, from left to right: Too deep with the pilot going off center and causing chatter; still too deep but at least it's smooth; just right; too shallow; and way, way too shallow. Trial and error, together with careful setting of your microstop bit, will help.

material, the more it cuts away, and the larger the countersink will be. The goal is to form a countersink that is just large enough, no bigger and no smaller, than the fastener (or dimpled skin) that will sit in it.

Understanding the Sizes

Countersink cutters are sized in two ways—by the diameter of the pilot, and by the diameter of the cutting body. For your #40 holes, you'll use a 3/32-inch pilot cutter. For #30 holes, you'll use a cutter with an 1/8-inch pilot. And of course you want to make sure the diameter of the cutter will be sufficient for the depth of the countersinks you're making. Deeper countersinks require a cutter with a larger body diameter.

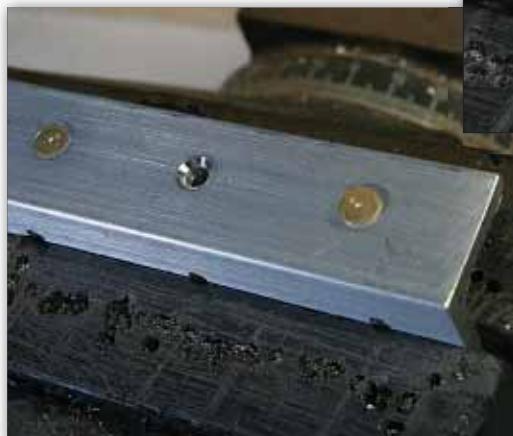
(To complicate something that's really very simple—and probably in an effort to sell more tools—manufacturers will throw variations of countersink cutters at you. You'll encounter cutters with different numbers of flutes. The three-flute version is most common, but you'll see vendors selling “chatterless” single-flute and even zero-flute designs. Want to spend another couple of bucks? Hey, knock yourself out. Let me know if you can tell the difference. I'm not saying there isn't value in

these improved designs, but I think for most of the small, simple stuff we're doing on these projects, perhaps it's overkill.)

Countersink cutters usually have a male 1/4-28 threaded end, which is the same size as threaded drill bits and various other drilling/cutting attachments. In theory, you could just thread a cutter right onto the end of the shaft that you've got chucked in your drill, and you could start countersinking right away. Just insert the pilot into the hole you're about to countersink, spin the drill up, and push the cutter toward the hole. Done deal, you've got a countersink.

Actually...Don't!

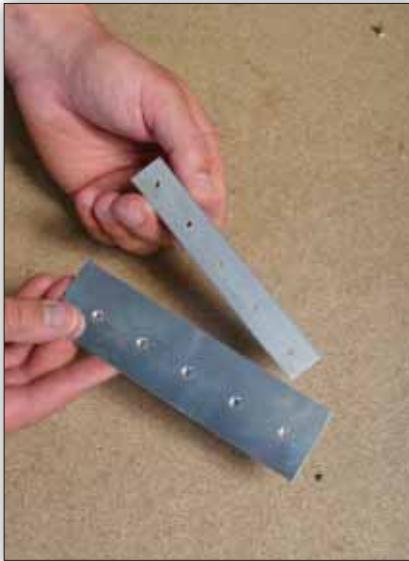
Whoa there, big feller. While that method surely works to form countersinks, think of the hundreds (or thousands?) of holes you have to countersink. How can you ensure that each one is just perfect, just deep enough for the rivet that sits in it? If you're cutting by hand,



The problem when the countersink is too shallow (as shown by the right most rivet at left) is that the head isn't fully contacting the material and, therefore, the joint will not be full strength. Above: You can feel when the rivet “stands proud” of the material.

Metal Part 5 continued

estimating by feel or by eye, you're gonna mess up a lot of holes. As I mentioned, you want to form countersinks of a precise size. Assuming we're talking about rivets sitting in these countersinks, if your countersink is too shallow, the rivet will sit above or "proud" of the surface. That's not only aesthetically unsightly, but it's structurally undesirable—part of the rivet isn't even touching the material and as a result the rivet isn't able to do its job fully. Mess up in the other direction—



This is a typical example of melding dimpling and countersinking. The thin material (below) needs to "nest" with countersinking on the thicker material (above).



More tools of the trade: Countersinking bits come in various flavors. The number of flutes isn't really critical. The nub at the end is the pilot, which is fractionally—but just fractionally—smaller than the hole you'll be countersinking.

cutting a countersink too deep—and the rivet will literally be loose in the hole, which is another structurally undesirable effect.

So what's the secret to forming absolutely perfect, identically uniform countersinks over and over again? It's no secret, and as you may have guessed, it comes down to having yet another tool. Tired of expanding your tool arsenal yet? Heh... didn't think so!

The Mighty Microstop

The "microstop" cage is the tool for this job. If I had to come up with an analogy for this one, it would probably be like turning the business end of your drill into a drill press with an adjustable depth stop. Sort of.

The microstop is difficult to describe in writing, but if you had one in hand you could fully understand it within about 10 seconds of playing with it. I'll give it a shot, though. The microstop has a shaft that you chuck in your drill. The shaft goes through the body and has a 1/4-28 female threaded end, into which you screw the countersink cutter. The body, or the "cage" rather, is free to rotate around

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the shaft. It's actually the cage that stays stationary while the shaft rotates inside of it. The cage rests on the work, and you just press the drill and thus the cutter into the work. The cage and shaft have limited motion relative to each other, and the range of motion is adjustable—usually in increments of about one thousandth of an inch. The idea is that as you push the cutter into the work, no matter how hard you press, that cutter is going to stop when it hits the adjusted limit. It won't cut any deeper than that.

Basically what you do when getting started with a countersinking task is initially set up the depth stop by eye—to a depth that is perhaps close to the final desired depth, but definitely

erring on the shallow side. From there you give it a try on the hole. Drop the rivet in to see how it sits in the countersink. It should not fit perfectly—yet. In small, conservative increments, you want to increase the depth adjustment and re-test it. If you happen to overshoot a little, don't sweat it—just back the adjustment off a little and try it on the next hole. It's an iterative process, but once you're satisfied and you've got the depth you want, that's all there is to it. From there on, just leave that adjustment alone, and you should be able to form an infinite number of identical countersinks.

Something to consider is that not all microstop cages are created



These serrations on the barrel of the microstop set the depth of the cut to a very fine degree. Once set, the tool holds its calibration well, allowing repetitive countersinking with great accuracy.



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Metal Part 5 continued

equal. The less expensive variety uses bushings, and it tends to heat up quickly with use. A more expensive variation on the theme uses ball bearings or needle bearings instead of bushings, and you'll see this type



This is the proper technique: Material secured, surface free of junk, microstop face flush with the work, and a steady hand.

advertised as “heavy duty.” There is truth in that marketing. The tool kit I purchased initially came with a bushing-style microstop. It didn't take long for me to learn the difference (What's that smell? Oh yeah, those are my fingers burning...), and I upgraded to a heavy-duty model. It's well worth the additional expense, and you might consider substituting a bushing model up front for one with bearings if you have that option when you purchase your tools.

Checking Your Work

I mentioned dropping a rivet (we're talking about a flush rivet here) into the hole to determine how deep the countersink needs to be. If the rivet head will end up in the countersink, then that certainly applies. But if it's dimpled skin that will rest in the countersinks, then it's a different story. Dimples are roughly the same size as the rivet that occupies them, but they're not exactly the same. In

fact, it depends largely on the thickness of the skin. So how do you determine the proper countersink depth for dimples in different skin thicknesses?

Easy, actually. What you'll want to do is take a small strip, about 1-inch by 2-inch or so, of each common thickness of sheet aluminum that you're likely to encounter—.016-, .020-, .025-, .032- and .040-inch. After you cut each strip out, mark its thickness right on the strip with a marker. Drill, deburr and dimple a #40 hole in one end of each strip. Then drill, deburr, and dimple a #30 hole in the other end of each strip, and make sure the dimple is oriented opposite to the #40 dimple. These are your “test strips.” Keep 'em in your tool chest. You now have a quick way of determining appropriate countersink depth for each sheet thickness, for both of the common hole sizes. Need to form a countersink for a #30 dimpled hole in .032 skin? Grab the appropriate test strip, and see if it fits in your countersink.

What's a good fit? There are two criteria. First of all, you want the dimple to fit entirely into the countersink. Push the test strip's dimple into the countersink—you shouldn't be able to see any light between the test strip and the countersunk piece. Now push the test strip around with your finger. Can it move relative to the countersunk piece? You don't want to have any slop in there, otherwise the countersink is too deep. It takes just a bit of practice and experimentation (use scrap!) to figure out just where that sweet spot is.

Some builders purchase several microstop cages and cutters up front, and they adjust and mark each one for a very specific setup—which they never change. If money is no object, this is certainly one way to save time. But microstops aren't cheap, especially the good ones, and there are literally dozens of configurations that need to be accounted for. So unless you're made of money, get used to adjusting your microstop for one task, and then readjusting it for another.

There are a few common problems associated with countersinking. We mentioned that the cutter has a pilot, the little shaft sticking out. The idea is that the pilot keeps the cutter centered in the hole, but it also serves to stabilize everything. If it weren't for the pilot, the cutter would be free to wander off, and then you've

To have an easy way to check your countersinking, make up simple test strips from the skin material you'll be using, and mark them carefully so you don't get confused.





Take extra care to keep shavings out from under the microstop face.

got an oblong countersink.

Likewise, if the pilot “runs out of” material, there is no longer anything stabilizing or centering the cutter. What happens is that the cutter will start to chatter, and the countersink formed will be nothing short of ugly. If the countersink is rough, has ridges, or is anything but smooth and shiny, it’s probably a result of the pilot running out of material—or not having deep enough material to begin with. When you’re countersinking relatively thin material, it’s key that you plan and watch for this condition. The best remedy is to have more material behind the work, into which the pilot can continue to insert and do its job. You can use wood, aluminum, plastic, or whatever you’ve got lying around. Any time you’re countersinking thin stuff, keep this in mind.

Deep Thoughts

The other problem is where you’re seeing inconsistent countersink depths, despite having adjusted the microstop and not having touched the adjustment. This one can be baffling, but it’s really quite simple. If you allow even the smallest shaving to get between the cage and the work, it elevates the cage. No matter how slightly it gets



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The “suicide” mode for countersinking in tight confines has the bit placed on an extension and then into your drill. Be careful!

lifted, you will notice it in the depth of the countersink. Even one or two thousandths can make a big difference. It's important to make sure the face of the cage and the work itself is clean before you seat the microstop and start cutting. Literally every hole you countersink is going to throw shavings around, so you should wipe or blow the shavings out of the way after every hole.

Something else to consider is that if you're countersinking against a flat surface, there should be no need to readjust the microstop as you go. But if the surface you're countersinking curves, or if you go from a flat area to a curved area, you can expect to have to readjust the microstop as the contour changes. This is because of the way the cage sits on the surface—it will either bias the work closer to the cutter (convex curve) or further away from the cutter (concave curve). The larger the cage diameter, the more pronounced



A countersink too far: If you run the cutter too deep, it will cut through far enough to enlarge the center hole. Stop, go back and do it again.



Check your work with your test strips. The back side of the dimple should fit against the countersink with very little free play, and the back edge of the strip should sit flush with the work.

this effect will be. The adjustment required on a changing curve might be very small, but you want to test the depth after every hole or two to make sure you're not over- or under-countersinking.

Emergency Procedures

You may occasionally get into a situation where there's not enough room for the microstop cage to fit—i.e. a hole that's very close to a protruding flange or some other nearby structure. It's unusual, but this scenario does come up from time to time in every project.

Another situation is where the hole is adjacent to a joggle, in which case the microstop doesn't have enough surface to rest on to keep it stable. Tool vendors sell microstop cages of smaller diameters, which sometimes helps solve the problem. By using a really narrow microstop, sometimes there's enough adjacent surface area where the cage can rest.

But sometimes even the narrowest cage won't fit, in which case you've got at least a couple of options. Some people actually cut away a chunk of the cage face so it can be used closer to edges and joggles. That might work. If not, or if you don't want to mutilate your fine tool, you'll need to form the countersink in “suicide” mode. That entails putting the countersink cutter on the end of a threaded drill extension, and you'll have no means of stopping the depth of the cut automatically. This can translate into trouble if you overdo it—so be very careful to go slowly and gently. It's best to attack this countersink iteratively and creep up on it.

That's the deal on machine countersinking. It helps to practice on scrap but, once you've done the process a few times, it will seem easy. Next month, we'll actually start riveting. †

Dan Checkoway is an RV-7 builder—now flyer—and developer of the RV Project web site (www.rvproject.com). He can be reached at dan@rvproject.com.

MEET THE T-MOOSE

Adding a fine whine to Murphy's outsized amphibian.

BY ED WISCHMEYER



represents something of an early effort. Developments are ongoing to add vortex generators to the wing and tail plus extended, drooped wing tips that can reduce stall speed by 10 - 12 mph, allowing liftoff at lower speeds and correspondingly shorter takeoff runs on the water. Incidentally, the PT6A is derated to 450 hp in this application, so it should run cool and long.

Big In, Big Out

The Moose is appropriately named, as there was plenty of room for two of us in the back seats, with a huge baggage area behind us. On land, the extra height of the

What does every floatplane pilot want? More power, of course. It's not for speed, because with the floats and all of the struts and wires, floatplanes have the aerodynamics of a drag 'chute—or maybe a nice side-by-side refrigerator with the doors open and the icemaker going full swing.

No, that power is for hauling those floats across the water, fighting hydrodynamic drag, and then for hauling the whole kit and kaboodle up and over the trees at the edge of the lake. When the lake is small, the temperature high and the load heavy, there's no such thing as too much power.

So where would all that power come from? A lightweight turbine engine, of course, but instead of one of the popular (because they're inexpensive) Walters, how about a Pratt & Whitney PT6A-20? No way that's in the budget, you think.

Think again. Seems the Army had 140 U-21s (known to the rest of us who pick our own wardrobe in the morning as A-model Beech King Airs) with Pratt T74-CP700 engines, really just 550-shaft-horsepower PT6A-20s without civilian data plates. When the airplanes became surplus, Dynamic Aviation of Bridgewater, Virginia, bought the whole lot. Those engines aren't usable on certified airplanes, but are fine for Experimentals. Most have 3000–3500 hours since overhaul and a fresh hot-section inspection, and can be run to around 8000 hours.

Partners in Whine

The T-Moose you see here was developed by Aerotek Aviation in Saint-Augustin-de-Desmaures (don't say Quebec City), Quebec, Canada, and, naturally, employs a new cowling and firewall-forward hardware to replace the Vendeneyev M14-P. With the Pratt of the experience listed above, the entire kit is \$95,000; plus, of course, the cost of the rest of the Moose. The airplane seen here wowed the crowd at Oshkosh but

amphibious floats means that you scramble and clamber up into the plane. With four on board and sufficient fuel for the mission—and those big amphibious floats dangling below the fuselage—we were at maximum gross weight. It was nothing for the Pratt on the firewall, though. Acceleration off both pavement and water was obvious and impressive—and smooth! Aside from the predictable jarring of a water landing in waves, this was one smooth—meaning comfortable—ride.



An interesting mix: Two big control sticks and two big-screen Blue Mountain EFIS panels. Call it the modern bushplane.

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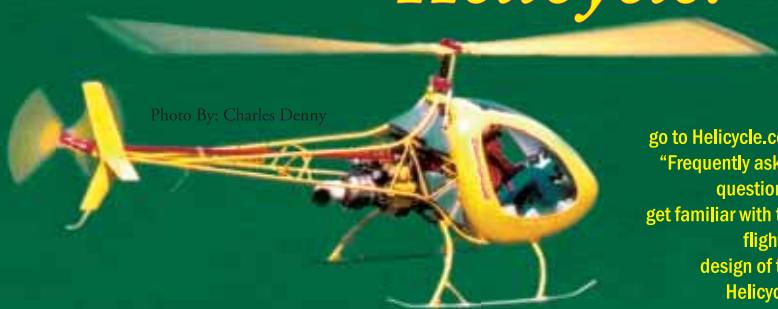


Photo By: Charles Denny

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Turbine Moose *continued*

Going Backwards, Too!

The turbine engine and reversible prop are great for water maneuvering. Airline pilot and Moose owner Vincent Gagnon approached the dock at the AirVenture seaplane base, then backed away, several times, as if ritualistically marking our aquatic turf before rival gangs. Who would argue?

Cruise speed is up with the extra power, too. If you're willing to burn 40 gph down low, you can see cruise speeds of 140 knots. Fuel prices being what they are, that's at least a dollar per knot each hour, just for fuel. Again, it's not about the speed, it's about effortless takeoff and climb performance.

The T-Moose is a hauler, but it's not cheap. The engine FWF package nearly a hundred grand, the basic airframe and the amphibious floats approach another hundred grand, and then figure another hundred for avionics, paint, miscellaneous goodies, and the prop—this one is a three-blade MT. Still, this is one plane where an obsessive gadgeteer could indulge expensive fantasies and still carry a decent payload. And, the price is much less than a Cessna 206 on amphibians, says Gagnon. Floatplane flying is some of the most fun there is—especially if you're not worrying about getting you and all your stuff off the water and over the trees ahead. †

For more information, contact Aerotek Aviation at 418/802-5278 or visit www.aerotekaviation.ca. Also, try Murphy Aircraft at 604/792-5855 or visit www.murphyair.com.

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Just like it belongs there: The 450-hp PT6A provides the urge to lift one large floatplane out of the water and over the trees.

KITPLANES

READER'S CHOICE AWARDS 2005

Grand Prize

RESULTS COMPILED BY JULIA DOWNIE

For the second year in a row, the polls have closed and the results of our Reader's Choice Awards are final. If you've watched the barrage of new products that debuted in the last year or so, you'll be interested in the findings.

Before we get to the details, a quick overview of how this process worked: In the July 2005 edition of the magazine, we published a ballot listing 15 survey questions and possible responses. Participants either filled out the survey and mailed it in or visited our web site, www.kitplanes.com, to complete an electronic version of the ballot. Voting extended through August 31, and the results were tallied the next day.

Every respondent was automatically entered into a drawing for the four prizes offered. A random drawing was held during the first week of September, and winners were notified shortly after. Their names are listed below.

Want to get in on the deal next year? Check the July 2006 issue for our next ballot. And, if you have suggestions on good questions for the ballot, e-mail us at editorial@kitplanes.com.

Now, on to the results...



GARMIN iQUE3600A PDA-BASED GPS

Robert Bullock, Abilene, Texas

First Prize



Sigtronics Sport 2005 Intercom

James Kale, Enterprise, Alabama

Second Prize



Aircraft Tool \$100 Gift Certificate

Maynard Oesch, Davis City, Iowa

Third Prize



Comm 1 VFR Radio Simulator Software

Loren Lunsford, Chandler, Arizona

Reader's Choice continued

1. Of the two-seat "fast glass" kit aircraft available today, which interests you most?

Lancair Legacy FG	22%
Lancair Legacy RG	20%
Glasair III	16%
Esqual VM-1	8%
Turbine Legend	8%
Glasair IIS	7%
Other	6%
Dynamic WT-9	3%
Dynamic WT-9 Retractable	3%
Team Tango Tango 2	3%
Esqual Retractable	2%
Formula GT	2%

Write-in votes included the Radial Rocket and Pulsar among the leaders.

2. Of the three-or-more-seat aircraft available today, which interests you most?

Van's RV-10	33%
Velocity	12%
Murphy Moose	9%
Lancair IV	8%
Jabiru J400/J450	7%
Zenith CH-801	7%
Murphy Super Rebel	6%
Other	6%
Lancair ES	5%
Aerocomp Comp Air (4, 6 or 7)	4%
Dream Tundra	2%
Four Winds	1%

Write-in votes included the Cozy MK IV and the Avipro Bearhawk among the leaders.

3. Of the utility kits available today, which interests you most?

Glasair Aviation Sportsman 2+2	23%
Murphy Super Rebel	18%
Zenith 701	14%
Glasair Aviation GlaStar	12%
Murphy Rebel	12%
Zenith 801	11%
Other	7%
Dream Tundra	3%

Write-in votes included the Avipro Bearhawk and the Smith Aviation Super Cub among the leaders.

4. Of these low and slow kits, which interests you most?

RANS S-12 Airaile	18%
Titan Tornado	16%
Quad City Challenger	12%
Kolb Mark III	12%
Fisher Flying Dakota Hawk	10%
Other	10%
Quicksilver GT 500	9%
CGS Hawk	6%
Flightstar IISC	5%
Golden Circle T-Bird	2%

Write-in votes included other RANS designs and the Kitfox among the leaders.

5. Which aerobatic/sport flying aircraft interests you most?

Van's RV-4, -7, -8	42%
Mustang II	15%
Sonex	13%
Pitts Model 12	11%
F-1 Rocket	7%
RANS S-9 Chaos, S-10 Sakota	4%
Aviat Eagle II	3%
Other	3%
Culp's Special	2%

Write-in votes included other Van's designs (the RV-3 and -9) among the leaders.

6. Which kit helicopter do you currently own or would you most like to buy?

Rotorway Exec	63%
Canadian Home Rotors Safari	10%
Vertical Aviation Technologies Hummingbird	8%
Eagle R&D Helicycle	6%
American Sportscopter UltraSport	6%
Innovator Tech Mosquito	4%
Elisport CH-7 Kompress	3%

7. Which company makes the 360-cubic-inch engine you currently own or you'd most like to buy?

Superior Air Parts	37%
Textron Lycoming	30%
Teledyne Mattituck Services	13%
Engine Components Inc.	10%
Teledyne Continental Motors	10%

8. Would you be willing to build your own engine from a kit?

Yes	79%
No	21%

9. Which emerging avionics technology do you feel is most important?

In-flight weather depiction	30%
GPS-based precision instrument approaches	30%
Terrain mapping	20%
Collision avoidance	17%
Other	3%

10. Which company makes the audio panel you would most like to buy?

Garmin	41%
Bendix/King	24%
PS Engineering	23%
RST Engineering	9%
Other	3%

11. Which company makes the panel-mount comm radio you would most like to buy?

Garmin/AT	40%
Bendix/King	30%
Icom	19%
Becker	4%
Narco	4%
Other	3%



Van's Aircraft RV-10 topped the list of most interesting three-or-more-seat aircraft.



Lancair's sleek Legacy grabbed the top two slots in the two-seat "fast glass" category, with the fixed-gear FG just shading out the quicker, but more expensive RG (shown).



Superior edged the factory for the most votes as the manufacturer of a 360-cube engine.



In-cockpit weather was voted as one of the top avionics innovations.

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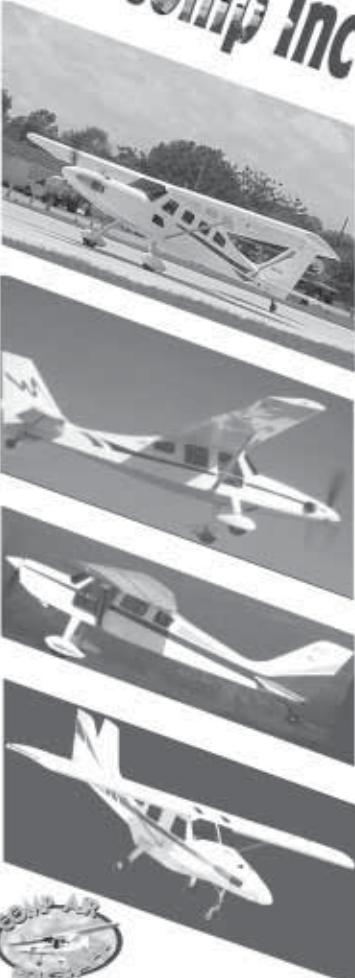
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Reader's Choice continued

12. Which company makes the autopilot you would most like to buy?

TruTrak (DigiFlight)	37%
S-Tec	21%
Century Flight Systems	17%
Trio Avionics (EZ Pilot)	16%
Other	9%

Write-in votes included Chelton as the leader.

13. Which company makes the headset that you would most like to buy?

Bose	41%
David Clark	25%
Lightspeed	16%
Flightcom	6%
Sennheiser	5%
Telex	4%
Other	3%

Write-in votes included Sigtronics and Peltor among the leaders.

14. If you are considering buying a new headset now, how important is active noise canceling?

Very important	67%
Nice but not the main selling point	29%
Not important	4%

15. If you plan to participate in the new Light-Sport Aircraft category, would you purchase:

A new Light-Sport kit (ELSA)	43%
I don't plan to participate	32%
A new ready-to-fly Light-Sport airplane (SLSA)	11%
A used certified aircraft that meets the specs	8%
None, my current plane meets the specs	6%



Are you considering any kind of participation in the new Light-Sport Aircraft category? Fellow readers said they are more likely to build from an Experimental LSA kit as opposed to purchasing a ready-to-fly Special LSA. This Legend Cub is offered as an SLSA now, but the company says interest in an ELSA version has been significant.

Kit Aircraft Directory 2006

COMPILED BY JULIA DOWNIE

Once again, the annual aircraft buyer's guide season is upon us, and this year's edition comes with a few changes. As always, this issue contains all designs that can be built from kits, and the January issue will feature plansbuilt designs. The real shift comes in February's content. With the Light-Sport Aircraft (LSA) category firmly in place more than a year after its introduction, we decided to compile a directory of the designs that have earned their initial Special LSA certificate, the document that allows a company to begin selling ready-to-fly SLSAs and advanced kit Experimental LSAs. That directory will replace our compilation of trikes and powered parachutes. Rotorcraft designs (helicopters and gyroplanes) will be listed in the February issue as well.

Time for the confusing part. For this issue's kit aircraft portion of the directory, we have again decided to note those designs that meet the LSA definition, according to the specs provided by the manufacturer. How is this different from the LSA directory we'll publish in February? Well, in this kit directory here, we're not indicating whether any of these designs will actually be sold as LSAs. We're simply noting the fact that a pilot with the necessary qualifications can operate these planes (regardless of how the plane itself is registered) as a Sport Pilot.

In other words, you can fly your Experimental/Amateur-Built aircraft as a Sport Pilot (without a current medical, assuming it hasn't been denied, suspended or revoked) as long as it meets the specs. To do this, you must be a Private or Recreational pilot or have earned a Sport Pilot license since the LSA rule was unveiled.

Some words of caution, however. First, keep in mind that we're basing these LSA Legal marks on manufacturer-provided numbers. Second, whether an airplane meets a certain specification is not always a black-and-white matter. A different propeller might slow an airplane enough to get it under the maximum speed requirement—that's not necessarily reflected in these numbers, however, so we may not have marked the design as LSA Legal. The bottom line: Before you consider building any of these designs, make sure to talk to the aircraft manufacturer and talk to your local FSDO if you plan to operate as a Sport Pilot.

A few new designs have been added this year for a total of 343 kits, and companies that did not respond to numerous attempts to contact them were dropped entirely. Note that we only list companies that can provide an authorized North American dealer.

Key to the Directory Codes

Not applicable	n.a.
Information was not provided	n.p.
Retractable gear	R
Composite	C
Metal	M
Wood	W
Tubing	T
Fabric	F
Meets the parameters of the Light-Sport Aircraft rule	

A.S.A.P. Beaver RX-550 Plus	Landing Distance, ft.	250	No. of Seats	2	
Top Speed, mph	85	Engine Used	Rotax 503	Landing Gear	trigear
Cruise, mph	73	HP/HP Range	50/50-65	Bldg. Materials	T
Stall, mph	37	Fuel Capacity, gal.	9	Beginner Build Time, hrs.	220
Range, n.m.	200	Empty Weight, lb.	430	No. Completed & Flown	2000+
Rate of Climb, fpm	900	Gross Weight, lb.	1050	Cost	\$10,300
Takeoff Distance, ft.	250	Length, ft.	20.8		
		Wingspan, ft.	32	www.ultralight.ca	
		Wing Area, sq. ft.	154.5	250/549-1102	



A.S.A.P. Beaver SS	Landing Distance, ft.	65	No. of Seats	1	
Top Speed, mph	85	Engine Used	Rotax 447	Landing Gear	trigear
Cruise, mph	67	HP/HP Range	40/40-50	Bldg. Materials	T
Stall, mph	30	Fuel Capacity, gal.	5	Beginner Build Time, hrs.	150
Range, n.m.	n.p.	Empty Weight, lb.	340	No. Completed & Flown	3
Rate of Climb, fpm	800	Gross Weight, lb.	650	Cost	\$13,150
Takeoff Distance, ft.	90	Length, ft.	17.7		
		Wingspan, ft.	31	www.ultralight.ca	
		Wing Area, sq. ft.	138	250/549-1102	



A.S.A.P. Chinook Plus 2	Landing Distance, ft.	250	No. of Seats	2	
Top Speed, mph	95	Engine Used	Rotax 582	Landing Gear	tailwheel
Cruise, mph	85	HP/HP Range	65/50-80	Bldg. Materials	T, F
Stall, mph	35	Fuel Capacity, gal.	9	Beginner Build Time, hrs.	220
Range, n.m.	300	Empty Weight, lb.	420	No. Completed & Flown	950
Rate of Climb, fpm	900	Gross Weight, lb.	1050	Cost	\$9995
Takeoff Distance, ft.	250	Length, ft.	17.8		
		Wingspan, ft.	32	www.ultralight.ca	
		Wing Area, sq. ft.	154.5	250/549-1102	





**ACD
SQ-2000**

Top Speed, mph	258
Cruise, mph	215
Stall, mph	n.p.
Range, n.m.	800
Rate of Climb, fpm	2200
Takeoff Distance, ft.	2000

Landing Distance, ft.	2000
Engine Used	Lyc. IO-360
HP/HP Range	200/180-400
Fuel Capacity, gal.	42
Empty Weight, lb.	1250
Gross Weight, lb.	2250
Length, ft.	16.85
Wingspan, ft.	28.7
Wing Area, sq. ft.	104.2

No. of Seats	4
Landing Gear	trigear/R
Bldg. Materials	C
Beginner Build Time, hrs.	1200
No. Completed & Flown	3
Cost	\$45,000
15425 Dayton Pike	
Sale Creek, TN 37373	
423/451-0209	



**ACD
SUA-7**

Top Speed, mph	185
Cruise, mph	160
Stall, mph	70
Range, n.m.	1100
Rate of Climb, fpm	1000
Takeoff Distance, ft.	1800

Landing Distance, ft.	1600
Engine Used	Chev. 502 CID
HP/HP Range	500
Fuel Capacity, gal.	150
Empty Weight, lb.	3400
Gross Weight, lb.	5600
Length, ft.	38
Wingspan, ft.	51
Wing Area, sq. ft.	289

No. of Seats	7
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	n.p.
No. Completed & Flown	1
Cost	\$300,000
15425 Dayton Pike	
Sale Creek, TN 37373	
423/451-0209	



**Ace Aircraft
Baby Ace**

Top Speed, mph	110
Cruise, mph	90
Stall, mph	34
Range, n.m.	350
Rate of Climb, fpm	1200
Takeoff Distance, ft.	300

Landing Distance, ft.	250
Engine Used	Continental
HP/HP Range	65/65-120
Fuel Capacity, gal.	17
Empty Weight, lb.	575
Gross Weight, lb.	950
Length, ft.	17.9
Wingspan, ft.	26.5
Wing Area, sq. ft.	110

No. of Seats	1
Landing Gear	tri or tail
Bldg. Materials	M, W, T, F
Beginner Build Time, hrs.	1500
No. Completed & Flown	375+
Cost	\$18,950
www.aceaircraft.net	
706/886-6341	



**Ace Aircraft
Junior Ace**

Top Speed, mph	110
Cruise, mph	100
Stall, mph	44
Range, n.m.	360
Rate of Climb, fpm	500
Takeoff Distance, ft.	600

Landing Distance, ft.	300
Engine Used	Lyc. O-235
HP/HP Range	65/65-125
Fuel Capacity, gal.	22
Empty Weight, lb.	645
Gross Weight, lb.	1225
Length, ft.	17.9
Wingspan, ft.	26.5
Wing Area, sq. ft.	110

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	M, W, T, F
Beginner Build Time, hrs.	1500
No. Completed & Flown	80+
Cost	\$20,950
www.aceaircraft.net	
706/886-6341	



**Aero Adventure
Aventura HP**

Top Speed, mph	90
Cruise, mph	75
Stall, mph	32
Range, n.m.	150
Rate of Climb, fpm	1100
Takeoff Distance, ft.	150

Landing Distance, ft.	150
Engine Used	Rotax 503
HP/HP Range	50/50-65
Fuel Capacity, gal.	12
Empty Weight, lb.	430
Gross Weight, lb.	950
Length, ft.	20.6
Wingspan, ft.	29.8
Wing Area, sq. ft.	158

No. of Seats	1
Landing Gear	tailwheel/R
Bldg. Materials	C, T, F
Beginner Build Time, hrs.	250
No. Completed & Flown	38
Cost	\$17,900
3795 Fly Park Drive	
Rockledge, FL 32955	
321/635-8005	



**Aero Adventure
Aventura UL**

Top Speed, mph	70
Cruise, mph	55
Stall, mph	27
Range, n.m.	100
Rate of Climb, fpm	500
Takeoff Distance, ft.	150

Landing Distance, ft.	150
Engine Used	Rotax 447
HP/HP Range	48/48
Fuel Capacity, gal.	5
Empty Weight, lb.	328
Gross Weight, lb.	650
Length, ft.	20.5
Wingspan, ft.	21.6
Wing Area, sq. ft.	156

No. of Seats	1
Landing Gear	tailwheel/R
Bldg. Materials	C, T, F
Beginner Build Time, hrs.	250
No. Completed & Flown	90
Cost	\$16,900
3795 Fly Park Drive	
Rockledge, FL 32955	
321/635-8005	



**Aero Adventure
Aventura II**

Top Speed, mph	100
Cruise, mph	85
Stall, mph	32
Range, n.m.	300
Rate of Climb, fpm	700
Takeoff Distance, ft.	150

Landing Distance, ft.	150
Engine Used	Rotax 912
HP/HP Range	80/65-130
Fuel Capacity, gal.	12
Empty Weight, lb.	750
Gross Weight, lb.	1350
Length, ft.	23
Wingspan, ft.	30.8
Wing Area, sq. ft.	161.7

No. of Seats	2
Landing Gear	tailwheel/R
Bldg. Materials	C, T, F
Beginner Build Time, hrs.	250
No. Completed & Flown	215
Cost	\$22,138
3795 Fly Park Drive	
Rockledge, FL 32955	
321/635-8005	



**Aero Adventure
Barracuda**

Top Speed, mph	105
Cruise, mph	90
Stall, mph	28
Range, n.m.	300
Rate of Climb, fpm	1400
Takeoff Distance, ft.	125

Landing Distance, ft.	150
Engine Used	Rotax 912
HP/HP Range	80/65-100
Fuel Capacity, gal.	18
Empty Weight, lb.	620
Gross Weight, lb.	1250
Length, ft.	24.6
Wingspan, ft.	29.8
Wing Area, sq. ft.	158

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	C, M, T, F
Beginner Build Time, hrs.	250
No. Completed & Flown	1
Cost	\$18,900
3795 Fly Park Drive	
Rockledge, FL 32955	
321/635-8005	

**Aero Adventure
Toucan**

Top Speed, mph	85
Cruise, mph	62
Stall, mph	28
Range, n.m.	205
Rate of Climb, fpm	800
Takeoff Distance, ft.	125

Landing Distance, ft.	150
Engine Used	Rotax 582
HP/HP Range	65/65
Fuel Capacity, gal.	10
Empty Weight, lb.	490
Gross Weight, lb.	1050
Length, ft.	22.6
Wingspan, ft.	29.8
Wing Area, sq. ft.	156

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	C, M, T, F
Beginner Build Time, hrs.	250
No. Completed & Flown	4
Cost	\$16,800
3795 Fly Park Drive Rockledge, FL 32955 321/635-8005	



**AeroCad
AeroCanard FG**

Top Speed, mph	225
Cruise, mph	215
Stall, mph	62
Range, n.m.	1300
Rate of Climb, fpm	1800
Takeoff Distance, ft.	800

Landing Distance, ft.	1500
Engine Used	Lyc. IO-360
HP/HP Range	200/160-230
Fuel Capacity, gal.	63.5
Empty Weight, lb.	1200
Gross Weight, lb.	2150
Length, ft.	16.8
Wingspan, ft.	28.1
Wing Area, sq. ft.	102.3

No. of Seats	4
Landing Gear	trigear/R
Bldg. Materials	C
Beginner Build Time, hrs.	1500
No. Completed & Flown	17
Cost	\$25,050
www.aerocad.com 573/324-3300	



**Aerocomp
Comp Air 3**

Top Speed, mph	175
Cruise, mph	145
Stall, mph	45
Range, n.m.	725
Rate of Climb, fpm	1100
Takeoff Distance, ft.	350

Landing Distance, ft.	600
Engine Used	Lycoming
HP/HP Range	160/150-250
Fuel Capacity, gal.	45
Empty Weight, lb.	1400
Gross Weight, lb.	2450
Length, ft.	24
Wingspan, ft.	34
Wing Area, sq. ft.	176

No. of Seats	3
Landing Gear	tri or tail
Bldg. Materials	C
Beginner Build Time, hrs.	450
No. Completed & Flown	1
Cost	\$30,355
2335 Newfound Harbor Drive Merritt Island, FL 32952 321/453-6641	



**Aerocomp
Comp Air 4**

Top Speed, mph	175
Cruise, mph	155
Stall, mph	42
Range, n.m.	660
Rate of Climb, fpm	1200
Takeoff Distance, ft.	400

Landing Distance, ft.	550
Engine Used	Lycoming
HP/HP Range	180/110-260
Fuel Capacity, gal.	52
Empty Weight, lb.	1350
Gross Weight, lb.	2750
Length, ft.	26
Wingspan, ft.	35
Wing Area, sq. ft.	212

No. of Seats	4
Landing Gear	tri/R or tail/R
Bldg. Materials	C
Beginner Build Time, hrs.	375
No. Completed & Flown	26
Cost	\$32,995
2335 Newfound Harbor Drive Merritt Island, FL 32952 321/453-6641	



**Aerocomp
Comp Air 6**

Top Speed, mph	175
Cruise, mph	165
Stall, mph	48
Range, n.m.	980
Rate of Climb, fpm	1500
Takeoff Distance, ft.	350

Landing Distance, ft.	375
Engine Used	Franklin 220
HP/HP Range	220/200-300
Fuel Capacity, gal.	82
Empty Weight, lb.	1590
Gross Weight, lb.	2850
Length, ft.	25
Wingspan, ft.	34.5
Wing Area, sq. ft.	212

No. of Seats	6
Landing Gear	tri or tail
Bldg. Materials	C
Beginner Build Time, hrs.	600
No. Completed & Flown	55
Cost	\$38,495
2335 Newfound Harbor Drive Merritt Island, FL 32952 321/453-6641	



**Aerocomp
Comp Air 7**

Top Speed, mph	250
Cruise, mph	230
Stall, mph	53
Range, n.m.	900
Rate of Climb, fpm	1500
Takeoff Distance, ft.	475

Landing Distance, ft.	800
Engine Used	TIO-540
HP/HP Range	290/260-650
Fuel Capacity, gal.	80
Empty Weight, lb.	2100
Gross Weight, lb.	3700
Length, ft.	26.6
Wingspan, ft.	34.6
Wing Area, sq. ft.	176.1

No. of Seats	7
Landing Gear	tri or tail
Bldg. Materials	C
Beginner Build Time, hrs.	700
No. Completed & Flown	58
Cost	\$54,991
2335 Newfound Harbor Drive Merritt Island, FL 32952 321/453-6641	



**Aerocomp
Comp Air 7SLX**

Top Speed, mph	250
Cruise, mph	230
Stall, mph	54
Range, n.m.	900
Rate of Climb, fpm	3000
Takeoff Distance, ft.	350

Landing Distance, ft.	800
Engine Used	Walter 601D
HP/HP Range	660/450-660
Fuel Capacity, gal.	200
Empty Weight, lb.	2400
Gross Weight, lb.	4200
Length, ft.	29.5
Wingspan, ft.	33
Wing Area, sq. ft.	178

No. of Seats	7
Landing Gear	tri or tail
Bldg. Materials	C
Beginner Build Time, hrs.	750
No. Completed & Flown	18
Cost	\$71,495
2335 Newfound Harbor Drive Merritt Island, FL 32952 321/453-6641	



**Aerocomp
Comp Air 8**

Top Speed, mph	227
Cruise, mph	210
Stall, mph	48
Range, n.m.	990
Rate of Climb, fpm	2000
Takeoff Distance, ft.	400

Landing Distance, ft.	600
Engine Used	Walter 601D
HP/HP Range	660/450-660
Fuel Capacity, gal.	120
Empty Weight, lb.	2900
Gross Weight, lb.	4800
Length, ft.	30.5
Wingspan, ft.	36
Wing Area, sq. ft.	239

No. of Seats	8
Landing Gear	tri or tail
Bldg. Materials	C
Beginner Build Time, hrs.	800
No. Completed & Flown	20
Cost	\$82,495
2335 Newfound Harbor Drive Merritt Island, FL 32952 321/453-6641	





**Aerocomp
Comp Air 10**

Top Speed, mph	210
Cruise, mph	180
Stall, mph	56
Range, n.m.	800
Rate of Climb, fpm	2500
Takeoff Distance, ft.	500

Landing Distance, ft.	600
Engine Used	Walter 601D
HP/HP Range	660/450-660
Fuel Capacity, gal.	220
Empty Weight, lb.	2900
Gross Weight, lb.	5700
Length, ft.	30
Wingspan, ft.	37.6
Wing Area, sq. ft.	254

No. of Seats	9-11
Landing Gear	tri or tail
Bldg. Materials	C
Beginner Build Time, hrs.	800
No. Completed & Flown	11
Cost	\$93,495
2335 Newfound Harbor Drive	
Merritt Island, FL 32952	
321/453-6641	



**Aerocomp
Comp Air Jet**

Top Speed, mph	400
Cruise, mph	375
Stall, mph	71
Range, n.m.	1100
Rate of Climb, fpm	2000
Takeoff Distance, ft.	2700

Landing Distance, ft.	2000
Engine Used	AI-25 fan jet
HP/HP Range	3500 lb thrust
Fuel Capacity, gal.	450
Empty Weight, lb.	5900
Gross Weight, lb.	10,900
Length, ft.	35
Wingspan, ft.	44
Wing Area, sq. ft.	297

No. of Seats	8-10
Landing Gear	trigear/R
Bldg. Materials	C, M
Beginner Build Time, hrs.	2500
No. Completed & Flown	1
Cost	\$499,000
2335 Newfound Harbor Drive	
Merritt Island, FL 32952	
321/453-6641	



**Aerocomp
Merlin GT-582/912**

Top Speed, mph	120
Cruise, mph	85
Stall, mph	35
Range, n.m.	333
Rate of Climb, fpm	1100
Takeoff Distance, ft.	105

Landing Distance, ft.	150
Engine Used	Rotax 582
HP/HP Range	65/65-100
Fuel Capacity, gal.	16
Empty Weight, lb.	580
Gross Weight, lb.	1300
Length, ft.	20
Wingspan, ft.	30
Wing Area, sq. ft.	167

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	F
Beginner Build Time, hrs.	400
No. Completed & Flown	250
Cost	\$30,795
2335 Newfound Harbor Drive	
Merritt Island, FL 32952	
321/453-6641	



**AeroLites
AeroMaster**

Top Speed, mph	90
Cruise, mph	75
Stall, mph	32
Range, n.m.	160
Rate of Climb, fpm	800
Takeoff Distance, ft.	250

Landing Distance, ft.	200
Engine Used	Rotax 582
HP/HP Range	65/65-100
Fuel Capacity, gal.	10
Empty Weight, lb.	425
Gross Weight, lb.	1000
Length, ft.	18.5
Wingspan, ft.	28.7
Wing Area, sq. ft.	145.7

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	145
No. Completed & Flown	34
Cost	\$25,595
www.aerolites.com	
337/734-3865	



**AeroLites
AeroSkiff**

Top Speed, mph	90
Cruise, mph	65
Stall, mph	38
Range, n.m.	140
Rate of Climb, fpm	600
Takeoff Distance, ft.	450

Landing Distance, ft.	350
Engine Used	Rotax 582
HP/HP Range	65/65-100
Fuel Capacity, gal.	12
Empty Weight, lb.	565
Gross Weight, lb.	1125
Length, ft.	22.33
Wingspan, ft.	29.66
Wing Area, sq. ft.	156

No. of Seats	2
Landing Gear	tailwheel/R
Bldg. Materials	C, T, F
Beginner Build Time, hrs.	220
No. Completed & Flown	9
Cost	\$26,595
www.aerolites.com	
337/734-3865	



**AeroLites
Bearcat**

Top Speed, mph	70
Cruise, mph	65
Stall, mph	27
Range, n.m.	125
Rate of Climb, fpm	450
Takeoff Distance, ft.	300

Landing Distance, ft.	250
Engine Used	Rotax 447
HP/HP Range	55/40-65
Fuel Capacity, gal.	10
Empty Weight, lb.	295
Gross Weight, lb.	700
Length, ft.	17.5
Wingspan, ft.	30
Wing Area, sq. ft.	150

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	130
No. Completed & Flown	38
Cost	\$14,998
www.aerolites.com	
337/734-3865	



**Aero-Works
Aerolite 103**

Top Speed, mph	75
Cruise, mph	60
Stall, mph	26
Range, n.m.	100
Rate of Climb, fpm	800
Takeoff Distance, ft.	150

Landing Distance, ft.	200
Engine Used	2si
HP/HP Range	35/35-46
Fuel Capacity, gal.	5
Empty Weight, lb.	252
Gross Weight, lb.	600
Length, ft.	17.3
Wingspan, ft.	26.9
Wing Area, sq. ft.	124

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	30
No. Completed & Flown	150
Cost	\$8995
PO Box 103	
Millersburg, OH 44654	
330/567-9715	



**Aircraft Designs
Stallion**

Top Speed, mph	260
Cruise, mph	237
Stall, mph	67
Range, n.m.	2200
Rate of Climb, fpm	1600
Takeoff Distance, ft.	1800

Landing Distance, ft.	700
Engine Used	Cont. IO-550
HP/HP Range	300/180-350
Fuel Capacity, gal.	180
Empty Weight, lb.	2200
Gross Weight, lb.	3800
Length, ft.	25
Wingspan, ft.	35
Wing Area, sq. ft.	140

No. of Seats	6
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	3000
No. Completed & Flown	7
Cost	\$90,225
www.aircraftdesigns.com	
831/649-6212	

Airdale <i>Airdale</i>	Landing Distance, ft.	400	No. of Seats	2	
Top Speed, mph	130	Engine Used	Subaru EA-81	Landing Gear	tri or tail
Cruise, mph	108	HP/HP Range	100/65-125	Bldg. Materials	W, T, F
Stall, mph	42	Fuel Capacity, gal.	28	Beginner Build Time, hrs.	500
Range, n.m.	500	Empty Weight, lb.	730	No. Completed & Flown	4
Rate of Climb, fpm	1200	Gross Weight, lb.	1400	Cost	\$19,550
Takeoff Distance, ft.	800	Length, ft.	18.8		
		Wingspan, ft.	31		
		Wing Area, sq. ft.	132		
			www.airdale.com		
			208/459-6254		



Airdale <i>Avid Plus</i>	Landing Distance, ft.	500	No. of Seats	2	
Top Speed, mph	120	Engine Used	Rotax 582	Landing Gear	tri or tail
Cruise, mph	90	HP/HP Range	65/65-110	Bldg. Materials	W, T, F
Stall, mph	35	Fuel Capacity, gal.	n.p.	Beginner Build Time, hrs.	500
Range, n.m.	300	Empty Weight, lb.	450	No. Completed & Flown	7
Rate of Climb, fpm	890	Gross Weight, lb.	1200	Cost	\$19,500
Takeoff Distance, ft.	630	Length, ft.	18.3		
		Wingspan, ft.	29		
		Wing Area, sq. ft.	122.5		
			www.airdale.com		
			208/459-6254		



Airdrome Aeroplanes <i>Dream Classic</i>	Landing Distance, ft.	350	No. of Seats	1	
Top Speed, mph	63	Engine Used	Rotax 377	Landing Gear	tailwheel
Cruise, mph	59	HP/HP Range	35/35-50	Bldg. Materials	T, F
Stall, mph	26	Fuel Capacity, gal.	5	Beginner Build Time, hrs.	120
Range, n.m.	100	Empty Weight, lb.	223	No. Completed & Flown	32
Rate of Climb, fpm	875	Gross Weight, lb.	465	Cost	\$2995
Takeoff Distance, ft.	95	Length, ft.	14		
		Wingspan, ft.	30		
		Wing Area, sq. ft.	120		
			www.airdromeaeroplanes.com		
			816/230-8585		



Airdrome Aeroplanes <i>Dream Classic Strut Braced</i>	Landing Distance, ft.	300	No. of Seats	1	
Top Speed, mph	63	Engine Used	Rotax 447	Landing Gear	tailwheel
Cruise, mph	54	HP/HP Range	35/35-50	Bldg. Materials	T, F
Stall, mph	26	Fuel Capacity, gal.	5	Beginner Build Time, hrs.	120
Range, n.m.	100	Empty Weight, lb.	236	No. Completed & Flown	1
Rate of Climb, fpm	875	Gross Weight, lb.	465	Cost	\$3995
Takeoff Distance, ft.	75	Length, ft.	14		
		Wingspan, ft.	30		
		Wing Area, sq. ft.	120		
			www.airdromeaeroplanes.com		
			816/230-8585		



Airdrome Aeroplanes <i>Dream Fantasy Twin</i>	Landing Distance, ft.	500	No. of Seats	2	
Top Speed, mph	52	Engine Used	Rotax 377	Landing Gear	tailwheel
Cruise, mph	45	HP/HP Range	35/35-52	Bldg. Materials	T, F
Stall, mph	21	Fuel Capacity, gal.	5	Beginner Build Time, hrs.	150
Range, n.m.	60	Empty Weight, lb.	312	No. Completed & Flown	4
Rate of Climb, fpm	550	Gross Weight, lb.	630	Cost	\$4495
Takeoff Distance, ft.	125	Length, ft.	15		
		Wingspan, ft.	30		
		Wing Area, sq. ft.	150		
			www.airdromeaeroplanes.com		
			816/230-8585		



Airdrome Aeroplanes <i>Eindecker E-III</i>	Landing Distance, ft.	400	No. of Seats	1	
Top Speed, mph	60	Engine Used	Rotax 503	Landing Gear	tailwheel
Cruise, mph	57	HP/HP Range	52/45-52	Bldg. Materials	T, F
Stall, mph	26	Fuel Capacity, gal.	5	Beginner Build Time, hrs.	300
Range, n.m.	70	Empty Weight, lb.	238	No. Completed & Flown	12
Rate of Climb, fpm	1100	Gross Weight, lb.	480	Cost	\$4995
Takeoff Distance, ft.	175	Length, ft.	18		
		Wingspan, ft.	24		
		Wing Area, sq. ft.	96		
			www.airdromeaeroplanes.com		
			816/230-8585		



Airdrome Aeroplanes <i>Fokker DR-I (Full Scale)</i>	Landing Distance, ft.	400	No. of Seats	1	
Top Speed, mph	94	Engine Used	Torque Master	Landing Gear	tailwheel
Cruise, mph	72	HP/HP Range	105/85-110	Bldg. Materials	T, F
Stall, mph	32	Fuel Capacity, gal.	14	Beginner Build Time, hrs.	450
Range, n.m.	210	Empty Weight, lb.	625	No. Completed & Flown	3
Rate of Climb, fpm	1100	Gross Weight, lb.	975	Cost	\$10,495
Takeoff Distance, ft.	150	Length, ft.	18.11		
		Wingspan, ft.	24		
		Wing Area, sq. ft.	210		
			www.airdromeaeroplanes.com		
			816/230-8585		



Airdrome Aeroplanes <i>Fokker DR-I (3/4 Scale)</i>	Landing Distance, ft.	400	No. of Seats	1	
Top Speed, mph	78	Engine Used	Rotax 582	Landing Gear	tailwheel
Cruise, mph	64	HP/HP Range	65/60-85	Bldg. Materials	T, F
Stall, mph	32	Fuel Capacity, gal.	12	Beginner Build Time, hrs.	375
Range, n.m.	240	Empty Weight, lb.	341	No. Completed & Flown	16
Rate of Climb, fpm	950	Gross Weight, lb.	583	Cost	\$7995
Takeoff Distance, ft.	150	Length, ft.	15		
		Wingspan, ft.	17.9		
		Wing Area, sq. ft.	150		
			www.airdromeaeroplanes.com		
			816/230-8585		





Airdrome Aeroplanes
Fokker D-VI

Top Speed, mph	78
Cruise, mph	73
Stall, mph	30
Range, n.m.	210
Rate of Climb, fpm	750
Takeoff Distance, ft.	125

Landing Distance, ft.	400
Engine Used	Rotax 503
HP/HP Range	46/46-65
Fuel Capacity, gal.	10
Empty Weight, lb.	297
Gross Weight, lb.	539
Length, ft.	15
Wingspan, ft.	17.9
Wing Area, sq. ft.	110

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	350
No. Completed & Flown	7
Cost	\$4495

www.airdromeaeroplanes.com
816/230-8585



Airdrome Aeroplanes
Fokker D-VII (80% Scale)

Top Speed, mph	105
Cruise, mph	94
Stall, mph	34
Range, n.m.	210
Rate of Climb, fpm	900
Takeoff Distance, ft.	210

Landing Distance, ft.	400
Engine Used	Hirth F-30
HP/HP Range	80/80-110
Fuel Capacity, gal.	14
Empty Weight, lb.	470
Gross Weight, lb.	775
Length, ft.	15
Wingspan, ft.	23.3
Wing Area, sq. ft.	148

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	400
No. Completed & Flown	2
Cost	\$8995

www.airdromeaeroplanes.com
816/230-8585



Airdrome Aeroplanes
Fokker D-VIII

Top Speed, mph	92
Cruise, mph	80
Stall, mph	34
Range, n.m.	240
Rate of Climb, fpm	1120
Takeoff Distance, ft.	150

Landing Distance, ft.	450
Engine Used	Rotax 503
HP/HP Range	52/46-85
Fuel Capacity, gal.	10
Empty Weight, lb.	275
Gross Weight, lb.	517
Length, ft.	15.5
Wingspan, ft.	25
Wing Area, sq. ft.	75

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	300
No. Completed & Flown	16
Cost	\$4495

www.airdromeaeroplanes.com
816/230-8585



Airdrome Aeroplanes
Nieuport 17

Top Speed, mph	97
Cruise, mph	87
Stall, mph	39
Range, n.m.	320
Rate of Climb, fpm	950
Takeoff Distance, ft.	125

Landing Distance, ft.	400
Engine Used	Torque Master
HP/HP Range	110
Fuel Capacity, gal.	14
Empty Weight, lb.	532
Gross Weight, lb.	832
Length, ft.	19.5
Wingspan, ft.	26.9
Wing Area, sq. ft.	180

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	400
No. Completed & Flown	4
Cost	\$9995

www.airdromeaeroplanes.com
816/230-8585



Airdrome Aeroplanes
Nieuport 24

Top Speed, mph	95
Cruise, mph	83
Stall, mph	35
Range, n.m.	320
Rate of Climb, fpm	950
Takeoff Distance, ft.	125

Landing Distance, ft.	400
Engine Used	Hirth F-30
HP/HP Range	110/85-110
Fuel Capacity, gal.	14
Empty Weight, lb.	496
Gross Weight, lb.	836
Length, ft.	19.5
Wingspan, ft.	26.9
Wing Area, sq. ft.	180

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	400
No. Completed & Flown	7
Cost	\$9995

www.airdromeaeroplanes.com
816/230-8585



Airdrome Aeroplanes
Taube

Top Speed, mph	80
Cruise, mph	65
Stall, mph	35
Range, n.m.	200
Rate of Climb, fpm	700
Takeoff Distance, ft.	300

Landing Distance, ft.	450
Engine Used	VW
HP/HP Range	105
Fuel Capacity, gal.	10
Empty Weight, lb.	720
Gross Weight, lb.	1145
Length, ft.	17
Wingspan, ft.	30
Wing Area, sq. ft.	170

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T
Beginner Build Time, hrs.	500
No. Completed & Flown	1
Cost	\$12,995

www.airdromeaeroplanes.com
816/230-8585



Alisport
Silent Club

Top Speed, mph	124
Cruise, mph	60
Stall, mph	36
Aspect Ratio	14.1
L/D	31:1
Minimum Sink, fpm	128

Landing Distance, ft.	230
Engine Used	n.a. [it's a sailplane!]
HP/HP Range	n.a.
Fuel Capacity, gal.	n.a.
Empty Weight, lb.	300
Gross Weight, lb.	530
Length, ft.	20.8
Wingspan, ft.	39.4
Wing Area, sq. ft.	110.9

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	C
Beginner Build Time, hrs.	350
No. Completed & Flown	6+
Cost	\$20,200

www.alisport.com
931/224-8343



Alisport
Silent Club Electric

Top Speed, mph	112
Cruise, mph	n.p.
Stall, mph	40
Aspect Ratio	14.1
L/D	31:1
Minimum Sink, fpm	154

Landing Distance, ft.	330
Engine Used	AirEnergy DC
HP/HP Range	13 kW
Fuel Capacity, gal.	n.a.
Empty Weight, lb.	441
Gross Weight, lb.	661
Length, ft.	20.8
Wingspan, ft.	39.4
Wing Area, sq. ft.	110.9

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	C
Beginner Build Time, hrs.	n.p.
No. Completed & Flown	3
Cost	\$55,300

www.alisport.com
931/224-8343



**Alisport
Silent Club Self-Launch**

Top Speed, mph	124
Cruise, mph	68
Stall, mph	38
Aspect Ratio	14.1
L/D	31:1
Minimum Sink, fpm	138

Landing Distance, ft.	330
Engine Used	A302efi
HP/HP Range	28
Fuel Capacity, gal.	4.5
Empty Weight, lb.	375
Gross Weight, lb.	639
Length, ft.	20.8
Wingspan, ft.	39.4
Wing Area, sq. ft.	110.9

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	C
Beginner Build Time, hrs.	500
No. Completed & Flown	40+
Cost	\$29,000
www.alisport.com	
931/224-8343	



**Alisport
Silent 2 Self-Launch**

Top Speed, mph	136
Cruise, mph	68
Stall, mph	40
Aspect Ratio	n.p.
L/D	39:1
Minimum Sink, fpm	118

Landing Distance, ft.	330
Engine Used	A302efi
HP/HP Range	28
Fuel Capacity, gal.	4.5
Empty Weight, lb.	385
Gross Weight, lb.	660
Length, ft.	20.8
Wingspan, ft.	42.6
Wing Area, sq. ft.	94.7

No. of Seats	1
Landing Gear	monowheel
Bldg. Materials	C
Beginner Build Time, hrs.	500
No. Completed & Flown	9+
Cost	\$33,100
www.alisport.com	
931/224-8343	



**Alturair
BD-5**

Top Speed, mph	244
Cruise, mph	216
Stall, mph	66
Range, n.m.	850
Rate of Climb, fpm	1890
Takeoff Distance, ft.	850

Landing Distance, ft.	850
Engine Used	n.p.
HP/HP Range	100/50-150
Fuel Capacity, gal.	26
Empty Weight, lb.	520
Gross Weight, lb.	860
Length, ft.	14.5
Wingspan, ft.	17
Wing Area, sq. ft.	n.p.

No. of Seats	1
Landing Gear	trigear/R
Bldg. Materials	M
Beginner Build Time, hrs.	3500
No. Completed & Flown	100+
Cost	\$19,500
www.alturair.com	
619/449-1570	



**American Homebuilts Corp.
John Doe**

Top Speed, mph	120
Cruise, mph	110
Stall, mph	30
Range, n.m.	425
Rate of Climb, fpm	1200
Takeoff Distance, ft.	120

Landing Distance, ft.	120
Engine Used	LOM
HP/HP Range	120/100-160
Fuel Capacity, gal.	26
Empty Weight, lb.	886
Gross Weight, lb.	1500
Length, ft.	21.9
Wingspan, ft.	30.7
Wing Area, sq. ft.	130.5

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	500
No. Completed & Flown	3
Cost	\$18,750
10419 VanderKarr Road	
Hebron, IL 60034	
815/648-4617	



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Amphibian Airplanes of Canada
Seastar XP/SP

Top Speed, mph	112
Cruise, mph	100
Stall, mph	40
Range, n.m.	450
Rate of Climb, fpm	750
Takeoff Distance, ft.	260

Landing Distance, ft.	393
Engine Used	Rotax 912ULS
HP/HP Range	80/100-120
Fuel Capacity, gal.	20
Empty Weight, lb.	693
Gross Weight, lb.	1320
Length, ft.	21.2
Wingspan, ft.	29
Wing Area, sq. ft.	160

No. of Seats	2
Landing Gear	trigear/R
Bldg. Materials	C, F
Beginner Build Time, hrs.	500
No. Completed & Flown	100+
Cost	\$26,000/\$29,500

www.seastaramphibian.com
604/898-5327



Amphibian Airplanes of Canada
Super Petrel

Top Speed, mph	112
Cruise, mph	103
Stall, mph	34
Range, n.m.	500
Rate of Climb, fpm	100
Takeoff Distance, ft.	240

Landing Distance, ft.	360
Engine Used	Rotax 912S
HP/HP Range	100/65-100
Fuel Capacity, gal.	26.6
Empty Weight, lb.	695
Gross Weight, lb.	1203
Length, ft.	19.4
Wingspan, ft.	30.3
Wing Area, sq. ft.	196

No. of Seats	2
Landing Gear	trigear/R
Bldg. Materials	C, W, M, T, F
Beginner Build Time, hrs.	600
No. Completed & Flown	91
Cost	\$29,500

www.seastaramphibian.com
604/898-5327



Apis Sailplanes
Apis 13

Top Speed, mph	139
Cruise, mph	55
Stall, mph	34
Aspect Ratio	15.2:1
L/D	38:1
Minimum Sink, fpm	112

Landing Distance, ft.	300
Engine Used	n.a.
HP/HP Range	n.a.
Fuel Capacity, gal.	n.a.
Empty Weight, lb.	300
Gross Weight, lb.	540
Length, ft.	20.6
Wingspan, ft.	42.6
Wing Area, sq. ft.	111.5

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	C
Beginner Build Time, hrs.	400
No. Completed & Flown	4
Cost	\$20,500

www.apisgliders.com
740/360-3470



Apis Sailplanes
Apis 15

Top Speed, mph	139
Cruise, mph	51
Stall, mph	36
Aspect Ratio	17:1
L/D	40:1
Minimum Sink, fpm	115

Landing Distance, ft.	300
Engine Used	n.a.
HP/HP Range	n.a.
Fuel Capacity, gal.	n.a.
Empty Weight, lb.	327
Gross Weight, lb.	661
Length, ft.	20.6
Wingspan, ft.	49.2
Wing Area, sq. ft.	132

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	C
Beginner Build Time, hrs.	400
No. Completed & Flown	4
Cost	\$27,150

www.apisgliders.com
740/360-3470



Apis Sailplanes
Apis Electric Self-Launch

Top Speed, mph	139
Cruise, mph	51
Stall, mph	36
Aspect Ratio	18.35
L/D	40:1
Minimum Sink, fpm	108

Landing Distance, ft.	300
Engine Used	Brushless DC
HP/HP Range	13KW
Fuel Capacity, gal.	n.a.
Empty Weight, lb.	452
Gross Weight, lb.	710
Length, ft.	20.6
Wingspan, ft.	49.2
Wing Area, sq. ft.	132

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	C
Beginner Build Time, hrs.	500
No. Completed & Flown	1
Cost	\$53,000

www.apisgliders.com
740/360-3470



Apis Sailplanes
Apis M

Top Speed, mph	139
Cruise, mph	56
Stall, mph	36
Aspect Ratio	17:1
L/D	40:1
Minimum Sink, fpm	115

Landing Distance, ft.	300
Engine Used	Rotax 447
HP/HP Range	40
Fuel Capacity, gal.	3.5
Empty Weight, lb.	445
Gross Weight, lb.	710
Length, ft.	20.6
Wingspan, ft.	49.2
Wing Area, sq. ft.	132

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	C
Beginner Build Time, hrs.	650
No. Completed & Flown	1
Cost	\$40,600

www.apisgliders.com
740/360-3470



Associate Air
Liberty 181/183

Top Speed, mph	145
Cruise, mph	135
Stall, mph	35
Range, n.m.	1125
Rate of Climb, fpm	1500
Takeoff Distance, ft.	200

Landing Distance, ft.	250
Engine Used	Cont. O-470
HP/HP Range	230
Fuel Capacity, gal.	100
Empty Weight, lb.	1950
Gross Weight, lb.	3500
Length, ft.	24
Wingspan, ft.	40
Wing Area, sq. ft.	216

No. of Seats	4
Landing Gear	tri or tail
Bldg. Materials	C, T, M
Beginner Build Time, hrs.	2000
No. Completed & Flown	1
Cost	\$28,500/\$32,700

410 White Oak Drive
Cave Junction, OR 97523
541/592-6601



Aviat Aircraft
Eagle II

Top Speed, mph	184
Cruise, mph	165
Stall, mph	58
Range, n.m.	380
Rate of Climb, fpm	2100
Takeoff Distance, ft.	1450

Landing Distance, ft.	2100
Engine Used	Lyc. AEIO-360
HP/HP Range	200
Fuel Capacity, gal.	25
Empty Weight, lb.	1025
Gross Weight, lb.	1578
Length, ft.	17.9
Wingspan, ft.	19.9
Wing Area, sq. ft.	125

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W, T, F
Beginner Build Time, hrs.	2000
No. Completed & Flown	300+
Cost	\$96,000

www.aviataircraft.com
307/885-3151

**AviPro Aircraft
Bearhawk**

Top Speed, mph	170
Cruise, mph	150
Stall, mph	39
Range, n.m.	650
Rate of Climb, fpm	1700
Takeoff Distance, ft.	350

Landing Distance, ft.	350
Engine Used	Lyc. O-540
HP/HP Range	250/150-260
Fuel Capacity, gal.	72
Empty Weight, lb.	1450
Gross Weight, lb.	2500
Length, ft.	23.5
Wingspan, ft.	33
Wing Area, sq. ft.	180

No. of Seats	4
Landing Gear	tailwheel
Bldg. Materials	M, T, F
Beginner Build Time, hrs.	1200
No. Completed & Flown	5
Cost	\$29,950

www.bearhawkaircraft.com
602/971-3768



**Bakeng Deuce Airplane Factory
Bakeng Deuce**

Top Speed, mph	130
Cruise, mph	110
Stall, mph	50
Range, n.m.	400
Rate of Climb, fpm	1000
Takeoff Distance, ft.	300

Landing Distance, ft.	1000
Engine Used	Lyc. O-320
HP/HP Range	150/125-160
Fuel Capacity, gal.	30
Empty Weight, lb.	1000
Gross Weight, lb.	1500
Length, ft.	21
Wingspan, ft.	31
Wing Area, sq. ft.	136

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W, T, F
Beginner Build Time, hrs.	4000
No. Completed & Flown	110
Cost	\$65,000

9850 52nd Street
Kenosha, WI 53144
262/658-9286



**Barr Aircraft
Barr 6**

Top Speed, mph	237
Cruise, mph	207
Stall, mph	62
Range, n.m.	1440
Rate of Climb, fpm	900
Takeoff Distance, ft.	900

Landing Distance, ft.	750
Engine Used	Lyc. IO-720
HP/HP Range	400/400-450
Fuel Capacity, gal.	140
Empty Weight, lb.	2197
Gross Weight, lb.	4500
Length, ft.	29.9
Wingspan, ft.	35.8
Wing Area, sq. ft.	174

No. of Seats	6
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	2500
No. Completed & Flown	1
Cost	\$89,900

www.barraircraft.com
570/368-3655



**BD-Micro Technologies
BD-5B**

Top Speed, mph	200
Cruise, mph	180
Stall, mph	59
Range, n.m.	720
Rate of Climb, fpm	1900
Takeoff Distance, ft.	750

Landing Distance, ft.	700
Engine Used	Hirth 3203
HP/HP Range	65/50-80
Fuel Capacity, gal.	24
Empty Weight, lb.	420
Gross Weight, lb.	830
Length, ft.	14
Wingspan, ft.	21.5
Wing Area, sq. ft.	47.4

No. of Seats	1
Landing Gear	trigear/R
Bldg. Materials	M
Beginner Build Time, hrs.	1000
No. Completed & Flown	150+
Cost	\$18,500

www.bd-micro.com
541/444-1343



**BD-Micro Technologies
BD-5J Microjet**

Top Speed, mph	290
Cruise, mph	240
Stall, mph	67
Range, n.m.	380
Rate of Climb, fpm	2400
Takeoff Distance, ft.	1800

Landing Distance, ft.	100
Engine Used	Microturbo TRS
HP/HP Range	326/220-326 lb. thrust
Fuel Capacity, gal.	30
Empty Weight, lb.	440
Gross Weight, lb.	860
Length, ft.	13.3
Wingspan, ft.	17
Wing Area, sq. ft.	37.8

No. of Seats	1
Landing Gear	trigear/R
Bldg. Materials	M
Beginner Build Time, hrs.	600
No. Completed & Flown	12
Cost	\$32,500

www.bd-micro.com
541/444-1343



**BD-Micro Technologies
BD-5T Turboprop**

Top Speed, mph	240
Cruise, mph	225
Stall, mph	63
Range, n.m.	720
Rate of Climb, fpm	2400
Takeoff Distance, ft.	750

Landing Distance, ft.	750
Engine Used	Quantum H-95
HP/HP Range	95/95-100
Fuel Capacity, gal.	24
Empty Weight, lb.	450
Gross Weight, lb.	910
Length, ft.	14.7
Wingspan, ft.	21.5
Wing Area, sq. ft.	47.4

No. of Seats	1
Landing Gear	trigear/R
Bldg. Materials	M
Beginner Build Time, hrs.	800
No. Completed & Flown	15
Cost	\$46,500

www.bd-micro.com
541/444-1343



**Bede Corp.
BD-4**

Top Speed, mph	205
Cruise, mph	192
Stall, mph	54
Range, n.m.	1150
Rate of Climb, fpm	1450
Takeoff Distance, ft.	500

Landing Distance, ft.	550
Engine Used	Lyc. IO-360
HP/HP Range	180/150-220
Fuel Capacity, gal.	60
Empty Weight, lb.	1240
Gross Weight, lb.	2500
Length, ft.	21.5
Wingspan, ft.	25
Wing Area, sq. ft.	107

No. of Seats	4
Landing Gear	trigear
Bldg. Materials	M
Beginner Build Time, hrs.	900
No. Completed & Flown	250
Cost	\$28,360

www.jimbede.com
330/721-9999



**Bede Corp.
BD-6**

Top Speed, mph	158
Cruise, mph	140
Stall, mph	48
Range, n.m.	850
Rate of Climb, fpm	1200
Takeoff Distance, ft.	450

Landing Distance, ft.	500
Engine Used	HKS 700E
HP/HP Range	60/50-80
Fuel Capacity, gal.	20
Empty Weight, lb.	570
Gross Weight, lb.	800
Length, ft.	19.3
Wingspan, ft.	21.5
Wing Area, sq. ft.	56

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	M
Beginner Build Time, hrs.	400
No. Completed & Flown	2
Cost	\$9750

www.jimbede.com
330/721-9999





**Better Half VW
Double Eagle**

Top Speed, mph	85
Cruise, mph	70
Stall, mph	35
Range, n.m.	200
Rate of Climb, fpm	500
Takeoff Distance, ft.	250

Landing Distance, ft.	350
Engine Used	VW
HP/HP Range	60/60-65
Fuel Capacity, gal.	10
Empty Weight, lb.	385
Gross Weight, lb.	900
Length, ft.	18
Wingspan, ft.	28.3
Wing Area, sq. ft.	127

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	F, M, W
Beginner Build Time, hrs.	1500
No. Completed & Flown	1
Cost	\$3675

www.betterhalfvw.com
281/375-5453



**Better Half VW
Legal Eagle**

Top Speed, mph	63
Cruise, mph	60
Stall, mph	30
Range, n.m.	150
Rate of Climb, fpm	500
Takeoff Distance, ft.	250

Landing Distance, ft.	200
Engine Used	1/2 VW
HP/HP Range	40/30-50
Fuel Capacity, gal.	5
Empty Weight, lb.	244
Gross Weight, lb.	500
Length, ft.	14.6
Wingspan, ft.	23.7
Wing Area, sq. ft.	107

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W, T, F
Beginner Build Time, hrs.	500
No. Completed & Flown	25
Cost	\$4500

www.betterhalfvw.com
281/375-5453



**Biplanes of Yesteryear
Mifyter**

Top Speed, mph	95
Cruise, mph	75
Stall, mph	37
Range, n.m.	375
Rate of Climb, fpm	1350
Takeoff Distance, ft.	100

Landing Distance, ft.	250
Engine Used	Rotax 582
HP/HP Range	64/65-80
Fuel Capacity, gal.	15
Empty Weight, lb.	450
Gross Weight, lb.	755
Length, ft.	16.4
Wingspan, ft.	20.6
Wing Area, sq. ft.	146.3

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	850
No. Completed & Flown	1
Cost	\$14,995

www.mifyter.com
541/889-7536



**Biplanes of Yesteryear
Mifyter II**

Top Speed, mph	90
Cruise, mph	70
Stall, mph	40
Range, n.m.	225
Rate of Climb, fpm	750
Takeoff Distance, ft.	150

Landing Distance, ft.	250
Engine Used	Geo Metro
HP/HP Range	150
Fuel Capacity, gal.	4
Empty Weight, lb.	705
Gross Weight, lb.	1150
Length, ft.	16.3
Wingspan, ft.	21.5
Wing Area, sq. ft.	153

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W, T, F
Beginner Build Time, hrs.	1000
No. Completed & Flown	1
Cost	\$18,900

www.mifyter.com
541/889-7536



**Blue Yonder Aviation
E-Z Flyer**

Top Speed, mph	100
Cruise, mph	70
Stall, mph	35
Range, n.m.	330
Rate of Climb, fpm	700
Takeoff Distance, ft.	100

Landing Distance, ft.	175
Engine Used	Rotax 582
HP/HP Range	65/52-130
Fuel Capacity, gal.	24
Empty Weight, lb.	535
Gross Weight, lb.	1300
Length, ft.	21
Wingspan, ft.	31
Wing Area, sq. ft.	176

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	300
No. Completed & Flown	52
Cost	\$12,800

www.merlinaircraft.com
403/936-5767



**Blue Yonder Aviation
E-Z Harvard**

Top Speed, mph	120
Cruise, mph	90
Stall, mph	32
Range, n.m.	540
Rate of Climb, fpm	800
Takeoff Distance, ft.	150

Landing Distance, ft.	225
Engine Used	Rotax 582
HP/HP Range	65/65-100
Fuel Capacity, gal.	24
Empty Weight, lb.	612
Gross Weight, lb.	1300
Length, ft.	23
Wingspan, ft.	28
Wing Area, sq. ft.	158

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	450
No. Completed & Flown	2
Cost	\$13,950

www.merlinaircraft.com
403/936-5767



**Blue Yonder Aviation
E-Z King Cobra**

Top Speed, mph	120
Cruise, mph	90
Stall, mph	32
Range, n.m.	540
Rate of Climb, fpm	900
Takeoff Distance, ft.	150

Landing Distance, ft.	225
Engine Used	Rotax 582
HP/HP Range	65/65-100
Fuel Capacity, gal.	24
Empty Weight, lb.	543
Gross Weight, lb.	1200
Length, ft.	21
Wingspan, ft.	27
Wing Area, sq. ft.	158

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	400
No. Completed & Flown	2
Cost	\$13,950

www.merlinaircraft.com
403/936-5767



**Blue Yonder Aviation
Merlin G7/E-Z**

Top Speed, mph	110
Cruise, mph	92
Stall, mph	32
Range, n.m.	700
Rate of Climb, fpm	1500
Takeoff Distance, ft.	100

Landing Distance, ft.	200
Engine Used	Rotax 912S
HP/HP Range	100/65-130
Fuel Capacity, gal.	24
Empty Weight, lb.	796
Gross Weight, lb.	1450
Length, ft.	21
Wingspan, ft.	33
Wing Area, sq. ft.	186

No. of Seats	2
Landing Gear	floats
Bldg. Materials	T, F
Beginner Build Time, hrs.	400
No. Completed & Flown	278
Cost	\$35,670

www.merlinaircraft.com
403/936-5767





**C.L.A.S.S.
BushCaddy R120**

Top Speed, mph	120
Cruise, mph	100
Stall, mph	32
Range, n.m.	650
Rate of Climb, fpm	1150
Takeoff Distance, ft.	350

Landing Distance, ft.	500
Engine Used	Rotax 912S
HP/HP Range	100/60-120
Fuel Capacity, gal.	30
Empty Weight, lb.	800
Gross Weight, lb.	1700
Length, ft.	22.1
Wingspan, ft.	32
Wing Area, sq. ft.	168

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	M
Beginner Build Time, hrs.	1000
No. Completed & Flown	34
Cost	\$17,954

www.bushcaddy.com
450/452-4772



**Cameron & Sons Aircraft
P-51 Mustang**

Top Speed, mph	460
Cruise, mph	420
Stall, mph	87
Range, n.m.	1200
Rate of Climb, fpm	4200
Takeoff Distance, ft.	1250

Landing Distance, ft.	1750
Engine Used	Lyc. T-53 turbine
HP/HP Range	1450/1150-3500
Fuel Capacity, gal.	250
Empty Weight, lb.	4500
Gross Weight, lb.	8000
Length, ft.	36
Wingspan, ft.	37
Wing Area, sq. ft.	233

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	C
Beginner Build Time, hrs.	2500
No. Completed & Flown	1
Cost	\$475,000

www.cameronaircraft.com
208/765-9295



**Carlson Aircraft
Sparrow II**

Top Speed, mph	130
Cruise, mph	95
Stall, mph	36
Range, n.m.	225
Rate of Climb, fpm	1350
Takeoff Distance, ft.	150

Landing Distance, ft.	175
Engine Used	Rotax 582
HP/HP Range	65/65-85
Fuel Capacity, gal.	10
Empty Weight, lb.	490
Gross Weight, lb.	990
Length, ft.	18
Wingspan, ft.	32.2
Wing Area, sq. ft.	145

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	T, F
Beginner Build Time, hrs.	500
No. Completed & Flown	60
Cost	\$13,695

www.sky-tek.com
330/426-3934



**Carlson Aircraft
Sparrow II XTC**

Top Speed, mph	130
Cruise, mph	110
Stall, mph	39
Range, n.m.	400
Rate of Climb, fpm	1100
Takeoff Distance, ft.	250

Landing Distance, ft.	350
Engine Used	Rotax 912
HP/HP Range	80/80-100
Fuel Capacity, gal.	24
Empty Weight, lb.	630
Gross Weight, lb.	1300
Length, ft.	18
Wingspan, ft.	31.2
Wing Area, sq. ft.	140

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	T, F
Beginner Build Time, hrs.	500
No. Completed & Flown	34
Cost	\$15,895

www.sky-tek.com
330/426-3934



**Carlson Aircraft
Sparrow Sport Special**

Top Speed, mph	120
Cruise, mph	85
Stall, mph	31
Range, n.m.	300
Rate of Climb, fpm	1750
Takeoff Distance, ft.	85

Landing Distance, ft.	175
Engine Used	Rotax 503
HP/HP Range	52/50-68
Fuel Capacity, gal.	10
Empty Weight, lb.	400
Gross Weight, lb.	775
Length, ft.	16.8
Wingspan, ft.	26
Wing Area, sq. ft.	117

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	500
No. Completed & Flown	37
Cost	\$11,450

www.sky-tek.com
330/426-3934



**CGS Aviation
Hawk Arrow**

Top Speed, mph	100
Cruise, mph	65
Stall, mph	30
Range, n.m.	150
Rate of Climb, fpm	800
Takeoff Distance, ft.	125

Landing Distance, ft.	150
Engine Used	Rotax 447
HP/HP Range	40
Fuel Capacity, gal.	5
Empty Weight, lb.	282
Gross Weight, lb.	650
Length, ft.	21.3
Wingspan, ft.	28.9
Wing Area, sq. ft.	135

No. of Seats	1
Landing Gear	tri or tail
Bldg. Materials	T, F
Beginner Build Time, hrs.	175
No. Completed & Flown	100
Cost	\$13,404

www.cgsaviation.com
440/564-1214



**CGS Aviation
Hawk Classic**

Top Speed, mph	100
Cruise, mph	65
Stall, mph	28
Range, n.m.	150
Rate of Climb, fpm	800
Takeoff Distance, ft.	100

Landing Distance, ft.	150
Engine Used	Rotax 477
HP/HP Range	40/40-65
Fuel Capacity, gal.	5
Empty Weight, lb.	254
Gross Weight, lb.	650
Length, ft.	20.7
Wingspan, ft.	28.9
Wing Area, sq. ft.	135

No. of Seats	1
Landing Gear	tri or tail
Bldg. Materials	T, F
Beginner Build Time, hrs.	175
No. Completed & Flown	952
Cost	\$12,254

www.cgsaviation.com
440/564-1214



**CGS Aviation
Hawk Plus**

Top Speed, mph	120
Cruise, mph	70
Stall, mph	40
Range, n.m.	200
Rate of Climb, fpm	600
Takeoff Distance, ft.	200

Landing Distance, ft.	300
Engine Used	Rotax 447
HP/HP Range	50/50-65
Fuel Capacity, gal.	10
Empty Weight, lb.	350
Gross Weight, lb.	900
Length, ft.	21.3
Wingspan, ft.	28.9
Wing Area, sq. ft.	135

No. of Seats	1+
Landing Gear	tri or tail
Bldg. Materials	T, F
Beginner Build Time, hrs.	200
No. Completed & Flown	60
Cost	\$13,821

www.cgsaviation.com
440/564-1214

CGS Aviation
Hawk Ultra

Top Speed, mph	64
Cruise, mph	64
Stall, mph	28
Range, n.m.	150
Rate of Climb, fpm	800
Takeoff Distance, ft.	100

Landing Distance, ft.	150
Engine Used	Hirth 2702
HP/HP Range	40/30-65
Fuel Capacity, gal.	5
Empty Weight, lb.	253
Gross Weight, lb.	550
Length, ft.	20.2
Wingspan, ft.	28.9
Wing Area, sq. ft.	125

No. of Seats	1
Landing Gear	tri or tail
Bldg. Materials	T, F
Beginner Build Time, hrs.	200
No. Completed & Flown	2
Cost	\$14,324
www.cgsaviation.com	
440/564-1214	



CGS Aviation
Hawk II Arrow

Top Speed, mph	90
Cruise, mph	70
Stall, mph	35
Range, n.m.	150
Rate of Climb, fpm	600
Takeoff Distance, ft.	200

Landing Distance, ft.	300
Engine Used	Rotax 503
HP/HP Range	52/52-65
Fuel Capacity, gal.	5
Empty Weight, lb.	395
Gross Weight, lb.	950
Length, ft.	22.1
Wingspan, ft.	34
Wing Area, sq. ft.	159

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	T, F
Beginner Build Time, hrs.	200
No. Completed & Flown	120
Cost	\$16,730
www.cgsaviation.com	
440/564-1214	



CGS Aviation
Hawk II Classic

Top Speed, mph	100
Cruise, mph	65
Stall, mph	30
Range, n.m.	175
Rate of Climb, fpm	600
Takeoff Distance, ft.	200

Landing Distance, ft.	300
Engine Used	Rotax 503
HP/HP Range	52/40-65
Fuel Capacity, gal.	5
Empty Weight, lb.	395
Gross Weight, lb.	950
Length, ft.	21.4
Wingspan, ft.	34
Wing Area, sq. ft.	159

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	T, F
Beginner Build Time, hrs.	200
No. Completed & Flown	320
Cost	\$15,490
www.cgsaviation.com	
440/632-1214	



Classic Sport Aircraft
S-18 & S-18T

Top Speed, mph	215
Cruise, mph	190
Stall, mph	63
Range, n.m.	576
Rate of Climb, fpm	1200
Takeoff Distance, ft.	900

Landing Distance, ft.	1200
Engine Used	Lycoming
HP/HP Range	180/125-190
Fuel Capacity, gal.	29
Empty Weight, lb.	946
Gross Weight, lb.	1600
Length, ft.	19.3
Wingspan, ft.	20.9
Wing Area, sq. ft.	86

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	M
Beginner Build Time, hrs.	1900
No. Completed & Flown	51
Cost	\$17,820
www.classicsportaircraft.com	
559/539-2755	



Composite Aeronautic Group
Toxo Sportster

Top Speed, mph	180
Cruise, mph	175
Stall, mph	40
Range, n.m.	850
Rate of Climb, fpm	1500
Takeoff Distance, ft.	500

Landing Distance, ft.	600
Engine Used	Rotax 912
HP/HP Range	100/85-160
Fuel Capacity, gal.	40
Empty Weight, lb.	750
Gross Weight, lb.	1536
Length, ft.	17.7
Wingspan, ft.	28
Wing Area, sq. ft.	94

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	500
No. Completed & Flown	23
Cost	\$47,500
www.compositeaerogroup.com	
760/702-7057	



Creative Flight
Aerocat SR

Top Speed, mph	185
Cruise, mph	175
Stall, mph	50
Range, n.m.	970
Rate of Climb, fpm	1200
Takeoff Distance, ft.	600

Landing Distance, ft.	450
Engine Used	Cont. IO-360
HP/HP Range	210/180-320
Fuel Capacity, gal.	68
Empty Weight, lb.	1600
Gross Weight, lb.	2700
Length, ft.	27
Wingspan, ft.	34
Wing Area, sq. ft.	170

No. of Seats	4
Landing Gear	trigear/R
Bldg. Materials	C
Beginner Build Time, hrs.	700
No. Completed & Flown	1
Cost	\$74,000
www.creativeflight.com	
705/457-2192	



Creative Flight
Aerocat SRX

Top Speed, mph	165
Cruise, mph	150
Stall, mph	50
Range, n.m.	830
Rate of Climb, fpm	1100
Takeoff Distance, ft.	600

Landing Distance, ft.	450
Engine Used	Cont. IO-360
HP/HP Range	210/200-300
Fuel Capacity, gal.	68
Empty Weight, lb.	1800
Gross Weight, lb.	2700
Length, ft.	27
Wingspan, ft.	34
Wing Area, sq. ft.	170

No. of Seats	4
Landing Gear	trigear/R
Bldg. Materials	C
Beginner Build Time, hrs.	500
No. Completed & Flown	1
Cost	\$89,000
www.creativeflight.com	
705/457-2192	



Creative Flight
Aerocat TR

Top Speed, mph	185
Cruise, mph	175
Stall, mph	50
Range, n.m.	950
Rate of Climb, fpm	1200
Takeoff Distance, ft.	600

Landing Distance, ft.	450
Engine Used	Jabiru 3300 (2)
HP/HP Range	260/210-300
Fuel Capacity, gal.	68
Empty Weight, lb.	1800
Gross Weight, lb.	2700
Length, ft.	27
Wingspan, ft.	34
Wing Area, sq. ft.	165

No. of Seats	4
Landing Gear	trigear/R
Bldg. Materials	C
Beginner Build Time, hrs.	500
No. Completed & Flown	1
Cost	\$78,000
www.creativeflight.com	
705/457-2192	





**Creative Flight
Aerocat TRX**

Top Speed, mph	165
Cruise, mph	155
Stall, mph	50
Range, n.m.	850
Rate of Climb, fpm	1100
Takeoff Distance, ft.	600

Landing Distance, ft.	450
Engine Used	Jabiru 3300 (2)
HP/HP Range	260/210-300 (total)
Fuel Capacity, gal.	68
Empty Weight, lb.	1800
Gross Weight, lb.	2700
Length, ft.	27
Wingspan, ft.	34
Wing Area, sq. ft.	165

No. of Seats	4
Landing Gear	trigear/R
Bldg. Materials	C
Beginner Build Time, hrs.	500
No. Completed & Flown	1
Cost	\$93,000

www.creativeflight.com
705/457-2192



**Culp's Specialties
Culp's Special**

Top Speed, mph	185
Cruise, mph	170
Stall, mph	67
Range, n.m.	561
Rate of Climb, fpm	4500
Takeoff Distance, ft.	500

Landing Distance, ft.	300
Engine Used	M-14P
HP/HP Range	360/240-400
Fuel Capacity, gal.	54
Empty Weight, lb.	1520
Gross Weight, lb.	2300
Length, ft.	21
Wingspan, ft.	24
Wing Area, sq. ft.	161

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W, T, F
Beginner Build Time, hrs.	3500
No. Completed & Flown	5
Cost	\$51,000

www.culpsspecialties.com
318/222-0850



**Culp's Specialties
Sopwith Pup**

Top Speed, mph	180
Cruise, mph	150
Stall, mph	38
Range, n.m.	600
Rate of Climb, fpm	4000
Takeoff Distance, ft.	300

Landing Distance, ft.	400
Engine Used	M-14P
HP/HP Range	360/200-400
Fuel Capacity, gal.	52
Empty Weight, lb.	1750
Gross Weight, lb.	2400
Length, ft.	18
Wingspan, ft.	26.5
Wing Area, sq. ft.	265

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W, T, F
Beginner Build Time, hrs.	4500
No. Completed & Flown	3
Cost	\$47,000

www.culpsspecialties.com
318/222-0850



**Custom Flight
Lite Star**

Top Speed, mph	125
Cruise, mph	100
Stall, mph	45
Range, n.m.	350
Rate of Climb, fpm	1000
Takeoff Distance, ft.	200

Landing Distance, ft.	200
Engine Used	Corvaire
HP/HP Range	110/65-110
Fuel Capacity, gal.	20
Empty Weight, lb.	650
Gross Weight, lb.	1320
Length, ft.	21
Wingspan, ft.	30.5
Wing Area, sq. ft.	n.p.

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	M, T, F
Beginner Build Time, hrs.	600
No. Completed & Flown	1
Cost	\$22,000

www.customflightttd.com
705/526-9626



**Custom Flight
North Star**

Top Speed, mph	140
Cruise, mph	115
Stall, mph	25
Range, n.m.	600
Rate of Climb, fpm	1100
Takeoff Distance, ft.	180

Landing Distance, ft.	200
Engine Used	Lyc. O-320
HP/HP Range	150/150-180
Fuel Capacity, gal.	52
Empty Weight, lb.	1170
Gross Weight, lb.	2350
Length, ft.	22.5
Wingspan, ft.	36.3
Wing Area, sq. ft.	190.7

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	M, T, F
Beginner Build Time, hrs.	1200
No. Completed & Flown	16
Cost	\$49,500

www.customflightttd.com
705/526-9626



**DFE Ultralights
Ascender 3A**

Top Speed, mph	55
Cruise, mph	40
Stall, mph	n.p.
Range, n.m.	150
Rate of Climb, fpm	400
Takeoff Distance, ft.	125

Landing Distance, ft.	50
Engine Used	2si
HP/HP Range	22
Fuel Capacity, gal.	5
Empty Weight, lb.	165
Gross Weight, lb.	425
Length, ft.	12.3
Wingspan, ft.	33
Wing Area, sq. ft.	162

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	80
No. Completed & Flown	400+
Cost	\$6900

<http://204.215.195.118/default.html>
724/529-0450



**DFE Ultralights
Ascender 3B**

Top Speed, mph	55
Cruise, mph	40
Stall, mph	n.p.
Range, n.m.	150
Rate of Climb, fpm	1000
Takeoff Distance, ft.	80

Landing Distance, ft.	50
Engine Used	Cuyuna 430
HP/HP Range	35/25-45
Fuel Capacity, gal.	5
Empty Weight, lb.	215
Gross Weight, lb.	465
Length, ft.	16.8
Wingspan, ft.	33
Wing Area, sq. ft.	173

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	100
No. Completed & Flown	1000+
Cost	\$8200

<http://204.215.195.118/default.html>
724/529-0450



**DFE Ultralights
Ascender 3C**

Top Speed, mph	55
Cruise, mph	40
Stall, mph	n.p.
Range, n.m.	150
Rate of Climb, fpm	1000
Takeoff Distance, ft.	90

Landing Distance, ft.	50
Engine Used	2si
HP/HP Range	35/25-65
Fuel Capacity, gal.	5
Empty Weight, lb.	235
Gross Weight, lb.	535
Length, ft.	16.8
Wingspan, ft.	33
Wing Area, sq. ft.	173

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	100
No. Completed & Flown	1000+
Cost	\$8500

<http://204.215.195.118/default.html>
724/529-0450



**Earthstar Aircraft
Soaring Gull**

Top Speed, mph	63
Cruise, mph	63
Stall, mph	23
Range, n.m.	180
Rate of Climb, fpm	850
Takeoff Distance, ft.	115

Landing Distance, ft.	70
Engine Used	Hirth F-33
HP/HP Range	30/25-52
Fuel Capacity, gal.	5
Empty Weight, lb.	254
Gross Weight, lb.	550
Length, ft.	18
Wingspan, ft.	28
Wing Area, sq. ft.	133

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	C, M, T, F
Beginner Build Time, hrs.	150
No. Completed & Flown	4
Cost	\$15,590

www.thundergull.com
805/438-5235



**Epic Air
Epic LT**

Top Speed, mph	n.p.
Cruise, mph	402
Stall, mph	70
Range, n.m.	1848
Rate of Climb, fpm	3180
Takeoff Distance, ft.	1450

Landing Distance, ft.	1700
Engine Used	P&W PT6A-67A
HP/HP Range	1200/750-1200
Fuel Capacity, gal.	288
Empty Weight, lb.	3640
Gross Weight, lb.	7040
Length, ft.	35.8
Wingspan, ft.	43
Wing Area, sq. ft.	203.6

No. of Seats	6
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	2000
No. Completed & Flown	1
Cost	\$760,000

www.epicaircraft.com
805/544-2637



**Esqual North America
Esqual Sport**

Top Speed, mph	132
Cruise, mph	132
Stall, mph	34
Range, n.m.	750
Rate of Climb, fpm	1000
Takeoff Distance, ft.	300

Landing Distance, ft.	350
Engine Used	Jabiru 2200
HP/HP Range	80/80
Fuel Capacity, gal.	25
Empty Weight, lb.	625
Gross Weight, lb.	1232
Length, ft.	20
Wingspan, ft.	30.1
Wing Area, sq. ft.	100

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	250
No. Completed & Flown	5
Cost	\$39,000

www.esqualna.com
931/680-2800



**Esqual North America
VM-1 Esqual**

Top Speed, mph	180
Cruise, mph	160
Stall, mph	43
Range, n.m.	700
Rate of Climb, fpm	1500
Takeoff Distance, ft.	315

Landing Distance, ft.	500
Engine Used	Jabiru 3300
HP/HP Range	120/100-120
Fuel Capacity, gal.	25
Empty Weight, lb.	675
Gross Weight, lb.	1232
Length, ft.	20
Wingspan, ft.	30.1
Wing Area, sq. ft.	100

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	250
No. Completed & Flown	85
Cost	\$39,000

www.esqualna.com
931/680-2800



**Europa Aircraft 2004
Europa XS Monowheel**

Top Speed, mph	200
Cruise, mph	167
Stall, mph	57
Range, n.m.	849
Rate of Climb, fpm	1000
Takeoff Distance, ft.	530

Landing Distance, ft.	600
Engine Used	Rotax 912S
HP/HP Range	100/80-120
Fuel Capacity, gal.	18
Empty Weight, lb.	790
Gross Weight, lb.	n.p.
Length, ft.	19.2
Wingspan, ft.	27.2
Wing Area, sq. ft.	102

No. of Seats	2
Landing Gear	monowheel/R
Bldg. Materials	C
Beginner Build Time, hrs.	1200
No. Completed & Flown	400
Cost	\$37,430

1302 N. Monte Vista Avenue, #5
Upland, CA 91786
909/920-3055, 909/268-5001



**Europa Aircraft 2004
Europa XS Trigear**

Top Speed, mph	191
Cruise, mph	155
Stall, mph	57
Range, n.m.	849
Rate of Climb, fpm	1300
Takeoff Distance, ft.	500

Landing Distance, ft.	600
Engine Used	Rotax 914S
HP/HP Range	80/80-120
Fuel Capacity, gal.	18
Empty Weight, lb.	820
Gross Weight, lb.	n.p.
Length, ft.	19.2
Wingspan, ft.	27.2
Wing Area, sq. ft.	102

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	1200
No. Completed & Flown	400
Cost	\$38,330

1302 N. Monte Vista Avenue, #5
Upland, CA 91786
909/920-3055, 909/268-5001



**Excalibur Aircraft
Excalibur Stretch**

Top Speed, mph	90
Cruise, mph	80
Stall, mph	33
Range, n.m.	250
Rate of Climb, fpm	1200
Takeoff Distance, ft.	100

Landing Distance, ft.	300
Engine Used	Rotax 503
HP/HP Range	52/52-65
Fuel Capacity, gal.	20
Empty Weight, lb.	425
Gross Weight, lb.	950
Length, ft.	20
Wingspan, ft.	31.5
Wing Area, sq. ft.	183

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	150
No. Completed & Flown	498
Cost	\$15,980

www.excaliburaircraft.com
863/385-9486



**Excalibur Aircraft
Excalibur 582**

Top Speed, mph	90
Cruise, mph	80
Stall, mph	33
Range, n.m.	250
Rate of Climb, fpm	1200
Takeoff Distance, ft.	80

Landing Distance, ft.	300
Engine Used	Rotax 582
HP/HP Range	65/65
Fuel Capacity, gal.	20
Empty Weight, lb.	425
Gross Weight, lb.	950
Length, ft.	20
Wingspan, ft.	31.5
Wing Area, sq. ft.	183

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	150
No. Completed & Flown	375
Cost	\$17,848

www.excaliburaircraft.com
863/385-9486



**Falconar Avia
AMF-14H**

Top Speed, mph	115
Cruise, mph	92
Stall, mph	92
Range, n.m.	300
Rate of Climb, fpm	700
Takeoff Distance, ft.	200

Landing Distance, ft.	200
Engine Used	Rotax 912S
HP/HP Range	100/65-110
Fuel Capacity, gal.	26
Empty Weight, lb.	650
Gross Weight, lb.	1320
Length, ft.	22
Wingspan, ft.	32
Wing Area, sq. ft.	188

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	W, F
Beginner Build Time, hrs.	1100
No. Completed & Flown	1
Cost	\$12,100

www.falconaravia.com
780/465-2024



**Falconar Avia
AMF-Super 14D Maranda**

Top Speed, mph	130
Cruise, mph	120
Stall, mph	39
Range, n.m.	295
Rate of Climb, fpm	1000
Takeoff Distance, ft.	200

Landing Distance, ft.	200
Engine Used	Lycoming
HP/HP Range	150/85-200
Fuel Capacity, gal.	22
Empty Weight, lb.	1100
Gross Weight, lb.	1850
Length, ft.	22
Wingspan, ft.	31.8
Wing Area, sq. ft.	158

No. of Seats	2,3
Landing Gear	tri or tail
Bldg. Materials	W, F
Beginner Build Time, hrs.	1200
No. Completed & Flown	90
Cost	\$12,269

www.falconaravia.com
780/465-2024



**Falconar Avia
F11A Sporty**

Top Speed, mph	130
Cruise, mph	128
Stall, mph	38
Range, n.m.	435
Rate of Climb, fpm	800
Takeoff Distance, ft.	250

Landing Distance, ft.	300
Engine Used	Continental
HP/HP Range	85/60-130
Fuel Capacity, gal.	17
Empty Weight, lb.	780
Gross Weight, lb.	1300
Length, ft.	22
Wingspan, ft.	27.3
Wing Area, sq. ft.	138

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W, F
Beginner Build Time, hrs.	1000
No. Completed & Flown	90
Cost	\$11,816

www.falconaravia.com
780/465-2024



**Falconar Avia
F12A Cruiser**

Top Speed, mph	170
Cruise, mph	160
Stall, mph	58
Range, n.m.	800
Rate of Climb, fpm	1200
Takeoff Distance, ft.	600

Landing Distance, ft.	500
Engine Used	RWS Mazda 13B
HP/HP Range	160/125-200
Fuel Capacity, gal.	44
Empty Weight, lb.	1100
Gross Weight, lb.	1850
Length, ft.	24
Wingspan, ft.	29
Wing Area, sq. ft.	142

No. of Seats	3
Landing Gear	tailwheel
Bldg. Materials	W, F
Beginner Build Time, hrs.	1200
No. Completed & Flown	20
Cost	\$12,516

www.falconaravia.com
780/465-2024



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MANAGEMENT, AND CIRCULATION**
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**Falconar Avia
SAL Mustang (2/3 Scale)**

Top Speed, mph	230
Cruise, mph	185
Stall, mph	60
Range, n.m.	500
Rate of Climb, fpm	1850
Takeoff Distance, ft.	700

Landing Distance, ft.	700
Engine Used	Ranger 6-440-C5
HP/HP Range	200/200-350
Fuel Capacity, gal.	36
Empty Weight, lb.	1420
Gross Weight, lb.	2180
Length, ft.	22.5
Wingspan, ft.	24.9
Wing Area, sq. ft.	110

No. of Seats	1,2
Landing Gear	tailwheel/R
Bldg. Materials	W
Beginner Build Time, hrs.	2500
No. Completed & Flown	16
Cost	\$29,155

www.falconaravia.com
780/465-2024



**Falconar Avia
Turbi D5**

Top Speed, mph	100
Cruise, mph	90
Stall, mph	28
Range, n.m.	250
Rate of Climb, fpm	700
Takeoff Distance, ft.	600

Landing Distance, ft.	400
Engine Used	Continental
HP/HP Range	65/65-115
Fuel Capacity, gal.	16
Empty Weight, lb.	600
Gross Weight, lb.	1067
Length, ft.	25.8
Wingspan, ft.	28.5
Wing Area, sq. ft.	142

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W, F
Beginner Build Time, hrs.	1100
No. Completed & Flown	1
Cost	\$11,984

www.falconaravia.com
780/465-2024



**Falconar Avia
290E/293E**

Top Speed, mph	70
Cruise, mph	55
Stall, mph	28
Range, n.m.	250
Rate of Climb, fpm	500
Takeoff Distance, ft.	180

Landing Distance, ft.	150
Engine Used	Kawasaki
HP/HP Range	30/25-35
Fuel Capacity, gal.	5
Empty Weight, lb.	246
Gross Weight, lb.	476
Length, ft.	13
Wingspan, ft.	20
Wing Area, sq. ft.	117

No. of Seats	1
Landing Gear	tri or tail
Bldg. Materials	W, F
Beginner Build Time, hrs.	500
No. Completed & Flown	4
Cost	\$6021

www.falconaravia.com
780/465-2024



**Fisher Flying Products
Avenger**

Top Speed, mph	63
Cruise, mph	55
Stall, mph	26
Range, n.m.	150
Rate of Climb, fpm	700
Takeoff Distance, ft.	150

Landing Distance, ft.	150
Engine Used	Rotax 277
HP/HP Range	35/35-50
Fuel Capacity, gal.	5
Empty Weight, lb.	254
Gross Weight, lb.	500
Length, ft.	16.3
Wingspan, ft.	27
Wing Area, sq. ft.	121.5

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W
Beginner Build Time, hrs.	400
No. Completed & Flown	50+
Cost	\$5200

www.fisherflying.com
701/493-2286



**Fisher Flying Products
Celebrity**

Top Speed, mph	100
Cruise, mph	85
Stall, mph	40
Range, n.m.	200
Rate of Climb, fpm	800
Takeoff Distance, ft.	300

Landing Distance, ft.	300
Engine Used	Cont. O-200
HP/HP Range	85/85-125
Fuel Capacity, gal.	13
Empty Weight, lb.	600
Gross Weight, lb.	1230
Length, ft.	17
Wingspan, ft.	22
Wing Area, sq. ft.	175

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W
Beginner Build Time, hrs.	600
No. Completed & Flown	40
Cost	\$12,000

www.fisherflying.com
701/493-2286



**Fisher Flying Products
Classic**

Top Speed, mph	95
Cruise, mph	80
Stall, mph	35
Range, n.m.	225
Rate of Climb, fpm	800
Takeoff Distance, ft.	200

Landing Distance, ft.	200
Engine Used	Rotax 582
HP/HP Range	65/65-80
Fuel Capacity, gal.	8
Empty Weight, lb.	425
Gross Weight, lb.	850
Length, ft.	16.9
Wingspan, ft.	23
Wing Area, sq. ft.	154

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W
Beginner Build Time, hrs.	600
No. Completed & Flown	150
Cost	\$9500

www.fisherflying.com
701/493-2286



**Fisher Flying Products
Dakota Hawk**

Top Speed, mph	100
Cruise, mph	95
Stall, mph	35
Range, n.m.	250
Rate of Climb, fpm	800
Takeoff Distance, ft.	300

Landing Distance, ft.	300
Engine Used	Rotax 912
HP/HP Range	65/65-110
Fuel Capacity, gal.	12
Empty Weight, lb.	625
Gross Weight, lb.	1150
Length, ft.	19
Wingspan, ft.	28.5
Wing Area, sq. ft.	128

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W
Beginner Build Time, hrs.	600
No. Completed & Flown	25
Cost	\$12,500

www.fisherflying.com
701/493-2286



**Fisher Flying Products
FP-202 Koala**

Top Speed, mph	63
Cruise, mph	55
Stall, mph	26
Range, n.m.	180
Rate of Climb, fpm	750
Takeoff Distance, ft.	150

Landing Distance, ft.	150
Engine Used	Rotax 277
HP/HP Range	28/28-50
Fuel Capacity, gal.	5
Empty Weight, lb.	254
Gross Weight, lb.	500
Length, ft.	17.9
Wingspan, ft.	29
Wing Area, sq. ft.	120

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W
Beginner Build Time, hrs.	500
No. Completed & Flown	325
Cost	\$6750

www.fisherflying.com
701/493-2286



**Fisher Flying Products
FP-303**

Top Speed, mph	63
Cruise, mph	55
Stall, mph	26
Range, n.m.	85
Rate of Climb, fpm	750
Takeoff Distance, ft.	125

Landing Distance, ft.	125
Engine Used	Rotax 277
HP/HP Range	28/28-40
Fuel Capacity, gal.	5
Empty Weight, lb.	235
Gross Weight, lb.	450
Length, ft.	16.5
Wingspan, ft.	27.6
Wing Area, sq. ft.	111

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W
Beginner Build Time, hrs.	300
No. Completed & Flown	200
Cost	\$4500

www.fisherflying.com
701/493-2286



**Fisher Flying Products
FP-404**

Top Speed, mph	75
Cruise, mph	70
Stall, mph	30
Range, n.m.	140
Rate of Climb, fpm	700
Takeoff Distance, ft.	125

Landing Distance, ft.	200
Engine Used	Rotax 447
HP/HP Range	40/40-50
Fuel Capacity, gal.	7
Empty Weight, lb.	270
Gross Weight, lb.	540
Length, ft.	14.5
Wingspan, ft.	18
Wing Area, sq. ft.	120

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W
Beginner Build Time, hrs.	500
No. Completed & Flown	350
Cost	\$6650

www.fisherflying.com
701/493-2286



**Fisher Flying Products
FP-505 Skeeter**

Top Speed, mph	63
Cruise, mph	55
Stall, mph	26
Range, n.m.	150
Rate of Climb, fpm	750
Takeoff Distance, ft.	150

Landing Distance, ft.	150
Engine Used	Rotax 277
HP/HP Range	28/28-50
Fuel Capacity, gal.	5
Empty Weight, lb.	250
Gross Weight, lb.	500
Length, ft.	16.5
Wingspan, ft.	28
Wing Area, sq. ft.	112

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W
Beginner Build Time, hrs.	400
No. Completed & Flown	50+
Cost	\$5500

www.fisherflying.com
701/493-2286



**Fisher Flying Products
FP-606 Sky Baby**

Top Speed, mph	63
Cruise, mph	55
Stall, mph	26
Range, n.m.	150
Rate of Climb, fpm	750
Takeoff Distance, ft.	150

Landing Distance, ft.	150
Engine Used	Rotax 277
HP/HP Range	28/28-40
Fuel Capacity, gal.	5
Empty Weight, lb.	254
Gross Weight, lb.	500
Length, ft.	16.5
Wingspan, ft.	28
Wing Area, sq. ft.	112

No. of Seats	1
Landing Gear	tri or tail
Bldg. Materials	W
Beginner Build Time, hrs.	500
No. Completed & Flown	25+
Cost	\$6500

www.fisherflying.com
701/493-2286



**Fisher Flying Products
Horizon 1**

Top Speed, mph	95
Cruise, mph	85
Stall, mph	39
Range, n.m.	250
Rate of Climb, fpm	900
Takeoff Distance, ft.	250

Landing Distance, ft.	300
Engine Used	Limbach
HP/HP Range	65/65-100
Fuel Capacity, gal.	13
Empty Weight, lb.	520
Gross Weight, lb.	1050
Length, ft.	18.7
Wingspan, ft.	26
Wing Area, sq. ft.	113

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W
Beginner Build Time, hrs.	600
No. Completed & Flown	50
Cost	\$9250

www.fisherflying.com
701/493-2286



**Fisher Flying Products
Horizon 2**

Top Speed, mph	105
Cruise, mph	95
Stall, mph	35
Range, n.m.	250
Rate of Climb, fpm	800
Takeoff Distance, ft.	250

Landing Distance, ft.	250
Engine Used	Limbach
HP/HP Range	85/85-125
Fuel Capacity, gal.	13
Empty Weight, lb.	570
Gross Weight, lb.	1050
Length, ft.	19.7
Wingspan, ft.	26
Wing Area, sq. ft.	113

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W
Beginner Build Time, hrs.	600
No. Completed & Flown	30
Cost	\$12,500

www.fisherflying.com
701/493-2286



**Fisher Flying Products
R-80 Tiger Moth (80% Scale)**

Top Speed, mph	100
Cruise, mph	80
Stall, mph	38
Range, n.m.	250
Rate of Climb, fpm	800
Takeoff Distance, ft.	300

Landing Distance, ft.	300
Engine Used	Geo
HP/HP Range	80/80-110
Fuel Capacity, gal.	19
Empty Weight, lb.	660
Gross Weight, lb.	1150
Length, ft.	19
Wingspan, ft.	23
Wing Area, sq. ft.	170

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W
Beginner Build Time, hrs.	700
No. Completed & Flown	20
Cost	\$12,950

www.fisherflying.com
701/493-2286



**Fisher Flying Products
RS-80 Tiger Moth**

Top Speed, mph	100
Cruise, mph	80
Stall, mph	40
Range, n.m.	250
Rate of Climb, fpm	800
Takeoff Distance, ft.	300

Landing Distance, ft.	300
Engine Used	LOM
HP/HP Range	120/100-120
Fuel Capacity, gal.	19
Empty Weight, lb.	845
Gross Weight, lb.	1300
Length, ft.	19
Wingspan, ft.	23
Wing Area, sq. ft.	170

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	600
No. Completed & Flown	6
Cost	\$19,000

www.fisherflying.com
701/493-2286





**Fisher Flying Products
Super Koala**

Top Speed, mph	85
Cruise, mph	75
Stall, mph	30
Range, n.m.	200
Rate of Climb, fpm	800
Takeoff Distance, ft.	150

Landing Distance, ft.	200
Engine Used	Rotax 582
HP/HP Range	50/50-65
Fuel Capacity, gal.	12
Empty Weight, lb.	400
Gross Weight, lb.	850
Length, ft.	18
Wingspan, ft.	31
Wing Area, sq. ft.	140

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W
Beginner Build Time, hrs.	500
No. Completed & Flown	100
Cost	\$9100

www.fisherflying.com
701/493-2286



**Fisher Flying Products
Youngster**

Top Speed, mph	90
Cruise, mph	80
Stall, mph	32
Range, n.m.	225
Rate of Climb, fpm	700
Takeoff Distance, ft.	200

Landing Distance, ft.	250
Engine Used	Rotax 503
HP/HP Range	50/50-65
Fuel Capacity, gal.	8
Empty Weight, lb.	360
Gross Weight, lb.	600
Length, ft.	15.5
Wingspan, ft.	18
Wing Area, sq. ft.	126

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W
Beginner Build Time, hrs.	600
No. Completed & Flown	15
Cost	\$7200

www.fisherflying.com
701/493-2286



**Flightstar
Flightstar IISC**

Top Speed, mph	83
Cruise, mph	70
Stall, mph	36
Range, n.m.	200
Rate of Climb, fpm	700
Takeoff Distance, ft.	200

Landing Distance, ft.	300
Engine Used	HKS 700E
HP/HP Range	52/52-80
Fuel Capacity, gal.	10
Empty Weight, lb.	465
Gross Weight, lb.	992
Length, ft.	16
Wingspan, ft.	32
Wing Area, sq. ft.	160

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	150
No. Completed & Flown	90
Cost	\$17,995

www.flyflightstar.com
860/875-8185



**Flightstar
Flightstar IISL**

Top Speed, mph	83
Cruise, mph	65
Stall, mph	36
Range, n.m.	120
Rate of Climb, fpm	700
Takeoff Distance, ft.	200

Landing Distance, ft.	300
Engine Used	Rotax 503
HP/HP Range	52/50-80
Fuel Capacity, gal.	10
Empty Weight, lb.	425
Gross Weight, lb.	992
Length, ft.	16
Wingspan, ft.	32
Wing Area, sq. ft.	160

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	120
No. Completed & Flown	180
Cost	\$16,595

www.flyflightstar.com
860/875-8185



**Flightstar
Flightstar Spyder**

Top Speed, mph	63
Cruise, mph	63
Stall, mph	27
Range, n.m.	120
Rate of Climb, fpm	700
Takeoff Distance, ft.	100

Landing Distance, ft.	200
Engine Used	Rotax 477
HP/HP Range	40/40-60
Fuel Capacity, gal.	5
Empty Weight, lb.	280
Gross Weight, lb.	760
Length, ft.	13
Wingspan, ft.	30
Wing Area, sq. ft.	144

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	100
No. Completed & Flown	700
Cost	\$13,895

www.flyflightstar.com
860/875-8185



**Four Winds Aircraft
Four Winds FX210/FX250**

Top Speed, mph	287
Cruise, mph	215
Stall, mph	66
Range, n.m.	1400
Rate of Climb, fpm	1600
Takeoff Distance, ft.	800

Landing Distance, ft.	1400
Engine Used	Cont. IO-550
HP/HP Range	310/300-800
Fuel Capacity, gal.	130
Empty Weight, lb.	2050
Gross Weight, lb.	3400
Length, ft.	26
Wingspan, ft.	36
Wing Area, sq. ft.	137.7

No. of Seats	4-6
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	1000
No. Completed & Flown	12
Cost	\$68,000

www.fourwindsaircraft.com
386/426-7795



**Free Bird Innovations
Sportlite 2**

Top Speed, mph	80
Cruise, mph	75
Stall, mph	32
Range, n.m.	135
Rate of Climb, fpm	800
Takeoff Distance, ft.	250

Landing Distance, ft.	150
Engine Used	Rotax 503
HP/HP Range	48/48-80
Fuel Capacity, gal.	8.5
Empty Weight, lb.	320
Gross Weight, lb.	900
Length, ft.	15.2
Wingspan, ft.	26
Wing Area, sq. ft.	142

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	225
No. Completed & Flown	350
Cost	\$7800

www.flyfbi.com
218/844-5914



**Free Bird Innovations
Sportlite 103**

Top Speed, mph	62
Cruise, mph	55
Stall, mph	22
Range, n.m.	75
Rate of Climb, fpm	850
Takeoff Distance, ft.	75

Landing Distance, ft.	150
Engine Used	Rotax 447
HP/HP Range	70/70-100
Fuel Capacity, gal.	5
Empty Weight, lb.	250
Gross Weight, lb.	530
Length, ft.	15.6
Wingspan, ft.	26
Wing Area, sq. ft.	142

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	200
No. Completed & Flown	350
Cost	\$6800

www.flyfbi.com
218/844-5914



**Free Bird Innovations
Sportlite SS**

Top Speed, mph	85
Cruise, mph	75
Stall, mph	36
Range, n.m.	n.p.
Rate of Climb, fpm	800
Takeoff Distance, ft.	300

Landing Distance, ft.	300
Engine Used	Rotax 503
HP/HP Range	52/52-85
Fuel Capacity, gal.	10
Empty Weight, lb.	345
Gross Weight, lb.	870
Length, ft.	16.8
Wingspan, ft.	28
Wing Area, sq. ft.	142

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C, T, F
Beginner Build Time, hrs.	120
No. Completed & Flown	100
Cost	\$9995

www.flyfbi.com
218/844-5914



**Glasair Aviation
GlaStar**

Top Speed, mph	167
Cruise, mph	161
Stall, mph	49
Range, n.m.	926
Rate of Climb, fpm	2075
Takeoff Distance, ft.	290

Landing Distance, ft.	260
Engine Used	Lycoming
HP/HP Range	160/125-180
Fuel Capacity, gal.	50
Empty Weight, lb.	1200
Gross Weight, lb.	1960
Length, ft.	22.4
Wingspan, ft.	35
Wing Area, sq. ft.	128

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	C, M, T
Beginner Build Time, hrs.	1500
No. Completed & Flown	400+
Cost	\$29,950

www.glasairaviation.com
360/435-8533



**Glasair Aviation
Glasair Super II FT**

Top Speed, mph	228
Cruise, mph	210
Stall, mph	63
Range, n.m.	1469
Rate of Climb, fpm	2700
Takeoff Distance, ft.	n.p.

Landing Distance, ft.	n.p.
Engine Used	Lycoming
HP/HP Range	180/160-200
Fuel Capacity, gal.	81
Empty Weight, lb.	1300
Gross Weight, lb.	2200
Length, ft.	20.8
Wingspan, ft.	27.4
Wing Area, sq. ft.	91.5

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	2000
No. Completed & Flown	1200+
Cost	\$29,950

www.glasairaviation.com
360/435-8533



**Glasair Aviation
Glasair Super II RG**

Top Speed, mph	238
Cruise, mph	221
Stall, mph	63
Range, n.m.	1544
Rate of Climb, fpm	2700
Takeoff Distance, ft.	n.p.

Landing Distance, ft.	n.p.
Engine Used	Lycoming
HP/HP Range	180/160-200
Fuel Capacity, gal.	81
Empty Weight, lb.	1400
Gross Weight, lb.	2200
Length, ft.	20.8
Wingspan, ft.	27.4
Wing Area, sq. ft.	91.5

No. of Seats	2
Landing Gear	trigear/R
Bldg. Materials	C
Beginner Build Time, hrs.	2500
No. Completed & Flown	1200+
Cost	\$35,950

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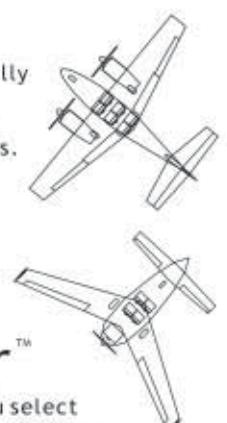
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**Glasair Aviation
Glasair III**

Top Speed, mph	290
Cruise, mph	278
Stall, mph	67
Range, n.m.	1265
Rate of Climb, fpm	2990
Takeoff Distance, ft.	n.p.

Landing Distance, ft.	n.p.
Engine Used	Lycoming
HP/HP Range	300/300
Fuel Capacity, gal.	81
Empty Weight, lb.	1600
Gross Weight, lb.	2500
Length, ft.	21.4
Wingspan, ft.	27.4
Wing Area, sq. ft.	91.5

No. of Seats	2
Landing Gear	trigear/R
Bldg. Materials	C
Beginner Build Time, hrs.	2500
No. Completed & Flown	1200+
Cost	\$44,950

www.glasairaviation.com
360/435-8533



**Glasair Aviation
Sportsman**

Top Speed, mph	167
Cruise, mph	158
Stall, mph	48
Range, n.m.	770
Rate of Climb, fpm	1950
Takeoff Distance, ft.	375

Landing Distance, ft.	260
Engine Used	Lycoming
HP/HP Range	180/180-200
Fuel Capacity, gal.	50
Empty Weight, lb.	1350
Gross Weight, lb.	2350
Length, ft.	23
Wingspan, ft.	35
Wing Area, sq. ft.	131

No. of Seats	4
Landing Gear	tri or tail
Bldg. Materials	C, M, F
Beginner Build Time, hrs.	1500
No. Completed & Flown	5
Cost	\$34,950

www.glasairaviation.com
360/435-8533



**Golden Circle Air
T-Bird I**

Top Speed, mph	78
Cruise, mph	60
Stall, mph	26
Range, n.m.	105
Rate of Climb, fpm	600
Takeoff Distance, ft.	75

Landing Distance, ft.	100
Engine Used	Rotax 447
HP/HP Range	28/28-65
Fuel Capacity, gal.	5
Empty Weight, lb.	254
Gross Weight, lb.	600
Length, ft.	18
Wingspan, ft.	32
Wing Area, sq. ft.	154

No. of Seats	1
Landing Gear	tri or tail
Bldg. Materials	T, F
Beginner Build Time, hrs.	100
No. Completed & Flown	4000+
Cost	\$13,650

www.goldencircleair.com
515/834-2225



**Golden Circle Air
T-Bird II**

Top Speed, mph	90
Cruise, mph	70
Stall, mph	38
Range, n.m.	140
Rate of Climb, fpm	800
Takeoff Distance, ft.	300

Landing Distance, ft.	300
Engine Used	Rotax 582
HP/HP Range	65/65-114
Fuel Capacity, gal.	12
Empty Weight, lb.	481
Gross Weight, lb.	1016
Length, ft.	18
Wingspan, ft.	36
Wing Area, sq. ft.	194

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	100
No. Completed & Flown	4000+
Cost	\$18,650

www.goldencircleair.com
515/834-2225



**Golden Circle Air
T-Bird Cargo**

Top Speed, mph	88
Cruise, mph	65
Stall, mph	39
Range, n.m.	228
Rate of Climb, fpm	800
Takeoff Distance, ft.	350

Landing Distance, ft.	300
Engine Used	Rotax 582
HP/HP Range	65/65-114
Fuel Capacity, gal.	20
Empty Weight, lb.	526
Gross Weight, lb.	1176
Length, ft.	21
Wingspan, ft.	36
Wing Area, sq. ft.	194

No. of Seats	3
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	120
No. Completed & Flown	78
Cost	\$21,890

www.goldencircleair.com
515/834-2225



**Green Sky Adventures
Micro Mong**

Top Speed, mph	90
Cruise, mph	80
Stall, mph	35
Range, n.m.	170
Rate of Climb, fpm	1000
Takeoff Distance, ft.	200

Landing Distance, ft.	400
Engine Used	Rotax 503
HP/HP Range	50/40-65
Fuel Capacity, gal.	9
Empty Weight, lb.	400
Gross Weight, lb.	650
Length, ft.	14
Wingspan, ft.	19.5
Wing Area, sq. ft.	100

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	400
No. Completed & Flown	17
Cost	\$8500

www.greenskyadventures.com
352/318-5625



**Hansen Aero
Tecnam P92 Super Echo**

Top Speed, mph	140
Cruise, mph	123
Stall, mph	39
Range, n.m.	400
Rate of Climb, fpm	1200
Takeoff Distance, ft.	590

Landing Distance, ft.	590
Engine Used	Rotax 912S
HP/HP Range	80/65-100
Fuel Capacity, gal.	18
Empty Weight, lb.	619
Gross Weight, lb.	1320
Length, ft.	20.7
Wingspan, ft.	30.5
Wing Area, sq. ft.	142

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C, M, T, F
Beginner Build Time, hrs.	1000
No. Completed & Flown	300
Cost	\$36,000

2600 Cessna Lane
Kennesaw, GA 30144
770/427-6311



**Harper Aircraft
Lil' Breezy**

Top Speed, mph	75
Cruise, mph	65
Stall, mph	28
Range, n.m.	150
Rate of Climb, fpm	1000
Takeoff Distance, ft.	125

Landing Distance, ft.	150
Engine Used	Rotax 503
HP/HP Range	40/40-80
Fuel Capacity, gal.	10
Empty Weight, lb.	350
Gross Weight, lb.	800
Length, ft.	18
Wingspan, ft.	30.5
Wing Area, sq. ft.	125

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	C, M, F
Beginner Build Time, hrs.	250
No. Completed & Flown	25
Cost	\$7795

www.harperaircraft.com
904/778-0021

Hevle Aviation
Hevle Classic

Top Speed, mph	135
Cruise, mph	105
Stall, mph	45
Range, n.m.	100
Rate of Climb, fpm	2500
Takeoff Distance, ft.	400

Landing Distance, ft.	500
Engine Used	Rotec R2800
HP/HP Range	110/85-150
Fuel Capacity, gal.	16
Empty Weight, lb.	800
Gross Weight, lb.	1320
Length, ft.	22
Wingspan, ft.	28
Wing Area, sq. ft.	120

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W, T, F
Beginner Build Time, hrs.	1200
No. Completed & Flown	1
Cost	\$14,995
www.hevleaviation.com	
661/858-4515	



Higher Class Aviation
Hornet

Top Speed, mph	120
Cruise, mph	110
Stall, mph	40
Range, n.m.	450
Rate of Climb, fpm	1200
Takeoff Distance, ft.	250

Landing Distance, ft.	140
Engine Used	Rotax 912
HP/HP Range	80/52-100
Fuel Capacity, gal.	18
Empty Weight, lb.	638
Gross Weight, lb.	1220
Length, ft.	20
Wingspan, ft.	27.5
Wing Area, sq. ft.	137

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	300
No. Completed & Flown	58
Cost	\$23,000
www.flyhornet.com	
760/789-8607	



Hipp's Superbirds
J-3 Kitten/Super Kitten

Top Speed, mph	63
Cruise, mph	59
Stall, mph	24
Range, n.m.	120
Rate of Climb, fpm	800
Takeoff Distance, ft.	50

Landing Distance, ft.	200
Engine Used	Rotax 277
HP/HP Range	28/28-40
Fuel Capacity, gal.	5
Empty Weight, lb.	254
Gross Weight, lb.	500
Length, ft.	16.3
Wingspan, ft.	30
Wing Area, sq. ft.	120

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	C, W, T, F
Beginner Build Time, hrs.	325
No. Completed & Flown	75+
Cost	\$9893
PO Box 266	
Saluda, NC 28773	
828/749-3986	



Hipp's Superbirds
J-4 Sportster/Super Sportster

Top Speed, mph	63
Cruise, mph	59
Stall, mph	24
Range, n.m.	120
Rate of Climb, fpm	800
Takeoff Distance, ft.	50

Landing Distance, ft.	200
Engine Used	Rotax 277
HP/HP Range	28/28-40
Fuel Capacity, gal.	5
Empty Weight, lb.	240
Gross Weight, lb.	500
Length, ft.	16.3
Wingspan, ft.	28
Wing Area, sq. ft.	112

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	C, W, T, F
Beginner Build Time, hrs.	325
No. Completed & Flown	75+
Cost	\$9993
PO Box 266	
Saluda, NC 28773	
828/749-3986	



Hipp's Superbirds
Reliant

Top Speed, mph	63
Cruise, mph	60
Stall, mph	24
Range, n.m.	120
Rate of Climb, fpm	800
Takeoff Distance, ft.	50

Landing Distance, ft.	200
Engine Used	Rotax 277
HP/HP Range	28/28-40
Fuel Capacity, gal.	5
Empty Weight, lb.	254
Gross Weight, lb.	500
Length, ft.	16.3
Wingspan, ft.	30
Wing Area, sq. ft.	120

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	C, W, T, F
Beginner Build Time, hrs.	325
No. Completed & Flown	75+
Cost	\$9993
PO Box 266	
Saluda, NC 28773	
828/749-3986	



Hipp's Superbirds
Reliant SX

Top Speed, mph	100
Cruise, mph	75
Stall, mph	31
Range, n.m.	120
Rate of Climb, fpm	1100
Takeoff Distance, ft.	50

Landing Distance, ft.	150
Engine Used	Rotax 447
HP/HP Range	40/40-50
Fuel Capacity, gal.	5
Empty Weight, lb.	285
Gross Weight, lb.	600
Length, ft.	16.3
Wingspan, ft.	30
Wing Area, sq. ft.	120

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	C, W, T, F
Beginner Build Time, hrs.	325
No. Completed & Flown	75+
Cost	\$11,282
PO Box 266	
Saluda, NC 28773	
828/749-3986	



Hummel Aviation
Hummel Bird

Top Speed, mph	145
Cruise, mph	115
Stall, mph	38
Range, n.m.	300
Rate of Climb, fpm	1000
Takeoff Distance, ft.	700

Landing Distance, ft.	800
Engine Used	1/2 VW
HP/HP Range	37/35-50
Fuel Capacity, gal.	7
Empty Weight, lb.	300
Gross Weight, lb.	550
Length, ft.	13.3
Wingspan, ft.	18
Wing Area, sq. ft.	57.2

No. of Seats	1
Landing Gear	tri or tail
Bldg. Materials	M
Beginner Build Time, hrs.	1200
No. Completed & Flown	120
Cost	\$9000
www.flyhummel.com	
419/636-6700	



Hummel Aviation
Ultracruiser

Top Speed, mph	100
Cruise, mph	85
Stall, mph	28
Range, n.m.	250
Rate of Climb, fpm	1000
Takeoff Distance, ft.	n.p.

Landing Distance, ft.	250
Engine Used	1/2 VW
HP/HP Range	37/28-45
Fuel Capacity, gal.	5
Empty Weight, lb.	250
Gross Weight, lb.	500
Length, ft.	16
Wingspan, ft.	25
Wing Area, sq. ft.	112

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	M
Beginner Build Time, hrs.	1200
No. Completed & Flown	14
Cost	\$11,000
www.flyhummel.com	
419/636-6700	





**Hummel Aviation
Ultracruiser Plus**

Top Speed, mph	120
Cruise, mph	100
Stall, mph	36
Range, n.m.	300
Rate of Climb, fpm	900
Takeoff Distance, ft.	250

Landing Distance, ft.	500
Engine Used	VW
HP/HP Range	60/50-80
Fuel Capacity, gal.	10
Empty Weight, lb.	420
Gross Weight, lb.	750
Length, ft.	17
Wingspan, ft.	25
Wing Area, sq. ft.	112

No. of Seats	1
Landing Gear	tri or tail
Bldg. Materials	M
Beginner Build Time, hrs.	600
No. Completed & Flown	6
Cost	\$14,500

www.flyhummel.com
419/636-6700



**Jabiru USA Sport Aircraft
Calypso**

Top Speed, mph	132
Cruise, mph	120
Stall, mph	40
Range, n.m.	600
Rate of Climb, fpm	1000
Takeoff Distance, ft.	100

Landing Distance, ft.	546
Engine Used	Jabiru 2200
HP/HP Range	80/80-120
Fuel Capacity, gal.	18
Empty Weight, lb.	560
Gross Weight, lb.	1100
Length, ft.	18.6
Wingspan, ft.	30.1
Wing Area, sq. ft.	100

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	600
No. Completed & Flown	200
Cost	\$25,000

www.usjabiru.com
931/680-2800



**Jabiru USA Sport Aircraft
J200**

Top Speed, mph	155
Cruise, mph	142
Stall, mph	45
Range, n.m.	900
Rate of Climb, fpm	1000
Takeoff Distance, ft.	600

Landing Distance, ft.	600
Engine Used	Jabiru 3300
HP/HP Range	120/120
Fuel Capacity, gal.	37
Empty Weight, lb.	672
Gross Weight, lb.	1540
Length, ft.	21.5
Wingspan, ft.	27.4
Wing Area, sq. ft.	87

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	600
No. Completed & Flown	80
Cost	\$35,500

www.usjabiru.com
931/680-2800



**Jabiru USA Sport Aircraft
J250**

Top Speed, mph	132
Cruise, mph	132
Stall, mph	40
Range, n.m.	800
Rate of Climb, fpm	2000
Takeoff Distance, ft.	100

Landing Distance, ft.	500
Engine Used	Jabiru 3300
HP/HP Range	120/120
Fuel Capacity, gal.	37
Empty Weight, lb.	700
Gross Weight, lb.	1232
Length, ft.	21.5
Wingspan, ft.	30
Wing Area, sq. ft.	120

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	600
No. Completed & Flown	5
Cost	\$37,500

www.usjabiru.com
931/680-2800



**Jabiru USA Sport Aircraft
J400/J450**

Top Speed, mph	152
Cruise, mph	138
Stall, mph	55
Range, n.m.	800
Rate of Climb, fpm	1000
Takeoff Distance, ft.	900

Landing Distance, ft.	600
Engine Used	Jabiru 3300
HP/HP Range	120/120
Fuel Capacity, gal.	37
Empty Weight, lb.	720
Gross Weight, lb.	1540
Length, ft.	21.5
Wingspan, ft.	27.5
Wing Area, sq. ft.	87

No. of Seats	4
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	600
No. Completed & Flown	60
Cost	\$39,500/\$41,500

www.usjabiru.com
931/680-2800



**JDT Mini-Max
Enclosed Cockpit, 1600R**

Top Speed, mph	100
Cruise, mph	72
Stall, mph	28
Range, n.m.	180
Rate of Climb, fpm	1200
Takeoff Distance, ft.	100

Landing Distance, ft.	210
Engine Used	Rotax 447
HP/HP Range	42/30-50
Fuel Capacity, gal.	10
Empty Weight, lb.	301
Gross Weight, lb.	560
Length, ft.	16
Wingspan, ft.	25
Wing Area, sq. ft.	112.5

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W, F
Beginner Build Time, hrs.	400
No. Completed & Flown	230
Cost	\$5115

www.jdtmini-max.com
574/773-2151



**JDT Mini-Max
Enclosed Cockpit, 1650R Eros**

Top Speed, mph	100
Cruise, mph	75
Stall, mph	31
Range, n.m.	200
Rate of Climb, fpm	1000
Takeoff Distance, ft.	150

Landing Distance, ft.	250
Engine Used	Rotax 503
HP/HP Range	50/50-60
Fuel Capacity, gal.	10
Empty Weight, lb.	376
Gross Weight, lb.	700
Length, ft.	16
Wingspan, ft.	26.5
Wing Area, sq. ft.	112.5

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W, F
Beginner Build Time, hrs.	450
No. Completed & Flown	250
Cost	\$5495

www.jdtmini-max.com
574/773-2151



**JDT Mini-Max
Hi-MAX, 1700R**

Top Speed, mph	100
Cruise, mph	70
Stall, mph	31
Range, n.m.	120
Rate of Climb, fpm	1200
Takeoff Distance, ft.	100

Landing Distance, ft.	210
Engine Used	Rotax 447
HP/HP Range	42/30-50
Fuel Capacity, gal.	10
Empty Weight, lb.	319
Gross Weight, lb.	560
Length, ft.	16
Wingspan, ft.	25
Wing Area, sq. ft.	112.5

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W, F
Beginner Build Time, hrs.	400
No. Completed & Flown	160
Cost	\$5115

www.jdtmini-max.com
574/773-2151



**JDT Mini-Max
Mini-MAX, 1100R**

Top Speed, mph	100
Cruise, mph	55
Stall, mph	30
Range, n.m.	120
Rate of Climb, fpm	1000
Takeoff Distance, ft.	100

Landing Distance, ft.	200
Engine Used	Rotax 447
HP/HP Range	42/28-42
Fuel Capacity, gal.	10
Empty Weight, lb.	275
Gross Weight, lb.	560
Length, ft.	16
Wingspan, ft.	25
Wing Area, sq. ft.	112.5

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W, F
Beginner Build Time, hrs.	300
No. Completed & Flown	500
Cost	\$4065
www.jdtmini-max.com	
574/773-2151	



**JDT Mini-Max
Open Cockpit, 1500R**

Top Speed, mph	100
Cruise, mph	65
Stall, mph	28
Range, n.m.	150
Rate of Climb, fpm	1200
Takeoff Distance, ft.	100

Landing Distance, ft.	210
Engine Used	Rotax 447
HP/HP Range	42/30-50
Fuel Capacity, gal.	10
Empty Weight, lb.	269
Gross Weight, lb.	560
Length, ft.	16
Wingspan, ft.	25
Wing Area, sq. ft.	112.5

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W, F
Beginner Build Time, hrs.	350
No. Completed & Flown	152
Cost	\$4895
www.jdtmini-max.com	
574/773-2151	



**JDT Mini-Max
V-MAX, 1550V**

Top Speed, mph	110
Cruise, mph	75
Stall, mph	38
Range, n.m.	150
Rate of Climb, fpm	900
Takeoff Distance, ft.	150

Landing Distance, ft.	250
Engine Used	VW
HP/HP Range	50/50-60
Fuel Capacity, gal.	10
Empty Weight, lb.	400
Gross Weight, lb.	700
Length, ft.	16
Wingspan, ft.	26.5
Wing Area, sq. ft.	118

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W, F
Beginner Build Time, hrs.	400
No. Completed & Flown	115
Cost	\$5275
www.jdtmini-max.com	
574/773-2151	



**JDT Mini-Max
1030R MAX 103 Ultralight**

Top Speed, mph	100
Cruise, mph	55
Stall, mph	26
Range, n.m.	120
Rate of Climb, fpm	800
Takeoff Distance, ft.	100

Landing Distance, ft.	210
Engine Used	Rotax 277
HP/HP Range	30
Fuel Capacity, gal.	10
Empty Weight, lb.	250
Gross Weight, lb.	560
Length, ft.	16
Wingspan, ft.	25
Wing Area, sq. ft.	112.5

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W, F
Beginner Build Time, hrs.	400
No. Completed & Flown	200+
Cost	\$4295
www.jdtmini-max.com	
574/773-2151	



**Jim Kimball Enterprises
Pitts Model 12**

Top Speed, mph	205
Cruise, mph	170
Stall, mph	64
Range, n.m.	500
Rate of Climb, fpm	3200
Takeoff Distance, ft.	300

Landing Distance, ft.	900
Engine Used	M-14P
HP/HP Range	360/300-450
Fuel Capacity, gal.	54
Empty Weight, lb.	1500
Gross Weight, lb.	2300
Length, ft.	19.5
Wingspan, ft.	22
Wing Area, sq. ft.	150

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W, T, F
Beginner Build Time, hrs.	2500
No. Completed & Flown	28
Cost	\$49,150
www.pittsmodel12.com	
407/889-3451	



**JLN Distributors
BD-17**

Top Speed, mph	146
Cruise, mph	142
Stall, mph	56
Range, n.m.	700
Rate of Climb, fpm	800
Takeoff Distance, ft.	650

Landing Distance, ft.	550
Engine Used	HKS 700E
HP/HP Range	60/60-120
Fuel Capacity, gal.	20
Empty Weight, lb.	560
Gross Weight, lb.	1000
Length, ft.	17.9
Wingspan, ft.	21.5
Wing Area, sq. ft.	53.5

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	M
Beginner Build Time, hrs.	200
No. Completed & Flown	7
Cost	\$32,000
www.jimbede.com	
330/725-9911	



**Johnston Aviation
Tiger Cub UL**

Top Speed, mph	90
Cruise, mph	65
Stall, mph	25
Range, n.m.	100
Rate of Climb, fpm	800
Takeoff Distance, ft.	150

Landing Distance, ft.	300
Engine Used	Rotax 447
HP/HP Range	40/25-55
Fuel Capacity, gal.	5
Empty Weight, lb.	275
Gross Weight, lb.	650
Length, ft.	19
Wingspan, ft.	29.4
Wing Area, sq. ft.	130

No. of Seats	1
Landing Gear	tri or tail
Bldg. Materials	T, F
Beginner Build Time, hrs.	450
No. Completed & Flown	1
Cost	\$8700
www.tigercubaircraft.com	
724/745-4040	



**Johnston Aviation
Tiger Cub II**

Top Speed, mph	110
Cruise, mph	100
Stall, mph	30
Range, n.m.	400
Rate of Climb, fpm	1000
Takeoff Distance, ft.	300

Landing Distance, ft.	600
Engine Used	Rotax 912
HP/HP Range	100/65-100
Fuel Capacity, gal.	15
Empty Weight, lb.	700
Gross Weight, lb.	1200
Length, ft.	22.6
Wingspan, ft.	33
Wing Area, sq. ft.	170

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	T, F
Beginner Build Time, hrs.	200
No. Completed & Flown	1
Cost	\$21,500
www.tigercubaircraft.com	
724/745-4040	





**Just Aircraft
Escapade**

Top Speed, mph	130
Cruise, mph	110
Stall, mph	27
Range, n.m.	450
Rate of Climb, fpm	1500
Takeoff Distance, ft.	100

Landing Distance, ft.	100
Engine Used	Rotax 912UL
HP/HP Range	80
Fuel Capacity, gal.	19
Empty Weight, lb.	550
Gross Weight, lb.	1320
Length, ft.	19
Wingspan, ft.	28.5
Wing Area, sq. ft.	108

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	T, F
Beginner Build Time, hrs.	500
No. Completed & Flown	10
Cost	\$15,500

www.justaircraft.com
864/718-0320



**Just Aircraft
Highlander**

Top Speed, mph	130
Cruise, mph	105
Stall, mph	25
Range, n.m.	450
Rate of Climb, fpm	1500
Takeoff Distance, ft.	100

Landing Distance, ft.	75
Engine Used	Rotax 912ULS
HP/HP Range	100/80-100
Fuel Capacity, gal.	19
Empty Weight, lb.	600
Gross Weight, lb.	1320
Length, ft.	19
Wingspan, ft.	31.5
Wing Area, sq. ft.	116

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	500
No. Completed & Flown	2
Cost	\$21,500

www.justaircraft.com
864/718-0320



**Lancair International
ES/Super ES**

Top Speed, mph	n.p.
Cruise, mph	225
Stall, mph	65
Range, n.m.	1350
Rate of Climb, fpm	2000
Takeoff Distance, ft.	600

Landing Distance, ft.	800
Engine Used	Cont. IO-550
HP/HP Range	310/210-310
Fuel Capacity, gal.	95
Empty Weight, lb.	2000
Gross Weight, lb.	3200
Length, ft.	25
Wingspan, ft.	35.5
Wing Area, sq. ft.	140

No. of Seats	4
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	1200
No. Completed & Flown	49
Cost	\$71,900

www.lancair-kits.com
541/923-2244



**Lancair International
IV**

Top Speed, mph	n.p.
Cruise, mph	330
Stall, mph	73
Range, n.m.	1550
Rate of Climb, fpm	2000
Takeoff Distance, ft.	1500

Landing Distance, ft.	1900
Engine Used	Cont. TSIO-550
HP/HP Range	350/310-350
Fuel Capacity, gal.	90
Empty Weight, lb.	2000
Gross Weight, lb.	3550
Length, ft.	25
Wingspan, ft.	30.2
Wing Area, sq. ft.	98

No. of Seats	4
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	1200
No. Completed & Flown	150+
Cost	\$82,500

www.lancair-kits.com
541/923-2244



**Lancair International
IV-P**

Top Speed, mph	n.p.
Cruise, mph	330
Stall, mph	73
Range, n.m.	1550
Rate of Climb, fpm	2000
Takeoff Distance, ft.	1500

Landing Distance, ft.	1900
Engine Used	Cont. TSIO-550E
HP/HP Range	350/310-350
Fuel Capacity, gal.	90
Empty Weight, lb.	2200
Gross Weight, lb.	3550
Length, ft.	25
Wingspan, ft.	30.2
Wing Area, sq. ft.	98

No. of Seats	4
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	1400
No. Completed & Flown	75+
Cost	\$107,500

www.lancair-kits.com
541/923-2244



**Lancair International
Legacy**

Top Speed, mph	300
Cruise, mph	276
Stall, mph	65
Range, n.m.	1200
Rate of Climb, fpm	3000
Takeoff Distance, ft.	800

Landing Distance, ft.	900
Engine Used	Cont. IO-550
HP/HP Range	310/200-310
Fuel Capacity, gal.	65
Empty Weight, lb.	1500
Gross Weight, lb.	2200
Length, ft.	22
Wingspan, ft.	25.5
Wing Area, sq. ft.	82.5

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	600
No. Completed & Flown	50
Cost	\$53,900

www.lancair-kits.com
541/923-2244



**Lancair International
Legacy FG**

Top Speed, mph	n.p.
Cruise, mph	260
Stall, mph	65
Range, n.m.	1550
Rate of Climb, fpm	1600
Takeoff Distance, ft.	1500

Landing Distance, ft.	1900
Engine Used	Lyc. IO-360
HP/HP Range	200/200-310
Fuel Capacity, gal.	65
Empty Weight, lb.	1450
Gross Weight, lb.	2200
Length, ft.	22
Wingspan, ft.	25.5
Wing Area, sq. ft.	82.5

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	500
No. Completed & Flown	3
Cost	\$34,900

www.lancair-kits.com
541/923-2244



**Lancair International
Propjet**

Top Speed, mph	n.p.
Cruise, mph	370
Stall, mph	74
Range, n.m.	1400
Rate of Climb, fpm	4000
Takeoff Distance, ft.	1500

Landing Distance, ft.	1700
Engine Used	Walter 601
HP/HP Range	750
Fuel Capacity, gal.	125
Empty Weight, lb.	2200
Gross Weight, lb.	3550
Length, ft.	26
Wingspan, ft.	30.2
Wing Area, sq. ft.	98

No. of Seats	4
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	1400
No. Completed & Flown	24
Cost	\$118,500

www.lancair-kits.com
541/923-2244

Legend Aircraft Kit Manufacturer
Turbine Legend

Top Speed, mph	356
Cruise, mph	333
Stall, mph	86
Range, n.m.	940
Rate of Climb, fpm	6000
Takeoff Distance, ft.	1500

Landing Distance, ft.	1500
Engine Used	Walter 601D
HP/HP Range	724/600-1000
Fuel Capacity, gal.	120
Empty Weight, lb.	2050
Gross Weight, lb.	3300
Length, ft.	25.7
Wingspan, ft.	29.4
Wing Area, sq. ft.	101

No. of Seats	2
Landing Gear	trigear/R
Bldg. Materials	C
Beginner Build Time, hrs.	2500
No. Completed & Flown	19
Cost	\$119,700
www.legendaircraft.net	
318/435-4401	



Leza AirCam Corp.
AirCam

Top Speed, mph	110
Cruise, mph	80
Stall, mph	39
Range, n.m.	340
Rate of Climb, fpm	1700
Takeoff Distance, ft.	150

Landing Distance, ft.	200
Engine Used	Rotax 912S (2)
HP/HP Range	64 ea/64-100 ea
Fuel Capacity, gal.	28
Empty Weight, lb.	1040
Gross Weight, lb.	1680
Length, ft.	27
Wingspan, ft.	36
Wing Area, sq. ft.	205

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	800
No. Completed & Flown	125
Cost	\$82,560
www.leza-aircam.com	
863/655-4242	



Leza AirCam Corp.
Super Drifter

Top Speed, mph	85
Cruise, mph	70
Stall, mph	38
Range, n.m.	200
Rate of Climb, fpm	1000
Takeoff Distance, ft.	200

Landing Distance, ft.	300
Engine Used	Rotax 912
HP/HP Range	80/50-80
Fuel Capacity, gal.	10
Empty Weight, lb.	495
Gross Weight, lb.	1100
Length, ft.	22
Wingspan, ft.	30
Wing Area, sq. ft.	160

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	300
No. Completed & Flown	1000+
Cost	\$30,790
www.leza-aircam.com	
863/655-4242	



Light Miniature Aircraft
LM-5X-W Super Cub Replica

Top Speed, mph	95
Cruise, mph	85
Stall, mph	42
Range, n.m.	250
Rate of Climb, fpm	750
Takeoff Distance, ft.	350

Landing Distance, ft.	400
Engine Used	Rotax 582
HP/HP Range	65/65-75
Fuel Capacity, gal.	10
Empty Weight, lb.	775
Gross Weight, lb.	1275
Length, ft.	22.7
Wingspan, ft.	36.1
Wing Area, sq. ft.	178

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	M
Beginner Build Time, hrs.	1600
No. Completed & Flown	25
Cost	\$9500
www.lightminiatureaircraft.com	
803/564-9771	



Light Wing Aircraft
X-Air

Top Speed, mph	75
Cruise, mph	65
Stall, mph	30
Range, n.m.	176
Rate of Climb, fpm	900
Takeoff Distance, ft.	195

Landing Distance, ft.	230
Engine Used	Rotax 587
HP/HP Range	52/50-80
Fuel Capacity, gal.	13
Empty Weight, lb.	508
Gross Weight, lb.	993
Length, ft.	19
Wingspan, ft.	32
Wing Area, sq. ft.	160

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	60
No. Completed & Flown	530
Cost	\$7900
www.xairusa.com	
703/754-4959	



Light Wing Aircraft
X-Air F

Top Speed, mph	87
Cruise, mph	68
Stall, mph	27
Range, n.m.	263
Rate of Climb, fpm	984
Takeoff Distance, ft.	230

Landing Distance, ft.	230
Engine Used	Rotax 582
HP/HP Range	64/50-80
Fuel Capacity, gal.	13
Empty Weight, lb.	523
Gross Weight, lb.	993
Length, ft.	19
Wingspan, ft.	31
Wing Area, sq. ft.	133

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	60
No. Completed & Flown	100
Cost	\$9276
www.xairusa.com	
703/754-4959	



Light Wing Aircraft
X-Air H

Top Speed, mph	105
Cruise, mph	93
Stall, mph	33
Range, n.m.	650
Rate of Climb, fpm	940
Takeoff Distance, ft.	260

Landing Distance, ft.	227
Engine Used	Jabiru 2200
HP/HP Range	80/65-120
Fuel Capacity, gal.	21
Empty Weight, lb.	578
Gross Weight, lb.	1079
Length, ft.	20
Wingspan, ft.	32
Wing Area, sq. ft.	147

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	75
No. Completed & Flown	150
Cost	\$11,487
www.xairusa.com	
703/754-4959	



Loehle Aircraft Corp.
5151 Mustang

Top Speed, mph	100
Cruise, mph	80
Stall, mph	28
Range, n.m.	325
Rate of Climb, fpm	1200
Takeoff Distance, ft.	150

Landing Distance, ft.	250
Engine Used	Rotax 582
HP/HP Range	65
Fuel Capacity, gal.	5
Empty Weight, lb.	513
Gross Weight, lb.	885
Length, ft.	22.9
Wingspan, ft.	27.4
Wing Area, sq. ft.	130

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W, F
Beginner Build Time, hrs.	500
No. Completed & Flown	27
Cost	\$10,995
www.loehle.com	
931/857-3419	





Loehle Aircraft Corp.
5151 RG Mustang

Top Speed, mph	100
Cruise, mph	85
Stall, mph	30
Range, n.m.	325
Rate of Climb, fpm	1200
Takeoff Distance, ft.	150

Landing Distance, ft.	250
Engine Used	Rotax 582
HP/HP Range	65
Fuel Capacity, gal.	13
Empty Weight, lb.	600
Gross Weight, lb.	885
Length, ft.	22.9
Wingspan, ft.	27.4
Wing Area, sq. ft.	130

No. of Seats	1
Landing Gear	tailwheel/R
Bldg. Materials	W, F
Beginner Build Time, hrs.	500
No. Completed & Flown	73
Cost	\$13,043

www.loehle.com
931/857-3419



Loehle Aircraft Corp.
Fokker D-VII

Top Speed, mph	70
Cruise, mph	65
Stall, mph	22
Range, n.m.	85
Rate of Climb, fpm	1000
Takeoff Distance, ft.	75

Landing Distance, ft.	150
Engine Used	Rotax 503
HP/HP Range	50/28-50
Fuel Capacity, gal.	5
Empty Weight, lb.	265
Gross Weight, lb.	525
Length, ft.	16.5
Wingspan, ft.	24
Wing Area, sq. ft.	168

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	75
No. Completed & Flown	2
Cost	\$14,995

www.loehle.com
931/857-3419



Loehle Aircraft Corp.
KW-909

Top Speed, mph	100
Cruise, mph	85
Stall, mph	30
Range, n.m.	325
Rate of Climb, fpm	1200
Takeoff Distance, ft.	150

Landing Distance, ft.	250
Engine Used	Rotax 582
HP/HP Range	65
Fuel Capacity, gal.	13
Empty Weight, lb.	600
Gross Weight, lb.	885
Length, ft.	22.9
Wingspan, ft.	27.4
Wing Area, sq. ft.	130

No. of Seats	1
Landing Gear	tailwheel/R
Bldg. Materials	W, F
Beginner Build Time, hrs.	600
No. Completed & Flown	1
Cost	\$11,995

www.loehle.com
931/857-3419



Loehle Aircraft Corp.
P-40

Top Speed, mph	100
Cruise, mph	85
Stall, mph	30
Range, n.m.	325
Rate of Climb, fpm	1200
Takeoff Distance, ft.	150

Landing Distance, ft.	250
Engine Used	Rotax 582
HP/HP Range	65
Fuel Capacity, gal.	13
Empty Weight, lb.	600
Gross Weight, lb.	885
Length, ft.	22.9
Wingspan, ft.	28.7
Wing Area, sq. ft.	135

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W, F
Beginner Build Time, hrs.	500
No. Completed & Flown	3
Cost	\$10,995

www.loehle.com
931/857-3419



Loehle Aircraft Corp.
SE5A

Top Speed, mph	70
Cruise, mph	65
Stall, mph	22
Range, n.m.	85
Rate of Climb, fpm	1000
Takeoff Distance, ft.	75

Landing Distance, ft.	150
Engine Used	Rotax 503
HP/HP Range	50/28-50
Fuel Capacity, gal.	5
Empty Weight, lb.	265
Gross Weight, lb.	525
Length, ft.	16.5
Wingspan, ft.	24
Wing Area, sq. ft.	168

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	75
No. Completed & Flown	2
Cost	\$14,995

www.loehle.com
931/857-3419



Loehle Aircraft Corp.
Spad XIII

Top Speed, mph	70
Cruise, mph	65
Stall, mph	22
Range, n.m.	85
Rate of Climb, fpm	1000
Takeoff Distance, ft.	75

Landing Distance, ft.	150
Engine Used	Rotax 503
HP/HP Range	50/28-50
Fuel Capacity, gal.	5
Empty Weight, lb.	265
Gross Weight, lb.	525
Length, ft.	16.5
Wingspan, ft.	24
Wing Area, sq. ft.	168

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	75
No. Completed & Flown	5
Cost	\$14,995

www.loehle.com
931/857-3419



Loehle Aircraft Corp.
Sport Parasol

Top Speed, mph	85
Cruise, mph	65
Stall, mph	22
Range, n.m.	200
Rate of Climb, fpm	750
Takeoff Distance, ft.	100

Landing Distance, ft.	150
Engine Used	Rotax 503
HP/HP Range	50/28-50
Fuel Capacity, gal.	5
Empty Weight, lb.	252
Gross Weight, lb.	600
Length, ft.	18.4
Wingspan, ft.	25.5
Wing Area, sq. ft.	114

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W, F
Beginner Build Time, hrs.	350
No. Completed & Flown	73
Cost	\$4995

www.loehle.com
931/857-3419



Makelan Corporation
Hatz Classic

Top Speed, mph	n.p.
Cruise, mph	115
Stall, mph	43
Range, n.m.	300
Rate of Climb, fpm	1000
Takeoff Distance, ft.	400

Landing Distance, ft.	500
Engine Used	Lyc. O-320
HP/HP Range	160/150-160
Fuel Capacity, gal.	28
Empty Weight, lb.	1050
Gross Weight, lb.	1700
Length, ft.	19.2
Wingspan, ft.	25
Wing Area, sq. ft.	180

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W, T, F
Beginner Build Time, hrs.	2000
No. Completed & Flown	8
Cost	\$26,000

www.hatzclassic.com
830/905-7832

Mini-IMP Aircraft Company
Mini-IMP

Top Speed, mph	200
Cruise, mph	180
Stall, mph	45
Range, n.m.	500
Rate of Climb, fpm	1500
Takeoff Distance, ft.	900

Landing Distance, ft.	1000
Engine Used	Cont. O-200
HP/HP Range	85/85-125
Fuel Capacity, gal.	13
Empty Weight, lb.	720
Gross Weight, lb.	1000
Length, ft.	17
Wingspan, ft.	25
Wing Area, sq. ft.	75

No. of Seats	1
Landing Gear	trigear/R
Bldg. Materials	C, M
Beginner Build Time, hrs.	1500
No. Completed & Flown	25
Cost	\$3250

www.mini-imp.com
817/596-3278



Moyes Aviation
Dragonfly C-Model

Top Speed, mph	65
Cruise, mph	55
Stall, mph	22
Range, n.m.	150
Rate of Climb, fpm	1400
Takeoff Distance, ft.	50

Landing Distance, ft.	100
Engine Used	Rotax 912
HP/HP Range	80/50-115
Fuel Capacity, gal.	45
Empty Weight, lb.	490
Gross Weight, lb.	990
Length, ft.	20
Wingspan, ft.	34.9
Wing Area, sq. ft.	180

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	C, M, T, F
Beginner Build Time, hrs.	300
No. Completed & Flown	77
Cost	\$12,400

www.moyesamerica.com
530/888-8622



M-Squared
Breeze DS

Top Speed, mph	74
Cruise, mph	51
Stall, mph	27
Range, n.m.	129
Rate of Climb, fpm	925
Takeoff Distance, ft.	80

Landing Distance, ft.	60
Engine Used	Rotax 503
HP/HP Range	42/42-75
Fuel Capacity, gal.	16
Empty Weight, lb.	335
Gross Weight, lb.	650
Length, ft.	19
Wingspan, ft.	30
Wing Area, sq. ft.	168

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	M
Beginner Build Time, hrs.	10
No. Completed & Flown	55
Cost	\$15,995

PO Box 457
St. Elmo, AL 36568
251/957-1533



M-Squared
Sport 1000

Top Speed, mph	100
Cruise, mph	63
Stall, mph	34
Range, n.m.	97
Rate of Climb, fpm	625
Takeoff Distance, ft.	155

Landing Distance, ft.	75
Engine Used	Rotax 582
HP/HP Range	65/50-115
Fuel Capacity, gal.	16
Empty Weight, lb.	475
Gross Weight, lb.	1000
Length, ft.	21.6
Wingspan, ft.	32.9
Wing Area, sq. ft.	180

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	M
Beginner Build Time, hrs.	10
No. Completed & Flown	55
Cost	\$19,995

PO Box 457
St. Elmo, AL 36568
251/957-1533



Murphy Aircraft Mfg.
Elite

Top Speed, mph	145
Cruise, mph	132
Stall, mph	42
Range, n.m.	683
Rate of Climb, fpm	1500
Takeoff Distance, ft.	470

Landing Distance, ft.	400
Engine Used	Lyc. O-360
HP/HP Range	180/115-180
Fuel Capacity, gal.	44
Empty Weight, lb.	980
Gross Weight, lb.	1800
Length, ft.	22.3
Wingspan, ft.	30.3
Wing Area, sq. ft.	152

No. of Seats	2+1
Landing Gear	tri or tail
Bldg. Materials	M
Beginner Build Time, hrs.	1200
No. Completed & Flown	25
Cost	\$24,000

www.murphyair.com
604/792-5855



Murphy Aircraft Mfg.
Maverick

Top Speed, mph	110
Cruise, mph	85
Stall, mph	32
Range, n.m.	264
Rate of Climb, fpm	900
Takeoff Distance, ft.	80

Landing Distance, ft.	200
Engine Used	Rotax 582
HP/HP Range	50/53-65
Fuel Capacity, gal.	5
Empty Weight, lb.	440
Gross Weight, lb.	950
Length, ft.	20.7
Wingspan, ft.	29.4
Wing Area, sq. ft.	147

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	M, F
Beginner Build Time, hrs.	800
No. Completed & Flown	85
Cost	\$15,000

www.murphyair.com
604/792-5855



Murphy Aircraft Mfg.
Moose

Top Speed, mph	175
Cruise, mph	150
Stall, mph	52
Range, n.m.	1000
Rate of Climb, fpm	1500
Takeoff Distance, ft.	600

Landing Distance, ft.	600
Engine Used	M-14P
HP/HP Range	360/250-400
Fuel Capacity, gal.	80
Empty Weight, lb.	1900
Gross Weight, lb.	3500
Length, ft.	27.9
Wingspan, ft.	36.4
Wing Area, sq. ft.	182

No. of Seats	4-6
Landing Gear	tailwheel
Bldg. Materials	M
Beginner Build Time, hrs.	3000
No. Completed & Flown	22
Cost	\$36,000

www.murphyair.com
604/792-5855



Murphy Aircraft Mfg.
Rebel

Top Speed, mph	140
Cruise, mph	120
Stall, mph	40
Range, n.m.	733
Rate of Climb, fpm	1200
Takeoff Distance, ft.	300

Landing Distance, ft.	400
Engine Used	Lyc. O-320
HP/HP Range	150/80-160
Fuel Capacity, gal.	44
Empty Weight, lb.	875
Gross Weight, lb.	1650
Length, ft.	21.4
Wingspan, ft.	30
Wing Area, sq. ft.	150

No. of Seats	3
Landing Gear	tailwheel
Bldg. Materials	M, F
Beginner Build Time, hrs.	1200
No. Completed & Flown	450
Cost	\$16,500

www.murphyair.com
604/792-5855





**Murphy Aircraft Mfg.
Renegade Spirit**

Top Speed, mph	105
Cruise, mph	85
Stall, mph	36
Range, n.m.	298
Rate of Climb, fpm	900
Takeoff Distance, ft.	100

Landing Distance, ft.	250
Engine Used	Rotax 912
HP/HP Range	80/65-80
Fuel Capacity, gal.	14
Empty Weight, lb.	480
Gross Weight, lb.	950
Length, ft.	18.4
Wingspan, ft.	21.3
Wing Area, sq. ft.	153.8

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	M, F, C
Beginner Build Time, hrs.	1000
No. Completed & Flown	390
Cost	\$11,500

www.murphyair.com
604/792-5855



**Mustang Aeronautics
Midget Mustang**

Top Speed, mph	202
Cruise, mph	175
Stall, mph	56
Range, n.m.	435
Rate of Climb, fpm	1500
Takeoff Distance, ft.	550

Landing Distance, ft.	690
Engine Used	Cont. O-200
HP/HP Range	100/85-160
Fuel Capacity, gal.	15
Empty Weight, lb.	610
Gross Weight, lb.	900
Length, ft.	16.5
Wingspan, ft.	18.5
Wing Area, sq. ft.	68

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	M
Beginner Build Time, hrs.	1000
No. Completed & Flown	400+
Cost	\$8325

www.mustangaero.com
248/649-6818



**Mustang Aeronautics
Mustang II**

Top Speed, mph	225
Cruise, mph	215
Stall, mph	58
Range, n.m.	990
Rate of Climb, fpm	1800
Takeoff Distance, ft.	500

Landing Distance, ft.	680
Engine Used	Lyc. O-360
HP/HP Range	180/150-200
Fuel Capacity, gal.	48
Empty Weight, lb.	1070
Gross Weight, lb.	1600
Length, ft.	19.5
Wingspan, ft.	24.5
Wing Area, sq. ft.	97.1

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	M
Beginner Build Time, hrs.	1700
No. Completed & Flown	450+
Cost	\$10,925

www.mustangaero.com
248/649-6818



**National Aeronautics Company
Cassutt IIIIM**

Top Speed, mph	225
Cruise, mph	190
Stall, mph	65
Range, n.m.	450
Rate of Climb, fpm	2000
Takeoff Distance, ft.	600

Landing Distance, ft.	800
Engine Used	Cont. O-200
HP/HP Range	100/100-200
Fuel Capacity, gal.	15
Empty Weight, lb.	550
Gross Weight, lb.	950
Length, ft.	16
Wingspan, ft.	15
Wing Area, sq. ft.	66

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	W, T, F
Beginner Build Time, hrs.	1000
No. Completed & Flown	250+
Cost	\$15,000

<http://cassutt.lornet.com>
303/940-8442



**Nemesis Air Racing
NXT**

Top Speed, mph	350
Cruise, mph	300
Stall, mph	88
Range, n.m.	1000
Rate of Climb, fpm	3000
Takeoff Distance, ft.	3000

Landing Distance, ft.	3000
Engine Used	Lyc. TIO-540-NXT
HP/HP Range	350/310-350
Fuel Capacity, gal.	90
Empty Weight, lb.	1500
Gross Weight, lb.	2500
Length, ft.	23
Wingspan, ft.	26
Wing Area, sq. ft.	70

No. of Seats	2
Landing Gear	tailwheel/R
Bldg. Materials	C
Beginner Build Time, hrs.	2000
No. Completed & Flown	3
Cost	\$129,500

www.nemesisnxt.com
661/724-0333



**New Century Aerosports
Radial Rocket**

Top Speed, mph	252
Cruise, mph	230
Stall, mph	69
Range, n.m.	1170
Rate of Climb, fpm	3800
Takeoff Distance, ft.	600

Landing Distance, ft.	800
Engine Used	M-14P
HP/HP Range	360/360-400
Fuel Capacity, gal.	85
Empty Weight, lb.	1650
Gross Weight, lb.	2450
Length, ft.	22.2
Wingspan, ft.	25.2
Wing Area, sq. ft.	90

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	C
Beginner Build Time, hrs.	1900
No. Completed & Flown	1
Cost	\$48,850

www.radialrocket.com
913/390-8900



**Norman Aviation International
Mini Explorer Nordic 8**

Top Speed, mph	130
Cruise, mph	90
Stall, mph	35
Range, n.m.	680
Rate of Climb, fpm	850
Takeoff Distance, ft.	250

Landing Distance, ft.	350
Engine Used	Rotax
HP/HP Range	80/80-115
Fuel Capacity, gal.	28
Empty Weight, lb.	654
Gross Weight, lb.	1232
Length, ft.	21
Wingspan, ft.	36
Wing Area, sq. ft.	180

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W, T, F
Beginner Build Time, hrs.	500
No. Completed & Flown	5
Cost	\$34,500

www.norman-aviation.com
418/885-8333



**Norman Aviation International
VI-912-SW**

Top Speed, mph	125
Cruise, mph	115
Stall, mph	38
Range, n.m.	400
Rate of Climb, fpm	1200
Takeoff Distance, ft.	250

Landing Distance, ft.	350
Engine Used	Rotax 912
HP/HP Range	80/80-115
Fuel Capacity, gal.	16
Empty Weight, lb.	582
Gross Weight, lb.	1232
Length, ft.	20.2
Wingspan, ft.	29.6
Wing Area, sq. ft.	132

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W, T, F
Beginner Build Time, hrs.	400
No. Completed & Flown	266
Cost	\$19,895

www.norman-aviation.com
418/885-8333



Norman Aviation International
VI-914

Top Speed, mph	136
Cruise, mph	125
Stall, mph	34
Range, n.m.	400
Rate of Climb, fpm	2200
Takeoff Distance, ft.	150

Landing Distance, ft.	300
Engine Used	Rotax 914
HP/HP Range	100/100-115
Fuel Capacity, gal.	16
Empty Weight, lb.	594
Gross Weight, lb.	1320
Length, ft.	20.2
Wingspan, ft.	29.6
Wing Area, sq. ft.	132

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W, T, F
Beginner Build Time, hrs.	400
No. Completed & Flown	4
Cost	\$19,895

www.norman-aviation.com
418/885-8333



NuVenture Aircraft
Questair Venture

Top Speed, mph	305
Cruise, mph	275
Stall, mph	70
Range, n.m.	1000
Rate of Climb, fpm	2500
Takeoff Distance, ft.	1000

Landing Distance, ft.	1600
Engine Used	Cont. IO-550
HP/HP Range	310/280-310
Fuel Capacity, gal.	56
Empty Weight, lb.	1300
Gross Weight, lb.	2000
Length, ft.	16.3
Wingspan, ft.	27.5
Wing Area, sq. ft.	72.5

No. of Seats	2
Landing Gear	trigear/R
Bldg. Materials	M
Beginner Build Time, hrs.	3000
No. Completed & Flown	50+
Cost	\$49,500

www.nuventureaircraft.com
559/447-1112



Pacific AeroSport
Twister

Top Speed, mph	186
Cruise, mph	146
Stall, mph	47
Range, n.m.	700
Rate of Climb, fpm	1275
Takeoff Distance, ft.	350

Landing Distance, ft.	400
Engine Used	Jabiru 2200
HP/HP Range	80/50-170
Fuel Capacity, gal.	19
Empty Weight, lb.	560
Gross Weight, lb.	880
Length, ft.	20.27
Wingspan, ft.	24.6
Wing Area, sq. ft.	93.83

No. of Seats	1
Landing Gear	tailwheel/R
Bldg. Materials	C
Beginner Build Time, hrs.	800
No. Completed & Flown	5
Cost	\$36,900

www.pacificaaerosport.com
360/474-9394



Phantom Aeronautics
Phantom X1

Top Speed, mph	65
Cruise, mph	57
Stall, mph	26
Range, n.m.	95
Rate of Climb, fpm	500
Takeoff Distance, ft.	200

Landing Distance, ft.	300
Engine Used	Rotax 447
HP/HP Range	40/40-64
Fuel Capacity, gal.	5
Empty Weight, lb.	253
Gross Weight, lb.	570
Length, ft.	17.5
Wingspan, ft.	28.5
Wing Area, sq. ft.	142

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	150
No. Completed & Flown	1700+
Cost	\$12,995

www.phantomaeronautics.com
269/375-0505



Phantom Aeronautics
X-1e Enclosed Cockpit

Top Speed, mph	80
Cruise, mph	65
Stall, mph	30
Range, n.m.	125
Rate of Climb, fpm	850
Takeoff Distance, ft.	300

Landing Distance, ft.	350
Engine Used	Rotax 447
HP/HP Range	40/40-64
Fuel Capacity, gal.	5
Empty Weight, lb.	300
Gross Weight, lb.	600
Length, ft.	17.5
Wingspan, ft.	28.5
Wing Area, sq. ft.	142

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	W, F
Beginner Build Time, hrs.	180
No. Completed & Flown	30
Cost	\$14,985

www.phantomaeronautics.com
269/375-0505



Pipistrel USA
Sinus

Top Speed, mph	140
Cruise, mph	132
Stall, mph	40
Aspect Ratio	18.3:1
L/D	30:1
Minimum Sink, fpm	60

Landing Distance, ft.	250
Engine Used	Rotax 912
HP/HP Range	80
Fuel Capacity, gal.	26
Empty Weight, lb.	626
Gross Weight, lb.	1190
Length, ft.	21.65
Wingspan, ft.	49.11
Wing Area, sq. ft.	132

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	C
Beginner Build Time, hrs.	400
No. Completed & Flown	160
Cost	\$64,184

www.pipistrel-usa.com
740/360-3470



Pipistrel USA
Taurus

Top Speed, mph	140
Cruise, mph	86
Stall, mph	39
Aspect Ratio	18.6:1
L/D	42:1
Minimum Sink, fpm	60

Landing Distance, ft.	300
Engine Used	Rotax 503
HP/HP Range	55
Fuel Capacity, gal.	8
Empty Weight, lb.	615
Gross Weight, lb.	1100
Length, ft.	23.5
Wingspan, ft.	50
Wing Area, sq. ft.	132

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	C
Beginner Build Time, hrs.	400
No. Completed & Flown	1
Cost	\$71,400

www.pipistrel-usa.com
740/360-3470



Pipistrel USA
Virus

Top Speed, mph	155
Cruise, mph	140
Stall, mph	40
Aspect Ratio	13.1:1
L/D	24:1
Minimum Sink, fpm	60

Landing Distance, ft.	250
Engine Used	Rotax 912
HP/HP Range	80
Fuel Capacity, gal.	26
Empty Weight, lb.	628
Gross Weight, lb.	1190
Length, ft.	20.99
Wingspan, ft.	40.55
Wing Area, sq. ft.	118

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	C
Beginner Build Time, hrs.	400
No. Completed & Flown	160
Cost	\$64,184

www.pipistrel-usa.com
740/360-3470





Preceptor Aircraft Corp.
N-3 Pup

Top Speed, mph	63
Cruise, mph	60
Stall, mph	27
Range, n.m.	150
Rate of Climb, fpm	500
Takeoff Distance, ft.	150

Landing Distance, ft.	150
Engine Used	1/2 VW
HP/HP Range	35
Fuel Capacity, gal.	5
Empty Weight, lb.	250
Gross Weight, lb.	650
Length, ft.	16.5
Wingspan, ft.	30.5
Wing Area, sq. ft.	120

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	250
No. Completed & Flown	600
Cost	\$11,700

www.preceptoraircraft.com
828/286-1926



Preceptor Aircraft Corp.
Stinger

Top Speed, mph	90
Cruise, mph	80
Stall, mph	35
Range, n.m.	260
Rate of Climb, fpm	1000
Takeoff Distance, ft.	100

Landing Distance, ft.	150
Engine Used	VW
HP/HP Range	50/35-50
Fuel Capacity, gal.	10
Empty Weight, lb.	350
Gross Weight, lb.	550
Length, ft.	17.3
Wingspan, ft.	30.5
Wing Area, sq. ft.	120

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	350
No. Completed & Flown	2
Cost	\$17,295

www.preceptoraircraft.com
828/286-1926



Preceptor Aircraft Corp.
STOL King

Top Speed, mph	115
Cruise, mph	100
Stall, mph	15
Range, n.m.	450
Rate of Climb, fpm	1200
Takeoff Distance, ft.	50

Landing Distance, ft.	50
Engine Used	VW
HP/HP Range	103/75-150
Fuel Capacity, gal.	20
Empty Weight, lb.	600
Gross Weight, lb.	1200
Length, ft.	24
Wingspan, ft.	31.5
Wing Area, sq. ft.	158

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	600
No. Completed & Flown	6
Cost	\$25,000

www.preceptoraircraft.com
828/286-1926



Preceptor Aircraft Corp.
Super Pup

Top Speed, mph	90
Cruise, mph	80
Stall, mph	35
Range, n.m.	350
Rate of Climb, fpm	1000
Takeoff Distance, ft.	300

Landing Distance, ft.	300
Engine Used	VW
HP/HP Range	50/50-80
Fuel Capacity, gal.	14
Empty Weight, lb.	450
Gross Weight, lb.	1000
Length, ft.	17.3
Wingspan, ft.	30.5
Wing Area, sq. ft.	120

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	450
No. Completed & Flown	53
Cost	\$14,900

www.preceptoraircraft.com
828/286-1926



Preceptor Aircraft Corp.
Ultra Pup

Top Speed, mph	105
Cruise, mph	90
Stall, mph	35
Range, n.m.	350
Rate of Climb, fpm	1500
Takeoff Distance, ft.	300

Landing Distance, ft.	300
Engine Used	VW
HP/HP Range	60/60-80
Fuel Capacity, gal.	14
Empty Weight, lb.	450
Gross Weight, lb.	1000
Length, ft.	17.3
Wingspan, ft.	30.5
Wing Area, sq. ft.	120

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	450
No. Completed & Flown	110
Cost	\$17,295

www.preceptoraircraft.com
828/286-1926



Progressive Aerodyne
Sea Rey

Top Speed, mph	115
Cruise, mph	90
Stall, mph	42
Range, n.m.	320
Rate of Climb, fpm	750
Takeoff Distance, ft.	400

Landing Distance, ft.	400
Engine Used	Rotax 912S
HP/HP Range	100/80-130
Fuel Capacity, gal.	18
Empty Weight, lb.	840
Gross Weight, lb.	1370
Length, ft.	22.4
Wingspan, ft.	30.8
Wing Area, sq. ft.	157

No. of Seats	2
Landing Gear	tailwheel/R
Bldg. Materials	C, M, T, F
Beginner Build Time, hrs.	500
No. Completed & Flown	300
Cost	\$23,500

www.searey.com
407/292-3700



Quad City Ultralights Aircraft Corp.
Challenger II

Top Speed, mph	90
Cruise, mph	70
Stall, mph	30
Range, n.m.	180
Rate of Climb, fpm	700
Takeoff Distance, ft.	250

Landing Distance, ft.	250
Engine Used	Rotax 503
HP/HP Range	50/40-65
Fuel Capacity, gal.	5
Empty Weight, lb.	330
Gross Weight, lb.	850
Length, ft.	20
Wingspan, ft.	31.5
Wing Area, sq. ft.	175

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	100
No. Completed & Flown	2000+
Cost	\$8995

www.quadcitychallenger.com
309/764-3515



Quad City Ultralights Aircraft Corp.
Challenger II Special

Top Speed, mph	100
Cruise, mph	85
Stall, mph	36
Range, n.m.	200
Rate of Climb, fpm	700
Takeoff Distance, ft.	300

Landing Distance, ft.	250
Engine Used	Rotax 503
HP/HP Range	50/50-65
Fuel Capacity, gal.	10
Empty Weight, lb.	360
Gross Weight, lb.	880
Length, ft.	20
Wingspan, ft.	26
Wing Area, sq. ft.	143

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	300
No. Completed & Flown	500
Cost	\$9995



**Quad City Ultralights Aircraft Corp.
Challenger UL**

Top Speed, mph	63
Cruise, mph	55
Stall, mph	27
Range, n.m.	120
Rate of Climb, fpm	700
Takeoff Distance, ft.	250

Landing Distance, ft.	250
Engine Used	Rotax 447
HP/HP Range	40/28-50
Fuel Capacity, gal.	5
Empty Weight, lb.	254
Gross Weight, lb.	500
Length, ft.	18.5
Wingspan, ft.	31.5
Wing Area, sq. ft.	142

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	100
No. Completed & Flown	700
Cost	\$7495

www.quadcitychallenger.com
309/764-3515



**Quad City Ultralights Aircraft Corp.
Challenger Special**

Top Speed, mph	100
Cruise, mph	85
Stall, mph	32
Range, n.m.	160
Rate of Climb, fpm	1000
Takeoff Distance, ft.	200

Landing Distance, ft.	200
Engine Used	Rotax 447
HP/HP Range	42/42-52
Fuel Capacity, gal.	5
Empty Weight, lb.	270
Gross Weight, lb.	550
Length, ft.	18
Wingspan, ft.	26
Wing Area, sq. ft.	117

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	200
No. Completed & Flown	100+
Cost	\$7795

www.quadcitychallenger.com
309/764-3515



**Quicksilver Manufacturing
GT 400**

Top Speed, mph	61
Cruise, mph	61
Stall, mph	27
Range, n.m.	78
Rate of Climb, fpm	1000
Takeoff Distance, ft.	75

Landing Distance, ft.	215
Engine Used	Rotax 447
HP/HP Range	40/40-50
Fuel Capacity, gal.	5
Empty Weight, lb.	276
Gross Weight, lb.	570
Length, ft.	19.8
Wingspan, ft.	30
Wing Area, sq. ft.	146

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	70
No. Completed & Flown	533
Cost	\$14,995

www.quicksilveraircraft.com
951/506-0061



**Quicksilver Manufacturing
GT 500**

Top Speed, mph	103
Cruise, mph	80
Stall, mph	39
Range, n.m.	320
Rate of Climb, fpm	650
Takeoff Distance, ft.	220

Landing Distance, ft.	260
Engine Used	Rotax 582
HP/HP Range	65/50-75
Fuel Capacity, gal.	16
Empty Weight, lb.	445
Gross Weight, lb.	1000
Length, ft.	20.4
Wingspan, ft.	30
Wing Area, sq. ft.	155

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	185
No. Completed & Flown	427
Cost	\$28,895

www.quicksilveraircraft.com
951/506-0061



**Quicksilver Manufacturing
MX Sprint**

Top Speed, mph	54
Cruise, mph	50
Stall, mph	24
Range, n.m.	84
Rate of Climb, fpm	900
Takeoff Distance, ft.	65

Landing Distance, ft.	60
Engine Used	Rotax 447
HP/HP Range	40
Fuel Capacity, gal.	5
Empty Weight, lb.	250
Gross Weight, lb.	525
Length, ft.	18.1
Wingspan, ft.	28
Wing Area, sq. ft.	156

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	45
No. Completed & Flown	376
Cost	\$10,795

www.quicksilveraircraft.com
951/506-0061



**Quicksilver Manufacturing
MX Sport**

Top Speed, mph	59
Cruise, mph	53
Stall, mph	27
Range, n.m.	91
Rate of Climb, fpm	850
Takeoff Distance, ft.	75

Landing Distance, ft.	70
Engine Used	Rotax 447
HP/HP Range	40
Fuel Capacity, gal.	5
Empty Weight, lb.	254
Gross Weight, lb.	525
Length, ft.	18.1
Wingspan, ft.	28
Wing Area, sq. ft.	156

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	T
Beginner Build Time, hrs.	40
No. Completed & Flown	295
Cost	\$11,395

www.quicksilveraircraft.com
951/506-0061



**Quicksilver Manufacturing
MX II Sprint**

Top Speed, mph	55
Cruise, mph	51
Stall, mph	27
Range, n.m.	72
Rate of Climb, fpm	595
Takeoff Distance, ft.	102

Landing Distance, ft.	75
Engine Used	Rotax 503
HP/HP Range	50/50-65
Fuel Capacity, gal.	6
Empty Weight, lb.	325
Gross Weight, lb.	720
Length, ft.	18
Wingspan, ft.	32.8
Wing Area, sq. ft.	180

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	80
No. Completed & Flown	695
Cost	\$13,695

www.quicksilveraircraft.com
951/506-0061



**Quicksilver Manufacturing
MXL II Sport**

Top Speed, mph	61
Cruise, mph	54
Stall, mph	32
Range, n.m.	76
Rate of Climb, fpm	595
Takeoff Distance, ft.	155

Landing Distance, ft.	75
Engine Used	Rotax 503
HP/HP Range	50/50-65
Fuel Capacity, gal.	6
Empty Weight, lb.	330
Gross Weight, lb.	720
Length, ft.	18
Wingspan, ft.	32.8
Wing Area, sq. ft.	180

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	80
No. Completed & Flown	3490
Cost	\$15,275

www.quicksilveraircraft.com
951/506-0061





**Quicksilver Manufacturing
Sport 2S**

Top Speed, mph	69
Cruise, mph	61
Stall, mph	35
Range, n.m.	65
Rate of Climb, fpm	500
Takeoff Distance, ft.	240

Landing Distance, ft.	220
Engine Used	Rotax 582
HP/HP Range	65/65-80
Fuel Capacity, gal.	6
Empty Weight, lb.	430
Gross Weight, lb.	996
Length, ft.	18.5
Wingspan, ft.	31
Wing Area, sq. ft.	174.1

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	75
No. Completed & Flown	101
Cost	\$18,495

www.quicksilveraircraft.com
951/506-0061



**Quikkit Div. of Rainbow Flyers
Glass Goose**

Top Speed, mph	140
Cruise, mph	130
Stall, mph	42
Range, n.m.	1200
Rate of Climb, fpm	1000
Takeoff Distance, ft.	900

Landing Distance, ft.	900
Engine Used	Lyc. O-320
HP/HP Range	160/150-200
Fuel Capacity, gal.	70
Empty Weight, lb.	1000
Gross Weight, lb.	1800
Length, ft.	19.5
Wingspan, ft.	27
Wing Area, sq. ft.	131

No. of Seats	2
Landing Gear	trigear/R
Bldg. Materials	C
Beginner Build Time, hrs.	1000
No. Completed & Flown	6
Cost	\$32,500

www.glassgoose.com
214/349-0462



**Rand-Robinson Engineering
KR-2**

Top Speed, mph	200
Cruise, mph	180
Stall, mph	52
Range, n.m.	1600
Rate of Climb, fpm	1200
Takeoff Distance, ft.	350

Landing Distance, ft.	900
Engine Used	VW
HP/HP Range	76/76-80
Fuel Capacity, gal.	12
Empty Weight, lb.	480
Gross Weight, lb.	900
Length, ft.	14.6
Wingspan, ft.	20.8
Wing Area, sq. ft.	80

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	C, W
Beginner Build Time, hrs.	1000
No. Completed & Flown	1250
Cost	\$8500

7071 Warner Avenue, #F (PMB 724)
Huntington Beach, CA 92647
714/898-3811



**Rand-Robinson Engineering
KR-2S**

Top Speed, mph	200
Cruise, mph	180
Stall, mph	52
Range, n.m.	1080
Rate of Climb, fpm	1200
Takeoff Distance, ft.	350

Landing Distance, ft.	600
Engine Used	VW
HP/HP Range	76/76-100
Fuel Capacity, gal.	12
Empty Weight, lb.	520
Gross Weight, lb.	980
Length, ft.	16
Wingspan, ft.	23
Wing Area, sq. ft.	82

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	C, W
Beginner Build Time, hrs.	1000
No. Completed & Flown	22
Cost	\$10,500

7071 Warner Avenue, #F (PMB 724)
Huntington Beach, CA 92647
714/898-3811



**RANS
S-4/5 Coyote**

Top Speed, mph	80
Cruise, mph	70
Stall, mph	27
Range, n.m.	158
Rate of Climb, fpm	800
Takeoff Distance, ft.	80

Landing Distance, ft.	100
Engine Used	Rotax 503
HP/HP Range	47/42-52
Fuel Capacity, gal.	9
Empty Weight, lb.	325
Gross Weight, lb.	587
Length, ft.	17
Wingspan, ft.	29.5
Wing Area, sq. ft.	127

No. of Seats	1
Landing Gear	tri or tail
Bldg. Materials	T, F
Beginner Build Time, hrs.	310
No. Completed & Flown	305
Cost	\$10,240

4600 Highway 183 Alternate
Hays, KS 67601
785/625-6346



**RANS
S-6ES/6S Coyote II**

Top Speed, mph	124
Cruise, mph	124
Stall, mph	45
Range, n.m.	496
Rate of Climb, fpm	1200
Takeoff Distance, ft.	240

Landing Distance, ft.	295
Engine Used	Rotax 912S
HP/HP Range	100/52-100
Fuel Capacity, gal.	18
Empty Weight, lb.	675
Gross Weight, lb.	1200
Length, ft.	20
Wingspan, ft.	29
Wing Area, sq. ft.	116

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	T, F
Beginner Build Time, hrs.	700
No. Completed & Flown	1520
Cost	\$14,700

4600 Highway 183 Alternate
Hays, KS 67601
785/625-6346



**RANS
S-7S Courier**

Top Speed, mph	122
Cruise, mph	118
Stall, mph	41
Range, n.m.	341
Rate of Climb, fpm	1000
Takeoff Distance, ft.	325

Landing Distance, ft.	375
Engine Used	Rotax 912S
HP/HP Range	100/80-100
Fuel Capacity, gal.	18
Empty Weight, lb.	700
Gross Weight, lb.	1232
Length, ft.	23.25
Wingspan, ft.	29.25
Wing Area, sq. ft.	147.1

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	700
No. Completed & Flown	325
Cost	\$18,900

4600 Highway 183 Alternate
Hays, KS 67601
785/625-6346



**RANS
S-9 Chaos**

Top Speed, mph	106
Cruise, mph	100
Stall, mph	41
Range, n.m.	313
Rate of Climb, fpm	1000
Takeoff Distance, ft.	200

Landing Distance, ft.	400
Engine Used	Rotax 582
HP/HP Range	65/47-65
Fuel Capacity, gal.	9
Empty Weight, lb.	375
Gross Weight, lb.	710
Length, ft.	15.6
Wingspan, ft.	22
Wing Area, sq. ft.	91.5

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	500
No. Completed & Flown	170
Cost	\$10,100

4600 Highway 183 Alternate
Hays, KS 67601
785/625-6346



RANS S-10 Sakota	Landing Distance, ft. 400	No. of Seats 2
Top Speed, mph 129	Engine Used Rotax 912S	Landing Gear tailwheel
Cruise, mph 125	HP/HP Range 100/65-100	Bldg. Materials T, F
Stall, mph 44	Fuel Capacity, gal. 18	Beginner Build Time, hrs. 600
Range, n.m. 520	Empty Weight, lb. 510	No. Completed & Flown 200
Rate of Climb, fpm 1200	Gross Weight, lb. 1010	Cost \$16,800
Takeoff Distance, ft. 310	Length, ft. 17.8	4600 Highway 183 Alternate
	Wingspan, ft. 24	Hays, KS 67601
	Wing Area, sq. ft. 95	785/625-6346



RANS S-12XL Airaile	Landing Distance, ft. 200	No. of Seats 2
Top Speed, mph 95	Engine Used Rotax 912S	Landing Gear trigar
Cruise, mph 90	HP/HP Range 100/52-100	Bldg. Materials T, F
Stall, mph 35	Fuel Capacity, gal. 18	Beginner Build Time, hrs. 300
Range, n.m. 360	Empty Weight, lb. 575	No. Completed & Flown 920
Rate of Climb, fpm 1200	Gross Weight, lb. 1100	Cost \$16,300
Takeoff Distance, ft. 220	Length, ft. 21.6	4600 Highway 183 Alternate
	Wingspan, ft. 31	Hays, KS 67601
	Wing Area, sq. ft. 152	785/625-6346



RANS S-12S Super Airaile	Landing Distance, ft. 200	No. of Seats 2
Top Speed, mph 103	Engine Used Rotax 912S	Landing Gear trigar
Cruise, mph 100	HP/HP Range 100/80-100	Bldg. Materials T, F
Stall, mph 35	Fuel Capacity, gal. 18	Beginner Build Time, hrs. 600
Range, n.m. 360	Empty Weight, lb. 650	No. Completed & Flown 920
Rate of Climb, fpm 1200	Gross Weight, lb. 1150	Cost \$20,600
Takeoff Distance, ft. 265	Length, ft. 21.6	4600 Highway 183 Alternate
	Wingspan, ft. 31	Hays, KS 67601
	Wing Area, sq. ft. 152	785/625-6346



RANS S-14 Airaile	Landing Distance, ft. 190	No. of Seats 1
Top Speed, mph 90	Engine Used Rotax 582	Landing Gear trigar
Cruise, mph 85	HP/HP Range 65/52-100	Bldg. Materials T, F
Stall, mph 36	Fuel Capacity, gal. 9	Beginner Build Time, hrs. 400
Range, n.m. 191	Empty Weight, lb. 370	No. Completed & Flown 128
Rate of Climb, fpm 700	Gross Weight, lb. 750	Cost \$11,800
Takeoff Distance, ft. 250	Length, ft. 18.8	4600 Highway 183 Alternate
	Wingspan, ft. 26.4	Hays, KS 67601
	Wing Area, sq. ft. 100	785/625-6346



RANS S-17 Stinger	Landing Distance, ft. 100	No. of Seats 1
Top Speed, mph 78	Engine Used Rotax 503	Landing Gear tailwheel
Cruise, mph 60	HP/HP Range 47/42-52	Bldg. Materials T, F
Stall, mph 28	Fuel Capacity, gal. 5	Beginner Build Time, hrs. 175
Range, n.m. 60	Empty Weight, lb. 355	No. Completed & Flown 40
Rate of Climb, fpm 900	Gross Weight, lb. 587	Cost \$9080
Takeoff Distance, ft. 80	Length, ft. 17.3	4600 Highway 183 Alternate
	Wingspan, ft. 29.5	Hays, KS 67601
	Wing Area, sq. ft. 127	785/625-6346



RANS S-18 Stinger II	Landing Distance, ft. 225	No. of Seats 2
Top Speed, mph 90	Engine Used Rotax 912	Landing Gear tailwheel
Cruise, mph 85	HP/HP Range 80/65-100	Bldg. Materials T, F
Stall, mph 43	Fuel Capacity, gal. 18	Beginner Build Time, hrs. 225
Range, n.m. 255	Empty Weight, lb. 595	No. Completed & Flown 33
Rate of Climb, fpm 725	Gross Weight, lb. 1100	Cost \$17,100
Takeoff Distance, ft. 345	Length, ft. 22	4600 Highway 183 Alternate
	Wingspan, ft. 31	Hays, KS 67601
	Wing Area, sq. ft. 152	785/625-6346



Raven Aircraft Corp. Raven 2XS	Landing Distance, ft. 750	No. of Seats 2
Top Speed, mph 200	Engine Used Lyc. IO-540	Landing Gear tailwheel
Cruise, mph 188	HP/HP Range 280/260-400	Bldg. Materials M, W, T, F
Stall, mph 60	Fuel Capacity, gal. 37	Beginner Build Time, hrs. 2000
Range, n.m. 400	Empty Weight, lb. 1180	No. Completed & Flown 2
Rate of Climb, fpm 3300	Gross Weight, lb. 1780	Cost \$24,000
Takeoff Distance, ft. 530	Length, ft. 19.4	www.ravenaircraft.com
	Wingspan, ft. 19.2	604/597-9296
	Wing Area, sq. ft. 119.4	



Robbins Wings R-7	Landing Distance, ft. 250	No. of Seats 1
Top Speed, mph 63	Engine Used Rotax 447	Landing Gear tailwheel
Cruise, mph 60	HP/HP Range 80	Bldg. Materials T, F, M
Stall, mph 30	Fuel Capacity, gal. 5	Beginner Build Time, hrs. 250
Range, n.m. 85	Empty Weight, lb. 240	No. Completed & Flown 2
Rate of Climb, fpm 1000	Gross Weight, lb. 550	Cost \$8900
Takeoff Distance, ft. 250	Length, ft. 15	www.robbins-wing.com
	Wingspan, ft. 22	218/820-2298
	Wing Area, sq. ft. 130	



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**Robbins Wings
R-8**

Top Speed, mph	63
Cruise, mph	60
Stall, mph	30
Range, n.m.	160
Rate of Climb, fpm	1500
Takeoff Distance, ft.	250

Landing Distance, ft.	250
Engine Used	Rotax 447
HP/HP Range	80
Fuel Capacity, gal.	5
Empty Weight, lb.	254
Gross Weight, lb.	550
Length, ft.	15.5
Wingspan, ft.	20
Wing Area, sq. ft.	110

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F, M
Beginner Build Time, hrs.	300
No. Completed & Flown	3
Cost	\$9600

www.robbsins-wing.com
218/820-2298



**Robbins Wings
R-9**

Top Speed, mph	130
Cruise, mph	100
Stall, mph	30
Range, n.m.	800
Rate of Climb, fpm	1500
Takeoff Distance, ft.	400

Landing Distance, ft.	400
Engine Used	Hexatron P-60
HP/HP Range	80/80-100
Fuel Capacity, gal.	30
Empty Weight, lb.	400
Gross Weight, lb.	860
Length, ft.	16
Wingspan, ft.	22
Wing Area, sq. ft.	130

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F, M
Beginner Build Time, hrs.	800
No. Completed & Flown	1
Cost	\$30,000

www.robbsins-wing.com
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**Rocky Mountain Wings
Ridge Runner Ultralight**

Top Speed, mph	63
Cruise, mph	55
Stall, mph	23
Range, n.m.	125
Rate of Climb, fpm	700
Takeoff Distance, ft.	50

Landing Distance, ft.	50
Engine Used	Rotax 277
HP/HP Range	28/28-75
Fuel Capacity, gal.	5
Empty Weight, lb.	247
Gross Weight, lb.	550
Length, ft.	17
Wingspan, ft.	26.2
Wing Area, sq. ft.	99.4

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	W, T, F
Beginner Build Time, hrs.	250
No. Completed & Flown	51
Cost	\$9900

www.realflying.com
208/466-6699



**Rocky Mountain Wings
Ridge Runner III**

Top Speed, mph	100
Cruise, mph	90
Stall, mph	28
Range, n.m.	275
Rate of Climb, fpm	1600
Takeoff Distance, ft.	60

Landing Distance, ft.	75
Engine Used	Rotax 503
HP/HP Range	52/40-100
Fuel Capacity, gal.	10
Empty Weight, lb.	360
Gross Weight, lb.	900
Length, ft.	17
Wingspan, ft.	26.2
Wing Area, sq. ft.	99.4

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W, T, F
Beginner Build Time, hrs.	600
No. Completed & Flown	51
Cost	\$11,900

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**S.G. Aviation America
Rally 105**

Top Speed, mph	149
Cruise, mph	134
Stall, mph	34
Range, n.m.	742
Rate of Climb, fpm	1280
Takeoff Distance, ft.	230

Landing Distance, ft.	361
Engine Used	Rotax 912
HP/HP Range	100/80-130
Fuel Capacity, gal.	34
Empty Weight, lb.	638
Gross Weight, lb.	1455
Length, ft.	23.2
Wingspan, ft.	28.21
Wing Area, sq. ft.	125

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	520
No. Completed & Flown	21
Cost	\$29,313

www.sgaviation.com
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**S.G. Aviation America
Sea Storm Z4**

Top Speed, mph	165
Cruise, mph	144
Stall, mph	46
Range, n.m.	620
Rate of Climb, fpm	1100
Takeoff Distance, ft.	720

Landing Distance, ft.	820
Engine Used	Mazda 234
HP/HP Range	200/200-300
Fuel Capacity, gal.	53
Empty Weight, lb.	1518
Gross Weight, lb.	2640
Length, ft.	24.4
Wingspan, ft.	33.1
Wing Area, sq. ft.	147

No. of Seats	4
Landing Gear	tailwheel
Bldg. Materials	C
Beginner Build Time, hrs.	700
No. Completed & Flown	19
Cost	\$47,913

www.sgaviation.com
905/951-0548



**S.G. Aviation America
Storm 300**

Top Speed, mph	163
Cruise, mph	148
Stall, mph	32
Range, n.m.	808
Rate of Climb, fpm	1378
Takeoff Distance, ft.	395

Landing Distance, ft.	590
Engine Used	Rotax 912
HP/HP Range	80/80-115
Fuel Capacity, gal.	22.5
Empty Weight, lb.	644
Gross Weight, lb.	1234
Length, ft.	22
Wingspan, ft.	25.6
Wing Area, sq. ft.	107.3

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	M
Beginner Build Time, hrs.	507
No. Completed & Flown	178
Cost	\$23,986

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**S.G. Aviation America
Storm 400**

Top Speed, mph	180
Cruise, mph	170
Stall, mph	44
Range, n.m.	680
Rate of Climb, fpm	1500
Takeoff Distance, ft.	720

Landing Distance, ft.	655
Engine Used	Lyc. O-320
HP/HP Range	160/150-160
Fuel Capacity, gal.	36
Empty Weight, lb.	1050
Gross Weight, lb.	1850
Length, ft.	22.4
Wingspan, ft.	26.2
Wing Area, sq. ft.	112.5

No. of Seats	2+2
Landing Gear	tri or tail
Bldg. Materials	M
Beginner Build Time, hrs.	507
No. Completed & Flown	19
Cost	\$28,822

www.sgaviation.com
905/951-0548

**S.G. Aviation America
Storm 500**

Top Speed, mph	180
Cruise, mph	172
Stall, mph	48
Range, n.m.	715
Rate of Climb, fpm	1476
Takeoff Distance, ft.	700

Landing Distance, ft.	520
Engine Used	Lycoming
HP/HP Range	200/180-250
Fuel Capacity, gal.	47.6
Empty Weight, lb.	1122
Gross Weight, lb.	2145
Length, ft.	23.23
Wingspan, ft.	28.5
Wing Area, sq. ft.	126.62

No. of Seats	4
Landing Gear	tri or tail
Bldg. Materials	M
Beginner Build Time, hrs.	507
No. Completed & Flown	18
Cost	\$30,093
www.sgaviation.com	
905/951-0548	



**S.G. Aviation America
Storm Century**

Top Speed, mph	178
Cruise, mph	173
Stall, mph	34
Range, n.m.	1000
Rate of Climb, fpm	1378
Takeoff Distance, ft.	295

Landing Distance, ft.	395
Engine Used	Rotax 912
HP/HP Range	100/80-130
Fuel Capacity, gal.	34
Empty Weight, lb.	704
Gross Weight, lb.	1455
Length, ft.	22.3
Wingspan, ft.	25.6
Wing Area, sq. ft.	107.4

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	M
Beginner Build Time, hrs.	507
No. Completed & Flown	380
Cost	\$24,409
www.sgaviation.com	
905/951-0548	



**S.G. Aviation America
Storm RG**

Top Speed, mph	178
Cruise, mph	173
Stall, mph	34
Range, n.m.	870
Rate of Climb, fpm	1378
Takeoff Distance, ft.	295

Landing Distance, ft.	394
Engine Used	Rotax 914
HP/HP Range	115/100-160
Fuel Capacity, gal.	26.4
Empty Weight, lb.	790
Gross Weight, lb.	1455
Length, ft.	22.3
Wingspan, ft.	25.6
Wing Area, sq. ft.	107.4

No. of Seats	2
Landing Gear	trigear/R
Bldg. Materials	M
Beginner Build Time, hrs.	507
No. Completed & Flown	34
Cost	\$33,613
www.sgaviation.com	
905/951-0548	



**SeaStar Aircraft
SeaStar**

Top Speed, mph	275
Cruise, mph	260
Stall, mph	59
Range, n.m.	1400
Rate of Climb, fpm	2000
Takeoff Distance, ft.	780

Landing Distance, ft.	900
Engine Used	Walter Turbine
HP/HP Range	724/350-800
Fuel Capacity, gal.	200
Empty Weight, lb.	2800
Gross Weight, lb.	5000
Length, ft.	32
Wingspan, ft.	38
Wing Area, sq. ft.	178

No. of Seats	7
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	3000
No. Completed & Flown	5
Cost	\$120,000
www.seastaraircraft.com	
305/744-9986	



**Sequoia Aircraft Corp.
F.8L Falco**

Top Speed, mph	212
Cruise, mph	190
Stall, mph	62
Range, n.m.	1000
Rate of Climb, fpm	1140
Takeoff Distance, ft.	1150

Landing Distance, ft.	1150
Engine Used	Lyc. IO-320
HP/HP Range	160/160-180
Fuel Capacity, gal.	40
Empty Weight, lb.	1212
Gross Weight, lb.	1880
Length, ft.	21.3
Wingspan, ft.	26.2
Wing Area, sq. ft.	107.5

No. of Seats	2
Landing Gear	trigear/R
Bldg. Materials	W
Beginner Build Time, hrs.	3000
No. Completed & Flown	65
Cost	\$77,000
www.seqair.com	
804/353-1713	



**Sherpa Aircraft Component Sales
T-411**

Top Speed, mph	140
Cruise, mph	125
Stall, mph	44
Range, n.m.	510
Rate of Climb, fpm	985
Takeoff Distance, ft.	n.p.

Landing Distance, ft.	n.p.
Engine Used	M-14P
HP/HP Range	355
Fuel Capacity, gal.	90
Empty Weight, lb.	2425
Gross Weight, lb.	3527
Length, ft.	30
Wingspan, ft.	41
Wing Area, sq. ft.	2589

No. of Seats	5
Landing Gear	tailwheel
Bldg. Materials	M, T, F
Beginner Build Time, hrs.	n.p.
No. Completed & Flown	5
Cost	\$95,000
www.sherpaworldwide.com	
503/658-7374	



**Skykits Corporation
Savannah**

Top Speed, mph	110
Cruise, mph	100
Stall, mph	28
Range, n.m.	440
Rate of Climb, fpm	1320
Takeoff Distance, ft.	90

Landing Distance, ft.	160
Engine Used	Rotax 912S
HP/HP Range	100
Fuel Capacity, gal.	21
Empty Weight, lb.	600
Gross Weight, lb.	600
Length, ft.	21.5
Wingspan, ft.	29.5
Wing Area, sq. ft.	140

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	M
Beginner Build Time, hrs.	250
No. Completed & Flown	800+
Cost	\$22,695
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403/816-4735	



**Sky Raider
Sky Raider**

Top Speed, mph	63
Cruise, mph	63
Stall, mph	23
Range, n.m.	120
Rate of Climb, fpm	800
Takeoff Distance, ft.	75

Landing Distance, ft.	75
Engine Used	Rotax 447
HP/HP Range	28/28-50
Fuel Capacity, gal.	5
Empty Weight, lb.	253
Gross Weight, lb.	550
Length, ft.	17
Wingspan, ft.	26.2
Wing Area, sq. ft.	110

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	330
No. Completed & Flown	50
Cost	\$9450
www.skyraiderllc.com	
208/465-7116	





Sky Raider
Sky Raider II

Top Speed, mph	100
Cruise, mph	80
Stall, mph	25
Range, n.m.	250
Rate of Climb, fpm	1200
Takeoff Distance, ft.	75

Landing Distance, ft.	75
Engine Used	HKS 700E
HP/HP Range	65/60-68
Fuel Capacity, gal.	10
Empty Weight, lb.	390
Gross Weight, lb.	950
Length, ft.	17
Wingspan, ft.	28
Wing Area, sq. ft.	107

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	400
No. Completed & Flown	1
Cost	\$10,945

www.skyraiderllc.com
208/465-7116



Sky Raider
Super Sky Raider

Top Speed, mph	100
Cruise, mph	90
Stall, mph	32
Range, n.m.	n.p.
Rate of Climb, fpm	n.p.
Takeoff Distance, ft.	100

Landing Distance, ft.	100
Engine Used	Jabiru
HP/HP Range	50/50-80
Fuel Capacity, gal.	12
Empty Weight, lb.	450
Gross Weight, lb.	1050
Length, ft.	21
Wingspan, ft.	28
Wing Area, sq. ft.	124

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W, F
Beginner Build Time, hrs.	300
No. Completed & Flown	1
Cost	\$13,995

www.skyraiderllc.com
208/465-7116



SkyRanger Aircraft Company
SkyRanger II

Top Speed, mph	130
Cruise, mph	105
Stall, mph	36
Range, n.m.	400
Rate of Climb, fpm	1200
Takeoff Distance, ft.	125

Landing Distance, ft.	200
Engine Used	Rotax 912
HP/HP Range	80/50-100
Fuel Capacity, gal.	20
Empty Weight, lb.	575
Gross Weight, lb.	1300
Length, ft.	18.6
Wingspan, ft.	31
Wing Area, sq. ft.	162

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	T, F
Beginner Build Time, hrs.	400
No. Completed & Flown	700+
Cost	\$15,295

www.skyrangeraircraft.com
304/754-6010



SkyStar Aircraft Corporation
Kiffox Classic IV

Top Speed, mph	115
Cruise, mph	110
Stall, mph	36
Range, n.m.	605
Rate of Climb, fpm	1300
Takeoff Distance, ft.	250

Landing Distance, ft.	250
Engine Used	Rotax 912S
HP/HP Range	100/52-115
Fuel Capacity, gal.	27.5
Empty Weight, lb.	650
Gross Weight, lb.	1200
Length, ft.	18.5
Wingspan, ft.	32
Wing Area, sq. ft.	132

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	C, T, F
Beginner Build Time, hrs.	600
No. Completed & Flown	2100+
Cost	\$12,995

www.skystar.com
208/454-2444



SkyStar Aircraft Corporation
Kiffox Lite

Top Speed, mph	63
Cruise, mph	55
Stall, mph	27
Range, n.m.	110
Rate of Climb, fpm	700
Takeoff Distance, ft.	100

Landing Distance, ft.	75
Engine Used	2si
HP/HP Range	35/35-52
Fuel Capacity, gal.	5
Empty Weight, lb.	250
Gross Weight, lb.	550
Length, ft.	16.5
Wingspan, ft.	25.2
Wing Area, sq. ft.	101

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	200
No. Completed & Flown	200+
Cost	\$14,995

www.skystar.com
208/454-2444



SkyStar Aircraft Corporation
Kiffox Series 7/Sport

Top Speed, mph	160
Cruise, mph	150
Stall, mph	43
Range, n.m.	765
Rate of Climb, fpm	1300
Takeoff Distance, ft.	275

Landing Distance, ft.	275
Engine Used	Rotax 914/912S
HP/HP Range	100/100-150
Fuel Capacity, gal.	28
Empty Weight, lb.	750
Gross Weight, lb.	1550
Length, ft.	19.7
Wingspan, ft.	32
Wing Area, sq. ft.	132

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	C, T, F
Beginner Build Time, hrs.	700
No. Completed & Flown	800+
Cost	\$15,995

www.skystar.com
208/454-2444



SlipStream International
Genesis

Top Speed, mph	120
Cruise, mph	100
Stall, mph	40
Range, n.m.	350
Rate of Climb, fpm	900
Takeoff Distance, ft.	300

Landing Distance, ft.	400
Engine Used	Yamaha Vector
HP/HP Range	120/120-150
Fuel Capacity, gal.	20
Empty Weight, lb.	700
Gross Weight, lb.	1300
Length, ft.	19.3
Wingspan, ft.	30.7
Wing Area, sq. ft.	179

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C, T, F
Beginner Build Time, hrs.	600
No. Completed & Flown	135
Cost	\$14,488

www.slipstream.bz
920/968-7543



SlipStream International
Revelation

Top Speed, mph	85
Cruise, mph	80
Stall, mph	37
Range, n.m.	320
Rate of Climb, fpm	900
Takeoff Distance, ft.	200

Landing Distance, ft.	300
Engine Used	Rotax 582
HP/HP Range	65/65-115
Fuel Capacity, gal.	20
Empty Weight, lb.	570
Gross Weight, lb.	1200
Length, ft.	19.3
Wingspan, ft.	30.7
Wing Area, sq. ft.	179

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C, T, F
Beginner Build Time, hrs.	250
No. Completed & Flown	79
Cost	\$13,493

www.slipstream.bz
920/968-7543



**SlipStream International
Scepter**

Top Speed, mph	85
Cruise, mph	60
Stall, mph	27
Range, n.m.	110
Rate of Climb, fpm	1000
Takeoff Distance, ft.	100

Landing Distance, ft.	100
Engine Used	Rotax 503
HP/HP Range	50/50-65
Fuel Capacity, gal.	5
Empty Weight, lb.	425
Gross Weight, lb.	1300
Length, ft.	19.3
Wingspan, ft.	30.7
Wing Area, sq. ft.	179

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	C, T, F
Beginner Build Time, hrs.	150
No. Completed & Flown	20
Cost	\$12,946
www.slipstream.bz	
920/968-7543	



**Sonex
Sonex**

Top Speed, mph	150
Cruise, mph	130
Stall, mph	40
Range, n.m.	550
Rate of Climb, fpm	900
Takeoff Distance, ft.	700

Landing Distance, ft.	400
Engine Used	Aero Vee
HP/HP Range	80/80-120
Fuel Capacity, gal.	16
Empty Weight, lb.	600
Gross Weight, lb.	1100
Length, ft.	17.6
Wingspan, ft.	22
Wing Area, sq. ft.	98

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	M
Beginner Build Time, hrs.	700
No. Completed & Flown	95
Cost	\$12,995
www.sonex-ltd.com	
920/231-8297	



**Sonex
Waix**

Top Speed, mph	150
Cruise, mph	130
Stall, mph	40
Range, n.m.	550
Rate of Climb, fpm	900
Takeoff Distance, ft.	700

Landing Distance, ft.	400
Engine Used	Aero Vee
HP/HP Range	80/80-120
Fuel Capacity, gal.	16
Empty Weight, lb.	600
Gross Weight, lb.	1100
Length, ft.	17.6
Wingspan, ft.	22
Wing Area, sq. ft.	98

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	M
Beginner Build Time, hrs.	700
No. Completed & Flown	1
Cost	\$23,495
www.sonex-ltd.com	
920/231-8297	



**Sonex
Xenos Sport Motorglider**

Top Speed, mph	125
Cruise, mph	100
Stall, mph	44
Aspect Ratio	13.2:1
L/D	23:1
Minimum Sink, fpm	215

Landing Distance, ft.	400
Engine Used	Aero Vee
HP/HP Range	80/80-120
Fuel Capacity, gal.	16
Empty Weight, lb.	750
Gross Weight, lb.	1275
Length, ft.	19.75
Wingspan, ft.	45.67
Wing Area, sq. ft.	158

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	M
Beginner Build Time, hrs.	1200
No. Completed & Flown	2
Cost	\$18,995
www.sonex-ltd.com	
920/231-8297	



**Sport Aircraft Works
Dynamic WT9**

Top Speed, mph	155
Cruise, mph	150
Stall, mph	37
Range, n.m.	580
Rate of Climb, fpm	1260
Takeoff Distance, ft.	320

Landing Distance, ft.	450
Engine Used	Rotax 912ULS
HP/HP Range	80/80-115
Fuel Capacity, gal.	20
Empty Weight, lb.	605
Gross Weight, lb.	1150
Length, ft.	21.12
Wingspan, ft.	29.7
Wing Area, sq. ft.	112

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	400
No. Completed & Flown	50
Cost	\$46,800
www.sportaircraftworks.com	
772/223-8915	



**Sport Aircraft Works
Dynamic WT9 Retractable**

Top Speed, mph	178
Cruise, mph	168
Stall, mph	37
Range, n.m.	620
Rate of Climb, fpm	1260
Takeoff Distance, ft.	320

Landing Distance, ft.	450
Engine Used	Rotax 912ULS
HP/HP Range	80/80-115
Fuel Capacity, gal.	20
Empty Weight, lb.	650
Gross Weight, lb.	1150
Length, ft.	21.12
Wingspan, ft.	29.7
Wing Area, sq. ft.	112

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	425
No. Completed & Flown	12
Cost	\$54,000
www.sportaircraftworks.com	
772/223-8915	



**Sport Aircraft Works
Mermaid**

Top Speed, mph	132
Cruise, mph	115
Stall, mph	40
Range, n.m.	500
Rate of Climb, fpm	1000
Takeoff Distance, ft.	450

Landing Distance, ft.	500
Engine Used	Rotax 912ULS
HP/HP Range	100/100-115
Fuel Capacity, gal.	26
Empty Weight, lb.	836
Gross Weight, lb.	1430
Length, ft.	24
Wingspan, ft.	31.2
Wing Area, sq. ft.	124

No. of Seats	2
Landing Gear	trigear/R
Bldg. Materials	M
Beginner Build Time, hrs.	400
No. Completed & Flown	2
Cost	\$45,500
www.sportaircraftworks.com	
772/223-8915	



**Sport Aircraft Works
Parrot**

Top Speed, mph	138
Cruise, mph	132
Stall, mph	39
Range, n.m.	600
Rate of Climb, fpm	1000
Takeoff Distance, ft.	325

Landing Distance, ft.	470
Engine Used	Rotax 912ULS
HP/HP Range	100/100-125
Fuel Capacity, gal.	26
Empty Weight, lb.	760
Gross Weight, lb.	1320
Length, ft.	23.3
Wingspan, ft.	31.2
Wing Area, sq. ft.	123

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	400
No. Completed & Flown	1
Cost	\$40,000
www.sportaircraftworks.com	
772/223-8915	





Sportair Aviation
Corsario MK-5

Top Speed, mph	100
Cruise, mph	85
Stall, mph	42
Range, n.m.	400
Rate of Climb, fpm	900
Takeoff Distance, ft.	265

Landing Distance, ft.	400
Engine Used	Rotax 912
HP/HP Range	80/80-100
Fuel Capacity, gal.	20
Empty Weight, lb.	685
Gross Weight, lb.	1232
Length, ft.	22.6
Wingspan, ft.	33
Wing Area, sq. ft.	175

No. of Seats	2
Landing Gear	trigear/R
Bldg. Materials	C, T, F
Beginner Build Time, hrs.	80
No. Completed & Flown	1400+
Cost	\$39,950

www.sportairaviation.com
727/572-7733



Stewart Aircraft Company
265/275

Top Speed, mph	130
Cruise, mph	90
Stall, mph	43
Range, n.m.	450
Rate of Climb, fpm	450
Takeoff Distance, ft.	600

Landing Distance, ft.	600
Engine Used	Aerotechnik
HP/HP Range	65/65-75
Fuel Capacity, gal.	20
Empty Weight, lb.	800
Gross Weight, lb.	1320
Length, ft.	21.5
Wingspan, ft.	30.3
Wing Area, sq. ft.	131.4

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	M, W, T, F
Beginner Build Time, hrs.	n.p.
No. Completed & Flown	1
Cost	\$30,000

www.stewartaircraft.com
906/438-2277



Supermarine Aircraft
Mk 26 Spitfire

Top Speed, mph	220
Cruise, mph	180
Stall, mph	48
Range, n.m.	720
Rate of Climb, fpm	2400
Takeoff Distance, ft.	720

Landing Distance, ft.	1400
Engine Used	Jabiru
HP/HP Range	180/180-250
Fuel Capacity, gal.	30
Empty Weight, lb.	1014
Gross Weight, lb.	1653
Length, ft.	23.9
Wingspan, ft.	27.8
Wing Area, sq. ft.	122

No. of Seats	2
Landing Gear	tailwheel/R
Bldg. Materials	M
Beginner Build Time, hrs.	1200
No. Completed & Flown	22
Cost	\$83,000

www.supermarineaircraft.com
863/698-8491



Tapanee Aviation
Levitation 4

Top Speed, mph	130
Cruise, mph	115
Stall, mph	38
Range, n.m.	575
Rate of Climb, fpm	700
Takeoff Distance, ft.	400

Landing Distance, ft.	300
Engine Used	Lyc. O-360
HP/HP Range	150/150-220
Fuel Capacity, gal.	55
Empty Weight, lb.	1368
Gross Weight, lb.	2500
Length, ft.	23.5
Wingspan, ft.	33.5
Wing Area, sq. ft.	180

No. of Seats	4
Landing Gear	tailwheel
Bldg. Materials	M, T
Beginner Build Time, hrs.	1500
No. Completed & Flown	3
Cost	\$33,600

www.tapanee.com
819/586-2059



Tapanee Aviation
Pegazair-100

Top Speed, mph	122
Cruise, mph	105
Stall, mph	28
Range, n.m.	569
Rate of Climb, fpm	900
Takeoff Distance, ft.	250

Landing Distance, ft.	300
Engine Used	Cont. O-200
HP/HP Range	100/85-115
Fuel Capacity, gal.	36
Empty Weight, lb.	791
Gross Weight, lb.	1450
Length, ft.	22.5
Wingspan, ft.	29
Wing Area, sq. ft.	150

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	M, T, F
Beginner Build Time, hrs.	1400
No. Completed & Flown	32
Cost	\$21,000

www.tapanee.com
819/586-2059



Team Rocket Aircraft
F-1 Evo

Top Speed, mph	265
Cruise, mph	235
Stall, mph	48
Range, n.m.	1000
Rate of Climb, fpm	3500
Takeoff Distance, ft.	250

Landing Distance, ft.	600
Engine Used	IO-540
HP/HP Range	280/235-300
Fuel Capacity, gal.	52
Empty Weight, lb.	1250
Gross Weight, lb.	2100
Length, ft.	21
Wingspan, ft.	24.9
Wing Area, sq. ft.	102

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	C, M
Beginner Build Time, hrs.	1200
No. Completed & Flown	1
Cost	\$45,200

www.teamrocketaircraft.com
512/352-6979



Team Rocket Aircraft
F-1 Rocket

Top Speed, mph	257
Cruise, mph	230
Stall, mph	56
Range, n.m.	1000
Rate of Climb, fpm	3500
Takeoff Distance, ft.	300

Landing Distance, ft.	700
Engine Used	Lyc. IO-540
HP/HP Range	250/250-300
Fuel Capacity, gal.	52
Empty Weight, lb.	1200
Gross Weight, lb.	2000
Length, ft.	21
Wingspan, ft.	22.7
Wing Area, sq. ft.	106

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	C, M
Beginner Build Time, hrs.	1200
No. Completed & Flown	30
Cost	\$30,200

www.teamrocketaircraft.com
512/352-6979



Team Tango
Foxtrot 4

Top Speed, mph	230
Cruise, mph	220
Stall, mph	62
Range, n.m.	1600
Rate of Climb, fpm	3000
Takeoff Distance, ft.	350

Landing Distance, ft.	800
Engine Used	Lyc. IO-540
HP/HP Range	300/200-300
Fuel Capacity, gal.	100
Empty Weight, lb.	1710
Gross Weight, lb.	2800
Length, ft.	24.8
Wingspan, ft.	32
Wing Area, sq. ft.	128

No. of Seats	4
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	1200
No. Completed & Flown	2
Cost	\$35,995

www.teamtango.com
352/528-0982

Team Tango
Tango 2

Top Speed, mph	220
Cruise, mph	210
Stall, mph	63
Range, n.m.	1260
Rate of Climb, fpm	3000
Takeoff Distance, ft.	600

Landing Distance, ft.	800
Engine Used	Lyc. IO-360
HP/HP Range	180/150-200
Fuel Capacity, gal.	57
Empty Weight, lb.	1150
Gross Weight, lb.	2000
Length, ft.	20.7
Wingspan, ft.	25
Wing Area, sq. ft.	75

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	900
No. Completed & Flown	8
Cost	\$27,750

www.teamtango.com
352/528-0982



The New Kolb Aircraft Co.
FireFly

Top Speed, mph	70
Cruise, mph	63
Stall, mph	27
Range, n.m.	n.p.
Rate of Climb, fpm	750
Takeoff Distance, ft.	150

Landing Distance, ft.	150
Engine Used	Rotax 447
HP/HP Range	41
Fuel Capacity, gal.	5
Empty Weight, lb.	253
Gross Weight, lb.	500
Length, ft.	19.5
Wingspan, ft.	22
Wing Area, sq. ft.	117

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	400
No. Completed & Flown	95
Cost	\$8090

8375 Russell Dyche Highway
London, KY 40741
606/862-9692



The New Kolb Aircraft Co.
FireStar

Top Speed, mph	80
Cruise, mph	70
Stall, mph	33
Range, n.m.	n.p.
Rate of Climb, fpm	850
Takeoff Distance, ft.	200

Landing Distance, ft.	150
Engine Used	Rotax 503
HP/HP Range	52
Fuel Capacity, gal.	10
Empty Weight, lb.	325
Gross Weight, lb.	725
Length, ft.	22.6
Wingspan, ft.	27.8
Wing Area, sq. ft.	143

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	400
No. Completed & Flown	560
Cost	\$9145

8375 Russell Dyche Highway
London, KY 40741
606/862-9692



The New Kolb Aircraft Co.
Mark III Classic

Top Speed, mph	90
Cruise, mph	75
Stall, mph	38
Range, n.m.	n.p.
Rate of Climb, fpm	1000
Takeoff Distance, ft.	200

Landing Distance, ft.	200
Engine Used	Rotax 582
HP/HP Range	65/65-80
Fuel Capacity, gal.	17
Empty Weight, lb.	450
Gross Weight, lb.	1000
Length, ft.	22.6
Wingspan, ft.	30
Wing Area, sq. ft.	160

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	500
No. Completed & Flown	304
Cost	\$10,190

8375 Russell Dyche Highway
London, KY 40741
606/862-9692



The New Kolb Aircraft Co.
Mark III Xtra

Top Speed, mph	90
Cruise, mph	80
Stall, mph	41
Range, n.m.	200
Rate of Climb, fpm	1000
Takeoff Distance, ft.	200

Landing Distance, ft.	200
Engine Used	Rotax 582
HP/HP Range	80/65-100
Fuel Capacity, gal.	10
Empty Weight, lb.	450
Gross Weight, lb.	1000
Length, ft.	24
Wingspan, ft.	30
Wing Area, sq. ft.	160

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	M, F
Beginner Build Time, hrs.	500
No. Completed & Flown	42
Cost	\$11,558

8375 Russell Dyche Highway
London, KY 40741
606/862-9692



The New Kolb Aircraft Co.
Pelican Sport

Top Speed, mph	145
Cruise, mph	132
Stall, mph	44
Range, n.m.	600
Rate of Climb, fpm	1350
Takeoff Distance, ft.	500

Landing Distance, ft.	600
Engine Used	Rotax 912S
HP/HP Range	98/80-115
Fuel Capacity, gal.	23
Empty Weight, lb.	720
Gross Weight, lb.	1320
Length, ft.	19.9
Wingspan, ft.	32
Wing Area, sq. ft.	117.3

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	C, M
Beginner Build Time, hrs.	900
No. Completed & Flown	40
Cost	\$22,025

8375 Russell Dyche Highway
London, KY 40741
606/862-9692



The New Kolb Aircraft Co.
Slingshot

Top Speed, mph	100
Cruise, mph	87
Stall, mph	44
Range, n.m.	n.p.
Rate of Climb, fpm	1300
Takeoff Distance, ft.	200

Landing Distance, ft.	200
Engine Used	Rotax 582
HP/HP Range	65/65-80
Fuel Capacity, gal.	10
Empty Weight, lb.	395
Gross Weight, lb.	850
Length, ft.	19
Wingspan, ft.	22
Wing Area, sq. ft.	110

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	400
No. Completed & Flown	15
Cost	\$12,000

8375 Russell Dyche Highway
London, KY 40741
606/862-9692



Thunderbird Aviation
Hiperlight SNS-8

Top Speed, mph	62
Cruise, mph	60
Stall, mph	27
Range, n.m.	180
Rate of Climb, fpm	700
Takeoff Distance, ft.	175

Landing Distance, ft.	175
Engine Used	MZ 201
HP/HP Range	28/28-45
Fuel Capacity, gal.	5
Empty Weight, lb.	247
Gross Weight, lb.	500
Length, ft.	15.6
Wingspan, ft.	22
Wing Area, sq. ft.	140

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	150
No. Completed & Flown	600
Cost	\$15,900

www.hiperlightaircraft.com
586/212-5862





**Thunderbird Aviation
Hiperlight SNS-9**

Top Speed, mph	105
Cruise, mph	85
Stall, mph	39
Range, n.m.	300
Rate of Climb, fpm	600
Takeoff Distance, ft.	300

Landing Distance, ft.	300
Engine Used	Rotax 503
HP/HP Range	80/50-100
Fuel Capacity, gal.	10
Empty Weight, lb.	360
Gross Weight, lb.	814
Length, ft.	18
Wingspan, ft.	23.4
Wing Area, sq. ft.	148

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	300
No. Completed & Flown	25
Cost	\$19,900

www.hiperlightaircraft.com
586/212-5862



**Titan Aircraft
T-51**

Top Speed, mph	197
Cruise, mph	150
Stall, mph	39
Range, n.m.	600
Rate of Climb, fpm	1800
Takeoff Distance, ft.	300

Landing Distance, ft.	300
Engine Used	Rotax 912S
HP/HP Range	100/100-170
Fuel Capacity, gal.	23
Empty Weight, lb.	750
Gross Weight, lb.	1320
Length, ft.	24
Wingspan, ft.	24
Wing Area, sq. ft.	118

No. of Seats	2
Landing Gear	tailwheel/R
Bldg. Materials	C, M, T
Beginner Build Time, hrs.	800
No. Completed & Flown	4
Cost	\$49,900

www.titanaircraft.com
440/275-3205



**Titan Aircraft
Tornado I Sport**

Top Speed, mph	120
Cruise, mph	95
Stall, mph	30
Range, n.m.	250
Rate of Climb, fpm	1500
Takeoff Distance, ft.	250

Landing Distance, ft.	250
Engine Used	Rotax 503
HP/HP Range	40/40-80
Fuel Capacity, gal.	10
Empty Weight, lb.	320
Gross Weight, lb.	750
Length, ft.	18.3
Wingspan, ft.	20
Wing Area, sq. ft.	93

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C, M, T
Beginner Build Time, hrs.	300
No. Completed & Flown	95
Cost	\$10,590

www.titanaircraft.com
440/275-3205



**Titan Aircraft
Tornado II Trainer**

Top Speed, mph	120
Cruise, mph	100
Stall, mph	35
Range, n.m.	250
Rate of Climb, fpm	1400
Takeoff Distance, ft.	300

Landing Distance, ft.	250
Engine Used	Rotax 582
HP/HP Range	65/52-100
Fuel Capacity, gal.	15
Empty Weight, lb.	500
Gross Weight, lb.	1000
Length, ft.	19
Wingspan, ft.	23.6
Wing Area, sq. ft.	108

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C, M, T
Beginner Build Time, hrs.	350
No. Completed & Flown	500
Cost	\$13,590

www.titanaircraft.com
440/275-3205



**Titan Aircraft
Tornado MG**

Top Speed, mph	110
Cruise, mph	100
Stall, mph	30
Aspect Ratio	5.13:1
L/D	15:1
Minimum Sink, fpm	322

Landing Distance, ft.	250
Engine Used	Rotax 503
HP/HP Range	42/42-100
Fuel Capacity, gal.	15
Empty Weight, lb.	360
Gross Weight, lb.	750
Length, ft.	18.3
Wingspan, ft.	26
Wing Area, sq. ft.	120

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	C, M, T
Beginner Build Time, hrs.	350
No. Completed & Flown	15
Cost	\$13,590

www.titanaircraft.com
440/275-3205



**Titan Aircraft
Tornado S Model**

Top Speed, mph	150
Cruise, mph	120
Stall, mph	35
Range, n.m.	480
Rate of Climb, fpm	1800
Takeoff Distance, ft.	300

Landing Distance, ft.	250
Engine Used	Rotax 912S
HP/HP Range	100
Fuel Capacity, gal.	15
Empty Weight, lb.	540
Gross Weight, lb.	1140
Length, ft.	19
Wingspan, ft.	23.6
Wing Area, sq. ft.	108

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	C, M, T
Beginner Build Time, hrs.	350
No. Completed & Flown	145
Cost	\$16,490

www.titanaircraft.com
440/275-3205



**Titan Aircraft
Tornado SS**

Top Speed, mph	n.p.
Cruise, mph	125
Stall, mph	40
Range, n.m.	315
Rate of Climb, fpm	800
Takeoff Distance, ft.	250

Landing Distance, ft.	250
Engine Used	Rotax 912S
HP/HP Range	100/80-120
Fuel Capacity, gal.	15
Empty Weight, lb.	640
Gross Weight, lb.	1200
Length, ft.	9.9
Wingspan, ft.	26
Wing Area, sq. ft.	120

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	M, T, F
Beginner Build Time, hrs.	400
No. Completed & Flown	1
Cost	\$19,490

www.titanaircraft.com
440/275-3205



**Ullmann Aircraft Company
Panther**

Top Speed, mph	200
Cruise, mph	200
Stall, mph	67
Range, n.m.	800
Rate of Climb, fpm	n.p.
Takeoff Distance, ft.	n.p.

Landing Distance, ft.	n.p.
Engine Used	Cont. IO-520
HP/HP Range	300
Fuel Capacity, gal.	76
Empty Weight, lb.	2040
Gross Weight, lb.	3050
Length, ft.	25.75
Wingspan, ft.	34.15
Wing Area, sq. ft.	130

No. of Seats	4
Landing Gear	trigear
Bldg. Materials	M
Beginner Build Time, hrs.	1400
No. Completed & Flown	1
Cost	\$49,000

www.ullmannaircraft.com
316/733-4254

Ultimate Biplane Corp.
10-200

Top Speed, mph	220
Cruise, mph	170
Stall, mph	60
Range, n.m.	500
Rate of Climb, fpm	2000
Takeoff Distance, ft.	450

Landing Distance, ft.	500
Engine Used	Lycoming O-360
HP/HP Range	200/200-230
Fuel Capacity, gal.	22
Empty Weight, lb.	925
Gross Weight, lb.	1350
Length, ft.	17.4
Wingspan, ft.	16
Wing Area, sq. ft.	96

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	M, W, T, F
Beginner Build Time, hrs.	600
No. Completed & Flown	30
Cost	\$12,675
www.ultimatebiplane.com	
905/643-9133	



Ultravia Aero International
Pelican PL

Top Speed, mph	155
Cruise, mph	145
Stall, mph	49
Range, n.m.	800
Rate of Climb, fpm	1700
Takeoff Distance, ft.	400

Landing Distance, ft.	600
Engine Used	Rotax 914
HP/HP Range	115/80-125
Fuel Capacity, gal.	26
Empty Weight, lb.	800
Gross Weight, lb.	1400
Length, ft.	19.8
Wingspan, ft.	29.5
Wing Area, sq. ft.	108

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	C, M
Beginner Build Time, hrs.	1000
No. Completed & Flown	350
Cost	\$21,500
www.ultravia.ca	
819/669-3144	



Ultravia Aero International
Pelican PL/912S

Top Speed, mph	140
Cruise, mph	130
Stall, mph	50
Range, n.m.	800
Rate of Climb, fpm	1200
Takeoff Distance, ft.	600

Landing Distance, ft.	550
Engine Used	Rotax 912S
HP/HP Range	100/75-125
Fuel Capacity, gal.	26
Empty Weight, lb.	750
Gross Weight, lb.	1400
Length, ft.	19.8
Wingspan, ft.	29.5
Wing Area, sq. ft.	108

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	M, C
Beginner Build Time, hrs.	800
No. Completed & Flown	250
Cost	\$19,800
www.ultravia.ca	
819/669-3144	



Ultravia Aero International
Pelican Sport

Top Speed, mph	132
Cruise, mph	126
Stall, mph	44
Range, n.m.	700
Rate of Climb, fpm	1350
Takeoff Distance, ft.	300

Landing Distance, ft.	500
Engine Used	Rotax 912ULS
HP/HP Range	100/80-125
Fuel Capacity, gal.	23
Empty Weight, lb.	750
Gross Weight, lb.	1320
Length, ft.	19.9
Wingspan, ft.	32
Wing Area, sq. ft.	117.3

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	C, M
Beginner Build Time, hrs.	800
No. Completed & Flown	150
Cost	\$22,000
www.ultravia.ca	
819/669-3144	



U.S. Aviation
Cumulus

Top Speed, mph	90
Cruise, mph	75
Stall, mph	32
Aspect Ratio	13.1:1
L/D	20:1
Minimum Sink, fpm	190

Landing Distance, ft.	170
Engine Used	Rotax 447
HP/HP Range	20/20-55
Fuel Capacity, gal.	3
Empty Weight, lb.	360
Gross Weight, lb.	640
Length, ft.	20
Wingspan, ft.	43
Wing Area, sq. ft.	140

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	C, M, T, F
Beginner Build Time, hrs.	250
No. Completed & Flown	2
Cost	\$8995
members.aol.com/cumulusman	
618/833-3187	



Van's Aircraft
RV-3

Top Speed, mph	207
Cruise, mph	196
Stall, mph	51
Range, n.m.	600
Rate of Climb, fpm	2050
Takeoff Distance, ft.	300

Landing Distance, ft.	350
Engine Used	Lycoming
HP/HP Range	150/118-160
Fuel Capacity, gal.	30
Empty Weight, lb.	750
Gross Weight, lb.	1100
Length, ft.	19
Wingspan, ft.	20
Wing Area, sq. ft.	90

No. of Seats	1
Landing Gear	tailwheel
Bldg. Materials	M
Beginner Build Time, hrs.	2000
No. Completed & Flown	221
Cost	\$11,710
www.vansaircraft.com	
503/678-6545	



Van's Aircraft
RV-4

Top Speed, mph	204
Cruise, mph	192
Stall, mph	54
Range, n.m.	650
Rate of Climb, fpm	1650
Takeoff Distance, ft.	450

Landing Distance, ft.	425
Engine Used	Lycoming
HP/HP Range	160/125-180
Fuel Capacity, gal.	32
Empty Weight, lb.	905
Gross Weight, lb.	1500
Length, ft.	20.3
Wingspan, ft.	23
Wing Area, sq. ft.	110

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	M
Beginner Build Time, hrs.	1800
No. Completed & Flown	1163
Cost	\$13,710
www.vansaircraft.com	
503/678-6545	



Van's Aircraft
RV-7/7A

Top Speed, mph	213
Cruise, mph	203
Stall, mph	58
Range, n.m.	785
Rate of Climb, fpm	1900
Takeoff Distance, ft.	500

Landing Distance, ft.	500
Engine Used	Lycoming
HP/HP Range	200/150-200
Fuel Capacity, gal.	42
Empty Weight, lb.	1080
Gross Weight, lb.	1800
Length, ft.	20.3
Wingspan, ft.	25
Wing Area, sq. ft.	121

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	M
Beginner Build Time, hrs.	1500
No. Completed & Flown	206
Cost	\$17,085/\$17,840
www.vansaircraft.com	
503/678-6545	





**Van's Aircraft
RV-8/8A**

Top Speed, mph	219
Cruise, mph	208
Stall, mph	58
Range, n.m.	770
Rate of Climb, fpm	1800
Takeoff Distance, ft.	500

Landing Distance, ft.	500
Engine Used	Lycoming
HP/HP Range	200/150-200
Fuel Capacity, gal.	42
Empty Weight, lb.	1070
Gross Weight, lb.	1800
Length, ft.	20.9
Wingspan, ft.	24
Wing Area, sq. ft.	116

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	M
Beginner Build Time, hrs.	1800
No. Completed & Flown	539
Cost	\$17,900/\$18,130
www.vansaircraft.com	
503/678-6545	



**Van's Aircraft
RV-9/9A**

Top Speed, mph	196
Cruise, mph	188
Stall, mph	50
Range, n.m.	710
Rate of Climb, fpm	1450
Takeoff Distance, ft.	475

Landing Distance, ft.	450
Engine Used	Lycoming
HP/HP Range	160/118-160
Fuel Capacity, gal.	36
Empty Weight, lb.	1000
Gross Weight, lb.	1750
Length, ft.	20.5
Wingspan, ft.	28
Wing Area, sq. ft.	124

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	M
Beginner Build Time, hrs.	1500
No. Completed & Flown	165
Cost	\$17,430/\$18,200
www.vansaircraft.com	
503/678-6545	



**Van's Aircraft
RV-10**

Top Speed, mph	208
Cruise, mph	197
Stall, mph	63
Range, n.m.	825
Rate of Climb, fpm	1450
Takeoff Distance, ft.	500

Landing Distance, ft.	650
Engine Used	Lycoming
HP/HP Range	260/210-260
Fuel Capacity, gal.	60
Empty Weight, lb.	1600
Gross Weight, lb.	2700
Length, ft.	24.5
Wingspan, ft.	31.6
Wing Area, sq. ft.	148

No. of Seats	4
Landing Gear	trigear
Bldg. Materials	C, M
Beginner Build Time, hrs.	2000
No. Completed & Flown	8
Cost	\$35,000
www.vansaircraft.com	
503/678-6545	



**Velocity Aircraft
Velocity SE-FG**

Top Speed, mph	195
Cruise, mph	184
Stall, mph	63
Range, n.m.	1150
Rate of Climb, fpm	1500
Takeoff Distance, ft.	1500

Landing Distance, ft.	1500
Engine Used	Lyc. IO-360
HP/HP Range	200/160-260
Fuel Capacity, gal.	60
Empty Weight, lb.	1300
Gross Weight, lb.	2300
Length, ft.	19
Wingspan, ft.	29.4
Wing Area, sq. ft.	122

No. of Seats	4
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	1600
No. Completed & Flown	60
Cost	\$31,250
www.velocityaircraft.com	
772/589-1860	



**Velocity Aircraft
Velocity SE-RG**

Top Speed, mph	210
Cruise, mph	200
Stall, mph	63
Range, n.m.	1250
Rate of Climb, fpm	1500
Takeoff Distance, ft.	1500

Landing Distance, ft.	1500
Engine Used	Lyc. IO-360
HP/HP Range	200/160-260
Fuel Capacity, gal.	60
Empty Weight, lb.	2300
Gross Weight, lb.	1300
Length, ft.	19
Wingspan, ft.	29.4
Wing Area, sq. ft.	122

No. of Seats	4
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	1800
No. Completed & Flown	150
Cost	\$38,750
www.velocityaircraft.com	
772/589-1860	



**Velocity Aircraft
Velocity XL-FG**

Top Speed, mph	207
Cruise, mph	200
Stall, mph	75
Range, n.m.	1000
Rate of Climb, fpm	1700
Takeoff Distance, ft.	1500

Landing Distance, ft.	1500
Engine Used	Continental
HP/HP Range	310/260-310
Fuel Capacity, gal.	70
Empty Weight, lb.	1700
Gross Weight, lb.	2700
Length, ft.	20
Wingspan, ft.	31
Wing Area, sq. ft.	145

No. of Seats	4
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	1800
No. Completed & Flown	20
Cost	\$41,750
www.velocityaircraft.com	
772/589-1860	



**Velocity Aircraft
Velocity XL-RG**

Top Speed, mph	230
Cruise, mph	230
Stall, mph	75
Range, n.m.	1110
Rate of Climb, fpm	2000
Takeoff Distance, ft.	1500

Landing Distance, ft.	1500
Engine Used	Cont. IO-550
HP/HP Range	310/260-310
Fuel Capacity, gal.	70
Empty Weight, lb.	1700
Gross Weight, lb.	2700
Length, ft.	20
Wingspan, ft.	31
Wing Area, sq. ft.	145

No. of Seats	4
Landing Gear	trigear/R
Bldg. Materials	C
Beginner Build Time, hrs.	1800
No. Completed & Flown	80
Cost	\$49,250
www.velocityaircraft.com	
772/589-1860	



**Velocity Aircraft
Velocity XL-FG-5**

Top Speed, mph	207
Cruise, mph	200
Stall, mph	75
Range, n.m.	1000
Rate of Climb, fpm	1400
Takeoff Distance, ft.	1500

Landing Distance, ft.	1500
Engine Used	Cont. IOF-550
HP/HP Range	310/260-310
Fuel Capacity, gal.	70
Empty Weight, lb.	1750
Gross Weight, lb.	2900
Length, ft.	20
Wingspan, ft.	31
Wing Area, sq. ft.	145

No. of Seats	5
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	1600
No. Completed & Flown	10
Cost	\$44,250
www.velocityaircraft.com	
772/589-1860	

Velocity Aircraft
Velocity XL-RG-5

Top Speed, mph	230
Cruise, mph	230
Stall, mph	75
Range, n.m.	1100
Rate of Climb, fpm	1800
Takeoff Distance, ft.	1500

Landing Distance, ft.	1500
Engine Used	Continental
HP/HP Range	260/260-310
Fuel Capacity, gal.	70
Empty Weight, lb.	1750
Gross Weight, lb.	2900
Length, ft.	20
Wingspan, ft.	31
Wing Area, sq. ft.	145

No. of Seats	5
Landing Gear	trigear
Bldg. Materials	C
Beginner Build Time, hrs.	1800
No. Completed & Flown	25
Cost	\$51,750
www.velocityaircraft.com	
772/589-1860	



Viper Aircraft Corp.
ViperJet Mk II

Top Speed, mph	525
Cruise, mph	450
Stall, mph	84
Range, n.m.	1200
Rate of Climb, fpm	10,000
Takeoff Distance, ft.	1200

Landing Distance, ft.	2500
Engine Used	GE J-85-17A
HP/HP Range	2850 lb. thrust
Fuel Capacity, gal.	300
Empty Weight, lb.	2750
Gross Weight, lb.	5500
Length, ft.	25.5
Wingspan, ft.	30
Wing Area, sq. ft.	130

No. of Seats	2
Landing Gear	trigear/R
Bldg. Materials	C
Beginner Build Time, hrs.	3000
No. Completed & Flown	3
Cost	\$183,400
www.viper-aircraft.com	
509/543-3570	



VSTOL Aircraft Corporation
SST2000

Top Speed, mph	100
Cruise, mph	60
Stall, mph	22
Range, n.m.	250
Rate of Climb, fpm	1200
Takeoff Distance, ft.	100

Landing Distance, ft.	200
Engine Used	Hirth 3203 (2)
HP/HP Range	65 ea/100-150
Fuel Capacity, gal.	24
Empty Weight, lb.	900
Gross Weight, lb.	1500
Length, ft.	22
Wingspan, ft.	32.5
Wing Area, sq. ft.	165

No. of Seats	2
Landing Gear	tri or tail
Bldg. Materials	T, F
Beginner Build Time, hrs.	500
No. Completed & Flown	12
Cost	\$85,000
http://vstolaircraft.com	
239/218-5468	



W.A.C.O. Aircraft Company Ohio
WACO M-F

Top Speed, mph	140
Cruise, mph	120
Stall, mph	48
Range, n.m.	400
Rate of Climb, fpm	1500
Takeoff Distance, ft.	350

Landing Distance, ft.	500
Engine Used	Jacobs R755
HP/HP Range	275/220-340
Fuel Capacity, gal.	50
Empty Weight, lb.	1600
Gross Weight, lb.	2500
Length, ft.	22.6
Wingspan, ft.	30
Wing Area, sq. ft.	n.p.

No. of Seats	3
Landing Gear	tailwheel
Bldg. Materials	M, T, F
Beginner Build Time, hrs.	600
No. Completed & Flown	2
Cost	\$79,500
www.wacokit.com	
740/820-5100	



Wag-Aero Group
Sport Trainer

Top Speed, mph	102
Cruise, mph	94
Stall, mph	38
Range, n.m.	270
Rate of Climb, fpm	450
Takeoff Distance, ft.	375

Landing Distance, ft.	420
Engine Used	Continental
HP/HP Range	85/65-85
Fuel Capacity, gal.	12
Empty Weight, lb.	720
Gross Weight, lb.	1220
Length, ft.	22.3
Wingspan, ft.	35.2
Wing Area, sq. ft.	n.p.

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	1200
No. Completed & Flown	200+
Cost	\$17,000
www.wagaero.com	
262/763-9586	



Wag-Aero Group
Sportsman 2+2

Top Speed, mph	129
Cruise, mph	124
Stall, mph	40
Range, n.m.	670
Rate of Climb, fpm	800
Takeoff Distance, ft.	230

Landing Distance, ft.	340
Engine Used	Lyc. O-320
HP/HP Range	150/125-200
Fuel Capacity, gal.	39
Empty Weight, lb.	1080
Gross Weight, lb.	2200
Length, ft.	23.4
Wingspan, ft.	35.9
Wing Area, sq. ft.	n.p.

No. of Seats	4
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	1200
No. Completed & Flown	30+
Cost	\$18,000
www.wagaero.com	
262/763-9586	



Wag-Aero Group
Wag-A-Bond

Top Speed, mph	136
Cruise, mph	124
Stall, mph	44
Range, n.m.	620
Rate of Climb, fpm	850
Takeoff Distance, ft.	390

Landing Distance, ft.	760
Engine Used	Lyc. O-235
HP/HP Range	115
Fuel Capacity, gal.	26
Empty Weight, lb.	640
Gross Weight, lb.	1230
Length, ft.	18.7
Wingspan, ft.	29.3
Wing Area, sq. ft.	147.5

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	T, F
Beginner Build Time, hrs.	1200
No. Completed & Flown	70+
Cost	\$15,000
www.wagaero.com	
262/763-9586	



Warner Aircraft
Sportster

Top Speed, mph	135
Cruise, mph	130
Stall, mph	45
Range, n.m.	400
Rate of Climb, fpm	1200
Takeoff Distance, ft.	400

Landing Distance, ft.	400
Engine Used	Lyc. O-290
HP/HP Range	108/108-150
Fuel Capacity, gal.	20
Empty Weight, lb.	850
Gross Weight, lb.	1450
Length, ft.	20.4
Wingspan, ft.	26
Wing Area, sq. ft.	112

No. of Seats	2
Landing Gear	tailwheel
Bldg. Materials	W, T, F
Beginner Build Time, hrs.	700
No. Completed & Flown	3
Cost	\$14,995
www.warnerair.com	
727/595-2382	





Weedhopper
Weedhopper 2 Place

Top Speed, mph	65
Cruise, mph	60
Stall, mph	26
Range, n.m.	100
Rate of Climb, fpm	400
Takeoff Distance, ft.	200

Landing Distance, ft.	200
Engine Used	Rotax 503
HP/HP Range	50/50
Fuel Capacity, gal.	5
Empty Weight, lb.	340
Gross Weight, lb.	840
Length, ft.	18.6
Wingspan, ft.	28
Wing Area, sq. ft.	168

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	T
Beginner Build Time, hrs.	30
No. Completed & Flown	13,000
Cost	\$12,500

www.weedhopperusa.net
601/918-8415



Weedhopper
Weedhopper 40

Top Speed, mph	60
Cruise, mph	50
Stall, mph	20
Range, n.m.	100
Rate of Climb, fpm	1000
Takeoff Distance, ft.	100

Landing Distance, ft.	100
Engine Used	Rotax 447
HP/HP Range	40/40
Fuel Capacity, gal.	5
Empty Weight, lb.	250
Gross Weight, lb.	550
Length, ft.	18.6
Wingspan, ft.	28
Wing Area, sq. ft.	168

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	T
Beginner Build Time, hrs.	20
No. Completed & Flown	13,000
Cost	\$8495

www.weedhopperusa.net
601/918-8415



Weedhopper
Weedhopper Standard

Top Speed, mph	60
Cruise, mph	50
Stall, mph	20
Range, n.m.	100
Rate of Climb, fpm	500
Takeoff Distance, ft.	150

Landing Distance, ft.	150
Engine Used	Rotax 277
HP/HP Range	30/30
Fuel Capacity, gal.	5
Empty Weight, lb.	235
Gross Weight, lb.	485
Length, ft.	17.4
Wingspan, ft.	28
Wing Area, sq. ft.	168

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	T
Beginner Build Time, hrs.	20
No. Completed & Flown	13,000
Cost	\$4800

www.weedhopperusa.net
601/918-8415



Weedhopper
Weedhopper Super

Top Speed, mph	65
Cruise, mph	60
Stall, mph	25
Range, n.m.	100
Rate of Climb, fpm	800
Takeoff Distance, ft.	150

Landing Distance, ft.	150
Engine Used	Rotax 503
HP/HP Range	50/50
Fuel Capacity, gal.	5
Empty Weight, lb.	330
Gross Weight, lb.	830
Length, ft.	18.6
Wingspan, ft.	28
Wing Area, sq. ft.	168

No. of Seats	1
Landing Gear	trigear
Bldg. Materials	T
Beginner Build Time, hrs.	30
No. Completed & Flown	13,000
Cost	\$11,500

www.weedhopperusa.net
601/918-8415



Zenair
Zodiac CH 640

Top Speed, mph	195
Cruise, mph	150
Stall, mph	47
Range, n.m.	510
Rate of Climb, fpm	950
Takeoff Distance, ft.	990

Landing Distance, ft.	1150
Engine Used	Lyc. O-360
HP/HP Range	180/150-240
Fuel Capacity, gal.	38
Empty Weight, lb.	1147
Gross Weight, lb.	2200
Length, ft.	23
Wingspan, ft.	31.6
Wing Area, sq. ft.	150

No. of Seats	4
Landing Gear	trigear
Bldg. Materials	M
Beginner Build Time, hrs.	1500
No. Completed & Flown	3
Cost	\$24,800

www.zenair.com
705/526-2871



Zenith Aircraft Co.
STOL CH 701

Top Speed, mph	96
Cruise, mph	85
Stall, mph	30
Range, n.m.	400
Rate of Climb, fpm	1200
Takeoff Distance, ft.	90

Landing Distance, ft.	140
Engine Used	Rotax 912S
HP/HP Range	100/50-100
Fuel Capacity, gal.	20
Empty Weight, lb.	580
Gross Weight, lb.	1100
Length, ft.	20.9
Wingspan, ft.	27
Wing Area, sq. ft.	122

No. of Seats	2
Landing Gear	trigear
Bldg. Materials	M
Beginner Build Time, hrs.	500
No. Completed & Flown	600+
Cost	\$12,980

www.zenithair.com
573/581-9000



Zenith Aircraft Co.
STOL CH 801

Top Speed, mph	112
Cruise, mph	105
Stall, mph	35
Range, n.m.	320
Rate of Climb, fpm	1200
Takeoff Distance, ft.	290

Landing Distance, ft.	400
Engine Used	Lyc. O-360
HP/HP Range	180/150-220
Fuel Capacity, gal.	30
Empty Weight, lb.	1150
Gross Weight, lb.	2200
Length, ft.	24.5
Wingspan, ft.	31.4
Wing Area, sq. ft.	167

No. of Seats	4
Landing Gear	trigear
Bldg. Materials	M
Beginner Build Time, hrs.	750
No. Completed & Flown	50+
Cost	\$20,950

www.zenithair.com
573/581-9000



Zenith Aircraft Co.
Zodiac XL

Top Speed, mph	135
Cruise, mph	132
Stall, mph	45
Range, n.m.	650
Rate of Climb, fpm	980
Takeoff Distance, ft.	490

Landing Distance, ft.	500
Engine Used	Jabiru 3300
HP/HP Range	105/80-125
Fuel Capacity, gal.	24
Empty Weight, lb.	690
Gross Weight, lb.	1232
Length, ft.	20
Wingspan, ft.	27
Wing Area, sq. ft.	132

No. of Seats	2
Landing Gear	tri or tail
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Company Cross Reference

10 - Ap	10-200	Ultimate Biplane Corp.	AeroMaster	AeroLites
	1030R MAX 103 Ultralight	JDT Mini-Max	AeroSkiff	AeroLites
	265/275	Stewart Aircraft Company	AirCam	Leza AirCam Corp.
	290E/293E	Falconar Avia	Airdale	Airdale
	5151 Mustang, Mustang RG	Loehle Aircraft Corp.	AMF-14H	Falconar Avia
	AeroCanard FG	AeroCad	AMF-Super 14D Maranda	Falconar Avia
	Aerocat SR, SRX, TR, TRX Aerolite 103	Creative Flight Aero-Works	Apis 13, Apis 15 Apis Electric Self-Launch	Apis Sailplanes Apis Sailplanes
Ap - Be	Apis M	Apis Sailplanes	Barracuda	Aero Adventure
	Ascender 3A, 3B, 3C	DFE Ultralights	BD-4	Bede Corp.
	Avenger	Fisher Flying Products	BD-5	Alturair
	Aventura HP, II, UL	Aero Adventure	BD-5B, 5J Microjet, 5T Turboprop	BD-Micro Technologies
	Avid Plus	Airdale	BD-6	Bede Corp.
	Baby Ace	Ace Aircraft	BD-17	JLN Distributors
	Bakeng Deuce Barr 6	Bakeng Deuce Airplane Factory Barr Aircraft	Bearcat Bearhawk	AeroLites AviPro Aircraft
Be - Do	Beaver RX-550 Plus, SS	A.S.A.P.	Chinook Plus 2	A.S.A.P.
	Breese DS	M-Squared	Classic	Fisher Flying Products
	BushCaddy L160, L164	C.L.A.S.S.	Comp Air 3, 4, 6, 7, 7SLX, 8, 10, Jet	Aerocomp
	BushCaddy R80 UL/Sport, R120	C.L.A.S.S.	Corsario MK-5	Sportair Aviation
	Calypto	Jabiru USA Sport Aircraft	Culp's Special	Culp's Specialties
	Cassutt IIIM	National Aeronautics Company	Cumulus	U.S. Aviation
	Celebrity Challenger II, Special, II Special, UL	Fisher Flying Products Quad City Ultralights Aircraft Corp.	Dakota Hawk Double Eagle	Fisher Flying Products Better Half VW
Dr - Ez	Dragonfly C-Model	Moyes Aviation	Enclosed Cockpit, 1650R Eros	JDT Mini-Max
	Dream Classic, SB	Airdrome Aeroplanes	Epic LT	Epic Air
	Dream Fantasy Twin	Airdrome Aeroplanes	ES/Super ES	Lancair International
	Dynamic WT9, WT9 Retractable	Sport Aircraft Works	Escapade	Just Aircraft
	Eagle II	Aviat Aircraft	Esqual Sport	Esqual North America
	Eindecker E-III	Airdrome Aeroplanes	Europa XS Trigear, Monowheel	Europa Aircraft 2004
	Elite Enclosed Cockpit, 1600R	Murphy Aircraft Mfg. JDT Mini-Max	Excalibur 582, Stretch E-Z Flyer	Excalibur Aircraft Blue Yonder Aviation
Ez - Fo	E-Z Harvard	Blue Yonder Aviation	Flightstar IISC, IISL, Spyder	Flightstar
	E-Z King Cobra	Blue Yonder Aviation	Fokker DR-I (3/4 Scale)	Airdrome Aeroplanes
	F.8L Falco	Sequoia Aircraft Corp.	Fokker DR-I (Full Scale)	Airdrome Aeroplanes
	F-1 Evo, F-1 Rocket	Team Rocket Aircraft	Fokker D-VI	Airdrome Aeroplanes
	F11A Sporty	Falconar Avia	Fokker D-VII	Loehle Aircraft Corp.
	F12A Cruiser	Falconar Avia	Fokker D-VII (80% Scale)	Airdrome Aeroplanes
	FireFly FireStar	The New Kolb Aircraft Co. The New Kolb Aircraft Co.	Fokker D-VIII Four Winds FX210/FX250	Airdrome Aeroplanes Four Winds Aircraft
Fo - Hi	Foxtrot 4	Team Tango	GT 400, GT 500	Quicksilver Manufacturing
	FP-202 Koala, FP-303, FP-404	Fisher Flying Products	Gull 2000	Earthstar Aircraft
	FP-505 Skeeter, FP-606 Sky Baby	Fisher Flying Products	Hatz Classic	Makelan Corporation
	Genesis	SlipStream International	Hawk Arrow, Classic, Plus, Ultra	CGS Aviation
	Glasair III	Glasair Aviation	Hawk II Arrow, II Classic	CGS Aviation
	Glasair Super II FT, RG	Glasair Aviation	Hevle Classic	Hevle Aviation
	Glass Goose GlaStar	Quikkit Div. of Rainbow Flyers Glasair Aviation	Highlander Hi-MAX, 1700R	Just Aircraft JDT Mini-Max
Hi - Kw	Hiperlight SNS-8, SNS-9	Thunderbird Aviation	J400/J450	Jabiru USA Sport Aircraft
	Horizon 1, 2	Fisher Flying Products	John Doe	American Homebuilts Corp.
	Hornet	Higher Class Aviation	Junior Ace	Ace Aircraft
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Le - Mi	Legacy, Legacy FG	Lancair International	Maverick	Murphy Aircraft Mfg.
	Legal Eagle	Better Half VW	Merlin GT/E-Z	Blue Yonder Aviation
	Levitation 4	Tapanee Aviation	Merlin GT-582/912	Aerocomp
	Liberty 181/183	Associate Air	Mermaid	Sport Aircraft Works
	Lil' Breezy	Harper Aircraft	Micro Mong	Green Sky Adventures
	Lite Star	Custom Flight	Midget Mustang	Mustang Aeronautics
	LM-5X-W Super Cub Replica Mark III Classic, Mark III Xtra	Light Miniature Aircraft The New Kolb Aircraft Co.	Miftyer, Miftyer II Mini Explorer Nordic 8	Biplanes of Yesteryear Norman Aviation International

COMPANY CROSS REFERENCE

Mi - Pa	Mini-IMP Mini-MAX, 1100R Mk 26 Spitfire Moose Mustang II MX Sprint, MX II Sprint MX Sport, MXL II Sport N-3 Pup	Mini-IMP Aircraft Company JDT Mini-Max Supermarine Aircraft Murphy Aircraft Mfg. Mustang Aeronautics Quicksilver Manufacturing Quicksilver Manufacturing Preceptor Aircraft Corp.	Nieuport 17, 24 North Star NXT Odyssey Open Cockpit, 1500R P-40 P-51 Mustang Panther	Airdrome Aeroplanes Custom Flight Nemesis Air Racing Earthstar Aircraft JDT Mini-Max Loehle Aircraft Corp. Cameron & Sons Aircraft Ullmann Aircraft Company
Pa - Re	Parrot Pegazair-100 Pelican PL, PL/912S Pelican Sport Pelican Sport Phantom X1 Pitts Model 12 Propjet	Sport Aircraft Works Tapanee Aviation Ultravia Aero International The New Kolb Aircraft Co. Ultravia Aero International Phantom Aeronautics Jim Kimball Enterprises Lancair International	Questair Venture R-7, R-8, R-9 R-80 Tiger Moth (80% Scale) Radial Rocket Rally 105 Raven 2XS Rebel Reliant, Reliant SX	NuVenture Aircraft Robbins Wings Fisher Flying Products New Century Aerosports S.G. Aviation America Raven Aircraft Corp. Murphy Aircraft Mfg. Hipp's Superbirds
Re - S	Renegade Spirit Revelation Ridge Runner III Ridge Runner Ultralight RS-80 Tiger Moth RV-3, -4, -7/7A, -8/8A, -9/9A, -10 S-4/5 Coyote S-6ES/6S Coyote II	Murphy Aircraft Mfg. SlipStream International Rocky Mountain Wings Rocky Mountain Wings Fisher Flying Products Van's Aircraft RANS RANS	S-7S Courier S-9 Chaos S-10 Sakota S-12S Super Airaile S-12XL Airaile S-14 Airaile S-17 Stinger S-18 & S-18T	RANS RANS RANS RANS RANS RANS RANS Classic Sport Aircraft
S - SI	S-18 Stinger II SAL Mustang (2/3 Scale) Savannah Scepter SE5A Sea Rey Sea Storm Z4 SeaStar	RANS Falconar Avia Skykits Corporation SlipStream International Loehle Aircraft Corp. Progressive Aerodyne S.G. Aviation America SeaStar Aircraft	Seastar XP/SP Silent 2 Self-Launch Silent Club, Self-Launch Sinus Sky Raider, Sky Raider II Skylark SkyRanger II Slingshot	Amphibian Airplanes of Canada Alisport Alisport Pipistrel USA Sky Raider Dova Aircraft SkyRanger Aircraft Company The New Kolb Aircraft Co.
So - Ss	Soaring Gull Sonex Sopwith Pup Spad XIII Sparrow II, II XTC Sparrow Sport Special Sport 1000 Sport 2S	Earthstar Aircraft Sonex Culp's Specialties Loehle Aircraft Corp. Carlson Aircraft Carlson Aircraft M-Squared Quicksilver Manufacturing	Sport Parasol Sport Trainer Sportlite 2, 103, SS Sportsman Sportsman 2+2 Sportster SQ-2000 SST2000	Loehle Aircraft Corp. Wag-Aero Group Free Bird Innovations Glasair Aviation Wag-Aero Group Warner Aerocraft ACD VSTOL Aircraft Corporation
St - T	Stallion Stinger STOL CH 701 STOL CH 801 STOL King Storm 300, 400, 500 Storm Century Storm RG	Aircraft Designs Preceptor Aircraft Corp. Zenith Aircraft Co. Zenith Aircraft Co. Preceptor Aircraft Corp. S.G. Aviation America S.G. Aviation America S.G. Aviation America	SUA-7 Super Drifter Super Koala Super Petrel Super Pup Super Sky Raider T-411 T-51	ACD Leza AirCam Corp. Fisher Flying Products Amphibian Airplanes of Canada Preceptor Aircraft Corp. Sky Raider Sherpa Aircraft Component Sales Titan Aircraft
Ta - Z	Tango 2 Taube Taurus T-Bird I, II, Cargo Tecnam P92 Super Echo Tiger Cub II, UL Tornado I Sport Tornado II Trainer Tornado MG Tornado S Model Tornado SS Toucan Toxo Sportster Tundra Turbi D5 Turbine Legend Twin Engine E-Z Flyer Twister Ultra Pup Ultracruiser, Ultracruiser Plus	Team Tango Airdrome Aeroplanes Pipistrel USA Golden Circle Air Hansen Aero Johnston Aviation Titan Aircraft Titan Aircraft Titan Aircraft Titan Aircraft Titan Aircraft Aero Adventure Composite Aeronautic Group Dream Aircraft Falconar Avia Legend Aircraft Kit Manufacturer Blue Yonder Aviation Pacific AeroSport Preceptor Aircraft Corp. Hummel Aviation	Velocity SE-FG, SE-RG Velocity XL-FG, XL-RG Velocity XL-FG-5, XL-RG-5 VI-912-SW, VI-914 ViperJet Mk II Virus VM-1 Esqual V-MAX, 1550V WACO M-F Wag-A-Bond Waix Weedhopper 2 Place, 40 Weedhopper Standard, Super X-1e Enclosed Cockpit X-Air, X-Air F, X-Air H Xenos Sport Motorglider Youngster Zodiac CH 640 Zodiac XL	Velocity Aircraft Velocity Aircraft Velocity Aircraft Norman Aviation International Viper Aircraft Corp. Pipistrel USA Esqual North America JDT Mini-Max W.A.C.O. Aircraft Company Ohio Wag-Aero Group Sonex Weedhopper Weedhopper Phantom Aeronautics Light Wing Aircraft Sonex Fisher Flying Products Zenair Zenith Aircraft Co.

How to buy a USED Lycoming O-320/360.

Lycoming's 320- and 360-cubic-inch four-bangers are in high demand from the homebuilding crowd. It's not a given, of course, that every new kit project will get a brand-new engine. So when you're shopping for a powerplant, it's worth keeping in mind that there are significant differences within Lycoming's 320/360-inch family, with more than 50 models (each) of 320s and 360s, typically identified by a unique "dash number" at the end of the model name: i.e., O-360-A4M or O-320-H2AD. Some of the differences are minor, such as the standard magneto brand, while others are substantial. You need to appreciate the diversity.



This cam lobe is suffering from surface corrosion, which will quickly turn into lobe distress. The corrosion wipes the face of the lifter, which in turn scores the camshaft, repeating a vicious cycle of mutual destruction.

Bill Middlebrook, VP at Penn Yan Aero, says that it's important to know what you want. "The 360 is one of the best engines Lycoming ever built. It's hard to screw one up, and we rarely see one through here that has significant problems. The [fuel injection] is a little more efficient and more expensive to maintain [than the carbureted version]; it's not a horsepower issue, though, and either system is bullet-proof." What he's saying is that injection doesn't buy more power on this class of engine, even if it has the potential to improve cylinder-to-cylinder efficiency. But changing one for the other will definitely cost you

more money than just buying the version you want in the first place.

Also, as you know from your research, the 360-inch version comes in two very different formulas. "There's a parallel-valve and an angle-valve (200-horsepower) engine," Middlebrook says. "People need to be aware of that, and they need to plan for their props: there are solid-crank and hollow-crank 360s. Think of everything before you buy. When you've replaced a hollow crank on an otherwise-perfect solid-crank engine, you've spent \$5000." It should be said, too, that the angle-valve engines are heavier, so you'll need to be sure your airframe can handle not just the extra 20 hp (or so) but the weight as well.

The Forgotten 320?

"The 320 and 360 are similar, though it seems the 360 is more desirable, due to power-to-weight," Middlebrook says. That's good for O-320 buyers: "There are therefore a lot more 320s out on the street."

Regardless of the size, be sure you're buying exactly the engine you need. Mahlon Russell, Production Manager at Teledyne Mattituck Services Inc., says: "Make sure you're buying the right model for you. Those 'couple little parts you'll need' may cost thousands of dollars." What he's saying is that you should not plan to "re-engineer" an engine for your purposes, at least not without knowing what you're doing.

Here's a good example. Maybe you've found one of the many 150-hp O-320-Es around. You probably know that it has a low compression ratio (the reason for the

150 hp, mainly) but did you know that it also comes standard with plain steel barrels, and twin, narrow crank-nose bearings? As a result, you might be able to get 160 hp out of it by running higher-compression pistons, but the rest of the engine won't be up to it.

Be Informed

Russell says, "If you're buying it as a core for overhaul, that's one thing; if you're planning on flying it right away, that's another. Either way, be sure all ADs are current. Check the engine's history: prop strikes, accidents, maintenance the engine received, and who did it. Was the oil changed on a regular basis? Was the engine out of service for any extended time? Was it preserved when out of service? What was done to put it back into service?" Naturally, these are all items that should be in the engine logbook. If you're shopping and get a blank stare when asked for the logbook, or, worse, get one with minimal entries, keep looking.

Even a "great find" may not be. "If an engine had impeccable maintenance and came out of the airplane because a truck ran over the tail, but it sat three years waiting to get sold, that may not be good," Russell says. "Conversely, if an engine's missing some SBs (compliance with Service Bulletins), but it was flying fine yesterday..." he trails off, suggesting that such an engine might not be a bad deal. "It's hard to cover every eventuality; you just can't research it enough. Just consider all the ways you can get misled," Russell says.

Have a Good Look

Russell has a set inspection program designed for when he considers a trade-in engine. "I'll take the mags off, check the points and internals, the oil filters and screens, cylinders; I'll do a compression test and look for cracked fins, missing fins. I'll assume [the engine is] high time and check the valve-guide wear." It's easy: "You can pull a spring off and give a valve a wobble—you just need experienced fingers. It's



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better, though, to rent the special tools, or hire an A&P to look."

Then, "Look at the cam, tappets, rockers. Check the pushrods to see if there are stuck-valve issues." Good news: "It's unlikely you'll have a bent pushrod from an engine that's been running, but, if it's been out of service a while, check the pushrods." And, "Don't bother pulling the oil pump unless you're looking for AD compliance. You really can't check the bottom end without taking things apart." (The AD refers to replacing old sintered-metal oil-pump gears with machined-steel replacements. It's been around long enough that you should not find sintered gears in your prospect engine. But check the logs anyway.)

Effective shortcuts are welcome. "If you want to check [cam] lift, you can get a good idea by removing the rocker covers—all the valves should travel the same amount," Russell says. "If they do, the cam can't be too awfully bad." (Intake and exhaust valves have same lift.) Still, "If inactivity or corrosion are issues, remove two cylinders and look through the case where a cylinder was, at the cam lobes and tappet faces—but that's expensive [pulling a cylinder]. If I see a little rust in the cylinders, I'll pull the jugs and have a look at the cam."

In cases of low utilization, the cam and lifters are the first things to be affected by rust. Middlebrook offers a shortcut to know what you can't see. "Specifically on the O-320-H2AD: You can remove the lifters without disassembling the case, so you can look at the cam lobes." This, along with the O-360-E, the other popular 76-series engine, is the only small Lycoming without "mushroom" lifters to which this inspection applies. (The 541 series is the other to use auto-style tappets.) If you find an O-320-H or an O-360-E, be sure it has had the so-called T mod, which involves larger lifters and improved top-end oiling. All others need to have the cases split to get at the lifters.

Lycoming's SB505 explains internal rust and corrosion inside the main bearings and crankshaft—get the document and read it. It requires (on the

320/160-hp) a 100-hour inspection to make sure the crank isn't cracked. Middlebrook says, "It's a dye-penetrant check on the flange. You don't have to disassemble the engine, but it's a small hassle."

Doing it Yourself

Russell advises, "You should also inspect the exhaust ports, spark plug bosses—look for cracks; check the case for cracks (especially between cylinders); inspect the mags and points; check filters and screens; check compression. Be suspicious when there's a new oil change, but no old oil filter to inspect. Look for corrosion, cracks (case and cylinders), condition of external accessories, fuel stains around the carburetor, loose shafts and bushings; check the bushings and operation of the starter Bendix. Inspect the spark plug harness..."



Lifter distress is depressingly common in Lycomings, but it's something that can be mitigated with frequent use and proper care of the lubricant: That is changing it often, along with the filter.

Middlebrook adds, "On 320s, you'll need to watch out for a narrow-deck engine. Integrity-wise, there's nothing wrong with this model, but we see a lot of parts that need replacement, and the availability of good used parts is shrinking—it's just that old." The "deck" term merely describes how the cylinders are

attached to the case. It's easy to figure out, even on the telephone. On a wide-deck engine, the serial number's last digit is "A." For example, L-12345-27A would be a wide-deck. Serial number L-12345-27 is a narrow-deck. Don't sweat the small stuff. Middlebrook says, "It's typically no big deal if there's a fin or two broken. If we're doing a set of cylinders, we'll grind down a broken fin to make it look pretty." (Never grind into the base metal, though.) Both mileage (TBO) and age are important. "Say TBO's 12 years, or 2000 hours. Depending on how it's been operated and maintained, 12 years may not be significant; or 2000 hours may not; but if it exceeds one or the other, you likely won't be flying it too long." The lesson here is that hours alone aren't the whole deal. Environment also matters. "Has it lived in Phoenix, or in Virginia Beach? The climate where the engine lives is extremely important," Middlebrook says.

Watching Your Money

An engine is a big investment, and while you're deciding on employing a "known good" used engine or buying one as a core for a rebuild, keep the final goal in mind. Penn Yan's man says, "You need to investigate. People can spend seven, eight thousand dollars for a run-out core, plus that much for parts, plus labor and incidentals—in the end, they could have bought a brand-new engine."

Russell agrees. "At some point, it becomes cheaper to buy a good overhaul or buy a new-part 'clone' engine. You'll be within a couple thousand dollars of the core engine purchase and a good engine rebuild—and you don't really know if the core is perfect, when you buy it." It's not just a problem for us one-engine guys. "It's difficult for me—and I'm in the business. To be assured of always getting a good core is difficult."

Middlebrook agrees with Russell, when the Mattituck man says, "If you're going to take an engine that was in service—you could take it to a shop for what would be an 'annual inspection' or 100-hour inspection." The shop would check for general condition, for AD compliance—and it might find something you'd like to know about. Russell sums it up. "Properly built and maintained, the O-320 and O-360 are spectacular engines. Sometimes they break, but it's not common, and not expected on an engine that's been maintained and operated the way it's supposed to be." ±



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A new kid on the block —XCOM's 760 transceiver.



In the beginning Becker, Dittel and Filser (all German-based) introduced transceivers that would mount in a standard 2.25-inch instrument hole. Australia's Microair followed up and said, "We can do it cheaper." The new kid on the block, XCOM (also from Australia), says, "We can do it better for just a bit more money."

And indeed they have done it better. The new XCOM 760 transceiver has all the bells and whistles the competition features plus a few goodies that none of the others have. But before we bring you the laundry list of what's to like about this radio, let's sit back and see why Germany and Australia seem to have a lock on the small instrument-hole radios.

Two words: soaring and ultralights. Germany is a hotbed of soaring, and glider pilots just love small lightweight radios that will permanently mount in their instrument panels. Ultralights of the Oz persuasion are pretty much the same thing, with a few exceptions: they need radios that will run from the unregulated noisy "generator" output on small two-stroke engines, plus they need some sort of intercom capability for two-place instruction (noisy little rascals, such engines are).

I'm not going to give you a side-by-side comparison of all these radios, but I will provide what I consider the most important specification for you to consider—cost. After all, if they all meet your needs, then the deciding factor is the good old Yankee dollar. (And these are not manufacturer suggested list prices; these are all street prices from the same vendors averaged out.)

- Becker 760: \$1250
- Dittel 760: \$1350
- Filser 760: \$995
- Microair 760: \$925
- XCOM 760: \$1200/\$1050

Why the dual prices for the XCOM? Because if you buy it from a U.S. distributor (which winds up paying import duties), the unit will cost \$1200 plus shipping. If you buy it direct from XCOM's web site, you'll get it for \$1050 plus shipping (about \$20) and Uncle Sam won't ding you import on onesies if the shipment method is via the Postal Service. Yeah, I know, a screwy way to do business, but then again, I didn't write the tax code either.

The XCOM Benefits

How did I test it? Three ways: First, I ran a full bench check on the unit with test equipment to verify the specifications claims. Second, I used it as the receiver during the Grass Valley fly-in for rebroadcast of the traffic over the FM transmitter we

wrote about a few years back. Finally, I cobbled it into the aircraft harness (using the Karmic Connector scheme) to verify that the noise blanker was doing its job.

So, what do I really like about the XCOM radio that the rest of the pack doesn't have? Lots of things:

- It has a true voice-activated microphone with adjustable front-panel squelch. The other radios use hot-mic intercoms, which really get on my nerves in a noisy airplane.

- It has a music input that squelches fully with comm audio and partially with intercom audio. The squelch is very well done—more of a fade-in, fade-out than snapping on and off. The radio can also be front-panel programmed to isolate the music to passenger only and comm to pilot only.

- It has a dual-frequency monitor ("Dual-Watch"), which can be programmed from the front panel to simultaneously monitor two frequencies. This is a great feature for those of us going into ATIS or AWOS airports who want to monitor the traffic frequency and get the weather information at the same time.

- The radio can be hard-wired for pilot and/or copilot PTT operation.

- The front-panel pushbuttons (as well as the LCD screen) are backlit—no more fumbling with the flashlight at night to see which button to push.

10 REASONS

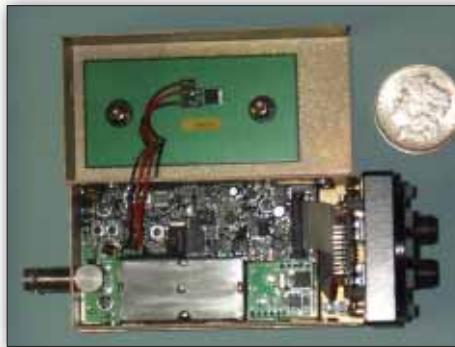
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Aero 'Lectrics

continued



This is the XCOM 760's RF section. The transmitter is inside the silver square can on the bottom edge of the main chassis. To its immediate right are the frequency controls for the synthesizer. Above the transmitter is the RF section of the receiver. The small IC bolted to the cover (top of the photo) is the voltage regulator for the entire radio. The 1903 silver dollar is for size.

Any Shortcomings?

A few. Here's what I think might be done better in the "Rev. A" version:

- The manual has been out for a year and a half and still contains a lot of factual errors—OK, maybe, for a \$10 Q-Mart walkie-talkie but not for a radio that costs upwards of a grand. A few specifics:

(1.) A claim (Page 3) of an extra audio input for another radio, but you come to find out by reading the fine print that you lose the music input if you activate the second-radio ("aux") input. The specifications (Page 17) reinforce the belief that you have two extra inputs while the truth is that you only have one.

(2.) An antenna ground plane with 500-mm *diameter* or more is recommended. Actual figure should be 575-mm *radius*. The manual goes on to say that the larger the ground plane the better. This is not true. Odd multiples (1, 3, 5, etc.) of 575-mm radius are the optimum. At a radius of 1150 mm, the ground plane effectively ceases to exist.

(3.) Nowhere in the manual, in any other literature or on the company's web site are the headphone and speaker output specifications listed. No impedances, voltages, powers or other specifications are to be found.

- The radio uses a bridge-style speaker amplifier, which means that neither of the two speaker terminals can be grounded. This is *not* the aviation convention, so be aware that you can't use the airframe as the ground return for the speaker.

- The "Low Batt" symbol comes on when the voltage is too *high*. I'd prefer just to see a "BATT" and then figure out for myself if it was low or high.

- The unit is more than half an inch shorter in depth than the closest competitor.

- XCOM's radio can receive all frequencies from 108 to 163 MHz including VOR, two-meter ham and NOAA weather.

- An RS-232 port is used for upgrading the software directly from the manufacturer via your personal computer.

- Other features including transmitter time-out, 99 memory channels, high/low battery alert, low receive current drain, flip-flop frequencies, digital front-panel programming and downloadable software upgrades.



Here are radio's brains, memory and audio amplifiers. At the far left of the main chassis you can see the RF (BNC) connector and the power/audio DB-15 connector. Caution! If you are replacing a Microair with the XCOM radio the pinout is *almost* the same, but not quite. Be aware that there are subtle but major differences.

•The specifications mention an RS-232 port for “downloading memory channels...from a PC,” but not another word as to how to do it. With 99 memory channels, I’d sure like to have a good way to input them rather than by the front-panel keyboard method... and have a good backup.

•The web site lists “suggested lengths” of coaxial cable between the radio and the antenna. This is an old wives’ tale that I thought we put to bed just after WW-II. Suggesting a length like this will tend to make some installers who have no antenna experience do something really stupid—like coil up the excess on the “suggested length” rather than making it as short as reasonably possible.

The Verdict

This radio is continuing to undergo changes to the software and features list as we speak, so if you want the latest updates, I’d suggest visiting XCOM’s web site to download the current version of the manual and specifications sheet. You can also play around with the interactive try-me-out page to get a good feel for how the radio operates.

So, the conclusion? If you are going to be driving a single-radio VFR aircraft with an intercom and a music source and on occasion might like to listen to the ham or weather bands, this is the radio for you. If you are looking for a cheap backup to your primary radio, you will be spending dollars on features that you’ll never use.

Dollar for dollar, what the XCOM does is way ahead of the competition—but only if you can use all the goodies built in to the radio. And yes, it is built like the proverbial brick FBO house. †

FOR MORE INFORMATION on the XCOM 760, visit www.mcp.com.au/xcom760.

Jim Weir is the chief avioniker at RST Engineering. He answers avionics questions in the Internet newsgroup rec.aviation.homebuilt. Check out his web site at www.rst-engr.com/kitplanes for previous articles and supplements.

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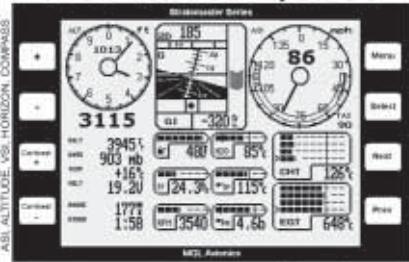


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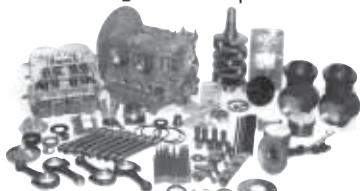


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Are you twisted?

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A close examination of the airplanes we fly shows that most wings are twisted. That is, the angle of incidence varies from the root to the tip. Because it is easier to build a flat wing than a twisted one, there must be a good reason to put in the twist. In fact, there are two: Properly twisting the wing gives the airplane acceptable stall characteristics and can also reduce the drag of the airplane, particularly in climb and cruise.

First Order of Business: The Stall

In order for the airplane to have safe stall characteristics it is necessary to design the wing so that the stall will not start at or near the wingtips. An airplane that stalls the outboard portion of its wings before the wingroots will display a strong tendency to drop a wing and spin when it is stalled. To make matters worse, if the wingtips are stalled, the ailerons will be ineffective and may even work backward.

A wing with stalled tips has a characteristic called "negative roll damping." In such a case, if the wing is rolled it will want to continue rolling in the same direction, and forces will be set up that accelerate the roll. This rolling instability at the stall is an important part of the mechanism of an involuntary spin entry.

When a wing is rolling, the angle of attack of the down-going wing is increased by the roll, and the angle of attack of the up-going wing is decreased by the roll. This effect becomes more pronounced as we progress outboard toward the wingtips. If the tips are not stalled, increasing the angle of attack of a tip will increase its lift, and decreasing angle of attack will decrease lift. If the wing is rolling, the increase in angle of attack on the down-going wing increases its lift coefficient and hence its lift. Similarly, the decrease in angle of attack on the up-going wing will reduce its lift. The result of these lift changes is a rolling moment in a direction opposite to the direction of the roll. This moment tends to make the roll slow down and stop. Thus, an unstalled wing exhibits positive, or stable, roll damping.

A Dangerous Rolling Tendency

When the outer portions of the wing are stalled, this situation is reversed. The roll-induced increase in angle of attack of the down-going wing causes it to stall more completely and lose yet more lift. The decrease in the angle of attack of the up-going wing will cause it to unstall and gain lift. The net result of these lift changes is a rolling moment that accelerates the roll.

As the roll rate increases, the angle of attack difference between the wings gets bigger. This stalls the down-going wing more completely, costing even more lift. This loss of lift makes the rolling moment worse, which accelerates the roll still further. This is an unstable situation that will cause the airplane to roll off and enter a spin if the rolling moment is not actively opposed by the controls. Unfortunately, if the wingtips are stalled, the ailerons will either be totally ineffective or their control effect will be reversed. Use of rudder and a reduction in angle of attack are generally the only ways to stop this type of uncommanded roll.

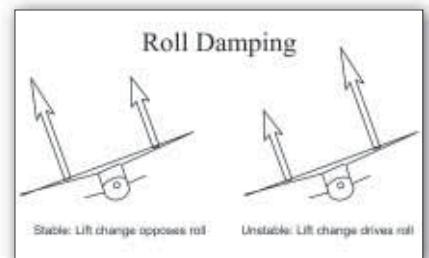
Desirable Stall Characteristics

A stall that starts at the wingtips is highly undesirable. The stall should begin at or near the wingroot and progress steadily outboard as the angle of attack increases. The wingtips should be the last portion of the wing to stall.

A root-to-tip stall progression produces several desirable effects. The first is that the airplane will tend to break straight ahead at the stall. The wingtips will remain unstalled well into the wing stall. The airplane will maintain good roll control and stable roll damping when it is stalled unless it is yawed or forced to very high angles of attack. The steady outward progression of the stall pattern will cause the stall to develop gradually and gently.

There are additional benefits to this root-to-tip stall progression. The aerodynamic buffeting caused by the stalling of the wingroot gives the pilot warning of a developing stall while the airplane is still controllable. This warning, which comes from the turbulent air striking the horizontal stabilizer, helps the pilot recover from the stall without losing control. A wing on which the stall starts somewhat outboard of the root can still have acceptable stall characteristics provided the stall does not start too close to the tip.

As a rule of thumb, any wing that starts its stall outboard of about 30% to 40% of the semi-span is likely to have unacceptable stall characteristics.



It is good practice to try to design the wing to stall at the root first because this is the safest stall progression.

What About Twist?

Twisting the wing alters the spanwise distribution of lift coefficient. A proper choice of wing twist can be used to ensure that the wing stalls first in the proper place. The planform and twist of the wing control where on the wing the stall will start and how it will progress across the span of the wing.

Wing twist is called either wash-in or

wash-out, depending upon the direction of the twist. On a wing with wash-out, the tip is twisted leading-edge-down to a lower angle of incidence than the root. A wing with wash-in has the tip rotated leading-edge-up, at a higher angle of incidence than the root. Wash-in is very rare on normally configured airplanes. Wash-out, on the other hand, is a feature of most airplane wings and is a powerful method of taming stall characteristics.

Wing wash-out causes the tip to be at a lower angle of attack than it would have been if the wing were untwisted. This delays the stall of the tip to a higher wing angle of attack. Wash-out also causes the lift coefficient of the root to be higher than it would be if the wash-out were not there. By adding enough wash-out to the wing, the designer can shift the point of maximum lift coefficient inboard, and ensure that the root is the first part of the wing to stall.

The amount of wash-out required is primarily a function of the wing planform. For most reasonable light-airplane planforms, moderate wash-out (3-5°) is sufficient to control tip stalling. In some cases, notably wings with extreme taper or sweep, wash-out may not be sufficient to prevent tip stall and some more sophisticated stall-control device must be used to give the airplane safe high angle-of-attack characteristics.

Wash-out Effect On Speed

It seems to be a common thought among homebuilders that by removing the wash-out from a wing and building the wing without twist they will make their airplane faster. This is not an advisable thing to do for several reasons. The first and most important is that removing the wash-out will markedly increase the tendency of the airplane to drop a wing and spin out of a stall. It will also make the stall more sudden and reduce the amount of buffet or other aerodynamic stall warning the airplane gives the pilot. An airplane that has a wing without the designed-in twist will have a dis-

tressing habit of suddenly becoming inverted without warning. This is dangerous—to say the least—and can easily ruin the pilot's day if it happens on the base-to-final turn.

Induced drag, otherwise known as “drag due to lift,” is the drag that is created when a finite-span wing deflects the oncoming airstream downward to create lift. For a given amount of total lift, induced drag is mini-

mized if the air is deflected the same amount everywhere on the span. This causes the air to leave the wing at a uniform, constant downwash angle.

Although a wing with this ideal uniform downwash is deflecting the air the same amount at every span station, the lift still varies along the span because some of the pressure difference between the upper and lower wing surface bleeds off around the tip. This causes the lift to decrease as we move outboard on the wing and gives rise to the tip vortices that are shed downstream from the wingtips. These two phenomena, the uniform downwash combined with the finite tip losses, cause the spanwise lift distribution of an “ideal” wing to be elliptical.

A wing with an elliptical span loading has the lowest possible induced drag for a planar wing of a specific span carrying a specific load. If the downwash is not

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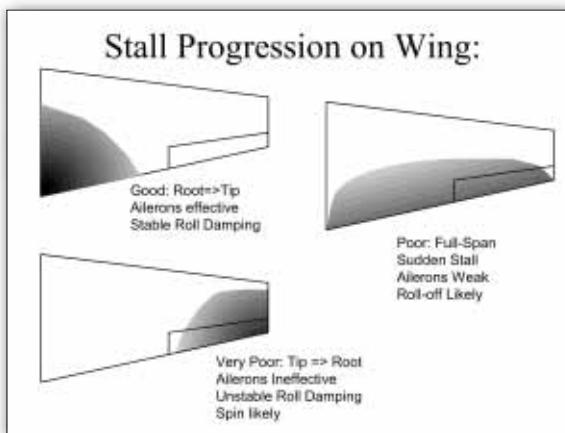
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uniform, the lift distribution will deviate from the ideal elliptical shape, and induced drag will increase—maybe not intuitive, but true.

Span Efficiency

Aerodynamicists use a “span efficiency factor (ϵ)” to quantify this effect. The span efficiency of a wing is the induced drag of an ideal, elliptically loaded wing divided by the induced drag of the real wing at the same flight condition and wing span. An elliptically loaded wing therefore has a span efficiency of 1. A wing with a non-elliptical planform, such as a constant chord or straight tapered wing can have a span efficiency approaching 1 if it is properly twisted to get an elliptical span load at the design point.

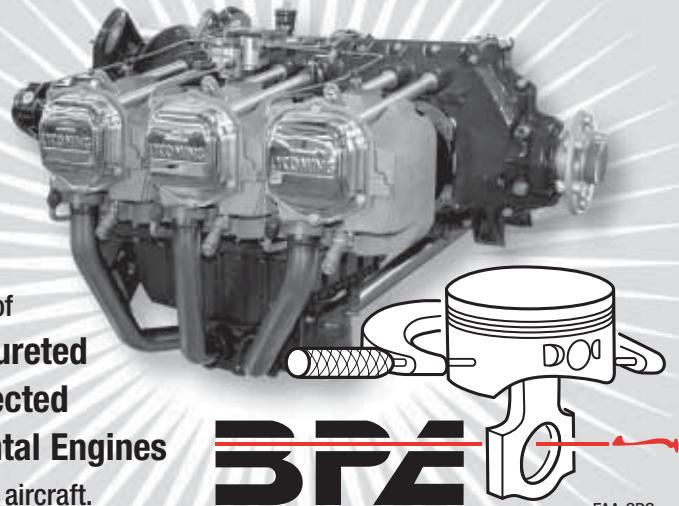
The span loading of such a wing is a function of both the planform and twist of the wing. The planform, if untwisted, would have a non-elliptical loading. The twist compensates and moves the span load towards the ideal elliptical shape. The twist can only drive the span loading to a true ellipse at one angle of attack, because the ideal twist is different for every flight condition.

If the twist is properly chosen for the climb or cruise condition of the airplane, the wing can still be quite efficient. For most planforms typical of light airplanes, the wash-out needed to get good stall characteristics actually makes the span loading more elliptical, and therefore reduces induced drag. For this reason, when builders make the foolish error of building their wings without the prescribed wash-out in an effort to make their airplanes faster they not only hurt the stall characteristics of their airplanes, they usually get no drag decrease at all, and may actually hurt climb and cruise performance. ✈

Aerodynamic questions of a general nature should be sent to editorial@kitplanes.com with a subject line of “Wind Tunnel.” They may be considered for future topics of this column.

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Smartly styled and Part 103 legal, **CONCEPT AVIATION'S PROWLER** makes fun flying for experienced trike pilots.



What a Concept

Donald Cooney is the man behind a Knoxville, Tennessee, company called Concept Aviation. His small enterprise makes a weight-shift trike called the Prowler, which he introduced several years ago. Though I'd often admired the design's clean looks, I'd never examined it with great care until I ran into Cooney at a recent fly-in.

To date, Concept has sold only a few Prowler trikes, but that isn't due to the aircraft's ramp appeal or its performance envelope. Like many mom-and-pop kit manufacturers, the company is a small producer and simply hasn't mounted a big marketing campaign to increase sales. "People want to come by and look at my 'factory,'" Cooney says. "But I produce Prowler kits in a two-car garage."

The trike is primarily a welded tubular aluminum construction, "with steel components for the hang-point, front wheel fork assembly and main gear axles," Cooney says. Sixty percent of the flight loads are taken by the 2-inch pylon tube (sometimes called the "mast"), he says, and the sturdy component "restrains the trike in the yaw axis and reacts against the

As 2005 ends, the new Sport Pilot/Light-Sport Aircraft (SP/LSA) segment of aviation has officially logged its first full year. Some infrastructure is still lacking—sufficient flight instructors and flight schools training for Sport Pilot and using LSAs, for example. We also don't have enough Designated Pilot Examiners and Designated Airworthiness Representatives to examine pilot candidates and new airplanes. Yet despite these growing pains, airplanes have been delivered and SP/LSA is off and flying with strong interest across the pilot spectrum.

But while SP/LSA is all the buzz, a much older community of recreational flying is enjoying newfound success partly due to the hiccups mentioned above. That segment? Part 103 ultralight vehicles, of course. There's no question that this 23-year-old segment is alive and well.

Some so-called experts predicted the demise of Part 103 ultralights after LSA was released as regulation. Others still say, "Oh, you can't actually find any Part 103 aircraft that truly meet the definitions...or if you can, they're underpowered and not very useful except in light conditions." Those "experts," however, are absolutely wrong. Our column this month and in alternate months ahead will highlight a few of the dandy Part 103 choices available to pilots. The truth is, Part 103 continues to be aviation's simplest and most accessible regulation. The entire rule can be printed on the front and back of a single piece of paper. Some pilots will prefer this simplicity to the details of SP/LSA or more advanced forms of aviation. Remember, it's only the two-seat training exemption that expires in 2008.



Don Cooney runs a small operation, producing Prowler kits from his "factory," a two-car garage. The design is unique among ultralight trikes, however, in that it is sold as a kit, not ready-to-fly.



The Prowler's simple main structure benefits from welded aluminum construction, which supports the 40-hp Rotax 447 and four-blade prop.

torque of the engine." The remaining flight loads are taken by the tension on the front strut.

The thrust line runs through the combined center of mass of the wing and trike carriage. "Engine thrust is transmitted through the seat frame to the base [or "keel"] tube and front strut, [so that] the aircraft is effectively towed along by this strut in flight."

The Prowler's fuel tank is held in place by webbing straps attached to the seat frame. A separate strap "restrains the tank from going forward under crash conditions," Cooney says. The pilot is held secure by a lap belt and should harness.

Unlike most trike builders, Cooney developed his own wing for the Prowler. A significantly revised version of a popular British wing, the CA108S is a 100% double-surface tailless delta-shape familiar to trikes and hang gliders. But this one is particularly small, which yields impressive performance numbers not often found on weight-shift-control aircraft.

According to Cooney, the wing is a "flexible membrane, using internally sprung battens or bungee-tensioned battens for accurate shaping." (Battens refer to surface tensioners used in sailboats sails. To pilots, these can also

be called ribs as they have a fixed shape to create the CA108S airfoil.) "The airfoil section at the root has a 6% camber and 11% thickness. There is a smooth transition to the tip, which has 9% camber and 11% thickness with a 12% symmetrical diffuser section at the very tip."

For those unfamiliar with how flying wings work, Cooney explained: "Luff lines are used to induce reflex at low angles of attack so as to provide a good pitch moment." Luff lines are thin lines routed from the upper structural kingpost to the wing's trailing edge in such a way that at normal angles of attack they are limp, but when diving the trailing edge is held precisely to create reflex (and upward curving of the wing, which acts similarly to the horizontal stabilizer on a tailed aircraft).



Part 103 regulations limit fuel capacity to 5 gallons. The Prowler's fuel tank is easily removed for filling.

Beginners Need Not Apply

Some who have witnessed the Prowler flying at airshows wonder if the wing is too small. In fact, Cooney was just ahead of a trend that evolved later for larger, two-place trikes. The wing is indeed small, only 108 square feet, but it and the trike carriage that supports it have been designed for such operation, at least in the hands of more experienced trike pilots. That said, the Prowler is not an appropriate beginner's choice.



While more room exists for instrumentation, this Prowler has all an ultralight pilot really needs including a radio in a slot at the front of the panel between the pilot's legs.

The trike chassis is connected to the wing via a bracket that permits three positions to be selected during the set-up process. Depending on which position is used, trim cruise speeds can be 60, 65 or 70 mph, though the latter settings exceed what is permitted under Part 103 (63 mph or 55 knots).

According to Cooney, the design "differs from other trikes mainly in the need for extra care in speed/energy control on approach and landing." When a trike is as fleet as is Prowler, you'll use more length than with a large-wing training trike. Takeoff rolls are also a bit longer than many trikes.

However, smaller trike wings come with the same benefits as smaller airplane wing designs. Cooney says that the controls are light. Endurance is limited by Part 103's 5-gallon fuel limit so you'll need to stop every 125 miles or so, but about then a stretch will likely feel good.

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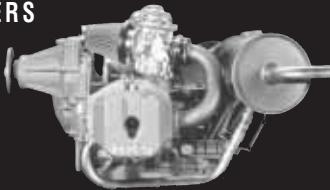
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PROWLER

Price (excluding quickbuild options)	\$9200
Estimated completed price	\$12,500-\$15,000
Estimated build time	120-200 hours
Number flying (at press time)	10
PowerplantRotax 447
	40 hp @ 5200 rpm
Propeller	UltraPROP four-blade, fixed-pitch

Airframe

Wingspan	26 ft 6 in
Wing loading	4.63 lb/sq. ft
Fuel capacity	5 gal
Maximum gross weight	500 lb
Typical empty weight	250 lb
Typical useful load	250 lb
Full-fuel payload	220 lb
Seating capacity	1

Performance

Cruise speed	60-70 mph* (52-61 knots)
	*can be adjusted at hang point of carriage to wing
Maximum rate of climb	1050 fpm (at max. gross)
Stall speed28 mph (24 knots)
Takeoff distance	350 ft
Landing distance	500 ft

Specifications are manufacturer's estimates and are based on the configuration of the demonstrator aircraft. As they say, your mileage may vary.

And, You Can Build It!

One of the Prowler's main benefits, at least for readers of this magazine, is that it can be built from a kit, a rarity in the world of weight-shift trikes. Concept Aviation sells the Prowler for \$9200 minus the engine. Adding a Rotax 447 and propeller will bring the launch price to about \$12,500 before options like the pod, instruments, an emergency parachute, tinted wind-screen, a fairing kit (for trike chassis tubing), cargo bag, and tool kit.

Assembly will take 120 hours or so and you can spend, as with any kit, lots more hours if you refine your Prowler to look as good as the Concept demonstrator Cooney built. When it's finished, you'll have a high-performance, Part 103-legal aircraft you can enjoy for many years. ✈

FOR MORE INFORMATION, contact Concept Aviation at 865/693-1284 or via e-mail at aaldon@aol.com.

To review all "Light Stuff" columns that have appeared in KITPLANES®, visit www.ByDanJohnson.com, which links to the KITPLANES® web site with articles of interest.

Completions

Builders share their successes.



Bill Brucken's Nieuport 27

April 19, 2005, was the first flight of my full-scale Nieuport 17. The aircraft flew quite well, needing only an elevator trim adjustment. This project took a little over 1200 hours and a little under 14 months to construct.

The finish is fabric with hand-brushed aircraft dope in the American 103rd Aero Squadron camouflage and markings of 1917-1918. The engine is a 2180cc VW with a 2.47 prop drive and a 96x60 prop. This is my first full-scale Experimental aircraft and has been the most enjoyable major project I have undertaken.

Many thanks to my wife, my sons and many friends for their support and help.

2481 South Linda Avenue
Bellbrook, OH 45395

Matt Brascher's Van's RV-8A

Yeah, I know, another RV! But there is a reason there are more than 4000 of them flying. It's an honest airplane that will do 185 mph on less than 10 gph, and it doesn't have a mean bone in its body.

This one is an RV-8A with an IO-360 prepared by Monty Barrett. It has Airflow Performance fuel injection and inverted oil system, plus a TruTrak autopilot and an all-electric panel.

It took my partner, Don Booth, and me two and a half years to put it together with the help of a lot of friends from EZF. I wish there was room here to list them all. I really believe that when you buy an RV kit, you are buying an airplane. Everything else is a project.

Spotsylvania, Virginia
hbrascher@aol.com



Rick Jory's Van's RV-8A

My RV-8A is powered by a 180-hp Lycoming with constant-speed prop. The panel includes a Garmin 430 for nav/comm. Building was fun; painting it myself was "educational" (I'll never try that again!). Help and assistance came via Gary Zilik (RV-6A builder) and John Meyers (working on a Harmon Rocket). Since first flight, it's been flown from Denver to Calgary twice.

Highlands Ranch, Colorado
rickjory@msn.com

Ken Lebbin's Loehle 5151 RG Mustang

My project as a first-time builder was the Loehle 5151 RG. I completed it logging a total of 2593 construction hours over an 11 and a half year period of part-time building. It became a hobby turned obsession and a labor of love. I need to thank my wife, Debbie, for her understanding of a man obsessed and her patience.

The airplane passed FAA inspection on June 21, 2004. The first flight took place on August 21, 2004, and it handled beautifully. The aircraft is powered by a Rotax 582 with an E gearbox (a 3.47:1 reduction ratio), and I am turning a Warp Drive ground-adjustable carbon-fiber propeller.

Ellinwood, Kansas
klebbin@earthlink.net





Doug Johnston's CHR Safari

This is my Canadian Home Rotors Safari, N70415, as I am hover-testing it at home over the fields of our retired farm in northern New York. First flight occurred in June 2005 after 1200 hours and 16 months of construction.

This is my third experimental helicopter, and I am very impressed with all aspects of the design and especially with the support provided by the staff of Canadian Home Rotors in Canada and Florida. The transition flight training I took at the Marianna, Florida, site was excellent. Between flights (I trailered my Safari to Florida), Mark Richards and Doug Fulford fine-tuned my machine and gave me quite an education in Safari technology.

It is a thrill to be able to fly from our backyard around the Thousand Islands vacation paradise near our home. I have 15 years of experience with Experimentals and am eager to respond to questions or inquiries by phone or e-mail.

LaFargeville, New York
315/686-4413
diml1@usadatanet.net

Jerry Severson's P-51D Pedal Pusher

After four fun-filled months and 223 hours, I finished my first airplane. This P-51D is a pedal pusher designed by the folks at Aviation Products. The grandkids couldn't be happier. The only modification I made was to use steel pipe for the exhaust instead of wooden dowels.

This project gave me a taste for some of the things encountered when building an airplane—reading, understanding and following plans, exactness, use of fixtures, metal forming, welding, patience and perseverance. Now, on to a big kids' version.

Lakehead, California
severson@c-zone.net



Ken Korenek's Titan Tornado S

After 821 hours of construction time from June 25, 2004, to April 30, 2005, N102KK received an airworthiness certificate as an Experimental/Amateur-built. First flight occurred on May 5, 2005. The panel features a Dynon D-10 EFIS, XCOM 760 radio, MicroAir T2000 transponder, TruTrak Digitrak autopilot, Grand Rapids EIS, an ELT and PS Engineering PM501 intercom. The paint consists of DuPont Chromabase basecoat colors and a House of Kolor clearcoat.

Powered by a Rotax 912ULS and Warp Drive prop, it cruises at 105 knots at 5400 rpm and 5.5 gph. It stalls at 38 knots and climbs 1400 fpm at 61 knots. Very responsive and sporty, it's a real blast to fly!

Having never been there before, I thought AirVenture would be a fitting destination for the first trip in my new plane. So, my flying buddy, John Williamson (in his Kolb Kolbra) and I turned the trip into an adventure by flying from Arlington, Texas, to Oshkosh via the eastern shore line of Lake Michigan up to Sault Ste. Marie, then along the southern shore line of Lake Superior to Marquette with a final landing at the Farm at AirVenture 2005 on Whitman Field.

After camping under the wing at AirVenture for three days, we then started the journey home by flying westward through the Bad Lands of South Dakota to Mount Rushmore and around Devil's Tower in Wyoming before turning south to Texas.

This trip to Oshkosh was the first outing in a newly built airplane and covered 3297 nautical miles in six days of flying. The fun-filled three days at AirVenture included an impressive trophy for Light Plane Grand Champion.

Arlington, Texas
kkorenek@comcast.net



Paul O'Donnell's Sonex

This is my Sonex with Jabiru 2200 engine. Plans No. 213, registration N213SX. Active building time of two and a half years over a four and a half year period. I started the project in Chatham, New Jersey, and completed it in Bellingham, Washington. The first flight was September 21, 2004, at Skagit Regional Airport in Burlington, Washington. The Sonex plans are great, and factory support by the entire Sonex staff is fantastic!

Bellingham, Washington
pfod@att.net ✈

Submissions to "Completions" should include a typed, double-spaced description (a few paragraphs only—250 words maximum) of the project and the finished aircraft. Also include a good color photograph (prints or 35-mm slides are acceptable) of the aircraft that we may keep. Please include a daytime phone number where we can contact you if necessary. Also indicate whether we may publish your address in case other builders would like to contact you. Submissions should be sent to: Completions, c/o KITPLANES® Magazine PO Box 124, Liberty Corner, NJ 07938. Digital submissions are also acceptable. Send text and photos to editorial@kitplanes.com with a subject line of "Completions." Photos must be high-resolution—300 dpi at a 3 x 5 print size is the minimum requirement.

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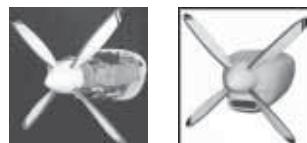
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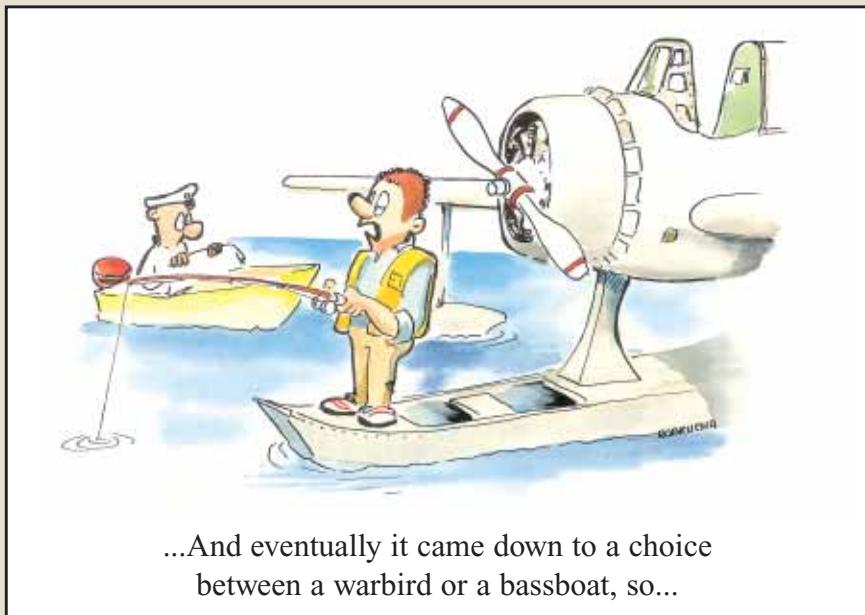
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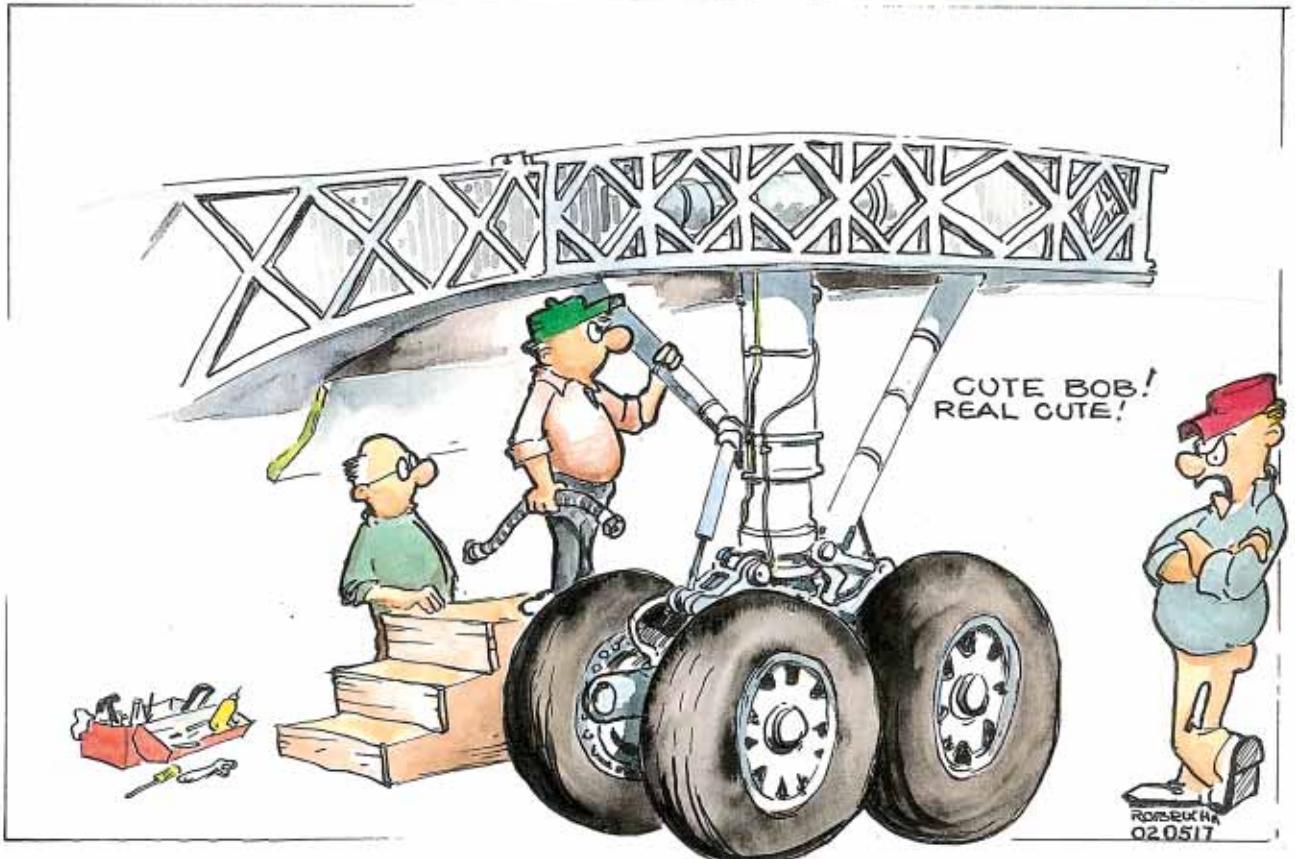
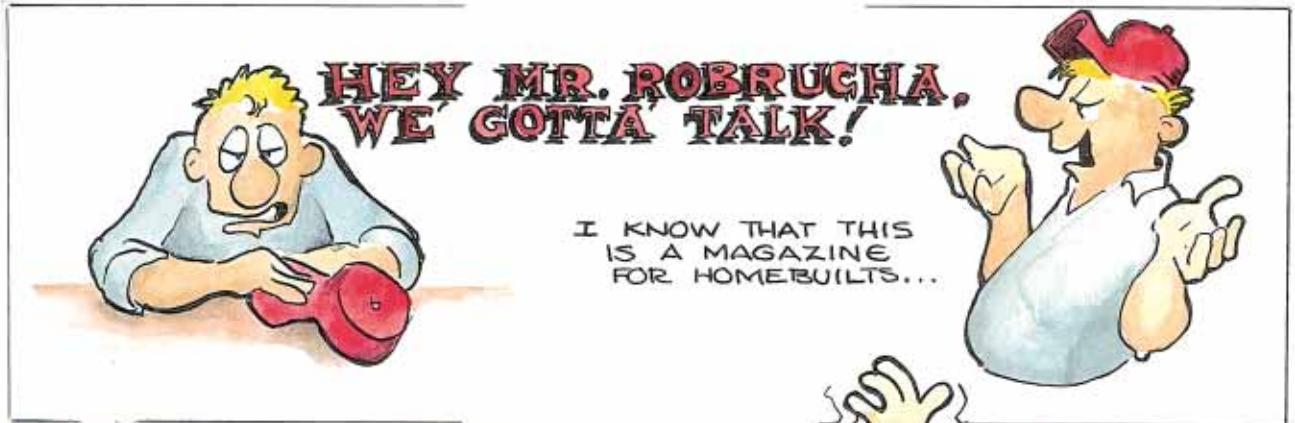
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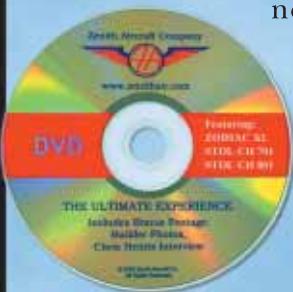


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