

APS NEWS

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Super Ximango taking off at Lakeway Airpark (3R9) Austin, TX - Horst Stratmann

In this Issue:

Tech Talk - Starting problem on the ASH 26e

Safety Column

Modification for the Cobra Trailer Ramp

Carat Checkout

Convention is Coming - Join Us

Newsletter by E-Mail?

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asa_electronic_news@mindspring.com

President's Corner

I have been staying warm and planning for 2007.

We hope to see you at the SSA Convention in Memphis. The dates are 8-10 of February. I ask all of the company representatives that would like to have a floor demo to call Gaynell at the SSA offices to schedule times (505-392-1177). Please come see us at the booth and plan on breakfast on Saturday morning.

The ASA and Minnesota Soaring Club will return to Parowan in 2007. The dates are 12-24 June. You can expect the same great meals at the airport. We should be able to accommodate more motorgliders this year. There will also be a regional contest at Parowan in early July.

I'll see you at the convention with more details. Have A Merry Christmas !!

Rick "FD" Howell

Pres, ASA

SAFETY COLUMN

Oliver Dyer-Bennet, CFI/CFIG
Safety Director ASA

Devoted to the enjoyment and safety of the sport of high performance powered sailplanes and motorgliders.

Winter is here and that can mean some variable weather and interesting landing conditions.



The X-wind landing can be a challenge for any pilot in any aircraft. Perhaps, with our long wings, the X-wind landing tests the motorglider pilot more than most fixed wing pilots.

A motorglider is denser, ie. higher wing loading, than its equivalent cousin, a non-powered sailplane. This can mean a higher stall speed, and more mass energy control, kinetic energy, during the landing phase. In a mild to medium X-wind, 1-5 kts., a good technique is to put the up wind wing down a small amount and to neutralize the turn with mild opposite

rudder. This is a mild side slip configuration, that allows the sailplane to track down the center line of the runway with the X-wind. The pilot then lands the sailplane in a fairly normal landing configuration.

In a more extreme X-wind example, say 6-12 kts., one has to be very careful. There is a lot of potential swinging kinetic momentum in our long span and dense, composite sailplane wings.

1. If the motorglider is self-launching, not a turbo or sustainer, ones options expand.

- The pilot can do a low level, power on, fly by and determine if the X-wind is too much for the motorgliders capabilities.
- If so the motorglider can be flown to another airport where the wind direction lines up better with the runway.

2. If the pilot feels the landing can be safely done, he can approach the landing with power, with the idea that the pilot may have to go-around and shoot another landing.

- If the initial approach is not stable, add power and go around.

Lets use the AMS Carat motorglider, as an interesting example.

In the air the Carat flies like a Schempp-Hirth, Discus sailplane. During the landing phase it becomes more like a tail-dragger power plane, two main wheels and a tail wheel.

COBRA TRAILER RAMP MODIFICATION

Gary Evans

To the Carat we will add a X-wind of 12 kts. from the 10 oclock, left side position.

On final The pilot would approach the runway, using at least 65 knots, instead of calm air 60 knots. Left wing down as required, say 2 feet, and neutrilize the left turn with gentle right rudder.

Use the normal amount of spoiler for descent, about 3-4 inches above the wing.

With the spoiler deployed the wing tips will bend upward, due to increased aerodynamic lift of the wing tips. This will help to keep the left wing tip from contacting the runway.

The flare and landing would be on the left front tire first, with the right front tire off the runway, the fuselage almost level to the runway in pitch, with the tail wheel off the runway a good 2 feet.

When the left front tire contacts the runway, the pilot should hold this configuration and see if the Carat feels stable.

If stable, add more spoiler. Than back on to the tail wheel and then over on to the right front tire, all the while keeping the left wing down.

If the glider does not feel stable with only the left front tire on the ground its best to add power, close the spoiler, and go around and rethink your options.

The basic idea of an extreme X-wind landing is to slowly, and stably, change the sailplane from an aircraft to a ground hugging vehicle, once first tire contact is made with the runway.

Oliver Dyer-Bennet

A Cobra trailer when closed immobilizes the rear of the loading ramp by the use of a bolt attached to the bottom lip.



This bolt fits into a slot in the trailer door thereby preventing the ramp from moving during transit. Problem is that the ramp bouncing while driving (at least at the speeds I drive) bends the lip where the bolt is attached. After straightening mine half a dozen times I decided to fix this before the lip broke off. I used a 3/8 bolt long enough to go through both the front/rear lip and still protrude 1 inch after the threads were cut



off A 3/8 shaft collar and protective piece of rubber hose complete the parts list.

Cobra Trailer Tip Cont....pg 5...



TECH TALK

by Gary Evans

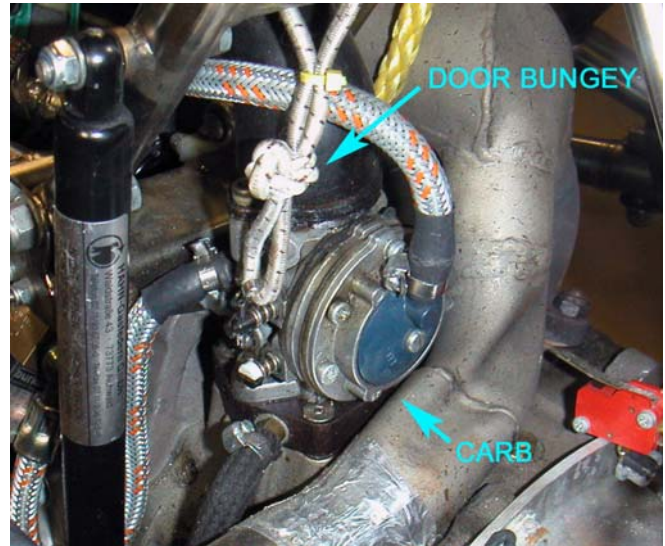
Starting problem on the ASH 26e Guest Writer - Eric Greenwell

I flew in wave for about 4 hours, with most of it close to 0 deg F OAT. As a test of the battery and tuning, I tried to start the engine right after landing. It seemed to turn over adequately, but did not fire at all, even with much more prime than I used to start it for the launch. I suspected ice in the fuel system, or an ignition problem. The next day I determined the primer was getting fuel into the engine, so then lack of firing pointed to ignition problems.

Fortunately, Martin Heide (the “H” in ASH) emailed me after seeing my posting on the ASH 26 owner’s group, suggesting it was much more likely the fuel inlet valve in the carburetor was leaking when the electric fuel pumps were turned on. If so, he wrote, that can prevent the engine from firing, even though it isn’t “flooded” in the usual sense, and there will not be an excessive gas smell.

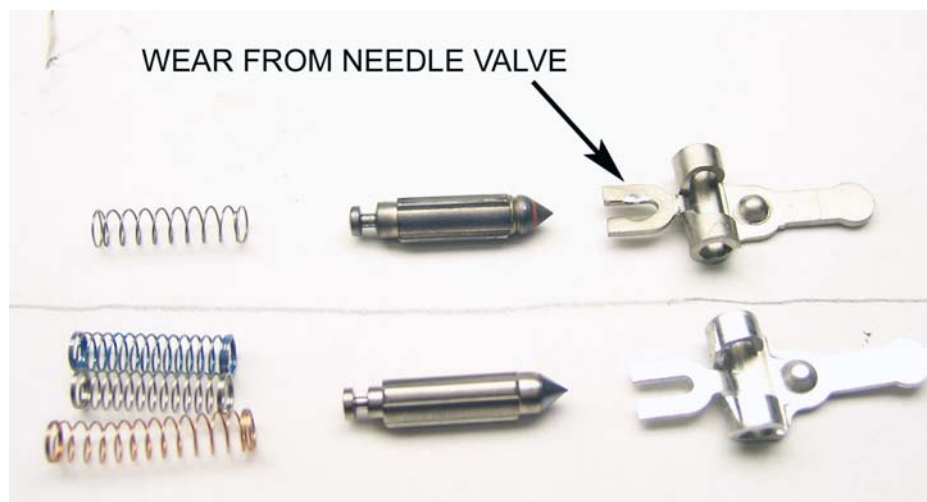
The next day I warmed the glider to 70 deg F in my garage to give it a better chance of starting in the 20 deg F outside temperatures, then moved it outside for

some test runs. Sure enough, it started easily IF I immediately started it after turning on the ignition,



which also starts the electric fuel pumps. Waiting only 30 seconds with the pumps running, I could still start it, but it coughed a lot and blew smoke and vapor out the tailpipe before catching.

The Tillotson carburetor on the ASH 26 E is a common one used for a variety of small engines, so I was able to order a repair kit online. I determined I could do the repair with the carburetor on the engine, a great discovery, as removing it is tedious and time-consuming due to the cramped area where it’s mounted (picture 1). The “gotcha” is any dropped tools or carburetor bits are exceedingly hard to retrieve from the engine bay, so I tied string to the tools and put a clean rag under the carburetor to catch parts.



Tech Talk Cont....

Once disassembled, it was clear the fuel leakage was caused by considerable wear on the inlet valve lever where it presses on the needle valve (picture 2). The other parts, like the needle itself, seemed in new condition, and the carburetor interior was clean and without residue, unlike the automobile carburetors I used to rebuild decades ago. Perhaps that is a feature of the 100LL aviation gasoline that I use exclusively.

The rebuilding was simple, though inserting the new inlet fuel needle, lever arm, and spring was a little tricky, and required a minuscule dab of grease to hold the spring to the lever long enough to position everything. A couple test runs confirmed the inlet valve no longer leaked, as I could wait 5 minutes with the pumps running, and still start smoothly and immediately.

Obviously, the wear had been going on for a long time, and probably the leakage began at least a year or two ago. I didn't discover it earlier because I always start within a few seconds of turning on the ignition. It didn't start immediately after landing from that cold wave flight due to slow cranking, and that allowed fuel buildup in the engine, which prevented it from starting. Had I known of the problem, I might have been able to start it by closing the fuel tank valve and cranking until it cleared out most of fuel.

Cobra Trailer Tip Cont....

A 3/8 hole was drilled in the front lip aligned with the existing rear hole and the pieces assembled as show. This arrangement is considerably stronger and has allowed me to add another 10mph+ to my towing cruise speed.



Even though the carburetor went 12 years and 115 engine hours without being touched except to tweak the needle valves, I've decided I should be prepared to repair it anywhere. I'll get another repair kit (\$20), and keep it with the stubby Torx screwdriver, thinwall socket, and dab of thick grease needed for the work.

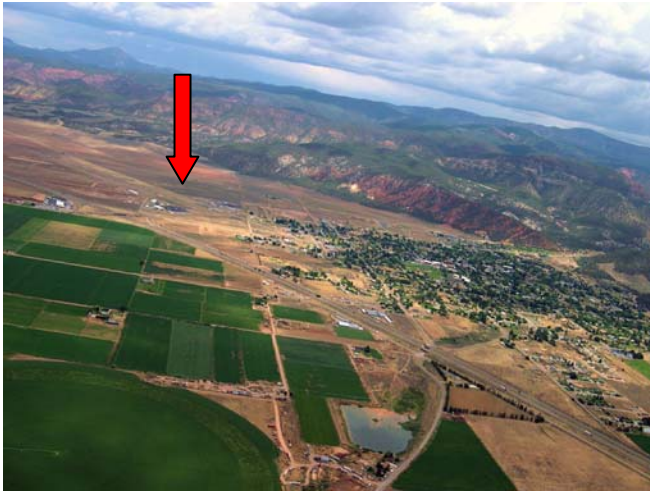


Terry Edmonds - Under Power

Parowan 2006

By Eric Strandjord
Minnesota Soaring Club

Often called the “Mother Town of Southern Utah” and founded in 1851, Parowan was the first settlement in Utah. Located in the high desert of south-western Utah among mountain ridges, Parowan often has soaring weather unrivaled worldwide. With notoriety as a premier soaring location, Parowan has hosted the 2006 1-26 Championships, the 2005 Sports Class Nationals, and many other soaring contests and events, including the recent soaring camp that many of us from MSC recently attended with members of the ASA.



Parowan from the west: The airport is in the left-center of the picture.

More than a year ago, many of us began daydreaming out loud about a trip to “somewhere with lift — out west”. Ely, Nevada and Moriarty, New Mexico were both early contenders as noted western soaring sites but were eliminated due to less than favorable out landing conditions. Brian Utley suggested Parowan, and the ball slowly began to roll. Due to our slow action on scheduling, Brian was kind enough to arrange for our group to join the Auxiliary-powered Sailplane Association for their camp at Parowan. Organized like a regional contest without the competition, the event featured morning pilots’ meetings, some “suggested” tasks, nightly banquets, and lots of general fun. Rick Howell served as “Event Director” conducting various briefings, supervising the flight line with his acquaintance Steve Turner (Soaring contest bum), and generally being a wonderful host and completely nice guy. Support from the local townspeople was evident with members of a local girl’s school pushing gliders and running wings in the morning, and local entrepreneurs providing meals, souvenirs and goodies during the day.

Parowan is a 22 hour drive from the Twin Cities if you maintain 70 mph and stop only for gas. A few of us made the trip in two days, while others took three. Scott Elhardt and I arrived at the airport on the second day within a hour

of each other, with Scott traveling through Denver and me taking a less mountainous but slightly longer trip through Salt Lake City. We were kindly greeted by Rick and directed to the edge of a large tie-down area. Around twenty motor gliders of various types were already tied down. Those of us who intended to rig each day would line up our trailers along the far edge of the ramp, with noses in the weeds and tails just over the pavement. After tramping through waist-high tumbleweeds covered with thorns, we speculated that this might be some type of western soaring initiation hazing. We used our wing stands as implements of destruction and quickly moved the stickery but brittle bushes aside. As more pilots arrived, trailers were parked about 10 feet apart, allowing us to get to know our neighbors well. We would each do basic assembly, and then push back so someone else could start.



Morning Assembly

Although official flying didn’t start until Saturday, Scott and I assembled early Friday morning and arranged for a tow into the “hills” (as they call them here).



Scott and Eric, ready to go!

Flying from a commercial airport with so many other gliders required many of us to develop a few new skills. Downwind (and downhill) takeoffs (with sometimes marginal wing runners), paved runways, precision landings on a 5000 foot runway, and stopping on a dime quickly became second nature. To facilitate ground handling logistics we generally took off on runway 04 to the northeast, and landed on runway 22 to the southwest, hopefully touching down at the 4000 foot mark and rolling out, placing our wingtip into Rick Howell’s out-stretched arm. Starting on the near end of

Parowan cont from pg 6....

the runway also enabled us to grid without a mile long car tow to the other end of the field. All of the tow-out gadgets we seldom use at Stanton were suddenly very useful. I got used to my wing wheel quickly. Fortunately, the smooth and nearly level pavement made it easy to push your glider to the ramp (by yourself) by walking the tail. To launch, those of us needing a tow would line up on the edge of the ramp, allowing the motor gliders to taxi past us down the center when we were waiting. The two tow planes used the other side to pass us all. Interestingly, there were old car wheels placed at strategic locations on the ground to guide the ropes around corners as the tow planes taxied. After a day's practice launches were very smooth.

Tows were great fun and at first exciting. Most tows involved an immediate right turn directly towards the mountains. Miraculously, the Pawnee and Maule had plenty of power (even at 8000 foot density altitudes) to clear the first ridge by a few hundred feet and then climb to the second ridge where lift usually began. The combination of a light uphill breeze and morning sun usually got everyone going quickly.

This is a view north at about 12,000 feet about two miles from the airport. Before the trip, flying above such unlandable terrain would seem foolish, but given that the mountains rise at about 3/1, a turn towards the valley always leaves a significant safety factor. Flying over the mountains with an eye towards the valleys quickly became second-nature. The general rule was to climb to at least 14,000 feet before heading anywhere since that altitude would provide a good margin over most peaks. The lift and cloud bases over the mountains are higher, so we would stair-step to better altitudes by gradually moving further into the ridges and peaks.



The camp at Parowan exposed many of us to very experienced pilots. A group of Germans rented a ship container and transported five gliders to Parowan for the summer. The gliders were assembled by a dedicated crew, and then flown in shifts by many club members that would

travel to Utah for a week or two and then rotate out, leaving the equipment for a new batch of Germans. They even had their own maintenance guy on site! These fellows (and lady) were very serious and were regularly performing 500K tasks on days the rest of us almost stayed home! Mixing it up with open class gliders and their experienced pilots was a bit humbling.

The soaring weather during our short stay was not typical of Parowan with rainstorms and a lot of over-development the first few days. Even so, the flying was very nice, with 8 knot thermals everywhere. Once we got used to the stationary thunderstorms over the mountains, many of us flew 200K (or more) sightseeing tours each day, although declared tasks were hard due to the valleys being blocked by rain (or snow!). Sometimes the storms would merge and then head towards the airport, prompting us beginners to land, while the experienced pilots would just fly further out until the storms moved away.

As the weather improved, a few of us from MSC began a task following the next valley over the eastern ridge heading to the north. Scott and I declared a 300K Diamond Goal flight to a small airport about halfway to Provo. Conditions weakened significantly as smoke from California forest fires blocked sunlight in the Parowan valley. Scott had sense to turn around, but Steve, Dan, Eric, Fred and Tom, Jim from Iowa, and Andre from Texas found ourselves unable to see through the pass leading back home through the mountains due to the smoke. We all simultaneously decided to land at a small municipal airport in Junction Utah. A few radio calls established a landing sequence, and soon we were all standing on the runway wondering what to do next. Months of preparation, combined with comprehensively stocked land-out kits allowed us to quickly tie our aircraft down, eat a candy bar, drink some water, and keep wondering what to do. Fortunately, the supervisor of the county maintenance shed drove up with his family and offered the use of his home phone, since there was no cell service in the area. Three of us arranged a ride in the 4 place Maule tow plane while others with crew called upon them for a rescue. After an hour's drive and another hour's work, all gliders were in their trailers. We stopped for a good meal and good company at a local restaurant in Circleville, and were back in Parowan by midnight. What fun!

Most Minnesotans had to leave on Friday, but Sara Anderson and I stayed and flew Saturday. How fortunate we were, with the weather briefly returning to the "norm" for the site. Giant clouds as far as you could see with bases above 19,000 feet appeared mid-afternoon after a weak start. In Minnesota, 4 knots on the averager is a good day. Saturday revealed thermals that regularly averaged 12 knots.

Inside Look at the Antares MG

by Dave Nadler

Background

Many Antares gliders will be imported into North America in the next few years, and its important to have good service and support here. As with any maintenance, its one thing to read a service manual, but quite another thing to be familiar with the procedures from hands-on experience. With that in mind, 3 experienced motor-glider mechanics accompanied Dave Nadler to the Lange Flugzeugbau factory, in Zweibruecken Germany, for a 3-day training course.



Here we're learning how to remove and reinstall the battery packs in the wings. Power connector is at root end of battery string (bottom left of photo). It takes about 15 minutes to get to this stage.

From left to right:

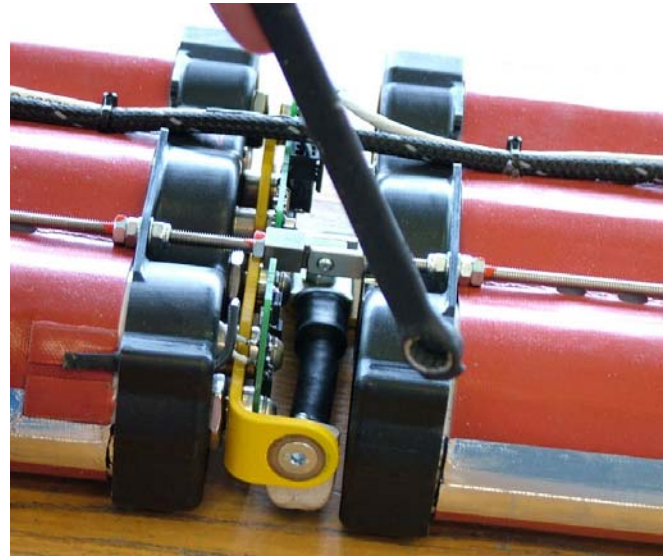
Andor Holtsmark	Engineer, Lange Flugzeugbau
Rex Mayes	Mechanic, Ridge Soaring, Julian, PA
Mike Robison	Mechanic, Ridge Soaring, Julian, PA
Dave Nelson	Mechanic, Michigan
Hans-Jürgen Denzer	Technician, Lange Flugzeugbau

Detailed Training

The Antares 20E 20-meter Electric Self-Launch Motor-Glider is a bit different from other motorgliders ! No gasoline, a hydraulic system, and serious electrics.

In the above picture, we have pulled the battery pack out of an Antares 20E wing. We learned how to remove and re-install the battery packs from the wings, replace a 3-battery module, and replace a module controller. These batteries

pack a whallop: 144 volts per wing for 288 volts total, with a normal operating current of around 160 amps. Consequently, we learned the safety precautions required for working with such gear, which are critical but straight-forward.



Use an insulated wrench when disconnecting battery modules !



Wing-root with batteries removed shows battery tray and power return lead for batteries.

We practiced removal and re-installation of the main computer, display system, CAN-bus distribution module, charger, motor-controller, hydraulic pump, etc.

Unlike other motor-gliders, the Antares 20E maintains a detailed internal log of operation and critical parameters, and comes equipped with a cell-phone for the computer. The factory can call a plane and download the logs to diagnose problems. We've long had diagnostic technology in all our cars, but its new for motor-gliders !

We learned how to operate the diagnostics locally from a PC, for example detailed monitoring of battery parameters. The diagnostic interface also provides selective operation of the systems (for example, turn on the hydraulics and raise the motor). We practiced operating the systems through this diagnostic interface.



The motor with front fairing removed, showing power leads, prop-vertical sensor, and leads for motor-controller position sensor. The outer part of the motor spins with the prop, and the only parts subjected to wear are the bearings. 57 hp in a very small, light, and low-drag installation.

Wrap-Up

It was an intense 3 days. The Antares 20E contains an impressive amount of engineering to make it simple for the pilot to operate, and to make it straight-forward (if quite different) to maintain. We hope that minimal maintenance will be required, but now we're ready in any case !

For more information on the Antares 20E and the Antares 18S/18T, see:

www.Nadler.com

www.Lange-Flugzeugbau.de

A little bit of Wisdom

by Steve Dee

I'd like to recommend two simple pieces of advice: one for Pilots, and one for Instructors. Although we fly year round here in Memphis, I realize that much of the country does not enjoy such luxury. As such, it's been just long enough by now that "summer-only" pilots are getting rusty, and come spring time when the first thermals bloom, there will be a lot of proficiency cobwebs that will need dusting off. First time flights after the winter break can range from entertaining, to challenging, to downright dangerous. So, my simple advice to Pilots is: do us all a favor, get the club 2-seater out of the hangar and make those first flights with an Instructor on board if at all possible. If that's not an option, get with a CFI and "chair fly" the sequential events of a typical first flight, complete with a few abnormal encounters, and how to deal with them.

After 40 years of flying a wide variety of aircraft, whether it be military or civilian, gliders, lightplanes, transports, or fast jets, I am always a bit surprised at how little time Instructors spend demonstrating their skills to their students. I often get the impression that CFI's feel an overwhelming guilt when they take a moment or two at the controls. So, my simple advice to Instructors is this: if a picture is worth a thousand words, then a 3-dimensional maneuver demonstration with accompanying verbalization is worth a million! (be sharp, and fly it right the first time, because primacy is lasting-if you do blow the demo, critique it as you would any performance, or risk your credibility!) It's even better if you brief it up ahead of time, which will be the subject of another epistle, because I really don't think most of our flight instruction is preceded by an appropriate amount of pre-flight briefing. My students will testify to quite the contrary. . .

Everyone has a baseline of proficiency, and given enough total experience, long breaks may not affect needed skill sets as we get back into the sky next spring. However, there's nothing like having an Instructor on board should you find yourself a little slow out of the start gate after the long winter break. Pilots and Instructors read and heed!

SSA Convention and ASA Breakfast

The SSA Convention is just around the corner. Memphis, Tennessee is the host city this year and this is a big one. It is the 75th anniversary of the SSA convention.

Last year was the first year where there were plane-side chats. Representatives of each of the display models gave 30-45 minute talks on the aircraft being displayed and took questions from the crowd. These were well received.

Along with great speakers the entertainment this year is the world premier of "Silent Wings - The American Glider Pilots of World War II".

On Saturday, Feb 10th, the ASA will hold its breakfast. Join us and meet other motorglider enthusiasts, get updates on what we are doing, talk about last years soaring and touch base with your fellow members.

And last thought, if you have never seen a package sort facility the SSA has arranged a tour of the FEDEX Memphis sort facility on Thursday night. You gotta see it to believe it!!

See you at convention.

The ASA Board

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Proud New Carat Owner



Enclosed are some nice photos of a new, and proud Carat owner, Kurt Thams.

We spent a nice, late fall day with Kurt, checking him out in his new Carat, at the Hollister airport, south of San Jose, CA.

Assembly & disassembly instructions, a full cockpit checkout, ground taxing and some good instruction as to what the Carat feels like, on the ground and in the air.

One of the nice things about the Carat motorglider, is that one can taxi around the local

airport, to the soaring pilots hearts content. This allows the pilot to get a good feel for the flight controls, brakes, and the attitude of the powered sailplane, near and on the runway.



ASA Mission

The Auxiliary-powered Sailplane Association, Inc. was founded in 1988 as a non-profit organization to encourage the design, development and safe use of motorgliders, self-launching and sustainer engine sailplanes.

ASA Membership

Membership in ASA is open to anyone interested in powered sailplanes. Write or call: Brian Utley, ASA Membership Chairman, 9541 Virginia Ave. South Bloomington, MN 55438
Ph: 952-941-5683 email: <Utleyb@aol.com> USA Dues \$20/yr, \$38/2 yrs, \$55/3 yrs. International Dues \$25/yr, \$48/2 yrs, \$70/3 yrs.

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