WESTWIND

July 2001

ON THE INSIDE

Statement of Purpose

The purpose of the Pacific Soaring Council, Inc., a non-profit, 501(c)3 corporation, is to initiate, sponsor, promote and carry out plans, policies and activities that will further the education and development of soaring pilots. Specifically, activities will promote and teach the safety of flight; meteorology; training in the physiology of flight, and the skills of cross country and high altitude soaring. Other activities will be directed towards the development of competition pilots and the organization and support of contests at the local, regional, national and international levels of soaring. PASCO is the acronym for the Council. WestWind is the monthly publication of PASCO. Material may be reprinted without permission. The present board will remain in office until November 2001. Current dues are $25 annually from the month after receipt of payment.

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Aviation Weather Briefings
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800 WX-BRIEF (#*318) (775) 858-1300 (#*318)

Sierra Highway Information
Auburn - 702 793-1313
Reno - 775 793-1313 Truckee - 775 793-1313

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Central California Soaring Club Avenal Gliderport - 600 LaNeva Blvd, Avenal CA 93204, 559-386-9552

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High Country Soaring Minden-Tahoe Airport, P.O. Box 70, Minden, NV 89423, 775-782-4944

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Northern California Soaring Association (NCSA) Byron Airport, Byron, CA. (925) 516-7503 Contact Mike Schneider (925) 426-1412

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Minden Soaring Club - P.O. Box 361, Minden, NV 89423 Contact Rick Walters (775) 265-3386.

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WILLIAMS SOARING CENTER http://www.williamssoaring.com/
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Minutes of the PASCO Board of Directors

June 4, 2001

ATTENDING: John Bell, Sergio Colacevich, Tony Gaechter, Karol Hines, Chad Moore.

DIRECTORS NOT PRESENT: Diana Bishey, Rolf Peterson, Ty White.

APRIL MINUTES: The minutes of the April meeting were approved by email.

TREASURER'S REPORT: As of May 15, cash and banking accounts totaled $14,620.02 excluding the scholarship fund and money still owed that fund, but including $1504.50 in undeposited checks. By next meeting we will have accounting for the Regionals at Crazy Creek and some PASCO league contests.

We are currently on budget for this calendar year. The largest variance is in the WestWind advertising income and this is likely a matter of timing.

PUBLICATION CHAIRPERSON REPORT:

No report.

AWARDS CHAIRPERSON REPORT:

Karol reported that Cindy Donovan has ordered "Keeper" plaques for recipients of the Les Arnold award. Total cost will be about $500-$600.

MEMBERSHIP CHAIRPERSON REPORT:

No report

PUBLIC RELATIONS CHAIRPERSON REPORT: Marc Ramsey has been maintaining the PASCO league website (http://www.ranlog.com/pasco/index.html) as his time permits but he does not have the time to be more active in modifying and restructuring the site. The board would like to recruit a volunteer who can take responsibility for the site, establish it under the Pacificsoaring.org name and maintain it more extensively than Marc's time permits. We will need to find an ISP and transport the website.

Action Item: Chad will contact Marc Ramsey to establish an estimate of the amount of time involved. Chad will contact Janice Hoke to put a notice in WestWind to recruit a PASCO Webmaster.

Chad has obtained a copy of a brochure published by the SSA (cost $1) for prospective pilots but did not consider it as interesting as the subject warrants. It was noted that it is better than nothing. There are no more of the brochures produced a few years ago by Roger Archey. The SSA has also produced a short videotape, which has been described as "cute" and which Karol used to good effect in her talk to gradeschoolers.

Action Item: Karol will get a copy of Roger's brochure and her copy of the SSA produced videotape to Chad for his evaluation.

It was noted that Drew Pierce (of the Hollister Gliding Club) goes to a lot of airshows with his gliders, and that as part of our efforts to promote the sport of soaring to new potential pilots, we might well assist him in addition to setting up additional efforts.

WestWind is also a potentially useful advertisement for our sport.

Action Items: Chad will inquire as to why there is no longer a PASCO membership form in WestWind. Chad will check if there is a press overrun for WestWind.

Chad noted that his time is very limited through July.

SAFETY CHAIRPERSON REPORT: The recent Regionals at Crazy Creek was held without significant safety concerns.

Sergio has completed an article on the Final Assembly Check (Critical Assembly Check plus Positive Control Check). Sergio also reiterated that while assistance is important in these efforts the ultimate responsibility resides solely with the pilot.

Chad expressed interest in the description of an optimum Positive Control Check and has offered to additionally read and critique the article. Chad also reminded us of the role that unexpected canopy openings have played in initiating a number of accidents.

COMPETITION COMMITTEE:

No report.

Action Item: Karol will check with Steve Smith (who served ably as the Crazy Creek Regionals CD) regarding an article on the contest.

PASCO LEAGUE CHAIRPERSON:

Sixteen pilots flew in the PASCO league contest at Avenal, including one who drove in from Albuquerque, NM for the contest. Tony was pleased that while the course was challenging at times, the Avenal area is a very safe place to fly cross country.

In addition to fielding a team, the Central California Soaring Club was a wonderful host and their great meals were appreciated.

Tony expressed some disappointment that a few expected contestants did not make it and did not notify him and as a result PASCO had to pay for an additional, unnecessary towplane. The board agreed that it was not practical to expect firmer commitments for such an informal contest and we must be prepared to accommodate such occurrences.

FAA LIAISON CHAIRPERSON:

No report.

EQUIPMENT REPORT: Karol has contacted Elden and the scales have been calibrated and all the equipment is available as needed.

HERLONG AIRPORT CONTACTS: Ken Pruchnick has offered to follow up on his contact with the Herlong Airport manager asking for weed reduction efforts.

YOUTH SOARING ACADEMY RESENTATION:Action Item: The Board members will read Stan Davies' article and be prepared to discuss supporting his efforts at the next meeting.

DEFINITION OF BOARD'S GOALS FOR 2001 (implementation ideas):

Goal 1. To increase the exposure of soaring as a sport.

The board agrees that it is critical to have written material (as noted under Publication Chairperson's report) to distribute.

The Board solicits the advice and participation of the membership at large. Toward this end, an article with dates of local airshows and other events should be published in WestWind for next year. PASCO will actively consider reimbursement for expenses for volunteers at such events.

Places to establish a presence include those following.

Power FBO's. As there is some concern as to whether we might be considered unwanted competition by power FBO's:

Action Item: Karol will ask Roger how his brochure was received by FBO's.

Events and airshows.

Action Item: All will work to obtain list of airshows.

Museums.

Action Items: John will stop by Hiller Museum and air museum at San Martin airport. Karol will check Oakland Airport museum.

REI club day (attracts active and adventurous outdoor people) June 16.

Action Item: Board to come up with people who can provide a presence, with T-shirts and WestWinds as supplies.

Action Items: Chad will sign us up to participate at EAA fly-in on Sept. 7-9 at McClellan. Karol will contact Ty for further details on Moffett airshow. Chad will determine times of Reno balloon races. Chad will contact Janice regarding pubicizing via television coverage of events.

CONSTITUTION OF THE NEXT BOARD:

Action Items: Karol will contact Ty to determine which terms are due to expire. As the function of the Board is completely dependent upon the continuing volunteer efforts of its members, outgoing Board members' significant responsibilities must include considering and recruiting their successors.

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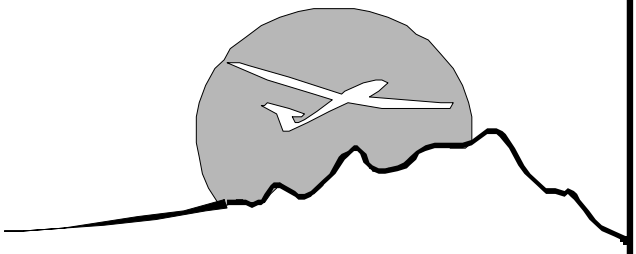

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2668 Husted Road, Williams CA 95987-5105

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Lessons on flying long-winged gliders

By Milton Hare

Introduction: An eager beaver
By Carl Herold

Late in March, I agreed to come to Williams Soaring Center to fly for two days in the ASH-25 glider with a new partner, Milton Hare. A few days earlier Gary and Rex Mayes had made some outstanding long 500-mile flights with Milt in the Mendocino Mountains. I had been watching the soaring weather and knew this spring soaring in the coastal ranges was extraordinary. I was interested in sampling it.

A few days before driving to Williams from Reno, I called Gary Kemp and asked about this talkative, enthusiastic 300-hour Pegasus glider pilot transitioning to the ASH-25. Gary said I would be tested mightily in retuning Milt's stick and rudder skills. Gary was correct.

On April 9, Milt and I took a 9:30 a.m. tow and shared the glider for seven hours, each of us flying about half the time. For a pilot experienced in big wings, the ASH-25 is a dream to fly.

For the other-half of the flight I was a passenger in a "Vomit Comet." Milt clearly had what I call "responsive small-span-glider syndrome," vibrating and over controlling the control stick constantly in pitch and roll with little rudder input. I estimate that of the 135 rated-glider-pilot passengers in my 3DM in the past three years; at least 30 percent of them had this syndrome to a greater or lesser extent.

Without getting airsick and soaring close to 300 miles on a 500-mile-plus day, to the chagrin of Milton, we landed early, two hours before sunset. I didn't need any more. Gary was right. This eager beaver needed the direct approach.

The next morning we took a low tow into weak conditions and were on the ground in an hour. On the next tow, I let Milton get used to the glider for about an hour in weak lift. I had been talking with him most of our flying time together but was not seeing any progress. I told him we were going to stay in the weaker, smoother lift in the valley for the day. Milt had still not significantly changed his small-span habits, even though I was consistently achieving 250 fpm greater climb rates.

To simplify the learning process, I decided we should start from the beginning and focus on each specific skill until Milt could perform each one consistently. In steps, I had him not look anywhere but forward while maintaining plus or minus 2 knots with about 50 knots in forward speed. As soon as he mastered this, I demonstrated my aileron-only and rudder-only control inputs. I then demonstrated turns leading with the rudder and following with the trimming ailerons. I required that he hold his banks within 30 to 45 degrees and maintain his bank within a couple of degrees while thermaling. I also introduced Milton to sideslip thermaling, carrying top rudder for ease of control and improved performance.

Improvements were apparent within a few turns. His constant dishing-out (the initial stage of spiral diving) was disappearing. Previously, his stick aileron inputs had been faster than the glider could respond to, and he was constantly recovering from dishing out while trying to maneuver tightly into the strongest lift. Within an hour, his rate of climb improved to within 50 fpm of what I was able to do. A marked transformation.

We flew another couple of hours in weak lift to make sure Milt could diagnose his flying skills. It was hard to break his stick and rudder habits picked up on his own after achieving his private license a few years ago. I pointed out to Milt that advanced soaring skills must be built on a good foundation of basic stick and rudder skills. It was clear that while flying alone, Milt had been teaching himself based on book knowledge and had developed many poor habits that needed to be corrected.

Flying an aircraft well, whether in aerobatics, cruising straight, or thermaling is to use the controls to change the path of flight and then just use the controls to trim the aircraft to maintain its flight path or positively counter disruptive wind forces. This is more important in large wings with high mass, but it is still important in small wings.

Milton's situation is not unique. Transitioning up with only 300 logged hours into a glider like the ASH-25 is challenging. I feel that many pilots moving into higher performance gliders in a short period of time are unprepared, with poor flying and poor tactical skills. Milt had recognized this, and had sought the advice and counsel of experienced pilots to transition into big wings as safely as possible.

This is a sport in which accomplishments come easier than in the past, but it still takes a lifetime to master safely. Skill is developed with appropriate training inputs from your peers and the diligent hard work by doing and observing, not by reading or talking.

I am pleased that Milton responded to my request to write this important first-person story of his 13-hour, two-day transition to becoming a much improved and more mature pilot. I have heard high praise on his dramatic improvement from his recent passengers. Thank you for your willingness to hang in there. I am proud of you, Milton.
Carl Herold

Introduction: Learning to fly the Phoenix

By Milton Hare

In January of 2001, my fiancée Alison and I became partners in the "Phoenix," an ASH-25 based at Williams, Calif. The ASH was a big step in complexity for me - flaps, wings 34 feet longer than my old Pegasus and lots of inertia.

My flying background included about 400 hours in power planes and 300 in gliders - mostly glass trainers and Pegasus time over a period of about 10 years, with occasional 2-33 flights while I was growing up. During the previous year Alison and I had flown the Duo Discus on a regular basis, with some fun flights in a Stemme, and I was starting to go cross country.

When the time came to buy another glider, we felt that the ASH was the best choice for us because we could fly together, it would be easier to find experienced pilots to fly with and learn from, and we had both made the mistake of going for a demo flight in it with Rex Mayes, who was offering the partnership. It was a beautiful machine with awesome performance, and with an experienced partner like Rex, it seemed like the right choice for us. Six months later, we are very happy with the decision, and it's gone even better than we were hoping for.

The ASH was fairly intimidating, but with Rex's expert instruction, I was flying on my own after about six flights. Changing my soaring habits to suit a 25-meter ship took longer. This story is based mostly on the first few weeks of flying in the ASH, which was exhilarating, challenging and sometimes frustrating.

As I look back now I think this approach to the transition was the right one for me - trial by fire. In the space of a few weeks, I went from my first solo in the ASH to flying 9-hour cross-countries with highly experienced pilots - a very steep and rewarding learning curve. After about 100 hours in the ASH, quite a bit of those with very experienced pilots, I believe that this is the best way to improve soaring knowledge and performance.

The following story was written after I had been flying the ASH for a few weeks. At the time I was kind of reeling from the thrashing Carl had given me, but as time has passed I feel much better about the whole experience. Rex and Gary pointed out my weaknesses in a polite and reasonable manner, but Carl pretty much demanded that I correct them immediately. Carl is serious about improving soaring safety and performance, one pilot at a time.

One way or the other, after this intense week of learning, my soaring technique changed markedly and for the better. I've had the chance to pass along some of these techniques to other pilots flying the ASH for the first time, and it clearly makes a huge difference. Many thanks to the pilots who have taken the time to teach me about soaring.

Soaring paradise or purgatory?

By Milton Hare

At 7:30 in the morning, someone is banging on my door. Emerging into consciousness as I stumble past the battery chargers and assorted soaring gear strewn about the room, I realize that this is not a dream. Soaring guru Carl Herold is wide awake and ready to go for another day of soaring. As I stand in the doorway wearing three layers of day-old thermal underwear and my hair a striking example of chaos theory, it is apparent that once again, he is way ahead of me.

It is Tuesday, April 10, 2001. I've been living my soaring dreams at the Williams Soaring Center in northern California for more than a week, with cold arctic air giving us exceptional spring soaring weather and spectacular flights along the Mendocino mountain range from the San Francisco Bay Area north to 14,000-foot Mt. Shasta. It has been only three weeks since I soloed in "Phoenix" (the ASH-25 my fiancée Alison and I have recently become partners in with Rex Mayes and Roland Von Heuen). I have flown about 40 hours in it since then, including back-to-back dream flights: a 9-hour 500-mile flight with Rex, then an 8 ½-flight with Gary Kemp for 473 miles - by far the longest soaring flights of my life.

Carl and I had just completed a 7-hour flight the day before, exploring a wide range of conditions, from weak, unsustainable ridge lift at 9:30 in the morning and small, barely sustainable 3,000 foot thermals to booming 1,000-feet-a-minute lift to 11,000 feet. It had been an amazing day, an amazing week, an amazing spring - hell, it just doesn't get any better than this! Right?

Here I am flying the sailplane of my dreams, with some of the most experienced soaring pilots on the planet, in the middle of great spring soaring conditions at Williams, with day after day of great cross-country soaring conditions and lift as far as the eye can see. This is paradise right? Well, not exactly...

The problem with my spring soaring paradise was that the thermaling skills I had come to depend on, built primarily while flying a Pegasus, were not working very well in the ASH-25. This was especially noticeable in the more turbulent, diabolical thermals (you know the kind) that make you work really hard to keep the number on climb averager from being a small fraction of the peak lift. I was making my thermaling corrections as if I was flying a Pegasus, but trying to follow the advice I had been given about flying the ASH. This ended up creating havoc, and it took some real work to come up with a new approach that worked. I had spent only four hours getting used to thermaling the Phoenix before blasting off with Rex and then Gary for 1,000K attempts, and it was a real trial by fire that made it clear I had a

lot to learn.

While I realize quite well that I have endless lessons to learn from pilots who can not unreasonably measure their cross-country soaring experience in units of Earth orbits, my thermaling was a lot worse than I had expected. I was not satisfied with my performance on the long flights, and had probably turned two 1,000K flights into 500 milers. I'm pretty sure Gary was sobbing in the front seat at one point as I missed the third awesome core in a row and we sank below the lift band... I know I was. When I flew with Carl, he wasn't even remotely impressed with my thermaling prowess - quite the contrary, and he told me in blunt, ego-crushing terms. Although I felt like I was working hard to follow his instructions and learn from his flying, it really wasn't going well. I was fighting the ship, and Carl was not enjoying the process at all. This wasn't a dream - it was a nightmare! What was happening?

A lifetime of soaring dreams

I took this problem seriously. Soaring has been one of the most important parts of my life since being smitten at the age of 8. That was 29 years ago in the back room of my grandmother's dusty art gallery in the Sierra Nevada foothills. I stumbled across an old National Geographic article published in January 1967 titled "Sailors of the Sky" which described the sport of soaring, with a photo of Richard Johnson in his majestic Skylark 4 against the clouds.

I was instantly and permanently hooked. I had been watching the soaring birds that summer with envy, and suddenly I realized that I could soar like they were" The concept was electrifying to me. My sparse funds and lack of parental support for this crazy obsession limited my "soaring" severely (three months of delivering papers got me one 20-minute sled ride in a 2-33 at Sky Sailing).

My enthusiasm never wavered for a moment. I knew in my bones that someday I too would soar like Richard Johnson. I read every soaring book in the library, ordered every back issue of Soaring magazine available and read them all at least 3 times. I did all I could, given the fact that I couldn't actually fly much.

I bored everyone with the virtues of cumulus clouds, the magic of lenticular clouds and the obvious soaring potential of the coastal mountain ranges of California as we drove along the freeway. I longed to be in the sky soaring in front of those fantastic stacks of lennies that seemed to run past the horizon.

I read Winning on the Wind every few months, and George Moffat was my hero. Over the years my Grandma's Kharmann Gia (with 400,000 miles on the clock) ended up at the hallowed ground of the Black Forest Gliderport (only a few hundred miles out of the way) and magical Calistoga - no flying, just a kid soaking it all up.

At some point my dad drove me 300 miles through the mountains to Klamath Falls so I could spend my last dollar on a flight in a TG-2. We flew with eagles and speculated about who might be riding the lennies piled up over Shasta. After 25 years, I still wonder who it was that came all the way out to that windswept airport just to give some kid a 20-minute ride, a special flight.

Finally, at the age of 24, I started flight training at Lagoon Valley in Vacaville, Calif. Rex got me soloed in short order and things were going well. I bought a Pegasus for a great deal a few months later (Soaring article: how to get a glider loan) and flew that around for a while, did some short cross-countries and fun contests and eventually got my glider rating at Hollister years later.

In the fall of 1999, I started flying a lot - almost every soarable day. I spent hours and hours working on the techniques I had read about in books and learned from people I flew with. I flew in thermals and wave, ridge soared up the face of 8,000-foot clouds and started learning about the endless mysteries of soaring. Basically I was having a blast, staying up in any lift I could find until darkness forced me to land. I remember many spring evenings where the full moon rose over the green hills to the east as the blazing orange sun sank to the west, clouds glowing like they were on fire - truly magical. One of those sunset moments was so perfect that I couldn't resist proposing to Alison at 3,000 feet in the Duo Discus (she had a chute and didn't use it - that's a yes in my book).

When it was time to buy a glider to start going cross country again (you landed *where* in the club Pegasus?), Alison and I decided that going partners in the Phoenix was the best way to go (and Rex can really turn on the charm when he needs to). A big, scary step (especially when we figured out how long it takes to wax), but very exciting as well. My initial training with Rex in the ASH went wel. Handling and performance was excellent, approach control was very effective, and I managed to avoid hitting anything with the 84-foot wings or dragging them on the ground too often. Using flaps for the first time was not nearly as dramatic as I expected, although certainly not a casual endeavor. Sooner than I was expecting, Rex said he'd seen enough and I was on my own.

Changing old habits, step by step

So here I am, finally living out my soaring dreams. I've reached a basic level of proficiency (everyone seems to agree that I can handle the thing without modifying any expensive parts). With a lot of help from Carl, it is now time to come up with a better approach to thermaling the Phoenix.

Carl and I started working on the problem at breakfast. Rather than another long flight attempt, we would fly locally (this was *not* my idea, given the soaring conditions, but in the end it was very beneficial). Carl planned to help me work on my thermaling technique, starting with the basics and building on them one step at a time until I was thermaling with a little more respect for the laws of physics.

As I learned from Carl, two of the major factors to consider when flying with long wings are adverse yaw and yaw momentum. The ASH-25 has a lot of both, with a span of 84 feet and very heavy wings (ask anyone who's assembled one.). Once the wings start rotating around the vertical axis, that

momentum is difficult and inefficient to stop. It is important to start that rotation in the right direction. Using the ailerons to initiate a turn causes the wings to initially start rotating away from the direction of the turn.

The answer to this problem is initiate the turn using full deflection of the rudder. Ailerons are used only after the rudder has been used to get the wings swinging in the right direction, and then only sparingly. Once established in the turn, the ailerons and rudder are used to react to gusts and maintain a consistent bank angle, rather than trying to react instantly to every change in the thermal. Rudder is your friend. This also applies on tow and on the ground:

Carl helped me discover exactly how effective rudder-only turning is by using a simple procedure: First I turned right using only the ailerons, then using only the rudder. Using ailerons, the nose initially moves *left*, with the wings also rotating towards the left. Using only rudder, the nose moves right, the wings rotate to the right, and the glider enters a nice smooth bank without any rotational momentum being introduced in the wrong direction. What surprised me is how effective the rudder was - fully two-thirds the roll rate of the ailerons. I had learned how to "pick up a wing" with the rudder at slow thermaling speeds in a 15-meter ship, but using only rudder to enter a turn was a new concept.

This concept made sense, and the demonstration was persuasive, but putting it into practice was not so easy, since using ailerons had long since become an automatic reflex. Carl literally held the stick so I could make only pitch changes, and eventually my feet were doing all the work. Carl first explained this on our Monday flight while I was attempting to deal with strong narrow thermals, and I was already working pretty hard. Once I couldn't use the ailerons and actually had to think about what my hands and feet were doing, my form really fell apart and things got ugly. This was not the best time to be making major changes to my flying!

Although I understood what Carl was saying, I was having a hard time putting it into practice. So that's why we ignored the cu's building at 12,000 feet over the ridges and flew around at 4,000 feet in the valley instead so Carl could teach me in an environment where I had exactly zero excuses. Purgatory.

My thermaling style has always been on the aggressive side - Helmut Reichman said to bank if you hit sink, and bank even more when you hit lift, so that's what I did: lots of steep banking. I would do anything to get back into that strong little core (6-second count? We didn't have thermals that big in my town!). I would even rack it up and pull pretty high G's to immediately return to the core if I flew out of it - a series of 270-degree turns to center that thermal? Not for me: I'd rather guess where the core is and perform whatever maneuver was necessary to get in it asap.

I ended up with varying airspeed, bank and everything else as I attacked that thermal. When someone flew dual with me, I would overhear garbled references (between hurls) to the name "Bartell" fairly often. Being compared to a national champion seemed like a good thing at the time. I didn't normally worry much about passenger comfort. I was much more interested in learning how to thermal well.

The bottom line is that I was getting away with murder because I was flying a very responsive glider. I had developed habits that worked if the location of the core was pretty clear but also made it much more difficult to sense what the thermal was doing. I was so busy doing my wild aerobatics that it tended to mask the feedback from the thermal. This isn't good in a Pegasus even when you get away with it, and it's impossible in an ASH-25 (assuming you're interested in going up).

So Carl had me start from the ground up. The ASH just doesn't respond the way a Pegasus does, and I needed to make some major changes. Over the course of eight hours of discussion and four more hours of flying, we covered a lot of ground. It would take a year to write it all down (keeping up with Carl is a non-trivial exercise). I have written down the basic steps I remember that seemed to make the difference. This isn't exactly in the order that we followed but it seems about right. Keep in mind that I've just barely learned this stuff, so it would not be shocking if I misunderstood something, but this is how I remember it.

Step 1: Airspeed/attitude control. I was to maintain airspeed within two knots at all times while thermalling, and keep the attitude of the nose against the horizon under precise control. I was not to worry about the airspeed during gusts. And that wild steep banking with its associated airspeed changes was absolutely out of the question.

Carl said that to really get this right I would need to look out the nose at the horizon (and stop looking at the ground while unraveling the secrets of the thermal). This had immediate effect, and I was able to fly accurate airspeed pretty well right away - glancing at the ground occasionally worked fine for tracking our drift, etc.

Somehow I had gotten away from this most basic tenet of flying and tended to use my peripheral vision while looking between the wind and the nose. This immediately quieted things down, and everything started happening more slowly. This also meant a steady G load and a nice stable foundation upon which everything else I learned was based.

Step 2: Use strong rudder deflection to bank into the turn, then trim with aileron. Feed in aileron after the turn has been initiated as needed. This initiated the turns in a coordinated fashion and basically worked like magic. It is important to think in terms of rudder deflection, not pressure. It took quite a bit of repetition to make this sink in, but after a while it was automatic.

This was actually very unsettling for me. Turn with the rudder? That's right up there with air pockets, isn't it? Most banking, corrections and everything else you would normally use the ailerons for were replaced by use of the rudder: Unnatural, but it worked. In truth, some "trimming" is always happening naturally with the ailerons, but if you try to use the rudder primarily, it seems to come out about right.

Step 3: Slip while in slow, steep banks. One would think that this is not the most efficient way to fly, but it actually makes a huge difference, and many people thermal this way. I have been flying this way, but I didn't realize it was important; it just felt comfortable. The reason for doing it is simple: Thermals are often gusty, and if you are in a coordinated turn at slow airspeed, a gust from the side will momentarily cause uncoordinated flight - either a slip or a skid. Since you are already slow, a skid can be the start of a spin or a "dish out" where you momentarily lose control and have to recover, at the least disrupting your consistent thermaling turn, at worst causing you to spin into the mountain you were a little too close to. By flying in a slip, gusts will momentarily put you into coordinated flight instead of a skid. A gust creating more of a slip does not increase the chance for a spin, unlike a skid.

I initially thought this to be a desert thermal-specific approach, but after trying it, I realized that it worked well for most thermals. Somehow it seemed that I didn't have to make as many corrections, and my bank angle seemed to stay more consistent, especially in gusty thermals. This explained what Gary Kemp had been up to on our long flight the previous week. I was astounded at some of the moves he made while we were in really strong cores. On many occasions, we would end up slipping quite severely with the airspeed hovering around 40 knots, while staying in the best part of the core and climbing at 10 knots. Then he would transition into a more normal bank but manage to stay in the core. It was a really impressive move, and he used it on many occasions when we were in very strong but unpredictable thermals. Clearly, it takes a lot of practice to be able to do that, or even know when you should do it, but at least I understand the basis for it now.

Step 4: Pace. Slow down. Every sailplane has a rhythm that works best. The ASH-25 does not react as quickly as a smaller glider; making a lot of small changes just doesn't work. Letting the glider do the flying, basically keeping it trimmed correctly and not upsetting its natural balance is the most efficient way to fly. Unless you're going to make a real correction, just leave it alone. During my nine-hour flight with Rex the week before, he would often say, "it doesn't do that" when I would try some quick maneuver, especially quick bank changes while trying to react to the thermal. Rex flew with graceful precision and little wasted motion. Gradually I learned to be more patient and make adjustments only when it was really needed instead of trying to react to everything that happened.

Step 5: Start with small bank angles, achieve perfection through practice, then move to steeper bank angles. We started with angles of 30 and 45 degrees, maintaining the bank to within 1 or 2 degrees. This was hard to do, since it often meant not staying in the core for the full circle, but for the purpose of honing your technique, this is the best way to do it. This was the hardest thing for me: I knew the core was right there, and it was hard to resist racking it up and coring the darn thing. After a few hours of this, I realized that my achieved rate of climb seemed to be better flying this way than by trying to core a relatively tight but weak thermal.

This reminded me of flying with Peter Kelly in a Duo Discus on a fairly difficult day at Williams. There was a marked contrast between our thermaling styles. The cores were a little too small to stay in, and I would fight to bank as tight as I could, staying in the core as much as possible. This often resulted in gaining altitude quickly, but losing it at a high sink rate when I was not in the core, and it was a lot of hard work.

Peter flew one precision circle after another in a 30-degree bank, flying back through the core every time, but not losing much while outside of it. This patient approach resulted in a slow, reliable climb that worked better than my approach. It was like rock and roll versus Mozart, and the classical music won the day. I lost thermals more often, even though I tended to climb pretty well, but his style allowed better sensing of the thermal, and he was able to stay with it as high as it would go.

Smoother, better flying

By the end of Tuesday, after 11 hours of flying and another nine hours of discussion with Carl, my flying had changed. It was more relaxed, more precise, and I was no longer fighting the glider. I was much more in tune with the Phoenix, and it felt great. Carl explained that I had merely been exposed to this information, and that actually learning it would take a lot of practice.

You mean I have to go on soaring for hours and days and months and years? Hmm - maybe this isn't Purgatory after all!

P.S. I highly recommend flying with experienced soaring pilots. Flying with Peter, Rex, Gary and Carl has been a tremendously rewarding experience. It would take decades to learn these things on my own.

Also, there are many flying techniques that you just can't learn from books. You need to watch these masters in their natural element. Everyone has their own approach, and there are many ways to achieve the same goal. Although there are no shortcuts to becoming a capable soaring pilot, learning from others is a great head start.

I've had two practice flights in Phoenix since my training with Carl, and so far it is working very well. It might have been the conditions, but on both flights I was able to stay with the thermals to the top fairly easily, with seemingly accurate corrections based not on hunches, but on a pretty clear idea of what the core was doing. Also, my average climb rates were much closer to the peak climb rates. One additional and very practical benefit was that my copilots were much more comfortable, and the term "Vomit-Comet" no longer applied. It will take many more hours before I really know the effects of this change in approach, but so far so good. I've talked to a number of pilots who've been through a similar experience during their transition to big gliders - I'm very thankful that I got help from the right people early on, so I didn't have to spend too much time fighting the Phoenix. Now it's time to practice!

Minisafetytips

Landing Out

by Sergio Colacevich

Landing out is a multi-faceted theme. For many glider pilots, worry of a landout is the major deterrent against cross country flying. Visions of low flying above unlimited forests, or in narrow canyons, or above rocks is what chills the enthusiasm for the adventure of cross country, especially if one is a novice to the sport.

I always go cross country, and I like to stretch the day, starting early, going far and coming back late, living through a low point in almost every flight. And I too sometimes have those worries in the back of my mind. But just because of that, I think, I never saw those worries realized. We all have that survival instinct that keeps us away from really dangerous situations, like climbing an impossible cliff or walking into traffic without looking. So, I would like to say that we should not worry too much about horrible things that will likely never happen.

On the other hand, I have found myself in worrisome situations, although different from what I was imagining. Of course, if I could imagine it I probably would have been able to avoid it. So, it is reasonable to have a general sense of caution, but we should concentrate our attention on real dangers and on ways to avoid them. I am saying this to try and remove the useless fear of the unknown from the minds of the novice or overcautious pilots. I am saying: stay in touch with reality, and prepare yourself by getting to know what to do.

Now here I will not say all the things to do, there are many textbooks that teach that very well. I am just emphasizing the aspects where our emotions may trick us.

The universal rule to follow when flying cross country is to be always within gliding distance of a landable area. When I fly, I am almost always able to reach an airport. For a limited time I may be within gliding distance of good fields. On occasions I am within gliding distance of poor fields. A couple of times during my 700 flights and 2,000 flying hours, I had the choice of horrible fields. It has never happened that I was low over absolutely unlandable territory.

I think everybody knows the principles: be always in conditions to reach an outlanding area (airport or field) at the minimum altitude for doing a visual inspection and for executing a regular pattern. This altitude is normally considered to be about 1,000 feet. If the landing area is far away, or if weather conditions are uncertain etc., starting with the aim to be there at 1,000 feet may not feel comfortable enough and you may want to take more. You may aim to be there at 1,500 feet. Even at 2,000 feet. 2,000 feet is plenty but take more if you feel better. If you decide that you do not have your minimum safe altitude, don't go. It is that simple.

I know, I know, the principles are notorious but the application is often faulty, which takes to the real problem: the danger is not out there, the danger is within ourselves. If we really would be able to dominate our emotions, to control our excitement, to curb our overestimates, we would be always safe.

When the available landing area is made of fields (better if there are more than one) I consider the size as an important good characteristic. First of all, at times it is not easy to estimate the size and the chosen field may be much smaller than what it looks. Then when we are near the ground it may appear that there are features in the field that are undesirable, like undulations, ditches, sparse rocks or bushes, ponding water or mud. It is good to have extra space to maneuver and chose the best landing spot.

In general, a cultivated field is better than a pasture. It will not have rocks or heavy cattle steps, or wandering cattle. However, a cultivated field may have irrigation systems laying directly on the ground, deep rows, tall crops. They say there is a color code to recognize the type of crop but I never found it very useful. I think is better to know what type of vegetation is likely to be found in this season of the year, and this is something that can be seen by just looking around when driving.

It is important to look for the wind, because it may be different close to the ground than it is at elevation. Try to guess the slope - not an easy thing to do, as everything looks so flat from above. Considerations of landing near a gate or close to a good road to make for an easy retrieve are of minimal importance.

The second fundamental rule of landing out is to have the firm resolve, once a field has been selected, to stop looking for lift and commit ourselves to the landing itself. From a safe altitude (advise 1,000') just do a regular pattern like at any airport. It is important to look constantly at the desired touch point, and at the airspeed. Looking at the landing spot from the different points of view covered during the pattern gives more detailed information about the features of the field. Watching the airspeed very frequently (every 4 seconds max., especially during the turns) will avoid the danger of falling into a spin.

Look for wires - the most dangerous feature of an outlanding. Seeing the wires is very difficult, so the aim is to try and spot the poles and reconstruct where the wires may be. I will

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recite here again the Gospel according to John (Shelton): if you find yourself going towards wires, aim to pass underneath them, not above. And all becomes easier if the field is big.

Personally I like to present myself high and far on final. I find that I have my desired touch point in full view in front of me, while the details of the field become increasingly clearer, and I find more easy to do adjustment to the trajectory. Again, everything is easier if the field is big.

A pilot friend asked me what do I do if I find myself in an unlandable place, and if it ever happened to me. Well, I have to say that a very few times I found myself in ugly situations. But then, you see, even in those situations there was always some limited choice. One may skip the obvious bad spots and find the less horrible places to land. The first time that this situation presented itself was on the second cross country flight I ever did.

In that occasion the less dangerous field was a pasture uphill, long enough for a landing. As it came out, I found a thermal and I did not have to land in there. But while going home, I was able to look at the field from the ground: it was inclined by 30 degrees to the horizontal, and landing in there was bound to be difficult for rounding the flare, and for turning on one side before stopping so as to avoid going backward down hill. I would say it was a very poor field, but still it had high probabilities of a survivable landing, and possibly with no damage to the glider.

Other instances come to mind, where notwithstanding the general ugliness of the situation, still there was a way to minimize damages to glider and pilot. So I can say that is very difficult that one is so foolish as to put himself in a situation where a landing is absolutely impossible. Besides, any type of controlled landing has a high degree of survivability, including landing on pine trees, including even landing in a vineyard. What is really likely to do great damage to glider and pilot is loss of control close to the ground, like spinning into it (close to ground, watch the speed, watch the speed, watch the speed).

I would like to mention a truth that rarely I see divulged: The most dangerous landing place, by far, is the home airport. Almost all the damages I did to my gliders happened at the home airport. True, it is the place where we do the most landings, so probability works in favor of an accident happening there. Still, the overconfidence we feel for our airfield is dangerous and promotes inattention and carelessness. So here is a useful trick: treat every landing at the home airport with the same attention as if it was an outlanding; and treat every outlanding with the calm that you would have at your home airport.

May the lift be with you always.
Edited by Kathy Hewitt.

Sergio Colacevich is a transportation engineer and works for Caltrans in Sacramento. He came from Italy in 1984 with a Silver badge, gained the Gold badge in 1991, and the three-in-one-shot Diamond in 1996.

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PASCO League

By Tony Gaechter

The PASCO League contest was held on July 14-15 at Minden-Tahoe Airport in Minden, Nev., hosted by Minden Soaring Club, Soar Minden, High Country Soaring and Mansberger Aircraft. Minden Soaring Club organized the event, and Andrew McFall of Soar Minden was the contest director.

The great state of Nevada provided perfect weather, and Andrew did a great job of task calling for the conditions. The weather report both days forecast lift to 18,000 feet, and we actually had it with cloud bases above 18,000 feet.

Eleven pilots participated, the Minden Soaring Club team taking the honors. The Saturday Pundit/Intermediate task was Minden, Bodie, Hawthorne, Sweetwater and Minden for 175 miles. The Novice task was Minden, Bridgeport, Hilton Ranch, and Minden for 133 miles. This task selection was intended to keep all pilots in the same general area.

The Sunday Pundit/Intermediate task was Minden, Hilton Ranch, Bridgeport, Dayton Valley and Minden for 165 miles, and the Novice task was Minden, Sweetwater, Dayton Valley and Minden for 117 miles. Again the idea was to keep all pilots in the same general area.

The Saturday night barbecue was held at the Mansberger Aircraft hanger and was attended by approximately 60 people. Tri-tip, salmon and chicken were served with salads, corn and potatoes. A dessert of fruit and whipped cream completed the splendid dinner. Following the meal, Rick Walters reported on the 18-Meter World Championship in Spain.

Conditions were great for this contest with perfect weather, great tasking, great groundwork facilitating a fast launch, and great hospitality from the entire Minden crowd. Thanks to you all for making this such a successful PASCO League event.

PASCO League Minden Results
14-15 July 2001

Daily Summary

	Pilot	Number	Handicap Day1 MPH	Day 1 Points	Handicap Day2 MPH	Day 2 Points	Cumulative
Pundit	Bob Trumbley	EP	65.29	1000	56.73	1000	2000
	Tony Gaechter	1A	57.04	874	55.99	987	1861
	Peter Kelly	PK	59.55	912	51.49	908	1820
	Steve Eddy	E4	47.46	727			727
INTERMEDIATE	Guy Acheson	DDS	68.32	1000	66.21	1000	2000
	Bruce Roberts	14B	57.30	839	49.88	753	1592
	Dan Dunkel	4S	53.50	783	45.25	683	1467
	Doug Padrick	DP	52.02	761			761
	Jim Alton	3E	42.80	626			626
NOVICE	Eric Rupp	VN	Landout	198	Landout	183	381
	Ray Hoffman	ES	Landout	301			301

FINAL PLACINGS

	Place	Pilot	Number	Cumulative	Team	League Points
PUNDIT	Bob Trumbley	1	EP	2,000	MSC	3.2
	Tony Gaechter	2	1A	1,861	Voodoos	2.4
	Peter Kelly	3	PK	1,820	VSA	1.6
	Steve Eddy	4	E4	727	MSC #2	0.8
INTERMEDIATE	Guy Acheson	1	DDS	2,000	MSC	5.0
	Bruce Roberts	2	14B	1,597	Voodoos	4.0
	Dan Dunkel	3	4S	1,467	VSA	3.0
	Doug Padrick	4	DP	761	Impossibles	2.0
	Jim Alton	5	3E	626	Replacements	1.0
NOVICE	Eric Rupp	1	VN	381	HGC #2	2.0
	Ray Hoffman	2	ES	301	MSC	1.0

Team	Avenal League Points	Minden League Points	Season League Points
HGC #1	12.2		12.2
Replacements	11.0	1.0	12.0
Voodoos	4.8	6.4	11.2
Heckel & Jeckel	10.8		10.8
HGC #2	7.4	2.0	9.4
MSC		9.2	9.2
Wicked Wenches	4.8		4.8
VSA		4.6	4.6
MSC #2		0.8	0.8

From Ty White: The Truckee PASCO League event, postponed because of the Martis Fire in the Sierra which started June 17, has been rescheduled for July 28-29. The wonderful Truckee BBQ will be held on Saturday night. For more information, please contact Tom Christensen: thosccme@worldnet.att.net, (925) 829-9187.

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Membership requirements are private pilot certificate in gliders, checkout with an approved instructor, and initiation fee. Pilots using gliders for cross-country must meet certain minimum requirements.

Calendar of Events

July 28, 29: PASCO League Meet #2, Truckee, CA. Contact Tom Christensen, (925) 829-9187(h), thosccme@worldnet.att.net

August 4,5: PASCO League Meet #4, Air Sailing Gliderport, NV. Contact Tony Gaechter, (408) 867-2182(h), tgaechter@home.com

August 11,12: The Fourth Annual Gerlach Dash, Air Sailing Gliderport to Gerlach, NV. Sponsored by Nevada Soaring Association. Contact Vern Frye for information at (775) 825-1125. Motel reservations at Bruno's in Gerlach (775) 557-2220.

September 10: PASCO Board Meeting, 7:00 pm, Old Terminal Building, Buchanan Field, Concord. All members invited.

November 5: PASCO Board Meeting, 7:00 pm, Old Terminal Building, Buchanan Field, Concord. All members invited.

November 17 : PASCO Safety Seminar and Awards Banquet - 6 pm at the Dublin Monarch, Dublin, CA.

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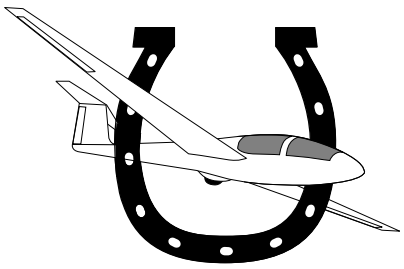

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