

FLIGHT LINE

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The publication of the Wings Of Rogallo Northern California Hang Gliding Association
Volume-115, Number 12 November 2004

Recommended Amendments to WOR Bylaws - Dues Modification Committee

The WOR bylaws require that any proposed amendments to the bylaws be presented to the membership prior to the meeting at which a vote on the proposed change is to be taken. A majority of the Executive Board has accepted the following recommendations by the Dues Modification Committee for bylaws changes. The amendments will be voted on in during the December 21 WOR meeting.

Current Article II, Membership - Section 3:

"A member of the immediate family of a WOR member, residing in the same household, may become a "family member" by filling out an application for membership and by paying one-half the full membership dues. A family member is accorded voting privileges but does not receive a newsletter."

Proposed Article II, Membership - Section 3:

"- Section deleted -"

The committee recommends deletion of this article of the bylaws. The logic behind the original Section 3 is the cost of the mailed copies of FlightLine. Family memberships were to cost less because only one copy of FlightLine would be mailed to families. Since mailed FlightLines now have a charge separate from the membership dues, this Section is no longer valid.

Current Article II, Membership - Section 4:

[first part of Section 4:] "A new member joining WOR in the first three months of the year pays the full annual dues amount. A new member joining the club after the first three months of the year pays the annual dues amount less 10% of the annual dues for each month beyond the third month of the year."

Proposed Article II, Membership - Section 4:

Proposed wording of the same part: "A new member joining WOR in the first six months of the year pays the full annual dues amount. A new member joining WOR in the seventh, eighth or ninth month of the year pays one-half of the annual dues amount. A new member joining WOR in the tenth, eleventh or twelfth month of the year pays nothing for the current year but must pay for the next full calendar year at the time of joining."

The logic behind Section 4 is to prorate membership dues for new members. However, for a given annual dues amount the calculation of the amount of dues owed can be fairly complex. The committee recommends this change to simplify the calculation of amount of dues owed. The financial effect of this change would depend on acceptance of the other dues amount recommendations to be discussed in the December WOR meeting. This recommendation will serve to simplify the dues structure and promote continued membership for members joining late in the year.

Index:

1. [Whats new](#)
2. [PG Speed to fly](#)
3. [Meeting minutes](#)
5. [Pilot profile](#)
8. [Mission key application](#)
9. [Classifieds](#)



Holiday
Edition



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Editors Turn:

Not much to add this month. Weather has been reasonable for flying mid week. A few people are off and flying. I'm getting some hours on the motor in the central vallrey. I might even bump into the aero-towers and play wind dummy for them. Get along to the meeting and vote for your dues. Here are as couple of suggestions for what to do in our 'off' season.

Do a clinic

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Aerotow
Fly south
Go to Big Sur for the new year

but most of all...
Let the people that you love know that you do!

Have a great holiday and may the new year bring health and wealth to everyone.

Basics of Speed to Fly for Paragliding Pilots

Jeff Greenbaum

The expression Speed to Fly represents the adjustments to a Paragliders speed in relation to wind, lift and sink. Maximizing glide based on this relationship is a constant process while flying. Speed to Fly is a key that not only makes you a better pilot, but helps build a connection between you and the wing.

This article was written to provide the basics of Speed to Fly and techniques to adjust your speed based on these variables. There are tools that you can use (speed rings on variometers or GPS systems), but not all pilots have these included in their gear. Besides, learning to fly without instruments is a large part of growing as a pilot.

Learning to adjust Speed to Fly continuously while in flight can be done with some simple observations. If you want to learn the math part of the equation, many articles teach about Speed to Fly by using a polar. The math part of the equation works for some, but not everyone is good with numbers or looking at graphs. It's important to learn the theory, then practice making adjustments to hone a full understanding. Having a solid understanding of Speed to Fly will help you fly higher, stay up longer, and improve your senses of wind and lift. The basics apply equally to ridge soaring or thermal flying. The main factors that affect Speed to Fly are only two: relative wind direction and lift or sink.

The generalized adjustments involved in Speed to Fly are:

In Lift / Sink

-
- Fly slower in lift
- Fly faster in sink

In Headwind / Tailwind

-
- Fly faster into a headwind
- Fly slower with a tailwind

Next, you need to learn why each of these statements is true. In each of the below descriptions, eliminate the secondary set of variables and imagine that there is only one. For the wind descriptions, assume there is 0 on the lift / sink components and for the lift / sink descriptions, there is no headwind or tailwind.

Fly faster into a headwind

This is perhaps the easiest of these to grasp. In still air (no wind and no lift sink), most Paragliders get their best glide at or very near trim speed. For simplicity, let's say that the sample Paraglider flies at 20 MPH at trim. In general, I like to promote that for any headwind above 12 - 15 MPH without lift, your best Speed to Fly will be most to full speed bar

This is very easy to see in a stronger wind situation. Picture yourself at 100 feet above the ground, pointing straight into a 20 MPH headwind. At trim, you will hover downward toward the ground at the sink rate your glider gets at trim speed.

Continued on Page 4...

November 2004 Minutes

New Members/Guests

Nick Dabala - Is making a film featuring Harold.

Brian - Member for 1 yr; flies a Falcon II.

Great Flights

Phyl Hamby - Flew Mission last Friday.
Harold - Towed to 1600 and climbed to 1900 at Hollister training site.

Presidents Report - Phyl Hamby

All 4 gates at Ed Levin are currently locked. Cows are grazing in the park. A work party is planned to clear weeds and open the drainage ditch by the access road.

Vice Presidents Report - Wayne

Michelson
Nothing to report.

Treasurers Report - Don Herrick

Income was less than expenses this past month. Income should start to come in with renewals.

Membership Services - Carmela

Moreno
2005 stickers are now available.

Flight Directors Report - Pat Denevan

No incidents to report.

Ed Levin Site Committee Report - Steve Pittman

A work party is planned for the first weekend in December.

Mission Peak Site Committee Report - Steve Rodrigues

A keyholder has been suspended

because another pilot driving the keyholders vehicle did not lock the gate properly. Phyl and Nick Mora put up a new windsock at launch. A monument commemorating Dave Kilbournes pioneering flight at Mission is planned. It is expected to cost about \$900.

Mt. Diablo Site Committee Report - Mark Grubbs

The 20th anniversary of flying at Diablo was observed at a recent ceremony.

Site Acquisition - Gene Pfifer

An open space district meeting is planned for January. Gene will provide details to members who wish to attend and show their support for flying at the Coyote Lake site. Some of the Open Space district officials are supportive of our desire to fly there.

Silent Airshow - Mark Mullholland

Mark has the final checks from the airshow. Contributions will be made to MDA and Rotary. Mark has T-shirts for volunteers who did not get one yet.

Old Business

None.

New Business

Officer nominations: (note that 2 nominees are needed for each position)

President: Steve Delayo (tentative; nominated in abstentia)

Vice President: Wayne Michelson

Treasurer: Don Herrick

Flight Director: Pat Denevan

Secretary: Paul Clayton

Membership Services Coordinator: Carmela Moreno, Phyl Hamby.

Phyl raised the possibility ~~of~~ >> of placing a storage container for flying gear at Ed Levin. He also reported that grading of the 1750 road at Ed Levin will cost \$2000, based on a quote he recently obtained. There was also some discussion of using Weller road to access the top launch at Ed Levin, but there have been problems with landowners in the past. Phyl proposed that the dues be increased to pay for road maintenance. A committee consisting of Don Herrick, Phyl Hamby, Colin Perry, and Pat Denevan was appointed to review the need for additional funds. Webmaster Alec Chattaway said he would poll members to determine their willingness to pay higher dues.

A motion was passed that the club fund dinner for the December meeting, to be limited to \$400.

Nick Dabala requested donations for his movie about Harolds flying. A motion was approved to match funds collected by passing a hat. \$207 was collected.

Richard Wang announced that he is selling his flying gear and leaving the area.

26 people attended. Prizes were raffled.

END OF MEETING MINUTES

Upcoming Events.

Dec 21nd WOR Meeting

Dec 17th - 19th eparaglide trip to Big Sur contact Richi at richify@eparaglide.com 925-260-3370

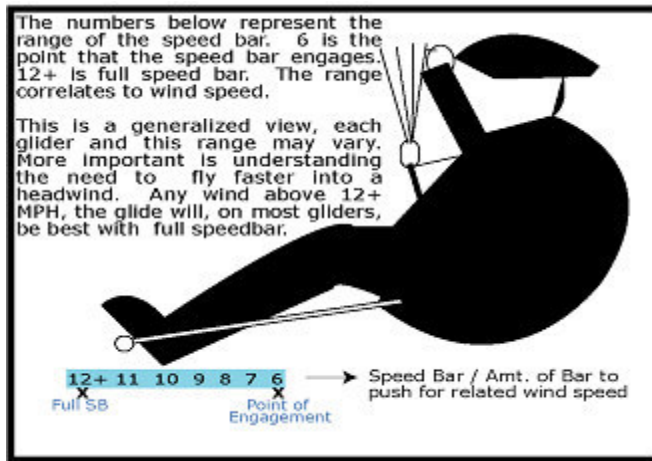
Dec 28th - Jan 2nd eparaglide trip to Big Sur contact Richi at richify@eparaglide.com 925-260-3370

Dec 28th - Jan 3rd Lots of other people off to big sur too.

January 22-February 5, 2005 Come Fly Tapalpa, Mexico with Juan Laos and Advanced Paragliding. Just show up at the Guadalajara Airport and we take care of the rest. The tour fills up fast so reserve early. Hanggliders welcome. \$1800. Contact Juan@advancedparagliding.com (925)-377-8810

March 25-27 2005 IP Clinic in the San Francisco Bay Area. Juan Laos, IP Administrator and Advanced Paragldiding will be hosting an Instructor Training and Certification and Recertification Clinc in the San Francisco Bay Area. Open to aspiring Instructors and Basic Instructors looking for recertification. Registration must be received no later than February 15, 2005 Contact Juan@advancedparagliding.com (925)-377-8810

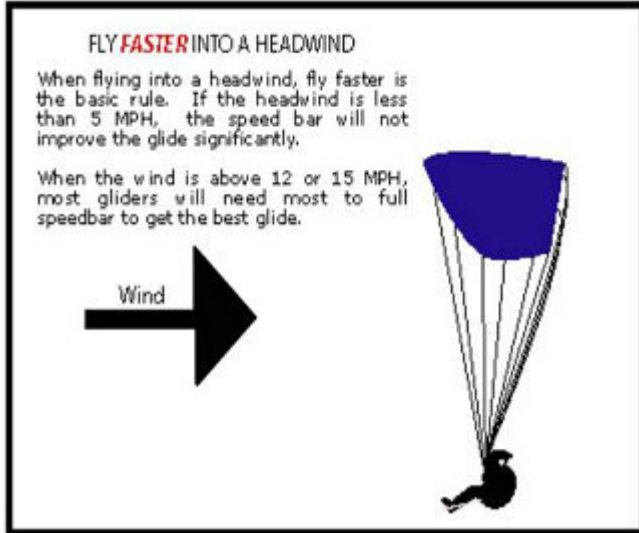
You will land on the exact spot beneath you. If you fly any slower, you will fly backward. You will improve your glide by moving forward when you fly faster (pushing on the speed bar). As a result of the speed bar, you will descend faster because of slightly increasing your sink rate, but the factor of forward motion will be a greater. A light headwind is not quite as easy to picture. Imagine yourself at 100 ft above the ground, pointing straight into a 5 MPH headwind. Flying slower will shorten your glide path. Flying full speed will also shorten your glide path. To maximize



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Fly slower in lift

The rule with lift is pretty clear as well because if you can maintain or climb, obviously this is going to extend your glide. When you are ascending fly minimum sink to maximize the ascent rate.



Fly slower with a tailwind

This is very similar to the above, but instead of accelerating as the headwind increases, you will fly progressively slower as the tailwind is stronger. Here, Min Sink is like full speed bar in the above "headwind" scenario. Other than in a flair, Min Sink is as slow as you should ever fly in a Paraglider. In any tailwind above 12 or 15 MPH, you will likely get your best glide by flying at Min Sink Speed.

Anytime the air is going up at least as fast as your Paragliders Min. Sink rate, flying Min Sink will get you the furthest. You might notice that a pattern is developing here. In 0 lift you start off at Trim and progressively go to Min. Sink as the lift increases to match your gliders Min Sink speed. For any lift that exceeds your gliders Min Sink rate, you will go up the fastest at Min Sink speed. The faster you go up, the higher you will get and with height comes distance.

Fly Faster in sink

This is true because of the shorter time you will be in the air as a result of the descending air. During this time, flying faster becomes more of a factor than the rate at which you are descending. This one is among the hardest to perceive, so you have to either use your vario to sense the amount of sink, or use the visual references. Starting at 0 lift/sink you fly trim. If your glider descends at 260 ft / Min at Best L/D (trim) and the sink cycle you are in is down at 240 feet / Min you will be descending at 500 ft / Min continuing to fly at trim. By flying faster you will descend a smaller percentage than the speed you increase. In all of these examples, it is simply a vector of whether speed or sink rate is going to help you glide the furthest.

Page 7...

your flight path, about 25 to 50 % of the speed bar would be close. Note that in lighter headwinds, the difference in glide is not nearly as significant into stronger headwinds, but it is significant nonetheless. I recommend that up to about a 5 MPH headwind, trim is close enough to be acceptable.

Keep in mind that the speed ranges I am discussing are generalizations and not correct for all gliders.

To Summarize:

- Fly at Trim in no wind or very light headwind situations.
- Fly at full Speed Bar in any wind above 12 or 15 MPH.
- Between 6 and 12 MPH wind, the speed bar will be pushed progressively.

Because of the extra 12 + MPH groundspeed you will have over your airspeed, time spent in the air gains you more distance. The combination of your slowest descent rate and the high groundspeed (Windspeed + Airspeed) will help your glide the most. Since minimum sink speed maximizes the time you are in the air, flying slower helps you fly the furthest with a tailwind.

Most gliders get their best glide in 0 wind at or very close to trim speed. With a 12 + MPH tailwind, most gliders will get their best glide at or very close to min sink speed. In a very light tailwind up to about 5 MPH, there will not be a very significant improvement in glide by adding a little brake. But, in winds above 5MPH it will begin to become much more significant. So between 5 and 15, you will fly progressively slower between light braking at 5 to min sink around 12 or 15 MPH tailwind.

Pilot Profile

Another one of our members gets on with his work in the background unbeknownst to most. Apart from helping with informal exec duties Dave Wills has a very human outlook on life.

Q1: What got you into the sport?

I was interested in learning to fly power or sail planes for a long time, but never took lessons. In the early 80's, I met and became friends with Dan Buchanan, now of "Flying Colors" and air show fame. One day in the summer of 1987, I watched Dan flying at Funston. I took my first hang gliding lesson shortly afterwards and was immediately hooked.

Q2: What was your most memorable flight?

I have a few that are unforgettable. My longest flight was 90 miles from Sugar Hill south of Lakeview, Oregon. I just kept bumbling from one thermal to the next until I got into a great cloud street, then just stayed under the clouds.

Being able to share the flight with my wife and two close friends was very special. They were chasing in my truck and caught up with me in time to pick an LZ for me. (I wrote a story for my family. If you're not bored with flying stories you can find it [here](#))

On another flight, I launched at a site called Commodore which is about 30 miles west of Salt Lake City, Utah and 20 miles south of the big truck stop on I80. Three of us climbed to over 17,000' and headed north. We didn't hit another thermal the rest of the way, but who cares! We flew near the big mining pit on the east side of that range (now only the 2nd largest open pit mine in the world). When we got to I80, two of us still had over 5000' AGL. What to do? Easy, we flew out OVER the Great Salt Lake, a mile north of I80, to burn off altitude. We then went back and landed at the truck stop.

And many of my flights in the Lakeview area are memorable. I'm not a big glass off or ridge lift fan, so my memorable flights usually have something to do with going somewhere.

If I get the chance to fly the length of Abert's Rim, make the jump from Sugar

Hill to anywhere or be able to get out from Black Cap, I'm having a GREAT day.

Q3: What are your favorite three flying sites?

Number one, without a doubt, is Sugar Hill. It's a Lakeview site although it's about 15 miles south of the Oregon border. I love the scenery. The XC is challenging without being life threatening. I used to fly at Slide and other Reno area sites, but since 1990 my truck goes on auto pilot to Lakeview.

Number two is Woodrat which is west of Medford, Oregon. I don't fly there much anymore, but it's a great thermal site.

It's not good for long XC because the Siskiyou are in the way, but I was able to jump over them into California once. And there are still plenty of mountains and valleys around to go explore.

The third is Mission. I get bored really fast in ridge lift and I don't often like all the traffic, but it too has great views.

And it's just so easy to go get some air time and meet up with all the nice HG and PG people there.

us to Commodore. The << >> roads were all one

vehicle wide with 3000' drop-offs to death. There were 180 degree switch-backs where you had to back up to the edge of those 3000' drop-offs to death.

The last straw was a 50 yard climb up a steep incline with 6" - 12" boulders all over it. Of course, just a foot off the driver's side was a 3000' drop-off to death. It was far too loose to climb slowly, so I had to just blast up it. Are you laughing yet? When we got to the top, I was soaking wet with sweat!

Flying was NEVER so stressful.

When I looked out at launch, I heard thermals coming up sounding like freight trains. I turned to the other 3 guys and said: "I am FLYING off of this mountain. Not only that, I am NOT coming back up here to get my truck. I don't care if it ever gets back down the hill, but I am NOT coming back up here!" Dan Buchanan couldn't launch because of the rocky slope. (For those of you who don't know, Dan is a paraplegic.) He volunteered to drive. I tried to talk him out of it, but he wouldn't change his mind. The short end to this long story is, we flew out over the Great Salt and landed after about 3 hours. About 5 hours after we



launched, we finally heard Dan's voice on the radio.

I'm sure glad he lived, but I don't think I want to know how he got down. All I do know is Dan used 2 aluminum rods from his harness, stuck together with a pip pin to make one long stick, to control gas, brake

AND clutch!

Q4: Any funny experiences that you might like to share?

No, none. After 17 years of flying, what could possibly be funny? Seriously, far too many to relate. But I have friends who always ask me to re-tell the story of going to Commodore in Utah. Dan Buchanan, Russ Zimmerman and I went on this trip in 1990. I had just gotten a brand new 4Runner that had less than 1000 miles on it when we left on the trip. We hooked up with a Salt Lake City pilot, Gary Larson, who took

Q5: Any not so funny?

It was just another day at Sugar with cycles coming up but no clouds building anywhere close. Fortunately for me, I bumbled into the only big thermal that day. Just 7 minutes after launching, I was climbing through 14,000' and drifting over the back. There was an enormous cloud street stretching towards Winnemucca, Idaho. I radioed to Ofer and Ray that I was

heading out. Ofer and Ray sunk out, broke down and started chasing me through our driver. I was almost 50 miles from Sugar, just south of the Dougherty Slide launch, when I got a call on the radio from Ofer. He said: "Dave, we've had a *minor* problem with your truck. You need to find your own way back to town." I asked if everyone was OK and he answered "yes", but added "Merle is stuck in the truck. We have to get her out."

I knew Ofer wasn't joking, so I immediately turned north to try to make it out of the middle of nowhere in the middle of the desert to the two-lane road in the middle of the desert. I stretched my flight as far as I could to the north, but I was out away from the nice cloud street and landed 10 miles due south of highway 140. In the middle of the desert. No radio contact. No mobile phone cell. No cars.

It took me another 7 hours to finally meet up with Ofer and Ray in person. They and Merle were bruised, but there were no major injuries. And after all of that, there was only one *minor* problem with the glider racks on my 4Runner. That minor problem was the glider racks failed to support the entire weight of the vehicle as the vehicle was rolling over. Well, there was small secondary problem. Ofer's and Ray's gliders didn't do a good job of supporting the weight of my 4Runner either. Then we did the only sane thing we could do after totalling the 4Runner and gliders and meeting up at midnight in the middle of the



desert. We went deeper into the desert to fetch my glider. We finally got back into Lakeview at 6:00am, ate, showered, packed up and headed home. We got home at about

7:00pm, over 36 hours since waking up the previous morning. Again, there's far too much to relate here. You can find this story [here](#)

Q6: What else do you enjoy other than flying?

In my life priorities, flying comes in third. My life with my wife is first, and of course working is a necessity. When not working, I'm almost always doing something with my wife. We go to museums in the City once or twice a month, lecture series (Ehud Barak, Mickael Gorbachev and Richard Clarke so far this year),

movies, dinners, entertaining with friends and sometimes just watching TV. Melanie is an avid gardener and our garden is beautiful. Weekends often have us doing things around the house or making a visit to a nursery. We travel quite a bit too. We go to Europe every couple of years or so. We both have family back east, so we travel there a lot. I really like staying in Manhattan. There are always things to do.

Q7: Who do you admire most in free flight and why?

There are two people who immediately come to mind. First is Greg Shaw. Greg was an HG mechanic for Mission Soaring Center for years. He had a way of boiling down an entire lifetime of

working on gliders to a few sentences that were perfectly clear to me. For example, long ago I asked Greg when I should replace my down wires. His answer was "now" and the reason was you don't want to be asking yourself if you should have replaced your wires the next time you're flying. I would ask

Greg a question and he always had a good answer. Then 6 months later I'd see him and he'd have even more information to give me regarding the question I asked long before. Even

though I had long forgotten, << >> Greg was still thinking

through all of the details. He was always thinking and always willing to help me be a safe pilot. The clincher was when I flew a glider for the first time after a strip-down



inspection by Greg. As I unfolded my wings, a piece of paper dropped down from the sail, hanging by a string. I read the note: "Your camera release wire is frayed at the right leading edge-crossbar junction." Even though this had nothing to do with safety, Greg's attention to detail caught it and he took the time and energy to let me know.

The second person is Ken Brown. There are many, many good pilots and even a few great pilots out there, but Ken is the most natural hang glider pilot I've ever seen. He makes it look so easy. I have to work for everything I do. The less I fly, the more it shows. I can't help but be a little jealous when I watch Ken launch, land and fly. (Actually, I'm not that jealous of his famous ground skimming landings!)

Q8: What advice would you give to anyone thinking about starting hang gliding?

I would make several suggestions, but it's probably too late for those reading this. Don't just go out and find an HG or PG Instructor and sign up for lessons. First, go to Ed Levin, Mission and other sites and ask the pilots this question: "Which Instructors do you believe teach the safest pilots?" Ask a lot of different pilots and you'll find some obvious standouts. Those are the Instructors you want to go to. If you hope to keep flying for many years, take the training seriously, don't scrimp on the costs of instruction or equipment, and be as conservative as you need to be so the one big wrong decision or mistake doesn't make you leave the sport. Pay close attention to the mistakes you make. If you're repeating the same mistake or you make a lot of little mistakes, step back and take a hard look at what you're doing. I believe more pilots should be introspective and decide they should not be flying. **..Page 7**

...from page 6

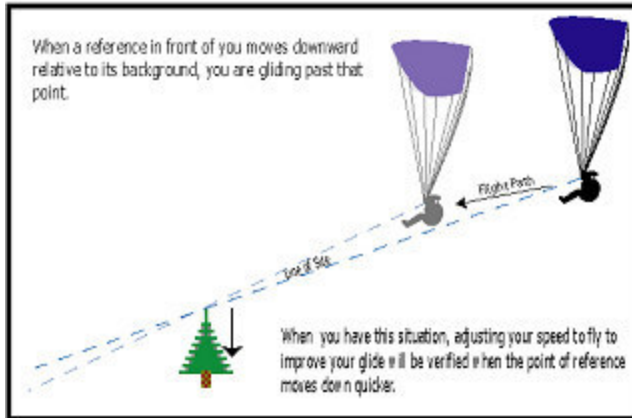
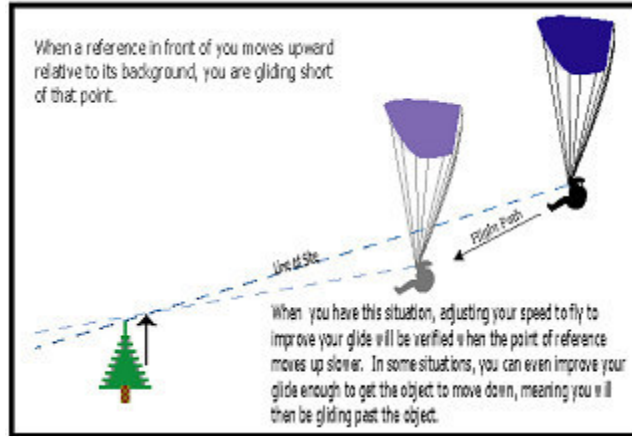
Q9: What does the future hold?

My truck was totalled in 2000 and that was the beginning of 4 pretty tough years. My flying has suffered and I'm flying a lot less than I did before then.

Each year I think this is the year when flying is going to be a bigger part of my life and I'm hoping 2005 is the year. But I'm past the point where either testosterone or adrenaline have a big impact in my flying. I no longer have the big need to out-do all of my previous flights. My reward is to have each flight be memorable, whether I fly 10 miles or 50 miles, or just because I get to do something most people can't do -- FLY HANG GLIDERS!

moving down relative to the field, your glide will carry you past the tree. If it is perfectly still against the background, your current glide will take you right to the tree top.

references in front of you << >> will work effectively, references to the side don't work (because you are not gliding toward



...from page 4

Application in the "Real World"

Most of the time there are blends of wind and lift/sink factors. You could encounter sink and a headwind at the same time. This is an easy one, as both tell you to speed up. The combination will lead you to fly faster. Contrarily, you could just as well fly into a thermal as you are penetrating a headwind. With this type of situation, you need to judge which factor is the dominant one. If the thermal in this situation is strong enough for you to maintain or climb a little near minimum sink speed and you are still moving forward, then the you would likely continue to fly near minimum sink speed (choosing that the lift is the stronger factor). But if the thermal is not so strong and the headwind is strong (at min sink you are not penetrating), then the wind is the stronger factor in this situation. It becomes pretty easy to pick the larger factor in the real world when you have ground references to check.

Imagine that you are gliding toward an LZ that has trees around it, with one at the far end. The top of the tree is in front of a contrasting field. As you glide toward your LZ, you can use the top of the tree to help you adjust your Speed to Fly. By referencing the relative motion of this tree top to the background, you can determine whether your glide will take you past the tree or not. If the top of the tree is moving up relative to the field, you will land short of the tree. If the tree top is

How do you use reference points to adjust your Speed to Fly? In the simplest sense, you make adjustments to speed with the goal of improving your glide via the visual reference. If the tree is moving downward relative to the field, you will try to adjust your speed to maximize the tree moving downward, or, if the tree is moving upward relative to the field, you will make adjustments to minimize how fast it is going up.

You can look in many directions and have different objects to cross reference against. In one direction it might be the top of a tree, in another the top of a ridge or mountain, in another a radio tower in the distance. You can even use other gliders in front of you if they are heading in the same direction. Although other gliders are not fixed, you can tell if you are improving your glide by adjusting the same way against them as for fixed objects. The point is that no matter what direction you are going there is almost always something to use as visual tool to help adjust your Speed to Fly (The main exception here is when you are way high over flatland or a lone mountain). Keep in mind that only

be moving up slower ... and visa versa)

All of the adjustments are a continual process and are never fixed. When the wind gusts, you need to adjust your speed (fly faster in a headwind) while flying through such a gust. As soon as the gust ends, you would readjust your speed. For each change in lift or sink, you will use the above 4 rules as an initial in seeking the right Speed to Fly. If a factor is prolonged and time permits, you can use any horizon reference to fine tune your adjustment. You can even use other gliders in front of you. The only hard and fast rule is that the reference should be in the direction you are heading.

The first step in learning this is to begin combining your awareness of the basic adjustments. Then, you can begin to improve your relative glide by managing speed to fly with better understanding.

them). Using a vario is another tool that can help you fine tune Speed to Fly. As stated above, if you can maintain or climb in lift, then min sink will be the correct Speed to Fly. On the contrary, if at min sink speed, you are descending, you should speed up a little. If you are sinking moderate to fast, then your best Speed to Fly will likely include some speed bar.

Using the visual references can help you take Speed to Fly to the next level. After you make an initial adjustment, you can your reference point in front of you to see if there has been improvement (if it was moving up relative to its background, it would now

Mission Ridge Keyholder Application

APPLICATIONS MUST BE RECEIVED BY SUNDAY, FEBRUARY 28, 2005.

Please print legibly.

Name _____

Address _____

Phone # * H) _____ Cell) _____

*Keyholder phone list will be made available to WOR members unless requested otherwise.

E-mail Address _____

WOR Membership # _____ Exp. Date _____

USHGA # _____ Exp. Date _____

Vehicle Year / Make / Model: _____ / _____ / _____

Vehicle color: _____

Vehicle License # _____

Vehicle capacity: # of Hang Gliders: _____, # of passengers: _____

Fire abatement equipment (circle one): Shovel / Extinguisher / Both

Site usage (circle one): Midweek / Weekend / Both

Application must include copies of current USHGA and WOR cards, and proof of current vehicle insurance showing a minimum of \$500,000.00 Liability/Bodily Injury/per incident.

I am applying for a key to Mission Ridge. I understand the gravity and responsibility inherent in receiving Keyholder privileges. I understand and will comply with the Mission Ridge Site Procedures and Regulations. I will maintain the required vehicle insurance and memberships in both USHGA and WOR during my entire tenure as Keyholder. I will comply with all requirements and rulings deemed necessary by the site committee. I understand that I may be subject to the loss of key and/or flying privileges, or other punitive measures, if so deemed by the Site Committee.

Applicant signature _____ Date _____

Return completed applications to: Steve Rodrigues
386 Alvarado St.
Brisbane, CA 94005

Please do not write below this line. Site Committee use only

USHGA Advanced	___	Vehicle ins. / \$ amt.	___	
WOR member	___	Vehicle rack/capacity	___	
Site fees paid	___	Key deposit	___	
Fire abate equip.	___	Old key returned	___	
Site contribution	___	New key issued	___	Checked by _____

Classifieds:

Classifieds are taken from the classified section of the WOR web site for the 30 days prior to publication (whatever will fit). Non web submissions can be e-mailed to editor@wingsofrogallo.org
Classifieds are free, however non WOR member donations are encouraged through the Wings Of Rogallo web site donation page at www.wingsofrogallo.org/documents/donations.html

<< >>

Plumbing

WW XC 142, all new wires, great condition, White Leading edge with bright yellow band with an orange strip across middle of sail. Extra down tube, glider bag in good condition. Great glider!!!
Email anetj@yahoo.com

Laundry

None

Packages

Si Nada

145 Newer model HPAT

Excellent Condition. All white with purple band in middle of under surface. Flawless leading edges and sail. Newer model HPAT with Quick Folding Base Tube. A real gem! Make your best offer. Henry 415-664-5989

Tools

zip

Wanted

One white xmas in the bay area :-)

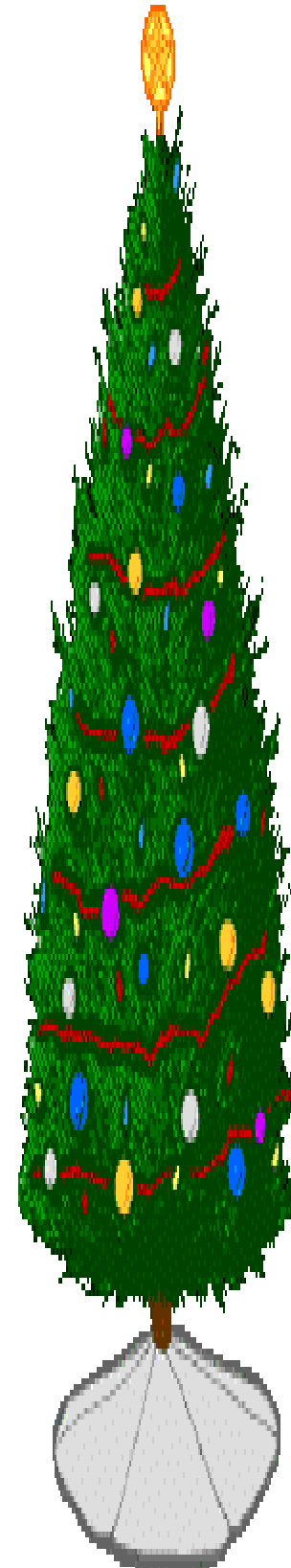
142 WW XC, Model after the HPAT, Excellent condition, under 60 hours. Just a very sweat flying glider and a great landing gliders with good kingposted performance. Large VG range. Looks really great. Quick Folding base tube. Make your best offer.

Editors note:

When you put an advert on the BBS please put contact information with it. There are ads that have no e-mail or phone number associated with them. Also a 2 page posting will not get into the flightline

hbittner@responsedynamics.com
415-664-5989

Wills Wing U2 160, like new, built in May 03, \$3,400 obo. Must pick it up, will not ship. White LE, Blue, Red. Two dealer test flights, only 2 short flights by me. No whacks. WW base tube wheels. Don't fly anymore, too time consuming. Call Chuck at (916) 921-9820 (Sacramento).



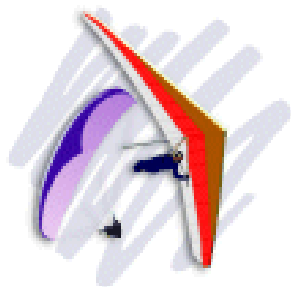
Wings of Rogallo
P.O. Box 361885
Milpitas, CA 95036-1885



Wings of Rogallo

FLIGHT LINE

VOL. 115 NO. 12 December 2004



To: