

TALESPINS

DAYTON WINGMASTERS AMA #499



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Issue 6 - Vol 36

“Charging ahead...”

I'm sure that everyone already knows about the electricity installation and how much easier it makes field trips now. A reminder that electricity usage is intended ONLY for Wingmasters members so if someone asks you how to get a key, be sure to either invite them to a meeting or direct them to our website for membership information. Another reminder that PowerKeys are handled by Jerry Humston, who will be verifying current Wingmasters membership before handing out a PowerKey. He's a sharp guy, so don't try anything sneaky with him...

Meetings are back at the field...

A reminder that starting June 2nd, monthly Wingmasters meetings will move back to the field. They will be held there at the field shelter until the end of summer so remember to go to the right place. My apologies to those who mistakenly came out to the field for the May meeting - I made an error on the website schedule and completely forgot about it.

Those \$%@\$*! bugs

With all of the rain we received this spring, this summer should prove to be a banner year for field bugs. Be sure to protect yourself against fleas, ticks and chiggers and if you have to take a walk in the field, remember to be sure and check your feet for ticks.



Also, bug spray is a great summertime addition to your flight box; those darn things have a lousy sense of timing and always seem to annoy me the most when I'm on an final approach. So remember to toss a bottle of "OFF" in your box and enjoy summertime flying without worrying about bugs getting in your face.

This Month's Schedule

<http://www.wingmasters.org/schedule>

June 2011

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Instructor Night 5:00PM - dusk						Instructor Night 5:00PM - dusk								Instructor Night 5:00PM - dusk						Instructor Night 5:00PM - dusk								Instructor Night 5:00PM - dusk	
Club Meeting @Field shelter 7:30PM				Open House FunFly @Field 12PM - dusk																									

Club, non-flying event

Club, Flying event

Non-Club event

Learn from My Mistakes

by Paul Stimmel

Regardless of how long you've been involved in this hobby, crashing a plane doesn't ever come any easier, in fact for me it seems to get harder every time. Over the past five years I've lost a total of four planes – the first one I was my first trainer, clearly my fault and I got in such bad shape my trainer couldn't save it. With more experienced pilots flying my planes, I've also lost two due to "brown-outs" or some other Spectrum glitch; fortunately one of the planes was replaced by Horizon. But in both cases Horizon replaced the AR500 receivers.

But the plane I lost last Wednesday is still stinging because it could have easily been prevented; It was a rookie mistake. Now I am never going to profess my skill as being an advanced pilot. However I feel I can comfortably fly most low wing / aileron aircraft safely – on low rates.

Here are the details, I have (or I should say had) a Hanger 9 Saratoga, one of the smoothest flyers I've flown, the perfect low wing trainer, it's also a great confidence booster. On Tuesday night I decided to bring it out for Wednesday trainer night. I figured that since the battery had been cycled over the winter and was put on a slow charge prior to going to the field, with exception to needing to be bound to a new receiver it was good to go. Later that evening, after binding my radio to the new receiver, I wanted to check the control throws to ensure they were at the Hanger 9 recommendations. I also took the time to carefully setup dual rates and expo. When I was finished I thought everything looked good for the next days flight.

Out at the field, I experienced a fuel tank issue that was quickly fixed; the radio was turned on as was the plane and the engine started. After a short warm up, I put it on the ground and taxied out to the runway. The engine was run up with a touch of rudder and the plane lifted off. I was now airborne and as I prepared for my first turn, I quickly figured out something was wrong. After yelling, "**OH NO, MY AILERONS ARE REVERSED!!!!**", the plane made nearly a complete roll just 10 feet above the pavement. After getting a congratulatory "**Great Save**", I attempted to fly it in with reversed ailerons. This was not a good idea: after making all the way around to the Control Line circles, it finally made the inevitable death roll and smashed itself into the ground – Totally Destroyed. I just hope the engine can be salvaged.

After getting the plane back to the bench we started the autopsy, the first item that we checked was the aileron servo wires; "right to right" and "left to left" – I thought, "OK, We're good there." While trying to figure out what had happened, I eventually discovered that each aileron side in my DX8 was reversed. I've thought about things since the incident, I want to say that when I set the control services (rates and expo), everything looked good. But I can't say for sure – So it was either a problem at set up or I did something during the servo set up that reversed the servos. Bottom line is I didn't do a preflight check.

So here are the lessons learned:

1. Always check your control services before flying (actually before each flight – a servo wire could have come loose from the previous flight), this quick step alone would have saved my plane.
2. If I ever find myself in this situation again (shame on me); hands off the ailerons and fly it in with rudder and elevator. That should have been a no brainer; I knew what I was up against.
3. Final lesson; Never Ever – Ever tell a group of guys prior to a flight how easy this plane is to fly. The plane will laugh at you as it spirals into the ground – every time. I should have taken the advice my dad once gave me "Every time you think you have something mastered, it'll come back and prove you a liar". As always – You were right dad.

So there it is – Preflight Inspections are mandatory, or you'll be picking up the pieces.

Editors Note: I've already personally seen this twice this year. There is a simple solution: **Preflight before EVERY flight.** Not only will you be able to save your bird if there is a setup problem, but you also will be reducing the likelihood for an injury accident. *Regardless of how cool you can fly, getting injured never is....*

Use Lead Couplers

Remember to use lead couplers on permanent connections between servos and extensions. Over time, electrical tape will lose grip and will eventually fail. Couplers are cheap - planes are not.



“What’s the fastest RC plane in the world?”

Most of the time, if you ask an RC'er "What are the fastest planes in radio control", you'll probably receive the "turbine powered jet" response. However, the truth is that the fastest RC planes in the world do not have a turbine engine; in fact, they have no engine at all. Currently the fastest RC planes out there have more in common with the popular and relatively slow gliders enjoyed by many, than they do with the sleek, fast, turbine-powered jets.

I'm sure after first looking at the picture at right and then thinking about the slow, almost lazy flight that you commonly see from sailplanes at the field you've gotta be wondering "How the \$#@(!&" can something with no engine go that fast? Well, welcome to the mystical world of Dynamic Soaring (DS).

Wikipedia defines dynamic soaring as "a flying technique used to gain energy by repeatedly crossing the boundary between air masses of significantly different velocity".

Wikipedia also provides a rather wordy description of the ideal flying location as: *"On ground features whose shape combine with the prevailing wind direction to produce a stagnant or reverse flow on the leeward side, the velocity gradients can be much greater than those used by birds or full scale sailplanes. These higher velocity gradients allow for correspondingly greater energy extraction, although at the cost of high airframe loads imparted at the boundary between the prevailing wind and the stagnant air."* Translated into English, this basically says "look for fast constant winds that are flowing perpendicular to a clear sloping ridge and then fly on the opposite side of the wind"

While this is a relatively new "discovery" in RC, nature has been making use of dynamic soaring since long before humans were flying. Not to be confused with thermal soaring (ascending columns of air) such as that used by buzzards and other scavenging birds, albatrosses and other ocean birds have used the dynamic forces of waves "to dynamically surf" the changes in wind for long periods of time without flapping their wings.

Even though the Kinetic above "looks like a regular glider", it is very definitely not. Constructed with high strength composites, and powered with high torque servos typically seen in larger gas powered RC aircraft, these aircraft use very small control throws to ensure that they don't get out of control at the extreme speeds at which they operate.

Technical Information from: <http://www.dskinetic.com>

100 inch wing / 730 sq in of wing area

59 inch length

198oz all up weight (AUW) = 16.5 pounds (this is a typical 50cc's weight)

So the next time you see those speedy jets making laps of the field and the excited announcer says "That was 199 MPH folks! Can you believe that?!?!", just remember that blur going by isn't even half the speed DS sailplanes are being regularly clocked at in the high windy slopes of the American west.



KINETIC 100DP
February 2011

468 MPH

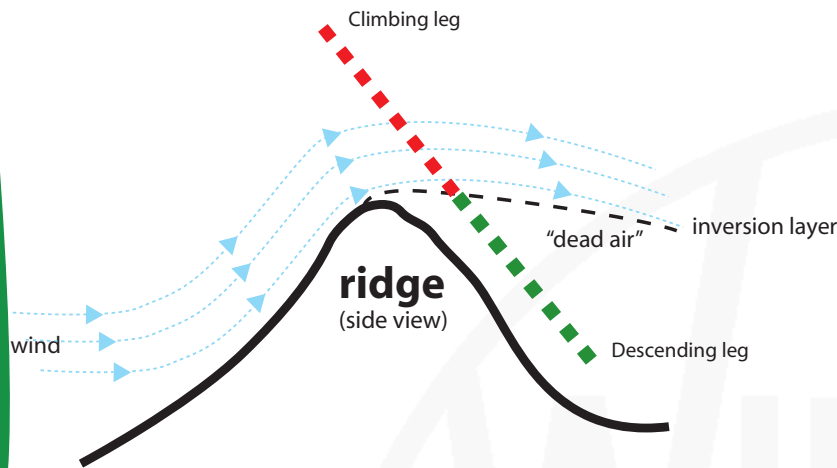
Dynamic Soaring Explained

How is it possible that Dynamic Soaring (DS) sailplanes such as the Kinetic 100DP can reach speeds in excess of 450 MPH? The answer lies not only in extremely strong design and construction but also with carefully using a naturally occurring phenomenon to help build up these tremendous speeds.

The picture at right shows a typical ridge used for soaring. (Notice I said "soaring" here and not "dynamic soaring".) Let's assume that the wind in this figure is going left to right. This makes the left side of the ridge the "windward side" and the opposite, the "leeward side". Traditional soaring is done on the windward side using updrafts and rising thermals to stay aloft.



Dynamic soaring uses the leeward side of the ridge as shown in the figure below. As the wind passes over the

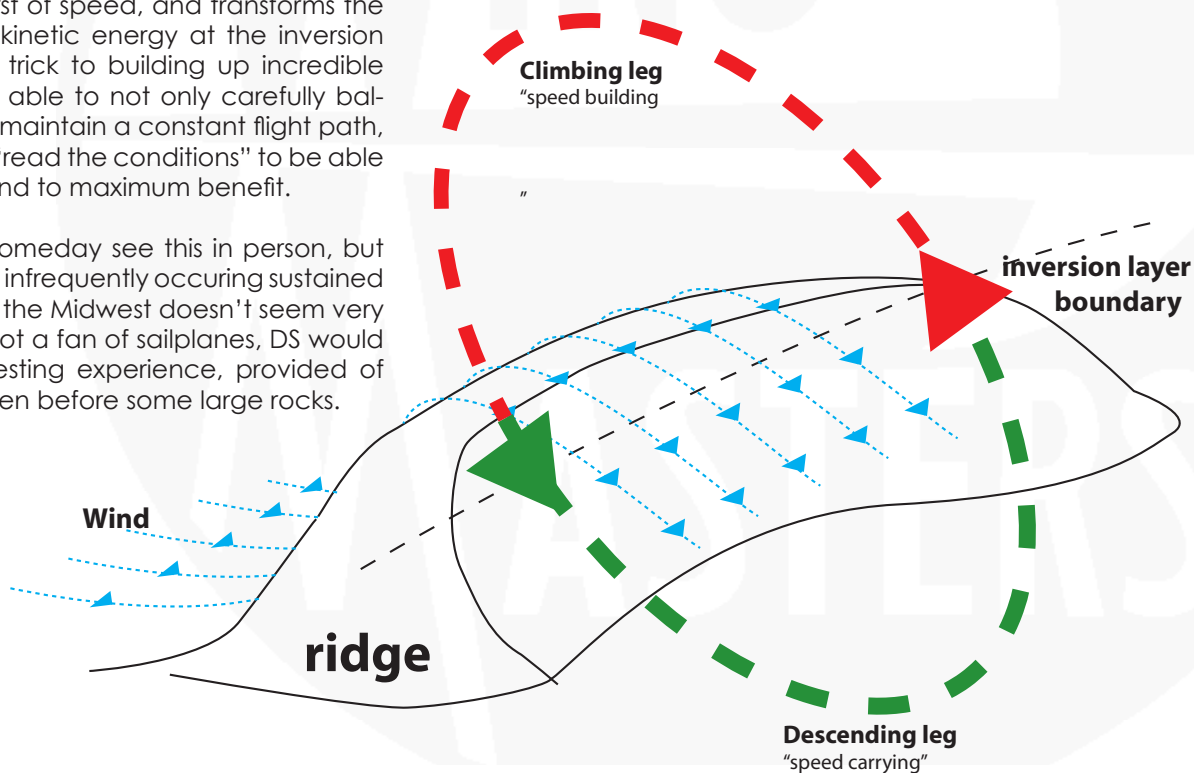


ridge from left to right, it speeds up and moves over the ridgeline. But it as this air crosses over the ridge, it doesn't "stick" to the opposite face; it instead moves out as shown by the dark dotted line. This line is the boundary of an inversion layer created with the "fast moving" air on top and relatively calm or "dead air" below.

The flightpath for the DS aircraft is the red/green dashed line shown at left and also below. As the aircraft starts out, it swoops down the green path, into the dead air below the inversion layer and curves back upwards. As the plane crosses the inversion layer, and enters the red section of the path, it picks up a tremendous burst

of speed due to the speed difference of the separated air layers. The plane continues in a circle around the red path and then begins its turn downward. Then, as the plane descends back into the green loop, it loses some forward speed but gains potential energy as it moves through the dead air. (The inertia gained in the red section helps to propel it through the green section.) Curving back up again into the red section, it again picks up a huge burst of speed, and transforms the potential energy to kinetic energy at the inversion layer boundary. The trick to building up incredible speeds lies with being able to not only carefully balance control inputs to maintain a constant flight path, but to also be able to "read the conditions" to be able to use the occurring wind to maximum benefit.

I would really like to someday see this in person, but with few locations and infrequently occurring sustained winds, watching DS in the Midwest doesn't seem very likely. Although I'm not a fan of sailplanes, DS would certainly be an interesting experience, provided of course I'm safely hidden before some large rocks.



Wingmaster Wear

The following club clothing articles are currently available. Items are available for pick up or can be delivered at a club meeting.

To order Wingmaster Wear:
contact:

Paul Stimmel at:
937.361-7696 or
pstimmel@ameritech.net



Sweatshirts

Sweatshirt - White - \$15
3XL / 2XL / XL / LG

Sweatshirt - Blue - \$15
3XL / 2XL / LG

Sweatshirt - Grey - \$15
XL



Hats

White / Blue \$10
White / Red \$10



T-Shirts

Tee Shirt - Grey - \$10
2XL / XL / LG

Golf Shirt - White - \$20
2XL / XL

Golf Shirt - Red - \$20
2XL / XL

Other Items

Please contact us if you would be interested in getting Wingmasters patches for use on hats or jackets. Based on price and interest level several sizes will be explored. We would also like to know if there is any interest in getting club label pins made up. There are a variety of designs that are pre-made and even getting a custom made pin is a fairly easy thing to do.



Garment Request

If anyone of the "old guys" has one of the stylish red shirts from the 70's, please let me know.

