

Pilot Briefing

Mid Hudson Radio Control Society



Volume 7, Issue 9

September 2015

Upcoming Events

Sep 28
Board Meeting

Oct 5
Regular Meeting

Oct 19
Board Meeting

Club Officers

President
Warren Batson

Vice President
Peter Jagich

Secretary
Flavio Ambrosini

Treasurer
Fred Dimaria

Membership
Rob Stubbs

Directors at Large
Bob Allen
Ron Revelle
Otto Loorents

Field Dir-Wallkill
Ron Revelle

Field Dir-Redwing
Rob Schulze

Safety Officer
Jerry Rohling

Flight Instructor
Warren Batson

News Editor
Jer Milosek

President's Corner

Hi members,

The 2015 Jamboree event at the Old Rhinebeck Aerodrome is now in the past. The event turned out very well despite the threat of rain all 3 days. This event could not happen if it were not for all the MHRCS members that helped run the event and did the field preparation. I would like to thank all members that helped make this years 2015 Jamboree successful. It takes the help of many to make this a great event and I personally thank everyone that helped this year.

Our registration shows 102 pilots and helpers attended our event. There were 87 flying pilots. Many great looking airplanes as always.

Next coming months meetings will consist of the 2016 budget and elections. I will be stepping down from the president position and taking the more behind scenes Vice president role.

Warren Batson
President MHRCS

Jamboree Now On Facebook

We have started a Jamboree Group page on Facebook. Be sure to join the group so you can be in the loop when new pictures and information are posted. It is a great forum for sharing about Jamboree.

[MHRCS Rhinebeck Jamboree Group](#)

Thank you!

To the following members who participated in prepping the field for the Jamboree.

Gino DiGregorio
Ron Kiedaisch
Warren Batson
Charles Knight
Flavio Ambrosini
Kevin Breen
Ron Revelle
Peter Jagich
Emma Jagich
Glen Stubbs
Jack Robinson
Brian Robinson
Rich Kleinhenz
Ron Knapp
Lloyd Quick
Frank Pagniello
Scott Prossen
Mike Tebolt
Jerry Rohling
Joe Klein
Rick Rizza
Larry Mesic
Eric Milosek
Jer Milosek
Bill Winkler
Jeff Burton
Otto Loorents



Pilot Briefing

Mid Hudson Radio Control Society



Volume 7, Issue 9

September 2015

At Walkill Field

By Jer Milosek

Field Director and veteran pilot Ron Revelle brought his AeroWorks Extra 300 to the field on Wednesday, September 16, for its maiden flight. Powered by a new DLE gasser, it was sans cowl because he knew the carb would need tweaking. After sliding the wings on the tube, the CG jig provided in the kit was attached and Ron rechecked it. It was close but Ron preferred the CG further forward and he added nose weight. He then checked the deflection on control surfaces and decreased them by what looked like 1/8" to 3/16" inch by decreasing throws on the transmitter. This was designed as a 3D aircraft and Ron is not that type pilot. Notice that Ron was stacking the deck in his favor with all these tweaks to achieve a successful maiden flight.

The new engine was balky hand starting so Ron brought out an electric starter.

The initial takeoff was to the North and the airplane veered left barely missing the tall grass on the west side of the runway but the Extra was airborne. A left 180 was made turning the plane south, ailerons looked a little touchy as did the elevator but Ron was in command feeling out his new bird. No fancy maneuvers just basic turns and throttle management to prepare for landing. Base, final and touchdown were very stable with a nice controllable sink unlike his Cub which would float the entire length of the field. It was a successful maiden flight thanks to "stacking the deck" and an experienced pilot.

After completing the shake down flight he brought the plane into the pits, shut down and sat down. After a break he said he was going to go over the plane looking for loose screws, control linkages etc. I took that time to put up a flight.

The inspection turned up a loose motor mount screw; it pays to be meticulous! This was fixed and then Ron

proceeded to further tone down the controls by decreasing throws and increasing expo some more. Second flight had a smoother take off and a roll and loop were performed. Landing was routine, things were looking good. When you're on a roll, don't stop and Ron didn't, he put up a 3rd flight on the Extra that day, greased the landing with no bounce and went home a happy pilot.

Notice the care, prep and inspection that made for success.

The aircraft now has over a dozen flights and Ron's favorite Venus hasn't been at the field since.



Red Wing Airplane

Rob Van Der Meulen was flying this model at Walkill and it flat out performs. Its perfect for the Tuesday group that is talking about moving to Red Wing the beginning of October. You will need a Spektrum compatible transmitter. Rob said he toned it down by increasing expo. [Horizon Hobby UMX™ P3 Revolution](#)



Pilot Briefing

Mid Hudson Radio Control Society



Volume 7, Issue 9

September 2015

Walkkill Field Closes September 30

How was your flying season? Did you exceed your goals for 2015? Or was it too short?

My season started slowly, mother nature treated us poorly the first six weeks of this season and continued the rain on every Tuesday until July. I never regained my groove until the end of July leaving only 2 months of enjoyable flying.

See you at Walkkill April 1, 2016.

A good turnout for the last weekend of flying.



Merlyn's Cessna

This is one big airplane that's almost ready for its maiden powered by twin Saito's.

http://www.rcscalebuilder.com/forum/forum_posts.asp?TID=20237&TPN=193&get=last#526428

Check out the twin sound esp at idle on the video at <https://www.youtube.com/watch?v=0ow219mXUE&feature=youtu.be>

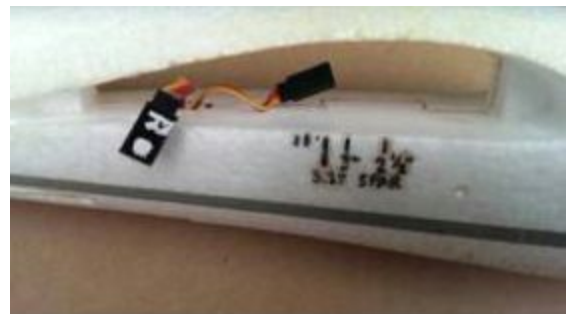
Killer Radians

By Ed Popko

You see more and more Radians at the Walkkill field these days. You also see a lot of them at regional Altitude Limited Electric Sailplane (ALES) competitions and being flown by the same guys who fly \$2,000 European imports. Why is this sailplane so popular and why would a high-end pilot fly a plane that's a distant relative to a Styrofoam beer cooler? Simple! They are inexpensive and they fly really well in light air.

Of the two versions, Standard (PNP PHZ4700) and Pro (PKZ5480), the Standard Radian is the best flier. It has the lightest wing loading, cleanest elliptical wing and stiffest construction of the two. As good as it is, you can make it even better in thermalling and spot landing with just a few simple mods and they don't all have to be made at once. Here are the important ones.

Center of Gravity -- out-of-the-box, with a modest 750mAh ThunderPower brand 3S LiPo and park flyer receiver, the Radian is way too nose-heavy. For starters, it's essential to shift the CG aft to about 3.5" from the wing's leading edge. This shift increases pitch sensitivity, improves turning, and makes it easier to read the ship's reaction to waves and thermals. You can fine tune the CG later.



Stab decalage -- the out-of-the-box stab decalage is way too positive (possibly to offset the extreme nose heavy balance just described). You must change it to compensate for the revised CG. Raise the leading edge of the stab by about 3/32". To do so, remove the plastic rudder doublers, carve out a bit of rudder foam with an Exacto knife and raise the leading edge. Backfill the void

Pilot Briefing

Mid Hudson Radio Control Society



Volume 7, Issue 9

September 2015

Killer Radians continued...

under the stab with silicone adhesive or scrap foam and then replace the plastic doublers. Be sure that you have changed the CG as outlined otherwise changing just the decalage alone will cause the ship to nose-dive.



Rudder Elevator Pushrod Clevises -- the stock Radian pushrod-horn screw clevises are junk. Sooner or later you will over-tighten and twist off the thumb cap. Then you are stuck! Replace both rudder and elevator screws with nylon or metal clevises and threaded brass pushrod ends. Solder or epoxy the ends to the pushrods.



Ventilation Grill -- the grass is usually wet in the early morning at the Walkkill field. Tape over the RX/servo hatch/grill otherwise you will be draining water out of your RX pack. Don't be concerned about motor ventilation; you are a glider using the motor for 30 seconds to get to altitude - not a power plane doing acrobats for 5 minutes.

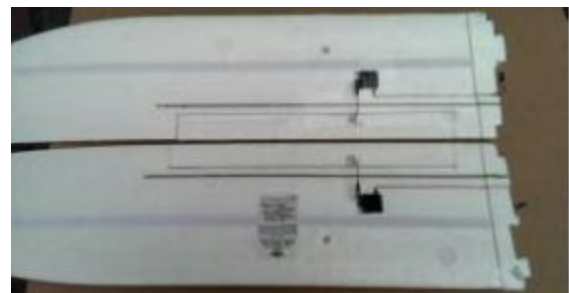


Flaps -- the Radian is a superb floater and can ride the slightest lift! This is why we love them. But the downside to floating is bailing out of strong lift, dumping altitude fast or trying to spot land.

Traditionally, the way to escape strong lift or dump altitude is to fly directly into the wind, give full-up elevator and full-rudder at the same time. Most rudder-elevator only sailplanes respond by quickly stalling, falling off, tumbling, stalling, falling off, tumbling etc. In so doing, they lose a lot of altitude with almost no stress on the airframe despite the falling dead-leaf appearance. But the Radian can't do this maneuver well enough. There just isn't enough rudder-elevator authority to gracefully stall and fall off like this. When you try this maneuver, speed builds up and the wings and stab start to flutter. More than one Radian has disintegrated at this point.

Spot landings are another problem. The stock Radian wants to float and float and float. Worst yet, the slightest gust of wind on approach will cause it to balloon up or suddenly lurch off the glide path.

The solution to these problems is flaps, and big ones at that. While the Radian Pro has flaps (and ailerons), they are too small to aggressively slow the plane down in a steep descent. You can make far more effective flaps by cutting your own into the stock wing.



Start with a standard Radian wing or get a wing/spar replacement kit (EFL4702). Inspect the trailing edge and mark off the longest stretch that is straight. Start about 1 1/2" from the root plug-in area and measure towards the tip for about 16". Make your flaps about 1 1/2" wide. Mark and cut them free with a single edged razor blade.

Pilot Briefing

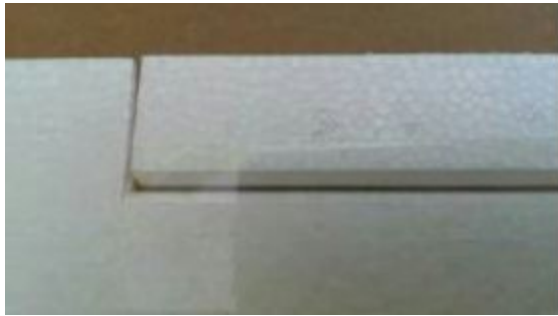
Mid Hudson Radio Control Society



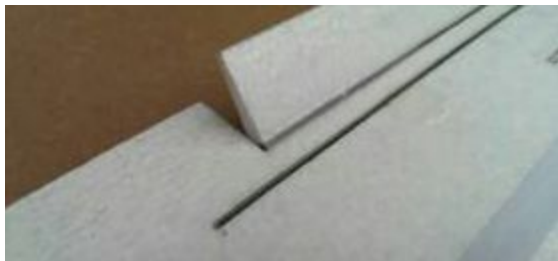
Volume 7, Issue 9

September 2015

Carefully trim the cutout flap's leading edge to a slight angle.



Reinstall the flaps and use Scotch Book Tape #845 to form a continuous hinge across the bottom of the wing leaving a 1/16" gap between the flap and wing cutout. Then fold the flap back over the bottom of the wing and put another strip of tape across the inner wing cutout groove. When the two strips of tape meet along the gap between the flap and wing they instantly bond tight and you have a flexible, strong and gapless hinge.



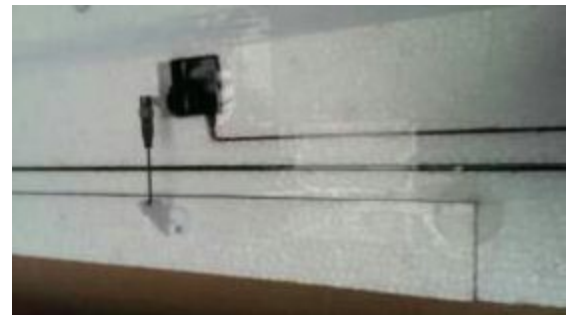
Some on-line videos show how to make silicone hinges. For the Radian, it's not worth the effort or additional weight. If you feel like it, you can cover the gap between with a thin plastic strip. You can bond two strips of Book Tape - glue-side to glue-side - to make a thin film cover.



For servos, use standard Radian mini-servos with short leads (PKZ1060) and their aileron flap linkage set (PKZ5401) which include push rods, a plastic control horn and a couple of screws. Install them and trim with your radio such that you have neutral trim and about 45 to 50 degrees when the flaps are fully deployed. You do not need to trim for flap reflex.



Our new flaps have weakened the wing. Reinforce the wing with a .098" (2.5mm) dia. carbon fiber rod about 20" long spanning from the wing root and a little beyond the end of the flap cutout. Use a Dremel Tool and broken drill bit to route a snug fitting slot parallel to the flap hinge line and about 1/2" inch from the cutout. Make the slot just deep enough to bury the rod. Rough up the rod with sandpaper, smear some 15 minute epoxy over it, dab a little inside of the slot and press the rod home. Wipe off any excess. Be sure to check wing alignment; you do not want the rod to set with the wing warped. When cured, cover the groove with a strip of Book Tape.



Use the same Dremel Tool and bit to route servo pockets and wire conduits. The wing is plenty thick and you can bury the servos flush with the bottom chord.

Pilot Briefing

Mid Hudson Radio Control Society



Volume 7, Issue 9

September 2015

Epoxy a 1/64" piece of ply in the bottom of the servo pocket to make up for the strength lost to removing the pocket foam. Use a thin coat of silicone adhesive to bond the servo to the ply. Press the servo wire into the conduit and cover it with Book Tape. Connect up your pushrods, locate your flap horn and use the screws to clamp the horn's back plate.

Carve small pockets in the wing roots to accommodate the servo wire connectors and the extra wiring you need from the RX. This recess allows the wings to plug in root-to-root inside the fuselage even with the additional wiring and plugs.



The flap servo location has added weight aft of the CG so you will have to rebalance your Radian to get the CG described earlier. You can usually rebalance simply by moving your battery pack forward. Add a foam block behind the pack to keep it from sliding aft on launch.

Final Trim -- you have made quite a few changes to the Radian, all beneficial. First, verify your neutral trim. Hand toss and use your transmitter trim and push rod clevis adjustments accordingly. Keep the flaps in neutral position while you determine neutral trim and trim only in calm conditions. When satisfied, try a short power launch. Get some altitude, cut power and float around. Trim again after observing its flying as you would with any model. Now trim for flaps. When flaps are deployed, the sailplane will slow down (good) AND balloon up (bad). You want the drag and lift but not the ballooning. Use your programmable transmitter Flap->Elevator mix feature to compensate for down flap by automatically adding a SMALL amount of DOWN elevator at the same

time. This prevents the ballooning. Adjust the Flap->Elevator mix to add more and more DOWN elevator as the flaps are progressively deployed. What's the proportion? Only enough down elevator to prevent the initial ballooning and yet retain an even descent and glide path as you deploy more flap. There isn't a magic mix, it's trial-and-error. Be sparing with the mix; you don't want a ship that nose-dives when you deploy flaps for a landing. You'll know you have it right when the Radian simply slows and descends gradually and yet remains fully maneuverable. With the right flap mix, you can land a Radian at 2 MPH without tip stall. Warning - take care not to suddenly let off the flap when landing, the Radian will immediately bubble up (from restored up-elevator) and stall (not enough forward air speed).

One last item, add a CAM -- a CAM, or Competition Altimeter for Models chip, is available from Soaring Circuits. It does not improve the flying characteristics of the Radian but it will greatly improve your soaring skills by standardizing your launches. The CAM chip limits the motor run to 200m altitude or 30 seconds, whichever comes first. You are assured a predictable minimum flying time and start altitude, thus you have a way to gauge your flying skills as you steadily increase your flight times with good wave or thermal soaring. It's inexpensive, very small, light and super simple to install. Insert it between the RX and ESC. When you power on your TX and RX, the CAM responds to the ESC throttle signal and beeps confirming that it has initialized its barometric pressure sensor and timer. You are ready to fly.



Pilot Briefing

Mid Hudson Radio Control Society



Volume 7, Issue 9

September 2015

Conclusion

The standard Radian is a fine sailplane. The mods described here - CG, stab decalage and flaps - make it an outstanding ship in light air with only a modest increase in wing loading. Every Radian owner should at least change the CG and stab decalage as recommended. The benefits of flaps are best appreciated when you are in booming lift and see your plane headed non-stop to the Shawangunks. The CAM chip gives you a benchmark to track your improving skills. With it, you are also ready for an ALES format contest and you can even begin the self-paced Electric Sailplane Achievement Program (ESAP).

Good Lift,
Ed Popko

You are welcome to submit articles for publication.
Send your copy to milosek@localnet.com

Some Scenes from the Jamboree



Pilot Briefing

Mid Hudson Radio Control Society



Volume 7, Issue 9

September 2015

MHRCS members are cordially invited to



The Annual

Flying Knights Pumpkin Fun Fly

Saturday, October 10th with Rain Date October 11th 2015-- 10 am until

Pilots and Spectators Welcome - Fun Special Events!

\$5 Pilot Registration - AMA Event

Come fly at our exceptional field - one of the best in the area!



Hamburgers, hot dogs and refreshments!

Porta-potty on site.

Location: The Club flying field is behind the Flach farm buildings at 402 County Road 101, just north of Ravena, NY. GPS coordinates:
N42deg30.493min W073deg50.190min.

Directions: Traveling north on US Rt. 9W, leaving the Village of Ravena, turn left on Rt. 101, before the overhead conveyer. Drive 1.6 miles, turn right at red club sign.

Traveling south on US Route 9W from Albany, pass by the Lafarge cement plant on the left. Drive under the overhead conveyer and immediately turn right on Rt. 101, for 1.6 miles. Look for silos and grain elevators approaching the farm. Reduce speed and turn right at the first driveway! Watch for the red Club sign on the right shoulder at the driveway.

For more info [contact Jim Hargett-james.hargett@gmail.com](mailto:james.hargett@gmail.com) or 518 337-8311

