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Ampeer

December		The EFO Officers	2009
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 Info for Indoor Flying in Pontiac – Control Line E-Power –
 Some Thoughts and a Plane – A Miles Sparrowhawk – 1/10-Scale F-100D – Jim Young's Transmitter Bag/Mitt
 – Two Indoor Tools – Power for Big Radial Engine Models – The E-flite Stearman PT-17 15e ARF: A few words of caution – Upcoming E-vents

**Information on Indoor Flying at
 Ultimate Soccer in Pontiac, MI**
 From Joe Hass

Please check the Skymasters' Web site at <http://www.skymasters.org> for the latest information and flyer.

Starting Tuesday, November 10, 2009
 11 AM to 1 PM
 Also flying MLK Day and President's Day (both Mondays)
 23 sessions total
 Single session \$15.00
 Punch Card for 5 sessions \$30.00
 Gold Card for all sessions \$100.00
 Spectators FREE!

Lots of fun planned throughout the year. Many of the same sponsors have pledged to support us again.

Joe Hass
 President
 Skymasters
 248-321-7934

Yes, you saw this info last month, but I wanted to be sure that everyone in the area knows about this. I also wanted to

remind anyone visiting southeastern Michigan that they might want to include a visit to one of these flying sessions while they are here. KM

Control Line E-Power
 From Rick Sawicki rrrjjjsss.aol.com



Rick has been flying competition control line for many decades and has campaigned his electrically powered versions and conversions at local control line meets for several years now. Here is his information on his latest conversion. The original airframe was completed in 1964! KM

Even 45-year-old stunters can convert and fly well using electric power. It is a 1959 design originated in Detroit by Bob McDonald's father. This is the trike version 2 that was built in 1964 while I was in college. The only difference from #1 (the 1959 version) is a slight airfoil modification and pin striping!

The original plane survived undamaged in 3 house moves. The original doped silkspan covering was still intact and flyable. Construction is interesting. The wing is based on an tapered "I" beam spar with 1/4" balsa strip bent top and bottom to form the airfoils section. The wing skin material continues through the fuselage.

I knew I had a control line flying session coming up (it was today), so this past Sunday I started to modify this plane, which has been hanging on the wall since 1965.

I had replaced this plane with a P-40 and Dornier 335 built that year. Semi-scale stunt was the rage then for many fliers. I ended up flying them and this poor plane has been "walled" since then!!!

The conversion to electric power was very easy. I gutted all the front out; firewall, tank, back firewall, etc. Next I drilled through the old motor mounts for a battery strap retainer and then mounted the motor, an AXI 2826/12, on the nose. I pulled everything out of my Tudor 2 in about 5 minutes and just dropped it right in. "Electrics are so simple!"

I added larger wheels. The original had a 1 1/4-inch nose wheel and 2-inch main wheels. Even with the wheels replaced with larger ones, the clearance is minimal for the 12 prop, however the roll is only about 5 feet, so there is no problem.

The plane is heavier than its brothers since in college I had to paint by brush. The original #2 was 50 oz. with 670 sq.in. and it is now 62 oz. with the electric power system instead of the Fox .35.

The battery is as far back as it will go without losing strength of the "I" beam. Some tail weight brought it "almost" to the corners the original did, or at least, as well as it could do at 62 oz. I'm sure further re-balance and more importantly perhaps a newer lighter "clone" will once again have me flying my "old faithful trike" once again (or perhaps the 2 wheel version originally painted as a Martin Baker MB-5, which is still up in my garage rafters!).

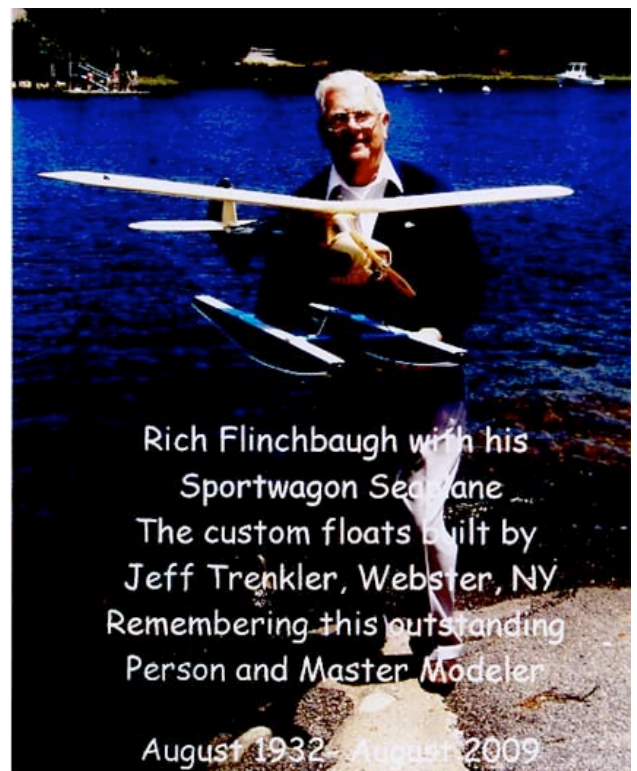
When I first flew it, I very distinctly remembered Dennis's comment from the previous Saturday's flying session, "Some planes fly naturally to peoples' styles and fit like a old shoe." The funny thing was that as soon as it became airborne I was 45 years in the past. Seeing that side profile once again (interestingly, there are a few other modern planes that seem to have a similar profile!) on the end of the lines made me feel like I was 20 once again!

I wanted to share the good news with all. I still feel great about this afternoons flying and have young thoughts and feelings once again.

Some Thoughts and a Plane

From Rich Flinchbaugh, South Dennis, MA

If you've read the Ampeer for a while you'll associate the name Rich Flinchbaugh with flying boats and float planes. In September I received a letter from Rich. At 79 he's slowly pulling back from the modeling end of our hobby. He noted that he was given a partially built PBY Catalina Flying Boat, which he intends to complete, but that will be his last building project. He is NOT out of the hobby by any means as he still has 25 flyable electric planes. He also included some information about his longtime modeling friend, Jeff Trenkler. KM



Rich Flinchbaugh with his Sportwagon Seawane
The custom floats built by Jeff Trenkler, Webster, NY
Remembering this outstanding Person and Master Modeler

August 1932 - August 2009

Jeff was a *master modeler* and *well known* in the Rochester, New York area. He was my best friend for well over 60 years. Jeff was really involved in floatplanes and flying boats. His final gift to me was the floats that are now on my Sportwagon. Before Jeff's floats it had a mind of its own, and refused to fly with a larger set. It just loves the new 9 ounce set from Jeff. It now takes off in about 20 feet. Just before Jeff passed on August 16, I was able to tell him of the tremendous success with *his* floats. He was really pleased. He was a great guy!

A while back Rich had sent the details and a photo of his Sportwagon with the big, clunky, original floats. KM

The photo was taken on August 5, 2008 at Scargo Beach on Scargo Lake in Dennis, MA. Rich is holding his Sportwagon floatplane. It was first powered by an 0.15 glow motor when it was a land plane. It has a new Mega RC 600/20/5 outrunner and it gets off the water fast. It flies for about 10 minutes. It makes a fine floatplane.



A Miles Sparrowhawk

From David Hipperson ritzi2@alphalink.com.au



Dear Ken,

It may be down to age but I've always been a sucker for Miles and Percival aircraft, as these aircraft often seem to be the very best of classic style. Seagull, the Vietnamese company, has produced three versions of the Miles Sparrowhawk and a Percival Mew Gull, all to very high standards. I decided to purchase one of the 63" span Sparrowhawk (the smallest) as a trial. I can't say that the colour scheme in yellow, silver, turquoise with touches of red was likely to look like one of the five real Sparrowhawks but, as I said, it was well made and came with a very good electric conversion pack. As this was designed as a sport scale model I decided that rather than try to produce mine to follow one specific aircraft I would just attempt to emulate the style of Miles so that it would be immediately (I hoped) recognisable.

The film was either stripped or overpainted. The final colours chosen were silver flying surfaces and black fuselage. The registration is based on my own initials. New 1930's style instrument panel. Re-painted supplied pilot. Sprung "oleo" undercarriage legs with re-shaped pants and William Bros Golden Age wheels. The motor a 5020/510 Himark (Himax I think in the U.S), 80 amp Hyperion ESC, 15 X 8 APC 'E' prop, 5S 3200 Dualsky Lipos and Spektrum radio. Total flying weight is exactly 8.5 pounds.

Aircraft is very easy and smooth to fly. It will stall when provoked and is quite aerobatic but NOT 3D. Lovely take-off and landing characteristics but does need space as it just keeps flying and has no flaps.

Hope you like it Ken.

Regards,
David



Like it? LOVE IT! It's my kind of plane for sure. It is always good to see what is happening from "down under." KM

1/10-Scale F-100D

From David Plummer pdf3@comcast.net
Bellevue, WA

Hi Ken!

Many thanks for your continuing fine support for electric-powered model builders!! The November issue of "Ampeer" is most welcome and informative!!

Attached is a shot of my 1/10th F-100D, and a short description. I'm still doing some 'adjusting' (OK, correcting a few mistakes); weather has gone south, and the model needs a hard surface runway, so probably won't try any flying until next spring.



F-100D Model Description As of: 18 October 2009

Builder: David F. Plummer

Main Characteristics

Scale: Approx. 1/10th

Wingspan: 52.0 in (enlarged to provide added wing area)

Wing area: 4 sq.ft.

Wing loading: 41oz/ft-sq

Wing airfoil: NACA 64A007; 7.5% thick; LE sweepback ~ 40-deg

Fuselage length: ~ 54.4 inches

Elevons: NACA 65A004.5; 6% thick; half-span – 10.4 inches

Vertical fin: NACA 65A003.5; 4.0% thick; height – ~14.0 inches

Propulsion: 1 x 96mm EPF fan; 1 x Mega Acn22/30/2 motor

Batteries: 8 x 2300mAh A123 batteries

Motor controls: Castle Creations Phoenix HV-45

Servos: 10

Radio: Airtronics 2.4 GHz

Landing gear: Main - Lado electric retracts /Robart struts; nose – Lado Electric retrac twith Robart strut

AUW: 164 oz (10 lbs 4 oz)

Power input at max throttle: ~ 1100W

Static thrust at max throttle: ~ 5.7 lbs (with 22/30/2 motor)

Plans: derived from several sources; based partially on Col. Art Johnson's plans for his 8.4 scale F-100D.

Drawings were drafted for all components.

Model features:

1. Construction: bass/spruce stick; some thin plywood; and 1/16th balsa sheet; no foam
2. Wing flaps: actuated by micro servos
3. Elevons are used; no elevators; actuated by single servo
4. Rudder: rudder actuated by servo
5. Gear doors are actuated by servos
6. "Finish": Polycover from Hobby Lobby
7. All moving surfaces have hidden actuation
8. Cockpit fully detailed F-100D

Model Description, continued

Model started: 15 February 2009

Model completed: 18 October 2009

Current Status: Complete model has been taxied with no problems. Model will require hard-surface runway (not suitable for grass runway).

Jim Young's Transmitter Bag/Mitt

Several of you noticed Jim's transmitter bag in the November Ampeer. Jim sent the following information to share with you. KM



I found the pattern here:

http://www.blueangels.rchomepage.com/transmitter_glove.htm

It was pretty easy to make and only took an hour or so one evening. Rather than buying the clear

plastic, I used a plastic report cover we had laying around.

Two Useful Indoor Tools

From: Plenny Bates plennyb@mchsi.com

Plenny took a couple of photos of these useful tools and passed along the following information. KM

A couple of kids in Michigan have come up with a way to help pay their way to a big indoor contest. They are selling a balsa stripper and a neat glue dispenser.

Harry Geyer, who was Beacon Electronics, brought the Good Brothers radio to market in the mid '40's. Later he made a glue dispenser very much like the one the Tyson boys are selling. It was a winner for those who wanted to keep their weights down and their times up.



The small block held down by two screws holds the blade. The ramp has no markings. After cutting test strips you may wish to mark its position for different sizes. It needs a pin or screw to the right of the thumb screw to keep the plastic fence from rotating.



This is one great tool. Thin your Duco, Siment or Ambroid (*you do know those glues don't you?* KM) and place in bottle. To dispense "large" amounts pull the wire mandrel back and squeeze.

For a very small drop pull the wire back, force some glue into the capillary tube and now push the wire out with a micro drop of glue on its tip. When done pull the wire back even with the end of the capillary tube.

The post paid prices are \$20.00 for the stripper and \$10.00 for the glue dispenser.

Order from:

Parker and Dennis Tyson
657 West Green Street
Hastings, MI 49058

Power for Big Radial Engine Models

From: GARY GULLIKSON
ggullikson@socal.rr.com



I enjoyed your extensive advice and recommendations to "Mark" about his semi-scale Gee Bee project. I don't have your technical expertise in choosing motors, battery packs and props for "golden age" radial engine/cowl ring models. I installed three progressively larger motor/battery/prop diameter/pitch in my own-design 40" w/s P-26 Peashooter and have been doing the same on a hand-me-down GWS foam PT-17. I have found that I need to find a "sweetest spot" of thrust and airspeed versus battery pack/overall model weight, given that everything is mounted as far forward as possible to minimize need for nose ballast. Also, the location of main gear axles is critical to avoiding nose-over tendencies but not promoting ground loop tendencies. Biplanes are a whole "nuther" story.

The many modelers with more enthusiasm than experience in building and flying these types of models, need to be aware of the above "issues". I am always amazed at how well most of the ARFs of these types fly.

BTW, my P-26 is still flying after some 50+ careful flights doing scale-like racetrack patterns. It ends up on its nose about 3 out of 5 landings on our mostly hard-dirt, with soft spots and rubble, field. I don't try loops or rolls anymore. Up elevator loses effectiveness near the end of the landing rollout. It does better on paved landing surfaces.

You are doing a great job with your website/archives and newsletter and refer our club members to them.

The E-flite Stearman PT-17 15e ARF: A few words of caution

By Ken Myers

In last month's *Ampeer* I mentioned that I was interested in purchasing an E-flite Stearman PT-17 15e ARF, and I had speculated on how I would power it. After a trip to my dentist in Brighton, for a pre-oral surgery consultation, I stopped by Rider's in Ypsilanti and purchased the kit.

Since the flying season is over for me this year, and the building season cannot start until my shoulder heals, I've had a lot of time to learn a lot about this plane. The thread on RC Groups for this plane is located at

www.rcgroups.com/forums/showthread.php?t=1070110&highlight=pt+17

There is a wealth of information in the thread. Some of it is useful and some of it is not. If you purchase this plane, I very strongly urge you, "DO NOT FLY IT" until you've either read through the thread, or sent me an email requesting my thread synopsis. If you are not an excellent test pilot, having completed many maidens on many different types of planes, and you try to fly the plane following the information provided by E-flite, you will most likely destroy it.

I cannot understand the "raves" that many of the posters have posted concerning this model. Not one of them has been able to fly the plane successfully following the E-flite recommended setup. One of them, dgliderguy, in post #710 wrote, "I have submitted my review of this plane to R/C Sport Flyer, should be out in the next issue. I have all good things to say about this fun, fun little biplane. It takes off smoothly with no pitch up, just like the full-scale version, cruises around nicely at partial power settings, does great stunts (especially snaps and spins), and lands beautifully."

Let's see how close to the mark he is.

The **first issue** for me is the recommended center of gravity/fore and aft balance point (**CG** for short). The manual, on page 25, states; "The recommended balance point for the PT-17 is 3-1/4 to 3-3/4 inches (82mm to 95mm) behind the leading edge of the upper wing." and "Due to the short nose moment of the Stearman PT-17, between 2 to 4 ounces of nose weight will be required." On page 3, in the section "Required Tools and Adhesives", Stick-on lead weight is listed.

Using information from Biplane Design: Understanding the Basics by ANDY LENNON, Model Airplane News 1998 and CG Tips By Martin Irvine, Electric Flight International, April '01 I calculated the CG at 3.459" (88mm) from the upper wing leading edge, which is between 3-7/16" and 3-15/32". Since I would rather take off on a maiden flight slightly nose heavy rather than tail heavy, I would suggest an initial CG 1/4" closer to the leading edge at about 3-3/16" (81mm) from the upper wing leading edge.

The following are 24 extremely edited and somewhat paraphrased synopses of maiden flights from the RC Groups thread. I would advise that you to go back and make a physical note of the recommended CG and nose weight per E-flite to have handy as you read about these maiden flights.

Aug 07, 2009, 1Radioflyer (Jay) - Was tail heavy. CG was set to 3 3/4".

Aug 09, 2009, ATIS (Bryan) - Was tail heavy as well. Required all the available down trim to keep from looking like a homesick angel. Went nose high fast. CG set at 3-3/4" from LE. Needs to be closer to 3-1/2".

Aug 15, 2009, ducatirdr First flight near disaster. Ounce of weight in cowl. Lifted off, climbed like a 3D. Fed down, more down, almost out of travel. Managed to turn the plane into the really tall grasses and flowers. Settled softly. Loaded 4 oz. inside of the cowl before the next flight. Took off, still climbed hard. Used all trim to get it near level flight, still needed more down.

Aug 18, 2009, AZThud 3 ounces of nose weight. Balance just back of 3-1/2". Initial climb out very scale like. As model accelerated, angle of climb increased. Couple of clicks of down elevator. Looked up, Stearman at full throttle climbing into hammerhead.

Aug 19, 2009, Staggerflyer Opened throttle about 3/4. Experienced, long time club test pilot, never open full throttle on first take off. Tail came right up, touch of right rudder; touch of up elevator, smooth lift off. Needed 2-3 clicks down and 1 click of right aileron. CG point was right at 3.5" Never over 3/4 throttle.

Aug 22, 2009, Navy Fly Guy Added 6 oz. of lead and epoxy to cowling along with 6 clicks of down trim before the takeoff run. CG at 3-1/2 inches. Added another ounce of lead, re-trimmed aircraft.

Aug 24, 2009, Greyrush Popped nose-up right away. Elevator maybe a good 2-3 degrees down.

Aug 25, 2009, AtomHeartMother Balanced at 3.5 inches. Initially climbed pretty steep. Settled at 2 clicks of down trim and one click of aileron trim. On ground just a hint of visible down trim in the elevator.

Aug 25, 2009, dgliderguy A bit too tail-heavy. CG right at 3.5", felt like the very backend of the envelope. (*Remember his remark from above? KM*) (*Moved out of chronological order because it was his second post. KM*) Oct 20, 2009, dgliderguy Didn't use any additional down thrust. After a first flight at 3.5" CG, added some lead to the nose to settle the pitch excursions. CG is about 3-3/8" aft of LE.

Sep 05, 2009, turbonut Airland Hobbies (Scott) Needed 3 clicks left trim, 2 down for level flight. Try taking out some of the 6 oz. of lead in the nose and look for the aft CG limit.

Sep 15, 2009, blk822 Had the straight up on take off problem and crashed it. Believe CG at 3-1/4" with a 4 oz. weight in the cowl. On take off, jumped straight up and pitched over to the left. Only broke cowl and motor box.

Sep 15, 2009, stuart warne Added washers to raise the top wing LE and added 4 oz. of lead to the nose.

Sep 19, 2009, Staggerflyer Forgot to add a few clicks down trim. Leaped off and went straight up. About 4 clicks of down trim to get flying straight and level. 4 oz. of lead in nose, balanced 3-1/2 inches from leading edge.

Sep 20, 2009, Sticky Mickey Two Stearmans maiden today, both survived. Both required a heap of nose weight.

Sep 20, 2009, CyberJay (Jay) CG is almost exactly at 3.5". Still tail heavy. Exciting maiden. Got it down in one piece. Adding a couple of ounces to get the CG up to 3.25" or maybe 3". First "bad maiden" ever. Extremely lucky to get it down. Added SIX ounces to the nose and re-maidened.

Oct 18, 2009, krazyman (Terry) Maiden was a complete disaster. It left the ground and went straight up - came straight down. CG set at 3-1/2 inches, flew as if it was very tail heavy.

Oct 21, 2009, PM k4to.dave Violent pitch up after liftoff, even on half throttle. Couldn't get enough down trim to level it. Able to get it back on the ground - no damage. Next step, another washer's worth of down thrust. Control surfaces neutral, a shade of down for the elevator is in order.

Oct 28, 2009, lowbubba (Randy) Had 6.5 oz. of lead in the nose. Flew GREAT. Put a lot of down trim in the plane. CG at 3-1/8 inches. Put 2 small washers under front cabane struts.

Nov 1, 2009, Navman - Two 1mm washers in the top motor mount to angle the motor down, ton of weight in the cowl to get the CG right. Landings are a little hot but manageable. Did not have to add any down trim.

Nov 02, 2009, Kauz (Frank) Modifications – replaced heavy pushrods, installed 2mm Bowden cables, lighter servos all four positions, shifted rudder and elevator servos a little more forward, didn't use the tail wheel assembly, just wire skid. Added 70g (2.5 oz.) of lead in the cowl for a proper CG at 3-1/2".

Nov 03, 2009, Chinookmark - 3 ounces of BBs epoxied in lower 4 cylinders, balance right at 3.5", 5/32 carbon tube pushrods, one washer down thrust, one washer positive incidence on the upper wing, added about 1/16" down trim with the pushrod before it flew, flies great.

Nov 6, 2009, mikeronie (Mike) - 5-1/2 oz. of nose weight in the dummy cylinders. Balanced at 3-1/4".

Took off in about 30 feet, climb out was not too steep.

Nov 7, 2009, philipm785 - 3 oz. lead in the nose, balances around 3.25". Ready for head skyward but takeoff was actually very scale. Needed a few clicks down trim to fly level at 3/4 throttle.

One interesting thing to note is that there are at least four posters early in the thread that have some affiliation with Horizon Hobby/E-flite. They talk about and promote the plane. None of them have responded about the flight characteristics since the maidens started.

The **second issue** is **decalage**, which was briefly mentioned in some of the preceding posts when folks were discussing adding washers to raise the leading edge of the top wing. The model, as designed by E-flite, has **negative decalage**. This is neither good nor bad, it just is. For those of you who are uncertain about this term and its relationship to biplane design, here is some information on the topic.

Biplane Secrets – Carl Risteen – Model Airplane News – June 1994
DECALAGE-WORTHWHILE OR A RIGGING NUISANCE?

Decalage is the difference between a biplane's two wings' angles of incidence—the angle at which the wings are placed in relation to the fuselage. **Positive decalage** gives the upper wing more incidence—**negative decalage—the lower wing more incidence.** (*This is what the out of the box Stearman has. KM*)

Positive decalage gives more of the maximum lift to the upper wing and delays the stall of the lower wing to a higher angle of attack, acting like a lot of positive stagger. On the downside, it also slightly lowers the combined maximum lift coefficient of the two wings. **Negative decalage, although less commonly used, has just the opposite effect: it slightly increases the maximum lift. Theoretically, negative decalage, by making the lift of the two wings more equal, should reduce drag, but this has not been borne out by experiment.** Drag was very slightly reduced by a little positive decalage.

Positive decalage, especially when used with positive stagger, also has a stabilizing influence, tending to make the nose rise as air speed increases

(good in a trainer, but bad for aerobatics). This helps to permit the use of a slightly smaller horizontal tail, although at a rather uneconomical cost in terms of lift and drag.

On a biplane with positive stagger, more of the lower wing surface operates in the downwash of the upper wing, reducing its effective angle of attack and its lift. **Positive decalage** increases this effect. The chief benefit of **positive decalage**—a softer stall—may detract from clean entry to inside spins and snap rolls. Locating the CG well aft aids aerobatic line-holding accuracy but may also cause pitch sensitivity at high speeds. **A little negative decalage may help such a model.**

In a vertical dive, with the wings developing zero net lift, a partial vacuum appears between the upper and lower wings. This is a result of the mild venturi effect created by the convex surfaces of the adjacent airfoils. This tends to suck the two wings together with a force that may exceed the weight of the aircraft.

At full speed, straight and level, owing to the venturi effect, the lower wing of a typical biplane flying at about four times its stalling speed may carry nearly all the lift while the upper wing loafs. As the angle of attack is increased, the upper wing rapidly takes over, developing about 10 percent more lift than the lower wing at higher lift coefficients.

On my biplane designs, I have put the inter-wing suction to good use by using plug-in interplane struts without positive retention. They make field assembly easier and, because they aren't securely fastened to the structure, they're unlikely to cause wing damage in a mishap. The use of **positive decalage** would reduce the suction and increase the possibility of the struts coming adrift in flight. A small amount of preload (provided by making the struts a little longer than required to just match the gap) makes the struts "spring" the wings apart just a little.

In the RC Groups' thread, some folks noted that they are changing the negative decalage to positive decalage to try and dampen the abrupt climb out. According to Carl Risteen, the **negative decalage** should be helping this model in that regard, and it should have no effect on the CG. No one in the thread has reported any kind of "wicked" stall, once they managed to get the plane flying successfully with the designed-in **negative decalage**, so the efforts to change the decalage are probably not all

that useful, but they don't seem to be hurting anything. I spoke with Keith about this matter, and he concurs. *(The next section notes how his 1/6-scale Super Stearman is set up and you'll see why. KM)* Personally, I am going to leave the decalage alone.

The **third issue is the incidence of the horizontal stabilizer/elevator**. The reported successful maidens seem to be a combination of down elevator trim and placing the CG between 3-1/8" and 3.5" from the upper wing's leading edge. Most of the posters reported having successful flights with a CG of about 3.25" (82.5mm) from the leading edge of the top wing. The down elevator indicates that the horizontal stabilizer/elevator assembly needs to have a bit more positive incidence. Many times a slightly negative horizontal stabilizer/elevator assembly incidence is used on planes, compared to the wing incidence and thrust line. The stabilizer's relative negative incidence is used to balance the natural forward rotation of the wing(s) as it creates lift. In this case though, the top wing's downwash is having an affect on the horizontal stabilizer/elevator assembly and its relative angle. Since the stock model cannot easily have its horizontal stabilizer/elevator assembly incidence changed, the down elevator trim has to be "lived with."

Using my Robart incidence meter and paper and a ruler for measuring for down and right thrust, I found the stock setup to be:

Down Thrust: 1.5-deg

Top wing: +1-deg

Bottom wing: +2-deg

H-Stab/Elevator: +0.5-deg

Right Thrust: 1.4-deg to 1.5-deg

For well over 20 years, Keith Shaw has been flying a 1/6-scale, 1200 sq.in. model of a 450hp Super Stearman. It is modeled after Bill Barber's "Black Baron". These are the incidences that he used on his great flying model.

Thrust line 0-0 to top internal longeron (on scale plane)

Top wing 0

Bottom wing +1

Stab +2

CG right at LE of lower wing, but could be safely pushed back some. *(That's about 3.25" on the E-flite model. KM)*

A little right thrust might be nice for sport flying, 2 deg or less. *(Just a note to me about what I might want to do for right thrust. KM)*

The **fourth issue** for me is the advertised wing area. Printed on the cover of the manual, and noted on the Horizon Hobby Web site, the wing area is given as 608 sq.in. Over the years I have found that many suppliers give an incorrect wing area. When I drew a CAD version of the plane to help me with the modifications I wish to do, I calculated the wing area as 553.5 sq.in. I included the 12.6 sq.in. of the bottom wing what would be "inside" the fuselage, if it existed, as it is a "standard practice" to do so on our models. Just to double check, I re-measured everything very, very carefully, drew the wing tips and physically cut up the paper wing tips and placed the "pieces" into 1-inch squares. Using this method I calculated the wing area as 557.4 sq.in. I believe that it would be fair to note the wing area as 555 sq.in., NOT 608 sq.in.

There are only a few ready-to-fly (RTF) weights given in the thread. They range from 51.6 oz. to 63 oz. There is one person who claims that his weighs 42 oz. I don't believe that can be correct. I very carefully weighed all of the components in the kit that make up the stock airframe on my balance beam scale and they weighed 1004.5g or 35.5 oz. Using E-flite's erroneous wing area of 608 sq.in. with a RTF weight of 60 oz. the CWL is 6.92 oz./cu.ft. Using my "measured" 555 sq.in. at 60 oz. the CWL is 7.93 oz./cu.ft. This indicates that the model might fly a bit "heavier" than expected when using 608 sq.in. Several posters noted that it comes in a little "hot." If the pilots are comparing it to a park flyer, that a lot of them seem to fly, they would be correct.

For a comparison, when Keith was using NiCads in his Super Stearman it weighed 156 oz. and had a CWL 6.5 oz./cu.ft. He now uses a 10S "A123" 2300mAh pack and the RTF weight is down to 131 oz. It currently has a CWL of about 5.5 oz./cu.ft., which falls into the typical flies like a "park flyer" range.

My Recommendations at this time

Don't be afraid of getting the plane too heavy by balancing it at 3-1/4" from the leading edge of the top wing for the first flight. When you set up the elevator to be "neutral" on the transmitter, the elevator on the plane should have some apparent down trim. Put a washer under each of the top motor mount lugs to add more down thrust. You shouldn't need to change the decalage. Do not apply full power for take off.

Upcoming E-vents

November 27, Friday, Skymasters is hosting a Thanksgiving Weekend Indoor Fly at the Ultimate Soccer Arena, 867 South Blvd, Pontiac, MI **starting at 11:00 AM**. The arena is located just west of Opdyke, on the north side of South Blvd. It is a 365 ft by 260 ft facility with ceilings from 45 to 75 ft. It is available for indoor flying from 11am to 3pm on Friday, November 27th!! There is ample room for concurrent flying of 3D, Heli, and Sport. It is a temperature controlled, well lit facility. There is a restaurant on site. It is just \$15 for 4 hours of flying! Additional Event Information can be found at <http://www.skymasters.org/events/indoor>

December 3, Thursday EFO monthly meeting at Ken Myers's house. 7:30 p.m. Everyone is welcome!

What does the photo at the right have to do with anything in this newsletter? Read on. ☺



The Ampeer/Ken Myers
1911 Bradshaw Ct.
Commerce Twp., MI 48390

<http://homepage.mac.com/kmyersefo>

The Next Monthly Meeting:

Date: Thursday, December 3, 2009 **Time:** 7:30 p.m.

Place: Ken Myers's House (see above)