

Ampeer

The EFO Officers:

| | | |
|---|--|---|
| President: Ken Myers 1911 Bradshaw Ct. Walled Lake, MI 48390 phone: (248) 669-8124 | Vice-President: Richard Utkan 240 Cabinet Milford, MI 48381 phone: (248) 685-1705 | Secretary/Treasurer: Debbie McNeely 4733 Crows Nest Ct. Brighton, MI 48116 phone: (810) 220-2297 |
| Board of Directors: Jim McNeely 4733 Crows Nest Ct. Brighton, MI 48116 phone: (810) 220-2297 | Board of Directors: Jeff Hauser 18200 Rosetta Eastpointe, MI 48021 phone: (810) 772-2499 | Ampeer Editor: Ken Myers 1911 Bradshaw Ct. Walled Lake, MI 48390 phone: (248) 669-8124 |
| Ampeer subscriptions are \$10 a year US & Canada and \$17 a year world wide. | The Next Meeting: Date: Thursday, November 1 Time: 7:30 P.M. Place: Ken Myers's house (see above) | |

What's In This Issue:

Kadet Jr. – Eclectic Electric – X-Sounder Trip – Page Aviation Super Cub – SR Batteries Cutie Review

Sig Kadet Trainer Jr.

(During the summer, there was a question about how to convert a Sig Kadet Trainer Jr. to epower on the eflight list. I felt this was worth sharing, since it does show that not ALL glow planes make a worthy conversion to epower. Here is what was asked for. KM)

I would be grateful for suggestions on the type of motor and batteries to use for the Sig Kadet Trainer Jr., as I intend to convert this plane, which is in the process of being assembled to electric.
 48 inch wingspan
 430 square inch area

Dave Shewning Sr. recommended: Build it light and it would be perfect for an 8 to 10 cell geared system. Speed 500 or better, quality equivalent 2000 mAh cells or better. Keep the weight below 60 ounces max.

I agreed with Dave, but... I had a chance to get the glow information on this plane. The airframe is a BRICK! From the glow statistics with a .15 glow, they say 3.75

pounds. That's 60 ounces, minus a standard 3-channel radio (9.5 oz.) and Glow .15w/ muffler & tank (7.5 oz.) that leaves a finished airframe weight of 43 oz.! That is a whale for this size plane.

Ideally, an electric trainer type plane of this size should only have and all-up weight (AUW) of 50 ounces with the finished airframe weighing between 17.5 and 18 ounces. I suggested that the builder look carefully for some weight reductions such as; Converting it to a tail-dragger, replacing the heavy landing gear with 5/32" diameter wire and "Lite" wheels, reducing as much plywood as possible, looking carefully at the design to see what could be eliminated in the way of balsa, the use a "light" covering and any other "diet" plans.

I suggested the use of a Speed 500 #1789 and MFA belt drive, 8 RC2400 or Panasonic 3000 NiMH, 9x6 regular Master Airscrew prop and a radio system with BEC weighing about 5.5 oz, that leaves 22 oz. for the finished airframe.

But without redesigning the whole airframe, this is probably impossible. For a better chance of success, I suggested the use of the same motor and belt-drive but with 9

cells and a 9x7 regular Master Airscrew prop. That gives a possible AUW (all up weight) of about 62 ounces, not too bad. My Eaglet 50, which was about the same size, weighed 64 ounces with 10 Sanyo RC-1700, Magnetic Mayhem & Modelair-Tech belt-drive, and means the airframe can weigh 31 oz. or there about, a much more realistic figure.

Again, this demonstrates that not ALL glow kits make for good or easy conversions to electric power. Choose your planes wisely. Remember that to get an idea of what your electric project will weigh, when converting from a known glow kit, subtract the glow power system weight and radio weight to get the finished airframe weight. A "typical" electric powered finished airframe is about 35% of the total weight of a project this size. To get a reasonable guesstimate on the finished weight of the project, just multiply the finished airframe weight by 2.86. That will give you the approximate AUW. This will also allow you to guesstimate the total weight of your power system. Divide the AUW by 2 and that is the approximate weight of your power system.

Eclectic Electric Essentials

Azarr has some unique and useful items at his Eclectic Electric Essentials site; <http://www.azarrr.com>. Here you'll find; Anderson Power Poles, APC Props (Folders, S400, Slow Fly and "E" Series), Square Motor Mounts, Round Motor Mounts, Control Horns, Screws, Jerry L. Smith's Outlaw Delta, ModelAirTech drives, DJ Aerotech, Anderson Crimper and Portable Soldering Irons.

Maybe not a record, but certainly a challenge!

(I'm sure that to some of you, this is old news, as by now it will have been reported in the regular modeling press, but some of you may have missed it. This is from Tom's original post to the Eflight list. KM)

In the early morning of July 7th, aviation history was again made on Long Island. An all electric powered, radio controlled seaplane made a non-stop crossing of Long Island Sound from Bridgeport, Ct to Port Jefferson, Long Island, NY, a distance of approximately 16 miles (CT shore to boat ramp deep in PJ harbor).

The Silent Electric Flyers of Long Island took up the task some 6 months ago of designing, building, and test flying a vehicle capable of making the journey.

Approximately 15 members were directly involved. A full all-telling article will be presented in MAN later

this year. Just as a teaser though....some basic facts.
100" wingspan

1500 sq.in. wing area

7 lb. RTF

Aveox 1415-4y motor (direct drive)

Schulze 55bo sensorless controller

APC Electric 14 x 7 prop cut down to 12.5"

14 Panasonic 3000 NiMH

Super Circuits PC87 miniature video camera and Tx

4-1000 mAh NiMH RX pack

8-600 mAh NiMH Video power

Take off motor current: 24 amps

In-flight cruise current/voltage: 3.5A/15.5v (measured by a home made down-link watt-meter)

Cruise speed: approximately 20 MPH

Flight time: approximately 45 minutes.

(**Note:** NO NiCds anywhere on board! even the TX had and 8-cell 1600 NiMH pack!)

Bob Erbe (15 ft. Boston Whaler boat captain), Mario DiDiego (communications officer, ship to shore radio and video) and myself, Tom Hunt (Seaplane Pilot) arose at 3 a.m. to fight off the fisherman at the boat ramp in Port Jeff to get a good spot. Clyde Geist (VP SE FLI) and Henry Prew (Pres SEFLI) were high above the sound in Clyde's Cessna 172 taking air-to-sea pictures.

The model took off just inside the Port Jeff jetty into a slight headwind (approximately 4 MPH) and 45 minutes later landed less than 1/2 mile from the CT shore in 3 ft. of water. The headwind (20% of flight speed) was too much to overcome.

Undaunted, The cross-sound crew swapped out the motor battery for a fresh pack. The model took off towards the CT coast (approximately 200 yards away), crossed the shore and turned SE back towards PJ, LI.

Now, with a 4 MPH tailwind, not only did the model cross to the LI shore easily, but the model was then flown into the harbor, past an exiting destroyer tender and x-sound ferry, quietly sneaking up to the docks at the far south end of the harbor and then made 2 victory laps before it landed less than 50 yards from the boat ramp.

The total distance traveled shown on the GPS was 15.7 MI. Digital still photography was taken from the chase boat, as well as sporadic 8 mm video. Video from the camera onboard the model was recorded on the chase boat also.

Now.... if you thought this was easy.... think about it.... get a 7 lb. seaplane off the water.... cruise on less than 60 watts (the painful output of one speed 400 motor!) continuously for 45 minutes and do it at 20 MPH (not terribly fast even for a model!) Do it without gliding, or thermal assist! Next? a round trip? feasible? yes, but it

may take a new model. but most of all? WE HAD FUN!!
(and we did something no one had ever done before!)
Regards, Tom Hunt

X-Sounder: Some pictures and info is up. Go to:
<http://www.nyblimp.com/SEFLI.htm> and follow the links
to see everything.



Tom Hunt
with the X-
Sounder at a
SEFLI
meeting.
Photo from
SEFLI Web
site.



Page Aviation Super Cub

John R. Houvener
1105 Ashman St.
Midland, MI 48640-5469

Ken,

I finished the Super Cub and now have four test flights on it. Using the information that you sent me with your spreadsheet, everything came out beautifully, Super Cub-like flights and no trim problems.

However, I did come out 12 oz. over the 8 lbs. that I was shooting for, but no problem on power using the deWalt 14.4 and 3.06:1 Modelair-Tech belt drive. The deWalt with belt drive is quite heavy at 21.8 oz, plus I stuffed in a 1/4 scale pilot at another 3 to 4 oz. I

probably could hit 8 lb. or a bit less with a brushless motor system. But, it doesn't need to be less with the power of the deWalt and the long wing at 80" and 940 sq.in.

The ads in MAN and RCM stated 6 1/4 lb. with a .40 two stroke to a .70 4-stroke. I thought "WOW" this is pretty light even for a glow engine version for a model that big. I called Mr. Adrian Page (902-538-7395) and discovered that he is in Nova Scotia, Canada. He stated that to his knowledge, nobody had electrified the kit yet, so I ordered the kit. This is a super kit. It has laser cutting and beautiful wood. Now, the fuselage sides and some of the bulkheads are lite ply, but this is the best lite ply I have ever seen. It is light, but not the wimpy stuff that we see in most kits.

Never the less, (and my apology's to Mr. Page) I replaced the fuselage sides and doublers with medium hard 1/8" balsa. When I weighed the pieces of each, I only saved 5 oz. This doesn't mean squat on a plane of this size. I went to a lot of extra work for no thing.

If you build this kit, and you should if you are a cub fan, stick with the lite ply as it comes in the kit. With the deWalt power system, this plane will fly well even if it comes out at 10 lb.

I ordered documentation and colored views of Super Cub. Some Super Cubs had flaps and wheel pants and also used floats with different engines.

Mr. Page used flaps on his personal super cub in order to keep it from floating across the field, but he was only 6 1/4 lb. with a .56 four-stroke engine.

I put in the flaps as per the documentation and plans, but at 8 lb. and 12 oz. I don't need them, and we do not have a large field at our Midland R/C Modelers Club field. You could knock off 4 oz. and two servos by taping in panel lines for flaps.

Here are the Specs:

The Page Aviation Super Cub

Wing Span: 80" (I.M.A.A. legal at 1/5 scale)

Wing Area: 940 sq.in. – 6.52 sq.ft.

Final weight: 8 lb.12 oz. (140 oz.)

Wing loading: 21.5 oz./sq.ft.

Motor- DeWalt 14.4 V with MAT-H-1000 belt drive (3.06:1)

Battery: 18 RC-2400

ESC: FMA 50 Amp 8-24 cell

| Prop | Amps (at take-off) | RPM | Watts | Watts/lb. in | Watts/lb. out |
|-------------|--------------------|------|-------|--------------|---------------|
| 13x10 APC-E | 30 | 6600 | 600 | 68.5 | 48 |
| 14x8 CAM | 31 | 6700 | 640 | 73 | 51 |

Note: The APC-E props are really thin. If you tickle the runway, good-bye prop. (beware)

Flight characteristics are about the same with either prop. It's a little faster with the 13x10. I don't have to hold up elevator on either taxi or take off. When the tail comes up, off she goes in about 60 to 70 feet.

Flight time with either prop is 8 to 11 minutes, with a few loops and hammerheads thrown in. I will try a 13x9 in near future.

I am just as pleased with this kit and flying qualities as I ever was with the LT-25. I will rate the kit at 4 1/2 stars, and the finished airplane for flying quality at 4 1/2 stars.

Very truly yours,
John R. Houvener, Sr.

PS You got me again on formulas. Up to date I figure that I have solved all your past formulas. I even bought a new calculator to do so. However in last Ampeer NL your formula on back figuring wing area ($Wt./flight\ factor * 144)^{3/4}$, What function is $3/4$?
(In words: weight divided by flight factor times 144 raised to the 3 over 4 power. The $3/4$ power can also be expressed as 0.75, therefore it would be weight divided by flight factor times 144 raised to the 0.75. Hope that helps. KM)

SR Batteries Cutie Review

Kit and Accessories Available from:

SR Batteries, Inc.

Box 287

Bellport, NY 11713

Phone: 631.286.0079

Fax: 631.286.0901

[HTTP://WWW.SRBATTERIES.COM](http://www.srbatteries.com)



Review by Ken Myers

August 2001

(This has been available online since August, but it is the first time there has been room to get it in the Ampeer. It just might make a wonderful Christmas present! KM)

My kit arrived in its triangular US Postal Service packing box on Saturday, July 27, 2001. I'd looked the prototype over at the April 2000 Toledo Show, and decided I just had to have one. My X-250 had turned itself into my favorite plane, so I knew the Cutie had to be added to my stable. I LOVE the way Larry designs.

As usual, I'd played around with the "numbers" to see how I might want to power this plane, but I felt it only fair to Larry to review it as a "stock" plane.

The stock power system sets this plane up as a Park/School Yard type flier. That is **EXACTLY** what Larry designed it to be.

I decided that I wanted a version to fall into what I call the "trainer/sport" category. To allow for the eventual change of power system, I had a few modifications to do before I started building. These modifications are ONLY necessary if you prefer to fly it in the "trainer/sport" category, rather than as a Park/School Yard type flier. Follow the modifications, found at the end of this review, ONLY if you want a plane that will be more at home on training night at a mixed field of glow and electric power.

Construction Notes:



Please Send Ampeer Subscriptions or Renewals to:

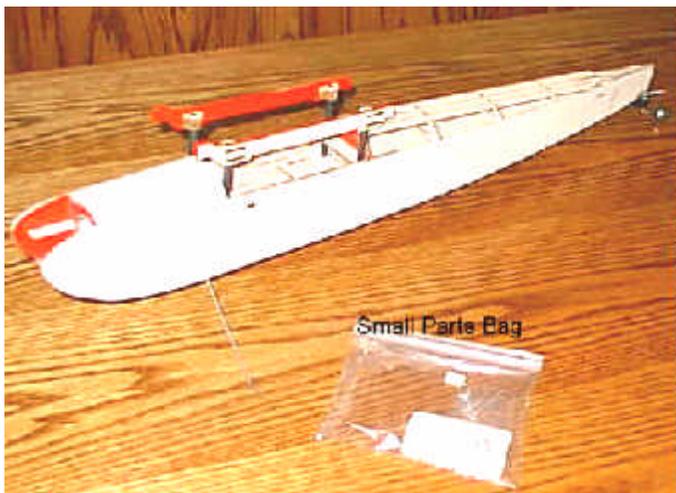
Ken Myers
1911 Bradshaw Ct.
Walled Lake, MI 48390

I started by covering the front of F1 that would **not** be under the cheek cowl area, the little tab on the top back of F2, the top of F3, the cheek cowl caps, and the inside of the wing hold downs with covering to match the fuselage. I've found it easier to do this **BEFORE** assembly. Of course, any of this covering that covered an area where glue would go was removed.

The fuselage doublers were easily aligned and glued on with Larry's "special C clamp" method.

By the end of **Day 1**, Tuesday, at dinnertime, the fuselage was formed up except for the hatch and bottom sheeting.

Day 2 started with the building of the unique hatch and sheeting the bottom. Here I "learned" to read ALL of the steps to a procedure before doing it. I've sheeted a "million" fuselage bottoms, so I just went merrily on my way, not noting that the landing gear holes needed transferring to and through the bottom sheeting. I was able to get the gear holes punched through from inside the fuselage, and then I used a pin to "find" the other holes for the landing gear mount hold down. I didn't put the holes in the rear mount provided for mounting floats.



Sanding the fuselage went well, but took a while. Luckily, I was able to do it outside, as there is a lot to sand away to make the hatch. It would have been easier, had I had the Midwest sanding tools Larry mentions in the directions, but they were ordered after the kit arrived, and I was already in the building stage. They did arrive on Thursday, so they were used to finish up the work on Friday and Saturday.

When attaching the landing gear, I was reminded how much I enjoy working with socket head screws. There is no slipping and gouging. Wonderful touch!

At the end of Day 2, Wednesday, the fuselage was done and ready for final sanding before covering, the tail feathers were glued together and ready for sanding and

the right wing panel ribs were glued to the spar and leading edge.

The Cutie, in this construction stage, was taken to the Midwest R/C Society meeting, where it generated a lot of interest. Many folks found the construction of this plane unique and interesting. Day 2 also included the hour and a half round trip to the hobby shop for more than CA.

At the end of **Day 3**, the wings were framed up and the fuselage covered. The horizontal stab/elevator and vertical stab/rudder were hinged and covered. Scott Rellinger came over that evening and we worked on installing the power system for his Herr P-51. It's looking good, and the Astro Flight 15 on 9 cells is performing as expected on the bench.



At the end of **Day 4** all covering was completed. Hinging was done while covering using Monokote style hinges, as used on all my planes. To see how I do this, check my X-250 article online. The horizontal stab and elevator become an assembly, as well as the vertical stab and rudder. It is easier to add the control horns and tailwheel strap at this time. The hatch tab and lock were added.



Day 5 started with the gluing in of the canopies, carefully adjusting and gluing on the horizontal stab/elevator unit and then gluing on the vertical stab and rudder unit. Finally the Monokote hinge, already installed on the bottom of the rudder, was ironed to the fuselage, under the horizontal stab.

The radio was installed easily. I followed Larry's

directions for the push rods, and the servo holes had already been enlarged for the HS -60 servos I used. The Hitec 555 was Velcroed in and the antenna run through inner Nyrod which comes out the side of the fuselage with the antenna being run to the horizontal stab. This is my preferred method, and I passed on Larry's loop around through the hole in F3 idea.

Installing the SR Power system was a snap. It was super easy with only six screws to install. It only took about as long as readying this paragraph, if you don't count adding the Velcro™ to the Jeti JES 350 ESC to mount it on the side of the battery compartment, as well as the battery and battery floor.

By 2:00 on Day 5, Saturday, everything was complete and she was ready to take to the air, after a range test. Unfortunately, the weather was sunny, windy and hot in the afternoon. I had planned to test fly it that evening, but my wife informed me that my father-in-law's birthday party had been switched to Saturday evening from Sunday evening. Oh well.

The "test flight" took place at the EFO flying meeting on Sunday, and proved to be a "non-event." The first light lasted about 10 minutes. The wind conditions were perfect – NONE! The temperature at 10:00 A.M. was about 80 degrees Fahrenheit. On flight 2, fellow EFO member Wally Brandel took the controls, as his Cutie is on back order from SR. Again, the plane generated a lot of interest. Several EFO members mentioned they have the kit, it is on order, or will purchase one soon. On flight 3, Gus Nuerenberg took the controls and flew it around for a while. EFO VP, Richard Utkan did all of flight 4, and this flight was timed at 8 minutes 30 seconds. Richard wasn't trying to see how long it would fly. He was just doing whatever he wanted. He discovered a very interesting flight characteristic. When the plane is throttled WAY back and full up elevator is applied, nothing happens. The plane just keeps flying straight-ahead, not even stalling or galloping, just flying slowly straight ahead with its nose pointed up. On flight 5, I did loops, stall turns, floated it around, and did several Richards, all the while talking about a lot of other things.

This plane, in a very good way, is a no brainer. It is relaxing to fly, and can be flown "close in" and "far out." It is definitely a Park/School Yard flier, and I'm sure I'll be able to fly it easily in the Oakland Yard golf dome this winter. If you are looking for this type of flying, with a plane not made from the "shipping container", this is it. It is easy to build, easy to fly and has real "personality."

There was only one small disappointment, the

gearbox is LOUD, LOUD, LOUD!!! It seems to run just fine, but it is noisy. One other small thing was that I missed the "addendum" sheet Larry included in the power system and didn't find it until "later." I also didn't know that the ESC uses a jumper to disable the brake, which Larry mentioned should be disabled. Luckily, there was a thread on the Eflight list that mentioned this, and I added the jumper to the ESC before flying it. It pays to read the instructions.

Here are some hints that might help other builders of this plane.

Hint 1: To keep from building two right or left wing panels, carefully glue the rods on the W2 ribs. They are the tip ribs. Slide a couple of W1 ribs about half way down the tubes and spaced out a little from each other. Use the paperclip and rubber band "clamp" to hold things together. Set the assembly vertically over waxed paper with the W2 rib lying flat on the waxed paper and the tubes pointing toward the ceiling. Align the tubes with W2 being sure they are square using the square gauge provided by Larry.

Obviously, the W2's should be at opposite ends when the wing panels are laid together, so if you do one and then set it up next to the other while assembling the other, the leading edges should face each other. If you lay them out after assembling this way, you'll know right away if they are WRONG, and the only thing you'll have to change is ONE W2, not a lot of ribs, after you have glued them in. Please don't ask why this tip is here! This also makes the beginning wing panel assembly a lot easier to handle and place in the jig. Yes, you have to slide the rest of the ribs on from only one end, but it's not hard, and it will save you grief, should you try and build two of the same panels.



Hint 2: While gluing on the horizontal stab, if you don't have two carpenter levels to level the horizontal tail using Larry's method, use a carpenter level to level the wing

hold downs while a heavy weight rests on the saddle. I used a brick. I used a balsa shim under the fuselage near the wing saddle to level the wing saddle. Then I used the level to level the horizontal stab as per Larry's instructions. I moved the level back and forth to check things, but everything stayed in alignment just fine.

Hint 3: Put the control horns on the elevator and rudder right after the covering is finished on those parts. Don't forget the control arm strap for the tailwheel.

Hint 4: Keep all of the small "punched out parts" and other small parts in a reusable lunch bag so that they don't "run away."

Hint 5: (Only applies if you are doing the modified version.) Remember to cut off the front tubes for the wing saddle if you are making a modified version like mine, so that the larger battery can slide through F2.

The following lists what I used during the construction of the Cutie.

Tools:

single edged razor blades
 electric drill and bits: 1/16" (the chuck end was used to poke small laser cut circles from the parts, 3/32", 9/64" and 9/32" (actually I used a 5/16" because I had it)
 Dremel tool (for relieving F2 – need only if modification is to occur)
 brick (as a weight)
 Monokote-type iron
 heat gun
 multi-size socket tool
 sanding blocks (my own, and the Midwest ones that Larry sells)
 small carpenter's level
 wire cutter
 razor saw
 vice
 needle-nose pliers
 small plain end screwdriver
 clothes pins
 metric ball driver (1mm I believe for prop shaft adapter)
 4 ft. metal rule
 3 ft. metal rule

Adhesives:

2 oz. thin CA
 less than 1/2 oz. thick CA
 30-minute epoxy
 baking soda

Covering:

1 roll red Econkote (because I had it)
 1 roll yellow Towercote

Other:

masking tape
 cellophane tape
 recloseable plastic lunch bag (small parts storage so they don't get lost)
 self-stick Velcro™

Specifications:

Wing Area: 360 sq.in. (mfg.)

Weights:

Fuselage: uncovered but with wheels etc. 5.4 oz.
 Wing: uncovered 3.8 oz.
 Tail surfaces: uncovered 1 oz.

Fuselage: covered with wheels etc. 6 oz.
 Wing: covered 5 oz.
 Tail surfaces: covered 1.4 oz.

Total airframe weight inc. horns and all: 12.6 oz.

Motor/gearbox/speed control/switch/prop/spinner: 5.4 oz.
 Battery: 6.8 oz.

All Up Weight (AUW): 27.6 oz. with 6 #64 rubber bands

Wing loading: 11 oz./sq.ft.
 Initial Static Amp draw: 8.2 amps
 Initial Static RPM: 7,260
 Motor: Graupner Speed 400 7.2v
 Gearbox: Graupner 2.33:1
 Prop: Graupner 9x5 Slim
 ESC: Jeti JES 350
 Rx: Hitec 555
 Servos: 2 Hitec HS-60
 Battery: SR 10-cell 500 Max

A Closer Look at What's In the Kit

When Larry ships the kit to you, this is what you'll find.

Rolled full-size plans
 104 page construction and teaching manual
 Laser cut balsa and plywood parts of the highest quality
 All of the fittings including special jigs, Lex an parts, control horns, pre-bent landing gear wire, tailwheel assembly, main and tail wheels, push rods and more.
 SR R/C Techniques, Volume R13, Basic Covering Techniques – learn the tips!
 A packet with information on the Cutie, X250, SR's

catalog and sample from other SR Techniques
Handy and very useful parts layout guide

A reminder that you can still purchase such things as the power system, radio etc. at a discount for up to 30 -days after your order for the kit.

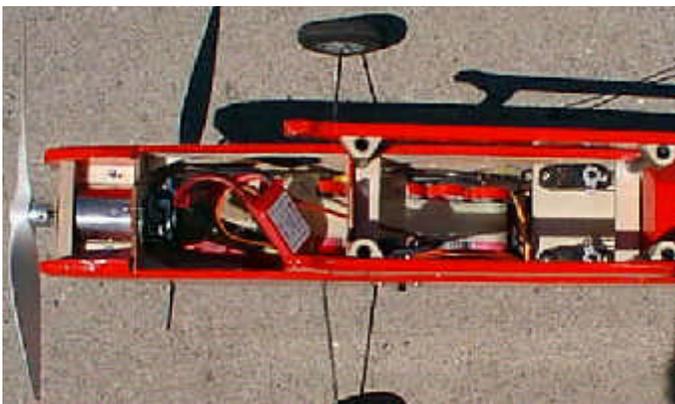
The Construction Manual

While the manual consists of a lot of pages, it should really be thought of as a “learning guide.” The expert can get by just concentrating on the parts with an exclamation point, but it is a whole lot of fun discovering where Larry, the expert, made mistakes so that you don’t have to. The beginner can be guided through the first aircraft with the equivalent of an expert standing in the room helping and guiding. While it may seem “massive”, the pages fly by in no time at all, and the outstanding photos are a perfect compliment to the simple, straightforward and many times amusing text. The manual is your friend. Read it! Enjoy it!

Modifications to Change the Power System

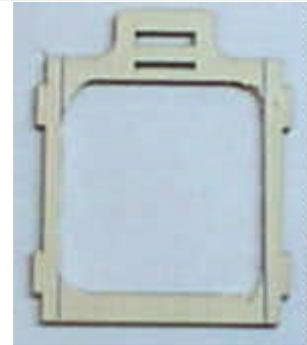
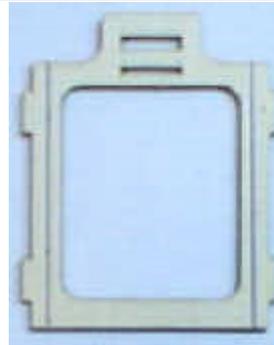
First, I must state again, this power system change is in no way necessary if you want a Park/School Yard flier.

The Trainer/Sport system I’d chosen is the Kyosho Magnetic Mayhem direct drive motor using 6 1 200SCR to RC2400 cells with an aero-naut 8x5” E-Prop #7228/24 and an appropriate ESC with BEC rated at 30 plus amps. I used the Jeti JES 350, since it was already part of the original system I purchased, and it met the power requirements.

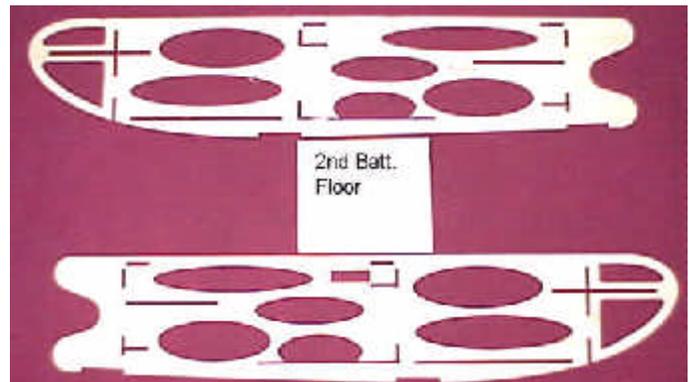


The modifications are listed below:

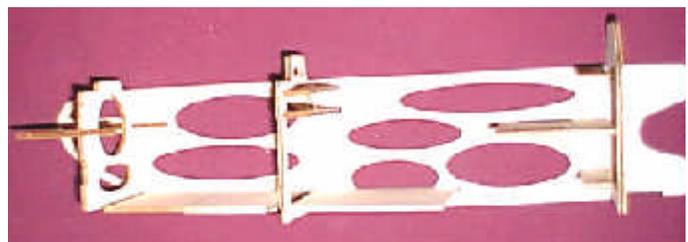
Mod 1: Remove 1/8” of the plywood from the inside of both sides of F2. This “widens” the hole through F2 to allow for the physically larger battery to slide through the former. Check to see that your pack will actually slide easily through the opening. Be sure to place the receiver almost totally under the servo tray, so that the battery can slide all the way back to the servo tray. (photos – top right)



Mod 2: Make another battery support 3” long of 3/32” balsa. It can be made from fuselage side scrap. Be sure it is square and the grain is going across the fuselage. Cut the slot for this “new” battery floor in the sides of the fuselage doublers. Use the battery support slots already cut into the side doublers as a guide and extend the slots on the right and left doublers for 3” towards the tail from F2.



Mod 3: Make new 1/8” thick slots for the bottom front wing mount closer to the top of the fuselage side doublers and aligned with the bottom of the top F2 tab. The photo illustrates where it goes.



Mod 4: Open the servo tray for larger servos. I used HS-60’s because I had them, but HS -81’s would be appropriate as well.

Mod 5: Chamfer the motor mounts at a 45 -degree angle so that the angle goes with the motor that is hung under the mount.

Mod 6: Leave out one on the cheek fillers on each side of cheeks. This allows easier access when installing the larger motor.

Mod 7: Note so much a modification but a note. Only put Velcro™ on the “original” motor mount for mounting the 6-cell pack. I used two parallel strips, even though it is not needed to hold the stock pack in.

Mod 8: Drill 4 new mounting holes in the motor mount about ¼” in front of the original holes. Leave the original holes alone if you are going to be switching back and forth between power systems. Also open up between the two holes in F2.



Mod 9: Make the front cross anti-spreader piece from plywood. I used 3/32” plywood cut to ¼” wide and glued appropriate size pieces of plywood to just retain the top of the motor. The picture shows what it



looks like. Be sure to mount the anti-spreader before using the Nyrod motor strap.

Mod 10: Form a 4” piece of yellow inner Nyrod into a “U” shape by holding it between your thumb and middle finger while gently pressing together and heating with a heat gun. Do this slowly, with not too much pressure, and form a nice “U” shape. Let it cool before letting go. Cut a ½” off of each side of the “U”. Most likely it will have to be shortened a little more. It’s a try and fit kind of thing.



Mod 11: Use the original power system screws, if you have them, or purchase some DU-BRO No. 2 x ½” Socket Head Sheet Metal Screw Cat. No. 381. Use the screws to attach the “U” to the bottom of the original motor mounts and the anti-spreader bar to the top. Slide in the motor and snug them up so that the motor can’t

move, but do not over tighten the screws. Be sure that you don’t have a lot of up thrust or down thrust in the motor.

Mod 12: Shims made of small pieces of brass tubing may be needed to adapt the prop to your prop adapter for the Magnetic Mayhem.

With the modifications listed above and 6 RC2000 cells, the new All Up Weight is 37.6 oz. That’s a 10 oz. weight increase. The new wing loading is 15 oz./sq.ft. The initial static amp draw is 26.4 amps and the initial static RPM is 9,900 using the aero-naut 8x5” and 6 Sanyo RC2000.

Flight tests of this power system were completed in the evening of Monday, August 6. The temperature at the field was 93 degrees Fahrenheit at 7:30 P.M. The wind was 10+ MPH. Even with the less than ideal conditions, this system worked well, and as expected. The plane increased its top end speed with no changes in trim from the stock system. It easily took off of the not too neatly cut club grass. Loops, rolls and stall turns were extremely easy to do when the throttle was opened up. Full up elevator with the throttle pulled way back was still a non-event, with the plane just moving forward with its nose up and losing altitude, but not rolling off, even at the higher wing loading. Using throttle management, which is required to fly this plane like it is intended, flight times were 1-o-n-g with the Sanyo 1200SCRC cells and super long using the RC2000 cells.

With flight characteristics more like an old-timer, it seems that my prop selection is over-pitched. The next flight tests will be with an 8x4” prop.

Other Appropriate Motors for the Modified Power System

While the Kyosho Magnetic Mayhem is an inexpensive and easily obtainable motor, there are a few other motors that will most likely be appropriate in this power/prop application. While it is impossible for me to actually test all of these motors, if you have one of these motors, you can mount an 8x4” prop, use 6 cells and see what RPM and amp draw you get. Remember that you are looking for a motor that will turn an 8x4” or 8x5” prop in the 20 to 25 amp range and between 9,000 and 10,000 RPM. The motor statistics indicate that these motors should work equally well in this application: Strontium 150, Graupner Speed 600 BB SP 8.4V #6309, Graupner Speed 500 SP 8.4V #6308, CEM-05 Cobalt, Astro Cobalt 05 7T#20 #605, and Goldberg Turbo 550.

In Conclusion

The Cutie builds into an attractive, easy to fly, Park/

School Yard flier with the stock power system. With my power system modification recommendation, it is easily convertible to a trainer/sport plane, which is at home in a mixed field environment.

While many people are under the impression that a R/C trainer should be made of "bouncable" foam, because of the **excellent** flight characteristics, this is actually a much better trainer than an EPP foam plane. It flies slowly, is very stable, and if you don't steer it into the ground, won't crash. Simply reducing the power, keeping the wings level and applying the elevator lands this plane very slowly and gently.

I'm going to enjoy introducing non-fliers to R/C flight with this plane. It will also be my "relaxing" plane. I love its nostalgic look, ease of construction, and flight characteristics. I'll use it with the stock system in my local park and at the dome. With the modified system, I'll train folks at the mixed field. I highly recommend it for those who want to learn about building their own R/C planes, beginner through expert, as well as learning how to fly R/C.



Upcoming November EFO Meeting

Nomination of officers for 2002 will be at the November meeting with election in December. Also, the SKS Video of the Mid-Am is now available!

Up Coming Events

October 26-28 First Electric Soaring World Challenge, Phoenix, AZ, Schnepf Farms, Queen Creek, Arizona (45 min. southeast of Phoenix Int'l Airport)
For more information, entry forms, rules, contact information and schedules visit: www.f5jelectric.com or Dave Wenzlick dave@techlite.net

November 4 Midwest R/C Society Annual Swap Shop, Northville Community Center, Main Street in Northville, MI. 9-3, for info contact Ken Myers KMyersEFO@aol.com



The Ampeer/Ken Myers
1911 Bradshaw Ct.
Walled Lake, MI 48390
<http://members.aol.com/KMyersEFO>

The Next Meeting:

Date: Thursday, Nov. 1, 2001 Time: 7:30 P.M.
Ken Myers's house, Walled Lake, MI