

the

Ampeer

June The EFO Officers 2011

Table with 3 columns: President, Vice-President, Secretary/Treasurer; Board of Director, Board of Director, Ampeer Editor.

Mailed Ampeer subscriptions are no longer available. The Next Meeting: Date: June 18 Time: 10:00 a.m. Place: Midwest RC Society 7 Mile Rd. Flying Field

What's In This Issue: Oh Dear, DEWALT Changing Lithium Batteries! - The Event Formerly Known as E-Fli-owa - Don Belfort's Nesmith Cougar Update - Willie McMath's Loving's Love - Two 'Big Brand Name' Companies Are Now Suppliers of Outrunner Motors - The April EFO Meeting - RCCD WOW Meet Postponed - RBC Kits - Shoulder-wing Toledo Special - A Foam Antonov An-2 - Upcoming E-vents

Oh Dear, DEWALT Changing Lithium Batteries!

From John Bell via email

Hello Ken:

My name is John Bell and I come from Ontario and occasionally visit the Mid Am. Met you at Toledo this year (with Keith) and briefly discussed 123 cells.

I have recently bought 2 DEWALT 36V Packs on Ebay. I am familiar with the DEWALT pack, having bought several over the years, but this time I got a surprise.

The first pack I opened was as expected, 10x2300mAh cells in Series, but the second pack was the surprise--- 20 smaller cells in Series/Parallel!!!!

I was caught completely off guard as I didn't know that DEWALT used smaller cells in their 36V Power packs--I assume the cells are 1100 mAh capacity, but I don't know.

Are you aware of this and if so, do you have any additional information on them?

The outside of both packs is identical and both would fit into a DEWALT Charger. That means that they would

need to be charged in Series/ Parallel pack to use the same charging rate as I now do???

Any help would be appreciated,

Thanks, John Bell

Hi John,

I just read about this on RC Groups this past week (early May). Very disturbing! At least to me.

I know nothing about the smaller Samsung cells.

The thread about this on RC Groups is here:

http://www.rcgroups.com/forums/showthread.php?t=1434825

There appears to be a weight difference noted in the thread, so you can tell before opening the pack.

Later, Ken

More Info from the RC Groups Thread

It appears that the DEWALT packs with "A123" 2300mAh cells in them are

made in China and the ones with the Samsung cells are made in Taiwan.

The following was posted by Andy Telzer in the noted RC Groups thread:

“I have another DeWalt 36V battery. From the outside they are identical, both say DC9360. The green cell pack has a production date of 2010, while the other one with the regular 123 cells has a date of 2009.

The green cell pack on the back of the case says the cells were made in Korea and assembled in Taiwan. The regular 123 cell pack says made in China.

The green cell pack weighs 2lb 11.7oz. (**43.7 oz.**)
The regular 123 cell pack weighs 2lb 8.1 oz. (**40.1 oz.**)

One very subtle difference that you can see, but just barely, is where the DeWalt pack plugs into the charger. If you look closely the black plastic molding that holds the charging pins on the green cell pack it has a part number of MX 4B. That number is molded into the plastic in the female part of the receptacle. The numbers are very tiny maybe 1mm in height.

Now if you look at the same molding on the regular 123 pack the part number is MX 2A. Maybe someone can confirm this part number on their pack.

Perhaps all the newer DeWalt packs have the green cells, or maybe just the one from Korea/Taiwan? Worth a call to DeWalt for a few answers?

Cheers Andy”



Photo of the Samsung Cells

The Event Formerly Known as E-Fli-owa

Update from Plenny Bates via email

Ken,

I told Darryl that I would send this along to you with more information than before. Thanks for publishing.

Try some of the links. The site is nice.

Plenny Bates

The Event Formerly Known as E-Fli-owa

Saturday-Sunday, September 10-11, 2011
Rockwood Field, located in Rockwood State Park
Morrison, IL

Open flying for all Electric R/C Aircraft on beautiful
450' x 100' grass runway.

Landing fee, \$15 both Days, \$10 for single day.
(Includes lunch for Pilots)

Door Prizes! Raffle!! Food available

Registration: 8:00 AM, Flying: 9:00 AM, (Both Days)

AMA Sanctioned Event # 11-1431

AMA Membership Required

Camping, Hiking, and Fishing available in the park
(reservations suggested for campers: See

www.stateparks.com/morrisonrockwood.html)

Lodging available in nearby Fulton, Rock Falls, and
Sterling, IL

See www.mmafr.org for field location and more
info, or contact

CD: Darryl Miller, 815-625-4161
dlmrcpilot@gmail.com

Hosted By the Morrison Model Aircraft Flyers Radio
Control Aircraft Club!!

Don Belfort's Nesmith Cougar Update

From Don Belfort via email

Hi Ken,

I still have some work to do but the Nesmith
Cougar has had a successful test flight!

I can't make Keith's Birthday fly-in due to my
son's wedding but I will do my best to have it at Mid-
Am!

See you soon,
Don

Congratulations on the successful maiden of that beautiful plane. Hope to see you and it soon. KM



Willie McMath's Loving's Love
From Willie McMath and others via email



Various emails have been combined to provide the following information. KM

Here are the details on my Loving's Love. The design was scaled up from three-views in the September 1958 *Model Airplane News*.

At one-third scale it has a wingspan of 81 in. and a length with the big spinner of 68 in. It weighs approximately 16 lb.

The power system consists of a Turnigy 50-65-350 Kv outrunner, a 100-amp Turnigy ESC and a 9S2P "A123" 2300mAh pack providing 4600mAh because of the paralleling. The prop is a 19x10. I have no power readings yet as at this time I still have to hook up ailerons and balance it. I will let you know when I get readings.

Willie McMath



Hello Ken,

About 80% of the magnets moved after the first run and shut right down.

This is Turnigy 50-65-350kv. I ordered a Turnigy-SK series 50-65-270kv.

I hope this one will work OK. I will have all summer to get the magnets back in place.

Willie McMath



and

Hello Guys,

I need both of your opinions. As soon as I fired up the motor, the magnets locked up. What is your opinion on glue to re-glue the magnets?

Willie McMath

HI Willie,

If I remember, you're using one of the big Turnigy motors. These have been known to loose a magnet. You will have to disassembly the motor end bell so you can get at them. Once you make sure the

magnets are in place (don't change the direction of any magnets), the best glue is thin CA. Epoxies get soft at high temperatures, but CA gets stronger at high temps.

Jim Young
T&J Models

Video of Willie's maiden flight can be found at <http://www.youtube.com/watch?v=SwXrSulsrRA>



Congratulations on your successful maiden and beautiful model! Great Job Willie! KM

Two 'Big Brand Name' Companies Are Now Suppliers of Outrunner Motors

O.S., famous for their 2-stroke and 4-stroke glow engines and Futaba, famous for their radio systems, are now supplying outrunner motors to the RC market.



O.S. Motor has four outrunner motors.
<http://www.os-engines.co.jp/110501/>




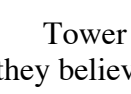
The specifications for these outrunners are here – http://www.os-engines.co.jp/110501/motor_spec.pdf
English info: <http://www.osengines.com/motors/>

The O.S. nomenclature is followed by the can diameter can length dash Kv and weight in parenthesis.

OMA-3820-1200 (3843-1200, 155g)
OMA-3825-750 (3848-750, 190g)
OMA-5020-490 (5053-490, 350g)
OMA-5025-375 (5058-375, 405g)

Tower Hobbies is marketing them in the USA and gives an expected delivery date of late July 2011.

According to Tower Hobbies the, "Centrifugal fan design with angled ventilation holes draws air through the motor and across the windings and magnets for improved cooling."

	LXBHEN	O.S. .25 2-Stroke Brushless Motor
	LXBHEP	O.S. .30 2-Stroke Brushless Motor
	LXBHER	O.S. .40 2-Stroke/70 4-Stroke Brushless Motor
	LXBHES	O.S. .50 2-Stroke/91 4-Stroke Brushless Motor

Tower Hobbies has "renamed" the motors to what they believe to be equivalent glow size motors.



Futaba has three motors.
<http://www.rc.futaba.co.jp/motor/>
The Futaba nomenclature is;
FMA-5065KV300
FMA-5055KV410
FMA-5055KV525

The specifications are not available, but it looks like they are using the diameter and length of the can followed by the Kv.

I expect Tower Hobbies to also carry the Futaba motors, as they are the supplier of Futaba radio systems.

More details will be provided when they become available.

The April EFO Meeting

By Ken Myers

The April EFO meeting was held at Ken's house on April 13. It was well attended.

The following topics were discussed, but not necessarily in the following order.

Props stuff:

APC prop list: <http://www.apcprop.com/pindex.asp>
For some reason, the APC pages take quite a long time to load, be patient.

APC RPM limit formulas:

http://www.apcprop.com/v/html/rpm_limits.html
Glow engine and Speed 400 Electric props:
Maximum RPM=190,000/prop diameter (inches)

Thin Electrics and Folding Electric Props:
Maximum RPM=145,000/prop diameter (inches)

Slow Flyer props (discussed at the meeting)
Maximum RPM=65,000/prop diameter (inches)

GWS Props: BP Hobbies
<http://www.bphobbies.com/view.asp?id=V419472>

A good resource with all GWS (Grand Wing Servo) props listed.

RS – Reduction Series (similar use as APC SF – BP calls them slow flyer)

DD – Direct Drive (HD & DD have similar applications to APC E Thin Electric props)

HD – Hyper Drive

3-Bladed

4-Bladed

There is a nomenclature problem with the GWS props. It is difficult to tell from the GWS part number what type of prop it is.

An EP-1180 is an 11x8 RS (slow flyer) type prop, while the EP-1170 is an 11x7 DD (direct drive) prop.

Ken discussed and demonstrated an Excel workbook that contains spreadsheets for glow to electric conversions using outrunner motors and

either Li-Poly batteries or “A123” 2300mAh cells. The Excel workbook for **glow to electric conversions** is located at <http://homepage.mac.com/kmyersefo/Glow2Electric/2011-glow2electric.xls>.

A stall speed to pitch speed ratio result has been added, thanks to the EFO member comments. It was taken care of in the original formulas and process, but it can now be ‘seen.’

Speaking of Stall Speed to Pitch Speed Ratios

A direct quote from Keith Shaw's “Electric Sport Scale” article in *Model Builder* about stall speed:

“In order to just do a nice inside loop, the plane must enter at twice the stall speed. To do clean inside loops, rolls, and other sport-type aerobatics, three times stall speed is needed.

Anything over 4 times the stall speed gives “fighter-type” performance and extended vertical aerobatics.”

Note that Keith uses the word speed, **NOT** pitch speed. Pitch speed can be estimated, and the ‘real’ speed will, in most instances, be less to quite a bit less, depending on the airframe, but the pitch speed to stall speed ratio gives a decent ‘hint’ about the “flyability” of a given prop propelled plane.

A comment on ‘low’ pitches:

Bob Boucher's quote on prop pitches from the AstroFlight, Inc. Electric Motor Handbook, “Thirdly please note that at almost all usable speeds one never wants to use a propeller with a pitch to diameter ratio less than 0.5. VERY LOW PITCH PROPS like a 9x3, 12x4, 18x6 and 24x8 are best used for stirring paint.”

Of course this was written before 3D and ‘hovering’ entered the scene and prop thrust became almost as important as the pitch speed to stall speed ratio for that type of flying.

A pitch selection area was added to the Excel spreadsheets.

The diameter selection no longer requires either the plans or plane to be ‘in hand’.

There are two spreadsheets in the Excel workbook to cover using Li-Poly and “A123” 2300mAh batteries for glow conversion. There is another spreadsheet for taking notes about possible motors. The fourth spreadsheet was done before Toledo when I was deciding on a new .60 size plane for use with the “A123” 2300mAh cells. Some don't have an appropriate motor for use with these batteries. They

would have appropriate motors for Li-Poly cells, but I was not interested in that.

Web sites noted at the meeting:

RC Model Reviews:

<http://www.rcmodelreviews.com/>

Electric Flyer Magazine:

<http://www.electricflyermagazine.com/>

RC Book:

<http://www.rc-book.com>

The video shown during the 'refreshment' part of the meeting was "15th Annual Mid America Electric Flies" by SKS Video Productions. It was taped at the 2001 Mid-Am and was really the 16th, but 15th sounded better in the title.

Since the meeting:

I have reworked the Excel workbook many times. It now has a companion "How to" use the spreadsheets located at <http://homepage.mac.com/kmyersefo/Glow2Electric/2011-Glow2Electric.htm>

An email from Arthur Deane about the spreadsheet:

Rich,

Attached is a prediction of the required power system for your Spacewalker using Ken's new spreadsheet. We have been mystified how Ken and Lucien Miller could suggest changes to Kv to optimize performance. This prediction shows that they were both spot on in suggesting a rewind motor.

I am impressed with their genius!!!

Ken,

Once again your spreadsheet has been vindicated and proven very effective. The spot checks at the EFO meeting and this prediction all prove it out. I think it will become a very useful tool.

As you know I have been trying to establish in my mind how and why recommendations are made to vary the Kv. This spreadsheet has shown the reason.

Basically you calculate input watts based on our traditional 100W/# with modifiers to take into

consideration the original gas power plant and a factor based on cubic wing loading to account for the usage. Knowing the relationship between watts/horsepower/prop diameter and pitch the RPM may be calculated. From then on it is simple trial and error to find the best mix. Kv is a simple rpm/volts relationship and varies based on the RPM and battery pack chosen. I now see the light!

You have put a lot of work into this spreadsheet and it is a great tool.

Regards

AJ

Thanks Arthur. Glad you find it useful. KM

RCCD WOW Meet Postponed

From Mike Pavlock via email

The weather in southeastern Michigan has not been good for RC flying this year. So far, I've only been out flying three times! I did go to the Radio Control Club of Detroit WOW event on May 14, but elected not to fly in the overcast and drizzling weather with extremely poor visibility. The meet had been postponed by the time I arrived at 8:45. I received the following from Mike. KM

WOW Participants,

Due to poor weather conditions we are sad to inform you that: Watts Over Wetzel.....WOW..... has been postponed.

We will not be flying Sunday May 15th.

We will reschedule WOW to a later date. The reschedule date will be advised as soon as it is known.

Please monitor your e-mail and visit the WOW web page often for event updates.
www.rccd.org/WOW.htm

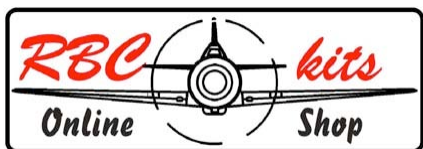
Thank you for your patients.

We'd sure like some decent flying weather soon!
KM

RBC Kits

From Rob Bulk info@rbckits.com

We are always looking for great kits, and Rob's great models have not been mentioned in the Ampeer in quite awhile! Too long! KM



Hello Ken,

Would you please update the link and the logo for rbckits? We do not have a USA importer. We sell direct now.

Greetings and thanks,
R.Bulk computerfreeswerk
www.rbckits.com
info@rbckits.com



Above is just one of Rob's models. I highly recommend that you visit his site and see what else he has to offer it kit form. I'm sure you will be both surprised and pleased. KM

Shoulder-wing Toledo Special

From Jim Blanner via email



Hi Ken!

Hope you're surviving the winter – build anything?

I scratched a fuselage for use with some Toledo Special feathers; hope it's a little faster:
<http://www.youtube.com/watch?v=BfZ7iCZruhg> !

What values do you use in motor prediction programs for A123s; specifically the 1100s?

TIA,
Jim

Build anything? Worked on the An-2 design and mock-ups. Ran into several problems, so I will be starting again in the fall. Working on a 1/4-scale Balsa USA biplane right now, since the flying weather is so crummy!

When I talk about "A123" cells, I'm almost ALWAYS talking about the 2300mAh cells. I don't have any of the 1100mAh cells for any purpose; motor power or radio system power. KM

A Foam Antonov An-2

From Dereck Woodward via email



Hi Ken,

So what's all the fuss about this furrin' biplane you're building, or designing, or cussing at!

Saw this foamy at GP's E Fest, on one of the trade stands. They didn't have too many problems with it, they reckoned, but yours should look better.

At least you know it'll fly as a model now.

Saw your latest *Ampeer* with that new Lazy Bee fan's letter. Can send him some Bee-ish info if he's still interested - there's plenty on the Zone about the

(cont. on p. 10)

Put This One On Your Event Schedule!
Keith Shaw Birthday Party Electric Fly-In
 From Dave Grife grifesd@yahoo.com

The Balsa Butchers will once again be hosting the "Keith Shaw Birthday Party Electric Fly-In" at their field near Coldwater, MI. The event will take place on June 4 and 5, 2011.

Contest Director: Dave Grife - E-mail:
 grifesd@yahoo.com or Phone: 517.279.8445
 Please e-mail or call with any questions

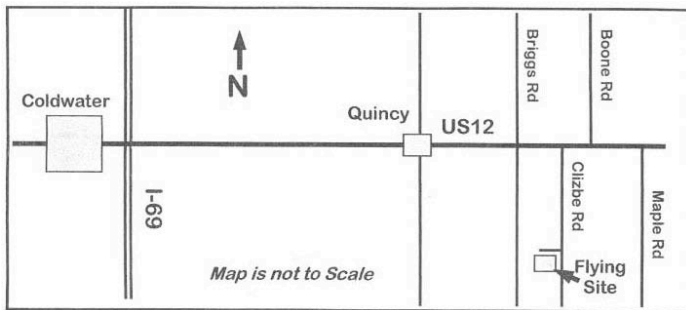
The Flying Field will be open Friday, June 3 for early arrivals

Saturday, June 4, hours are from 9 a.m. 'til 5 p.m.

Sunday, June 5, hours are from 9 a.m. 'til 3 p.m.

Landing Fee is \$10 for the weekend.

Directions: Quincy is approximately 4.5 miles east of I-69. Clizbe Road is approximately 1.6 miles east of Quincy. The Flying site is approximately 1.5 miles south of US-12 on the west side of Clizbe Road.



I love this meet. There is a lot of laid back flying with some of the Midwest's best pilots, Electric Flight Designers, Builders and Authors. I wouldn't miss it! It is a lot of fun for everyone with an interest in electric flight. KM

Mid-America Electric Flies 2011

At the 7 Mile Road MRCS Field

AMA Sanctioned

Saturday, July 9 & Sunday, July 10, 2011

Hosted by the:

Ann Arbor Falcons and Electric Flyers Only

Flying Site Provided by the:

Midwest R/C Society

Your Contest Directors are:

Ken Myers phone (248) 669-8124 or

KMyersEFO@mac.com -

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

Keith Shaw (734) 973-6309

Flying both days is at the Midwest R/C Society Flying Field - 7 Mile Rd., Salem Twp., MI

Registration: 9 A.M. both days
 Flying from 10 A.M. to 5 P.M. Sat. & 10 A.M. to 3 P.M. Sunday

Channels 00 through 60, the six 27Mhz frequencies, the eight 53MHz frequencies and 2.4Ghz, will be in use. Flying on five 49 MHz frequencies may be accommodated on request - Narrowband receivers are recommended for flying on Channels 00 - 60 - Very Wideband 27, 49, & 53 MHz, receivers may be accommodated on request - 2.4Ghz controlled at impound

Pilot Entry Fee \$15 a day or \$25 both days - - - -
Parking Donation Requested from Spectators

Saturday's Events

Best Scale
 Most Beautiful
 Best Ducted Fan
 Best Sport Plane
 CD's Choice

Sunday's Events

Best Scale
 Most Beautiful
 Best Mini-Electric
 Best Multi-motor
 CD's Choice

Planes Must Fly To Be Considered for Any Award

Open Flying Possible on Friday
Night Flying Possible, Weather Permitting, Friday & Saturday Nights

Refreshments will be available at the field both days.

Potluck picnic at the field on Saturday evening.

Come and join us for two days of fun and relaxed electric flying.

Come, Look, Listen, Learn - Fly Electric - Fly the Future!

Saturday's & Sunday's Awards:
Plaques for 1st in each category

Merchandise drawing for ALL entrants
Possible Places to Stay

Please note that this list is not updated and some phone numbers may have been changed.



To locate the Midwest R/C Society 7 Mile Rd. flying field, site of the 2011 Mid -America Electric Flies, look near top left corner, where the star marks the spot, near Seven Mile Road and Currie Rd. The field entrance is on the north side of Seven Mile Road about 1.6 Miles west of Currie Rd.
Address: 7419 Seven Mile Road, Salem Twp, MI 48167-9126 - numbers on the fence
Mid-America Flies Hotel List – 2011 Please call the hotels for current rates



Photo of Entrance to MRCS Site off 7 Mile Rd.

Novi Hilton
 21111 Haggerty Rd.
 236 rooms
 800-445-8667
 248-349-4000

Hampton Inn Northville
 20600 Haggerty Rd.
 125 rooms
 800-426-7866
 313-462-1119

Hotel Baronette
 27790 Novi Rd.
 149 rooms
 248-349-7800

Sheraton Oaks
 27000 Sheraton Dr.
 206 rooms
 248-348-5000

Wyndham Garden Hotel
 42100 Crescent Blvd.
 152 rooms
 800-222-4200
 248-344-8800

Days Inn Livonia
 36655 Plymouth Rd.
 72 rooms
 800-325-2525
 313-427-1300

Travelodge Detroit
 21100 Haggerty Rd.
 124 rooms
 800-578-7878

Holiday Inn Livonia
 17123 Laurel Park Dr. N.
 225 rooms
 800-465-4329
 313-464-1300

Comfort Inn Livonia
 29235 Buckingham Ave.
 112 rooms
 800-221-2222
 313-458-7111

Detroit Marriott Livonia
 17100 Laurel Park Dr. N.
 227 rooms
 800-228-9290

Upcoming E-vents

June 4 & 5 Balsa Butcher's Keith Shaw Birthday Party Electric Fly-in, near Coldwater, MI.
Contest Director: Dave Grife - Phone: 517.279.8445
Please e-mail or call with any questions

June 18 EFO monthly flying meeting, Midwest RC Society 7 Mile Rd. Flying field, 10:00 a.m. Everyone with an interest is welcome. AMA membership required to fly. Info: kmyersefo@mac.com

July 9 & 10 Mid-America Electric Flies, Midwest RC Society 7 Mile Rd. Flying field, Salem Township, MI. CDs Keith Shaw and Ken Myers Presented by the Ann Arbor Falcons, Electric Flyers Only of Southeastern Michigan and the Midwest RC Society, Info: Contact Ken Myers kmyersefo@mac.com or 248-669-8124

Sept. 10 & 11 E-Fl-Iowa RETURNS! Darryl Miller, an American Airlines pilot who lives in Sterling,

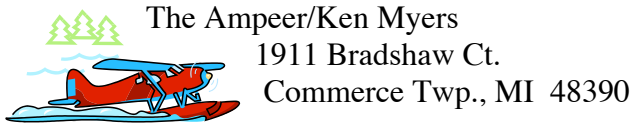
Illinois, is bringing the event back as a two-day event on Sept. 10-11, 2011 at great site in Morrison-Rockwood State Park 3 miles north of Morrison, IL. There is dining and lodging in Morrison but a better bet may be 14 miles west at Clinton IA/Fulton IL where there are all the usual suspects. East of Morrison 5.5 miles is the Forest Inn. Sterling/Rock Falls, IL is about 14 miles east of the field and has lodging and restaurants. There will be food at the field and there is a food vendor at the lake in the park. Morrison is 125 miles west of Chicago on US 30 about 4 miles north of I-88. Direct questions or suggestions to Daryl Miller at dlmrcpilot@gmail.com

(Foam An-2 cont. from p.7)

species these days.

Snow-bound and too much bad in the weather to go flying here too. Still planning on getting over your way this year, if the creek (or lake!) don't rise.

Regards,
Dereck Woodward



The Ampeer/Ken Myers

1911 Bradshaw Ct.

Commerce Twp., MI 48390

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

The Next Monthly Meeting:

Date: June 18 **Time:** 10:00 a.m.

Place: Midwest RC Society 7 Mile Rd. Field

All interests folks welcome – current AMA membership required to fly