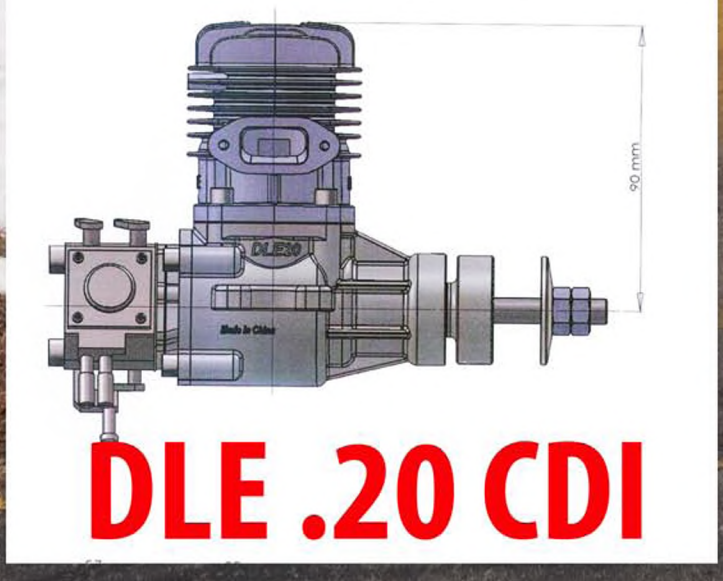
RC REPORT ONLINE!

January 2011

Issue 294

Happy New Year!



DLE .20 CDI

Welcome to

SIG®

Sig Manufacturing Co., Inc.

Pro Balancer

Perma-Grit Tools®

Tungsten Carbide Abrasives

RC REPORT ONLINE

OFFICE NOTES

Happy New Year! The first year of the second decade of this century is here! Welcome 2011! I hope all of you enjoyed the Christmas holiday! If you are self-employed, it seems that most days just run together. There are no weekends or holidays. Sometimes, I long for my forgotten days of retail, with a real schedule that doesn't change once it has been posted. ☺ One thing that leaves a bad taste in my mouth from those days was that we always started stocking Christmas items back in October. Before I worked retail, I would always walk into my local mega mart and just be in awe of all of the sparkling decorations. After my first Christmas, the magic seemed to be gone.

Would love to see what Santa brought you this year for Christmas! Send in a picture to share and a little information on what the item is and why you wanted it and how it made its way under your tree. These stories and photos will be shared in a future issue.

Did you take advantage of our Celebration Special last month? If you missed it, our next promotion will be in April 2011. Watch for information on "Way Back Week"! It'll be a blast from the past!

2011 promises to be a busy year for us here at RC Report Online! After a full year of editing, I seem to be settling into a routine and relaxing a little in my role. Optimistically, this will give me more time to conjure up new ideas for the magazine. Of course, the relaxation could explain a few of the errors on my part over the past issues. Hope that you all can overlook the slip-ups. I have never claimed to be perfect and no one edits me.

Communication is the key word for 2011! If you don't contact me about a problem; I can't correct it. It seems that the main issue people have is the inability to login. It's a simple fix. An email is normally all it takes. On rare occasions, a phone call might be needed. The next biggest complaint is regarding the PDF download. Again, I can help you with this. There is no reason, if you have a premium subscription, that you would not be able to download the PDF. I can't stress enough, if there is a problem; please contact me. I want you to be satisfied and be able to enjoy RC Report Online.

Photo Ops is a big "0" this month. Send me your event photos and add some color to my life!

We are still socializing on Facebook. Join us!

I managed to remember to send out the Kindle version to the fellas on my Kindle list last month. If you would like to be added to this elite group, send me an email and I'll see if you make the cut!

Until next month,

Julia

Smile! You could be the next Winner!

Smiley Face Contest #1 2011!

Throughout this issue we have placed five or more Smiley Face Figures like the one shown here (☺), but as before this page doesn't count. Write us and tell us where at least five are, and you'll be eligible for a random drawing in which the winner will receive a free 12-month Premium Subscription to RC Report Online. The subscription may be used as a renewal or be gifted to someone else. Winners will be selected by a random drawing from all the correct entries received no later than January 31, 2011. No entries will be accepted after this date. Entries must be sent via US mail or E-mail only, and reference the correct contest number in subject line or address. Hobbico employees, RC Report Online employees, columnist and advertisers are ineligible for prizes. No Purchase Required. Valid in USA and Canada only. smileys@rcreport.net Subject line: Smiley Face Contest #1 2011

US Mail: Smiley Face Contest #1, 2011 PO Box 12051 Huntsville, Al 35815

All terms subject to change without notice. This contest is void in any area, state, or locality where taxed or prohibited.

Hi Julia,

I made fast work of the contest this month, because we are heading out Friday to go on a cruise on the Mediterranean Sea!

I must tell you that this month's magazine includes material which is Realistic, Comprehensive, Ready-to-use, Easy to understand, Practical, On time, Relaxing and Terrific. Keep it up!

Seven for me!

Frank Maguire

Five!

Ken Gardner

Six!

Gerald Ewell, Sr.

Five!

Norm Deputy

Five!

Ian Forbes

Five!

James Robinbon

Seven!

Milton Johnston

Happy Holidays to RC Report Online cast! Seven smileys for me!

Til next year for Smiley's----keep smiling

Larry

Here we go again! :o) Six for me!

Merry Christmas to all! Hope the New Year brings you Joy and Happiness!

Dan Schaller

Seven!

That is all for this month! Have a great December, Merry Christmas and a Happy and Successful 2011.

Manfred Decker

Six!

Lynn Perkes

Still loving the smileys! The winner will be contacted and announced in the February issue. The winner will receive a 12-month premium subscription to RC Report Online. Keep searching those articles and columns.

Total Smileys for the December 2010, issue was 7.

November's winner is Manfred Decker of Wahpeton, North Dakota!

Thanks for your submission, Manfred!

Julia Coberly

Mail Call

Well, folks keep your questions, comments and jokes coming.

From the always funny Larry!

Copper Wire
After having dug to a depth of 10 feet last year, New York scientists found traces of copper wire dating back 100 years, and came to the conclusion that their ancestors already had a telephone network more than 100 years ago.
Not to be outdone by the New Yorkers, in the weeks that followed, a California archaeologist dug to a depth of 20 feet, and shortly after, a story in the LA Times read: 'California archaeologists, finding traces of 200 year old copper wire, have > concluded that their ancestors already had an advanced high-tech communications network a hundred years earlier than the New Yorkers.'
Just last week The Milwaukee Journal, a local newspaper in Wisconsin, reported the following: After digging as deep as 30 feet in his pasture near Two Rivers, Wisconsin, Ole Olson, a self-taught archaeologist, reported that he found absolutely nothing. Ole has therefore concluded that 300 years ago, Wisconsin had already gone wireless. Thank Heavens for Ole.

From Dick and Baby in snowy Montana~

An old hillbilly farmer had a wife who nagged him unmercifully. From morning 'til night she was always complaining about something. The only time he got any relief was when he was out plowing with his old mule. He plowed a lot.
One day, when he was out plowing, his wife brought him lunch in the field. He drove the old mule into the shade, sat down on a stump, and began to eat his lunch.. Immediately, his wife began nagging him again.
Complain, nag, complain, nag - it just went on and on. All of a sudden, the old mule lashed out with both hind feet, caught her smack in the back of the head. Killed her dead on the spot... Graveyard Dead!
At the funeral several days later, the minister noticed something rather odd. When a woman mourner would approach the old farmer, he would listen for a minute, then nod his head in agreement; but when a man mourner approached him, he would listen for a minute, then shake his head in disagreement.
This was so consistent, the minister decided to ask the old farmer about it. So after the funeral, the minister spoke to the old farmer, and asked him why he nodded his head and agreed with the women, but always shook his head and disagreed with all the men.
The old farmer said, 'Well, the women would come up and say something about how nice my wife looked, or how pretty her dress was, so I'd nod my head in agreement.'
'And what about the men?' the minister asked.
'They wanted to know if the mule was for sale.'

Thanks for the laughs, guys! See? I do read those emails you all send me! ☺

PHOTO OPS

YOUR MUG

AND THE MUGS OF YOUR FLYING FRIENDS

AND YOUR PLANES

AND THE PLANES OF YOUR FLYING FRIENDS

COULD BE HERE!

DON'T YOU WANT YOUR

FIVE MINUTES OF FAME?

Send your photos and the tiniest bit of information about your event to Juliac@rcreport.net

~It's Classified~

Non-Commercial Ads

Ads from subscribers are published free of charge for one month on a space available basis. Free ads are limited to one per subscriber per month and may contain up to ten items. Add $1.00 per each item over ten. Add a photo for $5.00. Please email your ads to juliac@rcreport.net. Include your name and email address. Phone numbers are optional. Modeling items only!

Commercial Ads

Commercial Ads are those offering a service, more than one of the same item, soliciting business, etc. If in doubt, call or email for details. Commercial rates are $.25 per word and must be prepaid. Please contact the office for special multiple-month discounts. Cancellations will be accepted by mail, email or phone, but are non-refundable.

RC Report Online Classifieds

PO Box 12051

Huntsville, Alabama 35815

Swap Meet & Auction

Saturday - January 15th, 2011
Cape Coral Shrine Club
360 Santa Barbara Blvd.
Tables $15.00
(includes one admission)
Admission: $5.00
Set Up: 7:00 am
Doors Open: 8:00 am
Auction: 10:30 am

Call Swap Director **Pablo Fernandez** (239) 362-5268
for table reservations - email: franfer1@embarqmail.com

Breakfast Available

No Sales In Parking Lot

PLEASE POST

Mark the date! It's eastern Iowa's biggest and best, in a great location! It's the 8th Annual Iowa City Aerohawks

R/C SWAP MEET

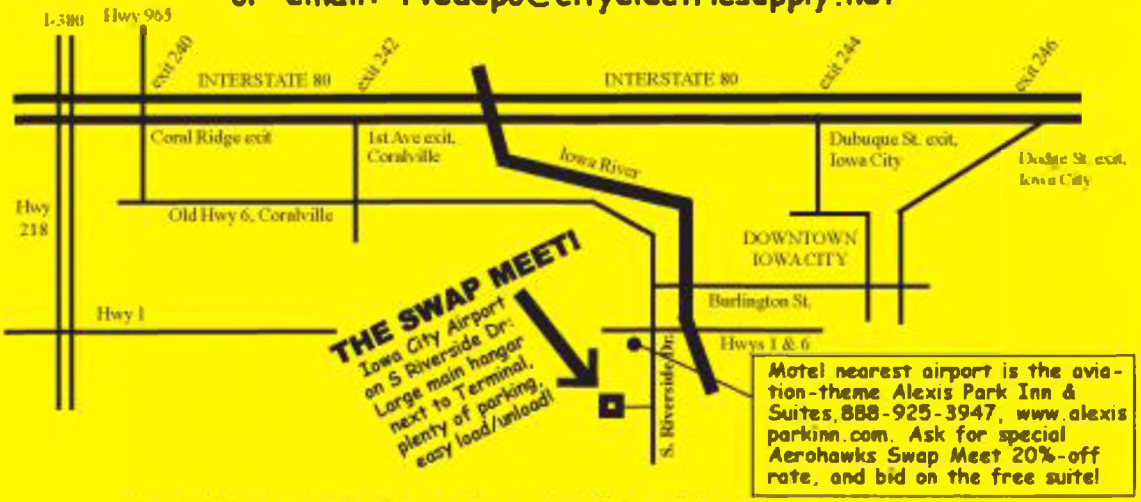
SUNDAY, JANUARY 30, 2011

in the main hangar, Iowa City Airport

Open at 8 a.m., transactions after 9 a.m., AUCTION at noon!
All radio control interests welcome! 120+ tables! Vendors, too!
Easy load/unload. Breakfast & lunch: coffee, donuts, bagels, soda, pulled pork sandwiches, chips available.
We've rented a giant, heated hangar with lots of space, and our members, vendors, and friends will be putting out lots of great stuff from their workshops and home hangars:

PLANES of all kinds CARS TOOLS HELICOPTERS
R/C COMPONENTS BOATS BOOKS TOYS KITS ARFs

$2 admission, $11 each for your own sales table(s) w/chair, at the door.
BUT WE SELL OUT SPACES EARLY and YOU MUST RESERVE AHEAD TO BE SURE! Call Rich at 319 338-7561 days, 319 358-8519 evenings, or email: rvedepo@cityelectricsupply.net



Iowa City Aerohawks is a radio control flying club. All Aerohawks are also members of the Academy of Model Aeronautics, Chapter 824.
See photos of past Ahawks Swap Meets at www.iowacityaerohawks.com

KC/RC SWAP-N-SHOP

http://www.kcradiocontrol.com

Saturday January 15, 2011

9:00 AM—4:00 PM

Over 14,000 Square Feet!
R/C Planes-Boats-Helicopter-Cars
Buy-Sell-Trade

MCC Business Technology Center

1775 Universal Ave, Kansas City, MO
I-435 at Front Street (Exit 57)
1/2 Mile West of I-435
1/2 Mile North on Universal
Look for KCRC Swap Meet Signs

Admission $5.00

Kids Under 12 Free

Concessions Available

Mail Registration Form and Fee to:
Jim Cianciolo
KC/RC Swap-N-Shop
3014 Viking Court
Independence, MO 64057
Pre-Registration is Recommended. Tables sell out fast!
Questions? Call Jim at 816.795.7382 or kcrcpilot@comcast.net

Walk-Up Registration begins at 8:00 AM
Doors open for Vendor setup at 8:00 AM
Buyers at 9:00 AM

Vendor Registration Form

Name
Address
City State Zip
Phone
Email

Tables Wanted	Qty	Price
☐ 4 Foot Table		$12.50
☐ 8 Foot Table		$25.00
☐ 8 Foot Wall Table		$30.00
☐ Additional Vendor Admission		$5.00

Make Checks Payable to KC/RC NO Cash Please! Amount Enclosed

Vendor Badges 1. 2. 3. 4. 5. 6.

LAST DATE FOR PRE-REGISTRATION—Jan 8, 2011
ALL TABLES LOCATIONS WILL BE ASSIGNED BY KC/RC.
ONE VENDOR ADMISSION WITH EACH 4' TABLE

LICKING COUNTY

Radio Control Club Inc

HOBBY SWAP SHOP & AUCTION

Model Planes, Boats, Cars, Helicopters, Etc.

SATURDAY FEBRUARY 5, 2011

Doors Open 9:00 A.M. - 3:00 P.M. Auction starts at Noon

WHITEHALL RECREATION CENTER

COLUMBUS, OHIO

402 North Hamilton Road

FREE PARKING

GREAT Catered FOOD

Admission $5.00

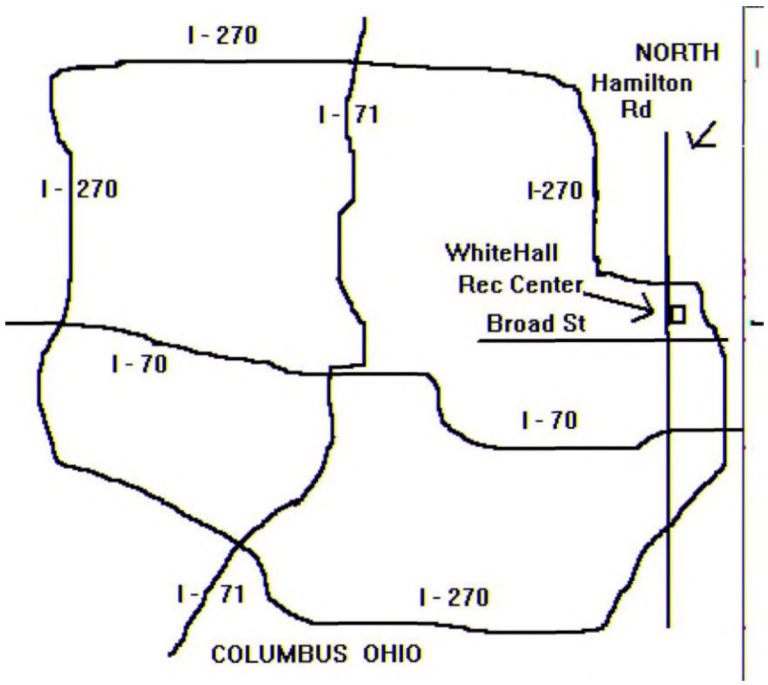
Children under 12 FREE

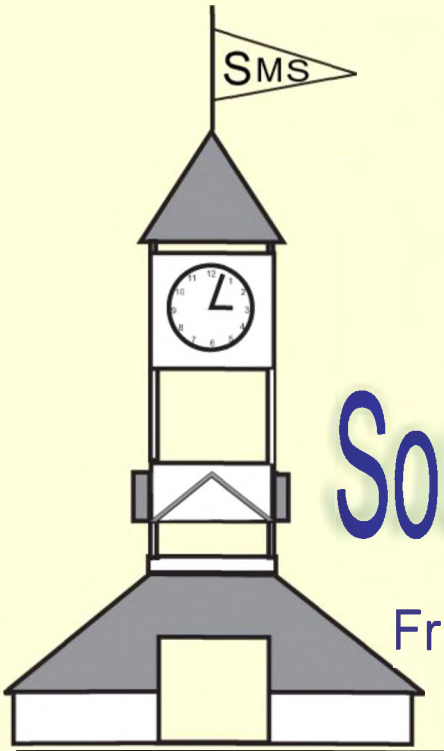
Tables (8 ft.) $10.00 each plus admission
Tables may be reserved by sending $10.00 each to:
Bob Grashel
18 Wesleyan Circle S.W.
Granville, Ohio 43023
(740) 587-1854
bobandjeanetteg@hotmail.com
(Reservations must be received by Feb 3, 2011)

MODEL AUCTION - We will sell your hobby related merchandise for you.
Flat Fee
MODEL AUCTION IS CASH ONLY

All Hobbyists, Dealers, and Manufacturers Welcome.

http://www.lcrcc.net





2011

GEORGIA AIRCRAFT MODELERS ASSOCIATION, INC.
GAMA
AMA Club # 228
Established in 1972
WWW.GAMARC.COM

Two Days of Fun

Southeastern Model Show

Friday, March 4th and Saturday, March 5th

The Doors are open 1 to 7 p.m. on Friday and from 8a.m. to 5 p.m. on Saturday

THE WORLD'S LARGEST RC SWAP SHOW

Open to all Model Enthusiasts

Over 1000 Tables of Merchandise, Hands-on Flying Venues

Raffles, RC Flying Demos, Indoor Electric Fly-In, Control Line Flying Demos

Boat Pond, MECA COLLECTO RV Sites Available Call (478) 988-6557

www.gamarc.com/georgia

Advance Table Reservations and Payment
are required. Please make your Reservation Early.
For Table Reservation Call Norm Deputy
at (478) 328-2689, or email NDEPUTY@BELLSOUTH.NET

Georgia National Fairgrounds, Perry, Georgia
I- 75 at exit 135

Aero Radio Club of Syracuse
Syracuse Thunderbirds Aero Radio Society
Central New York Indoor Flying Society

Jointly Present the Fifteenth Annual

MODEL AIRCRAFT FORUM
and Electric Fly-In
[Swap Shop too!]

Saturday, January 29, 2011
9 AM to 4 PM
at
Syracuse Academy of Science Charter School
1001 Park Avenue, Syracuse, New York, 4 blocks from Hiawatha Exit off 690 East

AMA Sanctioned! AMA license required to fly!

ELECTRIC and RUBBER FLYING HELD IN 80' x 80' x 24' INDOOR FACILITY
in separate large room
AIRCRAFT STATIC DISPLAY and Swap Shop
STARS/ARCS FLIGHT SCHOOLS and RC FLIGHT SIMULATORS
HOBBY VENDORS and WALT'S HOBBY SHOP
Concession Stand open all day!!

Raffles held through out the day
(Prizes Donated by Vendors and Manufacturers)

Admission - $4.00
Children 6 to 12 - $1.00
Children 5 and under - free

For more information, contact:

Peter Seiffert at 315/638-6170 or Herb Ziegler at 315/638-2824
pseiffe1@twcny.rr.com and herbz1957@yahoo.com

Bring your Indoor Aircraft and Fly with Us

See back for map

THE OILY HAND: Covering engine topics and working with metal for models. Send your comments or questions to: oilyhand@bigpond.net.au or write to Brian Winch, 33 Hillview Pde, Lurnea NSW 2170, Australia. International Response coupon (Post Office) required if you want a written reply.

FOR STARTERS…

…I recently received an email from a reader and he mentioned a fellow club member, who „knew it all", as considering himself to be a bigwig in the model hobby. I have heard the term „bigwig" many times since I was a little person, but it was just part of a conversation or description of a person and it was considered to mean somebody of some importance. Being an inquiring person (I must know these things.) it struck me, when I saw the word in the email, that I did not know of its derivation so…a bit of research that turned up some interesting trivia that you can use if somebody puts on the „bigwig"act to you. It DOES mean „BIG WIG" and stems from the era circa the 16th to the 18th century when wigs were well in fashion for those who considered themselves above the „working class". Wig making and the sales of them were really big business and a thriving industry was built on the need to have bigger and better wigs. For a man to be seen with a „naked" head (bald) it was almost on par with committing some mortal sin, So, as well, was unruly hair which was the norm as decent combs, hair oils, hair sprays/lacquers, hair dressing salons were yet to come…as was a good treatment for head lice, nits and other vermin that infested heads. Wigs were fabricated from human hair (Don"t ask where some of it was obtained.), animal hair, cotton, wool and other fibers and even very fine wire. To improve the appearance (like makeup), the wigs were powdered and the powder most commonly used was colored wheat flour. This caused a bit of a mini revolution when the French peasants (close to starvation level) learnt that the wheat and flour, upon which the normally dined, was in serious short supply as the „Bigwigs"were using to powder their wigs. Wigs could command incredibly high prices, and this was, sort of, in accordance with the size of the job. Due to the sizes, lack of washing, flouring and general lack of good hygiene, the wigs tended to gather all manner of living creatures (pillow pigeons?) and there is one report of a lady of note who was horrified and mortified to find her huge wig was home to an infestation of mice. Well, as I said, the larger the wig - the higher the cost sooooo…if you

saw a person with a very „BIG WIG" it would be, naturally, assumed that he/she was a person of some importance as he or she must have had loads of money to be able to afford such a big wig, and even as it is today, some people link importance with wealth…for some reason????

These days, for general wear, most wigs („rugs" „mats" - head carpets" etc.) are meant to be inconspicuous - even undetectable unless you are a member of the legal profession and it is necessary for you to wear a wig for court attendances. Some things never change as these „legal" wigs can really set you back a thousand or more $"s, and for persons new to the bar (court) it is not uncommon to stain a new wig with tea (as in cup of tea type tea) to give it an aged wig appearance worn by a person of considerable experience. These wigs are made of horse hair, and no, they are (generally) not infested with „foreign" creatures.

Going back to the „big wig" at the field, if you come up against such a person, ask them what sort of fiber their wig is made of, do they use flour or powder in it and how do they control the creatures (I would say termites.) in the head piece. That should take them down a peg, or at least, confound and confuse them.

While we are pondering on words, a little snippet from last night. In Oz we have TAFE colleges - Technical And Further Education - where you can take a course on many and varied subjects. One very popular course is to do with the hospitality industry - chefs, cooks, wait persons, bar staff and the like. At times, select persons can attend and be a dining guest (You pay a reasonable price for your meal.), and the students involved are monitored and judged for their methods of operation. It is expected that those people attending interact with the students and give critiques where it is considered appropriate. At this time of the year, the festive season, the students have completed their twelve month course (They can go further for higher qualifications.), and under the guidance of the teachers and such; they put on a high quality Christmas buffet….many main courses, side orders, desserts, cheese etc. platters. ☺ne great feed where you can really tuck in and eat until you fall off your chair (if that is your demeanor). This „time of feast" is put on the last two Monday nights of November and it is good practice for the big eating period of later December (Sort of gives your teeth, jaws and stomach a good workout for the coming Christmas fare). Anyway, I have been receiving an invite for the two nights for quite some years now on account of my penchant to eat (I"m very good on the tooth.). I have a background in the food field having had my own private dinner party business many years back, and I also moonlighted as a chef in my early days of police work (The police wages were not the best and I was building a family and a family home at the time.). Plus, the fact is that I really like to interact with the students and this is appreciated by the teaching staff. Last night, at the dinner, I was really doing justice to a very healthy serving of some „great grub" when one of the waitresses approached on my right (correct procedure), and asked if I would like my water glass topped up with iced water (A habit we picked up from you people - water with meals.). The waitress was a very well presented young lady, and obviously, of Asian background. I said to her, "So, you are Aquarius, yes thank you, I will have my glass topped up." She replied, "No sir, I am Chinese, I make the water." I then gave her a brief

explanation that Aquarius was the water carrier of mythology and also a sign of the Zodiac which, I am sure, confused her no end; but her training led her to interact (with strange customers) and she thanked me for telling her.

At the end of the evening, the student staff line up towards the exit to accept comments, praise or whatever as the (now full of food) guests depart for the evening. When I came to the waitress I asked if she remembered who she was for the evening and quick as a wink and with a sparkling smile she said, "Yes sir, I am the Chinese Aquarius who makes water for the guests." Okay, close enough for me and she was very happy that she had remembered what the guest had told her.

Even though fast, it is a very steady flier; Saito power in this one.

A LOOK AT THIS SIDE OF THE POND

During my five years of writing for this rag (This is article #60 - who said the Ozzie wouldn"t last?) I have had many requests from readers for information about the „flying scene" in the great land of OZ (Australia). For those who do not know, Australia is around 24 hours flying time from the US and the land mass is almost the same as that of America - a big country. From Sydney - east coast capital -and from Darwin - northern capital to Perth - western capital, the road distance from both is 2,78☺ miles - 6 hours by plane from Sydney to Perth. Problem is that our population is quite low at just under 22 million compared to yours at just over 300 million. Proportionately, our modeler population is much lower than yours so we don"t have the buying power for purchasing flying fields and field facilities as much as we would like to have. Some clubs do have their own fields and the facilities are quite good, but this is not so common these days due to high land cost and low club memberships. Those clubs who own their fields have done so by being established for many years and/or having a very positive membership of modelers who are prepared to dig deep (pocket wise), do a lot of manual work to change rough ground into a flying field and build the facilities that make life a little more comfortable. You can „borrow" an area from councils, farmers and the like, but this is not a good answer as you can put a lot of effort into building up a field with a few basic amenities, and just as you are ready to start the engine in your model, so to speak, the permission to use the area is rescinded…been there, done that and never got a T shirt to prove it. Okay then, to give you a word picture of my involvement with clubs, I will give you an overview of those clubs of which I am a member. To tell the truth, I don"t do a lot of flying these days as I seem to be always busy in the workshop working or testing engines, plus a little bit of time on the lathe when I can to make a few bits for engines I want to finish for myself plus a fair amount of time taking photos and writing magazine articles. I do have a good collection of models and loads of kits, plans and a few ARFS which I have definite plans to get flying „quite soon" for when I can spend more time at the fields. I am a full member of 3 clubs

Note the 'carry handle' on Jack Pittar's model. Much safer when you are walking through slippery mud to the water's edge.

- Secretary/Treasurer of one and the Safety Officer for another. My sec/treas. job is for the Sydney ROW Association (Rise Off Water), a club mainly for aircraft that „rise" off the water - float planes, seaplanes, aquabirds and the like. Due to the location, we also fly a few electric power gliders over the fields adjacent to the dam from where we fly the float planes. This is a „borrowed" field on a very large and old property about 30 minutes from where I live. You can look it up on Google earth. The

An early Italian ROW racer.

property is MARYLAND off Northern Road, Bringelly. The property has 2 large dams; one at the front, near the main road and the other - the one we use - just over 2 kilometers into the back of the property. When the rear dam is full to overflowing it covers about 45 acres. So as to not wear out our welcome, we fly there on the first and third Sunday of each month, weather permitting providing there has not been a lot of rain prior to the Sunday as I do not want the members to be chopping up the dirt roads (mud tracks after rain) and upsetting the farmer. This club has been in operation for about 25 years, and by careful management on behalf of the club, we hope to continue. No member can attend the field outside of club days without the express permission of the President and myself and that would only be for the testing of a model prior to attending a competition or public display of flying elsewhere. Break the rules? Simple result - close the gate on your way out…forever.

Engine RPM reduced (Note the smoke puffs.) and a very predictable landing approach.

The next club is The Sydney Society of Model Engineers (http://www.ssme.org.au/) and this club is 104 years old - formed in 1906 - the oldest society or club of its type in the world. I won"t go into full details of the operation of the

society as you can get a much better overview by opening the website. The club site - Model Park - covers 25 acres. We own the land outright and the value of the Society property and equipment would be up around $2.5 million. The RC flying field covers 5 acres with an overfly area (adjacent property) of several hundred acres of clear land. The members comfort (sub clubroom) building for that section has a carpeted floor, air conditioning, filtered chilled water, cooking and eating facilities, a small library and a television combination for inclement weather entertainment. As part of that building we have a toilet (WC), outside covered area with tables and seats, a covered barbecue area and a large equipment garage. Fly whenever you like (Obviously, there are start and finish time constraints to prevent noise problems.), and your family is more than welcome. The Society has an Open Day on the last Sunday of each month for attendance by the general public and we have had in excess of 1,000 cars at times, but the general average public attendance would be about 150 cars. Due to the variety of operations carried out at the Park, and that the public attend, it is a (legal) requirement that the Society elects a suitable Safety Officer and that the person elected wear a freely visible uniform on the Open Days. The Safety Officer"s duties include overseeing the safe operation of all sections, the welfare and behavior of the visitors, the investigation (and any follow up) of any incidents that require attention, medical treatment or police involvement and the interaction with visitors requiring information, instructions and general guidance. This is where I come in, as I have held the post for over 30 years now and my gold embroided, bright blue overall uniform is visible from just about any point in the Park.

Very effective dual purpose rudder; both air and water in one piece.

Club number three is purely a model aircraft club. This club is the Charles Kingsford Smith Model Aircraft Club, a bit exclusive and the membership is kept to between 50 and 60 members. Membership is by written application and requires two members to sponsor the applicant, guaranteeing that the person is suitable in all ways and will closely observe the club rules. Failure to do so can lead to a suspension of both the member, and maybe the sponsors or dismissal from the club for a serious breach as decided by the executive and committee. If your application for membership is accepted, you then need to shell out (Oz term for „pay up") just on $5,000.00 for the joining fee and the first year subscription and insurance. When I joined quite some years back the fees were $850.00 (thank heavens), but to keep up with financial times and the much higher wages earned these days, the „ante" is upped each year. You need to see and know about this club to understand why we keep a tight reign on operations and behavior. The club is now over

30 years old, fully owns the large flying field and the property adjacent to it which is leased to a turf farmer. The field is surrounded by turf farms, and we have over-fly rights if needed provided Commonwealth Regulations are observed (such as flying over people, occupied buildings and the like). The huge runways are tended by the turf framer (to whom we lease our other block of land), and he keeps it like a bowling green with a higher mown surrounding area with just enough grass resistance to stop models that might wander off the straight and narrow, as they tend to do at times. We have very good facilities, but we cannot have a closed occupiable building as the entire area is a 100 year flood prone area. In the very early days the area was flooded - big time - and evidence of the debris can still be seen in one tree…30 feet up! Yes, the flying field was rather damp for some time, to say the least.

Have a look at the field at http://cksmac.com/ or www.cksmac.com

That will do for the moment, but later on, we might look at a few of the other fields I visit when competitions are held or they have a general flying rally.

PHOTO PARADE

I have included a selection of photos I took last Saturday at a Float Fly venue, and included is a comic series of a little fellow and his dad, Tim Nolan, who would be known to some readers as he has been on your island a few times at float fly sites and demonstrating the Kingfisher model he produces in a range of sizes. He has sold a few, so look out for them at float fly events. His son, Thomas, is 3-1/2 years old, very big for his age and he is prepared to have a go at anything his Dad does. See how he sets his Dad up for a bit of flying tuition and note the reaction of Dad in the last photo when he realizes he is now flying solo as Thomas walks away.

Tim Nolan's son, Thomas (aged 3-1/2) giving his Dad some pointers for getting his model ready to fly.

"Fill it right up Dad; this is going to be a long flight."

"Ready now? I'll get the starter."

"Are you ready, Dad?"

"Yep, tuning sounds spot on."

"Hey, Oilyhand, what do you think of that for a good tuning job?"

"I started it so now I am going to give you some pointers on flying it - just keep it steady and level, Dad."

"That's about right, Dad - just keep well away from those high tension wires."

"Okay, you're on your own now Dad - I'm going for a bite to eat. Just remember what I told you and no violent maneuvers."

I SUPPOSE IT IS NOW TIME FOR…

APRILWUN.ROT.CON…where we look at strange happenings, weird things, absolute nonsense as advised by Julia"s dog, Isabelle, and my pet funnel web spider. Nothing is real. Everything is rot and there is nothing you can, should or attempt to do unless you are completely mentally incompetent or absolutely stupid and have the permission of your mental health consultant and somebody"s pet boa constrictor or dead hamster.

Bit of fact here to start. Our son („our" being Shirley, dear wife and me), Leslie is a highly qualified horticulturist and arbor-culturist (tree specialist), and he often shows me weird plants he has found, read about or examined (He is still not as good in the garden as his dear old Dad. LOL). Recently, he bought a book for me on trees and weird plants around the world. In the section showing how some plants propagate (disperse their seeds), there was an article about the Mediterranean Squirting Cucumber; an odd plant if ever I saw one. As it grows, the cucumbers it produces increase in size rapidly and fill with a very viscous slime in which there is a great number of seeds. When the cucumber is so full it is splitting at the seams, so to speak, it POPS, breaks off its stem and flies rapidly through the air like a bloated rocket for 20 or so feet. During this frantic flight, it sprays out the slimy mess with the seeds which will attach to any nearby animal or bird, floating leaf or just distribute over the ground to sprout and produce more plants. Apparently the slime is rather vile and very hard to remove, as attested by people who have been within the firing range of the plant when it launches its „rockets".As I said, at the start of this section, this is factual; and is worth checking on the internet for interest. Now we come to the „good" bit. Goofball, my weirdo workshop assistant, was goofing off by sitting in my office seat and browsing through my notes and papers (I was having my monthly shower and shave.). He came across the notes I had about the squirting cucumber and his addled brain jumped into gear (not really good as there are few teeth missing from his „gears") as he could see a free motive power which might get him up in the air flying. Up the road apiece, there is a huge plant nursery where the owners specialize in strange and rare plants, and

you guessed it; they had loads of squirting cucumbers „on special" seeing as how they aren"t a real popular seller. "Noddle Noodle" (aka Goofball) borrowed my garden trolley (like a little red wagon, but larger and green) and took himself off to the nursery. Sometime later, I happened to see him coming down the hill - the trolley loaded to the gills with cucumbers - then all Hell broke loose. I would say one of the cucumbers went into „spurt mode", and this started a chain reaction. The trolley shot forward and he was knocked off his feet to land upside down in the trolley amongst the „spurters" He shot past my gate rapidly approaching Mach 1; popping away like a Vickers machine gun in full song and leaving a massive trail of slime and seeds behind him on the road. Last I saw was the trolley, now a huge mass of slimy foam (like a giant frog had set up a mountain of egg froth), heading for the entrance of the Motorway. It was reported on the news that night that a strange, unidentifiable object was seen on the Motorway, leaving a trail of thick slime and traveling at a speed that activated all the police radar guns and cameras. It was last seen screaming up the off-ramp that led to the airport tunnel, which in breaking news, was reported to be completely blocked with a strange slimy foam that appeared to be full of some sort of seed. No further reports were available relating to the speeding object, but it is suspected that it went up the loading ramp of a Hercules aircraft which later departed for a secret military location overseas. Who knows where he will end up or what will happen to him, but he is not the main worry as far as I am concerned. From here, down the main road, along the Motorway and through the airport tunnel; he left a great trail of slime in which there was, no doubt, millions of seeds. The fire brigade hosed the slime off the road, and all those seeds would have ended up on the grass and garden verges for miles and miles. They are going to grow!!!!! Next fruiting season, the road is going to be lined with a forest of „squirting cucumbers", and in time, they will all „pop"and „squirt". I envision that it will be something like „The Day of the Triffids" when weird alien plants invaded the earth. The thought is really upsetting me, so I think I will descend the stairs to my deepest underground workshop and dabble with some malformed glow plugs and some triangular shaped pistons to help retain my sanity. I will leave you with the following thought.

Some people hear voices, some see invisible people, some tell strange stories. Others have absolutely no imagination whatsoever.

Another startling episode from WINCH - THE „WHAT?" WIZ.

One for 'stripy wing' Ed Moorman: 'How's that for an identifiable color scheme Ed? You would be able to see which way is up with that carnival of color. (See Ed's article in the December issue re the colored wing stripes.)

MANEUVER OF THE MONTH: Control Line 8

This month I am covering another figure eight type maneuver. This one is a smooth eight, unlike the snapping eight of last month. I call it the control line 8, but you sometimes see it called the inside-outside 8 because you do an inside loop first, then an outside loop. This is my favorite eight, probably because I flew it for many years in control line before I started flying RC back in 1970. It's also one of the easier eights if your plane can do outside loops. It is easy because the reflex point where you change from the inside portion to the outside portion is with the plane headed straight up. In the old pattern maneuver, RC figure 8, which I'll cover next month, you change directions with the plane heading straight down. This adds more of a pucker factor, making the maneuver harder. Obviously, trainers and other planes with flat bottom airfoils that aren't able to do an outside loop won't be able to do this maneuver.

DESCRIPTION OF THE Control Line 8: A control line 8 is two loops, one inside, one outside, side by side horizontally. The inside loop is done first, followed immediately by the outside loop with the change over in direction where the plane is straight up. You actually do an inside loop and a quarter because you go around until you are past the starting point and pointed straight up before you change to down control. This makes the outside loop easier since you have slowed down somewhat from

the speed you had at the bottom of the first loop. You can also cheat a little and make it a little higher if you are flying low to the ground.

KEYS TO DOING THE Control Line 8: Your plane has to be able to do an outside loop without snapping out.

DOING THE CONTROL LINE 8

Use the standard set-up for the control line 8. 1. Full power, 2. Parallel to the runway, 3. One mistake high.

I have arranged the instructions for the control line 8 in three steps or phases. If you are confident in doing an outside loop, you might want to skip over the first two phases and go right to doing the eight. On the other hand, if

RC REPORT MAGAZINE	
TEACH YOURSELF AEROBATICS CARD	**CONTROL LINE 8** By Ed Moorman
Description: The control line 8 is an inside loop followed by an outside loop.	
Key to the maneuver: Your plane has to be able to do an outside loop to be able to do this maneuver. A trainer with a flat bottom airfoil won't be able to do the control line 8.	
Standard Set-up: 1. Full power, 2. Parallel to the runway, 3. One mistake high.	
DOING THE CONTROL LINE 8	
Phase I: Practice the reverse outside loop. -Start from level flight, then roll inverted and push in down elevator to do an outside loop going upwards. -Try using full down elevator to see if your plane will snap out. If it does, reduce the amount of down elevator and try again. -You may have too little down elevator and need to add some more.	
Phase II: Learn an outside loop from vertical. -From level flight, pull up to vertical, then use down elevator to do an outside loop. This is how you will be starting the outside loop portion of the control line 8. Practice until you are comfortable doing an outside this way.	
Phase III: Learn the control line 8. Check the drawings and we'll go through the maneuver. Start from the Standard Set-up.	
-Do a normal inside loop. This will take you through positions 1, 2, 3, and 4. -Don't stop at the bottom, position 4. Continue on to position 5 like you are going to do a second loop.	
2. When you get to position 5 you will be going straight up. Change from up elevator to down elevator and do an outside loop, going through positions 5, 6, 7, 8 and 9.	
ERRORS: Your first control line 8 will probably look like the drawing below, nice inside, but high, tight outside. These are common errors. -Late changing elevator direction causing outside loop to be high.	

you aren't that confident in your outsides, go through all the phases.

Phase I: Check your plane with a reverse outside loop. Take your plane up and try a reverse outside loop. If you've been following Fun Aerobatics, you'll remember that you start from level flight, roll inverted, pause momentarily and push in down elevator to do an outside loop going upwards.

Once you get your feel for outside loops back, try some more using full down elevator. There is always a chance you will get a little nervous and try to bend the stick. Doing a downward outside can be nerve wracking if you aren't used to it, so check it out going upward first to see if your plane will snap out on full down.

Having your plane snap when you are pointed straight at the ground isn't a good feeling. If your plane does snap, reduce the down elevator movement until you can hold in full down and go around the loop successfully.

The opposite of too much down elevator is having too little and scaring yourself thinking the plane isn't going to clear the ground. Again, this is the reason we check the plane out doing an upward, reverse outside loop.

Once you are comfortable doing an outside loop and you can cram in full down without your plane snapping, it's time to go to phase 2.

Phase II: Learn an outside loop from vertical. In this phase, you'll practice an outside loop starting from a vertical climb. Why from a vertical climb? When you do the control line 8, you'll do an inside loop, then continue until you are vertical. At this point, you reverse the elevator and do an outside loop so an outside from vertical is practice of the last half of the maneuver. From level flight, pull up to vertical. Don't jerk it to vertical, do a nice, smooth pull up, then use down elevator to do an outside loop from this position. Once you feel good about doing this outside loop, it is time to move on to the eight.

Phase III: The control line 8. Check the drawings on the RC Report magazine Aerobatics Card and we'll go through the maneuver.

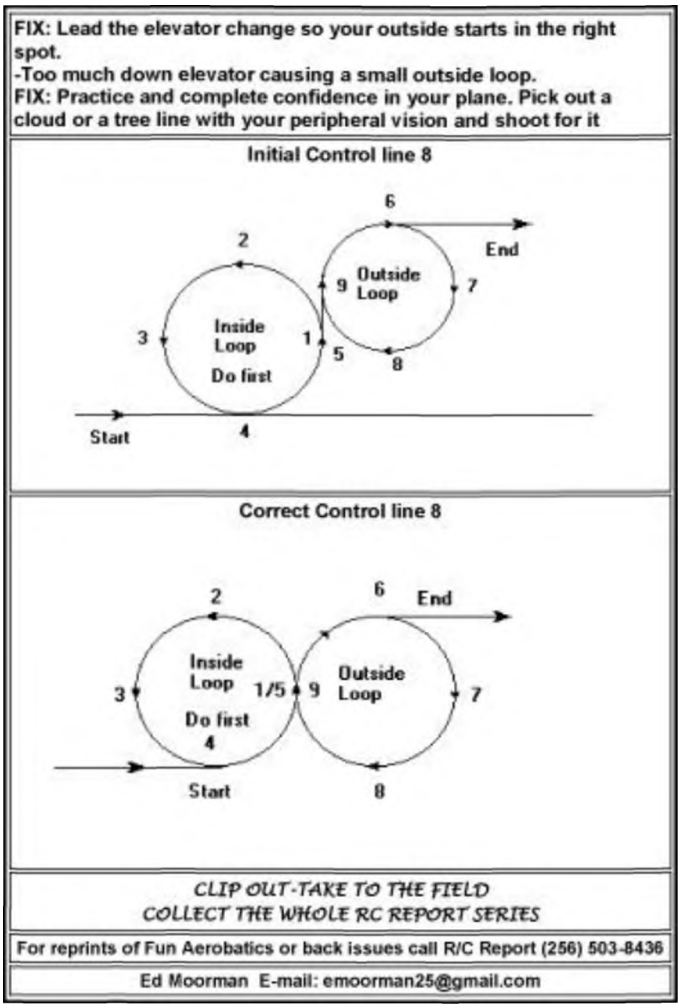
Start from the Standard Set-up, one mistake high. Then you are going to do a normal inside loop. Nothing could be easier. This will take you through positions 1, 2, 3, and 4. Don't stop at the bottom, position 4. Continue on like you are going to do a second loop.

When you get to position 5 you will be going straight up. I know you're thinking ahead of me. You change from up elevator to down elevator and do an outside loop, going through positions 6, 7, 8, and 9 and exit on top.

Your first control line 8 will probably look like the first drawing in the Aerobatics Card, nice inside with a high and tight outside. Until you really know your plane and get comfortable going toward the ground with down elevator, you will have a tendency to overdo it and make the outside too tight. There is also this tendency to cheat and get a little higher before you start in with the down elevator.

I recommend you do a lot of practice with the same plane so you will get to know it and how it responds. When you get to position 7, you can mentally tell yourself the plane is going to easily clear the ground and you won't even need full down. Now you can play the down elevator and feel for the starting altitude. Pick out a cloud or a tree line with your peripheral vision and shoot for it. It takes practice and complete confidence in your plane, but pretty soon you'll be doing control line 8s like the second drawing on the Aerobatics Card.

This is one of my favorite maneuvers. I love doing several control line 8s in a row down low. It's really easy to get low with a Stick like a Big Stick or Ultra Stick and the maneuver looks good. Also, most guys won't do one because of the downward outside, so you need to learn it. It's much easier than it looks. Remember to play the down elevator on the bottom of the outside to make the bottom of it nice and low.



FEATURE OF THE MONTH: World Models TAMEcat ARF mini-review

Background: The TAMEcat trainer was designed back in the late 1980's by Jeff Troy. The plans were published in the June 1990 issue of Model Aviation as plan number is #654E. The TAMEcat has a rectangular plan form, trainer-type wing with a flat bottom airfoil. The fuselage, however, is distinctly non-trainer looking. Whereas most trainers have a "Cessna" look, the TAMEcat has a fuselage that is styled after the US Navy F-14 Tomcat. High performance fighter = Tomcat. Semi-scale RC model with a trainer wing and airfoil = TAMEcat. You get the connection. After publication, the plans became an instant best seller. I should remind you that 1990 was before

ARFs took over and people, for the most part, still built kits.

In the mid 1990's, Altec and MRC produced a foam wing version in both ARF and ARC (Almost Ready to Cover) versions. They were a little heavy, but with the huge wing, it didn't seem to matter, according to owners.

This brings us to the latest incarnation of the TAMEcat, the World Models ARF. I have built and flown several World Models kits and have always been pleased with the results. Their Sky Raider Mach I, high wing trainer, and Mach II, low wing sport plane have been very popular in my club. I had a Mach I on floats and I made a twin fuselage version of the Mach II (like the F-82 Twin Mustang). It was one of my best flying twin engine planes. I presently have a World Models LA Racer and it is also an excellent flying plane, so my expectations were high for the TAMEcat.

To say the TAMEcat is a good looking plane would be an understatement. It is a great looking airplane.

The World Models TAMEcat ARF trainer. The most prominent feature is the fuselage styled like a US Navy F-14 Tomcat fighter. Notice the panel lines on the covering, the twin tails with the "Jolly Rogers" fin flash, the canopy with two aviators and the fiberglass cowl. Missing in this photo is the matching gray spinner. As I said, it's a great looking airplane.

If you aren't sure it will fly like a trainer, take a look at the airfoil. It's flat as a pancake on the bottom, just like one of those Cessna clone planes that all the companies have for trainers.

Unboxing the ARF kit: The first thing you notice after delivery on the World Models TAMEcat is that it comes in a large box. This means the TAMEcat is going to be a pretty large airplane for a .40-.46 sized trainer. The wing span is 69 inches and the area is 831 square inches. The flying weight is estimated to be 5 to 6 pounds and you'll need 5 servos-2 for the ailerons.

Once you have all the pieces out of the box, you'll notice that everything is sealed in clear plastic sleeves as shown below. Hardware included.

The wings and the whole plane are gray with panel lines on top and white on the bottom for a nice contrast in the air. Unlike what it says in the instructions, all the control surfaces are pre-hinged with metal, pinned hinges. There's no need to worry about World Models' hinges, they won't come out. You get a full set of good hardware, including a good, adjustable engine mount and every screw, bolt and nut you'll need. Every pushrod is pre-sized and the ones for the twin rudders are pre-bent. One last thing on the hardware, notice the bomb. There is also a bomb release installed in the fuselage. However, the bomb seems to only be a decoration. It doesn't come apart so you could add power to mark the spot of impact and it is balanced tail heavy when attached. The bomb release does not have an easy way to hook it up to a servo for in-flight release. Flaps and I decided not to bother, since it wasn't rigged for dropping.

Construction of the World Models TAMEcat ARF

Instruction Manual: The instruction manual only rates as FAIR. I feel it is much too abbreviated for a beginner building a trainer. For someone who has a plane or two under his belt, they are Okay, but not, in my opinion, for a first time builder.

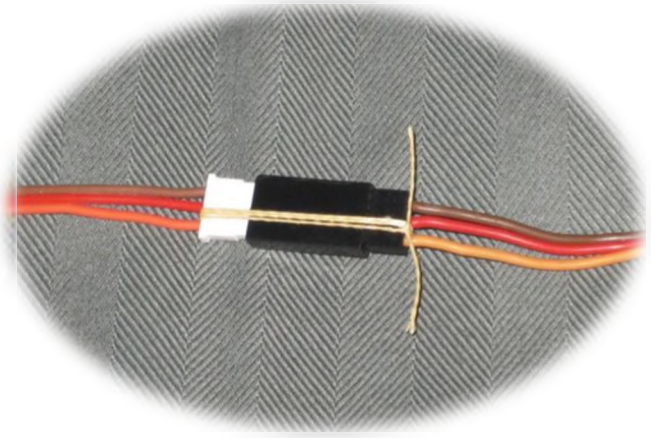
Wing: The wing is in two panels with hardwood wing joiner/brace. There is little or no dihedral. Since the ailerons are pre-hinged, you only have two real jobs to do on the wing construction. First is to join the wing panels and second is to install the aileron servos and hook them up.

Joining the wing panels: The instruction manual says to use epoxy to join the two panels. That's pretty easy to do, cover the joiner and root ribs with epoxy and shove the panels together with the joiner in place. My way of doing it is to use Gorilla Glue and 5-minute epoxy.

This photo shows the wing panels, the hardwood joiner and the two glues, Gorilla and 5-minute epoxy.

Think of using epoxy this way. If the socket for the wing joiner is tight, will it wipe most of the epoxy off as you slide it in? If it is loose, are you getting good contact? The neat property of Gorilla Glue is that it foams up as it cures; filling any gaps, spaces or holes. It will also push the wing apart as it foams and expands. This is the reason for the 5-minute epoxy. It holds things together while the Gorilla Glue cures. First, moisten the inside of the socket on both wing panels. This helps the Gorilla Glue foam and expand. Then coat the joiner with a thin coating of Gorilla Glue and insert into one wing panel socket. Mix up a batch of 5-minute epoxy. Coat the root rib with a good amount of the epoxy. Make sure the joiner has Gorilla Glue on it and shove the wing panels together. Clamp the wing mounting tabs on the leading edge together and clamp the trailing edges with a wide spring clamp. Lay the wing aside to cure, but check it every half hour or so to see if any excess Gorilla Glue has foamed out of the joint. If it has, wipe the excess foam away before it cures. After it does cure, that nice, fluffy looking foam becomes like foam stainless steel.

Installing the aileron servos: I measured the distance from the center of the servo mount and the edge of the exit hole in the wing center section and got 11 inches. Most servos have a lead that measures from 10"-12". This means you'll more than likely need two, 6-inch servo extensions or risk having your servo lead drop back down inside the wing structure. Since you'll use an extension, please do not forget to tie or clip the junction together. I have used several different types of commercial gadgets to keep the leads from separating and I have also used string.



Shown here: the extension tied on to the servo lead with 30-pound test, Kevlar fishing line. Any string will work as long as they can't be easily pulled apart.

It is not mentioned in the instructions, but inside the wing, running from the servo mount to the lead exit hole, there is a string that is tied to two

small pieces of wood. This is to be used to pull your servo lead through the wing.

Once you have the servo installed and the lead pulled through the wing, bolt the control horn on the aileron-there are marks where the screws go-install the clevis and pushrod.

Fuselage construction: Stab and fins & sub-fins: Just to make is easier, install the control horns on the stab and rudders before you glue them in place. The elevator horn goes on the white, bottom side. The rudder control horns go on the solid black, inside of both rudders.

Before you epoxy the stab on, make sure you cut the covering away from the slots for the fins. There is a slot on each side of the stab along with matching ones in the fuselage and a couple more forward of the fin. When you do epoxy the stab in place, insure the slots line up between the stab and the fuselage.

The fins can be epoxied on next. The skull and crossbones go on the outside. Trial fit the fins as you may need to trim the slots out a little for an easy fit.

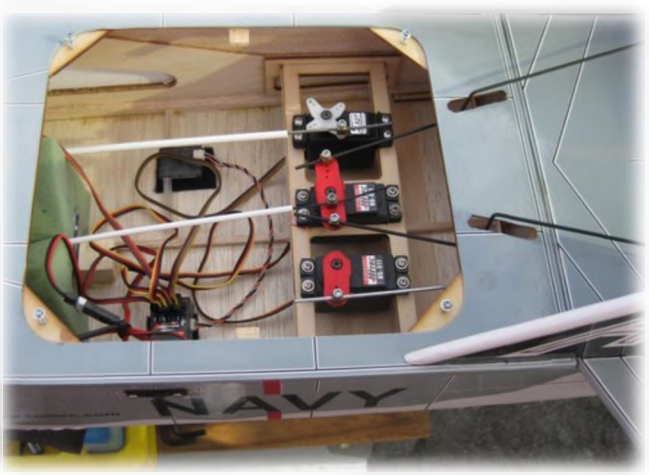
There are four slots on the bottom for the sub fins. The slots are different sizes so you can't get the sub fins on backwards.

Main gear, nose gear and wheels: The main landing gear is wire and is easy to install. There are slots on the bottom of the fuselage and holes for the anti-rotation section. The gear is held in place by two plastic, landing gear clips and screws. Use the supplied wheel collars to mount the wheels.

Locate the nose gear, the nose gear steering arm, the nose gear steering pushrod and a wheel collar. The holes in the bulkheads for the steering pushrod are the ones on the left side. They are a different size from the throttle pushrod holes so you can't mix them up. Slide the steering pushrod and plastic sleeve in place with the Z-bend toward the nose gear and steering arm.

Here's the nose wheel steering arm with the Z-bend in the outer hole. Also shown is the tank with the rubber bands to secure it in place. Two rubber bands are included and the right side of the bulkhead has a hook shaped cut-out to loop the rubber bands over. In addition, there is a balsa bar across the rear of the tank to keep it from sliding backwards. This piece of balsa is already cut to length and ready to be CA'ed in place.

Trim the covering away from the hole for the nose gear in the bottom of the fuselage and insert the nose gear, going through the steering arm, then the nose gear mounting blocks, which are pre-installed. Tighten the screw on the steering arm and add a wheel collar to the top of the nose gear leg. Adjust the nose gear up or down in the steering arm and collar so the plane sits level. You can adjust the steering and glue the sleeve in place after you install the rudder servo.



This photo shows you the three fuselage servos. The rudder servo is in the center, the throttle servo is in the top of the photo or the right side of the fuselage and the elevator servo is in the bottom or left side. Notice the spacing. This spacing gives you good clearance for servo arm and pushrod clearance between the servos.

Installing the servos

I'll admit I used Great Planes pushrod connectors instead of the ones in the hardware package. I like the way they attach with a plastic keeper. I like the 4-40 socket head screw and I like the square shape which makes them easy to grip with needle nose pliers when I tighten them. For those of you who don't like or use pushrod connectors, I'll only say that I have been using them since they first came out years ago and I have never had one fail.

Notice the location of the pushrod connectors on the rudder servo arm. For the rudder servo, the two rudder connectors are at the ends, while the nose wheel steering connector is in the closest in hole so it has less travel.

Remove the rudder servo arm, slide the nose wheel steering pushrod into the pushrod connector and reinstall the servo arm and screw. Trim the covering out of the rudder pushrod slots, screw the clevises to the pre-bent pushrods, slide the pushrods through the slot and into the hole in the pushrod connector. Attach the clevis to each rudder, then straighten the pushrods and cinch down on the pushrod connector screw. Trim the covering out of the jet exhaust that is behind the elevator servo and slide the elevator pushrod into the pushrod connector. Attach the clevis to the control horn, then tighten the pushrod connector screw.

Finally, insert the throttle pushrod and sleeve into the holes in the bulkheads from the firewall, going back to the throttle servo. Slide the pushrod through the pushrod connector, but don't tighten it very tight. You'll need to move it after the engine is installed.

Radio

At this point, you can install the receiver and battery and plug in all the servos. We'll do the set-up later.

Tank

Assemble the tank. The instructions show 3 lines, but I prefer a 2-line set-up. One hint cut the tubing to the clunk inside the tank so the clunk does not get any closer than ¾"-1" to the rear of the tank. Sometimes, if the clunk line is too long, under acceleration, like on takeoff, the line can stretch and the clunk will suck itself up against the back of the tank, cutting off the fuel. The last thing to do is to insert the plug and tube assembly into the tank and tighten it up. This is easier said than done. A few years ago, the tank plugs could easily be popped out of the tank. I've had them heat up in my garage and have the plug forced out by the pressure. Not anymore. The plug now has a flange of rubber on the bottom that makes it had to get in and

nearly impossible to get out. Here's the easy way to get the plug into the tank. My flying buddy, Ugo Ferrari, showed me this method, so thanks to him.

Once the plug assembly is complete with plug, vent/pressure line, fuel feed line, clunk line and clunk, front and rear pressure plates and the center screw, find yourself a socket. I mean a socket wrench socket. You'll need one on the order of a half inch.

The tank plug assembly on top of the tank with a Craftsman ½" socket.

It has to fit around the feed and pressure lines coming out the front of the plug assembly, but still be small enough to put pressure on the front plate.

The ½" socket in place to put pressure on the plug assembly to force it into the tank. The socket is long enough to clear the feed and pressure tubes, allowing you to press the hard rubber plug in place.

There are a couple or three ways to force the plug into the tank. You can put the socket on to the socket wrench and press down on it. You can use a large C-clamp on the bottom of the tank and on the socket. This is Ugo's method. I have a table top drill press and I move the table to the side and sit the tank on the bench and use the chuck to press the plug assembly into the tank.

Once the tank is assembled, install it in the fuselage with the supplied rubber bands and the balsa bar to keep it from sliding rearward. Refer back to Photo7 for details.

Engine

The engine we used was a Super Tigre .40. It is a ringed engine with ball bearings that runs great and is the same price as an OS .46LA. The included engine mount is adjustable for width, so most .40-.46 sized engines will fit. Once you

have the engine mount bolted to the firewall and drilled for your engine, insert the throttle pushrod Z-bend into the carb arm and bolt the engine in place.

Radio and adjustments: Before you do the cowl, prop and spinner, let's get the radio set. We used a Spectrum DX-6i. Here's my method. First, go to the model memory you are going to use and do a RESET or whatever your transmitter calls it. You want to clear the whole model memory and set it back to factory default.

Next, turn on your receiver and transmitter and check the position of the servo arms. If any arm is not centered, remove it and re-install it as near to centered as you can get it. If any are off slightly, go the SUB TRIM function and center that servo arm. Loosen the pushrod connectors and set the controls to neutral and tighten down the connector screw. Try full control both ways and set your dual rates to the specs in the manual.

To set the throttle, put your throttle stick to the half way point. Mine has little tick marks which you can't see in flight, but they are good for setting the halfway point. Next, loosen the throttle pushrod connector, open the carb to half way and tighten the connector screw. Now test full throttle and idle. Use your END P☺INT ADJUSTMENT to make any minor changes.

Cowl

The TAMEcat ARF comes with a nice fiberglass cowl and also a clear plastic cowl you can trim first, and then mark the fiberglass one for cutting. I used a Dremel tool with a cutting wheel and a sanding drum for most of the work. For some close trimming, I used a hobby knife and a couple of files. It just takes time and a lot of trimming and fitting.

The one thing you don't want to forget is you need holes to get to the muffler bolts and a hole to get to the low end adjustment on the carb. You also need to be able to get to the fuel line and nipple unless you are using a 3-line system and a fuel dot.

Spinner

The kit comes with a gray spinner that matches the color of the cowl. It is already cut out for a prop, but it may take a little trimming, depending on what prop you are using.

Flying

Saturday morning after a final checkout and pre-flight pictures, we fueled up the TAMEcat and cranked the Super Tigre .40.

Taxi: I taxied out and lined up. The nose wheel steering might be a little more sensitive than required. This is more than likely due to the relatively short distance from the nose gear to the mains.

Takeoff: I added power slowly and after a normal take off roll I was airborne. It came off the ground easily and felt very solid during the turn and climb out.

Trim & Cruise: The TAMEcat was easily trimmed out with just a few clicks. It handled very nicely, very positive response, but also very gentle. This would be an easy airplane for a novice to fly on low rates. Turns did not show any tendency to dive or over bank. The roll rate and pitch sensitivity seems correct for a trainer. The TAMEcat is a well designed trainer with great looks.

The Super Tigre .40 powered TAMEcat in a fly-by. It's a great looking trainer that handles easily.

Acro

I ran through the normal acro and it performed quite well. For the next flight, I turned it over to fellow test pilot, Mark Pfeiffer, for another opinion of the acro and some low passes. I was going to be taking pictures. He agreed with my assessment of the flight performance of the TAMEcat. Here is our assessment of the acro.

Inside Loops: The TAMEcat does inside loops very nicely. The plane flies on its great big wing, so the Super Tigre .40 is plenty of power. The TAMEcat seems to soar around the loop.

Immelmann: The TAMEcat has plenty of speed and authority to do a nice roll out on top of the Immelmann. It didn't get slow and dish out of the half roll on top.

Cuban-8: Like the Immelmann, the TAMEcat does a very good Cuban-8. It's big and not very fast so you don't have to rush the rolls in the middle.

Rolls: Good roll rate. Not fast, but fast enough so the plane doesn't dish out and dive at the end of the roll.

Point rolls: The TAMEcat hits the points well, but if you want to coordinate, you need lots of down. This would be expected since it has a flat bottom airfoil.

Inverted flying: The TAMEcat flies inverted well, but expect to use about half down elevator.

Outside loops: I hadn't tried any outsides, but asked Mark to try an outside loop. Mark was flying straight and level and pushed in just about full down elevator. The TAMEcat went around the outside loop. The last part wasn't all that pretty, but it staggered and got around. That was pretty cool. Frankly, I was amazed. It must be the fact that it has a huge wing area, flat bottom airfoil or not.

Next, I asked him to do a reverse outside loop, starting from inverted and going upwards. The reverse outside was better. The plane is picking up speed on the last quarter of the loop so the final section looks better. Pretty darn good for a trainer with a flat bottom airfoil.

Now before you go off thinking the TAMEcat is a true acro plane, let me set you straight. The TAMEcat is a trainer. It does not fly like a Stick. A good pilot can make the plane do a lot of maneuvers that I would not recommend to a novice flying this plane. We were using a generous high rate setting on elevator and both of us are very experienced doing outside maneuvers.

Stalls and spins: Throttle back and start feeding in back stick and the plane mushes around and doesn't a stall. Neither Mark nor I could get a spin. Like any good trainer, this plane is not going to get out of control unless you dumb thumb it.

Rudder use and knife edge: I asked Mark to try some knife edge. He did a fair knife edge, but I could tell he was holding a double handful of control. The twin rudders are fairly powerful, but the plane has a lot of coupling. Then I asked him to try a flat turn to confirm my findings. He leveled off, set up again and put in left rudder. The TAMEcat rolled slightly, but the nose dropped steeply. He tried again with full rudder and the nose drop was severe.

Pitch coupling with rudder is very common and happens on most planes. As a general rule, planes with the stab on top of the fuselage, like the TAMEcat, tend to drop the nose with rudder, while planes with the stab on the bottom of the fuselage, like Sticks, tend to pitch upwards with rudder. Pitch coupling is normally not violent, but it is something you need to be aware of, especially if you are used to using rudder in a crosswind landing.

Landing: As can be expected for a trainer, the TAMEcat lands nicely and slowly. A student pilot will find it very forgiving all the way down to touchdown. An experienced pilot will probably find that it floats way too much. I had several people fly the lane and the common statement about landing was, "It doesn't want to quit flying."

Bottom Line: The TAMEcat is really a big pussycat. It is an excellent flying airplane for its intended purpose-training. It has a huge wing-bigger than most other trainers for this size engine. It takes off and lands very nicely. It does nearly all the acro you want. It does not stall, snap or spin with normal controls and speeds. Inverted flight takes a lot of down control. ☺utside maneuvers are difficult, but possible for a good flier. A novice should have no trouble learning to fly on the TAMEcat.

Final Thoughts: My only problem with the TAMEcat is that it looks so good; I expected it to be more of a Stick-type sport plane than a trainer.

Coming in a future column: It turns out that Ugo had a second TAMEcat kit, new in the box. He sold to me for a good price. Tune in down the road and see what I did to a TAMEcat kit to make it into a hot, OS .55AX powered, **"Not-So-Tame" Cat.**

TAILS FROM THE OTHER SIDE ISABELLE

Happy New Year!

I would like to take a moment to look back at 2010. My column has changed some since "the first time" back in January 2010. Pet of the Month has fallen away. I still occasionally get an email that includes a picture of a furry friend to share. Thanks, guys! I think some of the "funny" is gone, too! Mom has been pretty busy and doesn't seem to have a lot of time lately to help me. We are going to work on that for this wonderful New Year! ☺

Photo Ops is a bust this month! Send in some pictures from your events! SHARE!

Well, let's see what's happening in February!

The Jefco Aeromodlers Club will be hosting a RC Auction on February 5-6, 2011 in Denver, Colorado, at the Jefferson County Fairgrounds. Contact Steven Mangels at rcflyer@qwest.net or visit: www.jefcoaeromodlers.org. Buyers and sellers welcome and over 1000 items will be up for bid.

That same weekend (2-5-2011) in Wheaton, Illinois, the Tri Village RCers Swap Shop will take place at the Dupage County Fairgrounds. Alan Krecun is the CD. Visit www.trivillagerc.org for more information. Vendor doors open at 7AM; doors open to public at 9AM. $20 per table, $18 for 3 or more. General admission is $5. Send payment to Al Krecum, 1407 Tinnerella Ave, Streamwood IL 60107. Make checks payable to Tri-Village RCers.

I could be wrong, but I thought it was cold in Colorado and Illinois in February. These guys must be hardcore hosting an event OUTSIDE!

Of course, that doesn't mean that the guys in Columbus, Ohio, are softies. The LCRC Annual Swap Shop and Auction will be INSIDE at the Whitehall Recreation Center on February 5, 2011. Robert Grashel can be reached at bobandjeanetteg@hotmail.com. Visit: www.lcrcc.net. Tables are available in advance for $10 each. Admission is $5; under 12 are free.

Neither are the guys from Export, Pennsylvania, who are putting on a RC Flea Market With Auction at the American Legion Hall on February 6, 2011. Eugene Binduga is the CD. Visit: www.remarcs.org/auction for information. Flea market, auction, frequent raffles, prize drawings, hot food will abound! Contact CD for info and tables. Doors open 8AM, admission is $3, and tables are $10. Visit website for updates.

Valentine's Day weekend, it's time to head to Wittman, Arizona for Desert Jet Storm (2-11-13, 2011). Contact James Allen at jamesea1@earthlink.net or visit www.speedworldrcf.com. Fun jet rally with no altitude or noise restrictions with a 750x80' paved runway and paved pit area. Celebrate with a great crowd. Sponsor:

The 22nd Annual Winter Festival of Giants will be held in Deland, Florida on February 11-13, 2011 at the Deland Airport. Jessie James (not that Jessie James or that other one either) can be reached at jjames308@hotmail.com. Visit www.delandrcclub.com. 60/80 rules apply and 1/4 scale. Dry RV parking is available. Vendors, pilot awards, great fun, great food. Pilot coordinator is Donnie Bryans.

That same weekend, on the other side of the country, in Monroe, Washington, the NW Model Hobby Expo will take place at the Evergreen State Fairgrounds. Ronald Swift can be contacted via email at ronswift@cablespeed.com. Visit: www.nwmhe.com for more information. Join them for indoor flying over entire weekend. A fun fly will be held on Saturday, from 10AM to 3PM. Awards presentation held at 2PM. AMA membership required. Moderated indoor flying will be allowed for pilots and models passing safety checkouts. $15 per day, $25 for entire weekend includes Saturday fun fly event entry fee.

Flying over to the East Coast, we find the NCRCC 30th Annual Auction and Swap Shop in Vernon, Connecticut at the Vernon Center Middle School on February 12-13, 2011. Robert Boulais can be reached at dawnpatrol536@juno.com. Visit: www.ncrcc.org. Food is available; raffles and door prizes, too! Pre-registration only on Saturday, February12, 1PM-3PM. Registration Sunday from 7:45AM-12noon. Auctions starts at 9AM; swap shop opens at 8AM on Sunday. Admission is $8, under 16 no charge. Ten percent sellers' premium.

At Cross Point Church in Bloomington, MN, on 2-12-2011, the 35th Annual TCRC Auction will be held. Email Patrick Dziuk at pdziuk@gmail.com. Visit: www.tcrconline.com for more information. Registration starts at 8AM, auction at 9:30AM. $3 admission fee and concessions on site.

Let's go back to Arizona on February 19-20, 2011 for the Sun Valley Fliers RC Championships held at club field in Phoenix. David Borrow can be reached at davidborrow@cox.net. Visit: www.sunvalleyfliers.com.

So I am going to keep you on your toes this month, because we are going back to Florida, Lakeland, Florida, in fact for the Polk Pattern Classic on February 19-20, 2011 Email Lawrence Odom at lodomjr@verizon.net. Events 401-406(JSO). $30 fee includes BBQ lunch on Saturday.

Maybe you're feeling the collegiate vibe? Take a trip to Cedar Falls, Iowa and attend the Expo in the UniDome at the University Of Northern Iowa. Stan Sweet in the big man on campus! Email him at sweet@cfu.net. Visit: www.expodome.org. Electric indoor fun fly, 25 oz fixed wing weight limit, 450 mm heli main blade limit. Park flyer and micro welcome. AMA park pilots welcome, 2 acre site, 160' ceiling, 120 VAC outlets. 9AM-8PM on Saturday and 9AM-5PM on Sunday. Fun fly

events throughout the day, door prizes, public air show.

The Fox Valley Aero Club Swap Meet will be held in St Charles, Illinois at the Kane County Fairgrounds on February 26, 2011. James Toth can be reached at jimhaydu2@sbcglobal.net. Heated 15000 sq ft facility, hundreds of tables, tables $13 pre-paid, $15 at door, 2 tables for $25 pre-paid. Admission is $5 per adult; under 12 free.

On February 26, 2011 in Greenfield, IN, the Indy Sportliners Annual Swap Meet will take place at the Hancock County 4-H Agricultural Building. William Miller can be emailed at whmiller@hrtc.net. The meet runs from 9AM to 1PM, with dealer set up 8AM. Admission is $3, wives and children free. Tables are $10, 1/2 tables available. Reserved tables released at 9:30AM, door prizes and raffle.

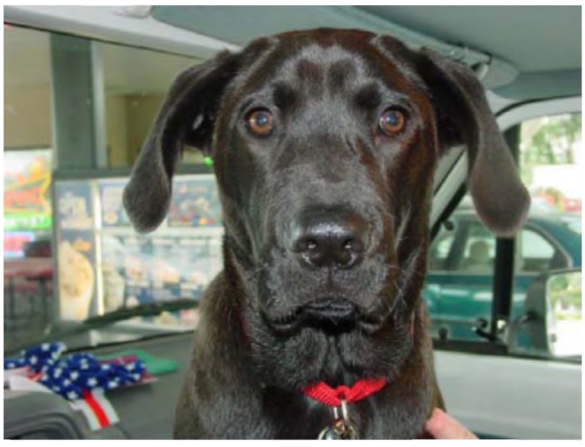
That same day in Charleston, WV, the 3rd Annual West Virginia RC Hobbies Expo will be held at the National Guard Armory. Charles Westfall can be reached at chuckflysrc2@yahoo.com. Vendor set up is Friday at 5PM and Saturday at 7AM. Hours are 9AM to 4PM; auction starts at 2PM. Admission is $5 for adults, 10 and under free. Vendors: 1st table is $10 then $5 per table after that. Last year 120 tables sold out. Planes, trains, cars and boats; something for everyone.

More fun in Phoenix, AZ, on February 26-27, 2011, at the 15th Annual Phoenix Helicopter Fun Fly the Cave Buttes RC Park. Email Eric Stevens at e_stevens@cox.net or visit www.phoenixfunfly.com. Enjoy great flying with great people. Helicopter only please. No onsite camping.

How about Venice? Your passport has expired? Oh no, I mean Venice, Florida! The 11th Annual Wings over Venice will be held at the Sarasota Land Fill. Jack Butler can be reached at jacknbutler@aol.com. Visit: www.venicerc.com. Location: exit 195 off I-75, Laurel Rd east to Knights Trail Rd to Sarasota Central County Landfill. Enter landfill and follow the signs to the RC model airfield (do not enter the scale lanes, stay right). Paved runway, primitive camping, and food/beverages.

Don't miss the Congaree Flyers 3rd Annual Heli Fly In held at club field and CD'd John Morgan. Email him at rcavi8or@gmail.com. Great fun, great fellowship, great food. A 60x600' runway with plenty of overfly room. Open flying, events, prizes, 50/50 available. Novice area and novice help. Swap and shop allowed. $10 landing fee includes lunch. No channel 20 please.

This is John's dog. He sent the picture to Mom, for me! ☺ Isn't he cute? Just like me!



McGuire is officially the mascot of the Sonic in Richmond Hill, Ga., known to all as "Cherry Dog McGuire".

Told you I was going to keep you busy…back to the West Coast for the Iron Man (I wonder if

Robert Downy, Jr will be there?) Electric Meet held in Richland, Washington, on February 26, 2011, at Higgins Field. James Reynolds can be reached at rrinds@frontier.com. Visit: www.higginsfield.com. All electrics welcome. First annual "Iron Man Electric" is a fun opportunity to bring your winter projects out for some fun in the sun. Columbia Basin is a great place to fly this time of year. See www.my2wings.com/calendar/ironman2011 for more information.

Hope all these events get your New Year off to a good start!

Let me hear from you! Send in your event information by email, via the office: juliac@rcreport.net, with information concerning upcoming events that you are aware of – no matter how big or small! Attach a flyer, too! If you don't tell the RC world about it, the RC world will never know to visit and fly with you in your part of the country! And don't you want to make new friends?

Isabelle

These photos came in from Ned Watts. Just not quite enough room last month when we shared the picture of the Retriever. Thanks again, Ned!

For those who missed it last month and just for the fun of it, here's the Retriever again!

WANTED

REWARD FOR INFORMATION ON WHEREABOUTS OR LIVE CAPTURE!

Sparky's Revolt!

By Tony Coberly

Well it's the New Year and there are all kinds of new goodies on the market to assist the electric modeler. Several years ago I talked about a few of my favorite chargers, but things have changed drastically since then. I'll talk about the pros and cons of chargers that I have used in the past, as well as the new options on the market.

The first high-end charger that I used on a regular basis was the Thunder Power RC TP-1010C. At the time the Thunder Power RC 1010 was the only 10 cell LiPo balancing battery charger on the market. (TP-1010C is capable of charging NiMh, NiCd and Lead acid as well with a firmware update) The 1010C will charge 10 cells LiPo in a series configuration at a maximum of five amp charge current. The addition of the Thunder Power TP-210V allowed for balancing across all 10 LiPo series cells. The TP 210V balancer is connected to the 1010C charger through a data cable for monitoring purposes. The five amp charge rate would charge a 10 cell pack in one hour from a completely dead condition. The charger works very well, but it was the only option on the market, so you had to deal with its idiosyncrasies. One annoying little problem I had was with the balancer. Frequently when plugging in the two 5-cell LiPo packs into the balancer, the balancer would begin to beep erratically and flash five LED lights rather than the 10 cells I had plugged in. I was never able to ascertain the rhyme or reason to when the balancer would flash this error, but I simply had to unplug the packs and plug them back in a different order next time. Another annoying little problem was the connectors are quite

small and the leads off the batteries are quite short. There was some difficulty plugging and unplugging them from the balancer itself. There were battery adapters that could be had with extended the leads from the balancer to about 12 inches, but that's other item you had to buy with a cost about $20. Another problem or concern I had was the fact that the charger would get very hot during the charge cycle. The charger has an internal fan that would be running, but the exterior aluminum case of the charger would exceed 140°F. It's definitely hot enough to get your attention! These problems were not terribly difficult to deal with, but now I encountered a larger problem. I had to send my Thunder Power 1010C charger back to Thunder Power RC on two different occasions for repair. The first time I sent the charger back was because it would not see any output battery on the charge circuit. The charger would read output error when a charge cycle was initiated. Basically the charger went open circuit somewhere internal to the charger and it would never see that I had batteries plugged into it. I sent the charger back to Thunder Power RC. They e-mailed me that they were replacing the charger at no cost under warranty. I was happy to see this because the charger did work and it worked well. Whatever actually failed internally appeared to be a manufacturing defect so they made it right by sending a new charger. Now the second charger worked well for about four months until I experienced the same failure. I sent the charger back a second time and received a phone call from Thunder Power RC. I was told that the charger was no longer under warranty I would have to pay for the repair of the charger. I was then informed that rather than repairing the charger they could sell me a new charger at a 50% retail rate. (Basically hundred dollars plus shipping) I wasn't entirely happy with this because the charger had failed the same way twice. In my opinion, it was the heat of the charger that caused internal failure. By this point I had procured another charger for charging my 10 cell batteries so I chose not to have the charger repaired. I could see no reason to spend $100 on a charger that has already failed me on two different occasions. I had procured the Xtrema LiPo charger from TME.

The Xtrema quickly became my favorite charger to have my field box. The Xtrema was very easy to use with a multifunction type joystick operation and large LCD readout. Now unfortunately this charger was only capable of charging 4 amps at 10 cells LiPo. (The Xtrema is a lithium-only based battery charger. You

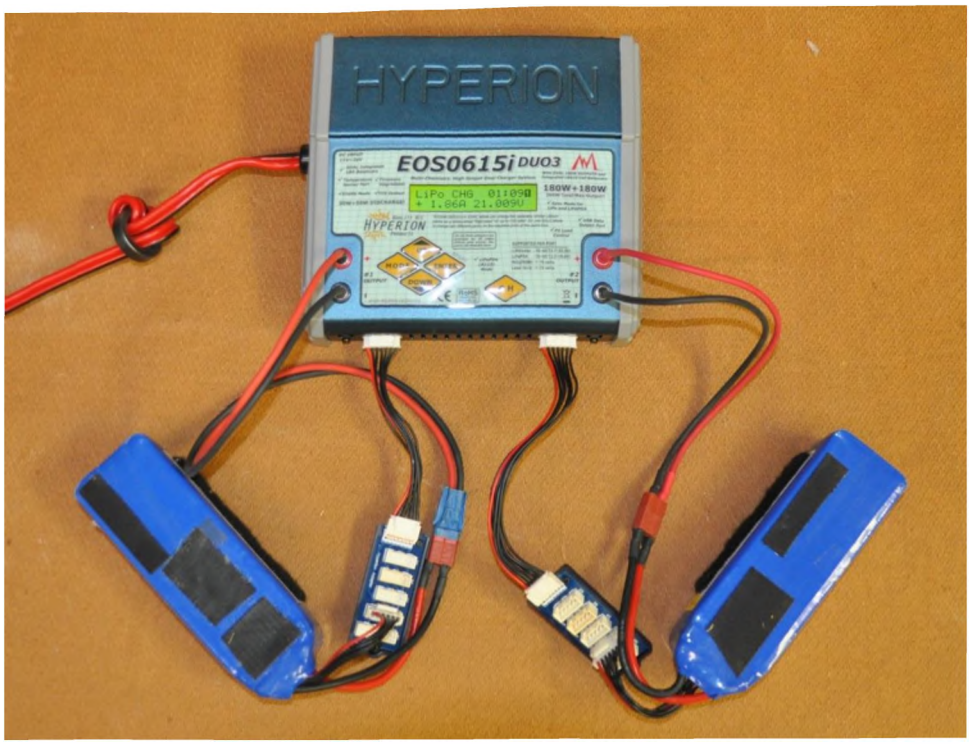
cannot use it for any other nickel or lead-based batteries) That doesn't sound like a real big deal, but it means a 5000 mAh pack will take about 80 minutes to charge. For sport flying this is great, but at a pattern contest this can be a bit nerve racking. Since I didn't have five or six sets of batteries, I had to make absolutely sure that as soon as the batteries that I just used had cool down below 110°F; I needed to have them on charge.

The Xtrema charger also doubled as a watt meter for testing and verification purposes. This data could be captured by a laptop computer with a USB to RS-232 port and was a very handy item. The Xtrema also had the option for a BIM module for balancing of cells across battery packs. The BIM (balancer interface module) worked very well but it is a very busy looking set up since everything is connected through ribbon cables rather than any kind of an integrated box. One of the negatives of the Xtrema was the lack of a backlit display on the LCD. When flying at night having a backlit LCD makes all the difference when to getting everything hooked up correctly and charging. This wasn't a huge bother because I fly mostly during the day, but still it's a bit of a hassle at night. Lastly the Xtrema, like the Thunder Power1010c, also got extremely hot during the charge cycle of 10 cells LiPo at 4 amps. The exterior of the charger would reach over 130°F on the aluminum services of the charger. Now I still like my Xtrema charger a lot, but I had a dumb thumb moment while trying to test a current on a large model. Since I did not have a single watt meter capable of 200 amps, I decided to parallel two watt meters between the batteries and the ESC in order to measure the current being used. The 80CC Yak 54 from Extreme Flight RC was a monster, and according to the sum of the meters, I was pulling 184 amps on a 12 cell set up with a 24x12 APC prop. When unplugging my watt meters, I allowed the connector to fall and touch another connector; basically an explosion occurred! With the Deans connector melted off, I didn't think there was a problem because the watt meter appeared to be on, but the next time I tried to charge a battery pack with the Xtrema, the charge cycle would not start! Sad day!! I can't say the charger failed me; I failed it!

With both of my large lithium chargers dead, I had to go to the hobby shop to get a replacement since I wanted to fly that weekend, and it was Friday! Our local hobby shop (RCHOBBYBARN.COM) has been around for years and carries no less than 15 different charger options. I looked through many different options, but I settled on a charger by Hyperion. The Hyperion EOS0615I DOU3 is a dual port charger that is capable of 180W per port. Each of the ports can support up to six LiPo cells with the balancer attached. Of course, you can also charge any other battery chemistry as well. NiCd, NiMh, Lead acid and LiFe are supported charge and discharge modes. There is a temperature sensor option on each side of the charger for optional sensors, as well as a mini USB port for future firmware updates.

The DOU refers to the SYNC mode where you can charge two battery packs as one by plugging each pack into a port on the charger.

Then you plug the balancing port of each pack into the corresponding bouncing port on the charger. Now when we charge in sync mode it will charge both packs as a series pack. For example, on port 1, I connect a 5 cell 5000 mAh pack, and on the port to connect another 5 cell 5000 mAh pack. Within the charger, I select SYNC mode in the charger charges each pack at 5 amps, but it monitors the balancer across all 10 cells. Basically charging it has a 10 cell pack. Since each board is capable of six LiPo cells, then we can actually "DUO or SYNC" charge up to a 12 cell pack. Now I have been using this Hyperion charger for well over a year now and am extremely happy with it. It does not get near as hot as the Thunder Power 1010C or the Xtrema did, and the integrated balancer does cleanup the charging area. This Hyperion EOS0615I DOU3 is now my workhorse charger. Try it, you will like it!



(Now the newest version of the charger is the Hyperion HP-EOS615DV3. This charger is capable of 300 Watts for charging port with a total charge capacity of 600 Watts continuous output! I have not laid my hands on the charger yet but trust now have one soon!)

Tony Coberly

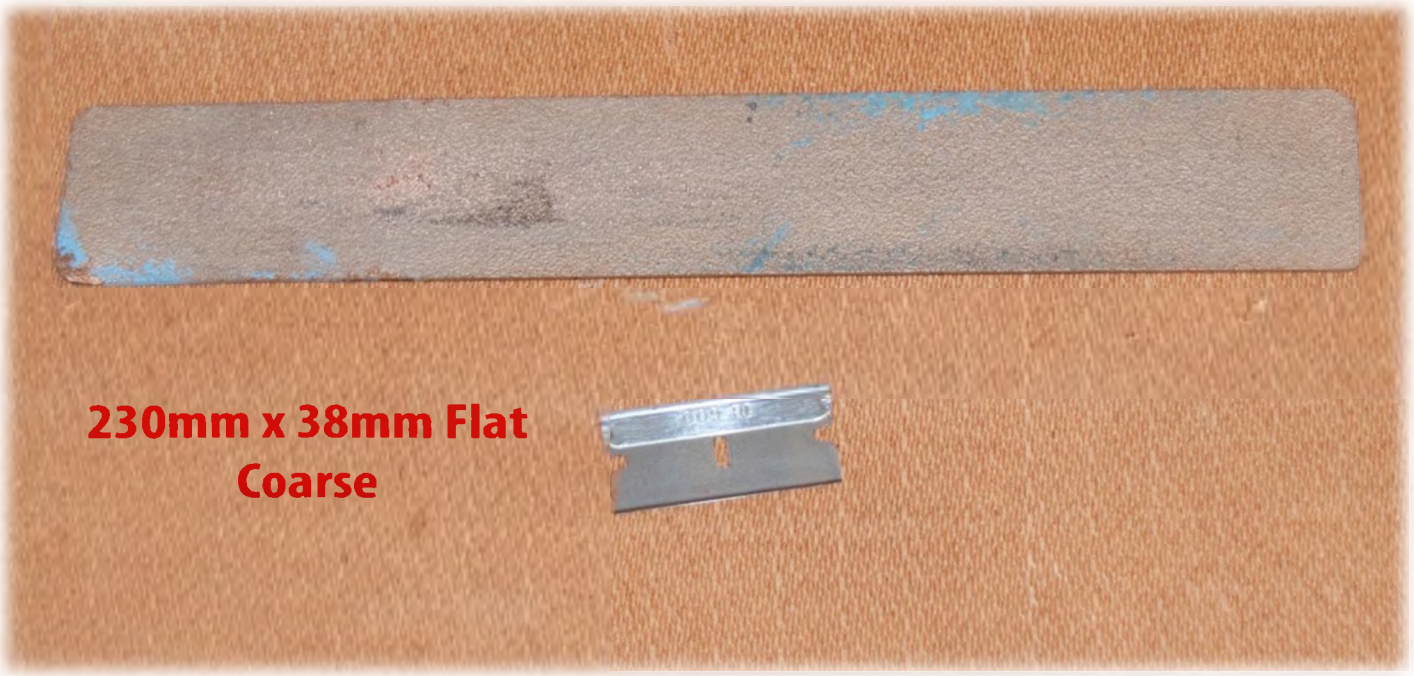
Tonyc@rcreport.net

Charger	Base Price	Balancer for 10 Cells minimum Price	Ni Cd	Ni Mh	Li Po	Li Fe	Li Mn	WARRENTY PERIOD	
Thunder Power 1010C	$199.95	$99.95	Y	Y	Y	N	N	1 year	
Xtrema from TME	$199.99	$79.95	N	N	N	Y	Y	3 year	
Hyperion EOS0615iDUO3	$239.95	Included	Y	Y	Y	Y	Y	1 year	

RCReport Online Tool Report!

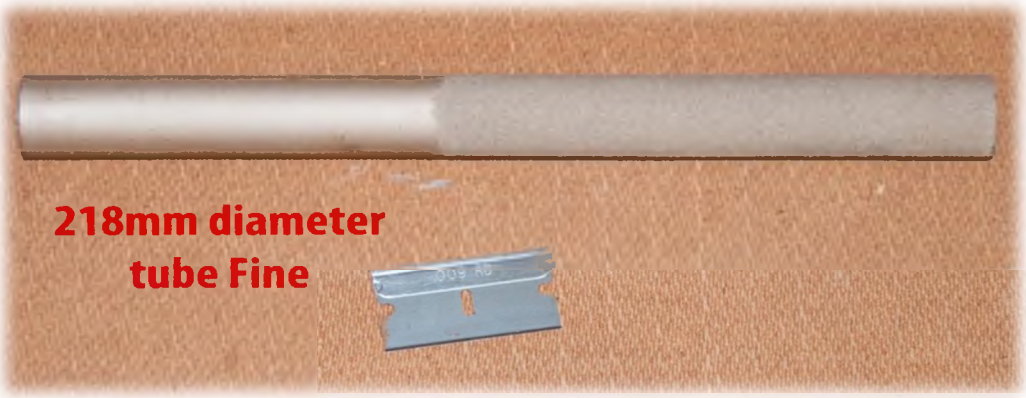
By Tony Coberly

Perma-Grit tools are a tungsten carbide based set of sanding and shaping tools. The tungsten carbide grit coating is the second hardest material known to man, just behind diamonds! These tools can be used to sand on any and all materials from balsa and plywood onto fiberglass and the even carbon fiber! The Perma-Grit tools come in two different grit options, 180 coarse and 320 fine. There are eight different configurations that are available in both grits. The tungsten carbide is nearly indestructible and very resistant to clogging. Should the file begin to clog up they are very easy to clean out. If the grit is clogged with wood or composite materials, a simple wire brush will clean it out. For resigns and glues clogging the file, just use the appropriate thinner for your resin. So for CA glue, just use acetone or debonder. The grit will not be affected by mineral spirits, acetone, denatured alcohol or even gasoline. Allow the clogged file to soak for a few minutes and then wipe off with a rag or brush as needed.



First is a 230mm x 38mm flat file that is useful for filing off sharp corners and quick operations that don't require a lot of pressure. The file in only 1mm thick metal, so it can be bent if you apply too much pressure, but it is still considerably more rigid than most metal rulers. (F-101and F-102)

Second is the 230mm x 26mm / 36mm diameter half round file. This is the same material as the flat file, but it is bent into a half round with the grit on the outside of the radius. This file is great for taking off a lot of material quickly and easily. The half round allows for much more strength of the tool, and allows you to bear down a bit harder. The radius shape focuses the force to a smaller area so you can control and focus your effort. (R-200F and R-200C)



during long hours of scratch building. The grit also runs down inside the tube so you can…well I'm not really sure what you can use this for! (R-202C and R-202F)

The third style is the 230mm x 38mm tangent shape. Now this one is a bit odd with its bent shape. Once again it is the same piece of metal like the flat file, but it is bent in the middle down the length. It is not bent to a 90 degree angle, but bent to more like 110 degrees. The grit is on the back side of the bend. I cannot really see a definite place to use this file specifically other than just smoothing out a patch in balsa or a hardwood plug for a cowling screw. (R-201F and R-201C)

Forth style is the 18mm diameter tube. This is the best configuration for filing and shaping when you need to put a lot of pressure. The 18mm tube is nearly indestructible and I don't believe that any human could break it without help. The grit only runs down the tube for about half of the length, so it's easy on the hand

Fifth is the smaller 12mm diameter tube. This is just a smaller diameter to allow you to get into smaller areas where the 18mm tube will not fit. Once again the grit continues half way down the handle and into the tube as well. (R-203C and R-203F)

Sixth is the small 6mm round rod file that has a red plastic handle on it. This is a solid rod that is great for enlarging holes in cowlings or wheel pants or any hole in a fuselage. (R-204C and R-204F)

Seventh is the small 6mm square rod file, again with a red plastic handle. This square rod has grit on all sides and is good for sizing and squaring up of servo holes that are a little tight. (S-204C and S-204F)

Eighth is the 230mm x 38mm diameter internal file. This file is again a half round file that has the grit inside the radius. This internal radius is great for

smoothing out leading edges of wings and stabilizers. (R-101 and R-102)

Now these tools can be purchased individually or together in popular set combinations. Below is a chart of prices from Aircraft Spruce in Georgia. Now you can order from Perma-Grit directly, but they are in the UK, so shipping is a bit slow.

I have been using these tungsten carbide tools for about a year now, and they are nearly worth their weight in gold. Now I know that some of you are saying that those prices could buy a lot of sandpaper, and your right, but the sheer convenience of the tool is great. You can save quite a few dollars by buying one of the kits. You owe it to yourself to get one or more of these and give it a try. If I could only have one, I would probably have the R-200F half round fine grit. For just under $11, it is a decent price and would prove the most useful, but I would still miss the others.

Model. No.	Description	Price
F-101	230mm x 38mm Flat Fine File	**$10.75**
F-102	230mm x 38mm Flat Coarse	**$9.90**
R-200F	230mm x 26mm / 36mm diameter Fine	**$10.75**
R-200C	230mm x 26mm / 36mm diameter Coarse	**$10.75**
R-201C	230mm x 38mm Tangent Coarse	**$10.75**
R-201F	230mm x 38mm Tangent Fine	**$10.50**
R-202C	18mm diameter tube Coarse	**$10.85**
R-202F	18mm diameter tube Fine	**$10.80**
R-203C	12mm diameter tube Coarse	**$10.60**
R-203F	12mm diameter tube Fine	**$11.25**
R-204C	6 mm round Coarse grit	**$10.30**
R-204F	6 mm round Fine grit	**$10.50**
S-204C	6 mm square Coarse grit	**$10.75**
S-204F	6 mm square Fine grit	**$10.75**
R-101	230mm x 38mm diameter Internal Fine grit	**$10.30**
R-102	230mm x 38mm diameter Internal Coarse grit	**$10.75**
SET 8C CONTAINS :	8 popular shapes in Tool Roll F102, R-200C, R-201C, R-202C, R-203C, R-204C, S-204C, R102	**$64.25**
SET 8F CONTAINS :	8 popular shapes in Tool Roll F-101, R-200F, R-201F, R-202F, R-203F, R-204F, S-204F, R101	**$71.75**
TR1	Tool Roll - Holds 8 tools, red plastic Velcro fastener	**$6.25**

I hope you will get some of these Perma-Grit metal files; you will be glad you did!

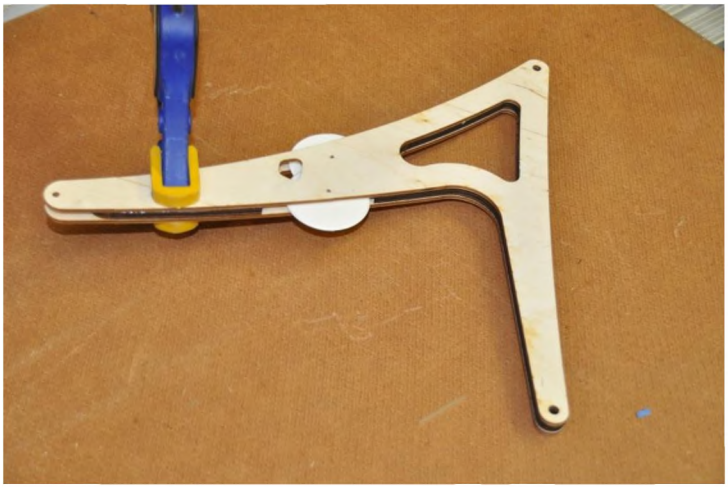
Tony Coberly

Tonyc@rcreport.net

The SIG Pro Balancer is designed to allow you to balance your model perfectly, and easily. The Pro Balancer consists of a ready to assemble kit of laser cut plywood parts with several metal rods and plastic wheels. The kit is packed well and we are provided with an eight page assembly manual to guide us through the assembly.

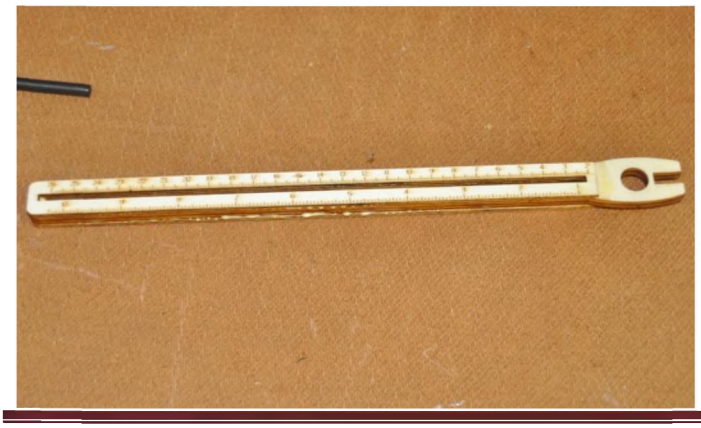
First thing, after all parts are inventoried, we need the four leg halves and a piece of plastic pushrod tubing. The balancer has an integrated prop balancer as well, so we first have to glue in the pieces of plastic tubing into laser cut holes that will be bearings for the wheels of the prop balancer. The tubing just slides through each of the holes and I applied a drop or two of CA glue and hit it with some kicker to set everything. Using a razor blade just cut the tubing off flush with the plywood.

Now we can assemble each of the leg assemblies. We first need to glue two 1/4in spacer pieces onto one of the legs that we worked on earlier. The instructions have us use SIGment, but I didn't have any on hane, so just some Elmers wood glue works fine. The instructions make it clear that these pieces must be aligned perfectly, so inserting the steel pins into the lower holes to keep everything aligned. Once the glue is dry, we can insert the plactic wheels into the bearings installed earlier and then the finally the second side of the leg. Some more wood glue and a clamp or two and one leg assembly is complete. Now we just repeat for the other side.

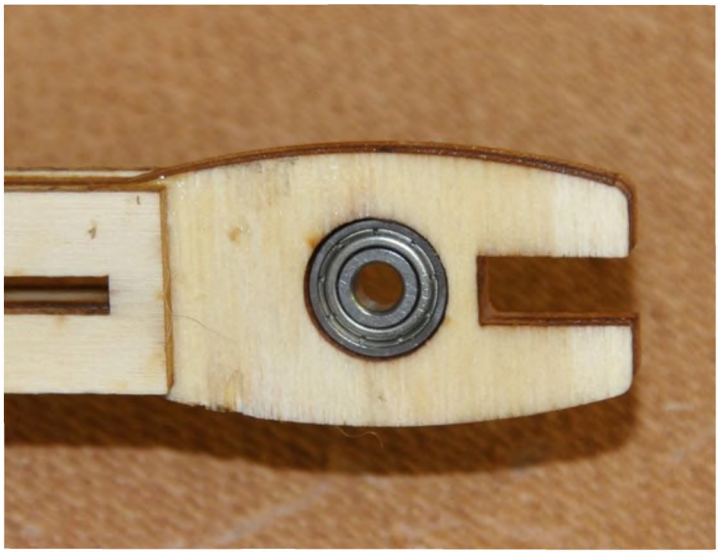


The balancer arms are the next thing to assemble. The arms start with a center plywood arm for each side, and two additional plywood outer pieces that we need to attach. One outer piece has a laser etched scale on it. The scale is marked in inches and centimeters. It is import to note that each leg only gets one scale! Once again some wood glue and clamps hold the pieces lined up as they dry. Once dry, we are instructed to sand down the ends of the arms with the hole. This is done to allow for a nearly zero friction pivot point, so don't skip this step.

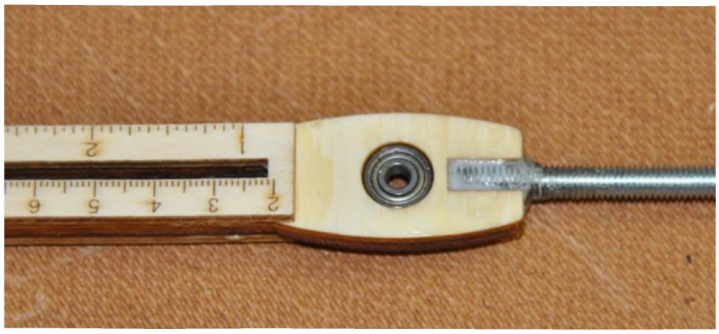
The arms of the balancer ride on ball bearings in a laser cut



hole in each arm. The bearing fits in the hole and is held in with a small drop of thin CA glue. The instructions are very good here and have us clean each bearing with a solvent of some sort. Then we have to sand the outer bearing race to give the CA somewhere to grab onto. The bearing in both of my arms was a fairly loose fit, so I applied some thin CA to the hole before I installed the bearing. I used two coats of CA and kicker on each hole before the bearing would fit more snug. Then I installed the bearing, centering it in the hole, since the bearing is not as wide as the arm itself, and a drop of CA on race side.

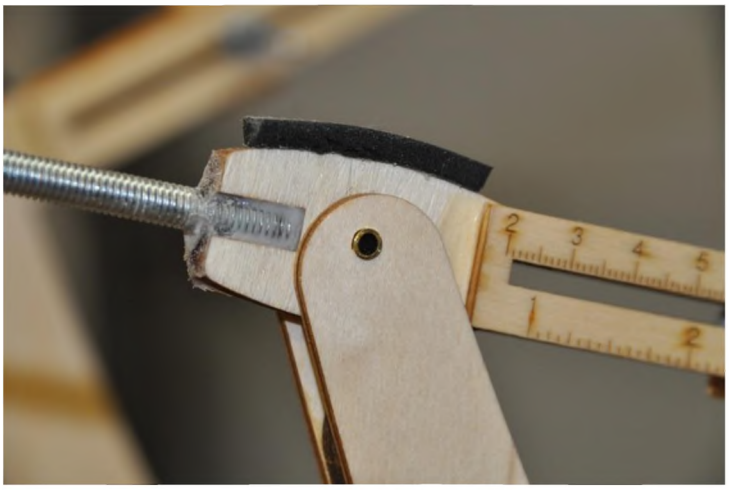


Now we can install the balance rod to the notch in each arm. This piece of threaded rod is designed to be a counter balance for the arm itself. The rod is glued into the notch with some medium CA and set with kicker. I was surprised that the instructions didn't recommend epoxy here, but oh well. With large amounts of CA in the slot, you need to be careful when you hit it with kicker. It will get very hot and crystalize into a white mass. It will also get very hot so make sure you don't glue yourself to it!

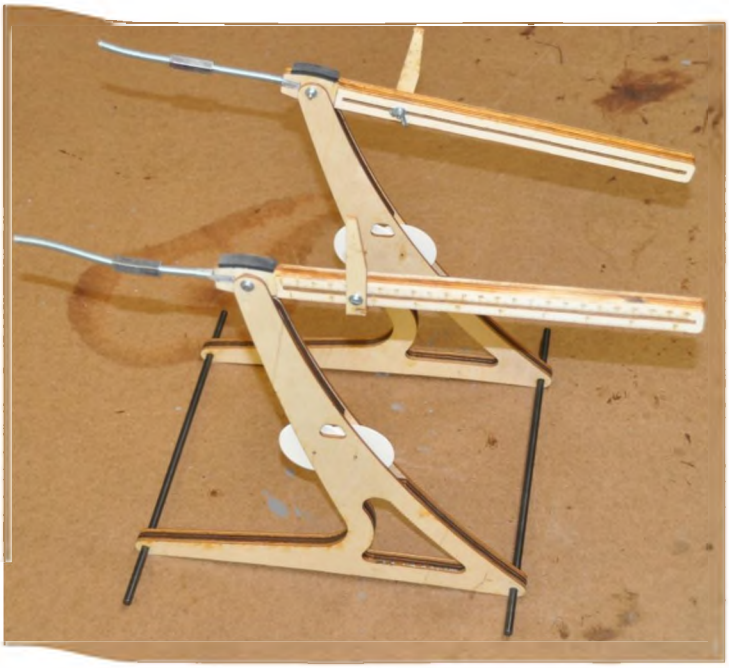


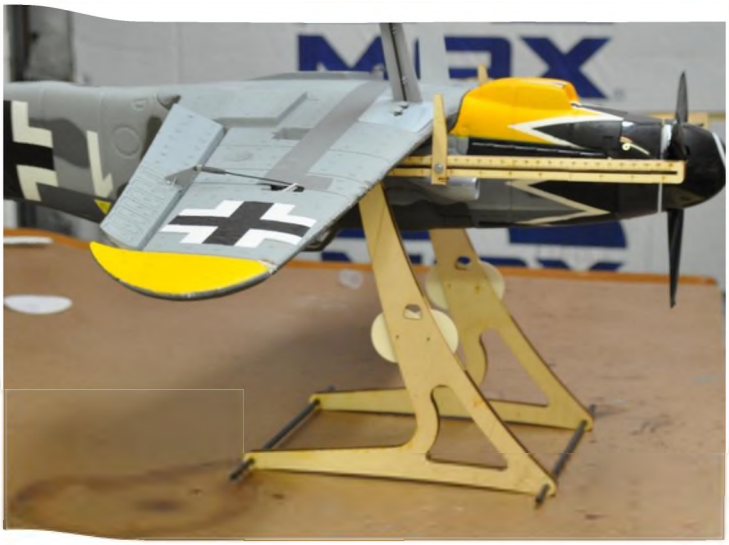
Now we can bring the competed arm assembly to the leg assembly that we worked on earlier. The balance arm is attached to the top of the leg assembly with a piece of brass tubing. The brass tubing passes through the top of the leg assembly, through the bearing in the arm, and through the other side of the leg. This allows the bearing to move freely thus allowing the arm to move. A bolt and some washers will capture the brass tube in place, so don't tighten down too much! Add a little piece of the provided foam rubber to the top of the arm for wing protection.

The Leading Edge stop is just two pieces of laser cut plywood glued together with some CA and attached to each arm with the provided blots and thumb nuts.



All righty then, now we can bring the two leg assemblies together. The legs are held together with two carbon steel rods in the laser cut holes. The holes were very tight so I had to enlarge them a bit to allow the legs to slide together. Now you want to be careful to not open up the holes too much, as that will cause the stand to wobble.





The SIG Pro Balancer is a great addition for your shop. It is a fun little project to build and should last a lifetime. The ball bearings allow for a smooth movement that cannot be duplicated with the old school fingertip test! The SIG Pro Balancer is available at better local hobby shops, directly from SIG Manufacturing as well as Central Hobbies for $39.99.

Tony Coberly

Tonyc@rcreport.net

DLE 20

BRIAN WINCH

CONFIGURATION	Single cylinder two stroke - spark ignition	STATED POWER	Approx. 6.0 kg thrust - 2.5 HP at 9k RPM
DISPLACEMENT	20.5 cc	R.P.M. RANGE	1,220 - 9.068 on test
BORE	32 mm	PROP' RANGE	14 x 10 - 17 x 6
STROKE	25 mm	FUEL	Unleaded petrol - 30:1 to 45:1 oil
COMPRESSION RATIO	10.5:1	SHAFT THREAD	M8 x 1

WEIGHT 820g with muffler and ignition unit.

SUPPLIED WITH Muffler, ignition module, spark plug, composite throttle arm, two meters fuel tubing, electronic safety switch, heavy duty ignition switch, aluminum fuel button, spare plug spare spark plug earthing springs, cable wraps, Australian written instructions, warranty card.

AVAILABLE FROM: DL Engines and Hobbico

Web: www.towerhobbies.com

FOREWORD

I was very pleased and impressed with the first DLE engine I tested and reviewed due, mainly, to the quality of manufacture, the ease of operation and the power output. When Scott (he is DL engines) contacted me and asked if I would like to have the new 20 cc engine for testing, I was quite keen to see and run it. At 20 cc, this engine is in a very popular engine size for sport and scale models designed for under 50 cc engines - the large models of a few years back. For that range of models there are several 20 cc glow engines and these are at the top end of that range as far as fuel guzzling. A 20c glow engine can lower the level of a fuel tank at a very visual speed and that adds considerably to the cost of your flying day, and if you intend to have a full day of flying, you need a large canister of fuel to feed the beast. Another problem that needs attention is the glow plug position. If a large glow engine is run inverted you need to be well aware of the need to address possible plug problems due to the amount of fuel introduced each intake and the amount of fuel that will sump in the head and kill the plug. These problems are not even a consideration with a spark ignition engine run on petrol fuel, and as a matter of interest; I carried out all my testing of this engine with it inverted. When you look at this DLE 20, you can see it is about the same dimension as a 20 cc glow engine - it even has beam mounts that match several popular engines, but due to the rear carburetor, you will need to use the longer beam four stroke mounts if you are using commercial mounts rather that wooden beams built into your model (the better method for any engine). Another consideration is the range of propellers you can use. The spark timing from the CDI (Capacitor Discharge Ignition) has a range of, from what I can gather, 14 degrees variation according to the load on the engine. This is quite a large range and it allows you to use propellers ranging from 14 x 10 to 17 x 6 two blade and to 16.5 x 12.3 three blade and four blade (as my testing) without overloading the engine or causing any potential harm. There is one rider here and that is that the engine construction will take the extra loads. This is not a concern with the DLE 20 as it is very robustly made and the crankshaft is tougher than a railway spike. I had no misgivings whatsoever when I loaded it up with the large propellers. All I watched was the tachometer and the temperature gun.

I used the optional throttle lever for the testing period.

As with the first DLE engine I tested, I found this one to be just as user friendly, maybe even more so if anything as it was so easy to start and it responded extremely well to throttle movements with a very rapid transition. In the early period of running I found, as I have done with several other petrol engines, that you need the choke for each start even when the engine is hot. This is due to the piston ring not having been bedded in sufficiently to provide the pressure to push the fuel gas up the transfer ports. Another factor is the reed valve as it is quite stiff from new and it tends to fight the atmospheric pressure that wants to push the fuel in. Each start was a simple matter of closing the choke, flick for the first 'brrrp', open the choke and flick for an instant start. After about a dozen or fifteen starts I did not have to use the choke again; however the engine was a bit warm. After the run in period I found I could start it first or second flick every time after the time spent changing propellers and recording the figure obtained.

TEST NOTES

Referring to my bench notes the first is my observations about early starts as already discussed and next I have recorded that the engine is a very willing starter by hand - even more so with a starter. The tuning is quite broad requiring almost no adjustment throughout the range of propellers I used, the cooling is very good for a petrol engine (hotter than a methanol engine), I could detect a very minor, short range harmonic moving up and down from idle. This harmonic is well inside the range and power you would expect from any engine of this size, so much so that I doubt you will notice it.

Deep clean fins for good cooling

All joints and fittings are well sealed as the only mark on the engine after all my running was a stain on the muffler where there was a bit of blowback from the exhaust diverter I use on the bench. Nothing to do with the engine - I did not seal the joint well enough so the engine was as clean as new after the long test period. Some good internal design work has dampened the engine vibration you always get from a single cylinder engine right down so, with a reasonable mounting job done by you; this engine will not shake the tail off your model. Last note refers to the steady RPM and smooth low idle. This is assisted a lot by the well made carburetor and the CDI unit that is set up especially for smaller capacity engines. You can check this by the '4#" sticker on the case.

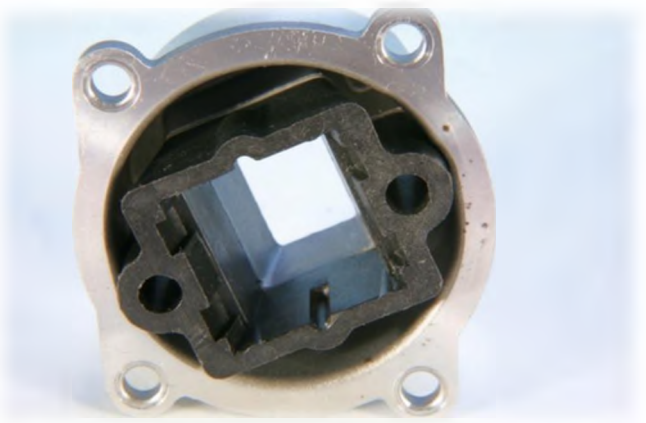
Okay, we know that it ran well on test so now let's look at the bits that make it do so.

OUTER CASING

Sturdy but lightweight lower case

The common style lower case is a cross between the usual style we see for most glow model engine that have the lower case and finned barrel in one piece and the usual style for the larger petrol engines that have just the lower case and a bolt on cylinder. This case has the sump section (area for the shaft counterweight and throw of the conrod big end), front housing for the two crankshaft support bearings, and, of special interest, mounting lugs for beam mounts. At 7 mm thick, the lugs are quite substantial and the mounting holes are clearance for 4 mm bolts so you can really settle this engine down securely on the mounts. At 40 mm total length support for the crankshaft, the front housing is also a sturdy section having six webs for support to prevent crankshaft whip when you perform violent maneuvers. Both bearings are fully sealed so lubrication is not a concern and both are a very common size - good for later replacement after a lot of hours.

Again like long time familiar engines, this engine has a common style rear cover - insert type with four bolts securing it - O ring sealing it. Being of rear induction, the rear cover is a bit more substantial than what we usually see as it serves as the mount for the reed valve block and the carburetor. Some nice design work here with a thick platform raised up inside the cover



In the reed block housing you can see the two channels that align with the holes in the reed block base.

to provide a good thread length for the carby mounting bolts then a composite section for the reed block to be inserted. Good thinking here as this composite part doubles as the reed black case and the neutral heat isolator for the carburetor that is needed to prevent engine heat heating the carby and causing vapor locks - a certain engine stopper. The reed block is wedge shape with two GRP reeds that are secured with two Phillips screws through a steel plate into the composite frame. In the inside faces of the sides of the reed block case you can see two grooves and the supporting shape of them on the outer face of the sides. Matching these are holes both sides of the reed block and the purpose of these is to provide the pulses from the crankcase for operating the diaphragm in the

carburetor. The grooves, holes in the reed block and the carburetor are not handed (left or right) so all parts will fit and work whichever way you install them including the carby if you want it upside down. A very neat and sturdy arrangement.

Note the hole in the base of the side of the reed block.

The cylinder and head are a one piece casting of very good quality with deep and fine finning and the exhaust manifold with 8 mm long threaded sections for the muffler bolts. The cylinder is secured to the crankcase with four caphead bolts that drop down through holes starting in the head. Reasonable tightness is all that it needed so don't lean on them if you disassemble the engine (out of the warranty period).

High quality casting work

The inside wall of the liner is plated - one of the many now used…looks like hard chrome and it is deeply honed for good oil retention. It has five transfer ports (more fuel up the better the bang) and the combustion chamber has a hemispherical bowl inside a wide squish band. Strong but very lightweight and should give long, trouble free service.

Super tough connecting rod and piston

INSIDE BITS

A very nice bit of work in the piston, and from the machined finish it is quite evident that a very tough alloy is used for the casting. One ring is fitted - pegged in position - and the gudgeon pin is a tight fit retained by thick wire circlips both ends.

The connecting rod is a very high quality forged steel part with needle roller bearings for both the gudgeon pin and the crankpin. You would be hard pressed to damage this conrod (other than hitting it with a hammer) and, with correct

lubrication, I would expect it to last longer than you would probably keep the engine.

This is a caged roller bearing.

The crankshaft appeals to me with its very rugged style, simplicity in design and the substantial counterweight that is the balance factor for the lack of vibration and the general smooth running of the engine. It is forged, high tensile steel, heat treated and well finished on the surfaces that require machining. For readers not familiar with a roller bearing I have photographed the bearing on the crankpin of the shaft that goes into the big end eye of the conrod. The bearing is captive as the crankpin is like a fat bodied drawing pin that is pressed into the counterweight with the cap of the 'drawing pin' retaining it. These bearings, like a ball bearing, survive most happily on not more than a sniff of oil which is why the engine needs such a small amount of lubrication in with the fuel. The crankpin is hard as are the rollers so they roll and slip over each other with very close to zero friction. To get a feeling of how they work, wet a piece of flat glass with water and a little detergent, place another piece of flat glass on top and move it. No friction just like the needle rollers.

Note the sections I mentioned on the crankshaft - a tough customer.

Note the relieved section (rougher surface) of the shaft just ahead of the rear bearing position that leads up to a narrow collar then another smooth section. The reason for this is to make the fitting of the shaft into the bearings easier. The manufacturer has seen fit to have the shaft to bearing fit quite tight - it took a fair effort to remove the shaft from the two bearings. First off, the narrow collar section is the thrust collar against the rear of the front bearing - most common in most two bearing engines. If the section behind the collar was parallel back to the counterweight - keeping in mind the tight bearing fit - the assembly would require considerably more effort to press that length of the shaft through the bearing until it stopped against the counterweight. Add to that that the front section of the shaft is also a tight fit and there is 20 mm of that that also has to be pressed through the front bearing. The two sections would require an unnecessary effort so; relieve the shaft up to the bearing seat.

The propeller drive hub is 34 mm diameter, is driven by a Woodruff key (skinny D shape), has clearance at the rear for puller access and straight radial knurling on the face. Prop washer is tapered face aluminum and two propeller nuts are supplied - use a 13 mm or half inch AF spanner for them.

THE GAS BITS

The carburetor appears to be a Walbro that is badged 'DLE' - not sure - just my observation. It is the popular type used on countless number of petrol engines and the reason for this is its simplicity and reliability. Keep the filter clean, don't fiddle or adjust anything inside and it will give hours of reliable service. A long way down the line, if it goes off a bit, a set of gaskets and diaphragms will have it back to new again. On one side of the carby is the fuel pump (the side with one bolt in the middle) and this is driven by pulses from the engine crankcase via the holes and channels in the reed block assembly as I mentioned. The other side of the carby (plate with 4 screws) is the metering section. According to the fuel needs of the engine, a diaphragm operates a needle (needle and seat) that allows for the appropriate flow of petrol to be discharged into the airstream of the venturi section which feeds the petrol/air mix into the engine. Don't ever let any 'pitspert' (expert on everything in the pits at the flying field) adjust the needle movement unless they are truly qualified and they have the correct gauge for that particular carby in their hand. Even then I would be wary as the needles are not, generally, an adjustable item except - maybe - when a new needle and seat is fitted. Much the same advice for the two mixture needles - rarely if ever need adjustment and, if they do, you should consider one quarter turn a big adjustment. The picture is this, the carby works perfectly as it is supplied and will continue to do so for a long time.

I did not use the composite throttle arm for the test as I had the optional metal arm to try out. The composite arm is quite okay but this metal one is my choice - a nice unit that can be infinitely adjusted for arm position. Look it up on the Website.

Certainly well made and clean in operation, but needs toning down a little.

The muffler is well made, quite sturdy and not prone to warping when hot. It is quite small and will probably fit inside the cowl of most aircraft for which this engine is used. However, as with all these supplied simple mufflers, it is not a muffler as such but an exhaust diverter. It doesn't deaden the exhaust sound - none of them do - but it does a nice job of getting the exhaust out and away quite cleanly. Wrap it with silicone 'RESCUE TAPE' (look it up on the Internet) and you will kill a lot of the metallic noise and still have a neat little muffler that is not so noisy.

IGNITION

Ignition unit and supplied items. Note the 4# label.

The CDI (Capacitor Discharge Ignition) unit is the ever popular and reliable Rcexl system badged as DLE. This is the special model modified for smaller capacity engines to provide a smooth and reliable idle and it is identified by the '4#' designation on the face of the box. Nothing mysterious about these systems - provide the correct voltage and adequate current, ensure the plug cap is pushed right down for the required earth connection and it will keep sparking until the propeller ceases to rotate. A warning here - you will also read it in the instructions - ensure your battery supply voltage is correct at 4.8 to 6 Volts - not simply a 4 cell or 5 cell pack. The 4 cell pack is the minimum (and quite adequate) but a 5 cell pack will probably kill the CDI as it will come off the charger with an excess of 7 Volts. If you want to use a 5 cell pack or a LiPo / LiFe etc. by all means do so but….use them with a regulator to control the voltage to between 5.2 and 6 Volts. Mount the CDI same as your receiver (soft mount) and let it run cool - not subject to engine or exhaust heat. One last note, you will see an extra lead tagged 'tachometer' from the CDI. This is to connect to the Rcexl digital tachometer that is quite small and the lowest cost accurate tacho you can get. Look it up on the DLENGINESAUSTRALIA Website.

ON TEST

The testing was carried out on the 4.12.10 with the temperature at 28 degrees C and the humidity at 61%. For the propeller testing period I used a 40:1 mix of unleaded petrol and Coolpower oil.

PROPELLER TESTS

VARIOUS WOOD PROPELLERS

14 x 10	7 772	1420 Idle
15 x 8	9 068	
16 x 6	8 875	1 216 Idle
16 x 8	8 542	
17 x 6	8 183	

APC PROPELLERS

14.4 x 13.5	7 511
15.5 x 12	5 880 - 4 Blade
16.5 x 12	5 991 - 3 Blade