R/C REPORT ONLINE!

March 2011
Issue 296

NEW COLUMN!
Rotor Wing
Gus Garcia

RC REPORT ONLINE

OFFICE NOTES

March already, huh? Happy St. Patrick's Day to all my fellow Irish folks out there…and all the ones of who pretend for just one day of the year! Sure wishin' I was down on the river about now…green beer, good friends, green water. Hey, Mel! Where are you…and where's my plane ticket? Come to think of it, I never spent St Patty's Day with Mel; it was my dear friend, Patty. Hey there, honey, pour us up a couple of Hooter Wooters (recipe upon request), will ya? ☺ What you all, dear readers, must remember is that it was quite a long time ago the last time I was down by the river while it was green…way before I became an adult with a mortgage and a child. I think I was just about Cassie's age (16) the first time I celebrated St Patrick's Day on River Street, in the great city of Savannah. Yes, I was a tad young, but you have to realize that I didn't have much supervision back then.

Anyway, my sweet Isabelle (Tails From the other Side extraordinaire) has done it again! It was just a little over a year ago that she found Chris Handegard, Mr Prop Cuts, while sniffing out events for you fine folks. Chris has been a true joy to work with, via the World Wide Web, of course; since he is in Florida and I am in Alabama. We are grateful for his contributions to RC Report Online and continue to enjoy his wit and enthusiasm and appreciate the valuable information that he provides each month…except that one month when I had to put up that WANTED poster all over the country. Of course, I'm teasing you, Chris. ☺ If you have been keeping up, Chris had an accident back in September and it has been a slow recovery for him. Please continue to pray that his condition improves and we soon find him out and about; streamers flyin'!

Guess I shouldn't keep you all in suspense any longer. Please allow me to introduce Gus Garcia, the newest member of the RC Report Online crew!

Look closely and you will see that Gus is, among other things, a helicopter pilot!

(Yes, John Morgan, there is a Santa Claus and now you know the big surprise!)

Received this email back in February from John:

Good morning,

Thank you for the Subscriptions to hand out as prizes for our Helicopter Fly-In. Since it is Heli's only-if a winner does not wish to receive RCReport Online, may we, as the Congaree Flyers, hold them until our Spring Fly-in April 16?

Thank you Julia and Tony!

John

So now, we have something to offer the helicopter enthusiast, too!

Who knew a dog and a (gasp) woman could be so useful!

Anyway, Gus has agreed to write for us as often as possible, at the moment! Let's show him some love and perhaps he will decide that a fulltime, every-month kind of deal might be in order.

Welcome, Gus! We're excited that you are here!

Don't forget to send your pictures in for Photo-ops! Licking County is featured this month!

In case you missed it last month, here's a little technical news for you. Some subscribers have been experiencing some issues with Adobe X. At the moment, our site is not compatible with this software. We encourage you to stay with Adobe 9 for the time being. Also, one of the guys recently told me about Chrome, which is a fairly new internet browser. We will be updating the FAQ page in the near future with instructions on how to turn off the pop-up blocker while using Chrome.

Communication is still 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.

We are still socializing on Facebook. Join us!

Click the Facebook icon to go directly to your home page!

Kindle users; email me if you would like to receive the Kindle version of the magazine via email. Nook users, the Kindle version is not compatible with your reader. We have yet to look into the Nook, but promise to try and do so soon.

I almost forgot…smiley clues. ☺

Received this email from Jay Stargel back in January and I meant to get the ball going last month, but time got away from me.

I liked it when there was a hint of how many to look for.

Jay Stargel

Well, we aim to please, so here goes:

- ☺ Clue#1 = This smiley does NOT count in the total number of smileys; nor will any others that you see in similar fashion.
- ☺ Clue#2 = There are more smileys this month than last.
- ☺ Clue#3 = There will be no more clues in Office Notes, but there is more than ONE smiley in this column.

Watch for "Way Back Week Subscription Specials" in April!

Until next month,

Julia

Received this last month from Dan Schaller last month and thought I would share:

An elderly Chinese woman had two large pots, each hung on the ends of a pole which she carried across her neck.

One of the pots had a crack in it while the other pot was perfect and always delivered a full portion of water.

At the end of the long walks from the stream to the house, the cracked pot arrived only half full.

For a full two years this went on daily, with the woman bringing home only one and a half pots of water.

Of course, the perfect pot was proud of its accomplishments.

But the poor cracked pot was ashamed of its own imperfection, and miserable that it could only do ha lf of what it had been made to do.

After two years of what it perceived to be bitter failure, it spoke to the woman one day by the stream.

'I am ashamed of myself, because this crack in my side causes water to leak out all the way back to your house.'

The old woman smiled, 'Did you notice that there are flowers on your side of the path, but not on the other pot's side?'

'That's because I have always known about your flaw, so I planted flower seeds on your side of the path, and every day while we walk back, you water them.'

For two years I have been able to pick these beautiful flowers to decorate the table.

Without you being just the way you are, there would not be this beauty to grace the house.'

Each of us has our own unique flaw. But it's the cracks and flaws we each have that make our lives together so very interesting and rewarding.

You've just got to take each person for what they are and look for the good in them.

Smile! You could be the next Winner!

Smiley Face Contest #3 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 March 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 #3 2011

US Mail: Smiley Face Contest #3, 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.

Received a request back in January for hints about where the Smileys are located. That slipped past me in February, but look for hints this month. I have not figured out just yet how I will get the hints to you. Maybe email (probably not though), definitely on Facebook, maybe in various columns throughout the magazine. Wouldn't that be fun? Not only will you have to look for smileys; you'll have to look for the hints, too!

Of course, you know this will cause me to have to make this little game more difficult. ☺ You absolutely can't have your cake and eat it , too!

Julia

Eight!

Larry Slowaik

Eight!

Ian Forbes

Eight!

That is all for this month and greetings from a still cold North Dakota. (20° below, but het, no mosquitoes)

Manfred Decker

Eight!

Milton Johnston

Hi Julia,

Don't these deadlines come up more than once a month? It seems like I just did this last week! I can imagine how you feel with the entire magazine deadline coming up before you know it.

Here in Maine it's definitely building season; we have over two feet of snow on the ground and more has been coming in every three days this month. Some of the club members compensate with indoor flying once a month or so and we are planning our outdoor winter fun fly February 20. Most of us use skis on our planes for that event.

The other winter diversion is looking for smiley faces, and this month I found eight!

Keep up your good work,

Frank Maguire

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

Total Smileys for the February 2011, issue was 8.

January's winner is David Klingensmith, from Leechburg, PA!

Thanks for your submission, David!

Julia Coberly

Mail Call

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

Here are the correct test answers from last month:

1) How long did the Hundred Years War last? 116 years
2) Which country makes Panama hats? Ecuador
3) From which animal do we get cat gut? Sheep and Horses
4) In which month do Russians celebrate the October Revolution? November
5) What is a camel's hair brush made of? Squirrel fur
6) The Canary Islands in the Pacific are named after what animal? Dogs
7) What was King George VI's first name? Albert
8) What color is a purple finch? Crimson
9) Where are Chinese gooseberries from? New Zealand
10) What is the color of the black box in a commercial airplane? Orange, of course

Thanks to Scott Watts for playing! His answers are more interesting than mine. ☺

Hi, Julia. Just downloaded the Feb issue and saw the quiz.

1) 116 years, from 1337-1453.

2) Originally, made in Ecuador, shipped to the Isthmus and sold there.
Most inexpensive Panamas are made in China nowadays.

3) Catgut is not made from cats. Never was. It's a contraction of "cattlegut", and is made from the intestines of sheep, goats, horses, hogs, mules, donkeys, etc.

4) The October Revolution was celebrated in November in the modern Gregorian calendar, which the Communists adopted. It happened in October under the old Julian calendar of Czarist Russia.

5) Camel hair brushes are made of all kinds of animal hair....EXCEPT camel hair. Horse, cow, bears, goats, and squirrels have all been shaved to supply budding artists with something to dab paint with.

6) The Canary Islands in the Pacific are named after fantasy creatures because there are no island chains in the Pacific called "Canary" so the islands are a fantasy also.

Now the Canary Islands in the Atlantic are probably named after the Latin phrase for "Island of Dogs" because Monk seals hang out there and Monk seals were known as "sea dogs" in Latin

7) Albert.

8) Mostly brown tail and wings, red/pink and white over the body.

9) Chinese gooseberries are more commonly known as "Kiwis", come from lots of places now but did indeed originate in China.

10) hi-visibility colors, usually orange but may have other color stripes like yellow.

Jeff Burd sent this to me. Enjoy!

You can see why the U-2 is considered the most difficult plane in the world to fly. Each pilot has a co-pilot, who chases the plane on the runway in a sports car. Most of the cars are either Pontiac GTOs or Chevrolet Cameros - the Air Force buys American.

The chase cars talk the pilot down as he lands on bicycle-style landing gear. In that spacesuit, the pilot in the plane simply cannot get a good view of the runway.

Upon takeoff, the wings on this plane, which extend 103 feet from tip to tip, literally flap. To stabilize the wings on the runway, two pogo sticks on wheels prop up the ends of the wings. As the plane flies away, the pogo sticks drop off.

The plane climbs at an amazing rate of nearly 10,000 feet a minute. Within about four minutes, I was at 40,000 feet, higher than any commercial airplane. We kept going up to 13 miles above Earth's surface.

You get an incredible sensation up there. As you look out the windows, it feels like you're floating, it feels like you're not moving, but you're actually going 500 mph.

The U-2 was built to go higher than any other aircraft. In fact today, more than 50 years since it went into production, the U-2 flies higher than any aircraft in the world with the exception of the space shuttle.

It is flying more missions and longer missions than ever before nearly 70 missions a month over Iraq and Afghanistan, an operational tempo that is unequaled in history.

The pilots fly for 11 hours at a time, sometimes more than 11 hours up there alone.

By flying so high, the U-2 has the capability of doing reconnaissance over a country without actually violating its airspace. It can look off to the side, peering 300 miles or more inside a country without actually flying over it. It can "see" in the dark and through clouds. It can also "hear," intercepting conversations 14 miles below.

The U-2, an incredible piece of history and also a current piece of high technology, is at the center of the wars in Iraq and Afghanistan.

PHOTO-OPS

Thanks to Carl Oblinger, from the Licking County Radio Control Club (LCRCC), for sending in these photos from their recent swap meet and auction which was held on February 5, 2011, at the Whitehall Recreation Center in Whitehall, ☺hio.

Looks like they had a pretty good turnout! Mark your calendars for next year!

Send your Photo-Ops submissions 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

AMPS Heli Funfly

Saturday, March 5th, 2011

Field open for setup on Friday, March 4th, 2011
Please observe club field rules

Flying from 7:30 AM to 6:00 PM

Heli flying for all skill levels

Anyone, from novice to expert is invited to test their hand at AMPS

$10 pilot registration fee
AMA required to fly

CONTACTS:

Gus Garcia	Garcia4U@msn.com	305-439-1943
Glen Erne	ernejac60@aol.com	786-255-1759

Additional Information at **WWW.AMPS-RC.COM**

Food and Drinks available all day
Camping allowed (no hook-ups)

Public Welcome – covered viewing areas
Spectator Parking: $2.00 per car donation

Several Raffles throughout the day

AMPS Silver Field

20100 SW 168th Street
Miami, FL 33187

2.4 miles west of Krome Ave on SW 168 St
GPS: 25.6033 N – 80.5193 W

From the Turnpike:
- Exit 13 – Eureka Dr (SW 184 St)
- Go west to Krome Ave, about 6.4 miles
- Go north (right) to SW 168 Street, about ½ mile

From US-1 (South Dixie Hwy)
- Turn right (west) at Eureka Dr (SW 184 St)
- Go west to Krome Ave, about 7.8 miles
- Go north (right) to SW 168 Street, about ½ mile

From Kendall Drive (SW 88 Street)
- Go west to Krome Ave
- Go south (left) to SW 168 Street, about 5.5 miles

At SW 168 St, drive west 2.4 miles to AMPS entrance

The 17th Annual Central Alabama Helicopter Fly-In
March 18th-20th 2011

Birmingham Helicopter Modelers

Location

GPS Coordinates

N 33deg. 19.512' W 086 deg. 57.155'

Field is located off exit 1 and 6 of I-459

Camping on site NO Hookups

Landing Fee $20.00

ALL NOVICES COME AND BRING YOUR HELIS AND GET SOME EXPERT HELP

We will have setup areas available for new pilots and novice pilots

This is our 17th Anniversary, please come and join us and help celebrate. This is just a casual event where the emphasis is on having fun and enjoying the camaraderie of other helicopter pilots.

AMA Sanction
11 - 0171
AMA card required to fly
Motels:
Best Western: 205-481-1950 exit 108 on I-59/20
Hampton Inn: 205-425-2010 exit 108 on I-59/20
Jameson Inn: 205-428-3194 exit 108 on I-59/20
Holiday Inn Express 205-424-2600 exit 108 on I/59/20
Comfort Inn: 205-428-3999 exit 108 on I-59/20
Sleep Inn: 205-424-0000 exit 6 on I-459
(mention heli event at two above for special rate closest to field)
Tannehill State Park Campgrounds: 205-477-5711
Hoover RV Park 205-739-7440 or 866-466-8378
Cherokee Campground 205-428-8339 or cell 205-383-5097
Contacts: Contest Director, David Harkey 205-329-8031
E-mail **dharkey55@bellsouth.net**
Field Address
7477 Dickey Springs Road Bessemer, AL 35022

BONG EAGLES

ANNUAL SPRING INDOOR RALLY
SUNDAY, MARCH 13, 2011

SITE: RACINE MEMORIAL HALL IN RACINE, WISCONSIN AT 72 SEVENTH STREET

AMA CATEGORY II AMA SANCTION 10-0098
NATIONAL CUP CONTEST
Ceiling 41' Floor 70' X 100'
CONTEST DIRECTOR: JACK BOONE 114 CONRAD CT. MUKWONAGO WI. 53149
(262)-363-3133 Email: jboone3@wi.rr.com

ASST. CD. Joe Adams 306 E. Kendale Drive Oak Creek, WI 53154
(414) 762-3492 Email: jadams8405@wi.rr.com

AMA EVENTS: HL/CATAPULT GLIDER*MINI-STICK*LIMITED PENNYPLANE* BOSTONIAN*

FAC EVENTS: DIME SCALE*GHQ PEANUT SCALE*FAC SCALE**NO-CAL*MASS LAUNCH EVENTS

SPECIAL EVENTS; INDOOR TOWLINE GLIDER *PHANTOM FLASH*RTP RACE

AMA & NFFS RULES APPLY—EVENT HOURS MAY CHANGE PER CD

8:00	10:30	LIMITED PENNYPLANE (JSO) MINI-STICK (JSO)
1030	1130	INDOOR TOWLINE GLIDER
11:30	12:30	OPEN FLYING FOR TRIMMING, ETC.
12:30	1:30	MASS LAUNCH CASH BASH*DELTA DART*PHANTOM FLASH
1:30	4:30	HL/CATAPULT GLIDER (J) (S.O)
		PEANUT SCALE
		DIME SCALE
		FAC SCALE
		BOSTONIAN
		NO-CAL
		RTP RACE

SCALE JUDGING: SCALE & BOSTONIAN MODELS TO BE PRESENTED BY 12:30 PM
FAC RULES WILL APPLY TO FAC EVENTS

PLEASE READ------

- AN INCREASE IN RENTAL COSTS HAS NECESSITATED RAISING THE ENTRANCE FEES TO $12.00 FOR THE FIRST EVENT AND $6.00 FOR EACH ADITIONAL EVENT.
- YOUR 2010 AMA CARD MUST BE SHOWN IN ORDER TO COMPETE IN THIS CONTEST

EAGLE SQUADRON

SWAP MEET

RADIO CONTROL, PLANES, CARS, BOATS, HELICOPTORS, ETC.

SATURDAY MARCH 12TH 2011

DOORS OPEN 9:00AM -2:00PM SET UP 8:00 AM

SACRED HEART OF JESUS CHURCH

SHELBY OHIO

5742 S.R. 61 SOUTH

ADMISSION $5.00

CHILDREN UNDER 12 FREE

TABLES {8 FT.} $10.00 EACH. RAFFLES, FOOD, DRINKS

ALL HOBBYIST AND DEALERS WELCOME

FOR INFO AND TABLE RESERVATIONS CONTACT

NORM ELLIOTT 419-589-4469 OR NCELAE136@AOL.COM

CLUB WEBSITE:

WWW.EAGLESQUADRONRC.COM

17TH ANNUAL

GATHERING OF THE GIANTS

March 19th & 20th, 2011

Fighter Jets, Warbirds, Stunt planes and more!

Food and Drink Available on site

A $5 Parking Donation is appreciated

Located at the Cape Coral R/Sea Hawks Air Park

1030 NW 28th St., Cape Coral, FL. 33914

Flying 9am to 3pm both days!

Win A R/C Airplane

FEATURING:

Mac Hodge's magnificent B-29 & his airborne launch of the X-1 Bell Rocket Ship

AMA SINCE 1936

Pilots:

CD Ed Gomils (941) 575-8047

Pilots Landing Fee $20	Giant Airplane Rules Apply
Pilot Awards	600 X 60 Paved Runway
AMA Sanctioned Event	700 X 50 Grass Runway

2011 R/C SWAP MEET

Johnson County Radio Control Flyers Inc.

Saturday, March 12th

9:00am – 1:00pm

Bartholomew County 4-H Fair grounds (Family Arts Building)

Columbus, Indiana - South of Hwy 46 on Hwy 11

Vendor set-up starts at 8:00am

Doors open to public at 9am

General admission $4

Kids 12 and under free

Don't stop for breakfast!

Kitchen will be open for breakfast and lunch

100+ tables available

Tables are $10 in advance/$12 at door

To reserve tables call Denny Runge at
(317) 736-0590
drunge96@comcast.net
cell (317) 840-4158

50/50 raffle tickets available at door

Please keep in mind we will have 2 fly-ins later this year.

See you at the SWAP MEET.....

You're welcome to fly at our field after swap meet.

jcrcf.net

Kansas City Indoor R/C Extravaganza

Hosted by the Airline History Museum

Proceeds will benefit the Airline History Museum

AMA Membership is required

March 5-6, 2011

Saturday: 9:00 am- 8:00 pm

Sunday: 9:00 am- 2:00 pm

Visit: http://www.ahmhangar.com

For more Info:

Including Directions and Pre-registration forms

Pilot-Registration: $20.00

(Pre-registration must be received by March 1st, 2011)

Pilot Registration at the door: $25.00

Vendor Fee $100.00 with prize donation

(Includes one pilot registration)

Spectators Fee: $5.00 includes a tour of the Museum

Food and R/C Vendors onsite

BSI BOB SMITH INDUSTRIES

Airline History Museum

Kansas City, Missouri

RC RCFlightLine.com

Hacker

FLY 3DQFRC.COM

TANIC PACKS

HOBBY HH HAVEN

castle

LIGHTRC

Maverick Hobby's www.MaverickHobbys.com

MARCH MADNESS SWAP MEET

SPONSORED BY MISSISSINEWA SKYHAWKS

501 EAST MARION ST
CONVERSE,INDIANA 46919
CONVERSE GYM

ANYTHING R/C BUY,SALE,TRADE,SWAP

MARCH 19, 2011
9AM TO 12:00
TABLES $12.00
$10.00 in advance (payment must made by 3-12-2011)
DOOR ADMISSION $ 4.OO

Woman and children free

CONTACT MATT DENHAM
765-472-3118
E-MAIL MATTSRC57@YAHOO.COM

The North Alabama Radio Control Association's

Bring your items to sell or trade. Planes, motors, radios, accessories - anything hobby-related !

2011 Madison County R/C Swap Meet

Date: March 19, 2011
Vendor Setup: 7:30am
Time: 8:30am - Noon
Auction: Noon-1:00pm

The number of Tables is limited so call or email to reserve yours.

WHERE:
Pineview Baptist Church
5614 Highway 53
Harvest, AL 35749
(Northwest of Huntsville, AL)

Raffle, Door Prizes & Concessions!!
Indoor Facility: All Vendors Welcome!!
Admission $5.00, Ages 7 and under free!!
Tables $7.00 at door, $5.00 in advance
Raffle Tickets: $1 ea, 6 for $5
13 for $10 or 30 for $20.

Directions: Drive to the A on the map!

From I-65W take I-565 E go ~14 miles.
Take AL-255 N (Exit 14) go ~ 6 miles.
- AL -255 is Rideout Rd -
Turn left at AL-53 go ~ 4 miles.

From US 231 (North or South) go West on US 72 to Jordan Lane (AL 53).
Turn North on Hwy 53 and drive ~ 9 miles.

Entrance to the Pine View Baptist Church is on the right of AL-53 northbound

Event Director: Ernie Duffey (256) 714-3176
Eduffey @ knology.net

GPS 34^0 50' 21" N 86^0 42' 24" W

SHOP & SWAP

Til you drop!

19 March 2011
St. Mark's UMC
1839 NE 8th Ave/Rd Ocala

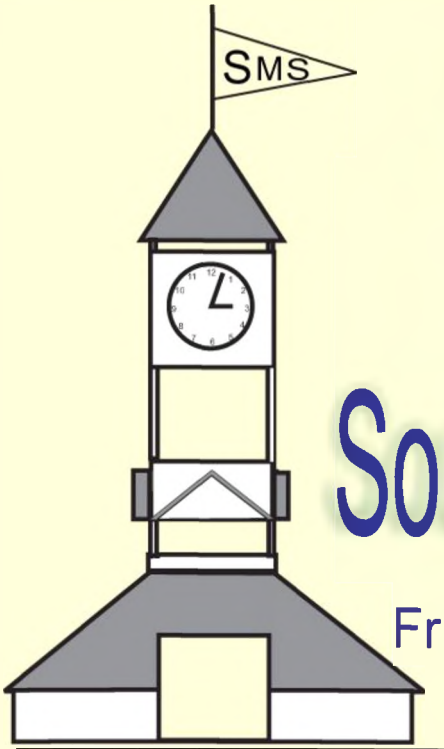
Air Conditioned Fellowship Hall
Coffee & Sweets available
Setup 7AM/Start 8AM
Large Tables $10/may share if desired –Admission $2
(early register tables $8-see address below)
LADIES TABLE! Gifts Galore!

Known sellers bringing: BTE Flying King,
New Senior Telemaster, Many Engines (2C & 4C)
Expect NIB (you build it!)- some partially complete.
Some Shop PowerTools, Model accessories galore!
THIS MUCH KNOWN IN ADVANCE
One Member Retiring (eyesight)
Blow-out prices!

Tom Meissner 352-671-7800 (mjtf5315@embarqmail.com)
Can call Marty Ellis for info/directions 352-369-5904
Advance table reservation checks to:
"MCCC" 3920 NE 6th Ct, Ocala, FL 34479

"Nicest facility N. Central Florida!"

Sponsor Marion County Cloud Climbers
THANKS



2011

Two Days of Fun

Southeastern Model Show

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

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

15th Annual Spring Swap Meet

Saturday, March 26, 2011
8 a.m. until we're done
at
WARD HENDRICKS FIELD*
Oakdale, California

$15 per space
For information contact
Paul Klahn at (209) 962-6404

We will have Coffee, Donuts, and Hamburger lunch
Sorry, no commercial sales.
Open flying to all AMA members after the swap meet.

**Directions: Take HWY 120 north of Oakdale to 26 Mile Road, turn north on 26 Mile Road, turn right on Eastman Road (just east of Woodward Reservoir), 1.5+ miles to field.*

www.rcflyersunlimited.com

Tri-County Wingsnappers

www.tcws.org

March 26th, 2011, Hamburg, PA
Hamburg Field House

Swap Meet

OVER 100 VENDORS SELLING NEW AND USED R/C EQUIPMENT

RADIO CONTROL MODEL AIRPLANES AND HELICOPTERS

THOUSANDS OF R/C PARTS AND SUPPLIES

50/50 - RAFFLES - PRIZES

BREAKFAST, LUNCH, SNACKS AND DRINKS AVAILABLE

NON R/C ENTHUSIAST? - WE WILL HAVE SOME ARTS AND CRAFT VENDORS

"Getting started in R/C airplanes? This is a great place to shop - $save money$"

DOORS OPEN AT 8:00AM

ADMISSION $5.00

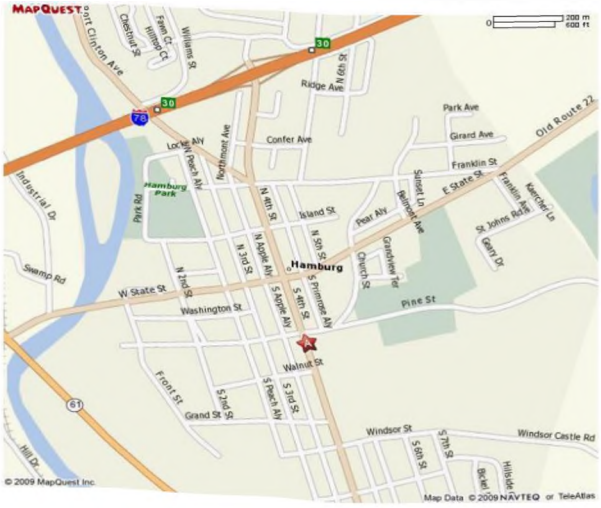
KIDS UNDER 12 FREE

For more information - Questions and table rental for vendors - Please contact:

Michael Renzi home ph# 610 779 5818 cell ph# 484 663 0788

Email mrenz66@yahoo.com

Directions: To the Hamburg Field House



From I-78 east or west take the #30 hamburg exit. A the top of ramp turn onto north 4th street. Follow N4thSt through S4thSt. At second light turn left on to Pine St and go 1 1/2 blocks and the entrance will be to your right.

From Route 61 - If you live north of Hamburg head 61 south and when you pass Cabelas take I- 78 east and then take the #30 Hamburg exit. At top of ramp turn onto north 4th street. Follow N4thSt through S4thSt. At second light turn left on to Pine St and go 1 1/2 blocks and the entrance will be to your right. If you live south of Hamburg head 61 north and when you pass through Shoemakersville go about 3mi. The Hamburg exit will be to your right. You will be on south 4th street. Go to the second traffic light and turn right on to Pine Street go 1 1/2 blocks and the entrance will be to your right.

Radio Control Club of Detroit

www.rccd.org/WOW.htm

Watts over Wetzel

(6th Annual RCCD Electric Fly-In)

TWO BIG DAYS!!!

Date: Saturday May 14th 2011
Sunday May 15th 2011

Times: Pilots' Meeting at 8:45 am
Flying Starts at 9:00 am

Location: RCCD Flying Field in Wetzel State Park (see map below)

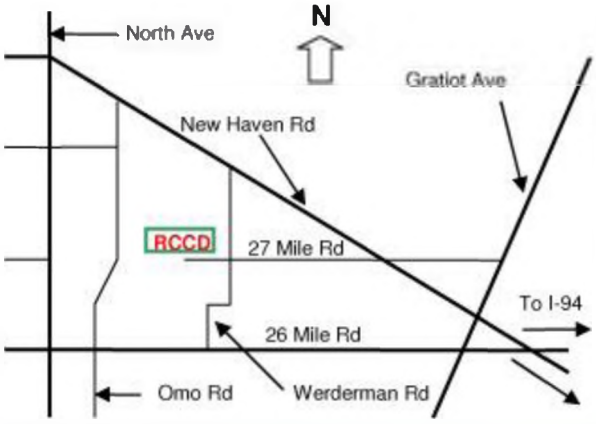
Format: Fly-In: **Electrics only, any size**
(110V power available for charging)

Landing Fee: $10.00/Day or $15.00 for both

CD: Mike Pavlock (586)-295-3053
John McCormick
wattsoverwetzel@gmail.com

Event Updates at: www.rccd.org/WOW.htm

Ample parking, Refreshments, Raffles, Limited bleacher seating available. Sun Shades Suggested, Vendors on site.



NEW THIS YEAR

- **TWO BIG DAYS!!!**
- **No Parking Fee!!!**

If you're into electric flying, this is the event to be at! All your friends and fellow electric flyers will be there, **and so should you**.

RCCD's Annual Electric Fly-In has grown leaps and bounds over the years boasting a large number of pilots, an awesome flying site, great food, 50/50 raffles, plane raffles, vendors and a ton of prizes donated by Castle Creations and others! And now W.O.W extends over two days!

Contest Directors, Mike Pavlock, and John McCormick along with all RCCD members invite you to a day of fun, filled with electric flying, friends, and plenty of prizes to take home!

AMA Sanction #:

MANEUVER OF THE MONTH: EASY Square 8

Last month I said you'd need to know the RC figure 8 because the square 8 was done the same way. I was all set to do it that way, when I thought, "Why?" If doing a square 8 another way is easier, why not do it the easy way? That made sense to me, especially since this is not a pattern column. If you are not sure what I am talking about, let me refresh you on eights.

When you do a figure 8 like the control line guys do it, you do a complete loop, then start a second one. When the plane is vertical going up in the first quarter of the second loop, you reverse the elevator and do the outside portion. In the pattern type, RC figure 8, you do three quarters of an inside loop and when you are going straight down, you reverse the elevator and do the outside portion. Notice the difference. In one, you change elevator direction while you are straight up and in the other you change direction when you are going straight down. Personally, I vote for changing elevator direction anywhere but straight down. I think nearly all of you who are learning a square 8 for the first time would agree with me. Okay, that's settled, I'll teach the square 8 done like a control line 8. I'm going to call it the "easy square 8."

☺ Clue#4 = There is at least one smiley face in Photo-Ops

Description of the easy square 8: The easy square 8 is a square cornered version of the control line figure-8. The airplane completes an inside square loop and does the first leg of a second inside square loop. The airplane then does a complete outside square loop, exiting the maneuver vertically.

KEYS TO DOING THE Easy SQUARE 8: Your airplane needs to be able to do a square corner without stalling and snapping out.

RC REPORT MAGAZINE	
TEACH YOURSELF AEROBATICS CARD	**EASY SQUARE-8** By Ed Moorman

DESCRIPTION: The easy square-8 is a square cornered version of the CL figure-8.

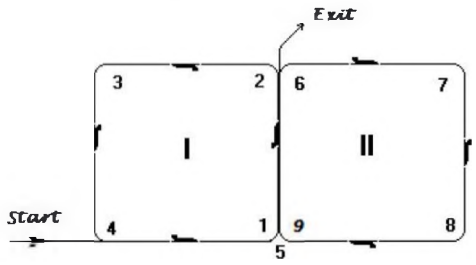
Always start the square-8 going WITH THE WIND.

DOING THE EASY SQUARE-8

STANDARD SET-UP:
1. Full power, 2. Parallel to the runway, 3. Two mistakes high.

-Do not jerk full up elevator for this maneuver, be smooth.
-Use half to ¾ elevator control for corners
-The size of your square-8 depends on your power and weight.

Practice both inside and outside square loops first.



CORNER 1: Right in front of yourself, make a half stick pull up.

THE 1-2 LEG: Adjust the length for the power of your plane.

CORNER 2: Up and release. Make you second corner a nice easy one, about half stick.
-Key point: Don't go a full 90 degrees on this corner. If your plane flies slightly nose up inverted, stop at this angle.

THE 2-3 LEG: Use a little down to keep the nose from falling. Fly as far as the up leg, then do corner 3.

AIRPLANE SET-UP FOR DOING THE EASY SQUARE 8: Go up and try both inside and outside corners using full up and down elevator control. You can try the inside, up elevator corners from level flight. For the outside, down elevator corners, pull up into a vertical climb, then give 4 quick full downs for a tight outside loop. Starting from vertical is much easier. If the plane wants to roll out or drop a wing in the corner, you need to reduce the elevator movement a little. Try it again until you can safely square with full elevator. Don't get me wrong here. You should not have to use full elevator to do a square 8. A half to three quarters control movement should be plenty, but you may get a little nervous, think you need to corner tighter and push or pull in full control.

Safety First: Square cornered maneuvers put a lot of stress on your wing joint in the middle. If you aren't sure about the joint on an ARF, for example, reinforce the joint using fiberglass cloth and epoxy or take it real easy. Acro planes, sport planes and fun fly planes will have no trouble with squares provided the wings were joined correctly. Sticks are great for doing square maneuvers.

DOING THE EASY SQUARE 8

STANDARD SET-UP: 1. Full power, 2. Parallel to the runway, 3. Start a couple of mistakes high, then bring it down to one and a half mistakes altitude.

The easy square 8 should be started flying down wind.

What to do:

The first 5 corners are an inside square loop and the first corner of a second one. If you have practiced your square loops, the first half of the maneuver will be no problem.

Corner 1: Just after you pass in front of yourself, make a half stick pull up. Don't overdo it and yank full up elevator. This only scrubs off a lot of speed that you will need to climb to the second corner. Your corner should be tighter that a regular loop, but not so tight that the plane slows down excessively. You'll have to try it with your plane and adjust to what's best for you. If you have an extra light fun fly plane with great power, have at it and use full stick. Other planes should try about half stick first.

The 1-2 leg: The first vertical leg of the square 8 is the one you should adjust for the power of your plane. You guys with hovering fun fly planes can go as far as you like. You guys with less powerful planes need to see how far your plane will go up and start the second corner at about half this height. You do need a little speed on the top leg so the plane doesn't wallow around while you're inverted.

Corner 2: Make your second corner a nice easy one. Here's a trick to help, don't make a full 90 degrees on this corner. Think about how your plane flies inverted, especially inverted at slow speed. If it flies a little nose up inverted, stop at this angle. Remember, you are going to be fairly slow so don't get the nose pointed downward or you'll never recover the top inverted leg.

The 2-3 Leg: As I said, if your plane flies inverted slightly nose up, this is the attitude you want to be in. Use a little down to keep the nose from falling, if necessary. Fly as far as your up leg, then go to corner 3. ☺n this leg, check your wings to make sure they are level otherwise you'll be off later on.

Corner 3: You may want to throttle back before this corner, but I normally don't since the plane is fairly slow at this point. Use half up or a little less for this corner. The plane will get going down fast.

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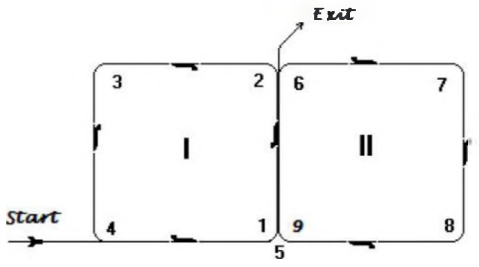

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-Key point: Don't go a full 90 degrees on this corner. If your plane flies slightly nose up inverted, stop at this angle.

THE 2-3 LEG: Use a little down to keep the nose from falling. Fly as far as the up leg, then do corner 3.

The 3-4 Leg: If you are making a big square, throttle back to keep the speed down. The g's go up as the speed increases. This leg is also takes less time due to the increase in the speed. Watch it or you'll end up a lot lower, and a lot faster, that you started. If you can, check your wings to make sure they are square to the maneuver. Probably you won't be able to until you get really comfortable with the square 8.

Corner 4: Use up elevator to square the corner at the bottom back in level flight right where you started. Take a breath!

The 4-5 Leg: Fly back to the point where you started. If you reduced power, now is the time to add full power back in.

Corner 5: Same place where corner 1 was. It's a popular spot. Up and release. We are starting a second inside square loop, ending up vertical again.

The 5-6 Leg: Climb back to the same altitude you were at during the first half of the eight.

Corner 6: This is the first corner using down elevator. The plane should be slow so the down corner will be easy. Don't overdo the down control.

The 6-7 Leg: You'll probably fly a little nose high since your plane is slow. You also probably won't notice it because your plane is upright. Fly the same distance you did for the inside loop.

Corner 7: This is a half down elevator outside corner to a vertical dive.

The 7-8 Leg: This vertical down leg goes by fast, but no one seems to want to reduce power.

Corner 8: This is the coffin corner where you tuck under from a vertical dive to inverted level flight. Down elevator and release.

The 8-9 leg: Hold a little down elevator on this leg so the plane doesn't lose altitude.

Corner 9: Down elevator and release, rotating to a vertical climb and you are complete. If you have the power, do a victory roll out the top.

Tips & tricks about doing squares, especially outsides, and other maneuvers:

1. Have a reliable engine and do not tweak it too lean. In my opinion, your engine should be leaving a slight smoke trail after takeoff. If it isn't, you are probably going to be too lean in vertical climbs and high-g square corners. Don't shoot yourself in the foot by tuning your engine too lean.

2. Fly a trustworthy and reliable airplane to learn on. I think any Stick is the best acro trainer in the world. They have a pretty thick, symmetrical airfoil and a rectangular wing plan form. They are predictable and will not do stupid things on their own in the air. Build the wing flat or with anhedral.

3. Set your elevator so the plane won't stall and snap out of a square corner. Go up and use full up elevator to do three consecutive inside loops. If the plane goes through them nicely, you're good. Now try three outsides with full down elevator. Sticks, especially those with the stabs on the bottom of the fuselage, will invariably do outsides tighter than insides. If the plane goes around the outsides, you are good for anything.

"Dentist" Jack Abair with his Electristar.

Dentist Jack again with his GMS powered Big Stick 40. Jack Abair, a retired dentist, was a US Marine in the Korean War. He was a designated marksman (sniper) who fought up to the Chosin Reservoir, then back to the 38th Parallel.

Carlos Reyes' Monster QB-60, glider lift plane shown carrying a Bird of Time. It's powered by a Tower .75. This is a Pilot kit from the 1980s. The glider mounts and hardware all came in the kit.

Mike Carroll with his ZDZ powered Edge 540.

Carlos Reyes' QB-6 ☺ in flight carrying the Bird of Time

Sixteen-year old Chris Peterson shown with Mark Pfeiffer's Big Stick 60. Chris landed solo on his second flight.

FEATURE ☺F THE MONTH

Aerodynamics 10: Everyone knows what the word "stall" means. Basically, it means to stop or quit doing something. If you say, "My car stalled," you mean the engine quit. With airplanes, both RC and full scale, stall also means quit, but it does not refer to the engine. In aerodynamics, the word "stall" means that the wing quit flying. What does "the wing quit flying," mean? Basically, it is when the wing can no longer produce enough lift at the airspeed at which it is flying to hold up the weight of the plane. When this happens, the nose or a wing drops and the plane picks up speed until it can produce enough lift.

Real RC example: A scale warbird is a good example of a heavy plane. It has a lot of scale detail, it has retracts and it probably has nose weight to help get the CG correct. Its wing loading, weight divided by the wing area (For RC, we use ounces per square foot), is high. Nearly all warbirds land fast. A heavy airplane means you need more lift. You get more lift from a wing by going faster- faster takeoff speed, faster cruise speed, faster landing speed. Take the exact same wing design and cover it with a light film instead of sheet balsa, fiberglass, filler, primer and paint. Then build a light, Stick-type fuselage with a built up tail and the same wing will fly and land a lot slower.

Angle-of-Attack (AOA): Now, I know some aero engineer is going to say that your plane stalls when the wing exceeds the critical angle-of-attack (AOA). Absolutely correct, BUT, how many RC fliers know what the angle-of-attack of their plane is at any time? None. We are all clueless at to AOA. All we know is that if we have a heavy plane or if we add weight to a plane, it is going to stall, quit flying, at a higher speed and, therefore, land faster. How much faster, Ed? Don't know. Faster than it would if it were a lighter airplane. Break! Break!

I'm going to stop here and do a definition or two or three. First, angle of attack. Angle of attack is the angle between the chord line of the wing and the relative wind. We need two more definitions: chord line and relative wind.

Chord line: A line drawn from the center of the leading edge to the center of the trailing edge. In a symmetrical airfoil, the chord line splits the wing in halves. Even a trainer with a flat bottom wing usually has a rounded leading edge. The chord line goes from the center of that rounded leading edge, not the flat bottom, to the center of the trailing edge. The chord line on a flat bottom airfoil is normally not parallel to the flat bottom. The leading is normally thicker than the trailing edge, so the chord line is normally angled upwards a couple of degrees compared to the bottom of the wing.

Okay, the angle of attack, normally abbreviated AOA, is the angle from the chord line to the relative wind.

Relative Wind: Now let's explain relative wind. Say you are driving along in your car or truck at 60 mph. Put your hand out the window, fingers extended, palm down. Your hand is the wing in this example. Your thumb is the leading edge and your little finger is the trailing edge.

You feel some wind at 60 mph blowing across your hand. Actually, it's a calm day, but you are driving 60 mph. To your wing (hand), it doesn't matter that the air is still and the car is moving 60 mph or if you are standing still and the wind is actually blowing 60 mph. Makes no difference. Since we are in a moving car, but the air flow feels like wind, we'll call it a "relative" wind. It feels just like a real wind, but it's not. It's all relative.

Back to the car. Your hand (chord line of your wing) is parallel to the ground and you feel a wind (relative wind) blowing exactly opposite. Your AOA is 0 degrees. Your relative wind is horizontal, you are driving on a level road, and your chord line (hand) is horizontal. No difference, so the angle is zero. 0 AOA.

Now angle your hand leading edge upward 20 degrees. You feel some upward push. This is lift. You also feel a backwards push. This is drag due to lift. The 20 degree angle between your hand (wing chord line) and the relative wind is 20 degrees. This is your AOA of 20 degrees.

Now that you understand the basics, I can say that the angle of attack is the angle between where the wing is pointing (up 20 degrees) and where it is going. It's going straight ahead level to the road. Road=0 degrees, hand=20 degrees, AOA=20 degrees.

Now for a couple of examples: Big gasser acro plane: You have all probably seen one of the big acro planes doing a harrier. This is where they are flying very slowly forward, but the nose is pointed upward at a steep angle. Let's say the nose of the plane is pointed upwards 45 degrees. The plane is moving forward, not gaining or losing altitude, so its flight path and relative wind is parallel to the ground or zero degrees. Pointing up 45 degrees, going 0 degrees gives up an angle of attack of 45 degrees.

Trainer with a .46: We've seen the big gasser at a high angle of attack, now let's look at an over powered trainer like some of you might have. Take any trainer with a flat bottom airfoil. There are lots of them out there. It's really designed to be flown with a plain bearing .40, but the owner has used a ball bearing .46. He has tons more power than is needed. He learns how to fly using partial power, but after he gets fairly good on the trainer, he adds more power to go faster. Now the plane starts climbing. The solution is to add down trim until the plane maintains altitude hands off. Up at altitude, it looks like the plane is in its normal level altitude, but bring it down to 20 feet and make a pass and you'll see that the nose is down. The plane is holding altitude at 20 feet, but at top speed, the nose is slightly angled downward. This looks like a negative angle of attack, but it's really not.

Okay, if that's not a negative AOA, it sure looks like it and why is it flying nose down? Remember chord line. It's the line from the center of the leading edge to the center of the trailing edge. A flat bottom airfoil still has a rounded leading edge. The rounded leading edge is nearly always thicker than the trailing edge. This means that the chord line of a flat bottom wing is angled upward (a positive angle) compared to the bottom of the wing. Naturally, this upward angle of the wing is going to make the plane want to climb as speed increases. In addition, the airfoil is a lifting airfoil, instead of a symmetrical one. More speed means it will produce more lift.

To keep the plane from climbing in a high speed situation, you need to lower the AOA that is, cut down the angle of the chord line. This means you need to use down trim to raise the tail and lower the nose. After you land, you should notice that your elevator is angled slightly downward.

Fixing a trainer's climb at high speed: The fix for when you want to fly a trainer with a powerful .46 is to reduce the angle of the wing by raising the trailing edge. I normally tell people to put 2 Popsicle sticks under the trailing edge before they bolt the wing on. You can start with one if you are concerned. Fly your plane at full power and trim for level flight. After you land, check the elevator angle. If it is still angled downward, add another Popsicle stick. Once the plane flies at full power and the elevator trim is level after landing, glue the Popsicle sticks in place and fill in the gap under the wing with balsa or silicone. Problem solved.

When I started writing this feature, I had a nice outline of what it was going to be about. As soon as I hit terms like angle of attack and relative wind, I knew I'd have to digress and explain. Next month I swear I'll finish all about stalls. I really have good intentions, but I am easily side tracked.

Ed

I thought this was a pretty plane, so I wanted to give you all a better look.

ROTOR WING

GUS GARCIA

If you haven't noticed it lately at your field, just wait and you will. Model helicopter interest is growing worldwide at an accelerated pace, primarily due to TV ads with the micro helis, and the advent and refinement of today's modern flight simulators which has defunct for many the notion that this segment of the hobby is too difficult for the average modeler to pick up. Not to say it's without its challenges, but none the less an ever growing number of modelers are joining our ranks on the heli side. With that being the case and the many challenges that lay ahead, RC Report Online is pleased to introduced to its lineup of features a new column catering to the model helicopter enthusiast which will delve into exclusive heli related topics that will hopefully guide your efforts to succeed in this highly rewarding and challenging segment of the hobby. *(As I mentioned in Office Notes, Gus will not be making an appearance on a regular monthly basis at this time. Show him some RC Report Online love and tell your heli friends and maybe we can work it out! Julia)*

Welcome to Rotor Wing, but before we get into that, let me tell you a little bit about myself and how I first got involved in model aviation. Hey, we all started somehow, and this is my story. Enjoy!

Although I mostly fly RC model helicopters these days, it all started for me with model airplanes. I've been in and around the hobby for over 3☺ years, and helped many students earn their wings throughout the years with

either airplanes or helicopters. I built scores of airplanes before ARF was a word used at the field, and I've seen helicopters evolve from almost impossible to fly to they can almost fly themselves. I've developed lasting friendships with fellow modelers, and seen some of the kids I helped grow up to teach their own kids how to fly. I've heard it, seen it, experienced it, gone through it, and got chased by it, and I'm still around – I love it. But this is how it all started for me.

Thirty or so years ago we didn't have cell phones, iPods, PCs, beepers/pagers, PlayStations, internet, TiVo, satellite, CNN, MTV, and many other modern day conveniences. Back then channel surfing meant get one of the kids to turn the channel on the TV until dad found something he wanted to watch, otherwise we would have to hear his ongoing banter on how good we have it. Why back in his day they walked uphill, in the snow, both ways, just to get a piece of bread, and how

grateful they were to have that slice of bread (I never heard of it snowing in Cuba, did you?). All I kept thinking was, why not stop eating bread, but we couldn't say anything. There was no timeout then; there was belt and buckle for talking back. You kids now-a-days have it so easy (Man, I sound just like my father – scary).

I've always had an interest in arts and crafts early on, and was either making something, painting, drawing, assembling plastic model cars, or finding other creative ways to keep myself busy. At about 12 to 14, I would go to the newsstands (looking for my favorite comic books of course, what else would I be there for), and the model railroad magazines always caught my eye due to all the fine model building involved, but I just didn't have the space for a set-up (let me translate that for you – money). Then I began leafing through the RC model airplane magazines, I found the idea of radio controlled airplanes very appealing, and I began getting more and more of these magazines, and scale was what I really liked.

When I would see a model airplane by Dave Platt in the magazines, I was just amazed at what this man could do with paint, and he's still around building model airplanes. But things turned out differently for me as for my interests in the hobby.

By 16, I bought my first model airplane kit, and quickly went about putting it together. Let me tell you how that went. We were a family of seven living in a two bedroom house with no space to even change your mind. We were not very affluent, and didn't have many luxuries, so it was the kitchen table I used to build this airplane. I still remember my mother kicking me out of the kitchen when it was time for her to make dinner, and her complaints about the mess, dust, and scratches on the table. Remember this was over thirty years ago, and I didn't know about CA glue (I recall that it used to be called crazy glue, when it first came out in the late 7☺'s), I didn't know about 5-minute epoxy either, only glue I knew of was Elmer's wood glue which had to dry overnight. I couldn't pin anything down, didn't have many tools, or even have the experience needed to complete this project, but I persevered to the end, and finished it. That was a feat in itself. Back then I had very little patience (and if you ask my wife today, she still believes I don't).

The wings were warped, the fuselage was bowed, the fin off center, and leaning to one side. The stabilizer was twisted, and the finish was sprayed on paint directly to the wood. I didn't fare any better with my first model engine either. As much as I tried, I couldn't get it started. As for the radio itself, I didn't have the funds to get one, and good thing too. So here I had a badly built airplane that every time I bumped it into something you would hear a CRACK sound, which of course was something breaking. After looking at it carefully and comparing it to the beautiful scale model airplanes I wanted to build, I even found it trash worthy, so into the trash it went. I was discouraged, disappointed and frustrated, I stopped getting anything model related, and that was the end of modeling of anything for me. I quit!

Since we know Gus didn't quite, I thought this would be a good place for:

☺ Clue#5 = There is more than zero smileys, but less than five, in Mail Call.

Didn't last long! At 17, something amazing happened. I got my driver's license, and started driving all over town like any other teenager. I began exploring my surroundings and was relishing in my new found freedom, and guess what I found shortly afterwards? Tropic Aeros RC club at Tamiami Park. Here there were guys flying RC model airplanes, and the interest began once again. I would go to the Park as often as I could, but only looked at them from afar. I started getting the magazines once more, and came to the realization that scale was not something I could just get right into. I got some how to books on building RC model airplanes, and began to understand many of the things I did wrong on my first build.

So, by this time we moved into a bigger house, I had more space to work in, and more insight on building model airplanes, I was also working by that time too. So I bought another model airplane kit, and the build went much better that second time around; that is until it was time for the finish/covering. What was available up until that time was dope and tissue, or fiberglass finish. Neither one of which I knew how to work with, so I decided on fiberglass finish and paint. You know what happened once I started working with fiberglass inside a house with six other people? I almost got kicked out of the house! I made a mess of my second airplane, and failed once more. And once again I was discouraged, disappointed and frustrated, but I got over it quickly.

By this time I began reading more and more how to articles on building and finishing, and at that time something new came into the market that changed how we finish RC model airplanes to this day. It was "MonoKote" and it caught my attention. I thought this would be a better way to finish my next attempt at putting another airplane kit together. So before I started my next build, I set up a better work shop, got some alignment tools. Anyone remember the Astro wing jig? Well I got one and my wings came out as true as could be from that point on. I also got better tools and equipment, and was ready for my third build. It went beautifully! This third airplane was put together very nicely, and I was happy with the way it came out. That is until it was time to cover it with MonoKote. I think I went through three times as many rolls needed to cover that airplane. If you ever used heat shrink film before, you know it's not as easy to apply as it's portrayed to be, but the good thing about it is you can just peal it off if it went on bad. So after burning holes in the covering, burning my fingers, and trying to keep the wrinkles to a minimum, and several attempts to cover it properly, it was done. It wasn't the best looking finish job, but not too bad for my first time using MonoKote. However, I still wasn't satisfied with the finished airplane, so eventually I trashed it too.

So now I'm at three years at trying to build an RC model airplane. I have two failed attempts, and my third one wasn't looking too bad with the new covering material, but I was not satisfied with the end results. Then like any other 18-19 year old, I started dating and lost interest in model airplanes. I was having too much fun with my friends and staying out late nights. I was burning the candle on both ends with the wild times. That came to an end, too. I met a very nice girl and married her (almost 25-years now). I settled downed, and began getting interested in airplanes again, and got myself kit number four. The build was nice, it

came out looking good, the covering was much better, and I'm satisfied and feeling good about it. I got an engine and radio system (this is actually my first radio, Futaba of course). I found out I needed AMA insurance to fly at Tamiami Park, so I got that too. It's about five years now since my first completed airplane, and I'm going to learn how to fly. My wife and I head out to the field. I see the guys flying; looks easy to me, and I'm thinking this won't be so hard to do. My wife tells me to ask someone for help (these words later turned out to be prophetic; you'll see). I didn't think I needed it, but okay sure why not? I'm really happy with the way this airplane came out, so okay.

Wow, talk about letting the wind out of your sail. I asked one of the older guys helping someone else if maybe he could help me out, too. He comes over to inspect my airplane with four other guys, and they tell me everything I did wrong, and none of them would take a chance on flying it. My wife tells me the look of disappointment on my face was the worse she's ever seen to that point, and I'm so upset none of them would even help me out, that I trashed that airplane too! I'm determined not to ask anyone for help again. Yeah, you all know this is a big mistake; but I'll get to that.

I build another airplane with the improvements pointed out, and this attempt was even better. It came out nice, covering was even better. I wait until the field is empty for my maiden flight. Power up the engine, get some ground speed, break ground and she's airborne! It's banking from side to side, and dipping up and down. I don't know what to do; I'm frozen at the sticks, and finally it happened. I crashed my airplane in less than one minute into the flight! Then I pick up the pieces and go home. Even though it crashed so shortly after takeoff, I got to see my first airplane in the air after so many years and several attempts at putting one together. That short lived flight was the catalyst to enflame my passion for the hobby even more, but I was still determined to do it myself. Another airplane built; another attempt at flying alone and another crash in even less time. That old familiar feeling of disappointment was setting in again, but I'm going to keep trying. I build another airplane, and again I crashed. My wife now tells me to stop being so stubborn and ask for help. I'm so frustrated with the whole thing, but I want to fly, so I listen (the worst part about that was the "I told you so."). This time instead of one airplane, I built two. I'm especially carefully in putting them together. They were the Sig Kadet MK II, and the Goldberg Eagle. If I'm going to subject myself to the ridicule of those old guys at the field, I want to make sure I did everything right.

Those two airplanes came out magnificent, and beautiful. After building about ten airplanes, wouldn't you get good at it too? And remember there were no ARFs (almost ready to fly) at that time. RC back then was more about modeling and building than about flying. My building skills were honed. I was able to build them in about 2-weeks time, each, and my covering ability had improved immensely. I did them right from build to covering. I went to the field, and this time I looked for the right guy to help me out, and sure enough one stood out. Bob was a laid back sort of a guy and it seemed like he enjoyed helping out the new guys. Excuse me, sir; do you think you could help me out with my airplane? He looked at me and said,

let's see what you have. So he looked one of my airplanes over, and told me very nice job (I was ten feet tall at that moment when he said that.). Some of the control surfaces were reversed, he corrected that and adjusted the throttle linkage, and everything else checked out okay. He adjusted the throttle needle, started the engine, and adjusted it even more until it was revving just right and it sounded like music to me. He put it on the runway and tells me, let's see how she handles. The airplane begins to taxi and starts to gain speed until finally it breaks ground. Into the air it goes, and I see the familiar banking from side to side and dipping up and down. I get this sinking feeling in my stomach, and in my mind I can almost see it going down for another crash. Then to my surprise I see Bob wrestling with the transmitter and the airplane is beginning to settle down. He's trimming it out, and it's flying better and better to the point that it's as straight as an arrow. YES! My airplane works, it flies, and I'm absolutely overjoyed. Then Bob tells me, let's bring her in for a landing, he lines the airplane up with the runway, and begins the descent, flares just before touchdown, and taxies it in, shuts off the engine, and tells me, go get your airplane. I just could not have been happier that day to finally see one of my airplanes in the air. That's all I wanted at that point, and after so many disappointments I needed something to go my way.

Bob gives me instructions on how we will train, I am not to fight him for the transmitter when he grabs it (we didn't have trainer cables back then either), and I am to listen to his commands at all times (did I tell you Bob was an ex-military man). I tell him yes sir I understand. I still got yelled at when I messed up, and when I wouldn't let go of the transmitter; but if it wasn't for him, I don't think I would have ever learned how to fly. We met at the field for the next two, or three months until I finally soloed, and became a pilot myself. I had done it, and it was great. I never saw Bob again, but I owe him a debt of gratitude for his help.

For the longest time, my flights consisted of touch and goes only, until the point I could land my airplane anywhere on the tarmac I wanted to. It wasn't long afterwards that the new guys were coming to me to teach them. That rush of emotion I felt for the first time with Bob was never the same for me with the airplanes again.

From that point on, I was building one airplane after another, until I burned myself out. I built, repaired, assembled, was commissioned or hired to build airplanes for other guys, so many that I lost track or count. I got to the point I just could not glue two sticks together for the life of me. Then it happened again. Something new sparked my interest; helicopters! It was like starting all over again (actually it was). Man, was that ever hard. If you think helicopters are difficult today, they were much-much harder back then. But for the guys at the field, I was the go to guy for anything airplanes, my skills at building, covering, painting, laying down fiberglass, engine tuning, and radio set-up were impeccable (all that practice made me good at my craft), but it just wasn't doing it for me anymore.

However shortly after I started learning to fly helicopters, I had to hang up the hobby, and put it on hold. My wife and I were constantly struggling financially. We were raising two kids, and our marriage was getting strained due

to the hobby. I was spending more time and resources with RC than with them. Until one day, my wife pointed out that I was neglecting her and the kids, and that I was putting strangers ahead of my own family; that she needed me more than the guys at the field. So for the following ten years I abandoned RC in all of its forms, sold, gave away, or threw away everything I had. Began working more and more, and for a time I was working so much; I had two jobs at one time or another. We were up and down financially, and finally as things began to get better for us; I began to look for activities to keep me occupied. Until one day, my wife asked me, why don't you start flying again? I thought why not? The kids were grown. We bought our house, and I had my garage to work in; so I did.

I built a new Sig Kadet MK II exactly the same way I did my first one (mostly for nostalgic reasons). It doesn't have an engine or radio system. It just sits there reminding me of a moment of triumph in my life, like a big old trophy (take a look, I still think it's beautiful).

I also got get an ARF (almost ready to fly) trainer, put it together, got my AMA insurance, and became a member at AMPS. I asked one of the instructors if he could help me out on my

first flight (it was more nervousness than lack of skill). Got hooked up to the trainer cord, went up, flew around for a little, then I see Rey unplug me from the trainer cord and walk away saying, I don't know why you asked for an instructor? You fly great. So he cleared me for flying, and I began flying one airplane or another up until I became an AMPS flight instructor myself for a time. But the airplanes were becoming stale for me again to the point I resigned as a flight instructor, and took up helicopters once more. I become a helicopter flight instructor for a little while, but I stopped doing that too.

Now I just really enjoy getting together with a couple of helicopter buddies, heading out to the field and having some fun flying with the guys. Whenever anyone is interested in helicopters comes along, needing help; you'll find me helping them out too. And you'd think that would be the end of my story, but a new interest is developing for me.

I never thought this would happen, but it is, and as we get older I guess we somehow get the calling to pass on our experiences, and writing about the highs and lows of what I have amassed throughout the years in the hobby compels me to do so, if for nothing more than to promote further interest in it. I hope you enjoyed my story to this point (the airplane version). I'm certain it's not the most interesting one, but I do know a lot of you guys can relate to some of the things I went through as I was learning and progressing along the way. The more we find out we have similar things in common, the more our differences dissolve, and we come to appreciate the uniqueness of every individual that makes up our flying community. And if you don't think that's true, why did you read all the way to the end of this long article?

Now tell me your story, I want to hear it! *(For the time being, you can email Gus through the office. I promise to forward everything to him. Julia)*

Gus

THE OILY HAND — BRIAN WINCH

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.

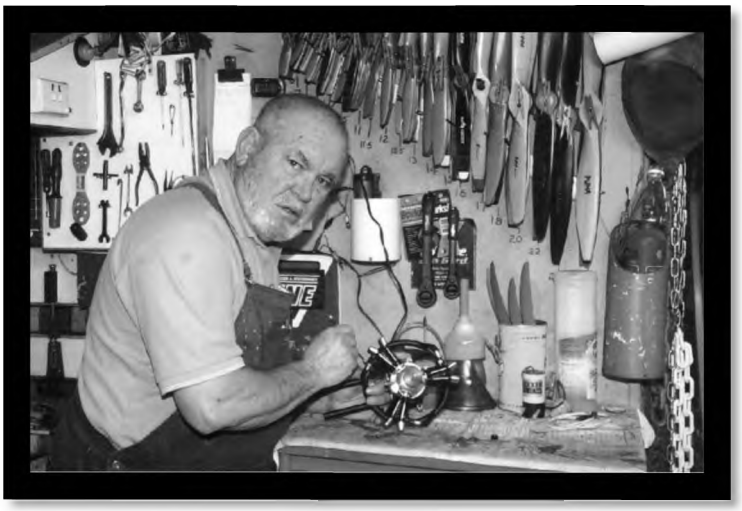
WHAT TIME IS IT?

No, we are not going all horological, I allude to the timing of engines. A topic that brings, at least, two emails, phone calls, letters per week and the odd engine in bits with an accompanying letter along the lines of…"I pulled it apart to (clean it, fit new bearings, to see what was inside, because I felt compelled to do so, my mother made me do it) and now I cannot re-time it. Please fix." Following is an email I received during the write up of this article - very 'timely' (dreadful pun).

"Hi Brian, sorry to be a useless old fart, but I have a problem with my old O.S. 91FS engine. I pulled it apart to clean some gunk out of the crankcase and the manual does not show where the timing dots have to line up to put the backing plate on. I promise to be more careful next time.

Love your magazine articles, especially your humor. Helps keep us sane. Regards XX"

Seeing as how he is a very nice person I will not embarrass him by using his name or address. Not only that, I reckon 90% of modelers who disassemble these first O.S. 91 engines - rear pushrods - have problems with the timing. My quick answer to XX.



"Yo Harry, before I start, how is your dear old Dad, Jacko Milligan. Are you still living with him at 22 Ligar St, Brownsville near the old water tower? Give him my regards, please. Now XX (see - I did not use your full name as you requested), time the engine this way. There are three rivets or screw ends visible in the gear disc plus one dot or a notch (depending on which engine - changed during the manufacturing run of these engines). The notch or dot aligns in the middle of the cut out slot with both at the 12 o'clock position."

TDC - REFERENCE MARKS - ALIGNMENT QUESTIONS

The problems relating to setting the timing for a four stroke engine are, finding Top Dead Center (TDC), reference marks for the timing, where to align reference marks, positions of the cams, whether to set the timing on an induction or firing stroke, how to stop the timing from changing (slipping) and how to check if it is correct before starting the engine. Let's eliminate two areas of concern before we start. First is the changing or 'slipping' of the timing. Simple - can't happen! Using direct gear to gear timing as with our (most common) four stroke engines, there is no way the timing can slip or change (unless there is a mechanical failure). I receive the occasional warranty claim engine at times with a note to say, "the local butcher (or some other person of note) who is an engineer (the world is full of engineers...it would appear) told me my engine doesn't run correctly as the timing has slipped." The only chance of a 'slipped timing' is if one or both of the gears has suffered tooth damage - teeth have been broken off. In some of the multi cylinder engines the driver gear (on the crankshaft) is keyed to the shaft and the key could shear off (never heard of it happening but it is possible). Early Saito engines had a shell gear (hollow) on the crankshaft that was driven by a roll pin key and that could fail but, again, in all my years of Saito repair, I have seen it once only and it was helped by a generous dose of rust. In all of these cases, the engine would not run poorly - it just would not run at all. A few rare engines have timing belts to drive the camshaft or valve gear and here you might see a little error in timing if the belt is loose. Timing belt (toothed belt) fitted engines have an adjuster - mechanical or spring loaded - in the form of a roller on the outside of the belt to maintain correct tension and, as such, correct timing. If the belt stretches, as they do, and is loose in its travel due to a problem with the tension roller, the engine can suffer a small timing change but rarely enough to make a big difference to the true timing.

A STROKE OF CORRECTNESS

The next concern to fly out the window is timing on induction or firing stroke. Doesn't greatly matter, but I can tell you, you will have a lot of hair tearing problems trying to time the engine on an induction stroke (both valves operating on the overlap period). First off, the reference marks on some engines would not be correct, and secondly, you would have the cam followers bearing down on the cams as they would be in contact with the lift side of the cam shape. No pressure would be applied as you would not have the head on the engine, or if you did, the pushrods would not be installed so the spring pressure would not act on the cam followers. However, the cam sides are sloping and, as you tried to fit the camshaft, the cam follower would be moving the cam just that tiny amount to drive you crackers every time you missed one tooth in the correct position. The timing is always done with the engine at a firing stroke - both valves closed.

Now we come to a common reference that is a 'fit all' suit and, even though I said we were not venturing into horology (clock making and repairing), I will make a reference to timing of the clock. Here I have to relate an amusing story, but no names to save some person copping a bucketing. A phone call from a modeler with the usual - 'forgot to mark the timing' question. I said, for all future reference,

"with the piston at TDC, the cams are set at twenty to four or (same) twenty past eight." There was a fair length of silence on the other end of the phone until, "how do you work that out?" came from the caller. "Use the position of 4 and 8 or 1☺ and 2 of the clock as your reference," I said. A longer silence - much longer. "Err…it's three fifty five now so you're telling me that at four o'clock I will be able to set the timing?" A little silence from me, this time then I saw the picture. "You're using a digital watch, aren't you?" "Yes." "Have you got an analogue clock in the house - one with numbers around a circle and two hands?" "No, they're all electric and just show the time." "Have you seen that sort of clock with the numbers in a circle?" "Yes - but I can never work them out." "Okay, put the engine parts in a box, send them to me and I will set the timing for you." Funny thing, I had a similar problem some years back with a group of young fellows when I was preparing them to go for a bushwalk and an overnight camp in the countryside. I started out to tell them how to tell the direction by the hands on a watch. "Righto, everybody look at their watch and note where the hands are at this moment." They all had digital watches. "Okay, we'll leave that for later - we will now set up a safe campfire site."

So, how is the timing? It is set at four and eight of the ANALOGUE clock or, in some cases, ten and two of the clock. With engines that have a single insert type camshaft, such as O.S., you can see the cams either side of the gear and that they are at the clock positions as I said. When you set the O.S. cam correctly with the reference dot, the cam facing you (as an example) is pointing to the 2 o'clock position and you can bet, even though you cannot see it, that the cam on the other side of the gear is in the 10 o'clock position. Forgetting the reference dot for a moment, if you set the timing with the facing cam at the 10 o'clock position, the engine would run in a clockwise direction, but…before you get all excited, you would also have to change the positions of the carburetor and the exhaust - exchange positions - and that takes a bit of machining and modification.

Engines that have two camshafts - one cam on each - such as Enya, Laser, English Magnum for example, use the 4 and 8 position except of one of the large Enyas which uses the 10 and 2 position. You really cannot make a mistake setting the timing on these engines as the timing gears are quite course (wide toothed) and one tooth out is very obvious. The Enya engines have timing marks on the camshafts and the cam pinion (discussed further on) but the Laser engines are very simply set 'by the clock'.

☺ Clue #6 = There are more smileys in Fun Aerobatics than there are "o"'s in Ed's name.

RIGHT TO THE TOP

Next question is how to be sure the piston is at TDC (Top Dead Center) and this is quite important as it is here where you CAN make a mistake in the gear timing. I have read all sorts of methods for finding TDC in engines. Most of them apply to full size engines and are quite handy to know should you have the need. Poking a stick down the plug hole, marking it with a pencil with two marks then marking the center of the marks is one (doubtful accuracy), using a dial test indicator is almost out of the question for our small engines and looking down the plug hole to see the piston is okay but, again, not really accurate. Interesting method told to me by a retired air force mechanic was an adapted spark plug. The top section of the plug was removed and a short length of 3 mm brass tube soldered in. The plug was screwed in, the engine rotated (mainly for radials) until the piston was (judged) very close to TDC and then a spot of spit applied to the end of the tube - much like you do to check the valve in your car tire. The engine shaft was rocked just a little and the spit bubble observed. When it was at its greatest diameter you could safely say the piston was at the top of its stroke - simple and easy. When I want a quick check for TDC to check the valve overlap, for example, I insert a toothpick down the plug hole and rock the shaft with my finger on the end of the pick. Borne of ages - used many times over, it is quite accurate for me. However, when I am setting the timing for a re-assembly job, I have a very simple and accurate method that can be used by even the absolute beginner mechanic. So simple....I remove the backplate (rear cover) and check the position of the connecting rod. Absolutely vertically up - you can be well assured the piston is at TDC. Some engines have a reference mark on the prop drive hub (☺.S. - Thunder Tiger for example) which is a great aid if the engine is new or has not suffered at the hands of some (horrible) modelers who have used vice grips, multi grips and the like to grip the drive hub for the purpose of removing tight propellers (grubby people). Removing the backplate is no big deal and allows you to check the conrod position for vertically up. There are tools (slotted end nylon rods) to hold the rod vertically but, for the occasional job, a wad of BluTack or Plasticine is an easy method to jam the rod vertically if you are new to this job. As I have done it so many times over the years I know I am not going to wriggle the crankshaft when I fit the cam gear so a visual check and a quick fit has the job done in a wink. I hold the camshaft (O.S. types) with a hemostat (surgical tweezers - from model shops) and wind it in - you need to wind it as the teeth are helical (curved) - starting one tooth back from the required position and winding it clockwise. When the cam is fitted, don't be tempted to turn the crankshaft (to see it the cam shaft rotates) as the action will wind the camshaft back out into your lap or on the floor and that doesn't do much for the engine timing. At the end of this article I will tell you how to check if all is correct so you don't need to turn the shaft just yet.

SPECIFIC ENGINES

O.S. - Thunder Tiger - Magnum (SC, ASP, J'EN)

Okay then, we have covered the general procedure for timing an engine, now I will discuss the timing procedure for specific brands of engines. Starting with the easiest engines, we look to O.S., Thunder Tiger, Magnum (SC, ASP, J'EN - all the same as Magnum) All these engines have a front insert, helically geared camshaft that is driven by a helical pinion on the crankshaft. The propeller drive hub fitted to O.S. and Thunder Tiger engines is driven by a key in the shaft so a reference mark can be used. The Magnums and its 'brothers' are a mixed bag in that some have a key drive hub, some have a non positive collet drive as is used on most two stroke engines. Those engines that have the key drive do not have reference marks on the hub but the keyway is in the vertically down position when the piston is at TDC. The engines that do have a reference mark on the hub are O.S. and Thunder Tiger. O.S. has a very small 'T' stamped in - Thunder Tiger has an arrow point and, in both cases, the mark aligns with the top casting seam mark on the front bearing housing. All the camshafts of all the front cam engines have a bench mark - a dot or dimple - on one side of the camgear to the left of the exhaust cam - the cam facing you when you are installing it. There is no reference mark on the case of the engine for the cam dot and here is where some modelers make a bad mistake. It would seem obvious that the dot be positioned vertically up or down in line with a web on some cam housings. This can put the timing at one tooth out - a bad mistake and one often quoted by 'pit experts'. The correct position is exactly at the 6 o'clock position (no reference - you gauge the position) but I prefer to set the dot in line with the center of the cam follower - just behind vertically up - in the (very close to) 11 o'clock position (if you have an analogue clock with a very small face).

You might read references to the Magnum style of engines being timed with the dot on the camgear placed vertically down or in line with the bottom web off the cam case. Problems here as not all of these engines have the web (depending on the engine size) and, in those that do have the web, it is around 1mm off center. By setting the dot vertically down or inline with the web, you stand a better than average chance of setting the timing incorrectly. Laying the cards on the table - this range of engines are direct clones of O.S. - so much so that many parts are interchangeable for an exact fit. As such, set the timing exactly the same as you would do with an O.S. engine - inline with the center of the cam follower - piston at TDC - in the (close to) 11 o'clock position.

YS YAMADA

Another engine that has the front camshaft across the crankshaft (as the engines just discussed) is the YS series. These engines are a bit different to the usual four stroke in that they are fuel charged the same as a two stroke - that is, the fuel enters the crankcase and is forced up the induction to the inlet using a form of shower head distribution from the rocker chamber. That is a very brief outline of some of the differences as the specific point that concerns us here and now is the method of setting the timing. A very convoluted method that requires the removal of the carburetor and rear cover to see a small bench mark (indent dot) on the counterweight of the crankshaft. You align this with the seam line of the case (vertically down) then insert the camshaft in its housing with the dot on the cam either straight up or straight down (either way - doesn't make a difference). You might consider this method similar to what I described for setting TDC but, with a YS engine it is a lot more complex and there is a rotary valve to consider on the rear cover. Add to that that the smallest air leak in the induction system can mean the difference between go and no go for the engine. Here is a very simple alternative. Bring the piston to TDC, toothpick (example) down the plug hole for that reference, hold the position or make a simple reference mark on the propeller drive hub and front housing, carefully remove the cam housing cover and note the position of the dot on the cam gear. Scratch or dot a small reference mark on the rim of the cam housing to align with the dot and use this reference for re-assembly. ☺bviously you will be removing the rear cover and such if you are doing a bearing job and you can refer to the dot on the counterweight, but it is a bitch to maintain its position while you poke around with the camshaft insertion process. Another hair tearing moment is when, after a bit of fiddling, you fit the rear cover and get the rotary disc aligned correctly, then, in your relief you fit the carby and induction tube - using new O rings and gaskets - then you remember you have not set the cam timing. My simple method will put a smile back on your face.

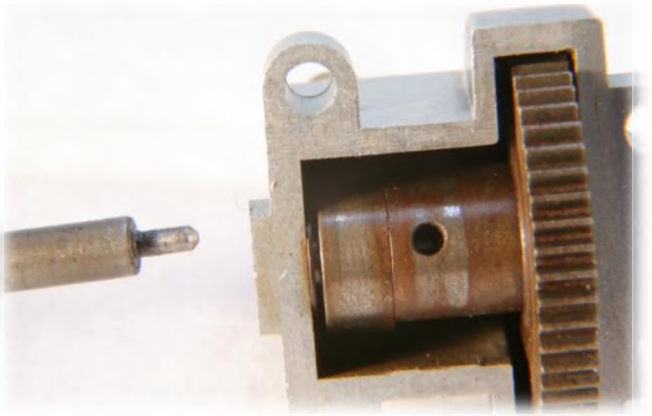
SAITO

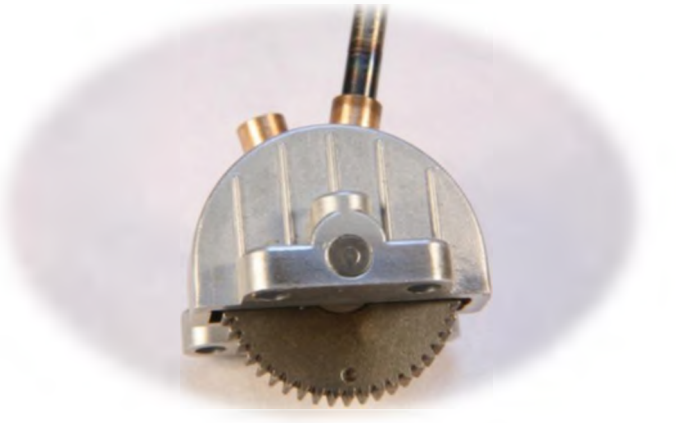
You really have to remove the rear cover...and the cylinder...to set the cam timing in a Saito engine. You will find it really difficult to fit the pushrod covers and rubber boots - almost impossible - if the cylinder is fitted and you have to remove the rear cover to fit the connecting rod to the crankshaft - unless you fitted it before fitting the rear cover. This is quite okay as the fitting of the piston with the gudgeon pin (wrist pin) and connection to the little end of the conrod is quite easy as you need only fit the Teflon rub pads - no circlips used. I generally do the job this way as the latter day engines have a slip fit for the crankshaft in the bearings and that can be a bloody nuisance in some instances. You align the TDC position of the crankpin of the shaft, set the timing and fit the camshaft housing with the camshaft, gear and cams fitted, torque the four bolts down then you inadvertently TILT the bloody crankcase and the shaft slips out the back. Start again, dummy. Righto then, thus far we know that the crankpin of the crankshaft is one reference and it has to be vertically up - easy to set and see in the main section of the crankcase. Now we have to fit the cam housing with the camshaft, camgear and cams assembled within it. On the face of the camgear there is a dimple (dot,

bench mark) reference and this has to be vertically down. Sounds a bit easy, just set the dot in the 6 o'clock position and lower it into place - so easy…except….there is not a lot of side clearance in the slot section for the camgear. The slightest touch as it goes down will move the gear…timing incorrect. You need to hold the gear in place and there are three methods of doing this.

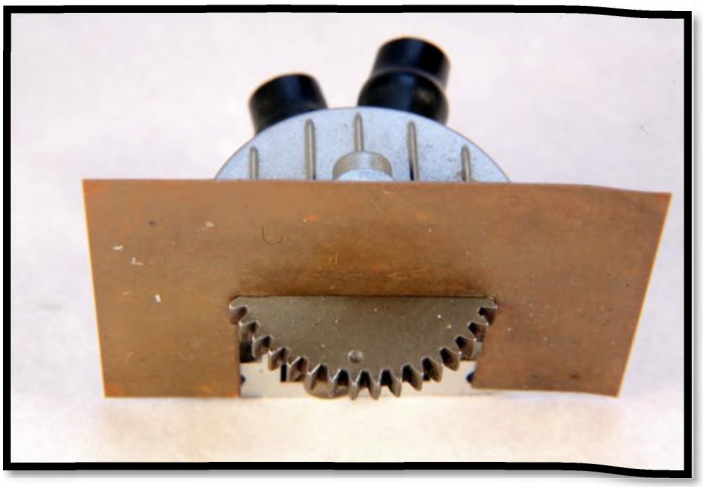
For a one off job - the occasional bearing change for example, the easy method is to jam the gear in position - dot at 6 o'clock - with Vaseline or castor based grease. Do not use a general grease that is not soluble in fuel as it could cause problems. Pack the grease (etc.) both sides of the gear and the slot in the case, set the crankpin vertically up (in the center of the crankcase section) - TDC position - and carefully lower the cam case into position ensuring that the gear does not touch the sides as it is inserted in. If you want to do a simple check that all is well at this stage, bolt the case into position, put the pushrods into the top of the cam followers (small hollow), put the ball of your thumb (end section under the nail) on both pushrod ends and turn the crankshaft. As the crankpin comes to the top position you will feel no change if it is a firing stroke so go around one more turn. When you feel a movement of the rods, rock the shaft a very small amount - 5 or 6 mm each direction - and you will feel both rods moving under your thumb. If this is the case you have the correct timing. If not, do it again.

If you are going to make a career of this job (well - maybe intend to do it every so often) you will find it a lot easier if you use a timing tool. In the base of one cam there is a 2 mm hole. This serves to allow oil in for the shaft and also as a timing setter. Remove the cam follower that aligns with this hole and the tool you use is 4 mm diameter with a tit (locating pin) on the end that is 2 mm diameter and no more than 3 mm long. Keep the pin short and make the tool from steel. I do not recommend aluminum or brass for this job or a longer pin section as the pin can bend quite easily with use and give an incorrect position. The tool I use has a hardened end so it always remains straight and true. In use, you fit the tool down the cam follower sleeve, locate the pin in the hole, hold it firm, set the crankpin vertically up and fit the cam case. Keep the tool located while you fit two or more bolts to secure the case as it can move and change the shaft position which might not correct itself when you move the case around for the bolts. The teeth are not very deep in the cam gear engagement so the smallest movement up of the case can disengage them.





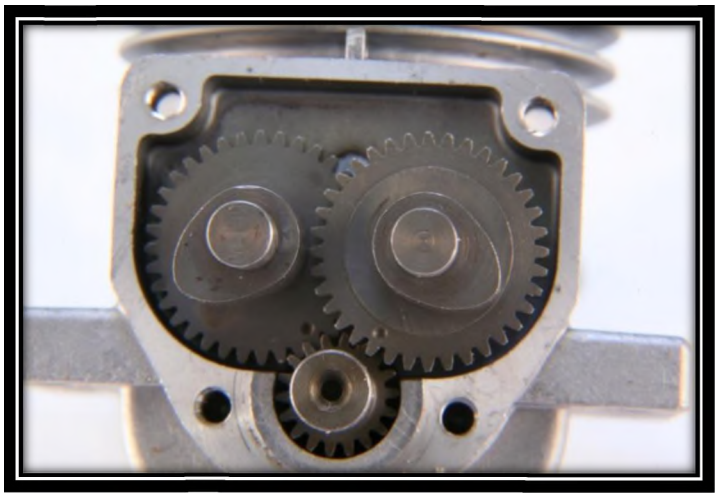
Now we come to a slightly different problem that crops up with the larger Saito engines - from 12☺ up depending on which model engine you have as there has been many changes over the last four or so years. The smaller engines have a parallel cam follower - hence the easy removal and use of the setting tool. Larger engines, however, have what is known as a mushroom head cam follower which, for ease of identification, looks, in profile, like a capital letter 'T' with the top bar a bit shorter than usual. These cams cannot be removed or replaced down through the top of the cam follower sleeves so - we don't remove them. You can use the grease method or align the dot in position and jam a short rod (example) with your thumb onto the cam follower to hold the cams in position. The best method is a locating shim or card. Cut a slot in a thin metal sheet - I use 0.35 mm brass - or a credit card that will fit snugly in two teeth exactly diametrically opposite. If this is a bit confusing - another way of saying it - align the dot on the gear vertically down (as usual) and cut the shim or card to fit very neatly into the two slots between the gear teeth opposite each other just showing under the slot (receptacle section) of the case. My photo will show you exactly what I mean. With the gear so restrained, fit the case into place, fit the two rear bolts (not tightened, but screwed right down then slip the holder (shim or card) out and complete the assembly. Whichever method you use you will always need the crankpin on the crankshaft in the vertically up position (TDC).



ENYA & LASER

Both these engines have two camshafts - a shaft with a gear and a cam on each and they are driven by a pinion (driver shaft) - small diameter shaft with gear teeth cut into it - that is driven by the crank pin on the crankshaft. This also sets the TDC position on the Enya engines when the reference marks are used. Referring to Enya engines, on this driver shaft there are two horizontal slots after the gear on the plain section that fits into the support bearing. One each cam gear there is a bench mark dot (dimple) and, when fitted in position, the dots align with the fine slots. This is where we see a true picture of the 8 and 4 o'clock position as previously mentioned - the peaks of each cam are in an equal position (either side of center) at the 4 and 8 location. To really confuse the issue, some of the 20 cc Enya engines have two dots on the cam gears. Use the dots that bring the cams to the 4 & 8 position as with the rest of the engines. If you use the opposite dots the cams will be at the 10 and 2 position and the engine will run clockwise - handy for pushers. You can set any of the Enya (and Laser) engines to the 10 and 2 positions and all will run clockwise, but...use locknuts on the prop shaft as the engine is trying to spin the nut off. One other point is the positions of each cam shaft in the engines up to the .90. Check them when you remove the camcase as to which is on which side - left or right. The shafts are of different lengths in some engines and one gear overlaps the other. Check and make a note but - if you forget you will soon find your mistake when you try to assemble the cams in position. Just remember the 4 and 8 position is correct for all the engines.

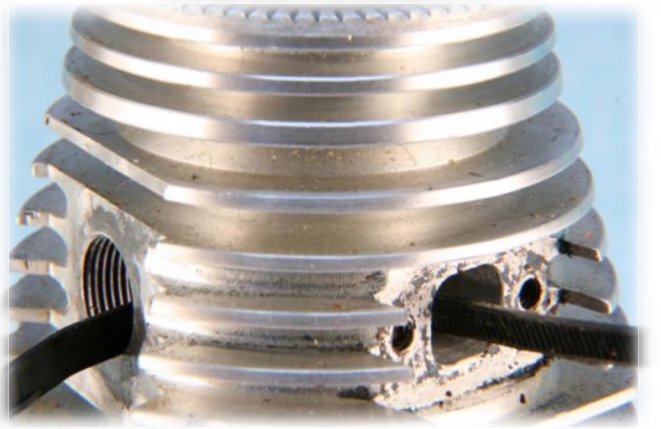
The same applies to the Laser engines but there are no bench marks. Assemble the camshafts the same as the Enya engines but set the cams visually at the 4 and 8 positions and the piston at TDC. The teeth on the gears are course (wide) so a mistake is easily seen.



RCV

No timing marks on these engines, but setting the timing is quite easy. If you need to set the timing it is obvious that you have removed the cylinder and the timing is partially set with the cylinder removed. By rotating the inner sleeve (liner) you can see the port opening go past the inlet and exhaust port in the outer cylinder. You need to set that inner port equally between the inlet and exhaust openings (this is the valve overlap period). You can jam the inner sleeve in this position with two toothpicks (no metal to

be used) or make yourself a set of special timing tools the same as mine. Great engineering here. I use the start ends of two cable ties (4 mm wide). They fit quite neatly into the little gap and will hold the sleeve in position without doing any damage (very technical stuff). With the glow plug removed and a drop of oil inside the liner, set the piston at top dead center and slide the liner down over it. All done.



CHECK

All engines with valves. Bring the piston to TDC on an induction stroke - valves moving. Rock the crankshaft 5 or 6 mm either way and both valves should move just a little. This is correct timing.

Next issue we will look at the multi cylinder engines as my allotted space is just about used up.

WHY DO YOU ASK?

I have had several contacts from readers wanting to now the 'fool's' name - the strange person who claims to be my laboratory assistant even though I have no recollection whatsoever of employing him, inviting him or even allowing him. He just turned up one day out of the blue and here he stays - annoying me. Strange thing was....I had to think for a while what WAS his name. I have become so used to calling him such affectionate titles as Bird Brain - Noodle Nut - The Weirdo - The Fool - Froot Loop - Dr. Strange Brain - Captain Crackers and others that might not be printable. He doesn't use his family name as his father had it changed by deed poll when he was a kid to save embarrassment to his brothers and sisters. The name his father registered for him is Snafu Obawaw *(I really want to comment on this one, but I'm going to leave it alone. Julia)* and that really had me thinking how he came up with that? It appears that it is an acronym for Situation Normal All Fouled Up - Odd Ball And Weird As Well. I said to his father that I thought his selection of that name was, perhaps, a little unkind, especially as he was a kid at the time. His father then related a few of his 'antics' and several descriptions by relatives over the years by way of explanation. When he first learned to talk he never stopped - on an on about so many strange things and endless questions. He was so engrossed in talking that he tried to feed himself in his ear. His father said that meal times were intolerable with Snafu talking ninety to the dozen about things nobody else understood while he poured soup, gravy, mashed potato, ice cream and soda pop into his ears as his mouth was so busy talking. Somehow he figured that any hole in his head would, eventually, lead to his stomach - hence the food in ears problem. No wonder he is as skinny as a rake handle. One time he was so hungry he poured chocolate sauce on the poor cat and tried to eat it. It is a now a very short tailed cat. Another time he washed the dog...in the washing machine! The dog survived all the spinning but, for years after, it ran around in

circles chasing its own tail…just couldn't run straight. One time he saw a millipede eating a hole in a mushroom growing in the garden. His first 'brilliant' idea! He tied a length of cotton on the millipede then took it to the local park to go….mushroom hunting. He tried to put a new battery in a live parakeet that could not fly - the parakeet was REALLY surprised. Following is a list of descriptions he has accumulated over the years.

Thought escaped him - it left with his intelligence.

He is about as useful as one man short on the team.

The colored dots have fallen off his fairy bread.

His lunch box has developed a leak.

The hands have fallen off his clock.

The bristles have fallen off his toothbrush.

Has an intelligence level on par with a Patagonian Crockpot.

He has the thinking power of burnt custard.

His IQ is that of a bowl of soggy breakfast cereal.

Has the brains of a burnt BBQ sausage.

He comes from the shallow end of the gene pool - possibly the wading pool.

The ink in his printer has dried up.

No burger in his bun - just the lettuce.

Having him near you is worse than having somebody else's finger up your nose.

His intellect qualifies him for the position of a nose booger thief.

About as useful as a sticky candy in your trouser pocket.

TIME OUT

Well, that should put you in the picture as to his useful qualities and stop all you 'kind and forgiving' characters from beating my drum about the way I treat him. You think he deserves better? Okay…I'll send him to your workshop and let him walk over your balsa supply, wrap his lunch in your model covering, pull your engines to pieces for the bolts, spill your super glue over your reference books…great fun.

Okay, I'll leave you with this parting thought. You MUST believe in freedom of choice.

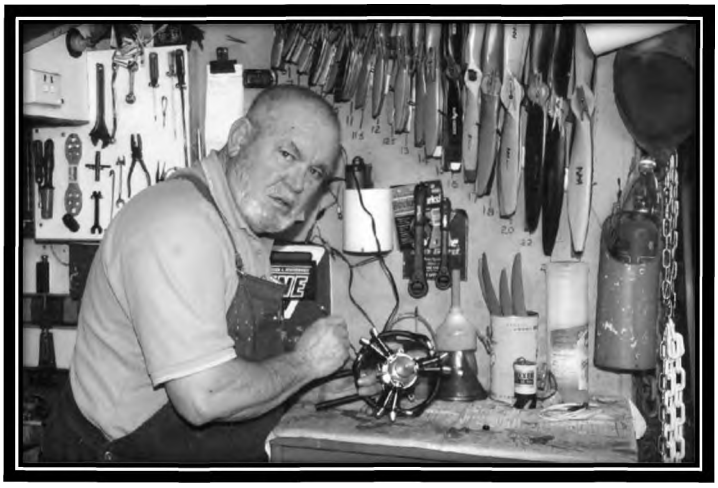
Another garnet from WINCH - THE WHEREFORE WIZARD.

I tell you what; Cupid misfired at my house this year! I didn't get even one Valentine. ☹ What's the world coming to when no-one is interested in dog love, huh?

It's March anyway, so February is in the past and you can't worry about the past. You know why? 'Cause it's the past and you can't change it!

You know what's in the future; well, the present really? Gus Garcia, who is the new kid on the block! Make him feel welcome, people, and sit back, listen and attend to a tale of helicopters!

Got a couple of birthdays around RC Report Online this month: Happy Birthday to my fellow columnist and all around funny guy, Brian Winch who will be turning 29 on March 14. When you get a minute, shoot him an email and wish him a good day!



Another Happy Birthday goes out to my buddy, Scotchie who will be turning two this month. In the picture below, he appears to be a cat, but pictures can be deceiving. I love you, Scotch!

☺ Clue #7 = This is your last clue! There are twice as many smileys in this issue as there are clues.

Let's see what's happening in April! For sure I noticed when doing research (Yes, I have to do research. Mom has done a good job of teaching me how to use the World Wide Web.) for this column that the swap meet/auction season is fading away until Old Man Winter comes again and you good folks are ready to FLY! There are still a few around for April, so if you have received your tax refund and feel the desire to shop; I'll tell you where to go!

Donald Fourson will greet you in sunny Cocoa, Florida, on April 2-3, 2011 for the SPACE COAST HELICOPTER. Contact him at combatgoblin2005@yahoo.com. Visit: www.irks.org. Events 431-434(JSO). Sponsor: INDIAN RIVER KONTROL SO INC

On April 3, in Salem, Oregon, you can enjoy the NORTHWEST CONTROL LINE SPEED SPRING FLING held at the Bill Riegel Model Airpark. M Hazel's (CD) email is zzclspeed@aol.com. Events 301, 302, 303, 304, 305, 306, 307, 308, 309, 310(JSO).

You're looking for some warbird action? Check out the WINGS OVER THE DESERT WARBIRD FLY IN AND SWAP on April 9-10, in Tucson, Arizona. For questions, contact Alan Mosher at alanlmosher@aol.com. Visit: www.tucsonrcclub.org. $20 landing fee, camping on site, no hook ups. RV park 1 mile south. Registration 8AM both days. Any type/sex is welcome as long as it is a warbird in warbird colors. Warbird trainers/cargo aircraft must be purpose built for the military and in military colors/scheme. Spectators are welcome, $2 per adult donation. Big swap meet, bring your model stuff, no fees.

Glastonbury, Connecticut, is the location of the (AA) INDOOR SPRING FLING on April 10, 2011. This event will take place at Glastonbury High School. Email John Koptonak at gliderguider@comcast.net. Events Cat I 206, 208, 212, 215(JSO). FAC events: FAC no-cal (3 gr minimum), peanut scale, scale. Mass launch events: WWI, WWII and Golden Age. The George Armstead Memorial event is the Zippy ROG.

One of those swap meets where you can spend your money will be held on April 9, in Delta, Colorado. The MMAA SPRING SWAP MEET will be held at club field. James Ferguson can tell you where that is when you email him at redtailenterprise@bresnan.net. Visit: www.mmaa-modelairplanes.org. Auction 9AM to 4PM. No access or table fees, however, to help defray costs, there will be a 5% donation requested for each sale. Refreshments available. Location is a large warehouse suitable for indoor flying and AMA members are welcome to do so. Sponsor: MONTROSE MODEL AIRCRAFT ASSN

Here's another one in Tewksbury, Massachusetts, on April 10. The RC MODEL AUCTION will take place at the Tewksbury Congregation Church. Contact Paul Difeo for questions at pauldif82@comcast.net. Doors open 12PM, bidding starts 1:30PM, admission $2 per person, no minimum bid. Raffle prizes, $30 and under tables (non auction items), RC related sales only, all items sold as is. Sponsor: BURLINGTON RC FLIERS

You could be close to me on April 9, at the SWAP MEET, AUCTION AND ELECTRIC FLY IN held in Cookville, Tennessee at the National Guard Armory. Contact Gene Hankins for more information at genehankins@gmail.com. Visit: www.ucrcs.com. Set up 7AM, swap meet 8AM to 12 noon. Auction, then indoor flying till 3PM. $10 tables, $5 general admission, free with military ID, prepaid vendors admission included day of event. Sponsor: UPPER CUMBERLAND RC SOC

Even closer to me still, if you come to Huntsville, Alabama on April 15-17, 2011, for the HUNTSVILLE HELI FLYERS 2011 FUN FLY. Email William Harden at flyinbill1@bellsouth.net. Visit: huntsvilleheliflyers.org.

That same weekend, April 16-17, you could visit Springfield, Missouri, and enjoy the SPRINGFIELD RC CLUB FLOAT FLY held at Springfield Lake. James Parks is the sailor in charge and can be reached at gloryboundstudio57@yahoo.com. Visit: www.springfieldrcclub.org. Detailed map to site on website. Parking entrance east of silo. Open to all seaplanes. Prize raffle on second day.

Here's another place to spend that little gift from the IRS and it's my area, too! On April 16, visit the N AL SPRING REGIONAL SWAP MEET at the Decatur Shrine Club in Decatur, Alabama. Visit www.ourdmac.com for more information. Large indoor facility with plenty of tables; 9AM to 12:30PM. Raffle: BH Space Walker ARF 46 GP/EP sport scale and magnum 46 2 stroke engine. Door prizes, admission $5 per person, under 12 free. Tables/floor space $10 per table. All RC - planes, boats, glow and electric models and modelers welcome.

The ANNUAL FLEA MARKET will be held on April 15, in Doylestown, Pennsylvania, at Bucks County West High School. Enrico Paolino can be reached at rico@paolinonet.net. Set up begins at 6:15PM, sales open at 6:45PM. Table rental $10, approx 35 tables available. Pre-paid reservations accepted. Light refreshments.

On April 16, in Shelton, Washington, the SANDERSON FIELD RC FLYERS will host their 17TH ANNUAL SWAP MEET at Shelton High School. Email Robert Beatty at bigbird@quintex.com. Visit: http://sfrcf.quintex.com. 9AM to 12PM, set up 8AM. Static display, 50/50 raffle. Tables $5 or 2 for $8. Free admission.

The VICTOR VALLEY SPRING WARBIRD CLASSIC will take place on April 23, in Hesperia, California, at the Victor Valley RC Park. William Yates has the answers to your questions. Email him at still4given@yahoo.com. Visit: www.vvrcf.org. RCPRO Warbird race. See rules at www.rcprowarbirdracing.com. Three classes, gold, silver and bronze, $30 entry for first class, $15 for each additional class. Trophies for first three places in each class. Registration and safety inspection at 7:30AM, racing starts at 8:30AM. Dry camping at field, full hook ups next door at Hesperia Lake Park. Get directions at club website.

That same day, in Saugus, Massachusetts, the 107TH RC FLYERS GX ICEBREAKER will be held at club field. Contact Frank Sarnowski for more information at fchriss@gmail.com. AMA control line combat with a 73 mph speed limit, flown in a rounds format (4 rounds). All other rules remain in effect.

April 23, is popular! In Wheaton, Illinois, you can do just what the same reads: SWAP TIL YOU DROP 2011. This event will be held at the County Fair Grounds. Contact John Howe with questions at iflyrc2@comcast.net. Visit: www.suburbanrcbarnstormers.com. Hours 8AM to 12PM, table set up and check in at 7:15AM, general admission 8AM. Tables $17 pre-registered, $15 for 3 or more, and $20 at the door. One adult admission with each table. Admission $5, children under 12 free. Coffee, doughnuts, pop available.

One more for April 23: The 3RD ANNUAL SWAP MEET will be held in Waco, Texas, at the Midway Middle School Cafeteria. Robert Cervenka knows his way around, so email him at robertec1@earthlink.net. Visit: www.tmaf.homestead.com. General admission $5, tables $10, 8AM to 1PM. Food and concessions available.

The last weekend of April (April 30-May1) offers up a peaceful setting at the MISTY MEADOWS SOARING CLASSIC in Solon, Iowa. Email Terry Edmonds at terry-edmonds@uiowa.edu to find the secret to inner peace. Events 442, 444, 460(JSO). Sponsor: EASTERN IOWA SOARING SOCIETY

Or you could fire up the afterburners on April 28-30, 2011, in Raymond, Mississippi at the MISSISSIPPI AFTERBURNER at John Bell Williams Airport. Email Vernon Montgomery at vernonms@gmail.com. This event is in its 20th year! 6000' runway, tent rental, RVs welcome, no hook ups. Jet A and turbine oil available, aircraft storage overnight in hanger. The best dinner that you ever had will be served on Saturday night, $40 pre-registration, and $60 on site. Sponsor: MISSISSIPPI JETS

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!

Isabelle

PROP CUTS CHRIS HANDEGARD

FOR THE COMBAT ENTHUSIAST and FIGHTER PILOT WANNABEE

Greetings everyone and best wishes. Well, here we go with another season of streamer chasing thrills and spills! Take your protein pills and put your helmet on Major Tom! It's time to step outside the capsule if you dare! Don't be shy boys and girls, the fun is there, and you just have to reach for it!

BE THERE OR BE SQUARE

Events for March are: 3/5 "Air Combat Bravo II", Open B, SSC, Coachella, CA. 3/25-27, "Lone Star National", Scale 2948, Open B, SSC, Fort Worth, TX. 3/26 "Battle over Blueridge", SSC, Scale 2948, Bedford, VA.

Events for April are: 4/9,10 the 6th Annual "Bushwhacked" Spring Fling for Open B, SSC, and 2948 Scale, West Palm Beach, FL. 4/10 "Doolittle's Raid Over Japan", SSC, Open B, Fallbrook, CA. 4/16 "Battle of Benbrook", SSC, Open B, Benbrook, TX. 4/16, 17 "Dogfight over Dovre" Limited B, SSC, New Auburn, WI. 4/30 "Spring Sussex Streamer Cuts" SSC, Seaford, DE.

The contest calendar is filling up with numerous events from now until fall all over the country. Sign up, suit up and show up! Here's the link to go to the RCCA's event calendar and sign up: http://rccombat.net/events/index.asp

Signing up online prior to the contest date should be done as soon as possible. This helps the event coordinators and contest directors get all the needed supplies, manpower and club

resources to make the event run smoothly. Also the scores of those who pre-register are recorded more easily by the National Points System (NPS) score keeper, Randy Hodges, when you sign up online before the contest. Seeing the names of other pilots you may know or want to compete with is a good draw to encourage participation, so don't be shy! Sign up early!

Be there or be square!

EVENTS DEBRIEF

Tangerine Combat Challenge 2011

The contest took place in Apopka, Florida, near Orlando, on February 19 - 20. It was attended by 12 pilots from as far away as Wisconsin, Ohio, and Georgia, as well as from South Florida. Beautiful weather with a high temperature in the mid 70s made for near perfect conditions. Although a little gusty wind made launching and avoiding safety line

infractions difficult for SSC on Sunday; all would agree you can't get much better conditions for combat than that!

Open B Group Photo L-R: Don Fourson, Rick Engel, Don Grissom, William Drum III, Bob Loescher, Craig Buttery, Jim Nadaskay, Nick Windsor

Eight pilots registered to compete in Open B, which limits the engine displacement to .30ci and a maximum weight of 3-1/2lbs. There are no other restrictions so this is what might be described as the "unlimited class of Radio controlled combat with speed to match!

Hosted by the RCACF, the Radio Control Association of Central Florida, whose members, led by President Jose Soto, (AMA District V Associate Vice President), turned out in excellent support of the event. Providing sufficient judging manpower to enable the event to be "all up" every round in each of 3 different classes. Open B for the speed junkies, Scale 2948 for the true fighter pilot wannabee, and SSC the "Slow Survivable Combat" class.

Group photo of everyone including club volunteers

When the volunteers equal or outnumber the pilots it makes for a smooth running competition that moves along quickly and gives the pilots a better chance of getting up for every round. All eight of the pilots who started the event flew nearly every round and finished by flying in the tenth and final round of Open B. Pretty impressive! Usually some attrition is normal and it's not uncommon for at least one or two to drop out before a full ten rounds are completed. Coming equipped with backup airplanes and staying lucky is as a good plan!

Aerial action- the Open B "Furball"

I was not able to compete in Open B or SSC this time as my accident injuries are still bothering me. I chose instead to take it easy and enter only the scale competition which was divided into two 5 round segments that gave me an overnight rest break. I thought it would be hard to watch as the others flew Open B and SSC, and I was right! I really wanted to be in there with them, but after it was all said and done I was quite stiff and sore from the limited amount of flying I engaged in and glad I didn't attempt to do it all as I would ordinarily have done.

Not competing gave me a different perspective on the competition and afforded me the opportunity to be more informative to the spectators with announcements and dialogue describing RC Combat. It was a rare treat to be simply the contest director without competing at the same time myself.

The competition in Open B was heated with top honors going by a wide margin to William Drum who came all the way from Wisconsin for this event, and to escape some cold snowy weather! William flies his own design built with aluminum channel along the Battle Axe lines.

Open B winners L-R: 1st William Drum, 2nd Nick Windsor, 3rd Don Grissom, 4th, Craig Buttery, 5th Matt Chontos

2948 Scale combat followed with the scheduled 5 rounds on Saturday. A total of 8 pilots competed in scale. Seven flew on Saturday with Ted Cwikiel joining in on Sunday, but he was not present for the group picture.

Scale Group L-R; Craig Buttery (BulletProof P-47), Chris Handegard (BulletProof "Gekko"), Bob Loescher (BulletProof P-47), Matt Chontos (BulletProof "Oscar"), Don Forson (P-39 Airacobra), Jim Nadaskay (Bulletproof P-47), Don Grissom (BulletProof "Oscar")

I knew things were going to be challenging when I dumb-thumbed my twin engine J1N1 "Gekko" into the ground on its first test flight before the scale competition began. The crash broke the left engine nacelle nearly off and cracked the fuselage behind the wing. It took a repair scramble and some on the spot tape repair to stitch it back together, but I was determined to use it if possible.

BulletProof Models Planes before competition

Scale combat generally sees lest mid-air damage and employs more pursuit strategy which I like. Head on collisions tend to be counter-productive! Don Grissom dropped out after 2 rounds so there were 6 up for the remainder of the day and some close cuts!

On Sunday we were joined by Ted Cwikiel flying his Hattrick Zeros which brought the field back up to 7 pilots competing. There were a few mid-airs and I was no exception. After one such the wing on my twin was skewed sideways jamming the throttle servo in the process. I was actually able to keep flying and even scored a cut with it that way! The fun really began after the round ended and I realized my throttles were stuck.

Normally, not such a big deal, you just fly the fuel out and land dead stick, but with a twin one engine always quits before the other. Combine that with a wing knocked sideways and the result would likely be an uncontrollable spin-crash maneuver as soon as one engine ran out of fuel. So I fly around waiting for the inevitable and when one engine quit began the difficult task of managing the remaining energy on one engine as I continued to lose altitude in what looked almost like a flat turn. I was able to keep it from snap-spinning and once down on the deck managed to put it down without further damage, whew!

Zero vs. wounded Gekko: No mercy for a sick bird in combat!

I had to finish the round on one engine a couple of other times as well when one quit during the round. It's no fun flying an airplane that is barely able to stay airborne while being pursued by a bunch of bloodthirsty savages out for your streamer! All in all, Scale was a lot of fun and I was able to fly the twin in every round; but was grateful when it was over! As I was not competing in SSC I could take it a bit easier and just help judge or direct the contest.

Scale Winners L-R 1st Chris Handegard, 2nd Craig Buttery, 3rd Matt Chontos, 4th Bob Loescher, and 5th Jim Nadaskay

Now the event moved into the final class, SSC and we were running a little late so tried to keep up a good pace. 8 pilots registered and prepared for battle.

SSC Group L-R Bob Loescher, Don Grissom, Matt chontos, William Drum, Ted Cwikiel, Jim Nadaskay, Craig Buttery, and Don Fourson

One of the first things we did was to give everyone flying glow power a quick rpm test to demonstrate how the procedure is done. Thereafter everyone performed the test themselves prior to each launch in every heat to maintain rpm limitations. 17,500 rpm is the maximum allowed and it takes constant diligence to keep from exceeding the limit.

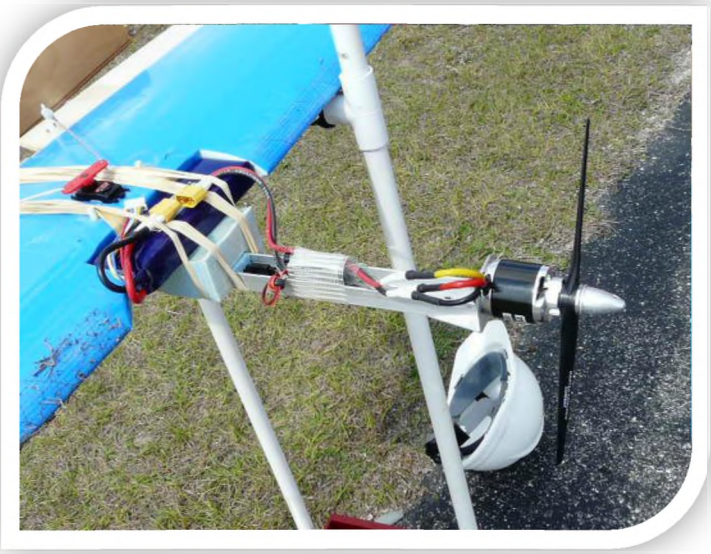
The pinch test is done while holding a tachometer safely to the spinning prop. A brief series of pinches to the fuel line create a temporary lean condition that brings the engine up to its' peak operating rpm for the test.

Matt Chontos performing the "Pinch Test"

William Drum was the only electric powered SSC competitor this time, but Craig Buttery from West Palm Beach has also done quite well with his E powered SSC planes. This time out Craig used glow, but he says he still plans to use electrics for SSC in the future.

William Drum with his E-SSC plane

Once again, William came out on top, but only by a few hundred points. SSC was hotly contended and there were lots of Mid-airs! William actually dropped out of the 10th round having exhausted his supply of something like 5 planes! Of the 8 who started only 3 were able to put a plane up in that last round. Maybe SSC really stands for Some Serious Carnage!



Close-up of William Drum's E-SSC setup

Craig Buttery, who finished in second place by a thin margin, also has a contest winning design of his own he calls the "ZAPDOS" after an animated character. (His kids helped him name it, or so the story goes.)

I have test flow the Zapdos and seen it compete in several contests now, and I am quite impressed with its performance. It's light, fast, and turns hard without the usual accompanying hard snap. Borrowing from the heralded Avenger design, Craig's model is closer to a true flying wing with a very short coupled, full flying elevator. Look for more of them to show up at a contest near you in the future!

Craig Buttery's "Zapdos" for Open B and SSC

In spite of personal difficulty and being reduced to competing in one third of the combat I would ordinarily have, I had a good time and wish to thank all who came to participate. The club was a great host and I will see them again next year to continue the combat tradition in Apopka! As you can see from the SSC winner's photo, combat and combat pilots are all about having fun and it really shows! Well done!

SSC Winners L-R: 1st William Drum, 2nd Craig Buttery, 3rd Bob Loescher, 4th Matt Chontos, and 5th Don Grissom

And also be sure to check out the Palomar Flyers Combat Forum at http://pfcombat.hyperboards.com/index.php for some cool combat tips, event debriefs and discussion forums.

FROM THE BENCH

I can at last confirm that parts and new engines from Norvel, now called NV, are a reality! I have received my parts order from Alex Frish in California (londike17@juno.com) and he indicates that they are going to continue to get organized for distribution in the US again. For now e-mail Alex to get a complete list of parts with pricing.

Well, that's it for this month gang; I hope you enjoyed it! Looking forward to hearing your comments at chandegard@peersonaudio.com. Don't forget to clear your guns before you engage and check your six o'clock frequently!

CLICK HERE

TO PROTECT YOUR RIGHTS AS AN RC PILOT!

SPARKY'S REVOLT TONY COBERLY

Hello again, Sparky here and it's time to go back in time just a little. Back in time long enough for those of you that were around before I got here, well sort of! (More on that later,) Back about seven years (could be 10 years), I was attending a swap meet in the north Alabama area for a club that was kind of an offshoot of my local Rocket City Radio Controllers. North Alabama Radio Control Association (NARCA) was having a swap meet about an hour away from my home, so I decided to see what they had to offer. This was one of their first swap meets at a new church, so I thought it would be good to support them. After all, most of them came to the swap meets that I directed in Huntsville. Anyway, as I wandered around the tables that were full of lots engines, beat up old kits and soon to be antiquated 72 MHz receivers, something caught my eye. Over at the far wall, I saw a club member of RCRC that I recognized. Now he was not the only RCRC member who had a table at the swap meet, but it was what was on his table that caught my attention. There was this little white plane, with a great covering job that was completely different than anything I had, or flown. I talked to him for several minutes and asked about the plane. I had seen him at the field many times before, but this little plane was absolutely NOT what he usually flies. A quick guess would put this unique little glow powered plane at about three pounds; ready to fly. I usually see this gentleman at the field flying 25+ pound lumbering giant planes that sometimes need 450+ feet of the RCRC 600 foot runway for takeoff. More than once, I have watched him takeoff and fly around at what looked like about 5 knots above stall speed! This little plane on his table looked like it had potential of a

great deal of speed with the right power system, and was defiantly NOT his norm. When I asked him "who's ARF that was", he got really loud and defensive let me know in short order that it was not a crappy ARF, but a kit that he built! It was all in good fun though, whenever were at the field it's always really loose and fun, same thing here. Anyway, back to the plane. I haven't seen anything like in person, but I have heard of designs like it. It could be said that it was backwards, but considering the first airplane had the same basic design, it is more accurate to say all airplanes are now backwards. The plane had a swept back wing with wing tip stabilizers. The base white covering job had additional Air Force markings on top of the wing, and blue stripes on the bottom of the wing. The fuselage was only about two inch square tube, sort of like the SPAD chloroplast designs, with a pointy nose and an engine mount in the back. The engine mount was a tiny little thing that the builder told me that used to hold an O.S. 1.0 or .15…(He couldn't remember.) The more we talked, the more I realized had to have that little plane. The

manufacture of the kit was a well-known one for kits at that time. This was right about the time that kit manufactures (You know the ones with big boxes of sticks with instructions that say "sand off everything that doesn't look like an airplane.") Good old SIG manufacturing, still around, but very limited production. The little plane had a price tag on it, but I couldn't guess what it was now. It didn't matter; I had to have it. Well, the seller and I did the deed and the plane was mine. I was surprised when he turned around and grabbed the plans that he built it from. The plans were in great condition and had some hand written build notes and even the instruction manual. My jaw dropped when I looked in the manual and there were actually instructions to build the plane as an electric with a brick of NiCd batteries in the landing gear tray! Sweet!! We said our goodbyes and off I went with the little plane. It just so happened that I HAD to pass the local hobby shop RCHobbies on the home so a small detour!

Now, remember this was at least seven years ago; the shop owner and I went through his slim options for motors, batteries and speed controllers until nearly closing time. What I ended up with was about the only option he had for something designed for speed. I got a Multiplex Permax BL480 4D winding, a Castle Creations 45 Amp ESC and a whopping Common Sense RC 3S2P 2000mAh LiPo. This was a 10C discharge LiPo battery that would just fit in the battery compartment under the wing. The BL480 motor did not fit in the pusher engine mount, so I got a slightly larger one and off to the shop I went. This little plane has all the makings of the easiest conversion in history. Oh, I just realized that I haven't told you what it was yet!! You may have guessed it, but it's a SIG TriStar! The goofy canard on the nose, the double tapered swept wing and skinny little fuselage are all things to make you smile; even if to ask yourself "Why?"

In the shop, that night, I decided that I was going to fly this plane tomorrow; no matter what. I worked for about a total of five hours, installing servos and receiver in the original places. The tricycle landing gear was already installed, but I did not like the fact that the aileron servo controlled the steerable nose wheel! Simple fix with a micro servo on the nose wheel pushrod. The conversion went well, and it was off to the field the next morning. The weather was beautiful and the field was packed! There were about 20 people constantly standing in line at one of the five flight lines. I brought out the TriStar and did a preflight check of surfaces, as well as a check of my channel 41, 72 MHz radio system. (Man that was a LONG time ago.) When all was ready to go, I carried the TriStar to the flight line and got ready to go. A quick run-up of the BL480 and the APC 5x4.5 inch prop spun beyond to 16000RPM and we were ready. Off to the races! I went down the runway and into the air I went. The TriStar was quick, but not what I would call fast. Everything ran great for a several minutes, rolls loops and something that did not look like the intended stall turn (or turd). I lined up to land and the words from the swap meet came back to me. The reason that the builder sold it was it was a pain in the butt

to land! Because the propeller is in back, the elevator in front has no prop wash across it, so you have to come in hot with a lot of elevator throw. Well, I didn't have enough elevator throw so I was able to land, or bounce, about 17 times before I came to a stop! I immediately pulled the Common Sense brick battery pack from the plane and immediately dropped it, before I got burned. It was hot as a firecracker and I would find out later that I had terminally hurt it. Too much heat, too fast! I only flew the TriStar a few times after that, and then hung it up in a spare bedroom until now.

Sitting at the computer, I looked over at the TriStar and there it hung. It still had the original motor, prop, servos and receiver installed. I had cannibalized the speed controller years ago and have no idea where the Common Sense brick went! Time to bring it back to life, so off the wall and into the shop I went. Looking through my battery stash, I had on hand two 3 cell 2100mAh LiPo packs that I ran in series in a delta wing setup I have. These two packs together are smaller than the original Common Sense pack from seven years ago, but a single pack can output more power! I few minutes in the E-cabinet and another Castle Creation 45HV was produced, along with a CCBEC to power the servos and off we go!

Back out at the field, all was ready for the second maiden flight of the electric TriStar (7+ years later) with more battery power that before, about 5 ounces less weight and 22000RPM on the old Multiplex BL480! I had a great time flying this plane again. It is just so different than any old plane in the air, and bystanders just stand there and stare! The last time I flew the TriStar, the builder was at the field; and was still giving me crap over the ARF comment. I never told you the original builder's name. You may have heard of him. He has competed on the US Scale team several times in the past. He has been invited to participate at Top Gun for as long as I can remember, and he used to write for RCReport! Good ol' Al Kretz! He told me he built the TriStar to find out the flight characteristics of a plane like this because he was thinking of building a Curtis-Wright XP-55 Ascender. A canard based fighter prototype authorized by the Army in 1940, and canceled in 1943. The lack of landing stability dissuaded Al from going ahead with the scale XP-55Asender, so he sold the TriStar to me!

Why all the reminiscing? Well everyone has something that they stopped flying due to damage or lost interest. The TriStar is just an example of the difference that a few years make. It was not a bad performer before, but it is faster and has longer runtime now, on new higher output batteries. Look around your shop; I'm sure you'll find something. If you can't, then just go down to Perry, Georgia, on Saturday, March 3, and find something to bring back to life! I'm planning on being there, so you should too!

Tony Coberly tonyc@rcreport.net

SPECIFICATIONS:

- Wing Span: 23 1/4" / 590mm
  - Measured: 23.25 in
- Length: 20 1/2" / 700mm
  - Measured: 26.437 in
- Wing Area: 91.45 sq. in
  - Measured: 95.45 sq. in.
- Flying Weight: 11 3/5 oz./ 330 g.
  - Measured: 11.7 oz.
- Wing loading: 17.6 oz./sq.ft.
- Functions: Ailerons, Elevator, Throttle
- MSRP $139.99 Retail $89.99

ITEMS INCLUDED:

- Airframe: EPO Foam
- 50mm Fan Unit (Installed)
- 4200kv Brushless Motor (Installed)
- 20 amp esc (Installed)
- 8g servos (Installed)

REQUIRED ITEMS FOR COMPLETION:

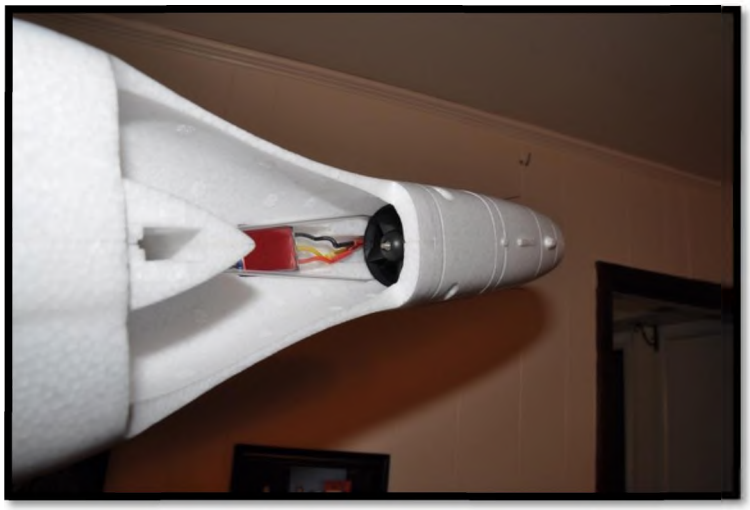
- Transmitter/Receiver
- 3S 850 mAh 20C Li-Po Battery
- Li-Po charger

Cheers: Low price, easy to fly, good power

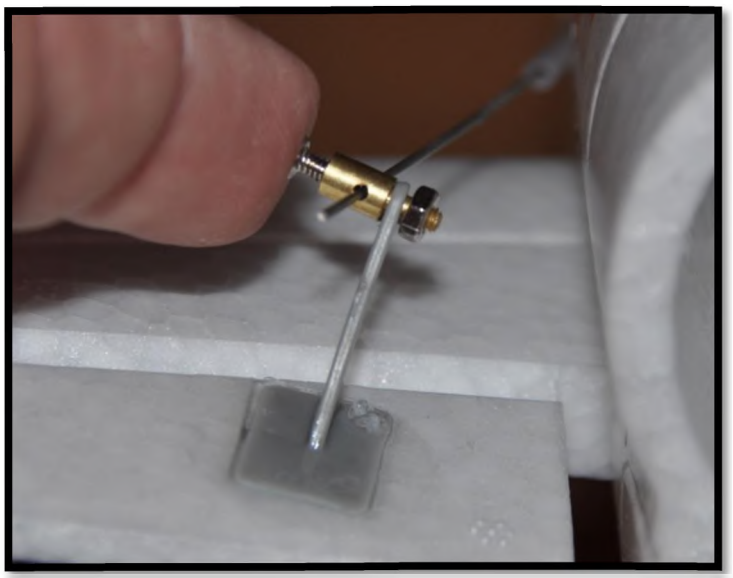
Jeers: Battery connectors, flight time

The Sky Angel by Venom is a foam ducted fan jet designed for a three cell LiPo battery. The kit is an ARF type kit that includes a preinstalled brushless motor attached to a 50 mm fan unit. In addition, there is also a brushless speed controller installed in the fuselage. Also installed in the fuselage is an elevator servo with two pushrods for split elevator halves. The one-piece wing panel has preinstalled servos one for each aileron. The preinstalled aileron servos have linkages already hooked up for the ailerons and the servo leads are buried in a slit in the wing, exiting the top of the wing panel. On first look, the foam appears to be similar to Multiplex Elapor type foam. (They call it EPO foam) The foam has a slightly greasy feel to it, so I decided to do a test. I took one of the fake rockets included in the kit and added a couple of drops of thin CA. I then hit the CA with some accelerator. Surprisingly enough the thin CA did not eat away at the foam even when it got hot from the accelerator. About the only foam I have seen act like this, as in not be dissolved by regular CA glue, has been the Multiplex Elapor. Looking at the instruction book yields many small errors in what is included in the kit and what actually is delivered in the box. Instruction show us that a set of landing gear is supposed to be provided. Yet in the list of the kit contents; it's not listed, nor is it included in the box. The manual indicates a charger is included for the 850mAh three cell battery, but again it's not included in the box. With a small number of parts actually in the kit, the instructions don't have to be very good to get it assembled correctly.

Moving on to the instructions, the first thing we have to do is glue on the horizontal stabilizers in the preformed slots. A test fit shows the anhedral angle in the stabilizers looks very good and the stabilizers fit very tight in the preformed slots. We are instructed to use the epoxy for this, but that



bothers me. If this foam material is indeed a knockoff from the Multiplex, then we can expect that epoxy will not hold very well over time. Rather than epoxy, I decided to go ahead and use CA glue from Bob Smith Industries. I believe I could have used standard CA glue, but I decided against it because since I had some foam safe CA on the shelf; I might as well use that. Some medium foam safe CA in the slot and I installed the some stabilizer halves into the fuselage and it put aside to let dry after a spray of CA accelerator. The elevator control horns are just glued onto the elevator half and an easy connector tightens the set screw down on the elevator pushrod. One of the easy connectors had a lot of play in it, so I had to



add a few washers to make up the gap. The wing panel is simply glued to the fuselage making sure to pass the aileron servos leads into the receiver area of fuselage. There is a small tunnel at the bottom the fuselage for the leads to pass into. If you forget to pass the leads into this tunnel all is not lost, but is just a little more difficult to feed them through later. A generous amount of foam safe CA here is needed because this is the wing assembly. I applied CA to the wing and to the fuselage and lined everything up. This fit was very good and easy to line up, so once it was in place, just another spray of CA accelerator locks the wing in place. Now the instructions show us the installation of the nonexistence landing gear box and landing gear wheels, but since we don't have any in the kit, we can move on to installing the missiles. The foam missiles were really cheesy looking, and since there's no landing gear they would be knocked off every time we landed so I chose not to put them on. The vertical stabilizer glues into the top of the fuselage, similar to that of the horizontal stabilizer; but we do not have a functional rudder. With a little modification, we could probably have a functional rudder; but I don't think I'll be doing that. Now we can begin installing the radio gear.

I'm using a Futaba R607FS receiver. This receiver is one of my favorites because it's very light. It has seven channels and is on the FASST 2.4 gigahertz system. I'm using a Futaba 12 FG transmitter to talk to this receiver. Radio setup is pretty simple with my speed controller being plugged into channel 3, and elevator servo in channel 1, the right aileron in channel 4 and the left aileron in channel 5. I had to reverse the channels on the elevator model in both ailerons to get them to move the correct directions. Receiver fits down very well into the belly of the fuselage just in front of the intake ducts. Now we have basically. The 850mAh three cell LiPo battery already has small tight connectors installed for us, as does the speed controller leads. These leads are 2 mm bullets, with the battery having the positive female side and negative mail side. The battery sits down in the fuselage in front of the receiver in the provided slot. The battery does fit quite tightly enough, but I added a small piece of Velcro as a fastener to the bottom of it. The canopy is installed and held on by magnets, as you'd expect. Now, we're fully assembled, so we can go through the actual set up of control throws and check the CG. Here, I ran into problems. The control throw for the ailerons is shown as .5 mm up and .5 mm down. Now, I believe there has to be a problem. I decided to simply set up a high rate switch with 100% throw and a low rate which was 75% throw and allow for 30% exponential and start from there. With a full charge on the battery, I decided to check the thrust of the fan unit. I was pleasantly surprised to see that with the jet held vertically, at full slot, it would just about fly out of my hand. We can assume we have about a one-to-one thrust to weight ratio. As far as weight goes, the model came out exactly 330g as listed on the front cover of the manual. Now, it's time to check the CG of the model.

According to the instructions, the center of gravity is 50 mm behind the leading edge of the wing

where it meets the input ducting. According to my measurements, my build is showing that I am only 40 mm behind the leading edge of the wing. That means I'm a full centimeter nose heavy compared to the manual. I will attempt to fly at the 40 mm CG, but I will bring some lead weights to balance out the 50 mm CG if needed.

Flying the Sky Angel T45

Finally, we got a few days of good weather in North Alabama, so it was off to Rocket City Radio Controllers. The temperature is up to 60 degrees and the wind is light out of the south at 4 knots. I ran the motor in the shop for testing and was pleasantly surprised to find no more vibration than one would expect, and the thrust was quite good. I would say that the thrust to weight ratio is approaching the one to one level. With this good amount of power, I decided to do the first launch myself without assistance, but that is when I realized that there is little place to throw the Sky Angel from. There are no hand holds on the bottom, so the only place to hold on is behind the wing. I really don't like throwing from behind the wing because it is very easy to throw in such a way that the jet will tumble or even flip over. After a few minutes of looking and analyzing; I decided to just hold the jet from the top and underhand it into the air. This way I can have a nice smooth toss, and let the fan power just push it up at a slight angle. I use my left hand for launch tossing so I can have my right thumb on the stick at all times. I advance the throttle to full with the nose of the T45 and gave it a toss, and to the moon it went. The climb out was good, but it's no rocket ship. The fact that I was slightly on the nose heavy side of the balance rang was evident by needing 5 clicks of elevator trim to stop the nose from dropping initially. The roll rate is about 300 degrees per second on high rate, and about half that on low rates. I noticed an odd flight characteristic that really surprised me. At full throttle the T45 climbs severely like it needs down thrust in the fan unit. When I trim the jet to fly at half throttle, I needed about ¼ stick of down elevator to maintain altitude. It is hard to add down thrust in the unit when the foam airframe makes up the thrust tube! This phenomenon is inherently due to the relation

of the wing and the fan duct tube exit. Since the wing cannot be moved, and the fan unit is molded into the fuselage, there is little to do to fix this

problem; other than adding something inside the ducting to direct some of the air down as it expels. I'm sorry, but this T45 is not a bad flyer, but I don't think that it is worth the time or effort to modify the duct. I will fly it like it is, and perhaps just add a program in my Futaba 12FG that just automatically adds some down elevator as I move the throttle from half throttle up to full throttle. Landing the T45 is very straight forward by just flying it up to the grass runway and allowing it to settle into the grass as speed bleeds off. The T45 remains responsive until about 15 MPH when the controls begin to get mushy. For this reason I recommend using high rate to land. (I like to use high rates all the time, but that's just me)

Conclusion

The Sky Angel T45 from Venom is a nice powerful small fan jet that flies decent. It is not really fast, but newly graduated pilots from a trainer may think that it is a little too much to handle. This jet is not as refined as those put out by some of the larger more well-known manufactures, but it also cost about half as much at $84.99. The manual needs some work and is not as good as most from GreatPlanes and Horizon, but it will get you through the process. All things considered, the Sky Angel T45 is a good value, if you want to get into a 50mm ducted fan jet. Just don't expect all the bells and whistles of other more expensive jets.

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Wingspan: 31 in.
- Measured: 31 in

Wing Area: 112 sq. in.
- Measured: 105 sq. in.

Wing Loading: 21.9–23.1 oz./sq.ft.
- Measured: 23.86 oz./sq.in.

Length: 24.5 in
- Measured: 24.5 in

Weight: 17–18 oz.
- Measured: 17.4 oz.

Radio: 3-channel, 2 nano servos, mini receiver
- Futaba R617fs 7 channel Rx, two Futaba Digital Mini 3156 servos

Motor: 24-33-3180kV Ammo inrunner

ESC: 25 Amp Brushless minimum
- Eflite 35Amp with BEC

Battery: 1500mAh 11.1V 25C LiPo
- Hyperion 3S/11.1V 35C 1600mAh

Price: Suggested retail $139.95
- **Typical:** $109.99

Cheers: Beautiful fiberglass work, sleek paint scheme, wickedly fast and fun!
Jeers: Hinges cause surfaces to bind, little room for other motor options.

Many years ago, a friend of mine came up from Prattville, Alabama, to visit us at Rocket City Radio Controllers. He was here for a pattern contest that weekend, but came in on Friday for setup as usual. Generally, on Friday afternoons, we practice for the weekend event; but at the end of the day we switch over to our bang around planes. There are usually some faomies and a few small helicopters, but Jamie had something different. He brought out his VIP Hotliner and raced around at about 120MPH and had a blast.

Ever since then, I have wanted something like that, and finally ElectriFly has a solution: The RIFLE!

The Rifle is a small lightweight hotliner designed for experienced pilots who love speed. There is nothing about the Rifle that says trainer, or beginner! It is designed to be flown at full throttle with high G turns being normal and expected! This is a cute little bullet, so let's go through building it!

Provided in the box is the fiberglass pre-painted fuselage. The red and white scheme is nice, with an added 1/8 inch black stripe setting it off. The fuselage is a T-tail design, so the vertical stabilizer is integrated into the fuselage, with a flat area on top to attach the tail surface. The elevator pushrod is preinstalled and exits the top of the vertical fin just above the black trim line. The wing is molded in one piece. It is also pre-painted with the same scheme as the fuselage, with the bottom of the wing having two red 2.5 inch strips near the tips. The wing is very dense molded foam that is very strong and has little flex. The airfoil is not completely symmetrical because the bottom of the wing is slightly flattened. The horizontal stabilizer is extremely skinny and is only .16 inches thick. Finally there are two bags of hardware to finish the kit.

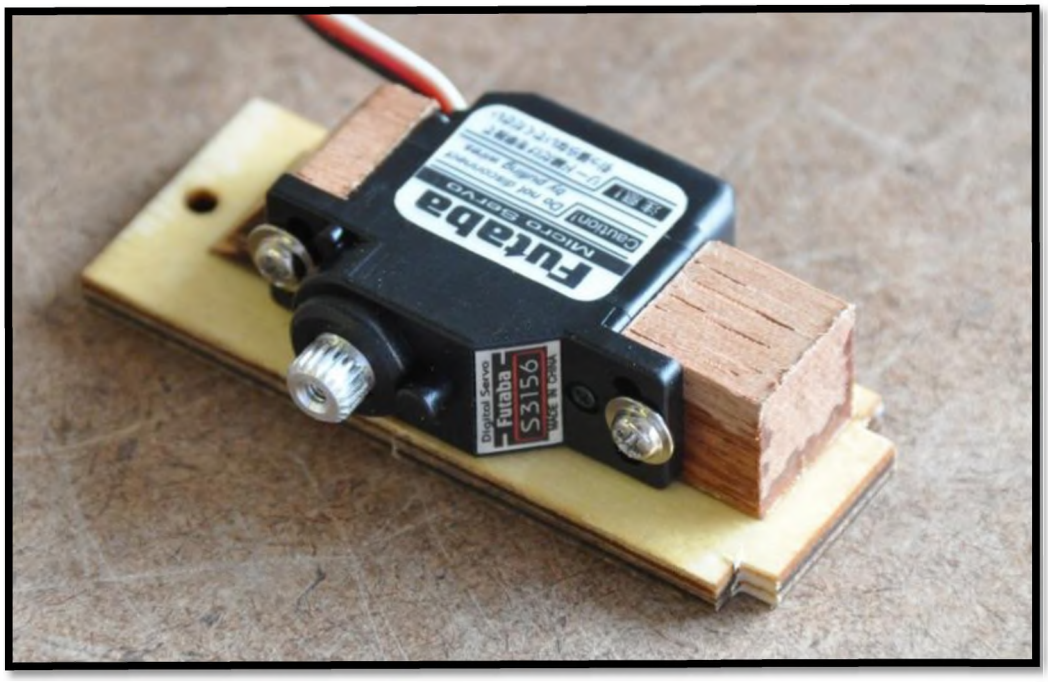
The manual is a sixteen-page, black and white booklet bound with a single, two-sided bright yellow instruction addendum. The addendum references five changes in steps in the manual as well as a reference that the recommended ES 50 Nano servos will fly the plane, but more precise

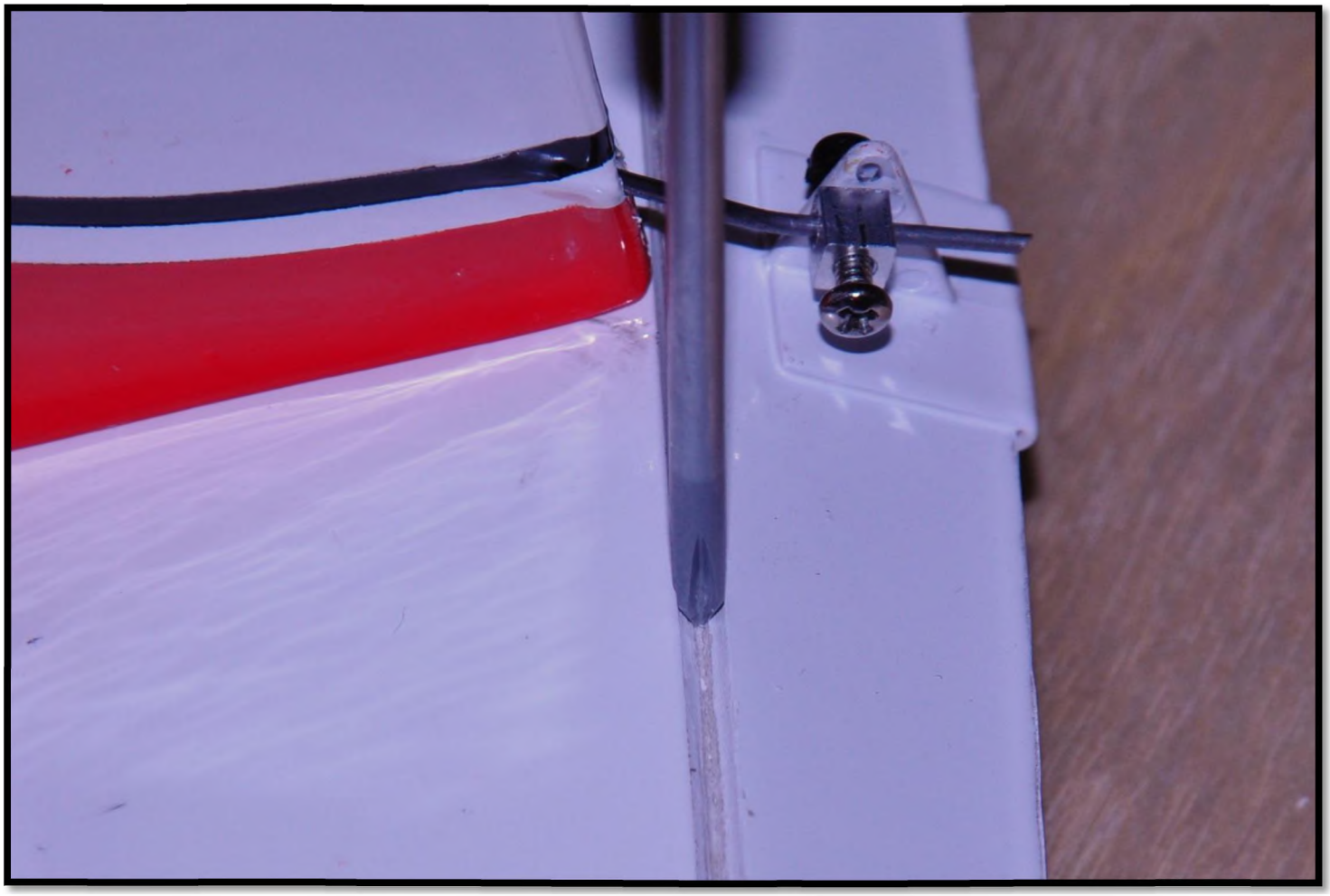
servers would be better. This plane is capable of 90+ on a straight and level flight, so I recommended using the best, tightest servo you can get! That is why I used the Futaba 3156 Digital micro metal gear servos. They are a little on the pricy side at $39.99, but almost twice the power for the same weight. As usual, the first several pages of the manual give all the parts that should be in the kit, and lists the other items required to build the Rifle. I'll address more of exactly what I used as we build, so let's get going.

First thing to do, when actually building the plane, is install the elevator servo in the F7 plywood block provided. This block is plywood, of course, but it has hardwood blocks already glued down to catch the mounting holes of the servo. The Futaba S3156 Digital mini servo is a perfect fit! I mean absolutely perfect. The manual says we may have to trim off one of the blocks for the servo wire to clear, but mine was already done. I drilled one hole through each servo mount into the hardwood block per the manual. I used some Bob Smith thin CA glue to harden the holes up after running the screws in the holes once.

With the servo mounted, I added the servo arm as required in the manual, leaving one arm with three holes in it. I like that the manual reminds us that we now need to temporarily plug the servo in and get it centered, because once the plate is installed, you cannot get the arm off without removing the plate again. This is one item that is mentioned on the addendum sheet for the manual. The servo is installed into the fuselage with the pushrod already attached. The pushrod is slid into the pushrod tube and the servo is screwed down. The pushrod tube is offset form the servo arm by ¼ inch, so we need a slight bend in the wire where it exits the tube. Once this small bend is done the pushrod moves more freely in the tube. A single screw holds one end of the servo plane, while the other end of the plate fits into a slot in a former in the fuselage.

Okay, with the elevator servo installed we are told to install the horizontal stabilizer next.

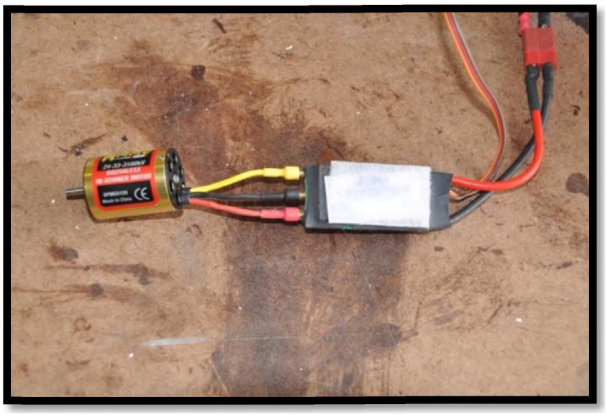




First we need to install the EZ connector onto the preinstalled control horn of the elevator. The EZ connector is pretty simple, but we have to cutoff the push rod wire, and add a small bend in it. This is very clear in the manual and the addendum, bits it's a bit tricky to hold everything together and make sure tail lines up with the wing. I only made minor adjustments to the top if the vertical fin to get a good flat surface. The tail is held on with two Phillips head sheet metal screws.

Now there is no reference about the hinge surface of the elevator in the manual, but the addendum does inform you about the issue with the skin. There is a large buildup of paint and skin material that needs to be removed in order to free up the surface. Out of the box things are very tight, and the elevator will not move down more than about 1/16th of an inch. The addendum shows the use of sandpaper and a piece of wood to clean out the hinge area. I actually used a #1 Phillips screwdriver instead. A nice new screwdriver tip has good square edges so when you put the tip of the driver into the center of the hinge area; just keep the driver at 90 degrees to the hinge line. Now slide the driver back and forth down the hinge line while flexing the elevator up. I didn't need much pressure at all, just rapid strokes back and forth.

Now the motor can be installed in the nose. The motor simply drops into the nose and is held in with the four screws that came with the motor. I chose to use the recommended 24-33-3180kV

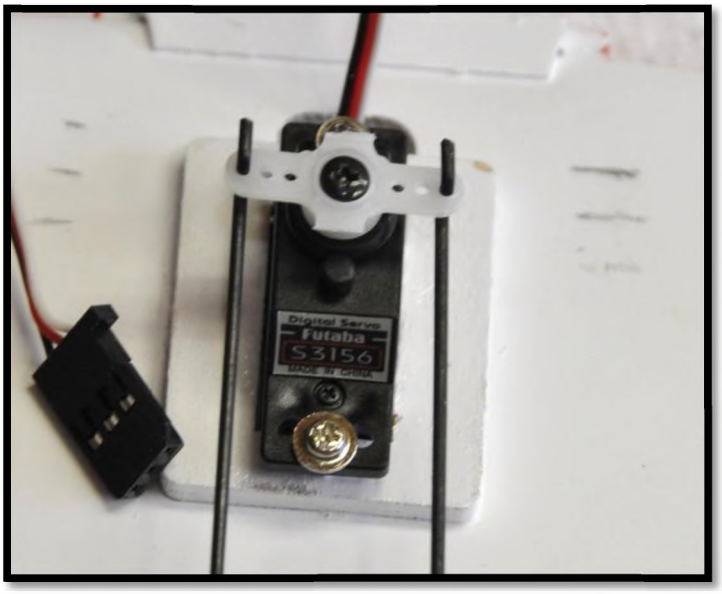


ElectriFly Ammo inrunner brushless motor. This motor fits into the nose very well, and I imagine that the size of the space in the Rifle was designed directly for this motor. It would be very difficult to get any other motor size into this nose. The firewall is drilled for the not nly the screws, but also the six cooling holes. The manual has us hook up the motor, ESC, reciever and battery pack and temporarily to very the direction of the motor rotation. This is very impotrant because we also are supposed to shorten the ESC leads to since the nose are is such a tight fit. Short ESC leads means that you cannot easily reverse if the motor is reoating the wrong way! I'll admit, I was able to cheat a little here, because the Eflite 35 amp ESC I used did not have any wire leads on it! The bullet connectors are soldered directly to the printed circuit board of the ESC! The motor installation is completed by adding the included prop adapter, the APC 4.75x4.75 propellor and the provided aluminum spinner. Now we can install the reciever and finalize the fuselage. The Futaba R617FS 2.4Ghz reciever just sets in the middle of the fuselage in front of the elevator servo. A piece of the provided Velcro holds it in place and the elevator servo is plugged into channel 1 on the reciever. The ESC signal wire runs up the right side of the fuselage and plugged into channel three. The manual has us use some ShoGoo to secure the wires to the side of the fuselage. Now we can work on the wing.

The wing is a thing of beauty. Its thin as a razor blade, (not really) and we have just a bit of work to complete it. Once again the hinge lines of the ailerons is nasty and clogged up with paint and skin film, so the Phillips screwdriver idea works well to clean it up. The servo I used was again the Futaba 3156 mini Digital with metal gears. The foot print of the servo was very good, the the wing id not deep enough for the servo to fit flush

to the plywood mount. Considering thet the servo is a good tight fit aroung the plywood plate, I just put the screws in and added a few drops of CA on the side of the servo where it meats the plywood plate for insurance.

A very simple two pushrod torque rod setup connects the servo to the two ailerons. The push rods have Z-bends on one end, and an EZ connecto connects to the aileron torque rods. Time to join the wing to the fiselage. The manual has us mark the CG on the bottom of the wing

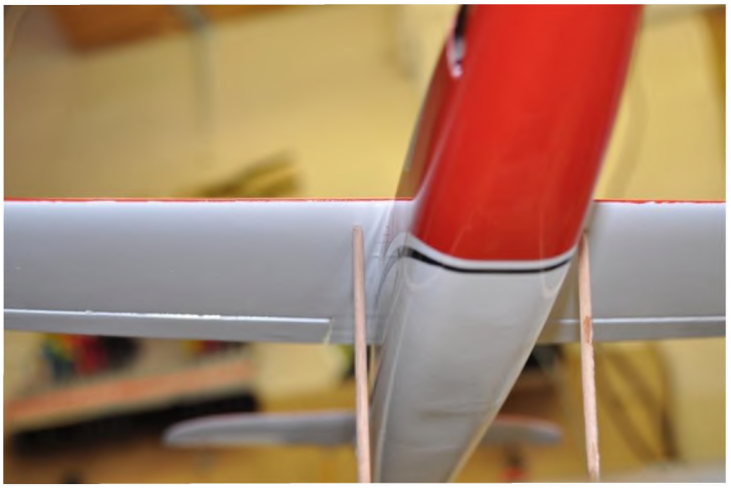


with a template. The template is on the back page os the manual and helps to transfer the lines across the wing. The wing is attached with a single tapere headed allen head bolt in the rear. The front is held in place with the tab on the front of the wing. The hole for the wing bolt was mucked up with paint, so I ahd to redrill it to get the correct angle for it to line up correctly.

In theory, we can setup up the radio system for the correct control throws and exponentioal and go fly, but there is one more step…lansing skids! I really don't want to put them on because it looks better without them, but so be it! The skids are glued on the wings and fuselage after sanding away some of the paint and adding some thin CA, and followed by some meduim CA. (See what I mean, that thin CA likes to run everywhere, so be careful, or just don't put the skids on!) Now for radio setup.

I set the recommended low and high rates per the manual. I had 70% throw for the low rate for both the ailerons and the elevator. 90% throw gave me the recommended hig rate setting for both also. I can get stupid later and go to 125% and see what happens! I decided that I would use 30% exponential on all surfaces in both rate settings. Finally we can go to the field…or not. Lets just verify the CG with the cute little CG balance stand provided.

A couple pieces of laser cur plywood and small dowels are provided so we can verify the



CG of the Rifle. The plywood has interconnecting notches to align the pieces, and dowl holes to slip the arms into. The dowels are sharpened and we are done. Now I just put the assembled Rifle on the stand with the battery installed. My Rifle balanced at the 14mm point,

which is just 1 mm behind the forward most CG, so we are good to go! Off to the field!!

Rocket Ciry Radio Controllers was the place, and its time to shoot this Rifle. It was nearly 70 degrees with a fairly heavy, gusty breeze form the south. The Hyperion 3 cell LiPo is charged, the Futaba 12FG programmed and ready to go, and my daughter Cassie is manning the camera! A frim toss and we are off!! Boy howdy! We are in the stratussphere before you know it. THIS THING IS BLINDINGLY FASST! (No pun intended.) I found out really quick that you had better not be straight level for more that a second or two, because its slim sleek profile is NOT easy to se at a distance. I expected this, but not this bad. I forgot to mention the sound! The vent holes make a cool whistling sound at full speed and it is sweet! Notice the windsock in the picture! To land the Rifle, you need to rememember that you really never flair it, you just fly it as low to the ground as possible at with a few clicks of power and the chop the power and hold it level. Don't try to pitch the nose at all, just allow it to stop flying and fall to the grass from about 12 inches or so!

The Rifle is a great, fun fast screamer that will appeal to anyone that likes to go fast. I don't care how long you have been flying, or how good you think you are, flying the Rifle will require all your skills, and probally raise the hair on your arms! It is what I call nervous fun, because if you loose focus, or make a mistake without enough altitude, bad things happen. For the Rifle, two mistakes high is a lot higher than you think. 90MPH straight and level equals 125+ in a dive, so be aware, but have fun!

I love my Rifle even though some folks tend to run and hide when I fly it at the field!

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