

Carrier Wave

Newsletter of the Phantom Flyers R/C Club

<http://phantomflyersrc.com>

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Board of Directors:	Work	Home	Send Membership Renewals to:
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Send Newsletter Items to:

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Wentzville, MO 63385

March 2007

Upcoming Events/Important Notices

- 18 April, Club Meeting at Senior Center
- 21 April, Pack 30 Rocket Launch at Field
- 6 May, Carrier Fun Fly/Cox Pylon Race
- 16 May, Club Meeting at Flying Field
- 19 May, Swap Meet
- 26 May Float Fly at Innsbruck

Articles, pictures, and tech notes for publishing in the Carrier Wave are always appreciated. Please submit articles a week and a half before the meetings. Please send pictures, preferably in JPEG format, in separate files from text files. Text should be in MS Word format, simple text file format, or some format that MS Word can read. Indicate where pictures should be in the text with a note in parentheses such as (Picture ABCDC001.jpg goes here). I will integrate text and pictures in my page layout program.

Thanks,



Minutes March 21 2007

Vice Pres Frank Thomas called the meeting to order at 7:05 PM.

No new members.

No tech session this month.

Secretary report was approved.

No field report. Mitch Galatioto agreed to do the mowing schedule.

First mow date tbd. Donn Albert is bringing mower to Boeing facilities. This year the farmer is planting beans along our field.

Field work: Security enhancements budget is \$630. Frequency board budget is \$250.

Cost and construction of starting tables were discussed. Budget for permanent materials and building of three tables was approved at \$450. The effort was spearheaded by Donn Albert.

Rebuild of picnic tables was discussed. Large table is undamaged. We have the frames from the burned tables which needs to be cleaned. No specific plans or budget as of yet. Dave Evans will work on the picnic table issue.

Safety Report from Dave Evans. Nothing to report.

Insurance: **Correction from last month report:** Pavilion and container content with \$ 500 deductible and **\$18,000 cap (not 1800 as reported last month)**. Mistake found by George Dauble.

Treasurer report by Dan Sundman: Account at \$13,102. Report approved.

Details for swap meet (May 19): Help required! Web site is up and running. School in process of being reserved. Table rent will be required. Tim Wortkoetter is focal.

Field security headed by vice pres Frank was discussed. Details of discussion is purposely withheld. A work party will be required. Additions of posts and possibly concrete barriers were discussed.

Club activities:

Rocket launch 21st April.

Carrier Fun Fly and Cox Warbird Racing will be May 6th. Jan agreed to be CD.

Float fly May 26th.

New Business:

Second trainer airplane is in work. Airframe donated by Jim Wortkoeter was built by the Carl Brandenburg. Radio and engine is from the trainer which was destroyed last year.

Cody Morgan suggested a Fun Fly event without a specific contest. Best described as: "come and fly what you have". The club agreed and decided to do the Fun Fly in combination with the June 10 Family BBQ.

Event Schedule for 2007

EVENT	2007 DATE	DAY	2007 CD
SNOW FLY	1-Jan	MON	
CLUB MTG @ SR CENTER	17-Jan	WED	CLUB PREZ
CLUB MTG @ SR CENTER	21-Feb	WED	CLUB PREZ
CLUB MTG @ SR CENTER	21-Mar	WED	CLUB PREZ
CLUB MTG @ SR CENTER	18-Apr	SAT	CLUB PREZ
PACK 30 ROCKET LAUNCH	21-Apr	WED	DAN SUNDMAN
CARRIER FUN FLY / COX PYLON	6-May	SUN	JAN JANSEN
CLUB MTG-FIELD	16-May	WED	CLUB PREZ
SWAP MEET	19 May	SAT	TIM WORTKOETTER
FLOAT FLY : 9:30 AM -12	26-May	SAT	DON VETRONE
PATTERN SEMINAR 12 NOON	2-Jun	SAT	ED WHITE
FAMILY BBQ / B-A-P / COX PYLON	10-Jun	SUN	CODY MORGAN
CLUB MTG - FIELD	20-Jun	WED	CLUB PREZ
FIELD PREP FOR ELECTRIC FLY	14-Jul	SAT	
CLUB MTG - FIELD	18-Jul	WED	CLUB PREZ
ELECTRIC FLY	21-Jul	SAT	
ELECTRIC FLY	22-Jul	SUN	
CARRIER FUN FLY / COX PYLON	5-Aug	SUN	
CLUB MEETING - FIELD	15-Aug	WED	CLUB PREZ
FIELD PREP FOR CONTEST	18-Aug	SAT	ED WHITE
PATTERN CONTEST	25-Aug	SAT	BILL AHRENS
PATTERN CONTEST	26-Aug	SUN	BILL AHRENS
FIELD PREP FOR HELICOPTER FLY	8-Sep	SAT	
HELICOPTER FLY IN	15-Sep	SAT	
CLUB MTG @ SR CENTER	19-Sep	WED	CLUB PREZ
CARRIER FUN FLY / COX PYLON	29-Sep	SAT	
CLUB MTG @ SR CENTER	17-Oct	WED	CLUB PREZ
CLUB MTG @ SR CENTER	28-Nov	WED	CLUB PREZ
CHRISTMAS DINNER	1-Dec	SAT	CLUB PREZ

ORCHARD FARM RC FLYERS

OPEN HOUSE

June 9, 2007

Saturday 9:00 am to 4:00 pm

Come And Join Us Celebrate Our New Field!



Location: North St. Charles County, MO

Directions: From Hwy 370 - Go North on State Hwy 94 about 7 miles
Left on Highway V (Orchard Farm Road)

Pass Orchard Farm High School, then Right on Marris Becket Road to Field

- Absolutely Huge Unobstructed 10 Acre Grass Field, 800 ft runway
- **AMA Membership Required**
- **Open Fly Event - All Aircraft Welcome**
- Pilot Fee \$10
- Concessions Available
- Transmitter Impound in Effect - All Pilots Must Register
- Prizes to be Ruffled – Drawing at 3:00 pm
- Contact: Jim West (uncaz@yahoo.com)
- We were formerly known as The Propnuts of St. Peters

Website: <http://www.orchardfarmrc.com/>

SIG Manufacturing is having an R/C Fly-In & Picnic on Jul 9 & 10, 2007 at Sig Field in Montezuma, Iowa. Entry Fee \$15, the Picnic is free. For more info:

SIG Manufacturing Company, Inc
P.O. Box 520
Montezuma, IA 50171-0520

Phone 641.623.5154
Email - mail@sigmfg.com

How is a Good Preflight Check Performed?

from the East Valley Aviators, Apache Junction, Arizona

You might think this is a simple thing to do, but each time I'm at the field, I see mishaps that could have been avoided if the pilot would have only taken the time to make some routine checks. A good preflight check should start before your airplane is assembled. You should go through a meticulous check of all parts of the airplane before assembly, because some very important things cannot be accessed afterwards. Start at the front of the airplane and proceed to the rear.

1. Propeller/Spinner - Check the spinner for cracks, especially around the screw holes. A cracked spinner could come apart when the engine is started and injure you or someone standing close by. Also check the propeller for cracks and nicks. Propellers take a beating. A damaged propeller can be very dangerous if the blades come off at speed.

2. Throttle linkage – Check to make sure that the screws are secure and the pushrod (or cable) is firmly attached and not damaged.

3. Engine mount bolts – Make sure all bolts are present (obvious) and they are tight. Do not forget to check the bolts that hold the motor mount to the firewall!

4. Muffler – Check to make sure the muffler bolts are tight. Also check that the tailpiece is tight and will not rotate.

5. Firewall – Grasp the airplane by the propeller and fuselage, and rock back and forth to make sure the firewall is not loose.

6. Landing gear – Check the wheel collars and axles to make sure they are tight. Spin the wheels to make sure they rotate freely. If you have wheel pants, check that they are secure and tight. Check the landing gear attachment bolts to make sure they are tight.

7. Servos/Linkages – With the wing off (or through an access cover) check each servo to make sure the attachment screws are in place and tight. Check each control-rod linkage to make sure it is firmly attached and bolts, screws, and connectors are tight. While in this area, check any wire connections you have access to such as battery, switch, etc.

You should also check wing-attachment points to make sure they are solid and tight.

8. Check the batteries with a load test-type checker. The batteries must remain in the safe zone even under load. If they do not, recharge before you fly. Make sure the load test meter is the proper type for the kind and number of cells you are testing. If you have mixed batteries in your airplane (for example a Lithium Ion on the receiver and NiMH on the ignition) it is a good idea to put a note on the charge jack as to type and size as a reminder for both charging and testing.

9. Horizontal stabilizer – Grasp and pull on the stabilizer to make sure it is attached solidly. Pull on the elevator (both halves) to make sure the hinges are tight. Check the control horn and the control rod to make sure they are attached solidly. Also check that you have a “safety device” (i.e. piece of fuel line) to make sure the linkage cannot come loose from the control horn. If you use flying wires, check to make sure they are tight.

10. Vertical stabilizer – Grasp and pull on the fin to make sure it is attached securely. Pull on the rudder to make sure the hinges are tight. Check the control horn and the control rod to make sure they are attached solidly. Also check that you have a “safety device” (i.e. piece of fuel line) to make sure the linkage cannot come loose from the control horn.

11. Antenna – If your antenna is accessible, check it for nicks or breaks.

12. Wing – Check the wing for obvious damage such as tears in the covering, broken ribs, etc. Grasp and pull on each aileron and flap to make sure the hinges are tight. Check each control horn to make sure they are tight and the control rods are attached solidly. Make sure you have a “safety device” (fuel line) on each clevis to ensure they cannot come loose during flight. Check wing bolts or any other means used to attach the wing.

Now attach the wing, and check to make sure the bolts have the correct torque to hold the wing

solidly.

13. Check controls - Once the wing is in place, turn on the radio and, with the antenna collapsed, check all controls for ease of movement and correct direction of travel.

14. If this will be the first flight on the airplane, verify that the Center of Gravity (CG) is within the safe range. If you are unaware of what that range is, it is usually safe to test fly at 25% of the chord of the wing from the leading edge. That should leave the airplane a little nose heavy, which is a safe way to test fly. Remember: A nose-heavy airplane flies poorly – A tail-heavy airplane fly's ONCE!

15. Range check, engine off - With the antenna still collapsed, walk about 60 to 80 feet away while moving the controls. There should be no interruption or chattering from the servos. It is helpful to have someone stand near the airplane to listen for chattering.

16. Range check, Engine running –MAKE SURE YOUR AIRPLANE IS RESTRAINED BEFORE STARTING THE ENGINE! Start the engine, and with it running and the antenna collapsed, walk around the airplane checking controls. This should be done at idle and at full throttle. I know some of you will look at this list and say, "If I do all that before each day of flying, I will not have time to fly!" In fact, if you make this checklist a part of your "routine" every time you put an airplane together, after a while you will find it will only take a few minutes to complete.

Finding Your Center of Gravity

from the Palm Beach Radio Control Association, Boca Raton, Florida

This is one of the most overlooked parts of setting up airplanes. In the old days, if the airplane was nose heavy that was the proper CG. That was the old-school way and that's what I was told by pilots who trained me and whom I looked up to. Most of these pilots were in the IMAC and IMAA scene. Also I was trained to balance my airplanes on my fingers and to use weight to balance my airplanes. I was also told to balance the airplane to the CG on the plans or whatever the instruction book has in print...sound familiar?

What I have learned over the years is that these "words of wisdom" might not always be correct and it is possible to improve on them.

Let's break this down. Balancing your model to the plans is a great place to start, but only a start! The model may balance differently from the plans depending on the various equipment you add as well as what is needed for your flying style. So try this the next time you want to balance your airplane, I hope that this will help get the job done!

Once your airplane is balanced to the plans, fly it around the field and adjust the trims. Next, fly the airplane into the wind on a 45-degree up line and perform a half roll. When the airplane is inverted, let the stick go on the elevator. If the nose pitches up... its tail heavy. If the nose goes down... the airplane is nose heavy. If the airplane stays straight... the CG is dead on.

When you balance your airplanes, you should try to use some type of CG machine. If you have used the finger method, I can promise you can do a "better job for the airplane" and chances are you could be balanced incorrectly.

There are different ways of balancing the different type of aircraft models:

- If it's a high wing or trainer... balance the airplane upright on the bottom of the wing.
- If the airplane is a mid wing or lower mounted wing, balance the airplane upside down.
- Use the battery to help with the CG by moving the battery forward or aft before adding extra weights.
- Balance your airplane left and right as well as fore and aft. This is done by hanging the airplane on the thrustline at the points forward and aft on the fuselage to obtain the wings to be level. Again, equipment placement before adding weight.

The goal: balanced airplanes. They fly safe. You will be able to fly the airplane in any direction,

whether upright or inverted. Landings are easier, and less damage from any landing is always a good thing! The model's settings should not have to be done with major trim and you should not have to put any pressure on the stick to keep it level. All your trims on the radio should be centered. If you are flying around and your trims are not centered something is not set up correctly. This leads to flight problems and unsafe aircraft.

Remember When...

from Sierra Flyers Model Airplane Club, Yuba City, California

1. A PROGRAM was a TV show.
2. A CURSOR used profanity.
3. A KEYBOARD was a piano.
4. MEMORY was something that you lost with age.
5. A CD was an investment.
6. COMPRESS was something that you did with the garbage.
7. LOG ON was adding wood to the fire.
8. HARD DRIVE was a long trip on the road.
9. A MOUSE PAD was where a mouse lived.
10. And a BACKUP was a sewer problem.
11. You CUT with a pocket knife, and PASTED with glue.
12. A WEB was a spider's home, and a VIRUS was the flu.
13. A COMPUTER was something in a science-fiction show.
14. A WINDOW was something you hated to clean.

Painting with MonoKote or UltraCote

from the Sun Valley Fliers, Phoenix, Arizona

By Bob Frey

I've been experimenting for the last couple years with various techniques to help add realism to an iron on MonoKote or similar finish. There has been some degree of success, so I thought I would make a step-by-step list of the procedure. This sounds like a lot of work, but it's still much easier than glassing, sanding, priming, sanding, and then painting.

Here's the step-by-step procedure I used for the wing shown in the picture.

1. Tighten up the UltraCote nice and tight. I use a heat gun and a soft cloth to rub it down after blowing over it. I usually seal any bare wood/UltraCote edges with thin cap, like around the wing root rib.
2. Now rub the whole wing with a medium (brown) Scotch-Brite so the paint will have some adhesion. No need to rub hard or long. Just so you know, I tested painting MonoKote without this step and still had good adhesion without pulling up paint with the tape.
3. Now lay out all the panel lines. I usually use a fine-line, black Sharpie pen. Once this is done, lay the graphics tape down over that. This is 1/64 and 1/32 Letraset graphics tape. Chartpak makes it, too. Put this down right over the lines you scribed with the Sharpie. I use the 1/64 tape for regular panel lines, and the 1/32 for panels that are opened frequently like gun bays and ammo bays, or anything that appears a bit more visible on your three-view.
4. Access panels. I use MonoKote trim sheet material to make these, the stuff that is sticky backed. But there are a variety of different materials you can use, particularly if you are painting the model. Add these now.
5. Now rub everything down with denatured alcohol. This will clean the surface for paint and also

get rid of any mess ups you may have made with the Sharpie.

6. Now you can spray the whole wing with the Krylon Chrome Aluminum. I hit it with a tack rag just before I spray it. I use one fairly light coat—just enough to pretty much cover it, followed by a heavier final coat about five minutes later. It goes on and covers great and will be dry in about 15 minutes.

7. After it's been drying for about 10 minutes, get a good, sharp Exacto knife and, start peeling up the graphic panel line tapes. It might work okay after it's dried longer, but I've never tried that. Once the tape is pulled off and the paint has dried, you'll have a little ridged panel line, which you should be able to feel, where the tape was. The black from the Sharpie will show where the tape was, which gives a little desirable contrast too.

8. I usually wait a couple hours before this step. Get some blue, low-tack painters' masking tape. I get mine at Ace Hardware. Lay that along the edge of the panel lines so that you have a single panel surrounded. Then rub the panel with Scotch-Brite in one direction. You will only need to make a few passes, just enough to make it look even.

There are three grades of Scotch-Brite available at Ace Hardware: green (high abrasive), brown (medium abrasive), and white (low abrasive). Use these varieties to arbitrarily rub the panels in different directions. Some I leave alone. You can also use steel wool, but I haven't had too much luck with fine sandpaper. Surround each panel with masking tape as you go.

I use the same pieces of masking tape repeatedly. You don't have to get it perfectly sealed or exactly on the panel line. It's just there to avoid your rubbing from going over into the next panel. Sounds like a lot of masking, but it actually goes fast, and is much better than trying to carefully rub up against the panel line without going over it. That would ruin the panel line, and perhaps leave wrong-way scratches in the adjoining panel.

9. Now you can lay out any markings, in your case invasion stripes with your Sharpie. In my case it was just black stripes. I'd do the whole area in white first. Mask with the blue, low-tack tape and newspapers. Before you paint, go over the panel lines with your Sharpie again and lay down the 1/64 or 1/32 graphic tape. Once it's down, rub very gently with denatured alcohol. The alcohol will get to the Krylon if you rub too hard. Now spray with the white Krylon.

They make a semi-flat that is nice, but any sheen will do since you're going to clear coat everything in the end anyway. Use the same routine on number of coats and drying time, and on removing the graphics tape.

10. Now do the same thing with the black invasion stripes. But this time, once you've got them masked, go over the panel lines with a silver Sharpie pen. Unfortunately, they don't make a fine-line silver pen as far as I can tell, but it doesn't matter since you again put the graphic tape down over that, and whatever isn't under the tape will get painted.

11. Spray the black now, again with Krylon and again pull the graphic tape up starting about ten minutes into the drying time. If you did everything right the panel lines should show up clearly on the whole wing and you should be able to feel them too. So far I've had zero problems with the blue, low-tack tape pulling any of the Krylon up. Just go slowly and pull the tape back over itself when removing it. I even used some regular white masking tape in a couple of areas with no problem.

12. Stars and Bars. The ones that come on the airplane are terrible. On the one I'm doing now, I'm using a set made for the Yellow P-47. For Little Chief, I ordered a set of TopFlite, Giant Scale P-51 decals, and they're pretty good. You need to sand down the panel lines you made where the decals go. I assume you know about putting these on wet with Windex so you can locate them better and then smooth them out. Once they're down good, scribe the panel lines; dark areas with the silver Sharpie and white areas with black. Don't put the graphic tape on until just before your clear coat.

13. Now it's time for rivets. You can do as many or as few as you like. I've been putting a medium number on these models, probably about 1/4 or 1/3 of the amount you might find on a Masters-quality model, but certainly enough to be very visible and present.

First scribe all of the rivets you want with the trusty fine-line Sharpie. TopFlite makes a rivet stencil, and that's what I use to lay them out and keep them even. Over black or dark painted areas, use the silver Sharpie, but just put a 'dot' in the middle of the stencil holes. Don't try to make a circle in them like you are able to do

with the fine-line black.

14. Assuming you have made the brass-tubing tools for making rivets, load the appropriate size into the MonoKote Trim Seal tool. The 3/16 brass tubing fits the tool chuck, and you telescope down from there with tubing to the size you want. I wound up with several sizes and one or two that has a screw-slot maker soldered to the 3/16 chuck piece. You have to run the tool on low, or risk the chance of melting the solder in the bits that you made.

15. To make a perfect rivet, you need a guide. What I use is an old sprocket about 3 inches in diameter that has convenient size teeth for guiding the tip of the MonoKote tool. The one I have is steel and quite heavy and this is a plus. Something similar will do as long as you can put it down on the surface to guide you. No need to push hard, but you need to be square with the surface, and I usually give it a little twist before pulling away.

Pressure will need to be adjusted slightly depending on whether the balsa underneath is soft or hard. A little experimenting will help and before you know it, you'll be running off a long line of rivets in a minute or two. Treat the decals just like anything else. On areas where you're going over fiberglass, it's better to use a regular 30 or 40-watt straight-tip soldering iron, with the brass-tubing wheel collared on the tip. The trim sealing tool just isn't hot enough, but basically the same procedure. I use larger rivets around the gun bays and access panels, and along the trail edge, etc. Use your artistic imagination. On some of the larger ones you can go back and put screw slots in them.

16. You're basically at the point I am on the wing I'm working on. At this point, I would ding up the lead edge by spattering some thinned, black paint from the front to replicate stone bruises on the aluminum and white areas, and silver on the black stripes. Do this by loading a brush with the thinned paint, and whisking your finger across it while holding it near the lead edge. A little experimenting here is in order. Stone bruises are much more predominant near the root of the wing and tapered down to nothing toward the tips. The stabilizer and fin have this effect too. You can use most any kind of paint for this, as long as it will hold up until you clear coat.

Once that is done, I'd add the machine guns and pilot. Lots of P-47 pictures show black machine guns, but I assure you all the blast tubes were silver. I also add oil leaks and smoke smudges here and there, but you need an airbrush for that. For oil leaks, I load up a brush with well-thinned, black paint and put a dot at the origin spot of the leak, then quickly blow it with the airbrush in the direction I want the oil to run. Usually it's down and back on the fuse, and just back on the wings.

It's wise to use a little piece of masking tape along the panel to keep it from accidentally going the wrong way. Gun smoke smudges are just done lightly with the airbrush and thinned paint. I also add some smudging aft of the hinge access panels on the ailerons and flaps with the airbrush. The oil leaks and smudging need to be painted very conservatively. Less is more so to speak.

Once all of the details are done you can clear coat the whole thing. I highly recommend the Klass Kote epoxy, but it does need to shoot with at least a trim spray gun. I recommend it because it seems to really stabilize the covering so it resists wrinkling a great deal. Also it is absolutely fuel proof if you intend to run a glow engine. A nice touch would be to go back and mask off the aluminum and shoot all the markings with dead flat, but of course that's a lot more work.

Now I know this sounds like a lot of work, but I think if I really went after it, I could do all of this to one wing panel in one day. That includes rivets, but probably not clear coating. My problem is I take too many breaks. I also understand that I wouldn't really need to refer to instructions and that does take time too. But after a while, and you get the hang of it, things go pretty fast. Good luck.

Three Preventable Sins of RC Flying

from the Valley City RC Club, Medina, Ohio by Jim Procise

One thing that amazes me about this hobby is how often we crash. On any given weekend, one or two members will probably lose an airplane. What's even more amazing is that the vast majority of these crashes are entirely preventable.

Most crashes are caused by simple errors that we make before the airplane leaves the ground. Eliminate these errors and you'll have a far better chance of bringing the model home in one piece. Here are the three most common mistakes that lead to crashes and simple steps to avoid them.

Wrong Model Number

Programmable radios make the sport more fun and arguably safer too. One of the primary benefits of a programmable radio is that it can store settings for several models. With a click of a button, you can call up the setting for the model you're about to fly, complete with trim settings, servo end-point adjustments, servo rotation directions, dual rates, exponentials, and more.

But programmable radios have a dark side. If you fail to select the right model before takeoff, you may find yourself flying with reversed ailerons, a reversed elevator, a reserved rudder and/or steering, improper trims or throws, or other ailments. Rare is the airplane that lands safely when the radio is set to the wrong model.

The solution is twofold. One, remember to check the model selected the moment you turn on your transmitter and make sure it matches the airplane you are about to fly. Two, always check the movement of the control surfaces before flying. Even if you forget to check the model selected, you'll almost always catch the error if you check the control surfaces before flight.

Having a radio set to the wrong model is the most common cause of reversed servos, but it's not the only cause. Occasionally we simply forget to program the servo directions before flying a new airplane. Again, make it a habit to check the movement of the control surfaces before every flight and you'll head off disasters before they happen.

Improperly Located Center of Gravity

Balance is important in full-scale airplanes, but it is even more important in RC aircraft, where fractions of an inch or so can make the difference between a model that flies well and one that is unmanageable in the air. Most construction manuals or plans specify where the model's center of gravity (CG) should be located, and a model shouldn't be considered complete until you've ensured that the recommended CG is at or very near the recommended location. If necessary, add lead weight to the nose or tail to achieve the recommended CG. Often, instead of adding weight, achieving the desired CG can be accomplished by moving the receiver battery forward or backward. Always check the CG with an empty fuel tank. If your airplane has retracts that fold backward (like the F4U Corsair), check the CG with the wheels up. Deploying the gear prior to landing will move the CG forward, but it's better to be nose-heavy during landing than tail-heavy during flight.

Inadequately Charged Batteries

If you crave excitement, try flying your favorite airplane without charging the receiver battery. To double the fun, don't charge the transmitter battery, either. Then you can take bets on which will fail first. Joking aside, charge those batteries before flying, and check them at the field if you are not sure whether they are charged.

Most transmitters have built-in volt meters; don't fly if the voltage is less than 10 volts—just to be safe. You can check receiver batteries with an inexpensive expanded scale voltmeter (which should be a part of every flight box). Remember, low batteries lead to crashed airplanes. This is one case where an ounce of prevention is worth a pound of cure.

SIG Manufacturing is having an R/C Fly-In & Picnic on Jul 9 & 10, 2007 at Sig Field in Montezuma, Iowa. Entry Fee \$15, the Picnic is free. For more info:

SIG Manufacturing Company, Inc
P.O. Box 520
Montezuma, IA 50171-0520

Phone 641.623.5154
Email - mail@sigmfg.com

from Mitch Galatioto

Cox War-bird Pylon Race Rules

Object: Have as much fun as possible for as many pilots as possible.

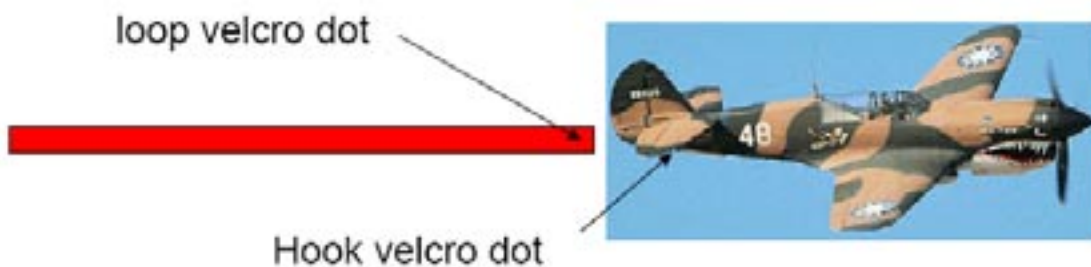
Secondary object: Determine a winner and to rank all the pilots.

Airplane:

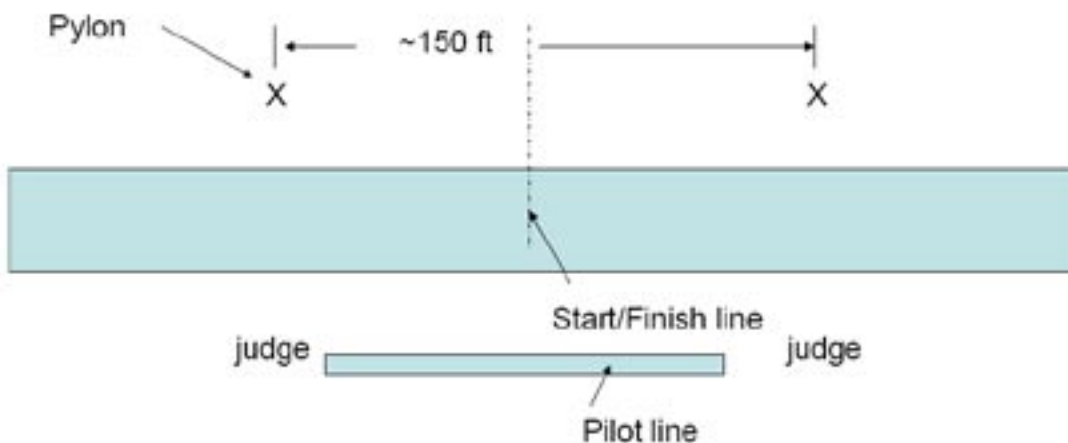
Build the Cox Warbird kit *stock* with the following *exceptions*:

1. Ailerons may be added.
2. Hatch(es) to get to the radio/battery may be added.
3. You must use a two cell LiPo or a 6 cell NiCad/NiMh.
4. Decal/Marking variation is allowed.
5. Use of included charging jack/switch is optional.
6. No restrictions on radio equipment.
7. No restrictions on control linkages.

For ID purposes a $\frac{3}{4}$ inch wide, 18 inch long ribbon will be attached to the aft end of each Warbird. We will provide the ribbons. The streamer will be attached using a approx $\frac{1}{2} \times \frac{3}{4}$ in square or round velcro dot. The hook half shall be attached to the aircraft. A different color ribbon will be supplied to each pilot for each race



Race Course:



Race specifics:

1. Ten laps on a two pylon race course. Judges will count laps.
2. No additional laps after the winner has crossed the finish line. Finishing order will be based on the next time a pilot crosses the finish line.
3. Flying start, with count down to race start.
4. Race proceeds counterclockwise. (Go fast, turn left).
5. If you “cut” a pylon, you must re-circle pylon before continuing race.
6. A judge will call the ribbon color of the offending Warbird (Ex: “Red, cut”). No calling for successful turn.
7. Retrieval of downed airplanes in the “race safety zone” is prohibited during the race and during the last 30 seconds of start countdown. Retrieved airplanes can re-enter the race if retrieved and launched outside the “race safety zone”.
8. Officials will be taken from the pilot ranks and any available volunteers. One start/finish judge, and two pylon judges minimum. Start/finish judge will count down the start, call any cuts at the start line, count lead airplane laps (Ex: “Lap 1”----“Lap 10”) and record the finishing order.
9. Racing is hazardous. Mid-air can be expected! If ribbon is cut by another racer continue racing continued racing is (TBD prior to race since this may be an advantage).
10. Two qualifying rounds and one final round. Each round will have two races (depending on the total number of airplanes, 6-10 pilots assumed). Ideally 4 planes each race. First round based on random draw. Second round based on mixing first round racers. Final round will separate the slower (silver final) and faster (gold final) halves of the field. See race matrix.
11. Scoring: For each race the points are as follows:

Finish	Points
1st	5
2nd	3
3rd	2 or 1*
4 th , 5 th and 6 th	1
No finish/disqualified	0

*If race runs with 3 airplanes, third place finisher gets 1 point.

Race matrix:

Number of races depend on number of pilots. The race size will depend on total number of airplanes and any frequency conflicts. Matrix for 6-10 pilots *assuming no frequency conflict*.

Round	Race	Pilots
1	1	Random draw, 3-5 pilots
	2	All not in race 1
2	1	1 st and 2 nd finisher round 1 race 1 2 nd and 3 rd finisher round 1 race 2
	2	All not in race 1
Final	1 (silver)	Lower half of total points
	2 (gold)	Upper half of total points

12. Winner! Winner is the pilot with the highest total score. In case of ties the final round score determines rank. Traveling trophy(?): After all we do need to give the winner something to brag about.
13. **All rules will be discussed during pilot orientation. Since this is intended to be fun all suggestions will be fairly discussed and determined by the pilots as a group.**