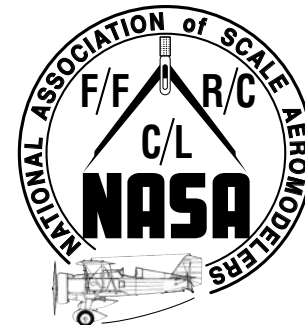
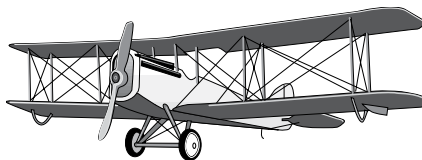


# REPLICA

SEPTEMBER  
OCTOBER  
2005

Newsletter of the National Association of Scale Aeromodelers (NASA)

## PRESIDENT'S NOTES



### FALL IS IN THE AIR.

It's time for building projects, scale fly-ins, weddings in some cases! As well as elections, new models and time to start thinking about Christmas too. Gee and It's just September.

### BUILDING PROJECTS.

Why not let other NASA members know what you are working on now. Not what you plan to work on, but what you are *actually* working on for next year's contest season or fly-in season. Down in the shop there are a couple of airplanes waiting on me to get there and I'm sure I'll get to work on at least one of them as the fall projects wind down when it snows here (Tennessee) ah, it hardly snows here.

All kidding aside I, like so many members, find that it's tough to get into the shop without setting aside time for it and making an effort to be creative. Many of us including myself are still in the workforce and it's just plain tough to get into the shop after putting in a long day. So why not let others know what your working on and inspire the rest of us in the shop this fall and winter. Who knows you might even get a few helpful hints along the way!

### NEED DOCUMENTATION?

Well, *Replica* and the NASA website is one of the best 1-2 punches for documentation. If you can't find it on the NASA website, you are pretty much assured to find it from the NASA membership. But don't pick your favorite J-3 Cub or P-51 Mustang and expect members to do your research for you! If you have a truly hard subject, you'd be surprised to find how few photos of WWI aircraft there are out there, unless the airplane is in a museum. Put a NASA wanted ad in *Replica* for documentation. I've been working to document a WWI Fokker DVII in Ernest Udet's colors (the candy cane striped wing) and have found few photos. The Balsa USA kit is a great one and who knows, if I get time to get into the shop it may fly sometime this century.

### NASA ELECTIONS

Our elections will be held this January/February issue of the newsletter. Anyone interested in running for office please send in the nomination to our Secretary Treasurer Bonnie Rediske, please! Myself, I've been in some NASA office for over 20 years now and I would like to see NASA continue to grow and evolve. *That's a hint guys!*

### NASA CONSTITUTION & BYLAWS UPDATES!

We will also be updating the Constitution and Bylaws in the next few months to reflect our growing education facet. This small re-write will be on the ballot with the election in January. **SO VOTE!**

### NASA MEMBERS

If you already subscribe to RC Report please realize the subscription is for NEW MEMBERS! It's Gordon's way of saying thank you for our support of RC Report and ours of saying THANK YOU to him. If you are already a member of NASA and subscribe to RC Report. **Your continued support is appreciated!**

### NASA RULES COMMITTEE

If you are interested in helping to work on new rule proposals for the upcoming scale rules for AMA please contact Stan Alexander. We are working to put a committee together to help clarify and update many of the rules including the ones in the Scale General Section, which is WAY outdated (onawing@mindspring.com will get it to me). You do need to have a computer online to work on this committee. Please send your information soon!!!!!!

We have a few names on the committee now, but would like one or two more. Any volunteers out there?

### FLYING INDOOR SCALE RC

Ever tried it? This is a hoot and a heck of a lot of fun, when I can get off the floor. Battery problems with my li-poly battery pack hampered me this year along with a serious balance problem. The balance problem was caused by two items. One, I hadn't flown since last year

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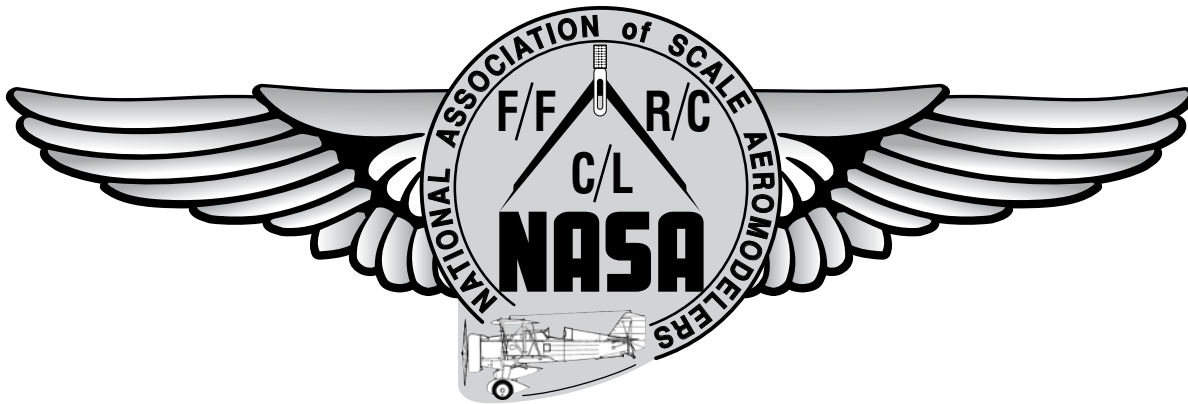
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indoors at the Horizon Center and the other, I had to borrow battery packs and with the help of Jim Rediske and Tom Poole's battery my Fokker DVII finally got off the ground so to speak. But Tom had battery problems of his own and I told him to take the battery back as he needed it.

Skip Mast also had problems with a prop that was a different pitch which cost him a couple of good flight scores with his Demoiselle. His airplane seemed to scoot along the floor, or just above it till he changed the pitch on the prop. It seemed that several modelers had battery problems this time out, but not Greg Hahn. His new Futaba radio actually played the song Sentimental Journey as he flew the B-17E "Memphis Belle" during the contest, and the show off went on and won Fun Scale at that! Way to go Greg! I bet he got the idea from Mike Gretz flying the Demoiselle last year with the movie theme to Magnificent Men and Their Flying Machines playing in the background!

All in all it was great fun, I know there are several who are making models for the next Indoor Scale RC Nationals next year. Some are scratch building new models for Designer Scale. What's Jim Rediske and Tom Poole up to? Others have kits and are working on them too. If nothing else you can do like I did and fly an ARF! I would not be surprised to see FAI Indoor Scale rules come up in the next rules cycle.

## 2006 WORLD CHAMPIONSHIPS

Interested in attending the 2006 World Championships as a USA Team Supporter?

Well it's time to start thinking about it now. Next year's Championship will be in Sweden and the dates are July 14th-23rd. Look up the site in the NASA website under FAI International competition. As soon as we have updates we will have them on the website for everyone. The first Bulletin typically comes out around the 1st of the year. So it may be another month or two. The official website is up also but there is little information at this time. Check out [www.scalechamps-in-sweden.se/index2.asp](http://www.scalechamps-in-sweden.se/index2.asp) for further updates.

## 2006 SCALE NATIONAL CHAMPIONSHIPS

Look for it the same week as this year, first week in August, probably on August 3rd-6th including Scale RC Indoor the first day. The dates will be finalized on October 8th. There seemed to be some confusion on what was being held where this year as well as when for some scale modelers. AMA Nats HQ wasn't organized at all by the time we got there, and that's not a first but the issues seemed "deeper" this time. We intend to have all information available to Nationals competitors both on NASA's website as well as AMA's website at the same time. If not, we will have a link for NASA's website from AMA's. I've learned from bitter experience the more we depend on ourselves and the less we depend on AMA the better off we'll be.

We can tell you this, all static judging will be done on Friday at static site including Fun Scale. We had some issues come up this year that have made it necessary and wise from the administration's part to conduct all

static judging that day. We had been having static judging at the flight line for Fun Scale and this worked for a time. It may be in the parking lot, but it will be at the static site on Friday.

## SHARING THE HOBBY - THE NEXT GENERATION

I've had a ball sharing model airplanes with our 3 year old grandson, as well as showing him how to fly RC airplanes. Is he a good pilot yet? Nope. But he has the enthusiasm I had when I was 6 or 7 years old. It makes you feel good to have a 3 year old (almost 4) out with you at the field (only when it's not busy!) has his arm around you wanting to fly a loop or to try and make a turn. I'll have to get a buddy box next and we'll go from there. He has flown loops, pretty simple with Claude McCullough's Seniorita. Just pull back on the stick, straight flight, just don't do anything to the stick and he thinks he's really flying. I've found that just about every time he comes to the house he asks Papa about the airplane on the workbench, always wants to go to the shop and asks when can we fly it? Or, "What's that? When can we go to watch airplanes at the airport?"

He asked about a sheet of covering in the shop one day, wanting to know why he could see through it. I told him it was transparent, and what that means. He repeated the word and I told him to take the covering up and show his Mother. He did and said "look Momma I can see you through the covering, it's transparent." She turned around to her Mother and said "Momma! He uses more three syllable words than I do." The generation before, could have cared less about what was happening in the shop. This is a refreshing change and has recharged my batteries.

What is scary and really makes you feel good is to see the attention span increasing from a trip to the airfield to the next time to the airfield. He carries the transmitter, knowing it's very breakable, has tried to carry the field box, not yet up to his strength level. I bought him a Hobby Lobby Multiplex Easy Star and he really enjoys this one, plus it's his airplane and he knows it. He picked out my Sig Cap 231EX hanging up in the shop after another successful trip to the field and told me, "Papa I want to fly that one next"..... well maybe some day.....Buddy, some day.

Fair Skies & Tail Winds,  
Stan Alexander

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# 2006 SCALE NATS

The Nats planning meeting for 2005 was held on Oct 8th at AMA headquarters in Muncie, Indiana. In attendance for NASA was: *Stan Alexander* (NASA President), *Jim Rediske* (R/C Scale Event Director for 2005) and *Bonnie Rediske* (NASA Treasurer).

While we will have a more complete report in the next issue of the *Replica*, we can share these dates for the 2006 NATS.

- **August 3rd- Worthen Arena:**  
**Scale RC Indoor**
- **August 4th- Worthen Arena:**  
**ALL RC and CL processing and static judging.**
- **August 5th-6th AMA site:**  
**All flying am to 5pm each day, unless weather interferes.**
- **Banquet on Saturday night at the site under the tent.**

## Adding Weight

Ever have the need to add a little extra weight to the front or tail of your airplane? Instead of purchasing expensive stick-on weights, try the following.

Go to your local tire-repair shop and ask if you can have some used tire weights (the weights they put on tire rims). They come in different sizes and have a clip that you can bend and use it to screw the weight to your airplane. The best thing is, they're free.

Most places are glad to get rid of them. They have to throw them away anyway. I went to Tires-Plus and they gave me several pounds just for the asking!

Ray Pick  
Ankeny, Iowa



# Trucker's Hitch

I used finishing line to make a Kevlar braid, and then the braid as a pull-pull rudder for my models. I used it on a large biplane and had good results, but on my triplane the rudder was a little big and too loose. When I flew my triplane, it fishtailed in flight.

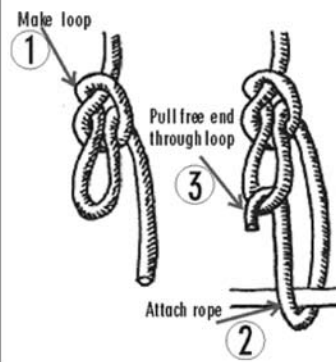
I spoke with a friend about my problem, and I also mentioned that I had trouble tightening the lines to get the pull-pull system tight. John said that I should use a Trucker's Hitch to make the pull-pull system. It is commonly used by fishermen to cinch lines and make them secure.

Searching Trucker's Hitch on the Internet will give you several excellent explanations. In my Ashley Book of Knots, I found a couple of knots that might also work—they are a Farmer's Loop, Harness Loop, and Lineman's Loop. (The book indicates that the Lineman's loop is better than the Harness Loop. It is stronger and easier to tie.)

All of these knots create a bight in the line where you can make a loop for cinching the line tight. They are all finished with halfhitches to keep them from slipping. Of course, finish the job with a dab of super-glue to make sure it never gets untied or slips.

Rick Lawrence

### How to: Trucker's Hitch



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# control line scale

Building season approacheth! Probably most folks reading Replica actually build models and might be thinking about the next project. But how do you boil down the dozens of contenders that "look neat" to the next model you actually complete? Frank Beatty, designer and builder extraordinaire, sent me his thoughts on the subject and authorized me to share, copy, edit, rewrite, or spin them in any manner that suited my fancy. Most of these apply to a scratch built project, but prospective kits can be evaluated the same way.

First of all you need lots of enthusiasm for the particular plane so your motivation won't dry up before it is finished. You might want to candidly assess your building skills and available tools. If you don't have access to a lathe and mill you might not want to pick a subject where you will have to build your own retracts. Can you make, or obtain, a canopy and spinner of that special shape? Next use your experience to estimate the model's flying qualities—look at wing area, tail moment, and stabilizer area. To fly well the model must balance at the proper point, and the wing loading (weight per unit of wing area) must be appropriate for the size of model. Frank's rule of thumb is that a three to one ratio of tail to nose moment will balance easily, but if the ratio gets above 4.5 to 1 you might want to buy a controlling interest in a lead smelter. Stabilizer area is very important to smooth flight and control at low speeds. Enlarging the stab is not uncommon to achieve good flying qualities, but be prepared for a static judge to clobber your outline scores. The main wheels' size, track, and location with respect to the center of gravity determine the model's ground handling characteristics. (Frank didn't say what does and doesn't work on these dimensions and I personally don't have a clue! My models all have a wide track; many of Frank's models have fuselage mounted gear, so there must be more to this than I have figured out.) If you are going to enter your model in competition you have to have accurate documentation; at a minimum the rule book requirements. But when you start trying to add details or figure out the shape of some complex air scoop or fairing you'll wish you had access to the prototype or a collection of detailed photographs. A good plastic model kit can be a real asset too.

Then there are some less tangible considerations. Frank thinks a plane ought to have "charisma" (I've also heard the terms "presence" and "wow factor" used). He and I both like to pick subjects that are not often seen, but not weirdos. Surface detail like fabric covered wings with rib tapes, fuselage stringers, radiators and rigging wires appeal to Frank. Gun barrels, bombs, landing gear doors, and flaps light my fire. Colorful models seem to do well on the contest circuit.

You may have some personal criteria that will impact the decision. Frank only builds one-piece models that have to fit in his four-door sedan. Hence a maximum wing span of 50". At this span a B-29 is not likely to be a good flying model; the wing loading will be too high. However Golden Age racers, Goodyear racers, or biplanes are good prospects for nice flying models.

To the preceding condensed version of Frank's suggestions I would like to add this: plan the flight routine that the model will do and make sure you have 10 viable maneuvers. It is possible to have a complete flight routine with only the throttle as a mechanical option in all classes of C/L scale. But some of the maneuvers may not be within your model's flight envelope. For example, most of my models will not do "high flight." I've seen many models that bounce badly on landing and touch and go maneuvers or tip up on a wingtip while taxiing. Would you have enough options if you decided to avoid the T&G or some other maneuver that doesn't score well? My Typhoon has one too many good flight options. But this allows me to eliminate the flap demonstration on a windy day and avoid the two laps of slow flight.

I personally have 5 hot prospects for the next project (either C/L or R/C) and all fall short in some respect regarding this evaluation (mostly documentation or figuring out the flight program.) I'm also using this process to evaluate prototypes for a new F4B model and have rejected everything so far. So therefore it is a good thing that the Ki-61 in my workshop is not finished, right???

Chuck Snyder

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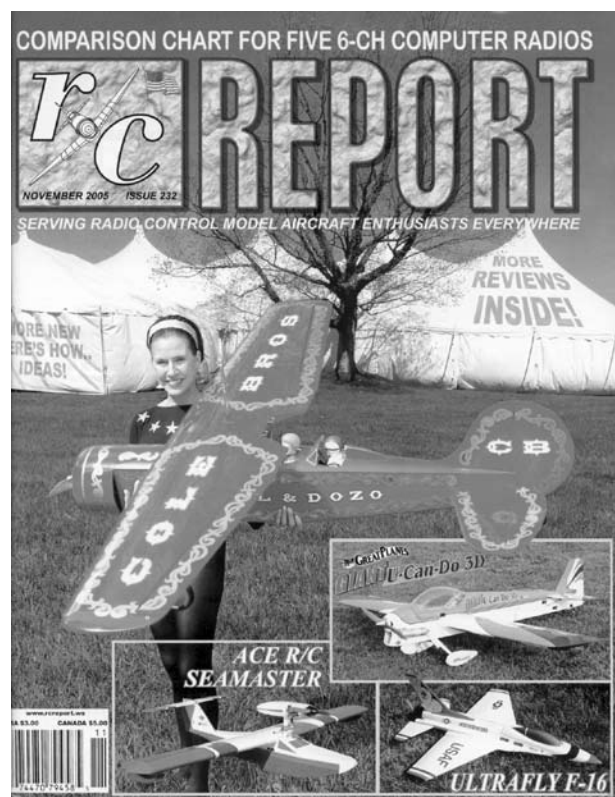
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## IS EPOXY RESIN OR POLYESTER BETTER FOR GLASSING?

Both produce sufficiently hard surfaces, but polyester is softer. This makes polyester sandable. Epoxy is harder; therefore, it is more difficult to sand. Wet sanding works best for both types. There is no difference in weight.

Polyester can be spread a little thinner, however, and it is sandable, so less of it tends to remain on the model. But polyester stinks. It takes weeks for the smell to go away. Epoxy is nearly odor-free. Epoxy favors peace at home.

Polyester cures with a slightly sticky surface. Primer adheres well. Epoxy requires a light scuffing. Epoxy resin must be mixed exactly.

Try this experiment. Mix some epoxy resin precisely and pour it on waxed paper. Now mix some epoxy at 45:55. Pour it out and let both batches cure. Note that the mismatched batch is softer and has a waxy surface—it didn't cure completely. Polyester is not fussy about proportions. A variance in the amount of catalyst affects only the setting time. The catalyst of polyester resin has a short shelf life. Don't use old stuff—it won't cure.

Polyester catalyst is more toxic because it is more concentrated. Always wear latex gloves when working with any kind of resin. For large jobs, wear a respirator and use a window fan.

Don't thin either. Try this experiment. Mix some resin (either one) and pour half of it on a sheet of waxed paper. Dilute the remainder 10% with alcohol or a thinner of your choice. Pour it on waxed paper and let both cure. Observe that the thinned resin is soft, flexible, and it has an oily surface. Thinner resin prevents complete curing.

Epoxy resin seems to adhere to balsa a little better, but that might vary with conditions.

Jim Cook  
Shakopee, MN



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This new NASA site was designed from the start to be the only place you need to go to find out everything that's happening in the world of scale aeromodelling - whether it's here on the National front, or on the International front - the domain of the FAI.

## COMPETITION DOCS/FORMS

This is one of the more exciting new features of the web-site. We have just updated all the competition forms and documents for scale competition to bring them in-line with today's meets. Towards this end, we are posting the finished documents online in .pdf form. Not only are the documents posted, but we now have 2 versions of each.

One is the regular .pdf that we invite contest directors to download and printout for use in their contests.

The second (and more exciting) version of the form is the "intelligent" form. Using this version and an up-to-date version of Adobe's Acrobat .pdf Reader, you can fill out all the information on your computer, then pre-print copies to take to your next scale event. Information that can be filled in is information about yourself, your plane and your maneuvers/options. These can be selected from pull-down menus which include all mandatory and optional maneuvers/options as spelled out in the current AMA rulebook. Imagine not having to spend time at the contest filling out forms!

**Oh, one more thing - the forms do NOT allow you to fill in your own scores! Sorry - some things are best left up to the judges!**

The forms are online now for all Control-Line and Radio-Control events - from Fun-Fly up to FAI! Download your forms today!

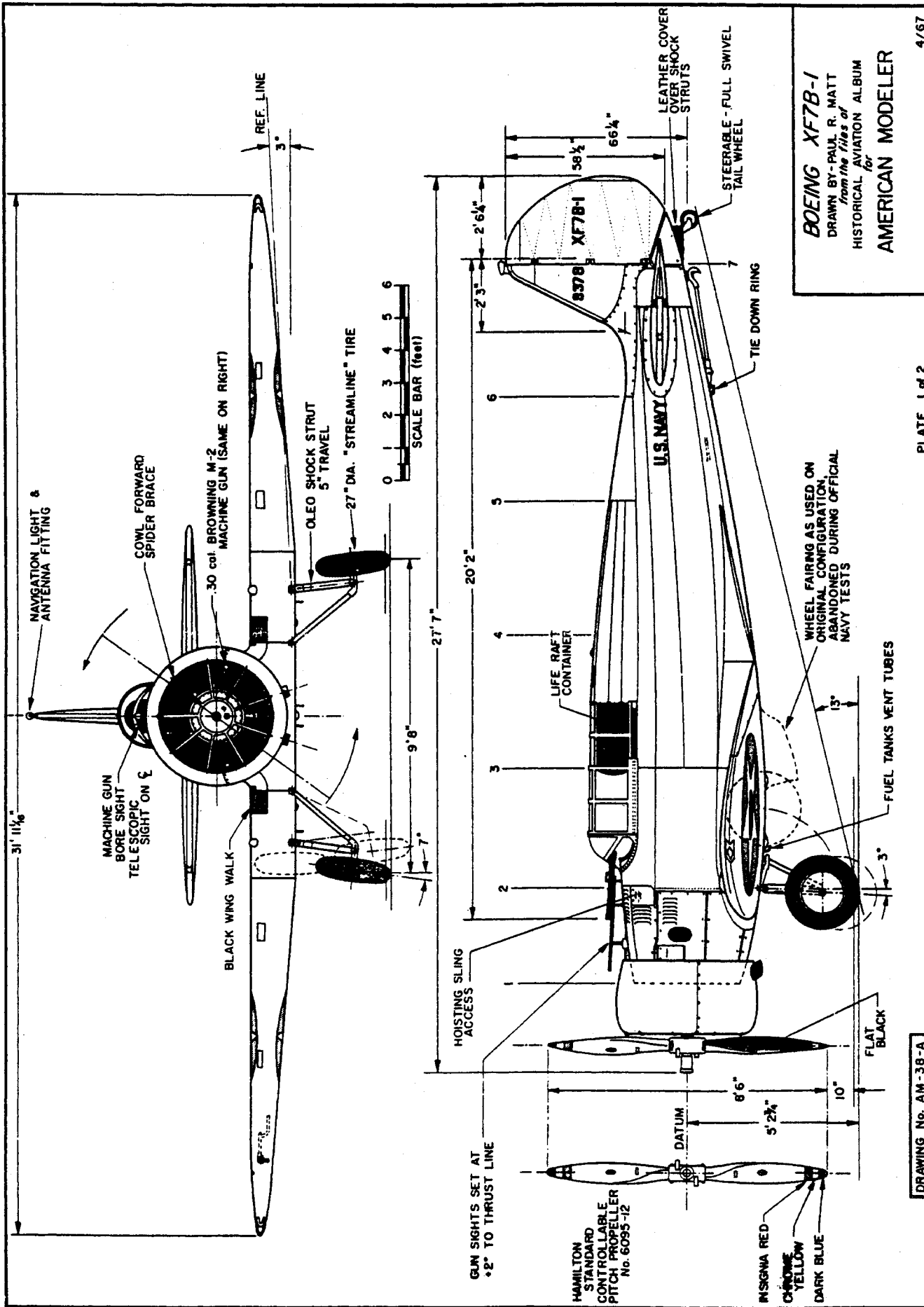
**Radio-Control Flight Score Sheet**  
Use for #516 F4C R/C Scale Events

Contestant Name: \_\_\_\_\_ Contestant Number: \_\_\_\_\_  
Aircraft: \_\_\_\_\_ Weight of the Model: \_\_\_\_\_ Flight Number: \_\_\_\_\_  
Aircraft Cruise/Maximum speed (level flight): \_\_\_\_\_ Check one:  Aerobatic  Non-Aerobatic

**Flight Plan**  
Note to Contestant: Please fill your first optional maneuvers and/or scale operations below.  
Time Limits: The competitor will be allowed 17 minutes to complete this flight.  
Multi-engine: add 1 minute per additional engine.  
Note to Judges: 1/2 points are allowed for scoring.

Maneuver	Raw Score	Factor	Score	Comments
1. Take Off		1.0		
2. Straight Flight		1.0		
3. Figure Eight		1.0		
4. Descending 360° Circle		1.0		
5. Option 1:		1.0		
6. Option 2:		1.0		
7. Option 3:		1.0		
8. Option 4:		1.0		
9. Option 5:		1.0		
10. Approach in Rectangle Circuit / Landing		1.0		
<b>Realism in Flight</b>		1.2		
A.: Engine Sound (realistic tone & timing)		1.0		
B.: Speed of the Model		1.7		
C.: Smoothness of Flight		1.0		
D.: Choice of options		1.2		
<b>TOTAL SCORE</b>				

Judge's Initials: \_\_\_\_\_



**BOEING XF7B-1**  
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 for  
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PLATE 1 of 2

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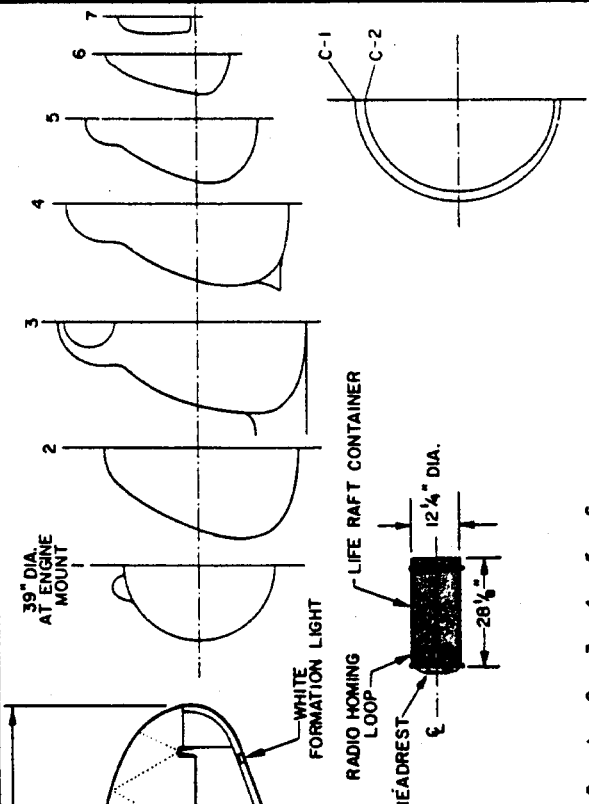
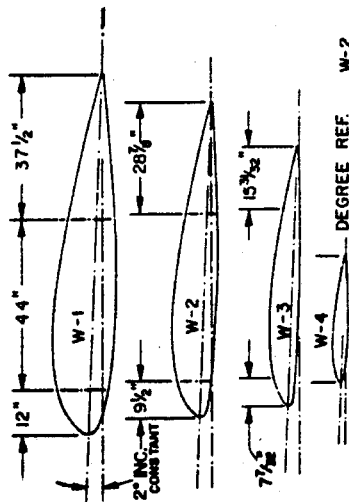
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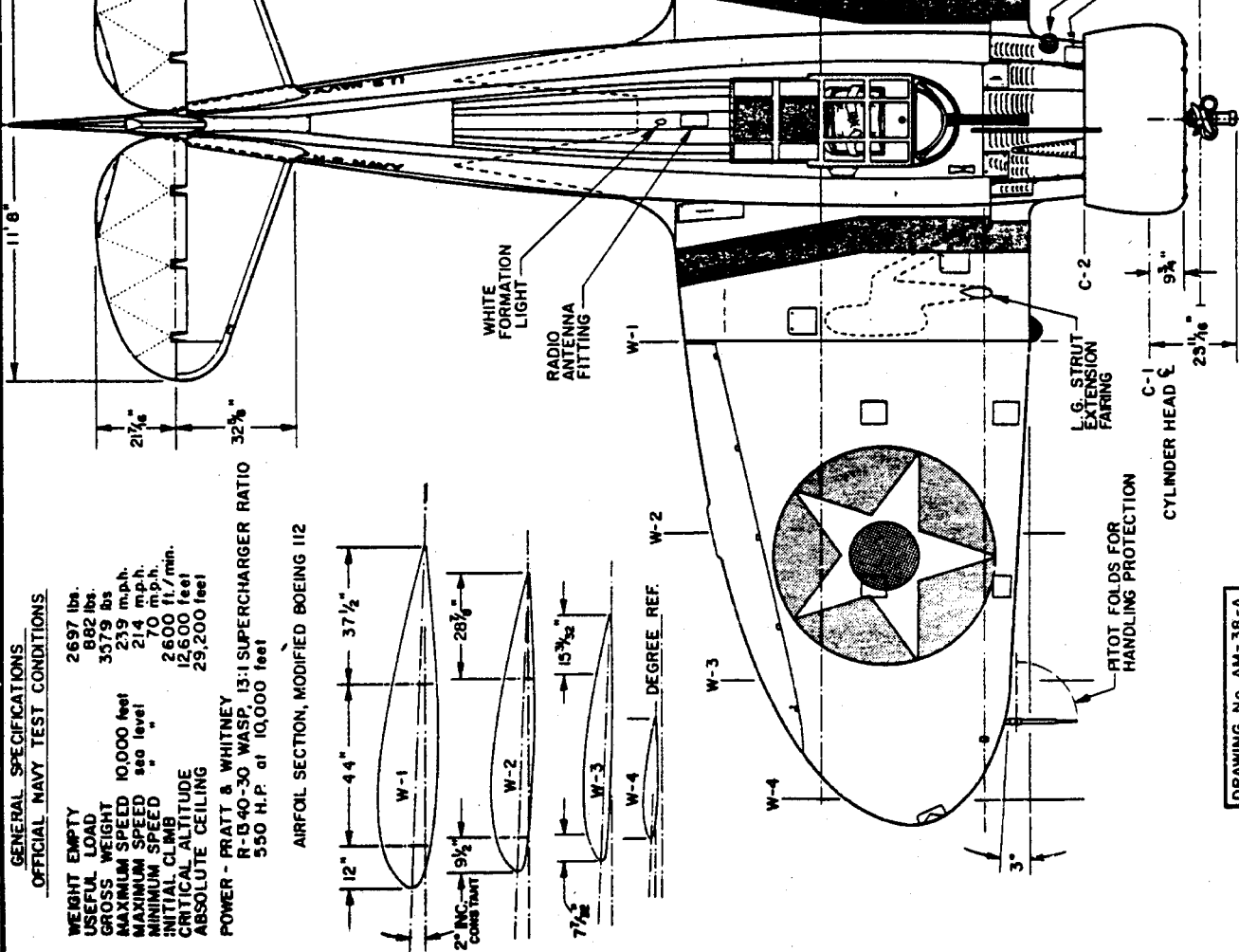
WEIGHT EMPTY 2697 lbs.  
 USEFUL LOAD 5882 lbs.  
 GROSS WEIGHT 3579 lbs.  
 MAXIMUM SPEED 10,000 feet 239 m.p.h.  
 MAXIMUM SPEED sea level 214 m.p.h.  
 MINIMUM SPEED 70 m.p.h.  
 INITIAL CLIMB 2600 ft./min.  
 CRITICAL ALTITUDE 12600 feet  
 ABSOLUTE CEILING 29,200 feet

POWER - PRATT & WHITNEY  
 R-1340-30 WASP, 13:1 SUPERCHARGER RATIO  
 550 H.P. at 10,000 feet

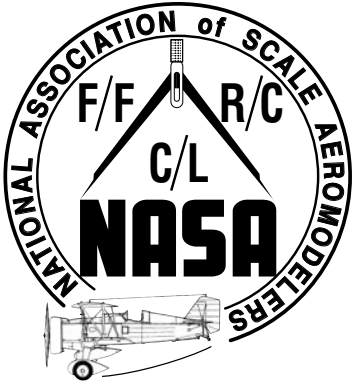
AIRFOIL SECTION, MODIFIED BOEING 112



**COLORING NOTES**  
 ENTIRE AIRCRAFT GLOSSY  
 LIGHT NAVY GRAY  
 TRIM, LETTERING & DETAILS,  
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- Control-Line Scale News • Boeing XF7B-1 3-views.
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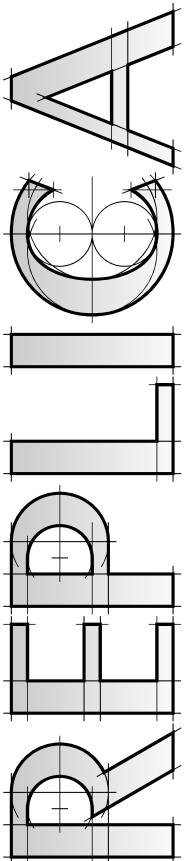
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