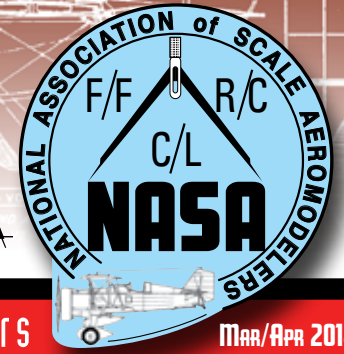


REPLICA



Newsletter of the National Association of Scale Aeromodelers

MAR/APR 2014

PRESIDENT'S NOTES

Well has this been a depressing winter or what? I know I have enjoyed the extended shop time but I am way behind on practice. This year looks as if it is shaping up to be a great scale contest year. We have initiated a number of local contests that are called NASA Opens. The list will be posted elsewhere in the publication.

Our end of the year event will not be the NATs as it has been in the past. This year we will wind up the scale competition season with the NASA Scale Classic in October. The dates are October 3-5 with the flying competition held on Saturday and Sunday. Friday will be a static and practice day, or just come and hang out. We have the AMA site reserved with our control line scale friends also joining us. As a bonus we are having a Commemorative Scale Class. This year we are celebrating the one-hundredth anniversary of World War One. So we are inviting all our Dawn Patrol buddies to come out for our fun, unofficial Commemorative class event. The regular events such as Expert, Team, Designer, etc will be qualifier type events. We will invite the top 25% in class competitions at all NASA Open events around the country. As far as Fun Scale Expert and Novice, all you have to do is sign up on the web site. All the registration is easy to do on the NASA site, it was a whole lot easier than signing up for Obama Care.

Don't forget the P-47 raffle. You can also buy the tickets on line and use your PayPal account. We need your support as this helps the funding of NASA and the NATs. It is one way to keep the fees for flying in the NATs event low and affordable. The article on the P-47 build is in High Flight Magazine this month. Dick Pettit wrote the article and built the plane. If you win you don't even need to get nervous about the first flight, it has already been flown. We had very good response at the WRAM and Toledo shows as we had the P-47 on display.

Speaking of Toledo, John Boyko and I held several Scale Symposiums at the show where we talked about Scale Building using composites, and Scale Contest Flying. Thanks to all who attended, and for those who didn't, we hope to see you next year.

That's all for now thank you all for your support of scale modeling. Now back to the Pup. I have to have it flying to join my Dawn Patrol friends.



NASA OFFICERS

PRESIDENT

MIKE BARBEE

3903 Whispering Creek Lane
Delaware, Ohio 43015
740-362-5504
mabarbee@aol.com

VICE PRESIDENT

DALE ARVIN

3428 Charlestown Pike
Jeffersonville, IN 47130
812-284-0162
darvin8094@aol.com

SECRETARY/TREASURER

TINA PATTON

PO Box 824
Burnside, KY 42519
217-377-7115
tpatton60@sbcglobal.net

REPLICA EDITOR/ NASA WEBMASTER

MARK LANTERMAN
7414 Burton Drive
Liberty Township, Ohio 45044
513-755-7494
mark@airbornemedia.com

MIKE BARBEE
mabarbee@aol.com

FlickR ACCOUNT UPDATE

Share your current project with the rest of NASA. Gather your photos and a couple notes on the model - then send them to me - mark@airbornemedia.com and I'll get those posted in their own set.

To see all of NASA's photo collection, including pictures from the recent Horizon Indoor event, please the links below.

- Scale models from the E-Fest Scale Competition - click here.
- Scale models from the Weak Signals Show - click here.
- Dan Gaston's Aichi Val - click here.
- Mike Welshans Bristol Scout - click here.
- Individual NASA photo sets - click here.



SCALE EVENT CALENDAR

Click on any event name for more information.
NASA Scale Open events are noted in blue boxes.

TOP GUN

April 30-May 4, 2014 – Lakeland, FL

EAA AIRVENTURE

July 28 – August 3, 2014 – Oshkosh, WI

COLUMBUS SCALE CLASSIC

August 16-17, 2014 – Westerville, OH

MIAMI VALLEY SCALE CLASSIC

May 16-18, 2014 – Lebanon, OH

HOOSIER SCALE CLASSIC

August 2-3, 2014 – Seymour, IN

SOUTHERN ONTARIO CONTROL LINE CHAMPIONSHIPS

August 23, 2014 – Dresden, Ontario, Canada

TORONTO & DISTRICT CONTROL LINE CHAMPIONSHIPS

May 31-June 1, 2014 – Etobicoke Centennial Park, Canada

KNIGHT'S JOUST

August 9-10, 2014 – Southern California

FCM AT AMA

August 23-24, 2014 – Muncie, IN

BRODAK FLY-IN

June 10-14, 2014 – Carmichaels, PA

WEST OHIO C/L STUNT AND SCALE CONTEST

August 9-10, 2014 – Dayton, Ohio

BROKEN ARROW

September 20-21, 2014 – Valley Park, MO

MINT JULEP

June 13-15, 2014 – Rosewood, IN

HOOSIER DAWN PATROL

August 15-17, 2014 – Muncie, IN

NASA SCALE CLASSIC

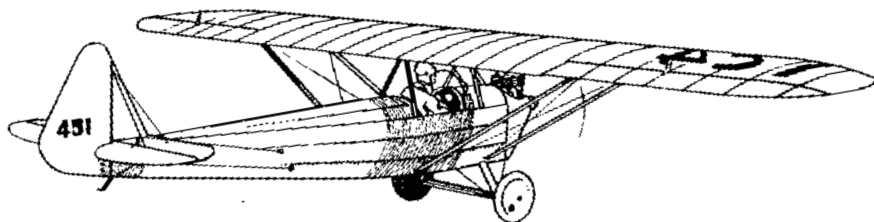
October 3-5 – Muncie, IN

AMA NATIONAL SCALE CHAMPIONSHIPS

July 11-13, 2014 – Muncie, IN

WENATCHEE SCALE RALLY AND NW SCALE CHAMPIONSHIPS

August 15-17, 2014 – Wenatchee, WA



NASA AIRPLANE RAFFLE

To raise funds to help with the expense of the Scale Nationals operations, we are selling raffle tickets to a brand new, fully completed, Robart P-47-D ARF.

Once again, Dick Petit has donated his time and skill to assemble this fantastic scale airplane for us. Dick was also instrumental in getting several other companies to donate items needed to complete the process.

The model is completely finished, test run, and test flown. It is eligible to enter in Fun-Scale competitions with the appropriate photo and any giant scale fun-flies (IMAA).

Tickets are \$5.00 each, 3 for \$10.00 or 7 for \$20.00 and can be purchased through the NASA website using PayPal. We can also send any number of tickets to those willing to sell them. The drawing will be held Saturday night at the Scale Banquet at the 2014 Scale Nationals.

Please everyone, help sell tickets and support NASA in our quest to make the Scale Nationals better than ever.



CLICK HERE TO BUY YOUR RAFFLE TICKETS

To see the raffle P-47's build, visit NASA's Flickr site by clicking the Flickr logo.



12 INCHES TO THE FOOT

Wow, how time flies. Glad it does or I guess we'd be bored out of our minds, which I'm not, and neither is the rest of the NASA Board of Directors!

Besides, everyone working on the NASA Scale Classic which will be held for the first time this October in Muncie. We've added an additional class for any modeler with a World War One aircraft. Fighters, bombers or observation models are all welcome, and in all sizes. I guess if nothing else I can bring my 29" Fokker Triplane, or as I call it "the Squirrel".

But this is the 100th Anniversary of the start of World War One and we should all stop and think about how it started, as well as some other stupid wars around the planet. But the fact that we like scale aviation and WWI is a soft spot for many modelers. This WWI theme is for this year only. Next year it may be 1930's racers, or maybe it could be mail planes like the Antique Airplane Association has done in the past. Wouldn't it be cool to have an event with our own U.S. Mail Stamp? It can be done - the AAA did it with a entire series of stamps.

There will be special maneuvers for the WWI event as most of the WWI fighters didn't do to many successful aileron rolls or snap turns. One maneuver that has been brought up and will be used is a reverse Chandelle. Yes, in WWI this would have been a fighter maneuver for coming in behind a enemy at a lower altitude - great! I bet they used this in WWII also. Just a thought.

There are a lot more NASA contests coming up this year to support the NASA Scale Classic, both C/L and R/C. So check out the website and see what's in the area where you live and enter the event!

Documentation - Asking fellow NASA members to help you with an odd ball aircraft is sometimes helpful. We have the resource here and you can ask our Replica Editor to put the request in the next newsletter. It's a good way to stay in touch with other modelers who have like interest as you do.

Remember to cycle those batteries, especially if you've let them sit all winter without any attention. Also don't forget to bring your transmitter to the field with the model which controls that particular model - not the other one. Don't forget your glow driver, and assorted parts and starter with we mostly all need.

I'm working on the finishing up stage of my Pete (finally) and will start my Cessna as soon as I'm finished with it. I was lucky enough to get in touch with the full scale owner and he has provided me with photos, drawings as well as a piece of fabric from the aircraft with all the colors on it. As our intrepid secretary said "you can't get any better documentation than that." So I hope I'm up to it.

NASA Raffle - This is a challenge to see who can purchase more raffle tickets either me or Mike Barbee. So enter as many times as you think is necessary but that big brute is coming home with me. Since Mike Barbee turned in his column before me for once, maybe I can get him to bring it to Nashville? Ha!

Ok that's my two cents worth.

Fair Skies & Tail Winds,
STAN ALEXANDER
onawing4602@att.net

SCALE RIVETS - FLUSH & RAISED

In building my 118" Ziroli B-25, I am trying two scale rivet techniques that are new to me.

The B-25 has both flush and raised rivets. For the raised rivets I am trying for the first time, rivet tape, from RC Scale Products. The tape comes in several scales and I'm using 1/6th. It arrives nicely packaged in 20" long strips. The tape is an adhesive backed vinyl on backing material similar to graphics.

No instructions were included so I made up my own.

Peel the tape from the backing and make sure all of the little holes are clear. Apply the tape to the model, then apply glue to the area of the holes in the tape (I tried canopy glue and aliphatic resin. Both worked but I prefer the resin). Let the glue set for a very short time then lift up the tape. You will have a nice neat row of raised rivets.

Clean the tape with water, let dry and you are ready to use it again. If your model is clean you should get about 4 or 5 uses out each strip of tape.

The rivets will shrink as the glue dries. You may want to experiment on something else before you put them on your model.



For the flush rivets I use a technique I learned from Greg Hahn.

I put on the flush rivets just before final painting.

Sharpen the inside of a short piece of 3/32" brass tubing, then attach it to the tip of a pencil soldering iron with a wheel collar.

Use a pencil to mark where you want the rivets. Let the iron get very hot. I am sort of shaky so I held the iron with one hand and the tip with a pair of hemostats.

Apply the iron to the pencil mark with a light pressure. Lift up the iron and you should have a nice round indentation. If you use excessive pressure you may pull up a plug of paint.

Experiment before you start on the model.

After you are finished, lightly sand over the rivets or rub with steel wool to make the area flush.



DAVE ARVIN
darvin8094@aol.com

ALL 3-VIEWS ARE NOT CREATED EQUAL

Scale modeling challenges the builder from every angle. The model must be built light and flown properly to do well in competition. In R/C and C/L Sport Scale, 50% of your total score is the static points that the judges award for outline, markings and color. The outline line portion alone accounts for 40% of the static score. Even though the judges may have seen the full size version in the past, they will rely on the 3-view drawing that you provide. The 3-view that you put into your documentation package is a very important decision because your static score will depend on it.

The complexity of the 3-view determines where and how you will use it. Each 3-view must have a top, side and front view, however some are more detailed than others and may add the following: fuselage cross sections, airfoil, panel lines, actual dimensions, cockpit details, marking location, and internal structure. Some even have a separate bottom and top view. Scale drawings of multi-engine aircraft will sometimes show the location of the wing root with the wing removed. Also look for 3-views that show the shape of the inboard and outboard nacelle on four engine aircraft.

Once you have decided on your scale project think about your documentation package before you start building. Once you have built and painted the model it is too late to make corrections. By now you have picked up as many 3-views as possible of the same aircraft and now it's time to decide which one you are going to use in the documentation package. If you are building from a kit, now is the time to fix the outlines of the non-scale components before you start building. When your model is judged, it will match the 3-view you have included in your documentation package. If scratch building, draw your plans from this 3-view.

The complexity of the 3-view that you have chosen is also important. When building a FAI scale model the fully detailed drawing will be helpful. However, if you plan on entering the model in Sport Scale then select the less detailed 3-view for that aircraft. Some drawings show only the major panel lines, some have every panel line, and the some don't have any panel lines at all. If the 3-view you present has panel lines the judges will be looking to see if you added the panel lines to the model exactly as shown on the drawing. This also applies to other smaller details, like pitot tubes and gun barrels. If you prove to the judge that your model should have gun barrels and your model does not have these details, you will lose static points. Remember that your photo documentation will take precedence over the 3-view.

But let's stand back and take a really good look at the 3-view you have chosen. Look at the photos of your subject airplane and determine if the 3-view shows the exact same version in the photographs. The P-47D Thunderbolt has two versions, one with a dorsal fin and one without. Be sure to look for differences such as this. The P-51D Mustang has two different canopies and the difference is very slight, but this will hurt you in outline points if your model is different from your photos and/or 3-view. Research your subject aircraft until you get a 3-view that shows the exact version you are building. If you can't find an exact match with the 3-view refer the judges to your photo documentation.

Unlike the P-51 Mustang (numerous 3-views are available for this aircraft) it is very difficult to find 3-views of some aircraft. When you do find a 3-view, you are left with the difficult decision as to whether to use the 3-view or keep looking for a 3-view that better suits your needs. If there are small variations between your subject aircraft and the 3-view, then this line drawing will probably be acceptable. In your documentation package, you will have to point out the differences between the 3-view and your photographs to the judges. Do not assume that the judge will find all of the differences, since they are working under a limited amount of time and must judge many models in one day. When the 3-view cannot

be used, then you may be forced to keep looking. Accumulating the proper amount of information to build a scale model sometimes takes months or years.

Now we will throw in a modern restored warbird such as the P-51D Mustang and Hawker Sea Fury. Relatively few restored warbirds have been returned to the 1940's military configuration. A typical conversion for a P-51D Mustang is to install a passenger seat behind the pilot. The production Hawker Sea Fury was designed to use the Bristol Centaurus sleeve valve engine with a 5 blade propeller. However, due to lack of spare parts, many owners today have installed a Wright 3350 radial engine. The cowl does not change, however the clockwise rotating 5 blade propeller is replaced with a 4 blade counter clockwise rotating propeller. Additionally some of the restored Sea furies have installed longer canopies to allow a passenger seat behind the pilot. Elmer Ward's Bearcat was restored and painted up like Gulfhawk IV (bright orange) and is a very beautiful aircraft. However, Elmer installed a longer canopy and a passenger seat. Plus the headrest normally installed on the stock military aircraft was removed. You will have to identify all differences such as these between the 3-view and the subject aircraft and point them out to the static judges.

The homebuilt aircraft will have many variations since each builder will include other details that someone else did not. Hopefully the builder did not change the basic outlines of the aircraft. The 3-view of any homebuilt will probably be the basic aircraft as intended by the designer. Be extremely careful when modeling a homebuilt aircraft. For a truly accurate scale model you will have to review every aspect of the subject aircraft to locate all of the outline and detail changes.

Some 3-views are not even remotely correct and have major outline errors. Remember the vast majority of the published 3-views are line drawings that were not drawn by the original manufacturer. Don't count on the manufacturer's drawings to be accurate, because many times they are not. The information that the draftsman had in front of him/her will determine how accurate the 3-view will be. Some 3-views were drawn from photographs, while others were drawn from actual drawings from the manufacturer. And then some 3-views were drawn from actual measurements from the full size aircraft. I have at least two 3-views in my collection have major drafting errors that render them unacceptable for a documentation package. However these 3-views may have other information on them such as fuselage cross sections, airfoils or other information that is correct and useful. This 3-view should be for your eyes only, and should not be included in your documentation package.

By now you have figured out that the judges have a very difficult job in front of them. As you collect information on your subject aircraft start two different piles, one for you to look at, and one for the judges to look at. CL Sport Scale does not allow for more than 8 pages of documentation including the 3-view. Regardless of the number pages of the 3-view it only counts as one page. The other 7 pages will contain all of your color and marking information. Now you can see that the documentation package has to be tailored to the kind of event you are entering. FAI Scale level competition will require different preparation than a Sport Scale model. Again you should have already chosen your 3-view for the documentation package. If you change to a different 3-view mid-stream then you will change your static outline score. Additionally, keep at least 3 copies of the 3-view in your documentation package, this way each judge will have a copy to work from.

Good luck with your next scale project and land softly.

FRED CRONENWETT
clscale@rocketmail.com

2013 RAFFLE WINNER

We recently received a note from last year's NASA raffle winner, Don Brann and he shared a bit about himself.

I was born in the Bronx, NY and have been modeling aircraft since the age of ten. (April 22, I will be 85). I enjoy good health and am a current licensed private pilot.

I lived in Michigan from the time I got out of the Air Force in Sept. 1949. I was a crew chief on the first jet fighter, the P-80 "Shooting Star". In the mid 80's I belonged to Skymaster's Of Michigan, where I flew frequently with other Skymasters like Cliff Tacie, Skip Mast and George Maiorana. Cliff and I attended several of the Dayton area 4- stroke rallies and he helped me fly in my first contest at the Mint Julep, where I got a respectable sixth overall. Cliff guided my first scale entry at Toledo where I got third place at the Toledo's Weak Signals event in 1996.

You can probably tell by now that I was somewhat successful only because of the wonderful help I had from some of the very best modelers. And, as I recall, they were all NASA members as well.



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**October
3-5, 2014**

WHEN

AMA Site

**5161 E. Memorial Dr.
Muncie, Indiana 47302**

WHERE

WHAT

What is the NASA Scale Classic?

- A competition for Control-line and Radio-Control.
- AMA/NASA Rules.
- Entry fee is \$20 for NASA members, \$40 for non NASA members (with an instant NASA membership).
- Awards will be given for 1st, 2nd, 3rd, NASA Flight Achievement, and Pilot's Choice.

CONTROL-LINE EVENTS

EARNED INVITATION ONLY:

- #509 Sport
- #521 Profile
- #526 Fun

OPEN ENTRY TO EVERYONE:

- 1/2a Scale
(a non-official AMA event)

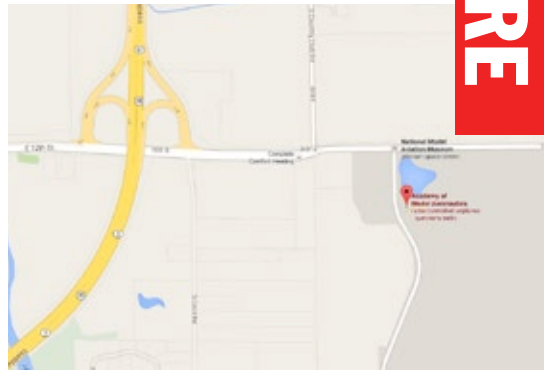
RADIO-CONTROL EVENTS

EARNED INVITATION ONLY:

- #511 Sportsman
- #512 Expert
- #522 Team
- #515 Designer

OPEN ENTRY TO EVERYONE:

- #520 Fun Scale Open
- #520N Fun Scale Novice



HOW

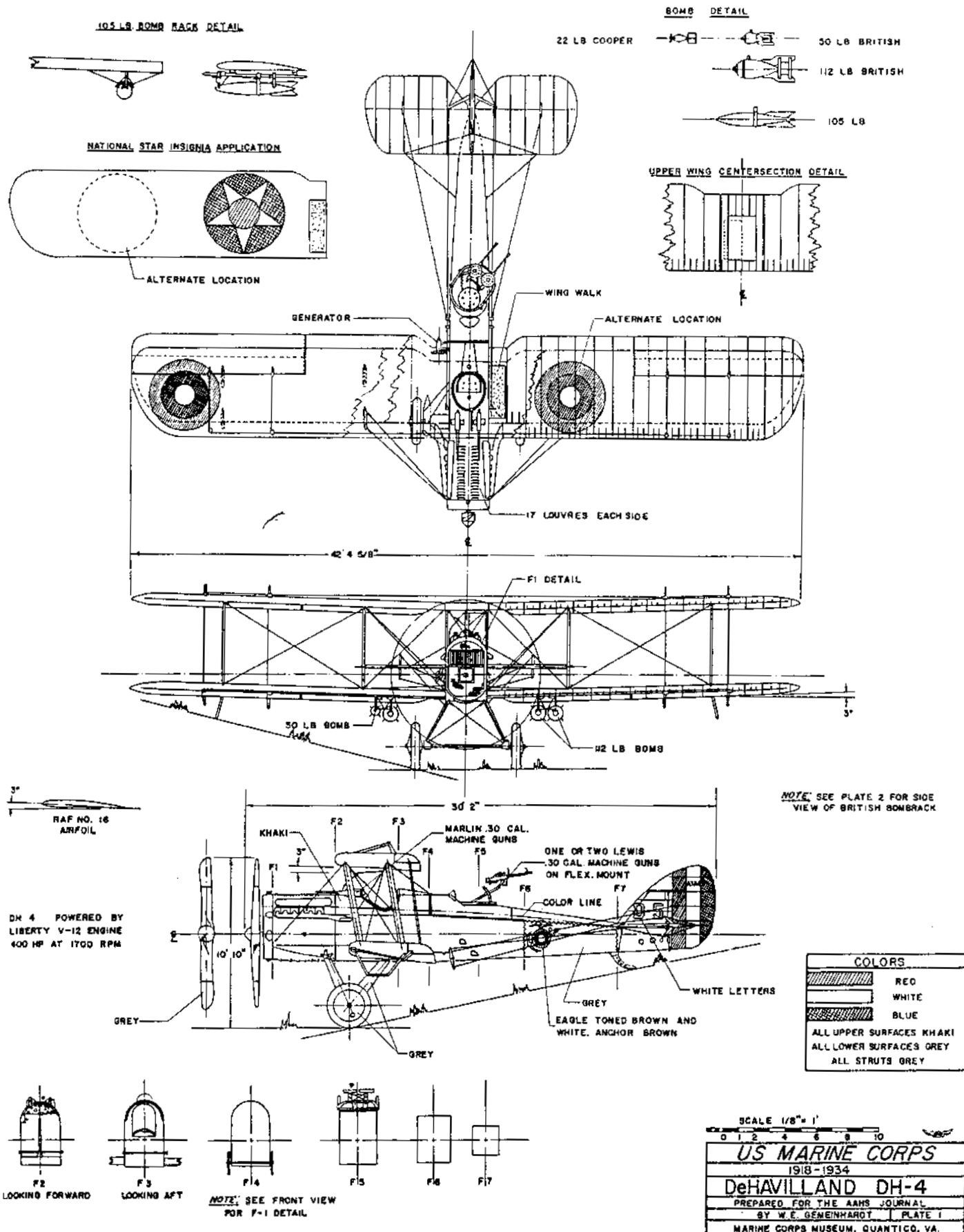
How do you earn an invitation?

- Compete in a supporting NASA Open contest and place in the top 25%.
- Invitations will also be earned by winning the NASA Flight Achievement award and/or the High Total Flight Score in any supporting NASA Open contest.
- But what if you didn't earn an invitation? Come and compete in 1/2a Scale (control-line) or Fun-Scale (radio-control) events as they are open to everyone.

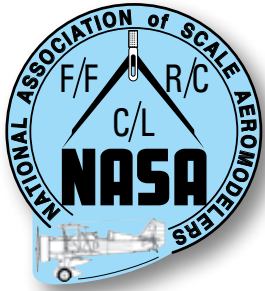
**For complete up-to-date
information, including a
complete list of NASA
Open events, visit the
NASA website**

www.nasascale.org

DEHAVILLAND DH-4 3-VIEW



COLORS	
	RED
	WHITE
	BLUE
ALL UPPER SURFACES KHAKI	
ALL LOWER SURFACES GREY	
ALL STRUTS GREY	



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