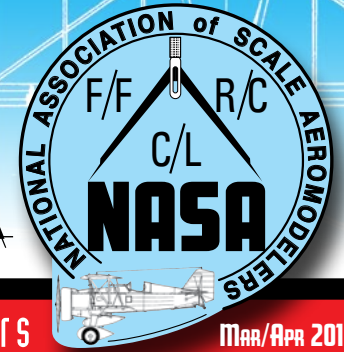


REPLICA



Newsletter of the National Association of Scale Aeromodelers

MAR/APR 2012

President's Notes

Hello everyone, the winter was very mild in my area but due to the economy my concrete business was is slow so scale building projects were benefited by my spare time. I hope everyone has had a good winter building season. I also hope those of you in the east are making plans to attend the Championships in Albany Indiana in September. Just a little bit about the field: it was built by a modeler for model flying. Nothing was overlooked, beautiful grass runway directly across from the paved runway. I believe the length is 800 feet and width of 35 feet. The Ohio Valley Fliers is the host club and they are not new to welcoming scale pilots because they hosted the Champs in 2010. So now that the agreements have been signed it's time to finish your projects and get qualified.

I will run down the list of NASA supported qualifiers in the east that I will be attending. First of all what I consider a premier event is Top Gun in Lakeland, Florida. Some new things were added last year that really made the event scale model friendly. A very smooth grass runway was constructed and it is retract and jet friendly. Also the runway is situated in a way that full scale flights do not disrupt the contest at all. There are extended hours of flying. Barb and I enjoy this event and look forward to this competition every year. The Top Gun dates are May 2-6, 2012. I hope to see some of you there.

Next event on my calendar, and should be on yours, is the Mint Julep, probably the oldest scale competition, with the exception of the NATS, in the states. This year under the CD guidance of Paul Cain, the event will be May 18-20, 2012.

The site is a full scale runway that is closed for the event. They also have an adjacent grass runway for the tail draggers and STOL aircraft. The Saturday evening banquet is probably the best on the contest circuit. Rooms go fast but you can try just look up Rough River State Park, Falls of the Rough KY. NASA sponsors the Flight Achievement Award at this contest.

Next event is the NATS. This year the dates are July 13-15, 2012. Again we find one of the best flying sites in the US, the AMA site in Muncie. Remember, this belongs to all of us as we are all members of the AMA. This event is near and dear to my heart because I am the president of NASA, the special interest group of the AMA. We have the leadership of a well-established modeler Jim Martin as the event CD. We have plans for a Friday hangar party and a Saturday banquet which will be held in the AMA museum. They will be keeping the museum open late for the modelers who attend the dinner. Our banquet director is Shannon Ort. She has been doing a great job raising funds and prizes for the event. If you are in a hobby related business of just want your business mentioned you are welcome to donate merchandise or cash to the NATS. The NASA web site is www.nasascale.org; check it out for more info.

I hope you will support these events to keep the Scale Modeling alive.

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Scale Event Calendar

WEAK SIGNALS SHOW

April 13-15, 2012 - Toledo, Ohio
<http://toledoshow.com>

TOP GUN

May 2-6, 2012 - Lakeland, FL
<http://franktiano.com/TopGunFrameset.htm>

MINT JULEP

May 18-20, 2012
Falls of Rough, Kentucky

AMA NATIONAL SCALE CHAMPIONSHIPS

July 13-15, 2012 - Muncie, Indiana
<http://www.modelaircraft.org/events/nats.aspx>

DAWN PATROL

August 10-12, 2012 - Umpqua, Oregon
<http://www.nasascale.org/pdfs/2012-dawn-patrol.pdf>

THE FCM AT AMA

August 25-26, 2012 - Muncie, Indiana
<http://www.nasascale.org/pdfs/fcm2012%20flyer.pdf>

Allow Me To Introduce Myself, Again...



As noted in the last issue of the Replica, Ted Kraver has resigned as the Replica editor. When I saw that the seat was going to be vacant for a while, I stepped up to take over the position, again. I had been the Replica editor in the past, and after a good time away, I'm ready to jump in again.

My name is Mark Lanterman. I am 46 and have been modeling since the age of 5.

I've been competing in the lower scale classes (Fun Scale and Sportsman) with some success and I hope to continue competing at this year's NATS.

I have been a NASA member for several years and my interest is radio control. I have also designed NASA's NATS shirts each year, and continue my duties as NASA's Webmaster.

My full time job is involves running my advertising agency, Airborne Media. One of my biggest clients is the AMA, where

I act as their advertising representative for print and web publications, as well as help in product and contest coverage.

Anyway, enough about me. This edition of Replica sports a new look and as time goes on, the look will continue to evolve. Watch for the Replica to include more photos, 3-views and the latest scale news. If you have questions, comments, photos, news items, or articles you'd like to submit, feel free to contact me.

For those of you who have not provided us with your Email address for delivery of the Replica right to your in-box, I would invite you to do so. Not only will you receive your copy sooner, but you also help us keep NASA's overhead costs down.

In closing, I want to thank Ted for all his work over the past few years. Knowing the position, and knowing the lack of support an editor gets, he's done a good job providing a newsletter with the little information he could squeeze out of thin air. I wish him the best.

MARK LANTERMAN
mark@airbornemedia.com

You know that your landing gear is up and locked when it takes full power to taxi back to the pits!



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Covering Techniques

Suppose you build a model of an all aluminum airplane. Instead of covering it with a mylar film, why don't you cover it with fiberglass cloth and some kind of binder?

The binder for the cloth is usually epoxy resin but you can also use polyester resin, or what some modelers are using is nitrate dope. The easiest to sand is nitrate dope. Whatever you elect to use, the first coat should be thinned like water. All you are looking to do on the first coat is to stick the cloth to the wood. After the first coat dries sand lightly with a coarse sandpaper.

The next coat is called a fill coat and will be thicker. You will still need to add thinner but not as much. Keep in mind with all resins and paints, the first phase in drying is the evaporation of the solvents. The more you thin down your resin the more time it will take to dry.

All of us hate to cover compound curves like wing tips. When you come to a compound curve, try getting some of the wife's old pantyhose and cover that part first, the pantyhose will conform to most compound curves with ease but be gentle since it likes to tear and run. The hardest resin will be polyester resin. Some epoxy resins, especially the commercial ones, are very hard and sand quite well.

When you are through covering with cloth and the resin get some light gray spray primer and give the entire airframe a dull gray finish. It is easier to spot imperfections in the surface with this paint.

When you are finished touching up any part of the model sand as much of the primer off as possible to keep from adding too much weight. Apply finish coats that match the full scale subject.

PAUL CAIN
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How Toe-In Helps Model Aircraft

In airplanes, toe-in aids in keeping an airplane going straight during takeoff roll and landing roll-out, particularly with tail-draggers.

Airplanes with tricycle gear have the center of gravity (CG) forward of the main gear. This helps straighten out an airplane that has developed a yaw angle between where it is pointed and where it is actually going. A taildragger has the CG behind the main gear and a slight yaw angle is not automatically corrected but is made worse and can result in ground loop.

Here is where toe-in of the wheels helps both types. An airplane rolling straight ahead has equal drag from each of the wheels. When it takes an unwanted turn to the left, the drag from the left wheel goes to zero while the drag at the right wheel increases.

The net effect is the unbalanced drag exerts a retarding force and turns the airplane back to the desired direction. This wouldn't happen without toe-in.

RUSS O'BRIEN
Three Rivers MI

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NASA Member Projects Online

Take a few minutes to send us a bit of information on your latest project. We're featuring NASA member's scale projects online in our blog. It's new, and to get an idea of what we're looking for, visit the NASA site and click on the Members Projects link at the top of any page. Or you can visit this section at the following address:

<http://nasascale.wordpress.com>



All we need is a paragraph or two about your project. Include the name of the model, the type of power, radio brand, and details of any special features you're incorporated. Attach nice, high-rez photos and we'll get it online!

To submit your projects, email the info to: info@nasascale.org

The Reverse S-Hook

The Reverse "S" (RS) hook prop shaft is designed to keep the rubber motor of a plane centered on the prop shaft. By centering the motor, the RS keeps the motor from "walking" around the prop hook and at minimum inducing a lot of wobble to the motor, and at worst, walking off the hook entirely. Some guys have suggested that it is a black art to bending a RS hook. It is not. Follow these procedures and practice, it is fairly easy, and well worth the time to learn.

For learning, it is best to use 1/32" music wire. It is easy enough to bend, yet stiff enough to get it correct. Do not use really soft wire such as a paper clip or copper wire, it is too easy to get it bent into the incorrect shapes and not be able to see what went wrong. It is also best to use a really good pair (read as stiff, and not too long of nose) of needle nose pliers.

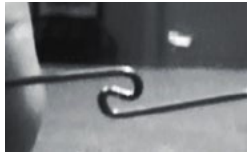
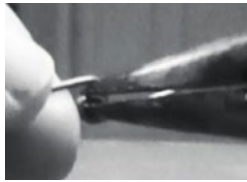
STEP 1. Start with a wire that is much longer than what is needed for the prop shaft. It can be cut down to size later. Grip the wire with the tip of the pliers about 1 inch from one end of the wire.

STEP 2. Bend both ends of the wire around the tip of the pliers. If your fingers are not strong enough, press the wire up against a block of wood, or use another pair of pliers. After removing the pliers, the wire will look like a RS, with very long ends. Use the pliers to close up the curve of the RS. Both the top and bottom of the RS should be about equal, with equal curves. However, the curves do not have to be exact, just close. Look at them again. Maybe a little tighter on the RS. Finish Step 2 by turning the RS flat and squeezing it flatter. All of the wire of the RS should be in a single plane at this point. Look at it flat on. If it is not straight, straighten it now.

This is probably a good time to point out that all directions here, such as away from, right, left, up, or down are all from the pilot's point of view.

This is where most of the mistakes are made while making RS hooks. Pay attention! Look at the wire. A backwards "S" should be visible, not an "S". (That is, so long as a right-handed prop is going to be used.)

STEP 3. Grab the RS again with the pliers, bend the one inch side away from you. Bend it a little more than 90 degrees to the flat plane of the "S". Try to keep the "S" full, only



This  **Not This** 

bend the end down. After this bend, the wire can be rotated to where the one inch side is pointed down, as pictured here. This one inch side can now be cut down or off. The length does not really matter too much. Some people get rid of it completely. However a good rule of thumb is to cut it to the same length that the "S" is tall. Cutting it off can be done with a pair of side cutters, the cutters on the pliers or best, a rotary tool with a cutoff wheel. In any case the end should be polished and all burrs removed. This is where the rubber motor, or "O" ring will be slipped onto the prop shaft. A sharp edge on this part of the wire can be disastrous to the motor or "O" ring. If a Crockett hook or "T" hook is used between the rubber motor and the prop shaft it is not so important to deburr the end, but it is still a good practice. Stay tuned to future newsletters for details about Crockett hooks and "T" hooks.



STEP 4. Grip the RS with the pliers again, this time, bend the long end of the wire in the same direction as the short end. That is, if looking at the RS, bend it forward. In this picture it is up. This bend is going to be more than 90 degrees. It needs to be bent where it will cross a line drawn from the center of the RS forward. It should meet that line about one "S" height forward.

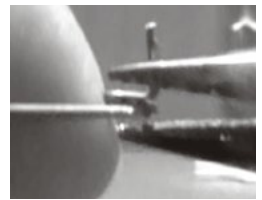
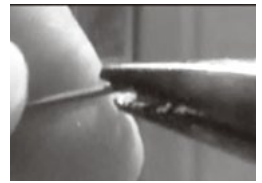
This picture shows that a little more clearly. Notice that the long side almost touches the short side.

STEP 5. The last bend takes place at the point where the long end crosses the line forward from the center of the RS. Grip the long end at the point where it crosses the center line from the RS and bend it to that line. The long end of the wire should now be perpendicular to the RS and should be pointing directly at the center of the RS.

Chances are, it will not be perfectly lined up. The goal is to have the RS perpendicular to the long part of the shaft and centered on the shaft. Two tests will confirm this.

First Test. Hold the shaft pointing left to right and spin it. It will be very easy to see if the RS is perpendicular to the shaft. If not, bend it a little until it is.

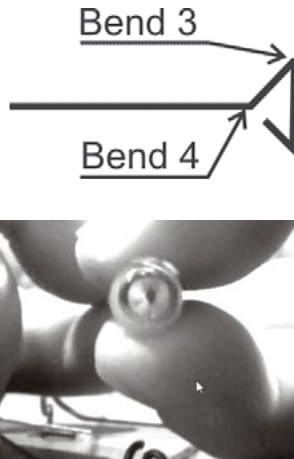
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Second Test. Point the shaft forward, look through the RS to the shaft. Spin the shaft. A dark spot will develop in the center of the RS. If the dark spot seems to rotate around the center, it is not lined up with the shaft. This usually takes a little tweaking at bends 3 and 4. After this second test, repeat the first test. For a cool video of this go to YouTube.com and do a search for merlin2360, look for the Reverse "S" Hook video.



Happy Wire Bending!

CHRIS A. BOEHM

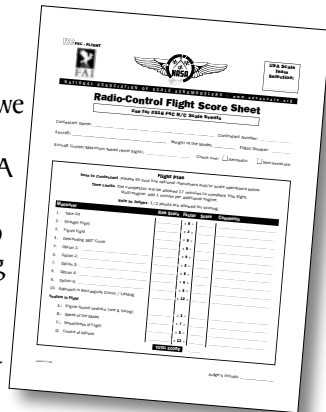
merlin236@comcast.net

from the Cloudbuster's Newsletter Mar/April 2012

www.NasaScale.org

NASA NEWS AND INFORMATION ON THE INTERNET

If you have internet access, you owe it to yourself to visit NASA's web site - www.nasascale.org. The 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 aeromodeling - 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 features of the web-site. We have all the competition forms and documents for scale competition online in pdf form. Not only are the documents up-to-date, but we now have two 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 Reader, you can fill out all your information using your computer, then pre-print copies to take to your next scale event: information about yourself, your plane and your maneuvers/options. All AMA rule book maneuvers/options (as spelled out in the current AMA rule book) can be selected from pull-down menus; right on the .pdf. Imagine not having to spend time at your next 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 RC events - from Fun-Fly up to FAI! Download your forms today!

2012 Scale Nationals

Our AMA Scale National Championships is coming up quick! It will be held on July 13-15 at the AMA International Flying Site at Muncie, Indiana. No change there.



But there are other changes to encourage the novice or those who have been a little concerned about attending the Nationals, thus there are several new added classes some of which are unofficial at this point.

First Novice entries will only be charged the National \$45 basic registration. All models will be processed by noon on Friday, July 13. Junior AMA members (15 years old but under 19 on July 1) will have free class fees. There will be awards for the best Jr. and Senior flier in RC and CL classes.

There is a new unofficial class this year Advanced class. This category is available using aircraft that are not governed by the Builder of the Model rule. This includes purchased, modeler-built, or factory-built scale models including ARF/ARC (almost ready to fly/cover). Judging criteria for both flying and static are identical to Expert and Team Scale. Contestants who placed in the top 30% of this class shall be qualified for entry in the Advanced class at the Scale Masters Championships being held this fall in Southern Indiana. As with most large scale contests the National Championships is also a qualifier for the U.S. Scale Masters.

At the Friday night NASA Jam there will be all sorts of entertainment. Our own Greg Hahn, AMA Technical Director/country music star, will sing for the group. Karaoke and scale flyers with their own music will be there too. Bring a picnic basket, cooler, and lawn chair for a great time.

On Saturday night the NASA banquet will be held at the Claude McCullough Learning Center, attached to the AMA Museum. Tickets are \$15, children 12 and under are \$10. Tickets will be on sale at the RC and CL sites during the day on Saturday and (I'm assuming on Friday also). Dale Arvin will be there to entertain us with an auction/roast of prominent AMA members.



So for a great time and a great place to fly and associate with others of us who are scale modelers also, come to this year's AMA Nationals!

STAN ALEXANDER

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with information provided by Shannon Ort

12" to the Foot

WE'RE BACK!

The internet has been such an influence on all our lives, in almost every aspect. Now you can watch videos and downloads on your cell phone or other device there are many, many ways to access information.

Scale modeling is just one of those areas which you can find a lot of help on the internet for your next project. Take the Pietenpol Air Camper I'm building to 1/4 scale. All of the documentation information was found on the internet. First type in the airplane type like "Pietenpol Air Camper Photos" and see what pops up. Then type in the "N" number and poof!, it pops up on the first screen. Of all the photos available I downloaded 7 including the cockpit. That should go for airplanes around the world. That should be enough photos for a sport scale model. Of the 7 photos I have both sides, the top as well as the front 3/4 view as well as several photos in flight. Of course it wouldn't be for a good FAI model, which you need far more photos for the F4C class. But the F4H class has a sport scale standard much as our rules do here.



ANTIQUAIRPLANE ASSOCIATION FLY-IN & AIR POWER MUSEUM

Sometimes you can find a potential subject at a local airport or at a regional or national Fly-In. If you are interested in older airplanes I suggest that you join the Antique Airplane Association. This national association as well as the Air Power Museum have a good grass field as well as one of the largest repositories in the world of aviation periodicals and information from the dawn of flight to present day types. I was completely impressed with the job Mike Gretz and volunteers have done there at the museum and library. There, you can find hard cover books on all generations of aviation as well as many books I haven't seen before. Modeling magazines, aviation magazines, specialty magazines like the Alexander Aviation Co. and many, many others. They also have the only air conditioned building on the site.



We went to the 2011 Fly-In there at the AAA headquarters and for awhile we thought we were going to see NASA President Mike Barbee with his newly restored Aeronca, but due to weather between the Blakesburg, Iowa and his home, he didn't make it. But there were over 350 aircraft there. Some were classics, many were antiques and others, well some just needed

a good home or hanger if you will. I was impressed by the organization of the event as well as the photo opportunities offered by this seemingly week long fly-in. We arrived on Tuesday and left on Saturday and I don't think we saw all of it. It's not like Oshkosh, no daily air shows or flame shooting jet trucks, but lots of laid back opportunities to see, smell, and in some cases fly in some of the most interesting aircraft still left flying in the country today.

Come prepared, I took three cameras with me a Canon 7D, Rebel, and a Power Shot camera also. There are a few tricks to shooting the overhead shots for the plan view photos but you'll have to work that out for yourself. The photo count was somewhere in the 3000 range for the week. I usually shoot somewhere in the neighborhood of 40-100 photos per plane, depending on how detailed and complicated it is.



Also make sure you have batteries for back up, a long lens for flight shots as well as plenty of sun screen. Food is available there at the site for all three meals per day. If you like home made pies the porch of the Air Power Museum is the place to be. If I'd known the blackberry pie was going to be as good as it was, nobody else would have been able to purchase any at all. Top that off with home-made ice cream and then a couple of more pieces for good measure and its time for a nap in the museum easy chairs. Wake up to the sounds of aviation videos playing at the back of the library and the sounds of radial engines thundering above the building, wow it doesn't get much better than this.

While we were in Iowa we took time to see some non-airplane related stuff also. That's always a good idea when you take the wife along. But Iowa has more to see than corn fields, although at the Field of Dreams museum and ball field it is still surrounded by corn like you saw in the movie. We also saw John Wayne's childhood home and the Bridges of Madison County where the movie was filmed also. Iowa has a lot to offer for a vacation you just have to look a little.

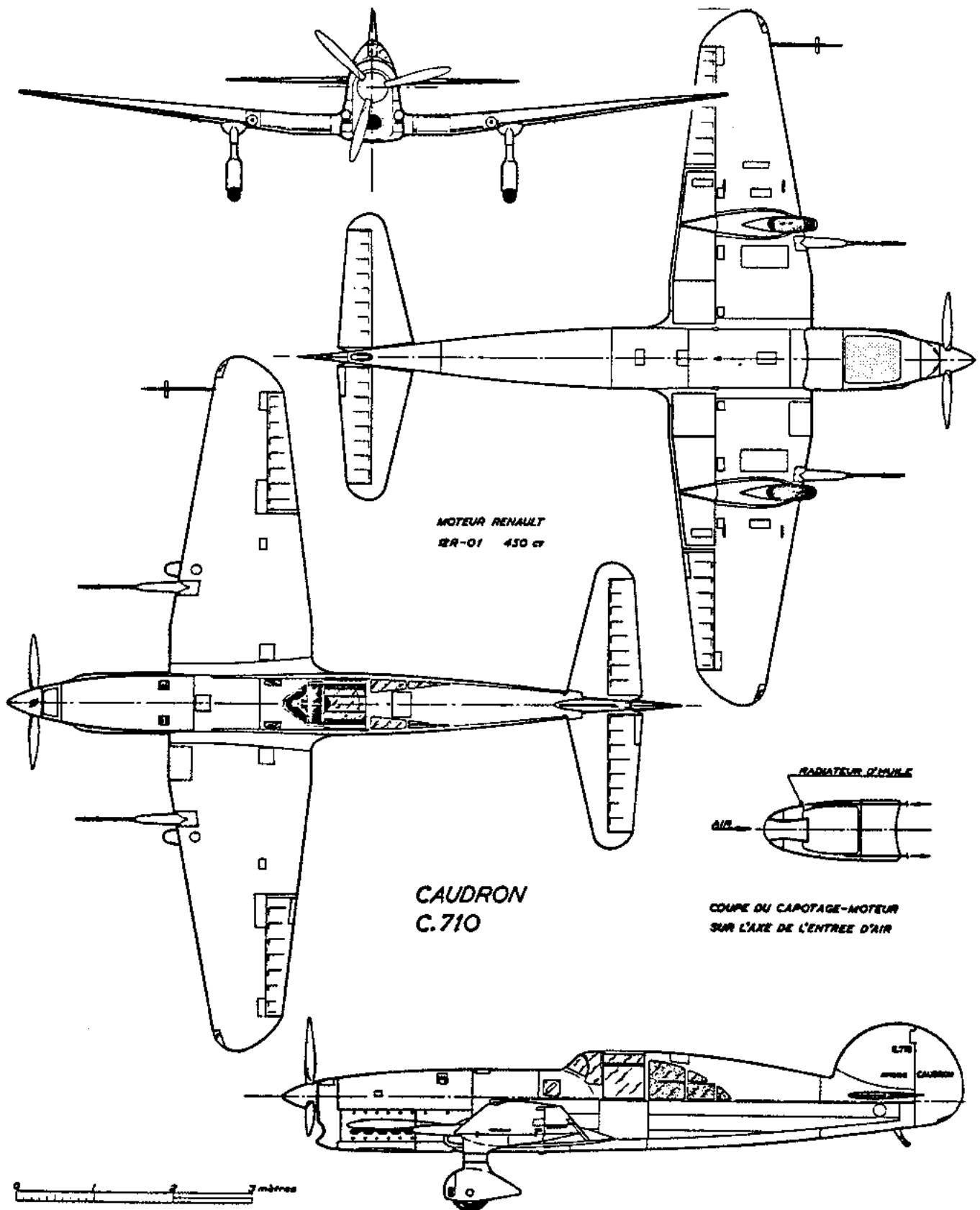
Then on our way to Blakesburg we went to SIG Mfg.Inc. and that was a wonderful day in itself. Our thanks to David Martin and his wife and Mike Gretz for a great tour around the plant, seeing all of the different areas of kit production, part production, as well as all of the hobby supplies they have available, that was a great day. In one area kits were being loaded on pallets for shipment to Europe, including the 1/3rd scale SIG Spacewalker and many others.

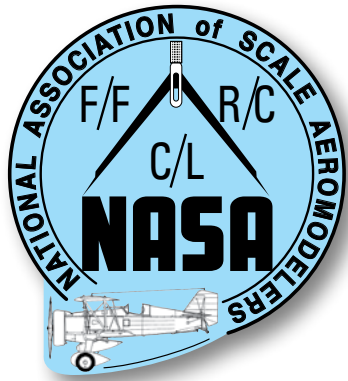
So if your interested in seeing some awesome antiques, classics and homebuilts I would suggest attending Blakesburg, Iowa's main event of the year, the Antique Airplane Assn. Fly-In. It's always held pre-Labor Day week. For more information and membership check out their website at www.antiqueairfield.com

Fair Skies & Tail Winds,

STAN ALEXANDER
onawing4602@att.net

Caudron C.710 3-view





IN THIS ISSUE:

- **THE LATEST IN SCALE NEWS!** • **THE REVERSE S-HOOK**
- **COVERING TECHNIQUES** • **CAUDRON C.710 3-VIEW**

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REPLICAS

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