It's time for some **Propwash**

November 2011

Since 1978, the voice of the Imperial R/C Club

www.ImperialRCClub.com

CARTWHEELS

BY: LARRY LOUCKS, PRESIDENT

Just wanted to give everyone some important information so I will list them.

Change the location, date and time for November meeting to have it at the field on Saturday, November 5, 2011 at 10:00 AM so that we can get as many people as we can to have a quorum to officially vote for the regular dues increase to $200.00 per year and $125.00 for winter membership.

At the meeting we will also be electing our new officers for 2012, all positions are open at this time for ANY MEMBER, to volunteer and submit their name for nomination and placement on the ballot.

If you would like to volunteer and participate in the management and direction of your club, "Now is the time for all good men to come to the aid of their....CLUB."

Please send me an email by Monday October 31, Halloween, let me know what position you are interested in and we will put you on the ballot. *The positions are President, Vice President, Secretary, Treasurer and Director (1 needed for 3 year term)* Please review the IRCC Bylaws and policies for additional information on the responsibilities for the positions.

If ANYONE has any questions please feel free to call me, 813-363-1654

New Members

Proposed at the October Meeting

None Reported

Instructor Report

By: George Nauck

**** George will not be available for a while ****

Beginning October 2 through New Years Day 2012, I will be demonstrating radio controlled US Army Apache type helicopters for JC Penney at the mall in Brandon on Saturdays and Sundays, as well as a few Fridays. This will require some club members to fill in for weekend teaching/training/helping at the field. I will be able to do some on weekday mornings or evenings.

Since the September meeting, I have soloed another young pilot with his electric Apprentice. His name is Max ???? and he is 9 years old. He required minimal training, mostly field and safety rules.

Our next club meeting is:
Saturday November 5th at
The IRCC Flying Site
Plan to attend and see what's new !!

From: Dale Anderson
" The Tractor Guy "

I wish to express sincere appreciation to David Kreitz for his quiet and unassuming, but very hard work on field and tractor maintenance. A few weeks ago David spent no less than six hours on a Saturday taking apart and rebuilding the spindle/pulley assemblies on the Bush Hog. We now have new bearings, bushings, and spindles, and the bush hog hog has a much better, even cut as a result. In addition, David does the weed-eating as needed, shed repair as needed, and is always ready to step up and help the Club. Thanks David.

Scale Plans Building for the Novice: Part 2

by Jerry Bates

A comprehensive article on selecting and building your first scale RC model airplane from plans continues.

Tools Required for Cutting it Yourself

If you choose to cut out the parts yourself there are a few tools and techniques that will make the experience a more agreeable task. All of these tools mentioned have value outside of this hobby because they can be used for other projects around the house too. The primary power tools needed are:

- A ¼-inch electric drill with drill bits from 1/16-inch diameter to ¼ inch. $25+
- A small electric scroll saw and selection of blades. $80 to $200
- A combination disc and belt sander. $80 to $150
- A handheld rotary tool. $40+

Power Tools

First thing to do after buying a power tool is to read all the literature provided before setting it up and turning it on. It is much better to be bored with the details than to take a trip to the emergency room. Safety first—fun later!

Most of us already have an electric drill so we won't take any time with that item.

The electric scroll saw is one of the hobby's most valuable tools and is a "must have" for any level above ARF's. There are several quality scroll saws on the market. Perhaps the most noteworthy are the Dremel products. Check out the Lowe's or Home Depot stores for this and other manufacturers. You will be using the scroll saw to cut out all your major parts like ribs and formers. Look for a saw with a minimum 12-inch distance from the back of the blade to the neck; more is better. Some scroll saws include a small circular sander attached to the side. These sanders are good for small parts but are not quite large enough for items like ribs and large formers.

The combination belt and disc sander will be used to smooth out the parts you cut with the scroll saw. The same stores mentioned above will be your first stop for shopping this tool. Look for a tool with a 4-inch-wide belt and a 6-inch-diameter disc. We will get into its use a little later.

Another handy tool is the handheld rotary tool. They are available with myriad attachments and bits. My two favorites are the carbide ball-and-drum sanders and the large-diameter fiber-reinforced, cut-off wheels produced by Robart and available from Tower Hobbies. The carbide sanders are great for hollowing out

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Courtesy and Common Sense Keeps R/C Modeling Fun for Everyone.

balsa blocks and trimming the insides of the fuselage formers to reduce weight of the model. The cut-off wheel is great for cutting music wire and trimming hard to reach parts. You will find so many other uses for it you won't know how you did without it. My two favorite brands are Dremel and Ryobi. Check the previously mentioned stores for pricing and availability.

After you have been building from plans for a while you will want to acquire a band saw. A 9-inch tabletop, two-wheel unit will be just fine for our type of work. Don't bother with a discount priced three-wheel unit. The wheels of a three-wheel unit are too small and exert too much force on the thin blades. They have a habit of breaking very easily and always in the middle of a cut. You will be using the band saw for your outside cuts and the scroll saw for your inside cuts. Check the previously mentioned stores and Sears for several good band saws in the $100-price range.

Hand Tools

There are several hand tools that you will need when cutting out and constructing your model. The most common among these is the "hobby knife" or X-Acto knife. You will need what is called a #1 handle and #11 blades. Tower Hobbies has a great selection from the basic knife to a three-knife set to fit the full range of available blades. Remember: like all knives, never cut toward yourself. If you are cutting against a straightedge, use a metal straightedge and keep your fingers well away from the cutting edge. Another important tip when using the hobby knife is to replace the blades often. Pressing down with a dull blade and dragging it through the wood is an open invitation to disaster.

Okay, a couple of other safety tips: if you drop the knife, back away from the table quickly. Never try to catch it. These knives have an uncanny way of hiding under things on the worktable and rolling off the table to stick in your foot. To alleviate the problem I put a pencil eraser cap on the end of the knife.

Other important items are sanding blocks and sanding paper. You can make your sanding blocks from various sizes of 1-inch x 3-inch and 2- x 4-inch wood and cover them with sanding papers cut to suit. A better method is to have an assortment of the aluminum sanding bars available from Tower Hobbies. They also sell sticky-back sanding papers to fit.

A couple of metal straightedges for cutting straight lines with your hobby knife will be a big aide as well. I like to have a 12-inch and 18-inch long one available. Most office supply stores sell cork-backed stainless steel rulers that are perfect for this use. Again, keep your fingertips back from the cutting edge when in use.

A builder just cannot have enough clamps to hold things together. There are numerous kinds and sizes of clamps available in hardware stores. You may wish to purchase these at a later date, but for now let me suggest some more economical solutions. You will find that wooden clothes pins can be used for areas of model construction. Also, a collection of various sizes of rubber bands will be useful.

Another item you can't have too many of is pins. Regular straight pins will work fine but "T" pins sold by hobby suppliers have the advantages of being easier to push in place and remove after use. A box of each of the three sizes offered by Hobbico and available from Tower Hobbies should do the job.

Workbench

You will need a work area to build your model. Most important will be a table or bench where you can leave your project laid out during construction. This can be anything from a custom-built workbench to a folding table. Your work surface must be smooth, flat, and warp free or you will build these misalignments into your model.

A simple workbench can be made from a 36-inch wide, flush face, solid core, wood door. You can support it with sawhorses or a frame and legs fabricated from 2 x 4s. Give the surface several coats of polyurethane paint to make clean-ups easier. You will need to prepare the surface so you can pin to it. I found a sheet of ½-inch by 4-foot by 8-foot sound deadening-board (Hushboard by Georgia-Pacific) at the local building supply store that has worked great. Cut it to the size of your worktable and hold it in place with small finishing nails on about 12-inch centers around the perimeter. I painted the surface of mine with a couple of coats of white exterior latex house paint.

Laying Out the Plans

Lay your plans on the work surface and hold them in place with thumbtacks at the corners. You should cover your plans with something transparent that glue will not stick to. The old method was to use waxed paper. Unfortunately, the new waxed papers are no longer very resistant to the glues we use. A better material is the clear plastic paint drop cloths available at hardware stores.

Adhesives and Solvents

There are literally hundreds of various adhesives on the market. It can be very confusing trying to find the right product for use in modeling. We require adhesives that are both strong and light. Most adhesives for household use are not appropriate for model construction. To be on the safe side it is best to purchase them from a hobby shop or hobby supply house. Even at that, there are still many choices to make. To avoid some of the confusion, we will use just three types of adhesives, and only one kind of each for this article. Once you become familiar with the benefits and drawbacks of the available alternatives you can use your judgment in selecting your favorites. The adhesives mentioned below are available from Tower Hobbies.

Selected Adhesives and Solvent:

• Epoxy: We will be using a two-part epoxy adhesive for those areas that require a very structurally sound joining of parts like the firewall. We will use what is called 30-minute epoxy. It will provide sufficient working time to allow the parts to be aligned and clamped in place before setup. Choice: Pacer Z-Poxy, 30-

Minute 8 oz.

• Cyanoacrylate: Generically called “super glue” or “CA” glue, this will be our primary construction adhesive. CA is available in several viscosities but we will be using what is termed as “medium” or gap-filling CA. Choice: Pacer Zap-A-Gap CA+ 2 oz.

• Aliphatic Resin: This glue is generically known as “white glue” but the glues provided by the hobby supplier have additional characteristics for greater strength and are lighter and easy to sand. We will be using this adhesive for joining sheets of balsa and planking to the airframe. Choice: Great Planes Pro Wood Glue 4 oz.

• Spray adhesive: You will be using this product to attach portions of you plans to the wood and pieces of wood together temporarily to cut out the parts for you model. My favorite is 3M 75 Repositionable Adhesive.

• Solvent: A general solvent for use in cleanup of epoxy, CA, and the spray adhesive is acetone. It is available from Lowe’s or Home Depot. Aliphatic resin can be cleaned up with a damp cloth before it dries.

Safety

Safety precautions should be taken when using any of the previously mentioned products. If you experience a physical reaction to any of them you should discontinue there use immediately. If you have a reaction from using CA or epoxies you can substitute aliphatic resin glues. For areas requiring a stronger joint I would use high-strength aliphatic resin glue. Just be sure to clamp the parts together like in the firewall areas to ensure a secure joint. I would suggest using Titebond III Ultimate Wood Glue in these areas.

Fillers and Primer

Materials for filling voids and making fillets for you model are available in several types and used for various applications. Some of these fillers have structural characteristics and others are used to provide a smooth surface in preparation for priming and painting the model.

Hangar Rash

During construction your model will receive “hangar rash.” That is a term used to describe the dents and dings the airframe receives in the shop (hangar). Simply dampening the dent with water and applying heat to the dent with an iron can remove most hangar rash. Set the iron on high or “cotton.” The steam produce by the application of the iron will raise the wood fibers and remove most dents.

Follow up by sanding the repair lightly with a sanding block to bring it level with the surrounding area. If the wood fibers in the dented area have been broken (these are called “gouges”) you will not be able to completely remove the dent with this process and it will need to be filled and sanded.

Gouges

To repair gouges and voids in the airframe I recommend a lightweight filler-putty like Hobbico HobbyLite Balsa Colored Filler available from Tower Hobbies. The same product may be used to fill voids in strip-planked areas also. The product is also good for making small fillets like where the fin and stabilizer meet with the fuselage. Use this, or a similar product, for all general repair work on the airframe prior to priming and painting.

Structural Fillers

Structural fillers are used in areas to fill voids and produce fillets to increase strength of a joint. Some of the areas can be around the firewall or in the areas for retract installation.

A mixture of epoxy and a special filler compound may be used. I recommend Great Planes Milled Fiberglass or Prather Micro Balloons mixed with 30-minute epoxy for this application.

General Fillers

A great filler for things such a wing fillets and large fillets for the fin and stabilizer is lightweight automotive body putty. Stay away from the products sold in hardware stores. These are normally general-purpose fillers and are very heavy and hard to sand. The best product I have found is Evercoat Rage Gold. It is very light and sands almost as easily as balsa. Check with an automotive paint store for availability. Use this product on your model after you have glassed it and before the first application of primer.

Base Primer

I like to use acrylic lacquer primer on my models. It is light and sands very easily. My favorite is DuPont 30S gray primer available from automotive paint stores. This primer is compatible with the widest range of finishes for your model including, dope, lacquer, urethane, enamel, and epoxy. Do not use the spray can primers found in hardware stores and do not use enamel-based primers. I use a compressor and spray gun for application. Most automobile paint stores have the acrylic lacquer primer in spray cans.

Spot Putty

After you have primed and sanded you model for the first time you will inevitably find some low spots. If you have primed with automotive acrylic lacquer primer, you can use lacquer-based non-shrinking spot repair putty for these areas. They are also available from automotive paint stores.

Cutting Out Your Model

There are a lot of sophisticated methods used by professionals to cut out these parts. Some shops make templates of the parts for reuse so they can make parts in the future. Some of the methods used include handheld and CNC routers, special equipment for cutting notches and other repetitive cuts, and laser cutting. We are going to discuss basic methods for use in the home workshop.

This is going to sound like a lot of work but actually it is not. It just takes a lot of words to describe the processes involved. These processes will become more like a fluid motion after you get the hang of them.

Procedures

1. The first to do is cut out the parts from the plans with a pair of scissors. If you do not wish to cut out your plans then have a Zerox copy made of these parts. Stay about 1/8 inch outside of the part outline when cutting them out. Do not cut out the holes inside the parts or the notches in the parts for stringers, etc. Use a felt tip pen to make certain the part numbers are on the paper parts. Place all the paper parts in a container like a shoebox so they don’t get misplaced.

2. Now we will affix the paper patterns to the wood. Let’s start with the balsa wood ribs. We will assume the ribs are 3/32-inch thick balsa and the wing requires two of each rib. Lay out the patterns on a sheet of 3/32-inch by 3-inch by 36-inch balsa. For large models you may need four-inch wide by 48-inch long balsa to get the parts to fit. You may even need several sheets of balsa for all the ribs. Shuffle the patterns around until you get as many to fit on the wood as you can with little waste. Keep a minimum of a quarter inch between each part. After establishing the layout you can affix the patterns to the wood with the 3M 75 adhesive. Never use 3M 77 adhesive for this process as you may not get the patterns and stacked wood apart. Spray a medium coat of adhesive on the back of the pattern and apply to the wood surface.

3. Affix another sheet of balsa to the back of the one with the rib patterns. Apply a light coat of 3M 75 adhesive to the face of each sheet of balsa. Wait about 30 seconds, then, stack the balsa sheets, adhesive face to adhesive face, together. Lay the sheets on a smooth, flat surface, and apply medium pressure to them to ensure they are firmly stuck together. Use

a piece of 2 x 4 to do this. Do not press too hard or you will distort the soft wood.

4. If you are doing a straight-wing model like a Cub where you will need multiple ribs of the same size, you can cut the balsa sheet to the required length and stack them for multiple cutting. Do not cut more than six ribs at one time. Make several copies of the pattern and cut several stacks of ribs. The reason for doing this is because of the equipment we are using. The scroll saw blade is very small and flexible. As the stack of wood gets get taller, it will become more difficult to cut a stack where all ribs are the same size.

5. Cut the individual parts out of the sheet. You may need to separate the parts into smaller groups or individual ribs that will fit the size of your scroll saw. Use your X-Acto knife for this. Drill a ¼-inch diameter hole through the part in the center of the area(s) that need to be removed like lightening holes, etc. Drill slowly with a sharp bit to avoid making a mess of the part. Place a piece of pine wood beneath the part and press the part firmly against the wood when drilling. A brad point bit is best for this job. Clean up the areas around the holes after drilling to maintain a smooth surface where the part is to be placed on the scroll saw table.

6. Next job is to cut out the areas to be removed inside of the individual parts. Remove the upper end of the scroll saw blade and slip the part over the blade, through the drilled hole, pattern side up. Reconnect the blade and you are ready to cut out that area. Cut slowly from the hole toward the line on the pattern then follow the line all the way around. You may need to cut the area out in sections to avoid interference with the scroll saw neck. Remove the part and cut out the remaining internal areas in a similar manner.

7. Next we will cut around the external part lines. You do not need to stay very close to the outline. I like to stay from 1/32 inch to 1/16 inch toward the outside of the outline. Don't cut out the notches in the parts yet either.

8. Now we have all the ribs cut out. Next job is to sand them to shape. We will use the 6-inch disc sander for this. Make sure the sanding table and the disc sander are 90° to one another. Place the stacked ribs on the sanding table and slowly sand them to the edge of the lines on the pattern. This makes for a much smoother part than can be cut on the scroll saw.

9. Next we go back to the scroll saw and cut out the notches in the perimeter of the rib pattern outline. Carefully make plunge cuts on each side of the notch.

You can remove the remaining wood in the notch by making a few plunge cuts between the first two and using the scroll saw blade like a sander by moving the part back and forth until you have cleaned it up to the bottom of the notch. Check the cut out notch for fit with the intended size spar or stinger.

10. Peel the pattern off the part, and separate the parts. Mark the parts with the numbers shown on the plans and place them in a box to keep them all together.

11. Fuselage formers are cut out using the same method used for the ribs. Cutting the plywood parts will require use of a blade designed for plywood and hardwood.

Try to cut close to the outline of the aircraft ply or birch ply parts to keep the amount of sanding needed to bring the part to finished outline to a minimum. A small square or draftsman angle template can be used to check parts like the firewall for accurate 90° corners.

Conclusion

Your level of skills will increase rapidly during this process of cutting out the parts. You will develop methods and shortcuts to make this work faster and easier. You will become familiar with the use of the tools, there advantages and draw backs for accomplishing certain tasks, and how additional tools can help in making the tasks easier.

You now have the hard work out of the way so we will move on the lighter subjects.

Coming Area Events

Dec 3 13th Santa Fly-In Tri County R/C Dunnellon

Dec 9~11 12 O'clock High FTE Lakeland

Dec 17 Tailgate Swap Meet H.A.M. Brooksville

2012

Florida Jets
March 1-4

Spring Race Week – "Southern 500"
March 16 - 18

Sun'n Fun
March 27th – April 1st

Easter
April 13th

Top Gun
May 2 – 6

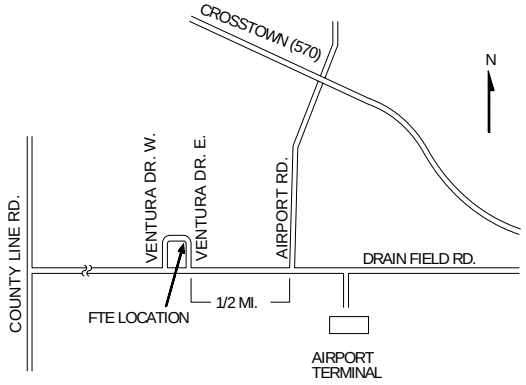
Monster Planes USA
TBA

Twelve O'Clock High
TBA

<<< Visit www.imperialrcclub.com for all the details >>>

Here is where we meet each month.

Please *DO NOT PARK ON THE GRASS*
at FTE or his neighbors.



OUR NEXT MEETING IS: Saturday November 5th

LOOK! UP IN THE SKY!
IS THAT A BIRD!
IS IT A PLANE! (WELL ACTUALLY IT IS)

But the real story is who's at the controls – Imperial R/C Clubs very own Kurt Kauth! That's right Kurt!

What started as a fluke (A rough airframe cut from a piece of fan fold foam that was left on the table at the field) has turned into a remarkable phenomenon!

As Allen Sales had been finishing for the day and getting ready to leave he brought out a hand cut airframe of what appeared to be a simple 3D type design cut from foam that he had no idea where it came from but asked

if anyone wanted it. Even though 3D was not my typical flying style and had no idea if this thing would fly, I decided to take it anyway. Well to make a long story short – FLY IT DID!

With a few modifications and design changes the HAWK 3D was born. It has a very large wingspan and control surfaces which allows it to be flown very, very slowly and in close proximity to its pilot. That was enough to entice Dale Anderson to have one built. The high contrast color scheme was easy for him to see and the airplane was very easy to control. In no time at all Dale was launching and landing his new airplane by himself and is having a ball with it.

Not too long after that Kurt had started to make some derogatory comments (all in fun!) to Dale which prompted Dan Hudson to come up with a solution. One day Dan was talking with Kurt and asked him what

colors he was able to see easily and Kurt responded with Red and Yellow. Dan then purchased one of the unpainted airplanes and without Kurt knowing, painted it in a red and yellow color scheme.

The rest as they say is history!

When Dan had the airplane finished and flight trimmed it was set it up on one of the “Buddy Box” systems that the club owns and for the first time in many, many years Kurt was at the controls and flying again!

Even though the picture above shows me with Kurt I want to take this opportunity to say **THANK YOU!** to Dan Hudson for it was his ambition and selflessness that made this happen.