

# Radio Control Flyers Unlimited

## Flight Plan

AMA Charter # 1442

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[www.rcflyersunlimited.com](http://www.rcflyersunlimited.com)

### Current News

The October Club meeting will be held at the flying field. The meeting will be at 10:00 am when the field opens.

Between October 1, 2016 through January 28, 2017 the field will not be opened until 10:00 am each day. This is based on the local duck and goose season at the lake.

During the October club meeting, nominations will be held for 2017 club officers. Nominations will be for President, Vice President, Secretary, and Treasurer. The position of Secretary and Treasurer may be held by one person.

Also, after the club meeting, we will be having a clean up and fix-up of the flying field. A couple of things that will be done is the mowing around the perimeter of the runway and building a ramp for the Porta-Let area, since we have a disabled person portable toilet.

Pattern Fly scheduled for 10/22/16 and 10/23/16. Dick Belden contact person. We will need volunteers for lunch etc.

We are still having problems with people at the field not taking home their trash. Any cans or boxes with or without a plastic bag liner is not to be used to put your trash in. We do not have a designator trash collector or elves that come by each night to remove the trash and put more trash bag liner for your convenience. Please take home all items including trash when you leave the field,

### **PILOTS CORNER**

#### **Some model building tips and tricks continued**

as seen on [www.wrightflyersrc.com](http://www.wrightflyersrc.com)

#### **Rib Maker**

Cut two ribs from 1/16-inch steel. Drill two holes along the center line, one near the leading edge, one near the trailing edge, for 1/4-inch bolts to pass through. Make sure both steel ribs are identical.

Use a steel rib as a template to draw ribs onto balsa sheet. Leave room around each rib. Cut each rib "block" out of the sheeting, and drill the holes in each.

Assemble all ribs on the correct length bolts, and sandwich all between the steel ribs. Using nuts, tighten the assembly down, making sure it's straight.

Now, using a belt sander (a disk sander will work too), remove the extra wood around the ribs down to when the steel begins touching the sander. Cut out the spar notches with a hand saw, and clean them out with a file.

This will make all the ribs for a wing at once, and they'll all be identical, resulting in a straight, uniform wing. It can also be used for a tapered wing (with all the ribs of different size), and bulkheads and formers can be made using this method too.

#### **Curving Balsa**

Get some ammonia, found in the household

section of the supermarket. Put some in a spray bottle, and spray both sides of balsa sheet liberally. Carefully bend the sheet to the right shape. You can even tape it to a form, such as aluminum soda cans, and let it dry. Once dry, it may be used as turtle-decks, etc.

Addendum:

To soak wood, get a piece of PVC pipe the wood sheet will fit in. Cap one end, and stand upright. Fill with water (You can't buy pure ammonia, the stuff on the shelf is low grade, water works fine) and drop in the sheet and cap the top if it floats out.

### **Wing-Tail Alignment**

Get an old (but straight) telescopic antenna, the same type as on transmitters. Use it as an adjustable-length measuring rod to compare critical measurements on planes during construction. I use this idea to compare the distance from one wingtip to the stabilizer, and to make sure this distance is equal on both sides of the plane. This ensures that the stabilizer is parallel to the wing.

### **Engine Mount / Nosegear**

If you have a small plane with a very tight engine installation (usually resulting from a very streamlined cowling), often there's no room for a nose gear assembly. Try drilling holes through the engine mount to accept the nose gear wire, and hold it in place with wheel collars. The steering arm can be placed below the engine, even on the outside of the plane. This will work with most engine mounts, even the two-piece ones as long as the engine is rotated 90 degrees.

### **Servo Blanks**

Here's an easy way to make sure your servos will fit in your plane properly, especially helpful with scratch-built designs: Take the measurements of your servos, and make a few from wood, identical to the real ones. This may be easy if the manufacturer supplies full-size drawings of the servos. I made my servo blanks from pine blocks, a little plywood for the mounting hole piece, and a dowel for the motor shaft. These servo blanks will not only help in drilling the holes to mount servos, but will

assure adequate clearance on all sides. In addition, the dowel is the correct size to press on an actual servo arm, which will help in aligning pushrods or cables. Using this method will help keep your real servos safe and clean during the building process.

### **Poke a hole in your covering**

Gee why would anyone want to make a hole in your nice new covering job. Well holes for wing bolts, switches, hatch screw holes, pushrod openings, etc come to mind. Sure you could cut the hole/opening with a Xacto, or razor blade, but then you have to adhere the fresh cut covering to the surrounding wood. The solution; get an old soldering iron tip (pointed preferably) and cut the hole/opening with it. I use a 25Watt Weller, and it cuts through the covering with ease, and makes a perfect seal. Once you try this you won't want to do it any other way. One word of caution, clean the tip after each cut. I use a wet sponge like that used for soldering, but use a different sponge as to not foul the clean tip used for soldering. If you don't clean the tip regularly the burned covering will cake on, and not only smell really bad, but will inhibit the cut, as you will not have maximum heat. I thoroughly clean the tip with a wire wheel after each use. After it completely cools of course.

### **Alignment Of Wings And Tail Surfaces**

A very important task in building an RC model is alignment of the flying surfaces with respect to the fuselage. Most of the time there is no absolute reference which will allow you to measure the mounting angle and be certain that it is square. One method is to mark a point at the nose or tail (depending on whether you need a reference for the horizontal stabilizer or the wing) at the center of the fuse and measure to the tips of the respective flying surface until it is properly centered. If your aircraft model is in the "bare-bones" stage, using a large heavy straight-edge can easily create hangar rash even before you have done the finishing. Here are a couple suggestions to avoid the large metal straightedge problem.

One is to use a length of ordinary lamp cord. If you get a piece of it fresh off a roll and hang it in your shop, with a small weight at the bottom end, for several days it will be straight enough to en-

sure accurate measurements. Put a piece of heavy tape around one end (about the last 3/4" or so) and use a pin immediately in front of the tape and through the center of the cord to locate the reference point on the aircraft fuselage. Then hold the other end at a reference point on each end of the stab or wing to compare the two measurements. A small piece of duct or masking tape will mark your measurement on the lamp cord while you make adjustments to the mounting location of the airframe component. Another trick is to use what home builders refer to as a "story stick". This is merely a small piece of wood (carpenters use a 2 x 4 but that could be as dangerous as the metal straight edge) possibly a long, 1/2" dowel or similar sized piece. Drill a hole about 1/2" from one end which accepts a heavy building pin to use as the locator. Use the other end to mark wing and stab locations. This can be a good reference tool to ensure your wing mounting is secure. Mark the dowel with the name of the plane next to the final dimension to the wing tip and check your model after several flights.

### **Locating Engine Mounting Holes**

Engine thrust angle can be affected by small errors in the location of the mounting holes. To ensure the mounting holes are properly located on the engine mount, the most important task is marking the holes to match the engine case lugs. One good way to mark these holes is with a machine screw of just the right size to pass through the hole in the mounting lug. Cut the screw so it is just a few thousandths of an inch longer than the thickness of the lug, and, cut it on an angle so there is a sharp edge which extends just through the lug. Now, use two small pieces of double sided tape to hold the en-

gine temporarily in place while you rotate the cut-off screw in each of the four mounting lug holes. This will leave a mark which is the exact diameter of, and in the proper location for, the mounting screws.

The next part is to get a true center mark for this mounting hole. If you have an automatic center punch, you may be aware that some of them come with replaceable tips. Buy an extra tip or two and grind them so they just fit through the mounting lugs and use them to center punch the holes.

### **Dust collector**

Next time your wife yells about the balsa dust from sanding steal one of her large fluffy bath towels and use it to sand on. It not only protects the airplane from dings, but it will trap a huge amount of dust. When done sanding fold it carefully then take it outside and shake it out.

Note: see disclaimer above, I am not responsible for what happens when your wife catches you doing this!

### **Cutting covering**

When cutting sheets of plastic shrink covering nothing beats glass for a surface to cut on, it will not dull the knife or slow it down when cutting. The covering material will kind of stick to the glass if the backing is removed all by itself for easy cutting. You can also use low heat to make it stick even better for critical cutting. You can use solvent to put together large panels of covering without it sticking to the work surface. The best place to find a suitable piece of glass is at the flea market. Look for an old glass top coffee table. The rectangle ones work super if you have the room. Stay away from non-safety glass it breaks too easy...Saw this one somewhere....

**The October Club meeting is scheduled for:  
Saturday, October 15, 2016 at 10:00 am  
At the flying field**