TRIAD AEROMODELERS FLYING FIELD 8’ FLAT TOP STARTING TABLE CONSTRUCTION

The Triad Aeromodelers R.G. Satow – RC Flying Field has nine of the standard pit area starting tables as shown in the photo below. These are made entirely of 2”x6” pressure treated wood.

But, as you can see at the far end of this table line, we also have six older 8’ flat top tables. These are primarily used by the electric plane flyers but can also be used for nitro or gas plane starting with the wing stops at one end of the table. Since these old flat top tables are starting to fall apart, the club decided to get some new tables built. This article covers the build of an 8’ flat top table should anyone want to build one for their home use.

First, lets go over the materials that were used to build a single table. Below is a list of everything needed.

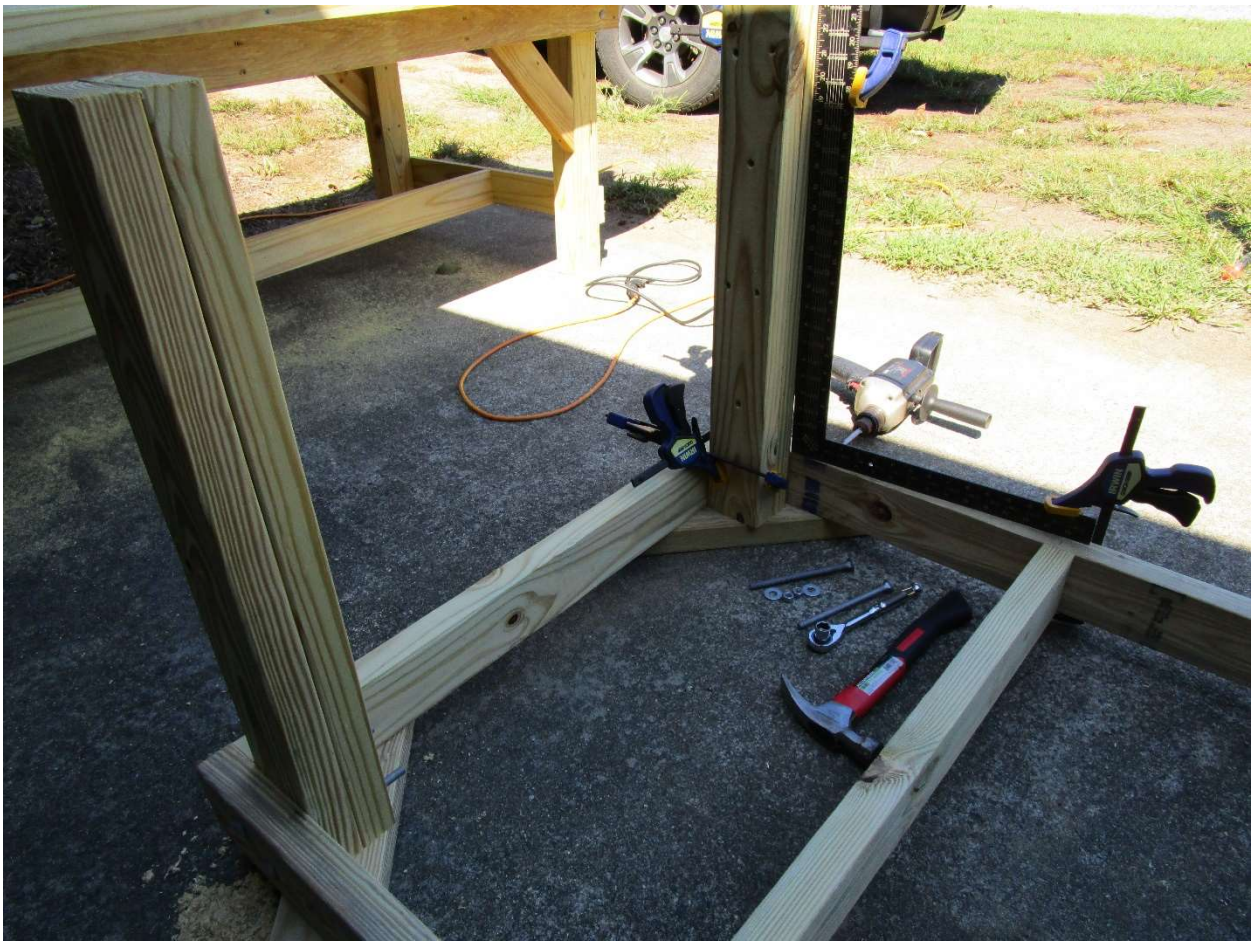
1" x 4" x 8' #2 Prime pressure treated	3.5 each
2" x 4" x 8' #2 Prime pressure treated	2.5 each

2" x 4" x 10' #2 Prime pressure treated	4 each
5/4" x 6" x 8' #2 Premium pressure treated deck board	7 each
1 & 5/8" exterior wood screws - for edge stops	26 each
2.5" exterior wood screws - for top deck boards & under frame	62 each
3" exterior wood screws - for legs and frame	50 each
4" exterior wood screws - for main frame	22 each
3/8" x 5 & 1/2" galvanized carriage bolt	8 each
3/8" galvanized flat washer	8 each
3/8" galvanized nut	8 each
3/4" lath screws – for wing stop bumpers	28 each
27" wide woven rubber backed carpet runner - wing stop bumper	1 foot

I purchased everything from Lowes, but you can also find all this stuff at Home Depot. With the cost of lumber changing daily, your total cost can vary greatly, but you should be able to get all the materials needed for under $200. I'll go over the various tools used as I progress thru the build.

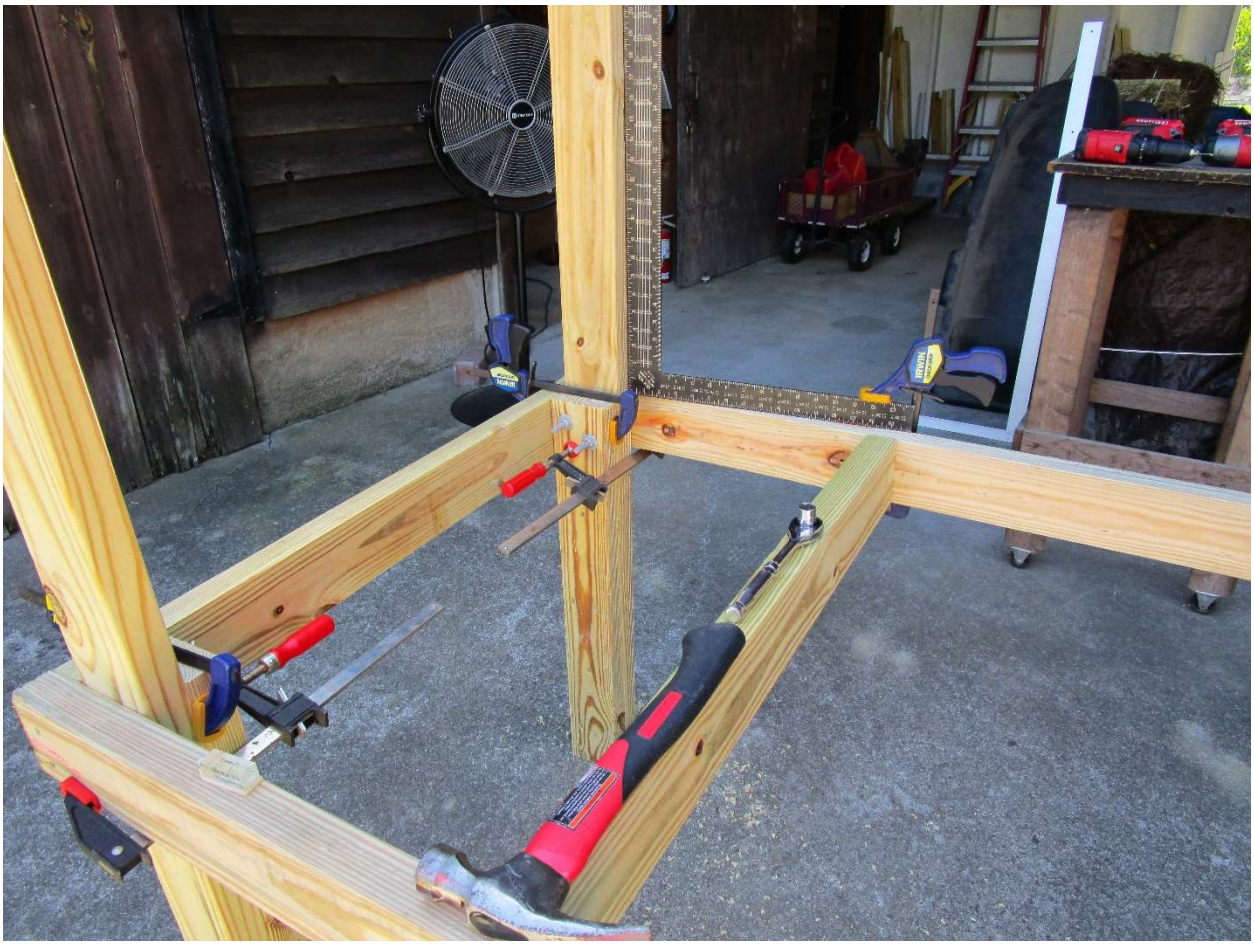
Let's get started. First take two 8' 2x4s, square off one end on each, then cut each of them to a length of 80". These are the sides of the tabletop frame. I cut these using my miter saw, but you can also accomplish using a powered circular saw or even a hand saw if needed. Next, take one of the 10' 2x4s, square off one end, then cut a 27" length piece, a 31.5" length piece, and a 58" length piece from this one board. Repeat the same cuts using a second 10' 2x4. Now take the third 10' 2x4, square off one end, then cut two 27" length pieces, and two 31.5" length pieces from this one board. Take the last 10' 2x4, square off one end, then cut two 27" length pieces, and one 31.5" length piece from this one board. The scrap from this last 2x4 will be used later. Lay out the two 80" sides and five 31.5" cross-frame pieces on a flat surface as shown in the photo below. Cross-frame boards are placed at 20", 40", and 60" from one end. Using a carpenter square and a couple long bar clamps, square up one end then assemble the tabletop frame using 4" exterior wood screws, 2 each at each end of the cross-frame pieces. I pre-drilled holes for screws, then installed them using my battery powered impact driver.

Now for the table legs. Take four of the 27” long 2x4s you cut earlier for the two rear legs. Assemble these two legs using two 2x4s each, joined together with 3” exterior wood screws in a 2-1-2-1 pattern, leaving one end with no screws to allow for drilling the 3/8” bolt holes. Place the leg inside the tabletop frame, clamp in place, and insure it is square to the frame by using a carpenter square as shown in the next photo below. Once the leg is in the proper place, drill a 3/8” hole thru the frame side and the leg 2x4s using a 1/2” power drill with a long 3/8” wood drill bit. I used a small plastic bubble level along the length of the wood bit to help drill the hole straight thru the 2x4s. Now bolt the leg to the frame sideboard using a 3/8” x 5.5” galvanized carriage bolt (inserted from the outside), washer, and nut. Drill the second hole at a 45-degree angle from the first, then install the second 3/8” carriage bolt. Repeat these steps for the other rear leg.



Now for the front leg/wing stop assemblies. Using the two 27” and two 58” 2x4s you cut earlier, assemble a front leg/wing stop assembly using a 27” and 58” 2x4 flush at one end, joined together with 3” exterior wood screws in a 2-1-2-1 pattern, leaving the top end of the 27” piece with no screws to allow for drilling the 3/8” bolt holes. Repeat for the second front leg/wing stop assembly.

Turn over the tabletop frame/rear leg assembly you built, raise the frame front end, place a front leg on the inside of the frame sideboard and clamp in place as shown in the next photo below. **NOTE**- the longer 58” wing stop 2x4 must go against the tabletop frame sideboard. **Also**, the tabletop frame must be clamped so its top is even with the top of the 27” 2x4 on each front leg/wing stop. Again, ensure the wing stop is squared to the tabletop frame using a carpenter square. Once the assembly is in the proper place, drill a 3/8” hole thru the frame side and the assembly 2x4s. Now bolt the leg/wing stop to the frame sideboard using a 3/8” x 5.5” galvanized carriage bolt (inserted from the outside), washer, and nut. Drill the second hole at a 45-degree angle from the first, then install the second 3/8” carriage bolt. Repeat these steps for the other front leg/wing stop assembly.



Next, we need to install some lower frame structure to help keep the tabletop square to the legs. First take one of the 8' 1x4s, square off one end, and cut two 31.5" length pieces. Now take another 8' 1x4, square off one end, and cut a 77" length piece. Clamp one 31.5" long 1x4 piece across the outside of the two rear legs with the top edge of the 1x4 at 8.5" above the ground, and each end flush to the outside edges of the 2x4 legs. This will keep the legs square to the tabletop frame. Pre-drill the screw holes (to keep from splitting the 1x4) and secure the 1x4 to the 2x4 legs using two 2.5" exterior wood screws at each end, 45 degrees to each other. Repeat the same steps for the front legs. Mark the center on these two 1x4 cross members 15.75" from one end. Take the 77" length of 1x4 you cut and clamp it in place against the two cross members at the center marks. Pre-drill the screw holes and join the 1x4s together using two 2.5" exterior wood screws at each end. This will end up with a lower frame structure as seen in the next photo below.

Now for some lower frame 2x4 diagonal braces to stiffen up the entire table frame. Using the half 8' 2x4, or the scrap piece from the last 10' 2x4 cutting, cut two 20" length pieces. Make 45-degree angle cuts at each of a piece, opposite to each other so the resulting piece will fit up into a 90-degree corner. Clamp one diagonal brace against the inside of the tabletop side such

that one 45-degree end of the brace is against the lower back side of the wing stop 2x4, and the other 45-degree end is flush with the top of the frame 2x4 sideboard. Join the diagonal support to the wing stop 2x4 using a single 4” exterior wood screw driven thru the back side of the diagonal into the wing stop 2x4. Join the diagonal support to the inside of the top frame sideboard using two 3” exterior wood screws. Repeat the same steps for the other diagonal support, resulting in a lower frame as seen in the photo below. This completes the table framing.

How about putting a top on this thing. The large flat top is built using seven 8’ 5/4”x6” Premium pressure treated deck boards. These things are not cheap but they give the table a nice strong surface that will last longer than plywood and are lighter than the 2x6 top surfaces that were used on our standard starting tables you see in the first photo. So, let’s get started by fitting the two outside boards around each wing stop 2x4. Take the first deck board, square off one end, and clamp it to the top framing outside of the wing stop 2x4 with the squared off end sticking out 10” over the outside of the front cross-frame board. Using a small square,

mark the deck board on each side of the wing stop, then take a scrap piece of 2x4, lay it up against the wing stop, and mark along it for the 2x4 depth. Remove the clamps, and using a jig saw cut out the marked area so the deck board will just fit around the wing stop and end up flush with the inside edge of the wing stop. Any adjustments can be made with a course wood rasp. Do this again for the second deck board on the other side of the table. Reverify the table frame is still squared, then clamp the notched board in the correct position and parallel with the frame sideboard so the overlap is the same along the entire length of the table. Since these two boards will carry the weight of the complete table when folks are trying to move them around, I used 3" exterior wood screws to attach these two deck boards to the table framing. Pre-drill each of the screw holes to prevent any splitting. One screw at each cross member with another halfway between each cross member in the frame sideboard, and one screw just outside the wing stop 2x4. Do the same for the other side. Your table should now look like the next photo below.

Take each of the remaining five 8’ 5/4”x6” deck boards, square off one end, and place them between the wing stops with the squared off end at the front of the table. All five should fit snuggly between the two side deck boards. Carefully align the front edges of these five deck boards so you have a nice straight front edge to the tabletop. Once they are all in place, use a straight edge and mark a line across the five boards at the center of each cross-member. Attach each board to the table framing using two 2.5” exterior wood screws at each cross-member, for a total of 10 screws per deck board. With that done, measure from the front edge back to the rear of the table and mark the top deck boards just short of 96”. Use a straight edge to mark along the entire rear edge as a guide to trim the rear of the tabletop. Cut off the excess deck boards using a power circular saw, jig saw, or a hand saw, resulting in a nice straight edge at the rear of the tabletop.

Next are the edge stops. Take two of the 8’ 1x4s and rip them in half using a table saw. If you don’t have a table saw, you may want to substitute the purchase of two 1x4s with four 1x2s. I would not recommend trying to rip a 1x4 in half with a power circular saw or jig saw. And if you can do it with a hand saw, have at it. Square off the ends of the first two now 1x2s and lay them along the length of the tabletop on each side, mark them to the same length as the deck boards, and cut both to fit. All edge stops are attached to the deck boards using pre-drilled holes and 1 & 5/8” exterior deck screws. A trick I used to help hold the edge stop at one end while attaching the other end is to clamp a piece of scrap wood under the deck board at one end and use this to rest the edge stop on while working at the other end. Also, I would recommend you mark the thickness of the deck board (using scrap deck board) on the edge stop at each place you want to drive a screw to aid in pre-drilling the edge stop at the center of the deck board. Attach the side edge stops with the bottom flush with the bottom of the deck boards. This results in a nice, raised edge to the table to keep things from rolling off when you have your engine running at full throttle. With both sides completed, take another 1x2 and mark it for one end of the tab so it overlaps the ends of the two side edge stops. Attach to the deck boards as you did for the side edge stops and run a screw thru the end edge stop into the side edge stop the corners. Do the same for the other end of the table.

We are almost finished. I used my hand orbital sander with 80 grit paper and rounded all the edges to the edge stops, the four corners, the top edges and the corners down the sides of the wing stops. This ensures the clubs old men don’t get wood slivers. Take the 27” wide rubber backed carpet runner and cut two 6” wide strips that will be used as wing stop bumper pads. Using 3/4" lath screws (they have a larger head to help keep from going thru the bumper pads. Fold a 6” wide strip around the back edge of a wing stop and with equal amounts on each side attach the bumper pad to the wing stop 2x4 using seven screws on each side. Do the same for the other wing stop.

OK, now step back and take a well-earned look at your work. Hopefully it looks something like the next photo below. If so, congratulations, you now have your very own starting table.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