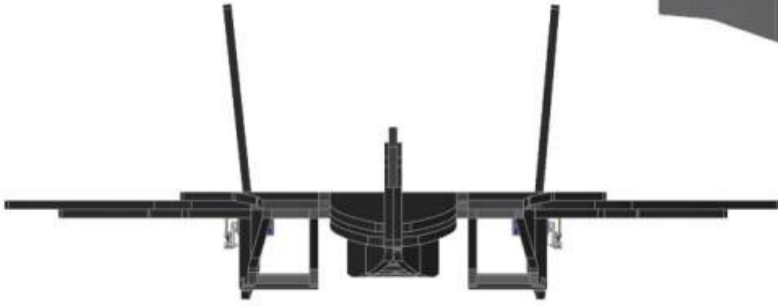
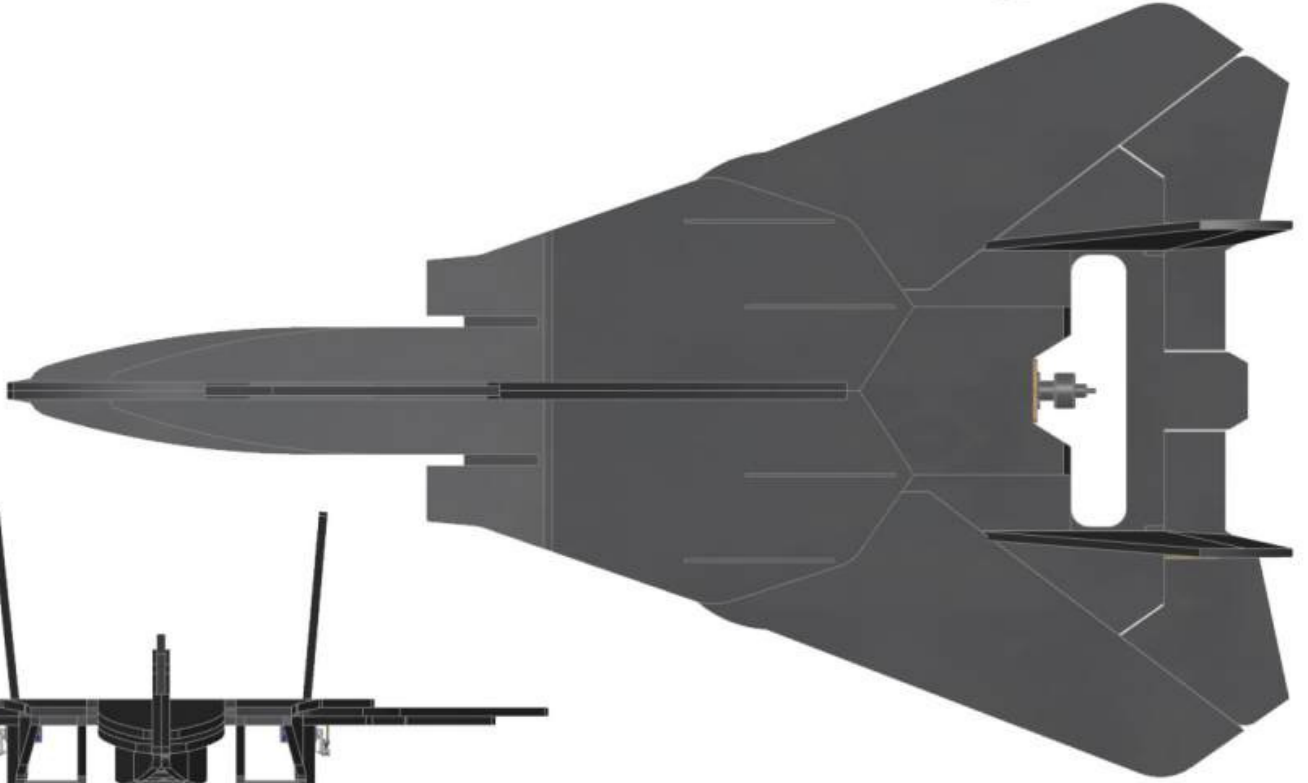


MDC
EASY F-14



Design by Maybz

1. Build the bottom first - make sure your table is flat. Build the entire plane using foam safe CA and kicker. The best technique is to spray kicker on one part and apply a sparing amount of glue to the other part then press them together and hold for a few seconds. This allows for a very quick build.



2. Fuselage is next... watch out for the engine mount tabs that protrude out of the top side. Glue the doublers in next. Align the kink in the doubler with the deck joint. Temporarily install the hatch and rear bottom piece and position the inlet piece. Chamfer the inside edge of the inlet LE so that it form scoop. Glue the inlet piece only at this time.

(Sorry about the gross black thumbnail... I got in a fight with a Sawzall a few weeks back)

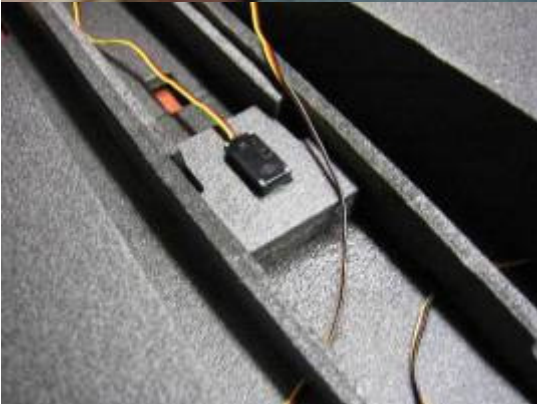


3. Install the rest of the radio gear and center all of the servos - **note the orientation of the wing servo... it is critical that the output shaft be towards the front of the plane..** Use the delta mixer on your TX for the elevons and a 3-position switch and AUX or GEAR channel for the wing servo. Install the ESC and then glue the rear bottom piece on when ready.

Install the hatch... I use magnets and a wood tab, or tape hinge.

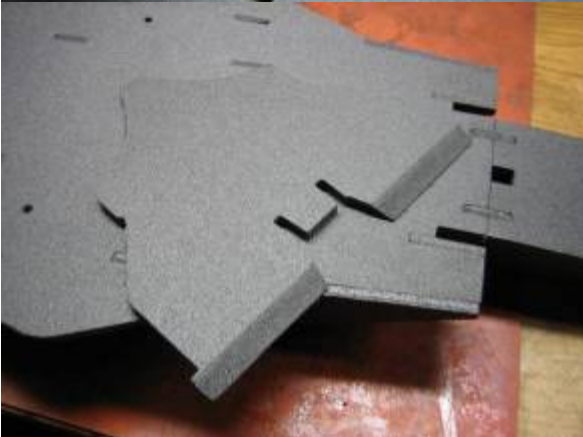
IDEAL flying weight is 12~14 oz. This gives both the best vertical and slow-flying performance.

You're now done with the bottom.





4. Flip 'er over and build the top side now... lightly sand the inside of the wings to fit the pivot discs if needed



5. Build the wings next...

Sandwich the .030 x .236 carbon spar between the two foam pieces. It's easiest to glue all three parts at the same time. Make sure the carbon is flush with the foam.

Next, glue the wood gussets to the spar and edge of the wing, make sure they are **centered on the wing's thickness.**



6. Assemble the wing servo arm using a couple of servo mounting screws, then cut and grind the screws flush.



7. Some packing tape let's the wing slide smoothly against the lower deck. The rear spacer, pivot disc and forwards spacers are all load-carrying parts when glued so be sure not to put tape near any of these parts.

Cut spacer discs from 1mm Depron and glue to the tops of the pivot discs. This will create clearance between the wing and upper deck so it can move freely.

Bend the wing rods from .050 music wire and put a 'V' in one of them so you can adjust the wings for symmetry. Ideal rod length is 3.2" from eye to eye.

Assemble the wings, rods and servo horn but don't attach the horn to the servo yet. Rotate the wings to the SWEPT position.

If possible, set you TX for max travel - this will provide the maximum range of swing. On a DX7 you can increase travel to 150%.. on radios like the EVO you can also slow the servo down for more realistic action.

With the radio on... set the chosen control switch on the TX to the desired SWEPT position. Then move the switch to the OPEN position and watch the direction the servo rotates... return the switch to the SWEPT position. If the servo rotates CLOCKWISE then attach the horn as shown in the picture. If the rotation is COUNTER-CLOCKWISE then attach it as seen in the video and picture below. You can also simply reverse the servo if you like. It doesn't matter which direction the servo is rotating - only the start position. Check for function when ready... you can make fine adjustments to the SWEPT position using the trim

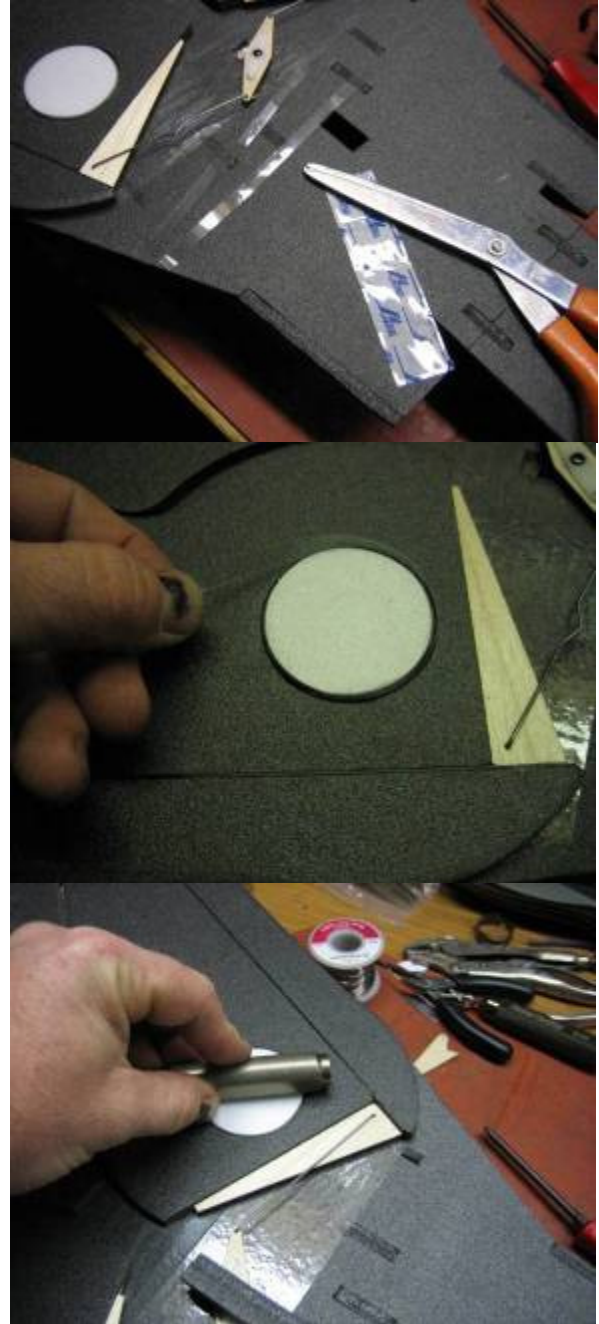
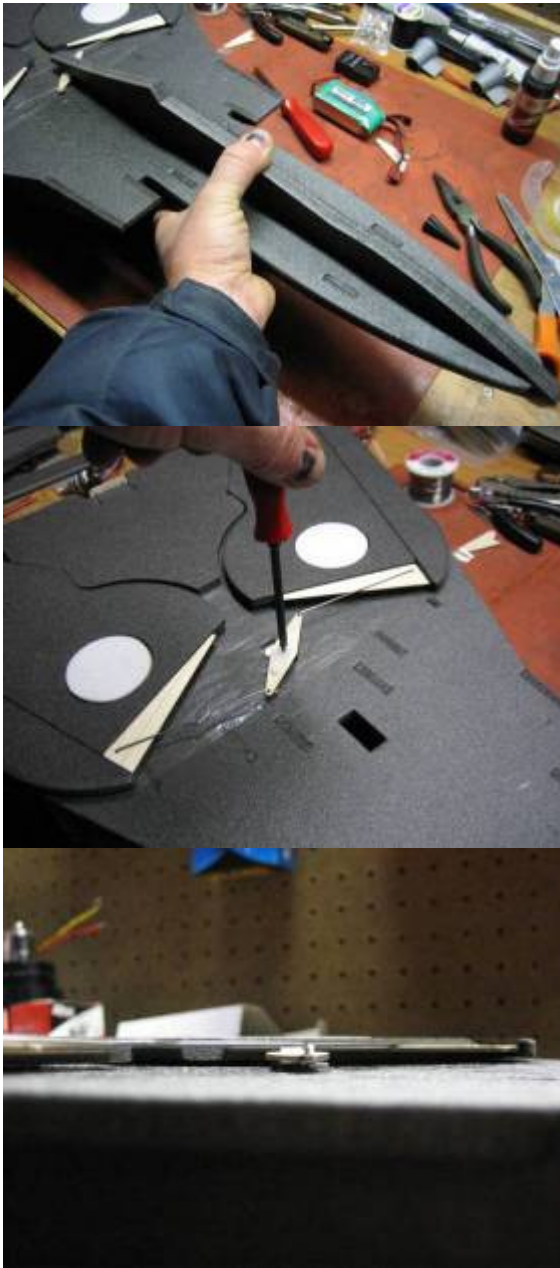
on the TX.

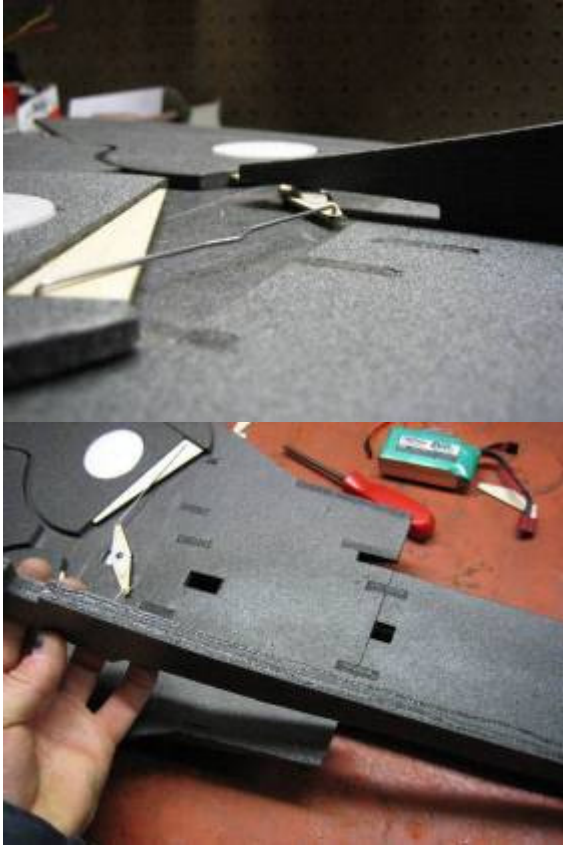




8. When satisfied with the wing action, screw down the wing servo horn.

Cut mylar bushing strips for the pivots. I used the backing from sticky Velcro and let it free-float between the disc and wing. You can also use tape strips and simply stick them to the OD of the disc.





9. Glue the fwd spacers in - remember that these parts carry some of the wing loading so apply glue near the edge.

Assemble the top deck next... fold some sandpaper in half and in half again and use it to sand a groove into the bottom side of the upper deck. Be sure the carbon spar is flush or slightly below the surface and then glue it in place.

Add some tape at the edges where shown. Be sure that the tape does not overlap the the areas where the deck will glue to the fwd and rear spacers.





10. Test fit the completed upper deck and glue when ready. **Be very careful with the amount of glue applied to the pivot discs... you want a good bond, but you don't want any excess to squeeze out.** The amount shown works perfectly. You may want to practice on some scrap first - just to be sure there is no squeeze out. As with all steps in this build, I recommend applying glue to one part - and kicker to the mating part. You can then simply press and hold the two together for a few seconds and you will have a very strong bond.

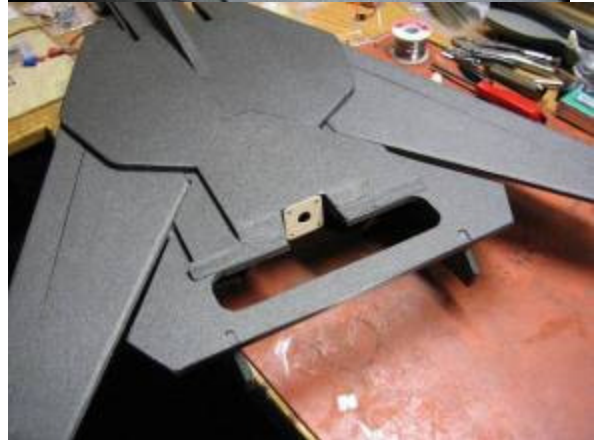




11. Install the rear deck, motor mount and motor. I use CA for the motor mount with good results, but epoxy will be stronger. Chamfer the TE of the deck to match.

Next, glue the carbon spar to the TE of the horizontal stab. This is the strongest way to build it but requires tape hinges. If you want to use conventional hinges you may want to glue the carbon to the inside of the prop cutout instead.

Build the elevons next... start by cutting or sanding a 45 chamfer on the LE then cut 1/16 wide slots for the control horns and glue them in place. The wood horns are designed to distribute the control input load over a large area. This makes for more precise controls and allows the elevon to take more abuse without deforming the foam around the horn. You can use nylon horns also... but you may want to add a thin ply doubler underneath it to keep it from deforming the foam.





12. I use tape hinges because they are quick and easy but other hinge methods work well too. Tape both sides and add additional perpendicular strips at the ends to prevent the tape from tearing.

The control rods are .077 (2mm) carbon with nylon clevises glued on the end. I glue one end first then install and set the length. A drop of thin CA fixes the other end when ready. Drill the control horns and servo arms to fit the clevises. You want **NO SLOP** in the linkages, but you also don't want them to bind or you will overwork your servo. A good drill index comes in handy here.



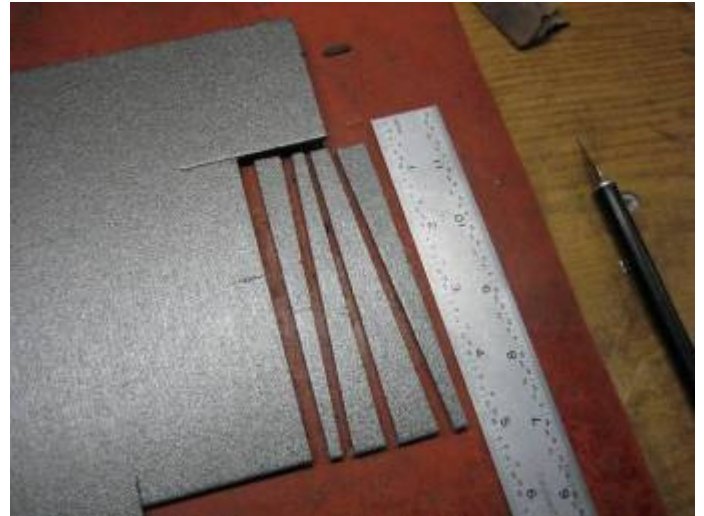


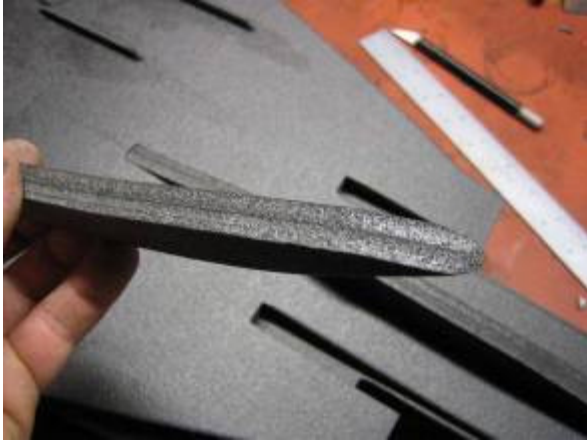
13. It's just not an F-14 without the deck ribs... I used some 2mm depron I had laying around. The ribs also add stiffness to the upper deck.

The canopy goes on last... glue the two parts together and shape with some sandpaper then glue to the top of the fuse.

You will notice an increase in top speed if you round all of the LE's and slightly taper all of the TE's. However, high-alpha performance is actually better with a square LE. I recommend test-flying first before sanding - just so you can see the difference. If you don't feel like sanding you can simply run your fingers around the edges to remove the sharp corner.

Next up... test flight and trimming.





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For more information on this build please visit
<http://www.rcgroups.com/forums/showthread.php?t=769451>