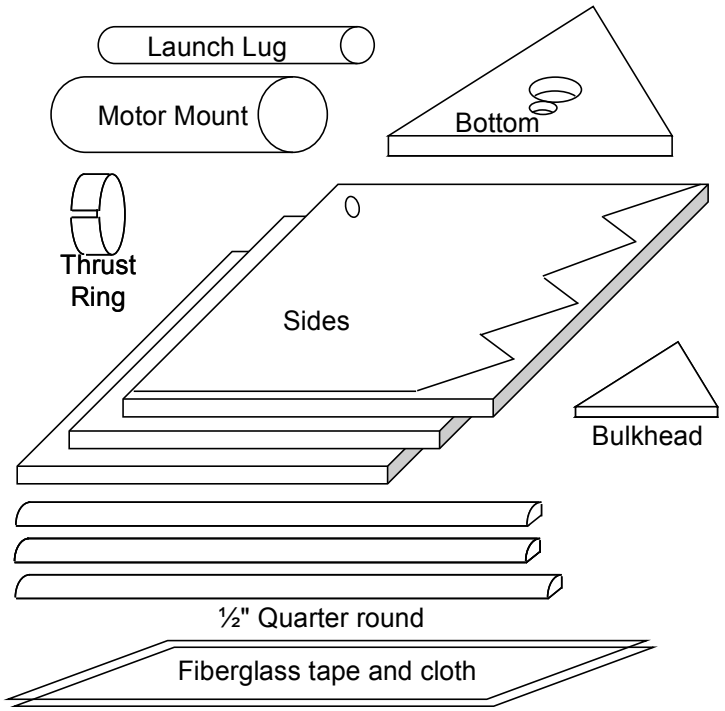
# Art Applewhite Rockets

from deep in the heart of Texas

# BETA - 75 mm Stealth

Height – 31 inches
Span – 41 inches
Weight – 89 oz

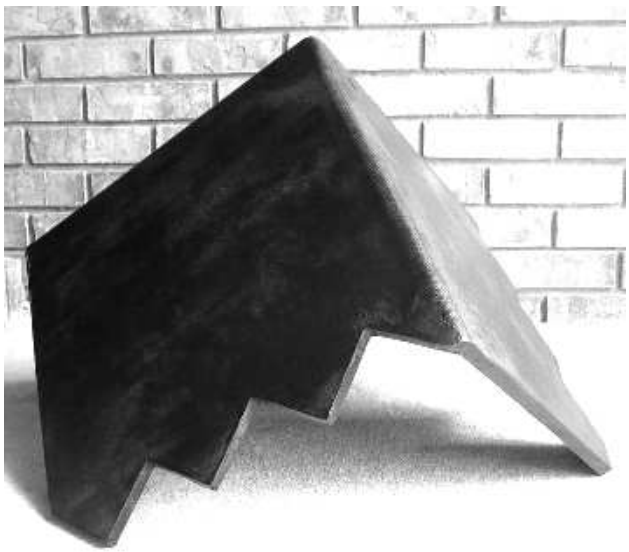



Parts List
3 SIDEs & BOTTOM – 1/2" foam-backed board
3 x 1/2" quarter round
75 mm LOC Precision motor mount tube
75 mm LOC Precision Thrust Ring
38 mm LOC Precision Launch Lug
1/4" plywood bulkhead
6 - 25" strips of self-adhesive fiberglass tape
4 oz. Fiberglass cloth or Carbon fiber cloth.

Recommended motors: Aerotech L850W or M1297W

Tools and supplies needed
Large craft knife, Elmer's Glue-All®, West Systems 105 Epoxy Resin and 206 Slow Hardener, sandpaper. Rust-Oleum High Heat Black Enamel

Please make sure all the parts in the Parts List are present. Some parts may not be provided in the Pre-Beta kits. Contact rocket877@aol.com immediately if any parts are missing or damaged.



Tips:

- Read through the entire instructions before beginning
- Test fit all parts before gluing them.
- Work on a clean surface, in a well-lighted and well-ventilated area.
- Keep your hands clean and free of glue.

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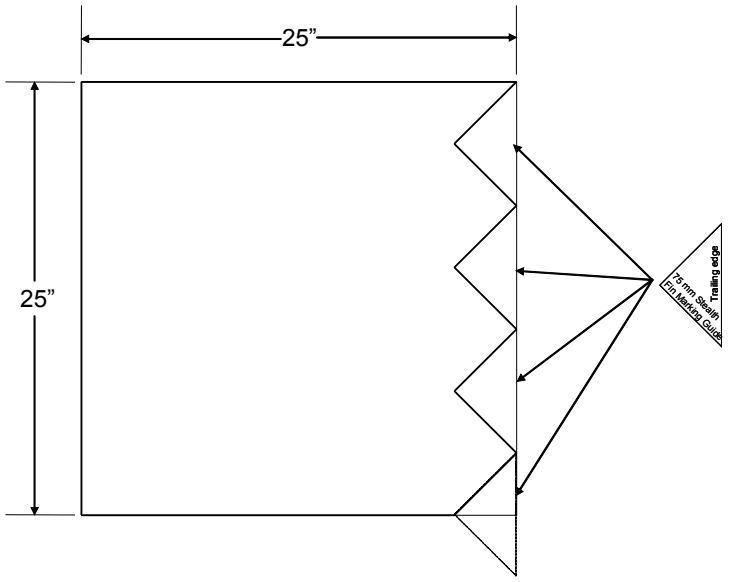
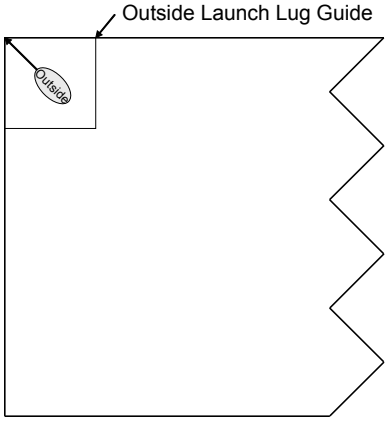
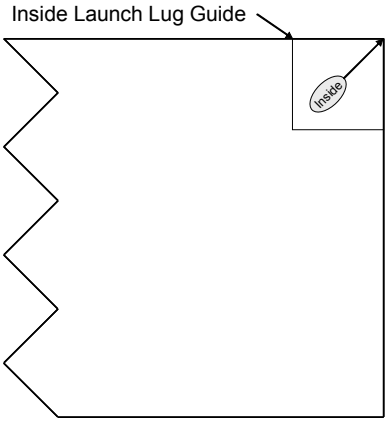


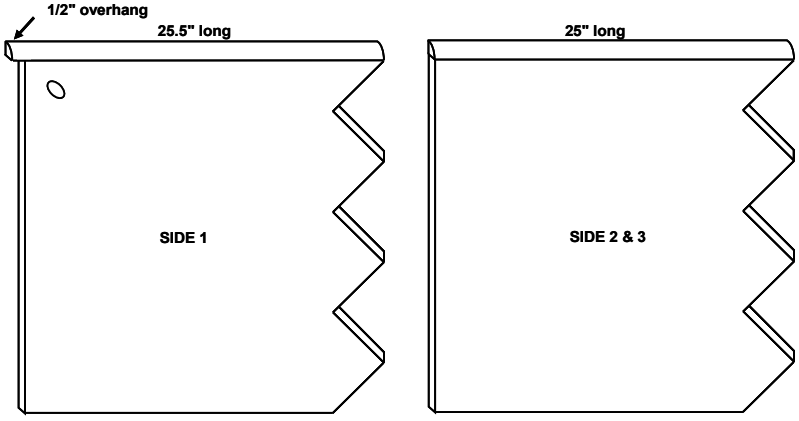

Assembly

**Note:Please test fit all parts before gluing them together**.

1. Cut out three 25” x 25” Side pieces from 1/2” Foamcore.
2. Mark each Side piece with a serrated edge using the Fin Marking Guide. Make sure the serrated edge is along the same edge of each Side piece.
3. Cutout the serrated edge of each SIDE making the cuts a cleanly as possible.
4. On SIDE 1 only mark the Outside and Inside Launch Lug Holes using the appropriate guides.
5. On SIDE 1 carefully cut out the Inside and Outside Launch Lug Holes. Cut only through the posterboard layer and not into the foam. Remove the oval shaped cutouts.
6. Poke through the INSIDE LAUNCH ROD HOLE (the one closest to the corner) to the OUTSIDE LAUNCH ROD HOLE with something sharp. Carefully enlarge the hole until the 38 mm Launch Lug passes through it snugly at about a 36 degree angle. The Side with the Launch Lug hole is SIDE 1
7. Elmer's Glue-All or Carpenter's Glue can be used for this part of the assembly. Glue the 25.5" piece of quarter round to the edge of SIDE 1 (the side with the Launch Rod Hole) as shown in the picture. The Outside Launch Rod hole is shown. The quarter round should overhang on the left side of SIDE 1 by 1/2" and be even with the serrated edge.
8. Glue the 25" pieces of quarter round to SIDE 2 and SIDE 3, Both ends of the quarter round should be even with edges of SIDEs.



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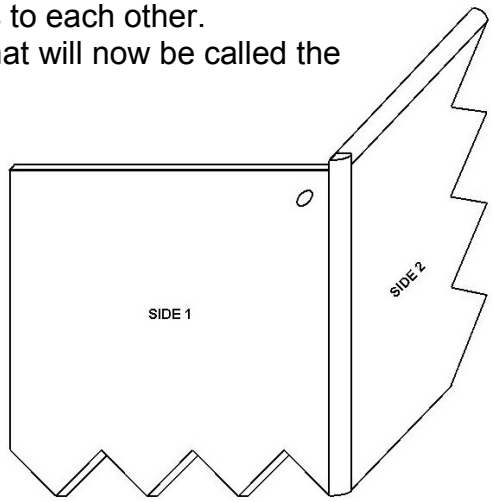
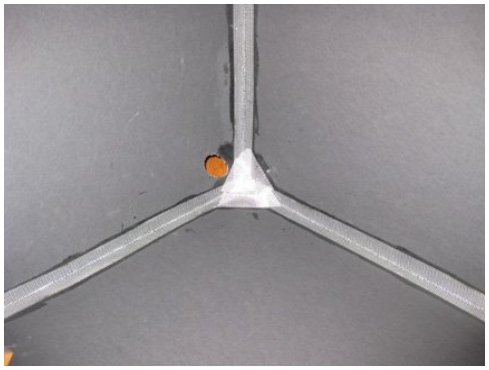
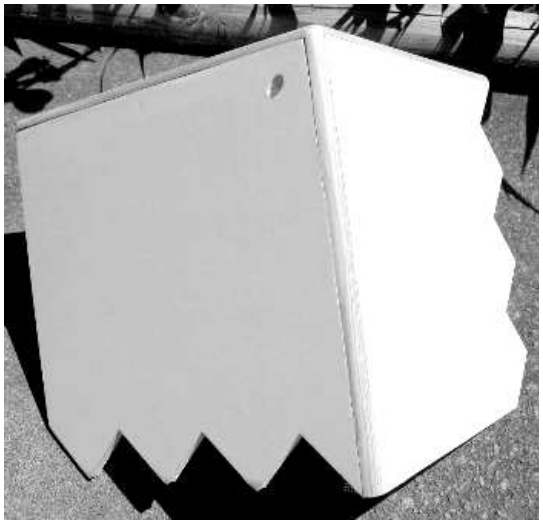
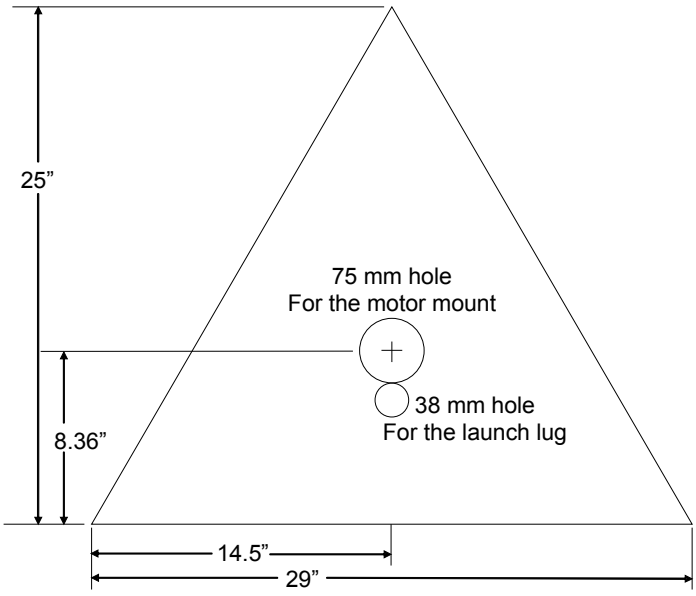
9. Glue SIDE 1 to SIDE 2. Make sure the SIDES are 90 degrees to each other.
10. Glue SIDE 3 to SIDES 1 & 2. These assembled parts form what will now be called the TOP.
11. Lay FIBERGLASS TAPE on the inside joints of the TOP.
12. Add extra fiberglass tape at the inside apex of the TOP to provide reinforcement for the BULKHEAD.
13. Wet the fiberglass tape with epoxy and make a generous fillet of epoxy on all three inside joints.
14. Sand the quarter round at the outside tip of the TOP to blend the 3 rounded edges together.
15. Mark and cut out the BOTTOM from a 29” x 25” piece of Foamboard using the drawing below as a guide.





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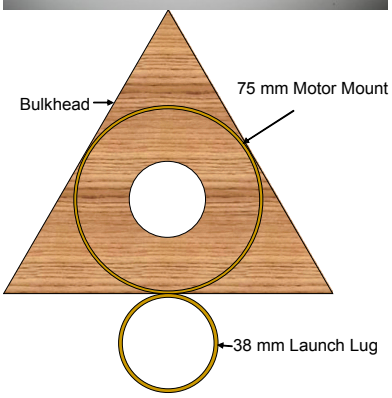
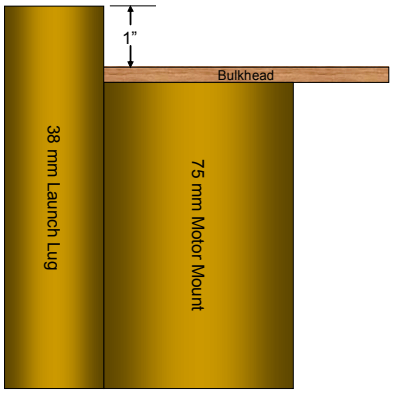
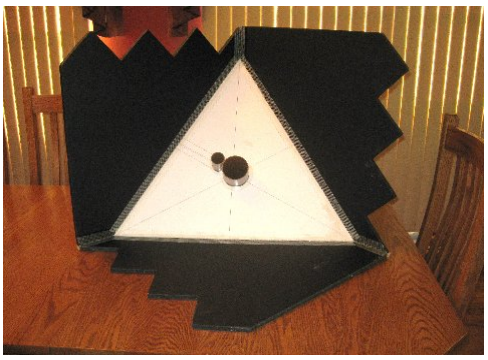
16. Glue the THRUST RING (3/4" split 75 mm tube) inside and even with the forward end of the 75 mm MOTOR MOUNT. This will reinforce the motor mount and prevent the motor casing from damaging the BULKHEAD.
17. Bevel the sides of the BULKHEAD so that it fits flat against the inside of the TOP.
18. Center the forward end (the thrust ring end) of the 75 mm MOTOR MOUNT flat against the 1/4" plywood BULKHEAD and glue them together.
19. Glue the 38 mm Launch Lug to the Motor Mount Tube so that the tubes are parallel and the 38 mm Launch Lug clears the bottom of the Bulkhead and extends about 1 inch above the Bulkhead.
20. Test fit the BULKHEAD and Launch Lug into the apex of the TOP. Test fit the BOTTOM into the TOP. Trim and sand the corners of the BOTTOM and BULKHEAD as necessary to get a good fit into the TOP.
21. Fit the BULKHEAD into apex of the TOP. The 3 edges of the BULKHEAD should be resting flat against the inside surface of all three SIDES. Spread epoxy over the edges of the BULKHEAD where it rests against the inside of the TOP. Without disturbing the placement of the BULKHEAD, slide the BOTTOM over the aft end of the MOTOR MOUNT. Make sure the LAUNCH ROD HOLE in the BOTTOM fits over the LAUNCH LUG.
22. Trim the protruding part of the Launch Lug even with the slope of the outside of the TOP.



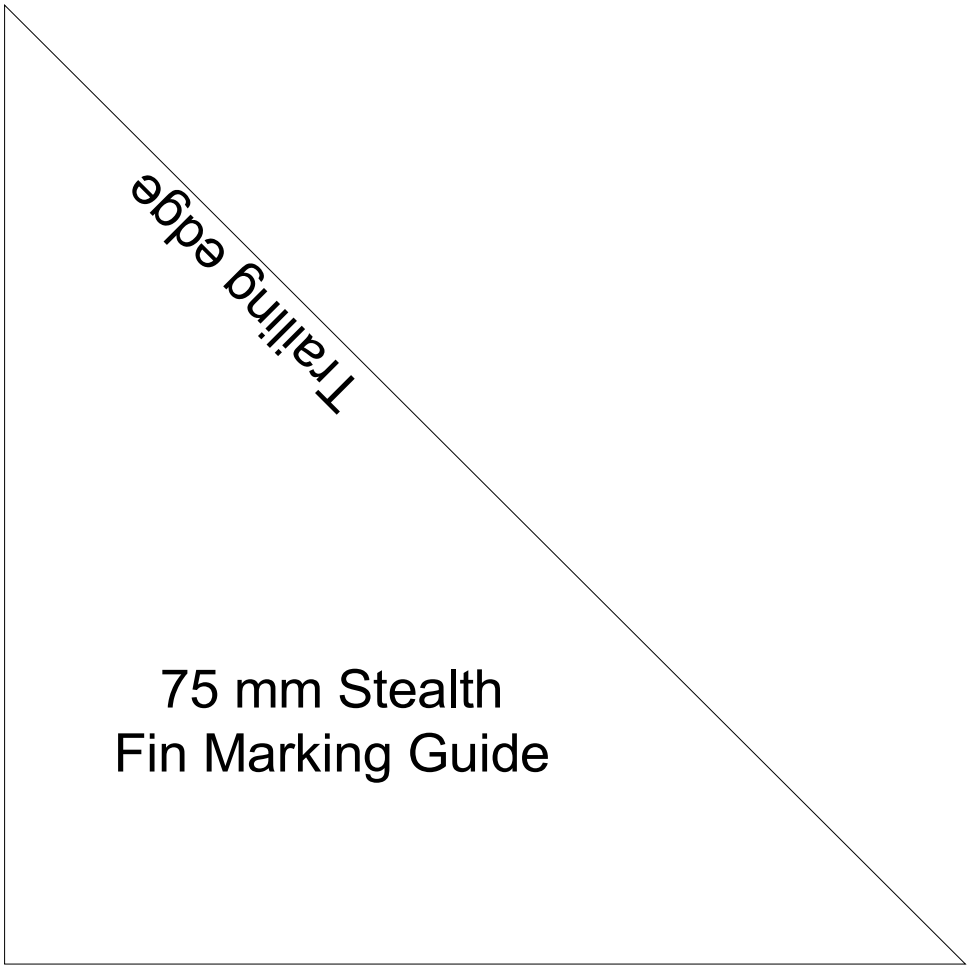
23. Cover the outside of the TOP with a piece of fiberglass or carbon fiber cloth.Spread epoxy thinly and evenly over the cloth. **NOTE:** Do not wrap the cloth over the trailing and serrated edges of the foamboard, let it stand out straight. Make sure the cloth is completely wetted with the epoxy and lays flat against the surface of the foamboard. Do not use too much epoxy as this will only increase the weight of the finished rocket without improving its strength.
24. Once the epoxy is set, trim the cloth even with the edges of the foamboard.
25. Run fiberglass Drywall Tape along the joints between the BOTTOM and the TOP. (Optional) Cover the entire BOTTOM with cloth and epoxy as you did the TOP.
26. Spread a thin layer of epoxy over all the exposed foam edges to protect the foam from paint and heat.
27. The recommended paint is Rust-Oleum High Heat Black Enamel.



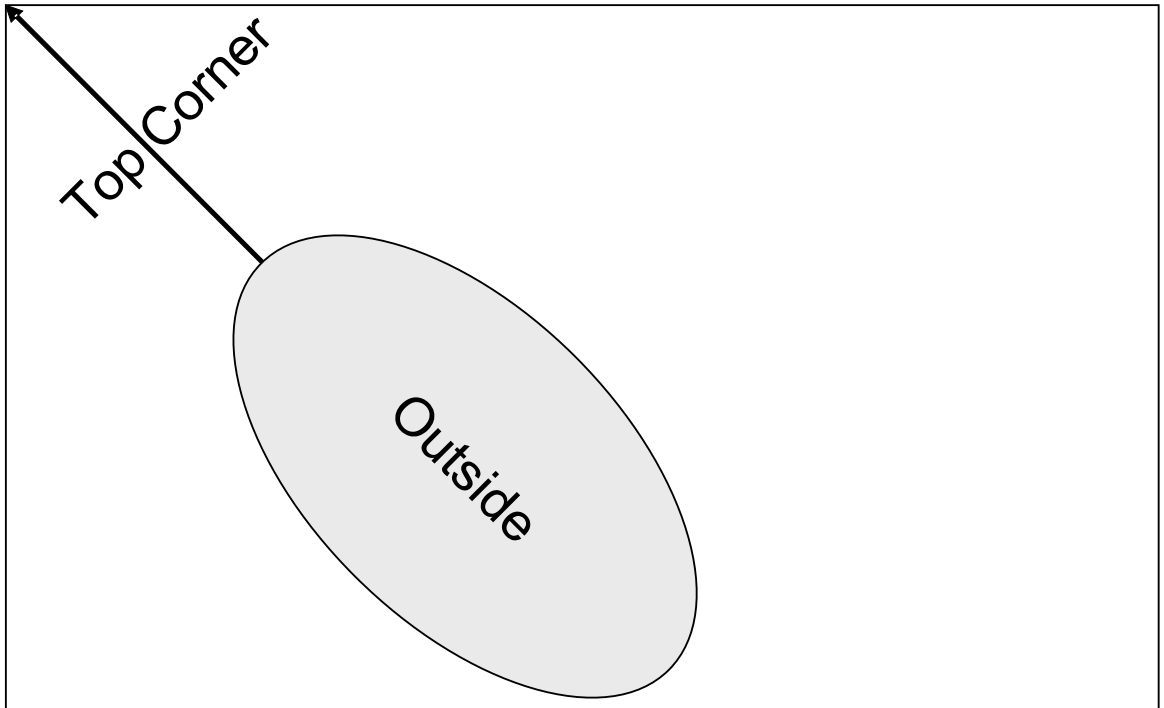
**Launch Preparation**:

Recommended motors: Aerotech L850W or M1297W

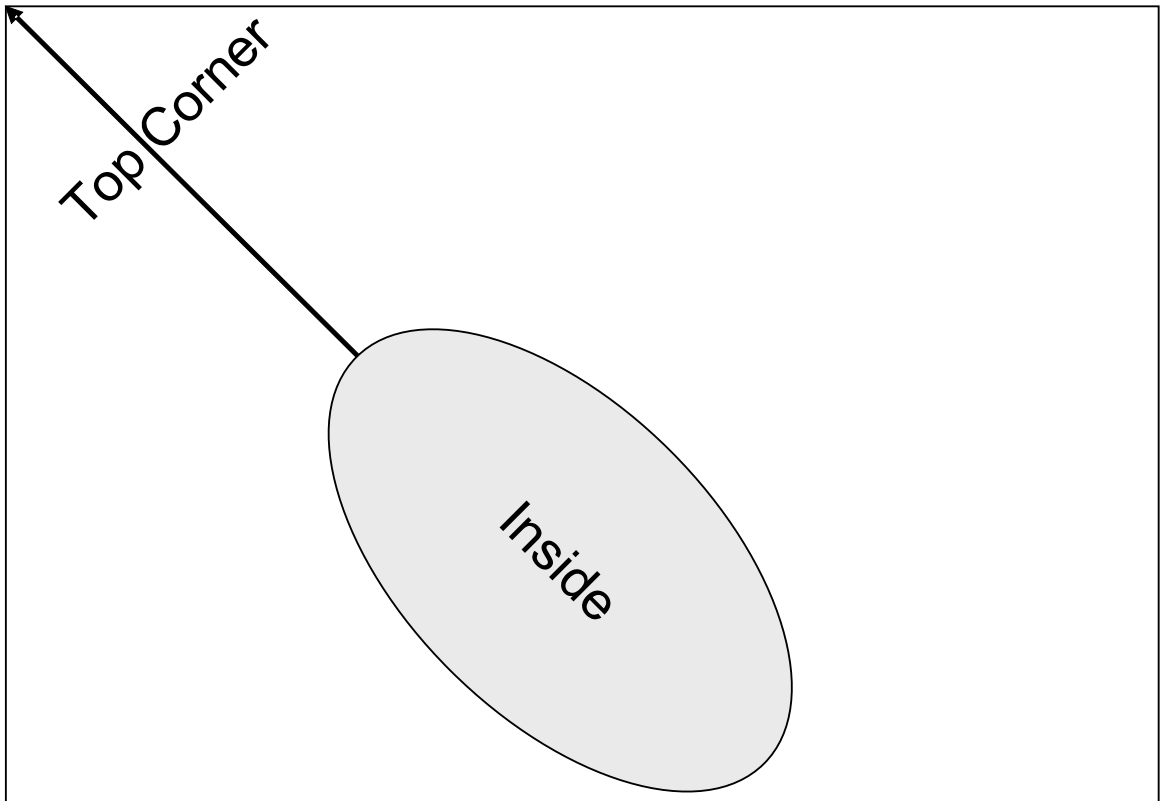
- Never fly this rocket with an ejection charge installed in the motor. Using a motor with an ejection charge in place will damage the rocket and may cause the motor to be ejected in flight.
- The forward closure of the motor casing should be plugged with recovery wadding and masking tape to prevent hot gasses from burning the inside of the motor mount and melting the foamboard.
- Friction fit the motor into the MOTOR MOUNT. A tight fit is not necessary.
- The motor should be installed as far forward as possible.
- The motor should never extend below the bottom corners of the rocket. The practical limit for motor casing length is about 25".
- To avoid damage foamboard from the motor exhaust, support the rocket at least 12 inches above the blast deflector.



# 75 mm Stealth
## One Side piece only




## Outside Launch Lug Guide




# Inside Launch Lug Guide