

The Rectangulator

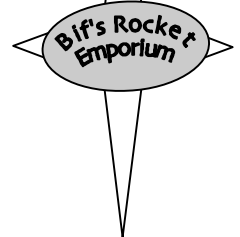
Bif's Rocket Emporium • Micromaxx Paper Model Rocket • © Clive Davis, 2005

Instructions:

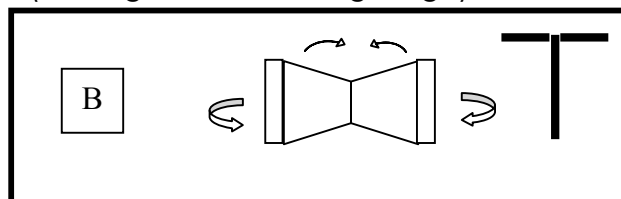
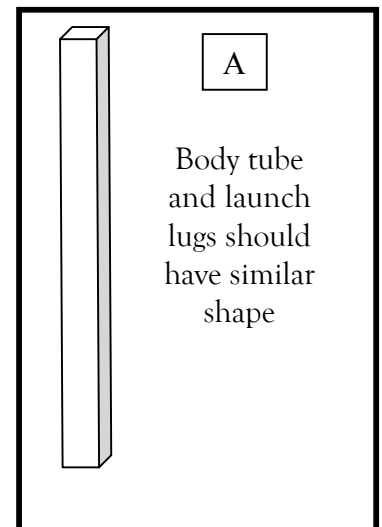
(Read all instructions first before beginning construction)

Not included in the "kit":

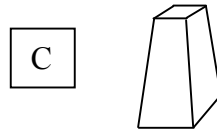
- Shock cord
- Glue (wood or paper glue)
- Expanded MMX motor casing
- X-acto knife/scissors
- Ink jet printer
- Clean hands, free of glue and moisture
- Paper. Suggestions: Bristol board, inkjet photo paper, glossy (approximately 32 lb.) all purpose business paper, other generic card stock.



- 1.) Print up the parts sheet on to your selection of paper. Bristol board will give you a very sturdy rocket but will weigh more (less altitude). Using bright, glossy business paper will produce a very beautiful, shiny rocket, but is more delicate and requires gentle hands in constructing and flying. There are extra parts on the parts sheet, allowing minute adjustments due to paper quality.
- 2.) Cut out all parts using scissors or X-acto knife.
- 3.) Score lines on all eight fins, body "tube", nose cone (both parts), and four launch lugs. TIP: use an empty ball point pen and a ruler. Run the ball point pen along the lines to create a nice groove. This allows for easy folding and exact shaping of forms.
- 4.) Fold and glue body "tube" together so that it forms a rectangular box (Illustration A). TIP: fold the "tube" in half so that two sides are even with the other two sides. Open. Place glue on tab. Fold the "tube" over and line up edge along tab. Squeeze "tube" lightly so that it forms a long box.
- 5.) Fold and glue four launch lugs together so that the shape forms a rectangular box.
- 6.) Fold fins together. Glue the main part, but not the fin folds at either end. These should be folded outward. Looking directly down on the fin (looking at the leading edge), the correct construction of the fin should look like a "T". (Illustration B).



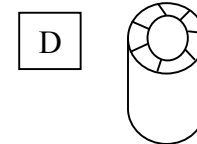
- 7.) Fold and glue large part of nose cone together, so that it forms a rectangular type cone (Illustration C).



- 8.) Fold the gray tabs of the “nose top” down. Place glue inside the nose “cone” and place the “nose top” on top of the cone. Make sure the tabs fit inside the “cone” and that the “nose top” is flush with the top of the “nose cone”. TIP: Use a scissors or X-acto knife to trim away any overlap on fins, nose cone and body tube.

- 9.) Using an expended Micromaxx motor, roll the motor mount. When placing the motor casing on the motor mount, line the motor casing so the top of it lines up with the top of the words on the motor mount template.

- 10.) Using your fingernail, gently curve/fold in the top of the motor mount inwards (Illustration D). Remove the motor casing. Reinforce the newly created “motor block” with glue. I like to put the casing back inside the motor mount really quickly so that it forces the glue up around the motor block. Remove the casing immediately so that it doesn’t get glued inside the motor mount. Make sure there is a hole at the top for the ejection charge to function properly. Let dry.



- 11.) Use extra portions of the extra motor mount template so that the motor mount can fit nicely inside the body tube. There is an extra motor mount template included in the “kit”. Depending on what type of paper used, each builder will use a different amount of rolled motor mount. Alternately, wrap masking tape around the motor mount so that it fits flush inside the body tube. Remember, white glue expands, so the motor mount can be slightly smaller than the body tube inner diameter when gluing in the motor mount.

- 12.) Once dry, glue the motor mount into the body tube. The motor mount can be flush with the body tube, or it can extend 5 mm from the end of the rocket if so desired. While the motor mount is drying, add white glue balls (drying white glue that can be rolled into a soft ball) or tiny pieces of tissue paper and glue to fit into the space between the motor mount and the body tube. This will prevent the ejection gases from escaping out the back of the rocket.

- 13.) Glue the larger fins on to the bottom corners of the “body tube” so that the colors match the “body tube” colors.

- 14.) Glue the smaller fins directly above the larger fins.

- 15.) Glue the launch lugs in the space between the fins so that it is between the fin folds.

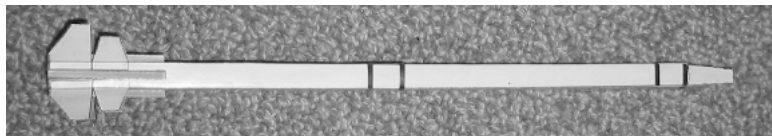
- 16.) Roll up a shoulder for the nose cone using one of the gray blocks. Roll the shoulder to fit the body tube, not the nose cone. TIP: Roll the gray shoulder around a pencil. Test fit to nose cone and body tube before gluing the shoulder together. Place glue in the nose cone and push the dried, shaped shoulder into the nose cone as far as it will go without deforming the nose cone. Set aside to dry. Place glue around

the shoulder in the small spaces between the nose cone and the nose cone shoulder.

- 17.) Using one of the tri-fold shock cord mounts, fold and glue the shock cord to the tri-fold mount, ala Estes style. Once dry, glue the shock cord deep (3-4 cm) inside the body tube, so that it will not block the shoulder. Use a dowel or tweezers to place the shock cord deep inside the body tube. There are extra shoulders included in the "kit".
- 18.) Place an overhand knot or two into the other end of the shock cord. Feed this end into the nose cone shoulder. Drop some glue into the shoulder to secure the shock cord. Let dry.
- 19.) Tip/Suggestion: score and fold the support structures (with the wide black borders), then glue one to the top of the body tube (flush with the top of the body tube) and the other in the middle of the body tube (approximately 10 cm from the top of the body tube). If desired, the support structures can be internal. This would mean some trimming of the support structure and gluing the support structures on the inside (white part) of the body tube before folding and gluing the body tube. Also, make sure that if you use the support structure internally for the top of the body tube that the shoulder of the nose cone fits inside the body tube! See photo below for an example of the support structures.
- 20.) If desired, use Teflon streamer or other streamer material, but nose-blow recovery is adequate. The Rectangulator is very light but big enough to see in all aspects of flight and recovery.
- 21.) Follow all NAR-approved directions for prepping and launching the rocket. You will find this long neck rocket to be very stable, achieving high flights of hundreds of feet on the Micromaxx motors.

This is a Share-A-Rocket-Kit. If you enjoyed this rocket, please send me an e-mail and let me know your thoughts. Donations of \$2.00 are gladly accepted through Paypal.

Thank you.
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