

**CUSTOM WATERSLIDE DECALS
AND KITBASH PLANETS
FOR MODEL ROCKETEERS**
EXCELSIORROCKETRY.COM

GOONYDENT

CUSTOM DECAL AND KITBASH SET

**SKILL LEVEL 4
ADVANCED**

"The future begins today!!"

Parts required:

Two Baby Bertha kits

One additional Bertha nosecone

3 x BT-5 Body Tube cut to 15.75"

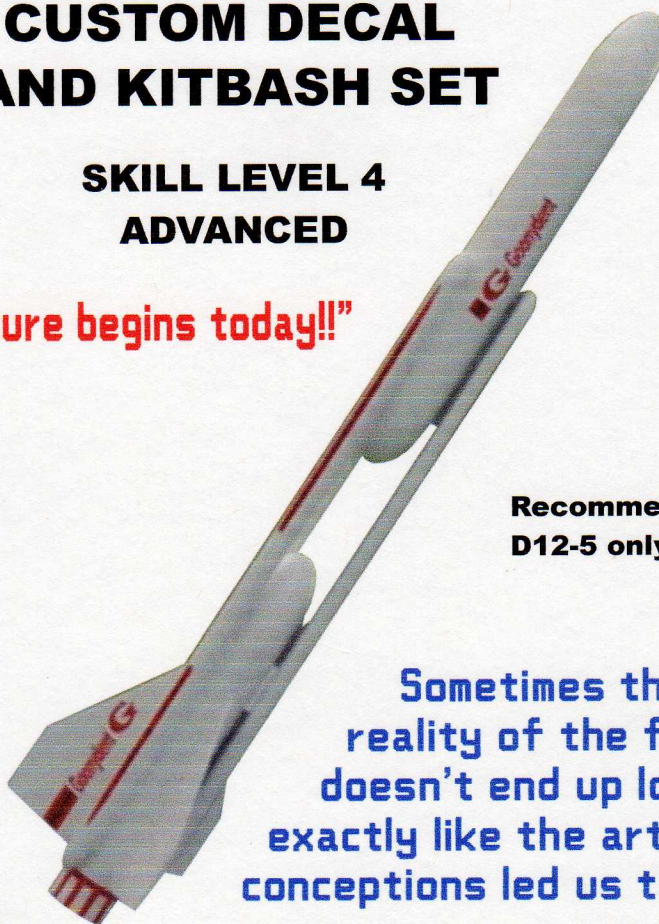
6 BT-5 'Mosquito' nosecones

One 24mm motor mount

3/32 thick sheet balsa

2' length of 1/8" elastic

**Recommended engine:
D12-5 only**



**Sometimes the
reality of the future
doesn't end up looking
exactly like the artist's
conceptions led us to believe...**

A: Atomic Cooling Tube preparation

- 1) Using a body tube marking guide, doorframe, or a drawer edge, mark a straight line the complete length of each 15.75" long BT-5 vent tube.
- 2) Mark each of the lines drawn in step 1, 3.75" from one end.
- 3) Using a hobby knife, cut out the vent holes in the BT-5 wrap (marked 'cut out').
- 4) Wrap vent hole patterns around a BT-5, and tape so that the wrap fits around the tube.
- 5) Slide the BT-5 wrap down the tube so that it is even with the mark you made in step 2, and the arrows are in line with the alignment line from step 1.
- 6) Using a pencil, mark the lower vent holes.
- 7) Slide the wrap to the other end of the tube, so that the wrap is even with the end of the tube, and the arrows are in line with the alignment line from step 1.
- 8) Using a pencil, mark the upper vent holes.
- 9) Repeat this marking procedure with the other two BT-5 vent tubes.
- 10) Using a hobby knife, with a fresh blade, carefully cut out the upper and lower BT-5 vent holes on all three of the BT-5 vent tubes, then set them aside.

IMPORTANT: Do not glue in the BT-5 'Mosquito' nosecones at this time!

B: Upper Crew Section and Atomic Engine Pod preparation:

- 1) Take 2 of the Baby Bertha nosecones, and cut off the shoulder so that only 1/2" is left, then set aside. Do not alter the third nosecone.
- 2) Using a hobby knife, cut out the vent holes in the wrap marked 'BT-60 wrap'.
- 3) Wrap the BT-60 wrap around one of the BT-60 Baby Bertha body tubes, and tape so that the wrap fits around the tube.
- 4) Mark both ends of the wrap at the arrows marked 'vent tube lines'.
- 5) Slide the wrap off of the end of the tube, and using a tube marking tool, doorjamb, or drawer edge, draw three vent tube alignment lines the full length of body tube with a pencil.
- 6) Slide the wrap back onto the tube, flush with one end of the tube. Align the arrows on the wrap with the vent tube lines drawn in step 4.
- 7) Using a pencil, mark all three vent holes.
- 8) Using a hobby knife, with a fresh blade, carefully cut out the vent holes on the Baby Bertha body tube. Insert (But do not glue!) one of the cut down Baby Bertha cones to check that the vent holes are not blocked by the shoulder.
- 9) Squirt a ring of gel CA (superglue) 1/4" into the vent hole end of the Baby Bertha tube. Insert one of the cut down Bertha nosecones in a single swift motion. There must be enough gel glue in this joint to prevent the exhaust gasses from escaping.
- 10) Set the tube aside, this is now the Upper Crew Section body tube.
- 11) Repeat steps 1-8, substituting the following for step 6: -mark each of the vent hole lines drawn in step 5, 1.5" from one end. Slide the wrap back onto the tube, flush with one end of the tube. Align the arrows on the wrap with the vent tube lines drawn in step 4. Before removing the wrap, and while the wrap is still aligned with the vent hole lines, mark both ends of the wrap at the arrows labeled 'fin alignment line'.
- 12) Slide the wrap off of the end of the tube, and using a tube marking tool, doorjamb, or drawer edge, draw fin alignment lines the full length of body tube with a pencil, and set the tube aside.
- 13) Squirt a ring of gel CA (superglue) 1/4" into the upper end of the Baby Bertha tube. (The vent holes are farthest from the upper end, and closer to the bottom end) Insert the other cut down Bertha nosecone in a single swift motion. There must be enough gel glue in this joint to prevent the exhaust gasses from escaping.
- 14) Set the tube aside. This is now the Atomic Engine Pod.

Body Assembly:

NOTE: In order for the ejection charge to be properly vented from the Atomic Engine Pod, through the Atomic Cooling Tubes, to the Upper Crew Section, ejecting the recovery system, it is vital that the vent holes be properly aligned, and well filleted to prevent exhaust pressure leakage or rupture. Please follow the below section closely.

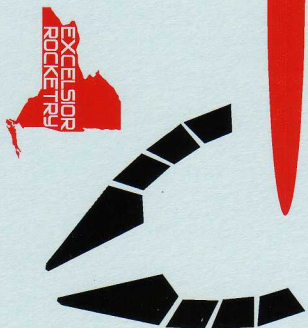
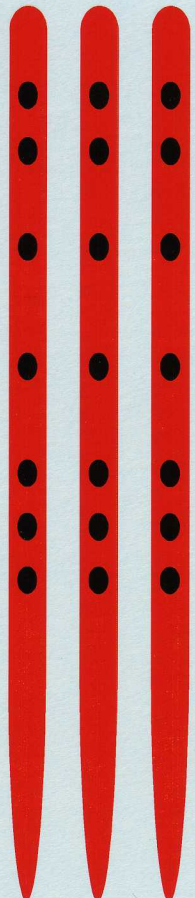
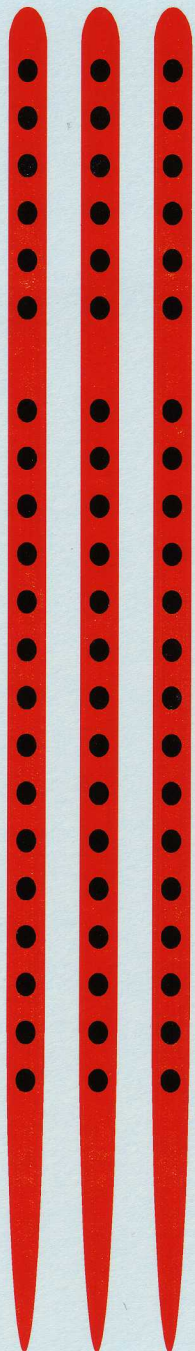
- 1) Lightly sand the areas about 1/8" around all vents with 400 or 320 grit sandpaper just enough to remove the glassine coating.

- 2) Take the Atomic Engine Pod, and one of the cooling tubes. Apply a bead of glue around the vent hole on the engine pod. Glue the cooling tube to the engine pod. The cooling tube should extend forward from the glued-in nosecone end of the engine pod. See color illustration on page 1 to be sure of proper orientation. Ensuring that the vent holes are properly aligned, set aside to dry completely.
- 3) Once this assembly is completely dry, apply glue a bead of glue around the vent hole on the Upper Crew Section, and glue the Upper Crew Section to the remaining vent on the cooling tube/atomic engine pod assembly created in step 2 above. The cooling tube should extend back from the glued-in nosecone end of the engine pod. At this point, the Atomic Engine Pod and the Upper Crew Section should have the glued in nosecones facing each other, with open tubes on either end. See color illustration on page 1 to be sure of proper orientation. Ensuring that the vent holes are properly aligned, set this assembly to completely dry while resting on a flat surface.
- 4) Once the above assembly is completely dry, rotate it so that another pair of vents (1 in the Atomic Engine Pod, and the other on the Forward Crew Section) are facing upwards. Apply a bead of glue around the two upward facing vent holes, and attach a second Atomic Cooling Tube, ensuring that the vents are aligned. Allow this assembly to completely dry while resting on a flat surface.
- 5) Once the above assembly is completely dry, rotate it so that the last pair of vents are facing upwards. Apply a bead of glue around the two upward facing vent holes, and attach the last Atomic Cooling Tube, ensuring that the vents are aligned. Allow this assembly to completely dry while resting on a flat surface.
- 6) Once the body is completely dry, apply fillets around the vent holes the entire length where the atomic vent tubes and the atomic engine pod/forward crew section overlap. (About 2" on the crew section, and about 6" on the atomic engine pod) This fillet is vital for both strength and to ensure that exhaust gasses do not leak out, or rupture the airframe. Once all vent holes are filleted, apply a second set of fillets and allow them to completely dry.
- 7) After the fillets are dry, examine the vent holes through the ends of the atomic vent tubes. Be sure that they are not blocked in any way by glue.
- 8) Squirt a ring of gel CA (superglue) 1/4" into the vent hole end of one of the atomic vent tubes. Insert one of the BT-5 'Mosquito' nosecones in a single swift motion. There must be enough gel glue in this joint to prevent the exhaust gasses from escaping.
- 9) Repeat step 9 glueing in the remaining BT-5 'Mosquito' nosecones into the ends of the atomic vent tubes.

FINAL ASSEMBLY:

- 1) Assemble the 24 mm engine mount, and allow to dry. Once dry, apply a ring of yellow or white glue inside the open end of the atomic engine pod. Swiftly insert the engine mount so that the end of the engine hook is even with the end of the atomic engine pod. Note that when the rocket motor is installed, it will not extend beyond the airframe. Allow to dry. Once this is dry, invert the rocket, and apply a fillet of yellow or white glue to the lower centering ring/body tube joint, and allow to dry.
- 2) Cut out the shock chord mount from one of the Baby Bertha kits, and assemble using the 2 foot length of as 1/8" elastic chord as per the kit instructions. Glue to the inside of the forward crew section tube as per the Baby Bertha kit instructions.
- 3) Mark each of the fin alignment lines on the atomic engine pod 1" from the glued in Baby Bertha nosecone. Cut out the fins from the enclosed pattern, and round all edges except the root edge. Glue fins to the atomic engine pod, with the forward tip of each fin even with the 1" mark made above. Once the fins are dry, apply fillets.
- 4) Glue the launch lug onto the atomic engine pod, along one of the engine pod/vent tube fillets, even with the forward end of the engine pod tube.
- 5) Tie the shock chord to the remaining baby Bertha nosecone, and attach the parachute.
- 6) Seal all the fins with using your preferred method, and paint the entire rocket white.
- 7) Apply GOONYDENT decals as per the color illustration on page 1.

WELCOME TO CINCINNATI-THE QUEEN CITY
AMA CLINICAL CONVENTION NOV. 26-29, 1972



EXCELSIORROCKETRY.COM

