

I-14TH SCALE NIKE AJAX BUILDERS KIT

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Additional Parts Required:

- 1) ST-10 Precut to 63.83 mm (2.513 Inches)
- 1) ST-10 Precut to 83.33 mm (3.281 Inches)
- 1) ST-11 Precut to 141.95 mm (5.588 Inches)
- 1) BT-50 Precut to 104.50 mm (4.114 Inches)
- 1) 24 mm Motor Block
- 1) 24 Inch Shock Cord
- 1) 30 Inch Parachute

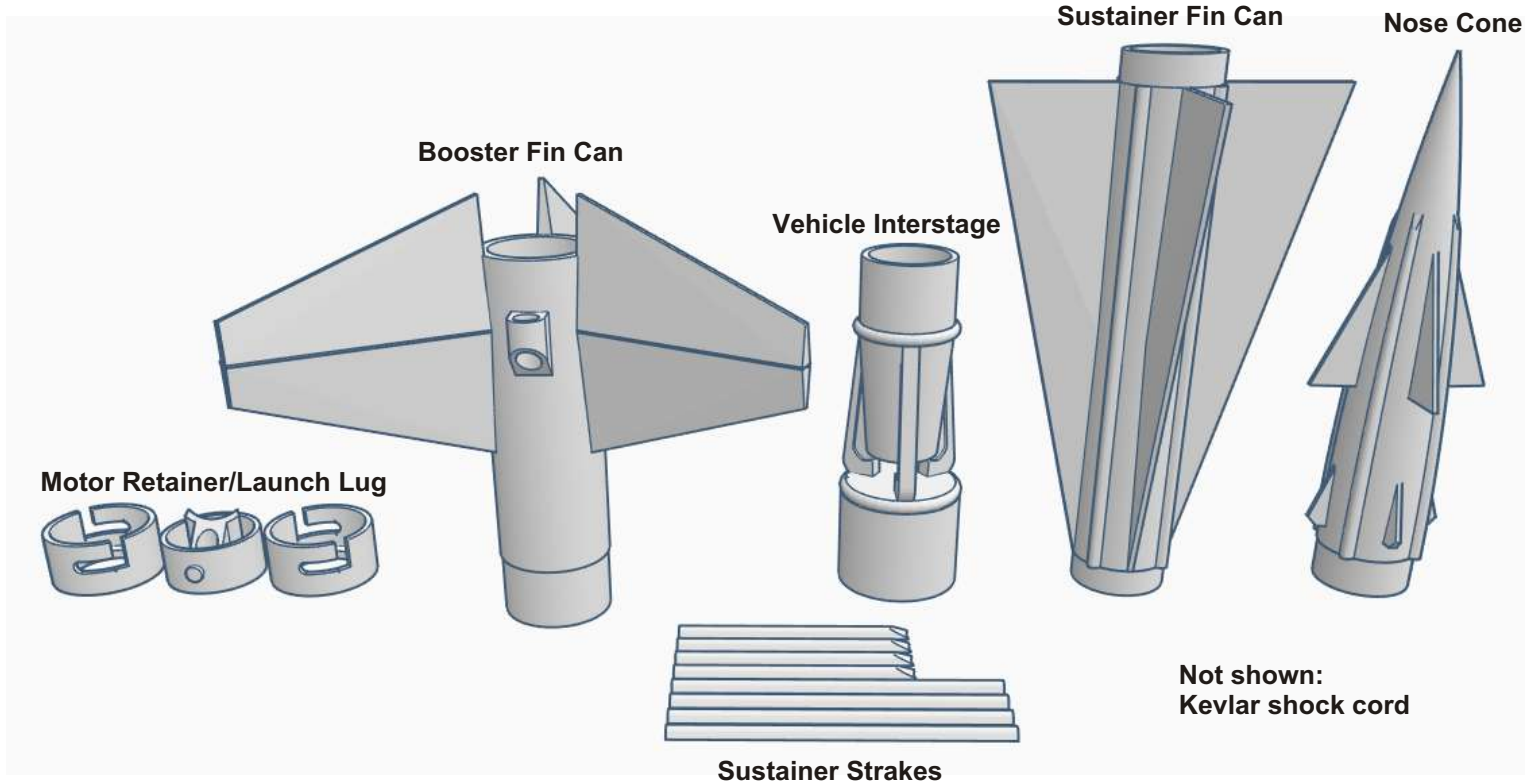
Plus assorted glues, sandpaper, paint and standard hobby tools.



1/14th Scale Nike Ajax Builders Kit

Thank you for purchasing a Boyce Aerospace Hobbies Nike Ajax Builders Kit. Please review the drawings below before gluing and assembling your kit. Also please visit us at boyceaerospacehobbies.com for more scale model rocket kits.

Start by wet sanding all parts with 220/400 grit sand paper. Test fit all parts before sanding and only sand shoulders until you have a nice slide fit between all mating parts. Once the parts have been sanded smooth to the touch mask off all mating surfaces and spray one coat of grey automotive primer over all the parts. After the parts are dry repeat the wet sanding and primer steps until you have finished paintable surfaces on all parts.



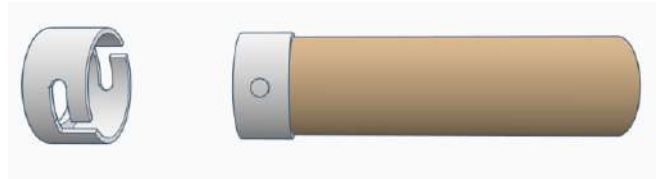
1

Locate the motor retainer parts in the ziplock bag. Test fit the collar (the part with the two pegs) over the end of your precut 24mm motor tube. Sand if needed until you have a nice slide on fit.



2

Use superglue gel to glue the collar in place, flush with one end of the motor tube.



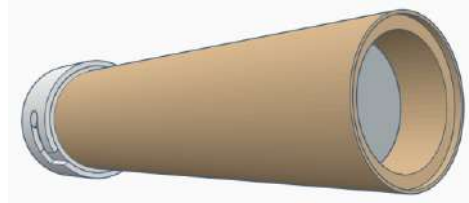
3

When dry, test fit the retainer over the collar. An extra retainer is included in the ziplock parts bag so you have a spare.



4

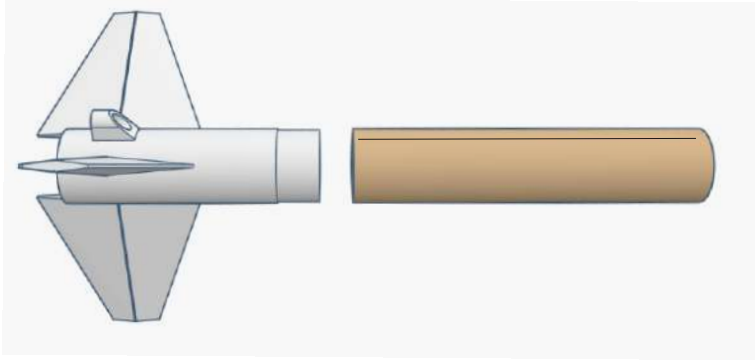
Slide a E12 rocket motor into the motor tube until it is against the motor retainer. Carefully push the motor block in place against the motor. Mark the depth into the motor tube using a pencil. Remove the motor and motor block. Apply glue to the inside of the motor tube and push the motor block into position until it is the proper marked position. Set the assembly aside to dry.



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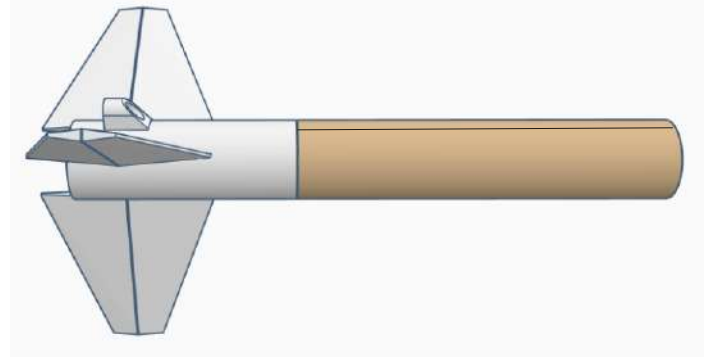
5

Locate your precut length of BT-11 and draw a line down the center of one side of the tube. Locate your booster fin can.



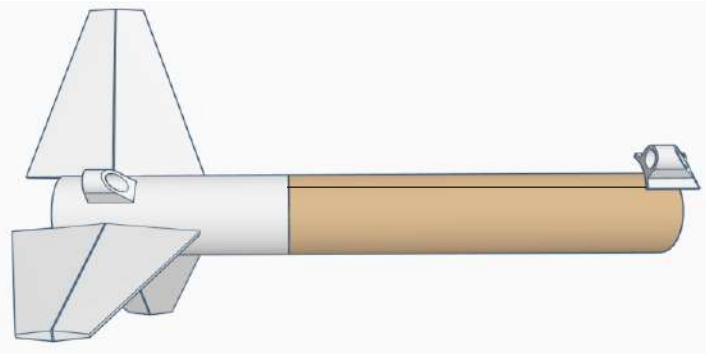
6

Line up the line drawn on the body tube with the integrated launch lug and glue the tube in place.



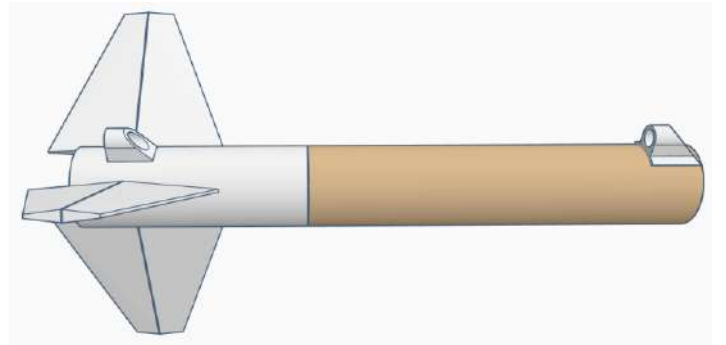
7

Using a straight pin, poke some holes in the area where the upper launch lug will be glued. This will help insure the launch lug stays attached to the model. Epoxy the launch lug in place, flush with the upper end of the tube centered on the line.



8

Your completed booster sub-assembly should look like this. Set it aside to dry.



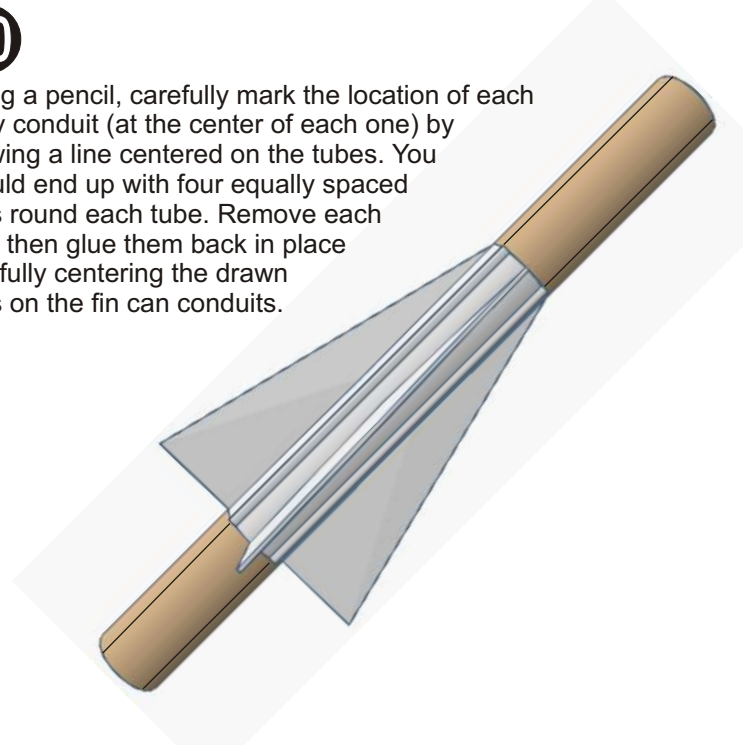
9

Locate the sustainer fin can and your two precut lengths of BT-10 tubing. Note that the longer piece will be on top of the fin can and the shorter piece at the bottom. Slide each tube on the fin can shoulder. Do not glue yet.



10

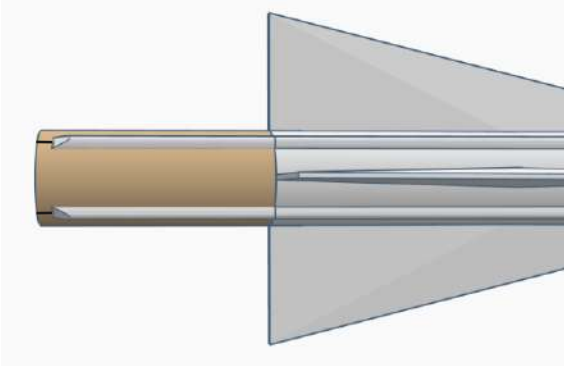
Using a pencil, carefully mark the location of each body conduit (at the center of each one) by drawing a line centered on the tubes. You should end up with four equally spaced lines round each tube. Remove each tube then glue them back in place carefully centering the drawn lines on the fin can conduits.



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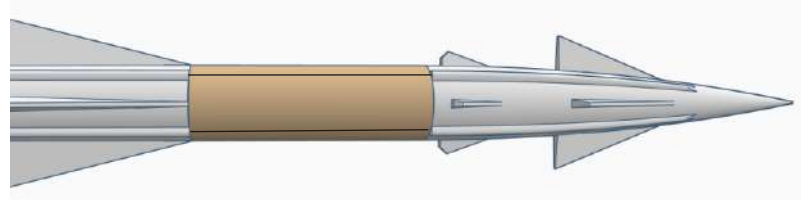
11

Locate the raft with the sustainer conduit parts on it. Flex the raft and remove all of the conduit pieces. Sort out the four short sections and glue them to the lower body tube section centered over the drawn lines as shown.



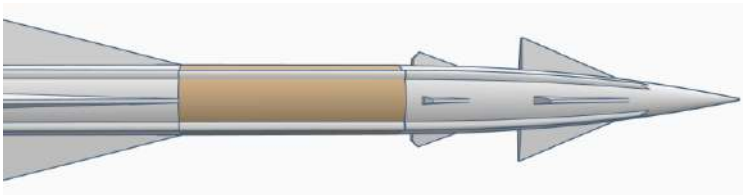
12

Slide the models nosecone over the top tube and line up the nosecone conduits with the drawn lines on the tube.



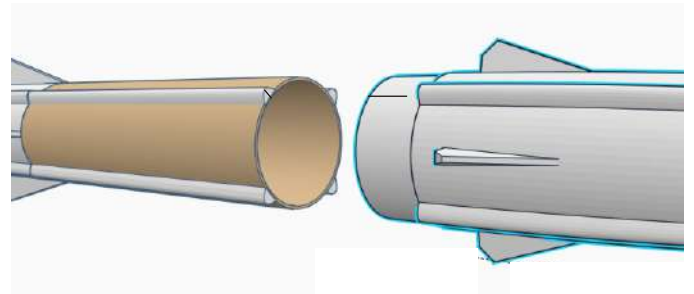
13

Carefully glue the remaining conduit pieces to the upper body tube carefully aligning each conduit section so that it is aligned to both the fin can and nosecone.



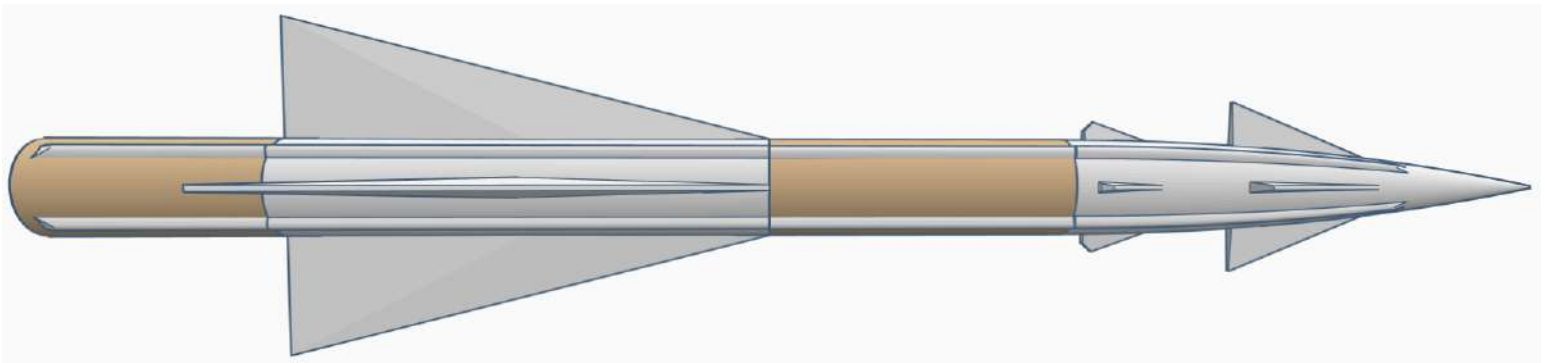
14

When the conduit is dry remove the nosecone and mark both the nosecone and the body tube (inside) with small alignment marks. When the marks are in place, slide the nosecone back in place. Do not glue the nosecone on yet!



15

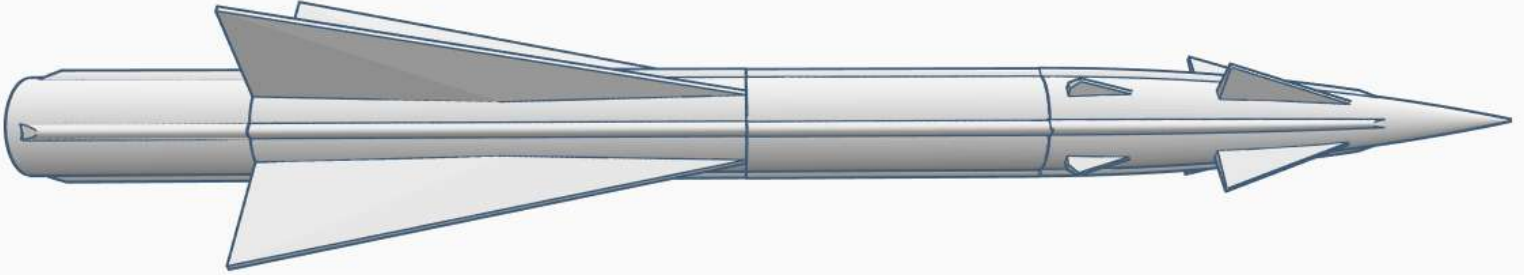
Your sustainer can now be set aside until the painting and detailing steps.



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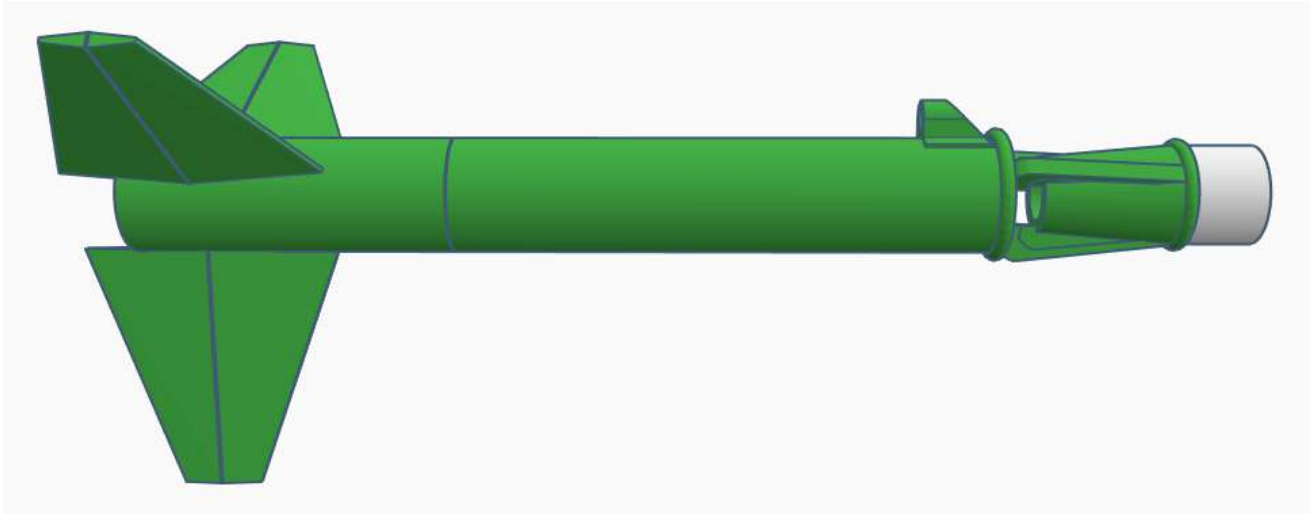
16

Slide a wooden dowel into the base of the sustainer. Spray paint the Ajax sustainer semi-gloss white.



17

Slide the interstage shoulder in place on top of the booster. Tape off the upper shoulder on the interstage. Paint the entire booster military olive green.



18

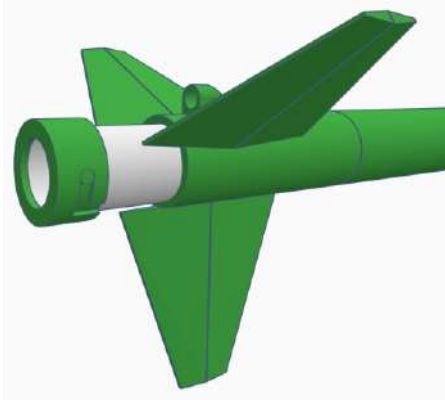
Locate the motor mount that was assembled in steps 1-4. Mask off the exposed body tube. Spray paint the motor retainer end of the motor mount military olive green. Make sure to remove the motor retainer as soon as possible after the paint dries so it will not become locked in place.



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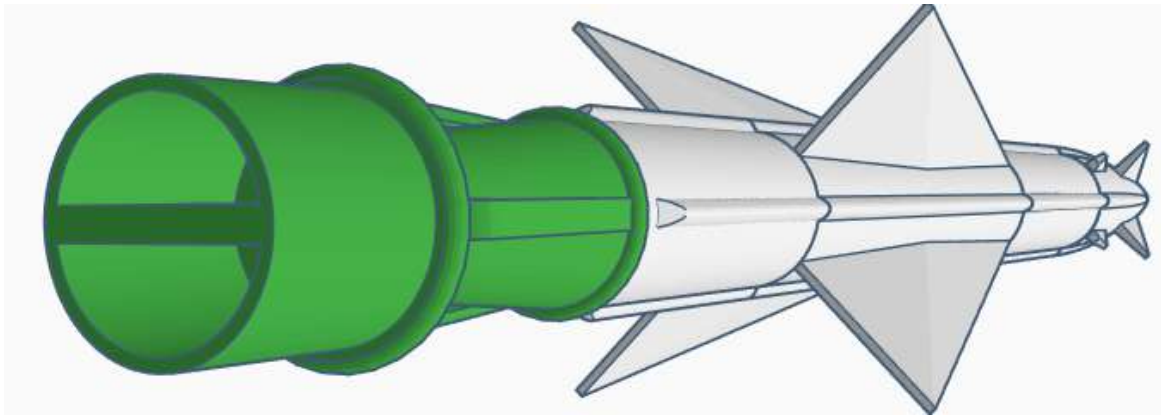
18

When the motor mount is completely dry test fit it into the base of the booster. If the fit of the motor retainer is too tight under the fins use an emory board and sand the underside of the fins until the motor retainer can be removed/inserted and locked in place. When done apply glue to the inside of the booster and glue the motor mount in place.



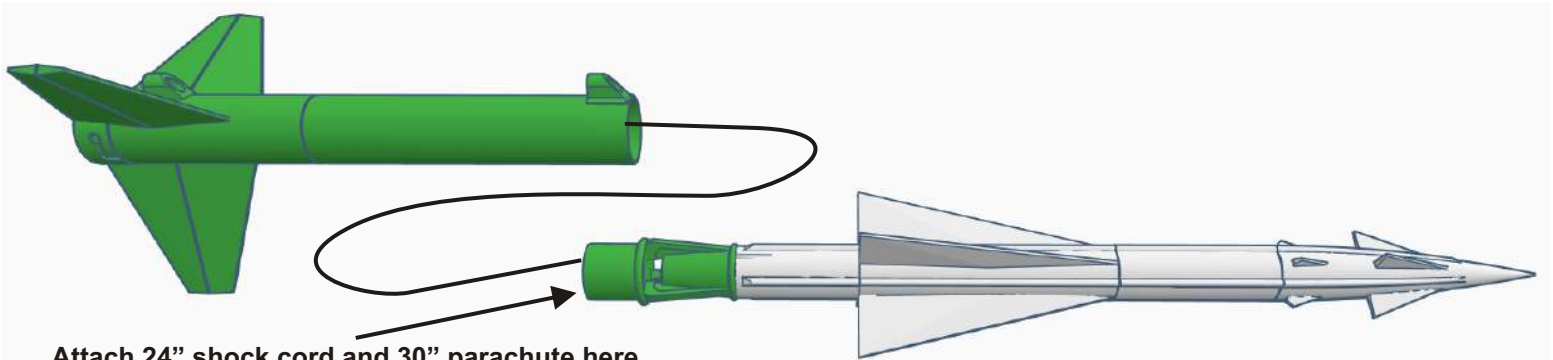
19

Glue the painted interstage to the sustainer making sure to align the parts as shown in the image below. Note that only one side of the interstage will line up with one of the sustainer conduits.



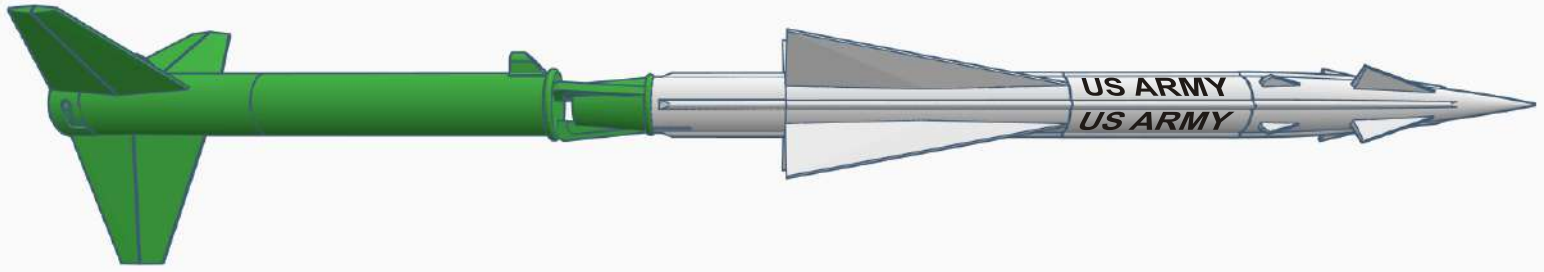
20

Find the provided piece of Kevlar cord. Remove the motor retainer from the booster and drop both ends of the Kevlar cord through the base of the booster making sure each end of the cord goes on the opposite side of the internal recovery retention bar. Tie a small loop in one of the cord ends to make a slip knot for the other end of the cord. Pull the end of the cord to tighten up the slip knot around the internal recovery bar. Tie the end of the exposed cord to the base of the interstage as shown. Finally, tie a length of shock cord and a 30" chute to the base of the interstage. Slide the chute and shock cord into the booster and slide the interstage onto the booster. Note that the sustainer booster conduit that was lined up with the interstage must be on the side of the model opposite the launch lugs.



Attach 24" shock cord and 30" parachute here

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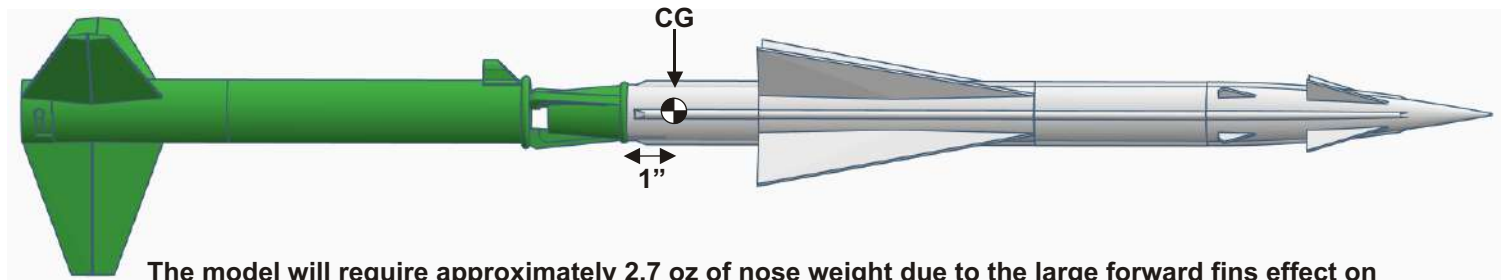
IMPORTANT!

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Put a 24mm E12-6 rocket motor in the model, add recovery wadding and a 30" parachute. Add nose weight inside the space in the nosecone and balance the model until it is at the required C.G. (center of gravity) as shown below. When the model balances correctly mix up a small amount of 5 minute epoxy and carefully pour it over the nose weight inside the nosecone to lock it in place. When the epoxy has cured complete the model by aligning the nosecone to the sustainer fins and then glueing the nosecone in place.

Failure to adjust the models C.G. to the position shown will result in a unstable flight that could injure someone, damage personal property and damage or destroy your model.



The model will require approximately 2.7 oz of nose weight due to the large forward fins effect on the models center of pressure. Use size #5 lead fishing weights in the nosecone then epoxy in place.

Suggested motor for first flight is an Estes D12-6.

Estes D12-6 - Altitude 453'

Estes E12-8 - Altitude 933'

Pre-Flight Checklist:

- 1) Install an Estes D12-6 with spacer or an Estes E12-8 model rocket motor. Install and lock the motor retainer in place.
- 2) Load recovery wadding, shock cord and parachute in the model.
- 3) Slide the Ajax sustainer in place.
- 4) Install the rocket motor ignitor per Estes instructions.
- 5) Slide the model on the launch rod
- 6) Attach the ignitor clips.
- 7) Check the sky for aircraft
- 8) Check the range for people or vehicles.
- 8) Countdown and launch!

If larger impulse motors are used in the model make sure to use altitude flight prediction software to determine flight parameters and correct ejection delay. Follow all NAR safety codes when flying your Nike Ajax.

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