

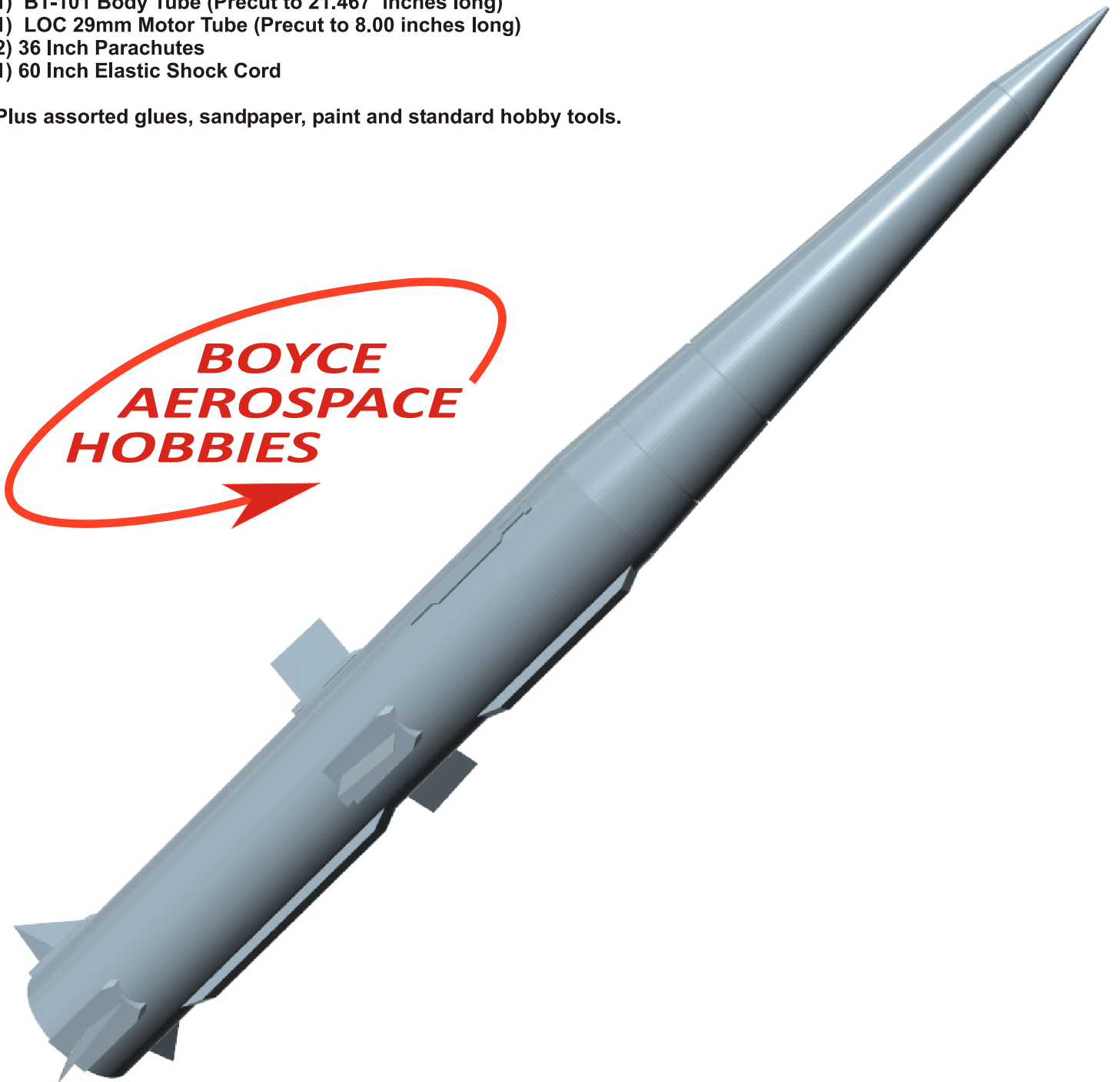
I-10 SCALE MAXI PERSHING IA BUILDERS KIT BT-101

DISCLAIMER - *The products sold by Boyce Aerospace Hobbies are intended for display and/or flight with use of explicitly stated model rocket motors. Launching of model rockets may be dangerous; use our products at your own risk. Boyce Aerospace Hobbies is not responsible for any damages or injuries incurred from the use or misuse of our products. Our kits are not intended to be modified or used with motor sizes different than stated. The product should be purchased by an adult and if used by a minor, under the supervision of a parent at all times.*

Additional Parts Required:

- 1) BT-101 Body Tube (Precut to 21.467 inches long)
- 1) LOC 29mm Motor Tube (Precut to 8.00 inches long)
- 2) 36 Inch Parachutes
- 1) 60 Inch Elastic Shock Cord

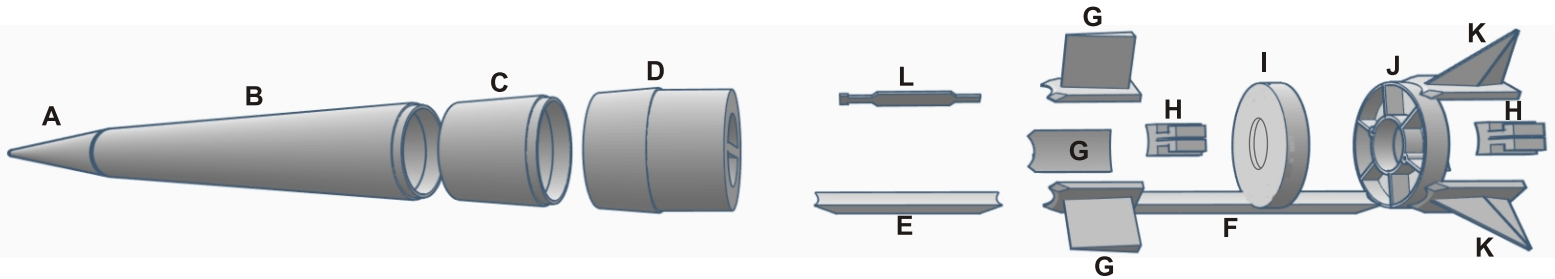
Plus assorted glues, sandpaper, paint and standard hobby tools.



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1/10th Scale Pershing 1A Flying Model Rocket

Thanks for purchasing a Boyce Aerospace Hobbies Pershing 1A Builders Kit. Please read all directions prior to beginning the assembly of your model. Visit us at : boyceaerospacehobbies.com for more exciting model rocket products.



A) Upper Nose Cone
B) Mid Nose Cone
C) Lower Nose Cone
D) Shoulder

E) Sustainer Cable Cover
F) Booster Cable Cover
G) Sustainer Fins (3 + 1 spare)
H) Launch Lugs/Rails

I) Upper Motor Mount
J) Lower Motor Mount
K) Booster Fins (3 + 1 spare)
L) Charge Retainers (2)
Not Shown 29mm Motor Retainer

1

The 4 part nose cone comes preassembled but not glued together. Using epoxy glue sections "D" and "C" together leaving a gap the thickness of a credit card between them. Glue part "A" to part "B". **Do not glue on the "upper nose cone", part "A/B", at this time.** When the model is finished nose weight will be added to the inside tip of the upper nose cone to insure stable flight (before it is glued in place).

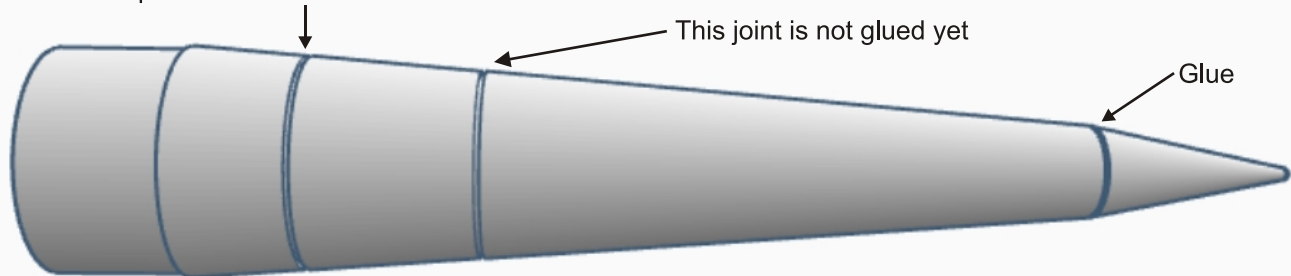


Epoxy leaving a credit card gap between parts B and C

2

After parts "D" and "C" have been epoxied together and dried carefully sand the cone parts with 220 grit sandpaper dry until smooth to the touch. Do not sand the cone's shoulder unless it is too tight on the body tube. Follow with wet sanding using 220 grit sandpaper then allow the nose cone to dry. Spray the cone with grey automotive primer and allow to dry. Follow up with wet sanding using 400 grit wet/dry sandpaper. Repeat the primer/wet sanding procedure until the cone is smooth and ready to paint. Be careful not to sand away too much of the base of the cone or you will create an inset between the cone and body tube.

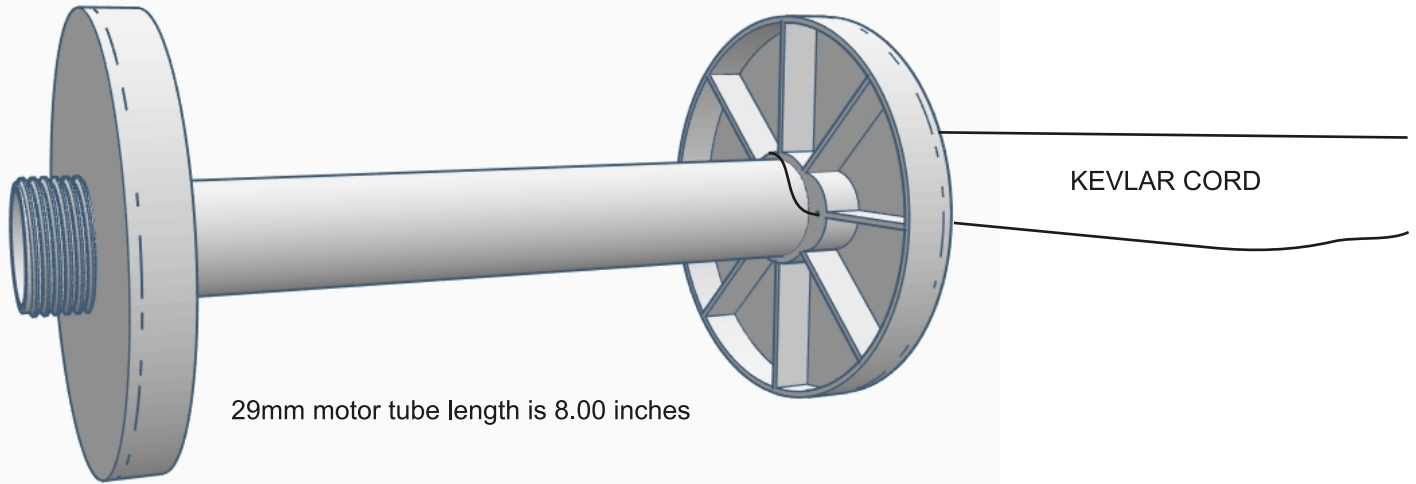
Gap is the thickness of a credit card.



1/10th Scale Pershing 1A Flying Model Rocket

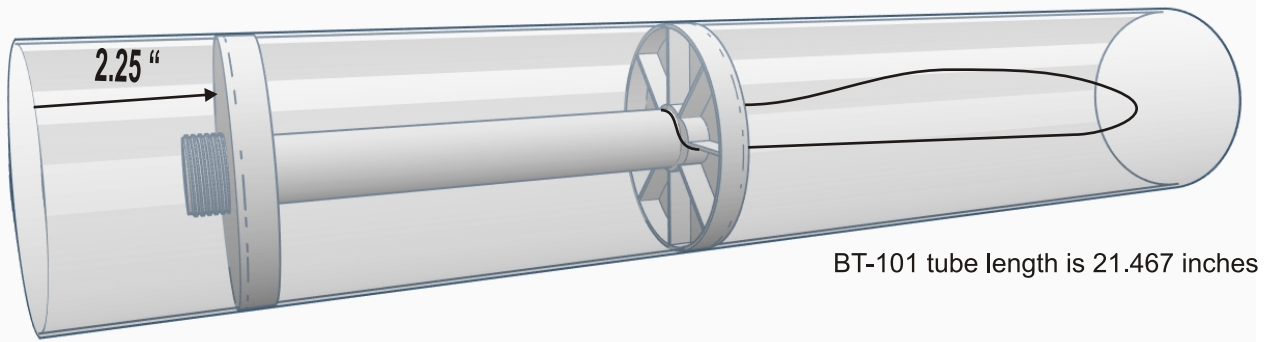
3

Test fit your 29mm motor tube in the motor centering rings and the screw on motor retainer.. Sand if needed for a good fit,. Epoxy the male motor retainer threads flush on one end of the 29mm tube. When dry epoxy the lower motor mount in place against the motor retainer then epoxy the upper motor mount in place as shown. When dry tie the ends of the Kevlar cord to the top of the upper motor mount assembly as shown. Apply super glue to each knot to secure the cord.



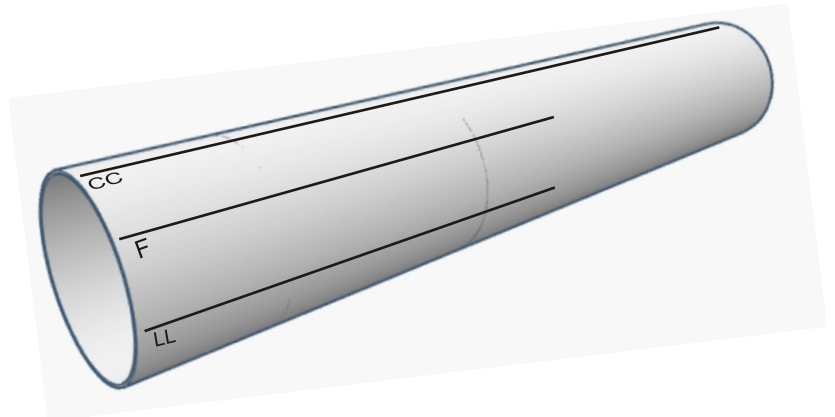
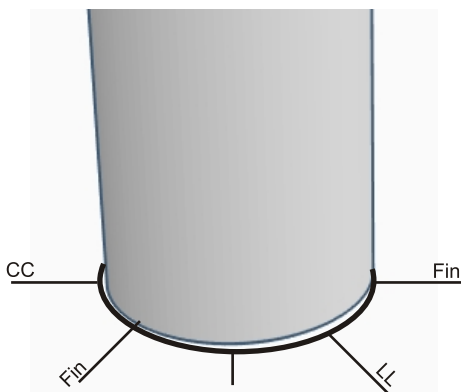
4

Sand the edges of the motor mount assembly until the unit is a smooth slide fit your cut BT-101 body tube. Measure and mark a line 2.25 inches inside the bottom edge of the tube. Slide the motor mount assembly into the tube until lined up with the 2.25 inch mark. Apply epoxy to the inside of the tube at the correct motor mount locations. Insert the motor assembly until it is at the correct depth in the tube. Apply a bead of epoxy around each end of the motor mount for strength.



5

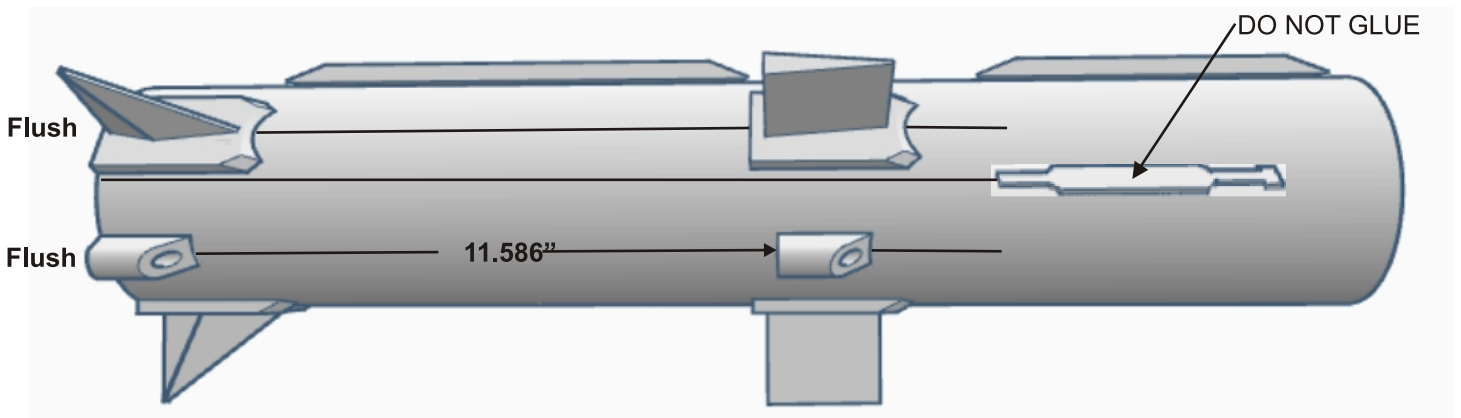
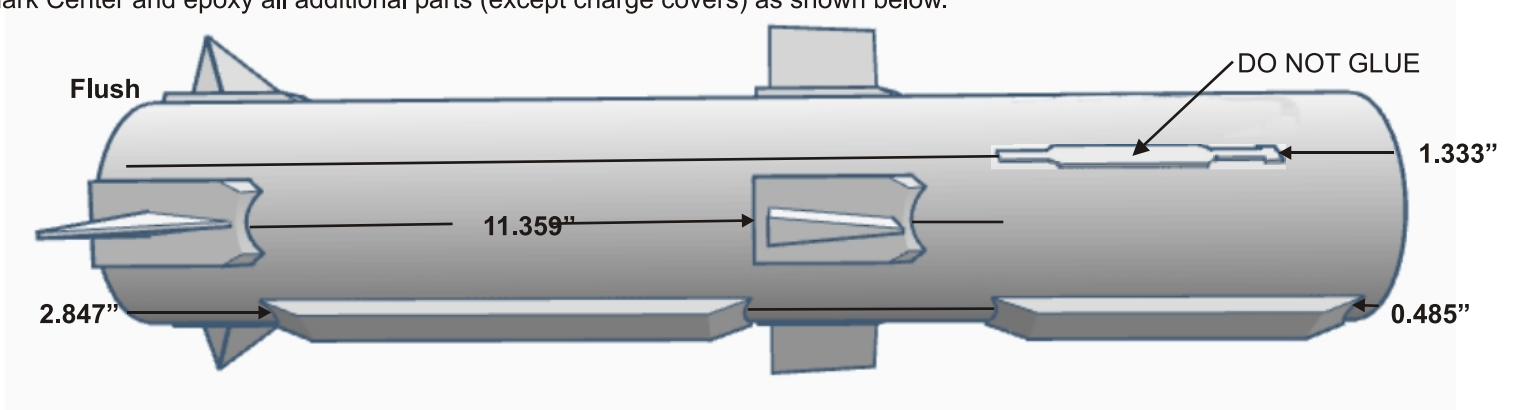
Detach the tube marking guide from the last page of these instructions. Cut the guide out and set it on a flat surface. Rest the BT-101 Directly over the guide in a vertical position. Using a pencil carefully mark the points indicated and mark the indicator letters for each mark (I.e. "F" for fins, "LL" for launch lugs, "CC" for cable covers, and "CR" for charge retainer. Remove the paperguide and use a straight edge to extend the lines as follows: cable covers and charge retainer extend to the full length of the tube, all other lines extend 16 inches from the base of the tube.



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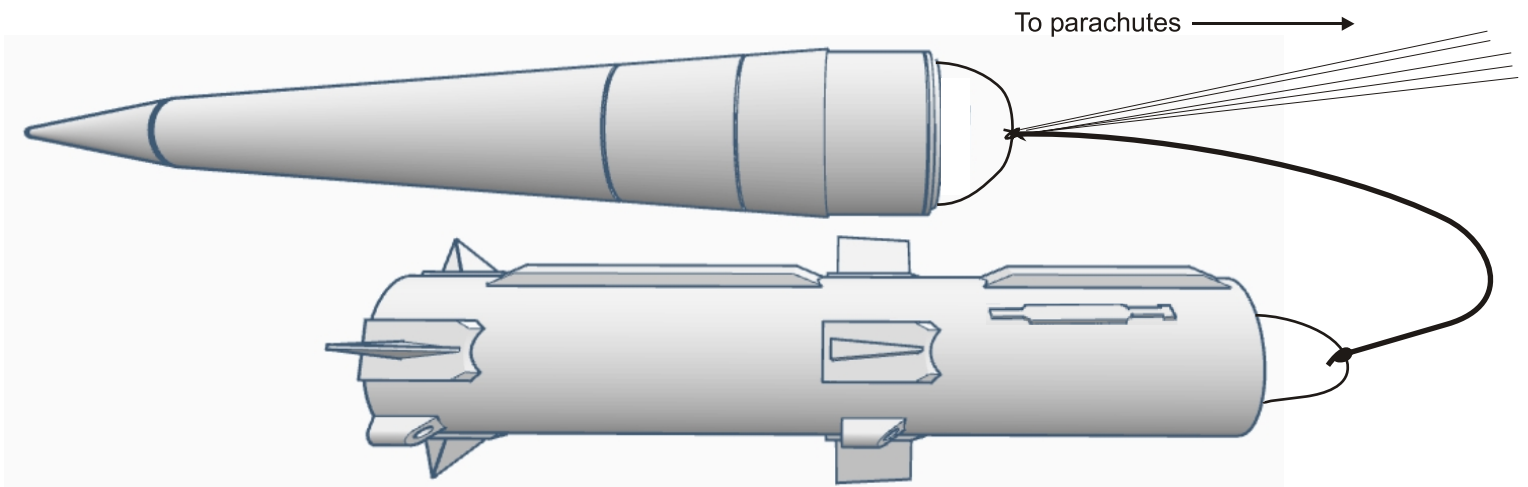
6

Mark the "F" fin lines at 11.359 inches **from the bottom of the body tube**. Wrap 220 grit sandpaper around the tube and sand the base of each fin to match the curve of the body tube. Epoxyglue each booster fins flush with the base of the body tube and centered with each fin line. For added strength make pin holes in the area where the fin will glue on. This will create glue rivets that will aid in keeping the fins in place. Next glue each sustainer fin centered on a fin line with the base of each fin lined up with the 11.359 inch mark Center and epoxy all additional parts (except charge covers) as shown below.



7

Attach the shock cord as shown below. Attach your two 36" parachutes to the recovery system attachment point.



1/10th Scale Pershing 1A Flying Model Rocket

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IMPORTANT!

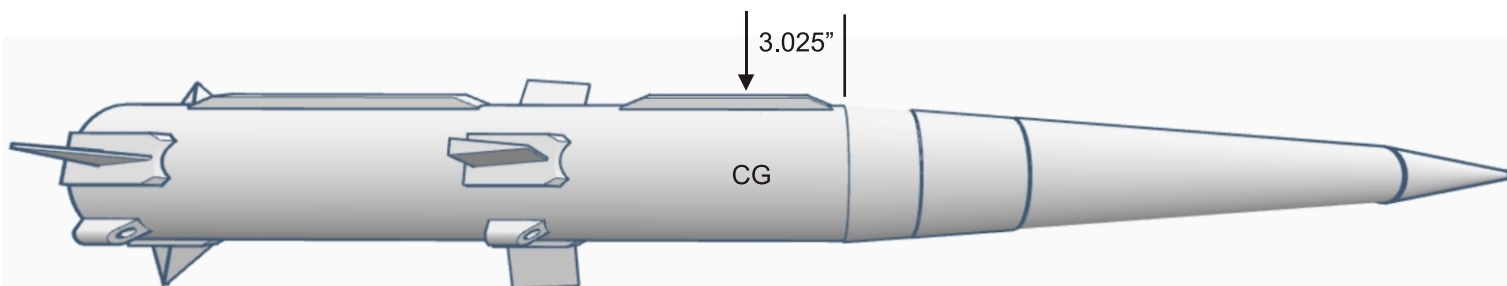
IMPORTANT!

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Put a Aerotech G53W-7 rocket motor in the model, screw the motor retention ring on, don't over tighten. Add clay to the space inside the tip of the upper nose cone "A/B" using a dowel stick until the model balances at the required C.G. (center of gravity) as shown below. When the model balances correctly mix up a small amount of epoxy and carefully apply it over the clay to lock it in position. When the epoxy has cured epoxy the nose cone tip, part "A/B", to the rest of the nose cone assembly again leaving a credit card space between the parts.

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.

CG-Center of gravity is 3.025" from the front of the body tube.



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Finishing your model:

Sand any rough areas on the model with 400 grit wet/dry sandpaper. Dry sand at first then follow with wet sanding until all surfaces are smooth to the touch. Give the model a nice coat of gray automotive primer and allow to dry. Repeat the sanding steps then give the model a final coat of grey primer. Follow this up with wet sanding only and you should have a nice finished surface for painting.

There are many paint versions of the Pershing 1A. The easiest to do is just a solid military olive green painted over the entire model. The last page of this instruction manual has pictures of just a few of the many paint scheme variations you can choose from to decorate your completed model. The decals included with this kit are of the test rounds.

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Flight Prep: Aerotech F50W-6..... 800 foot flight
Aerotech G53W-7..... 960 foot flight

Use recovery wadding and carefully pack your parachutes. Use an Aerotech F50W-6 motor for flight. Since no motor block was installed in the model wrap 5-6 layers of making tape cut to a width of 1/8th inch around the bottom edge of the motor (not needed if the motor already has a built in thrust ring)..Carefully fit the motor in place inside the motor mount tube and secure with the motor retention ring. Insert an electric igniter per the motor manufacturer's instructions. Please follow all local laws and the NAR Model Rocketry Safety Code when flying this model. Fly safe and have fun! Use a software program such as ROCKSIM to model the rockets flight performance if higher performance motors are used.

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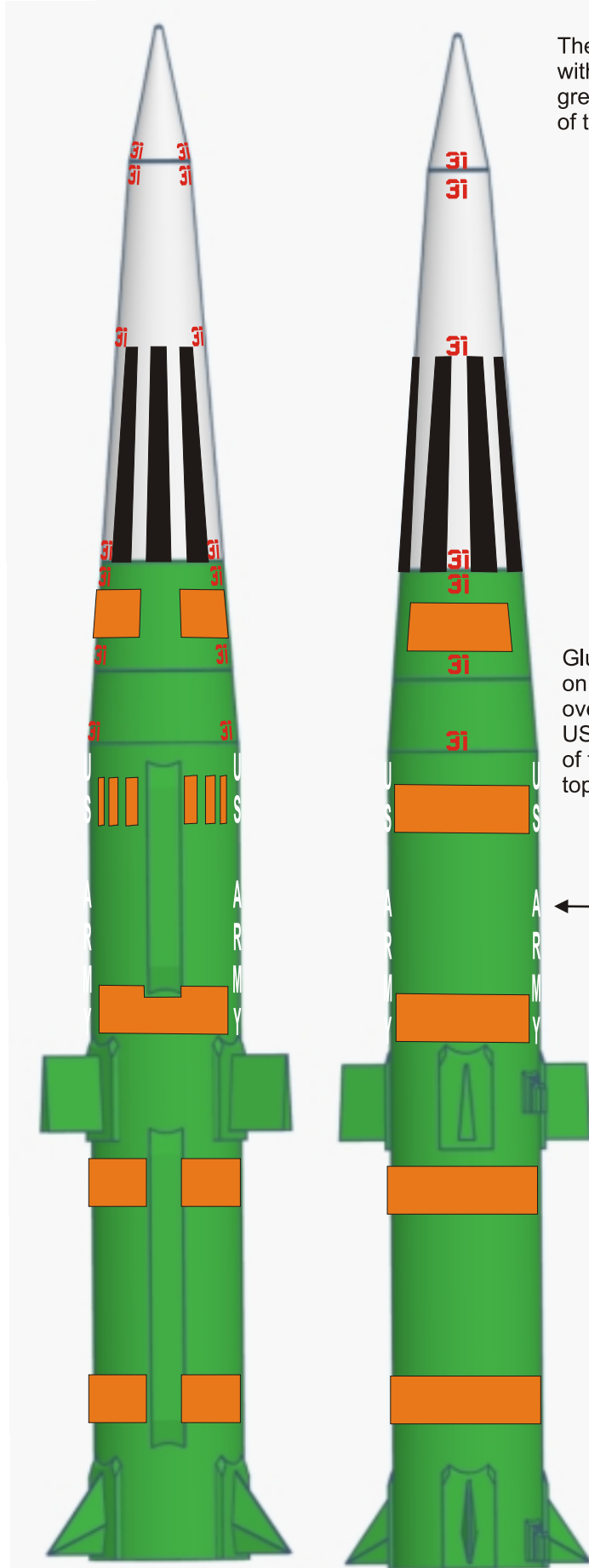
Different Pershing 1A paint schemes shown below:



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Cut vinyl decal placement and installation:

- 1) Trim the orange decals apart in individual sections except for the two sets of the three small squares. Leave a 1/16th inch border.
- 2) Trim out each red "31" leaving a 1/16th inch border.
- 3) Trim out the two panels of white "US ARMY" decals leaving a 1/16th inch border.
- 4) Trim out the entire black nose cone roll pattern as one piece leaving a 1/16th inch border.
- 5) Prepare a large bowl of warm water with a few drops of liquid dish detergent mixed in.
- 6) Without removing the top mask, remove the backing paper off each cut out decal piece, dip it in the soapy water for just a second, then position it as shown in the drawings below. The soapy water will allow you to adjust the decals position and orient*
ation before it becomes stuck in position. When you are happy with the placement of each piece use the edge of a credit card to apply pressure to the decal in order to remove the water and air bubble from under it. Allow each decal to dry completely before you attempt to remove the top mask. Work slowly and methodically, dry fitting each piece before application. Trim each piece for length as needed. When you're done and the decals are dry apply a coat or two of clear matte acrylic spray to protect the decals.



Tube Marking Guide

Maxi Pershing 1A

