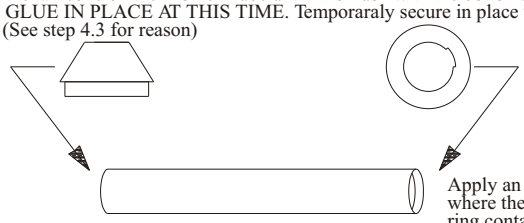
BLACK BRANT X

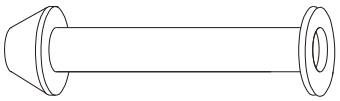
STEP 1

Epoxy the centering ring with the notch flush with the top of the "Kwik-Switch" Mother tube.
Slide the tail cone on the Mother Tube until it is flush with the bottom. DO NOT GLUE IN PLACE AT THIS TIME. Temporaraly secure in place with tape. (See step 4.3 for reason)



Apply an epoxy fillet where the centering ring contacts the motor tube.

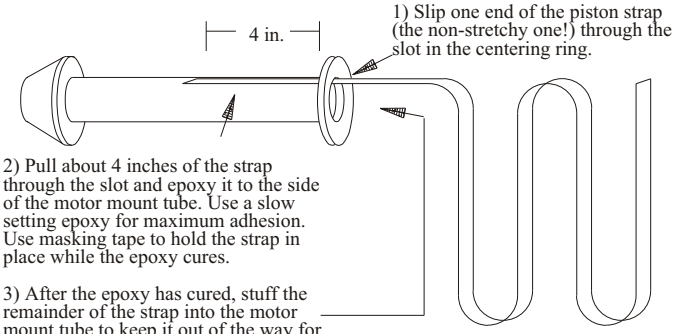
For more detailed instructions on the "Kwik-Switch" consult the sheet supplied with the "Kwik-Switch" kit.



NOTE:
The end of the "Kwik-Switch" with the locking ring and tabs is the top.

Finished motor mount assembly

STEP 2



1) Slip one end of the piston strap (the non-stretchy one!) through the slot in the centering ring.

2) Pull about 4 inches of the strap through the slot and epoxy it to the side of the motor mount tube. Use a slow setting epoxy for maximum adhesion. Use masking tape to hold the strap in place while the epoxy cures.

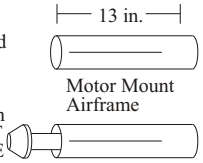
3) After the epoxy has cured, stuff the remainder of the strap into the motor mount tube to keep it out of the way for the next few steps.

STEP 3

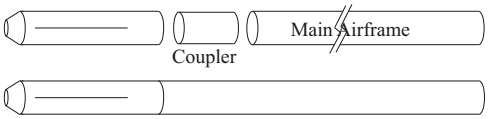
NOTE:
Be sure the strap is not in line with the fin slots otherwise the fins will not fit properly.

1) Apply a ring of epoxy inside the airframe 13" from the bottom end.

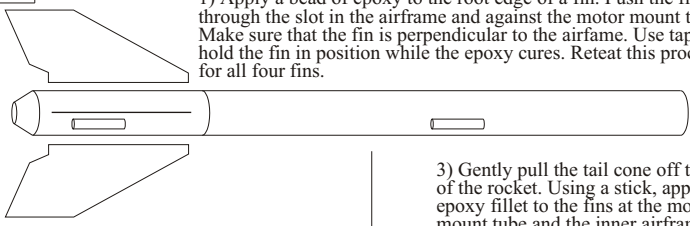
2) Push the motor mount assembly all the way into the airframe. The end with the strap attached goes in first. Make sure the motor mount tube is still flush with the bottom of the tail cone. DO NOT GLUE THE TAIL CONE IN PLACE AT THIS TIME.
Stand the airframe upright until the epoxy cures.



3) Spread a layer of epoxy inside the motor mount airframe above the plywood centering ring. Slowly push the coupler tube into the motor mount airframe until it bottoms out against the centering ring. Be sure the epoxy that gets sqeezed out ahead of the coupler does not run into the motor tube or adhere to the strap.
4) Spread a layer of epoxy inside the 31.75" long main airframe to a depth of about 3". Slowly push the airframe over the coupler that is mounted in the motor mount airframe.

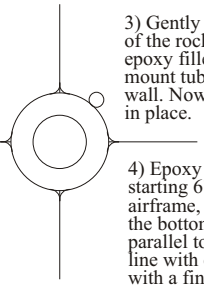


STEP 4



1) Apply a bead of epoxy to the root edge of a fin. Push the fin through the slot in the airframe and against the motor mount tube. Make sure that the fin is perpendicular to the airfame. Use tape to hold the fin in position while the epoxy cures. Reteat this process for all four fins.

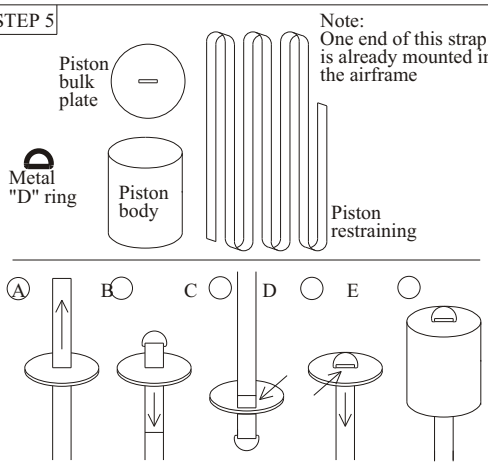
2) Apply an epoxy fillet to both sides of each fin. Carefully smooth the epoxy with your finger before it begins to gell. Allow the epoxy to set-up before rotating the rocket to do the next set of fins. Once the epoxy has fully cured, you should sand the fillet smooth with 150 grit sandpaper. Sanding will help the primer hold better to the epoxy.



3) Gently pull the tail cone off the end of the rocket. Using a stick, apply an epoxy fillet to the fins at the motor mount tube and the inner airframe wall. Now you can epoxy the tail cone in place.

4) Epoxy one launch lug in place starting 6" from the bottom of the airframe, and the other lug 30" from the bottom. Be sure the lugs are parallel to the airframe, perfectly in line with one another, and not in line with a fin.

STEP 5



Note:
One end of this strap is already mounted in the airframe

Do not cut the strap!

A) Pull the free end of the strap through the slot in the piston bulk plate. Slip the metal "D" ring over the strap.

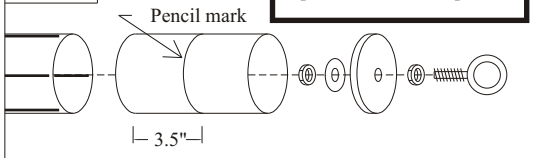
B) Feed the strap back through the slot.

C) Flip the assembly over. Fold the short end of the strap flat against the bulkplate and epoxy in place.

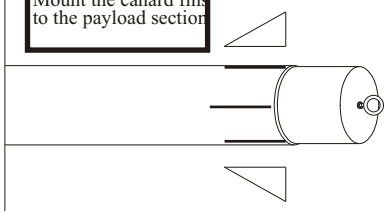
D) When the epoxy has cured, pull the strap until the "D" ring is wedged at the slot. Apply thin CA (super glue) to the strap at the "D" ring.

E) Epoxy the bulkplate to the piston body 1/8" from the top. Apply an epoxy fillet to both sides of the bulkplate.

STEP 6



Mount the canard fins to the payload section



Screw a nut onto the eye bolt. Thread the eye bolt through the hole in the coupler bulkplate. Place the washer over the eye bolt threads protruding through the bulkplate. Tighten the other nut against the the washer.

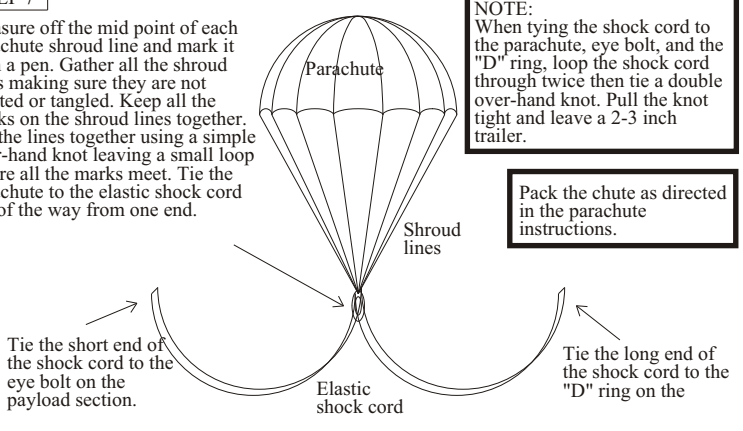
Epoxy the bulkplate assembly inside the coupler tube about 1/8" from the end. Apply an epoxy fillet to both sides of the bulkplate.

Draw a pencil mark around the coupler 3.5" from the end opposite the bulkplate. Spread some epoxy inside the payload section at the end with the slots. Push the coupler into the payload section to the line. Be sure to keep the slots free of epoxy at this point.

Epoxy the canard fins through the slot and to the coupler tube using the same procedure as in step "4".

STEP 7

Measure off the mid point of each parachute shroud line and mark it with a pen. Gather all the shroud lines making sure they are not twisted or tangled. Keep all the marks on the shroud lines together. Tie the lines together using a simple over-hand knot leaving a small loop where all the marks meet. Tie the parachute to the elastic shock cord 1/3 of the way from one end.



NOTE:
When tying the shock cord to the parachute, eye bolt, and the "D" ring, loop the shock cord through twice then tie a double over-hand knot. Pull the knot tight and leave a 2-3 inch trailer.

Pack the chute as directed in the parachute instructions.

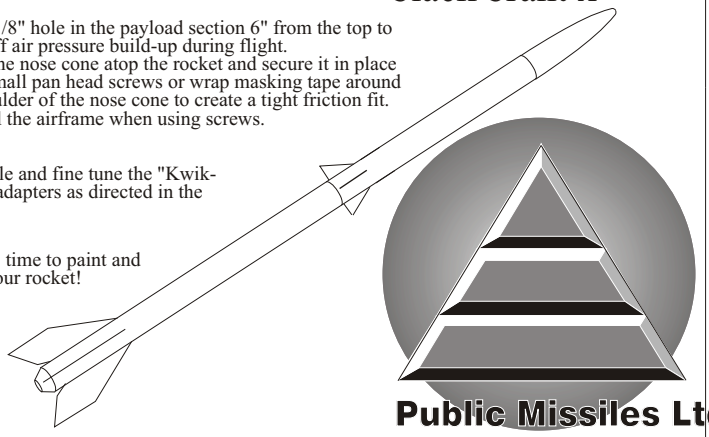
STEP 8

black brant x

Drill a 1/8" hole in the payload section 6" from the top to bleed off air pressure build-up during flight.
Install the nose cone atop the rocket and secure it in place using small pan head screws or wrap masking tape around the shoulder of the nose cone to create a tight friction fit.
Pre-drill the airframe when using screws.

Assemble and fine tune the "Kwik-Switch adapters as directed in the

Now it's time to paint and detail your rocket!



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Painting & Detailing

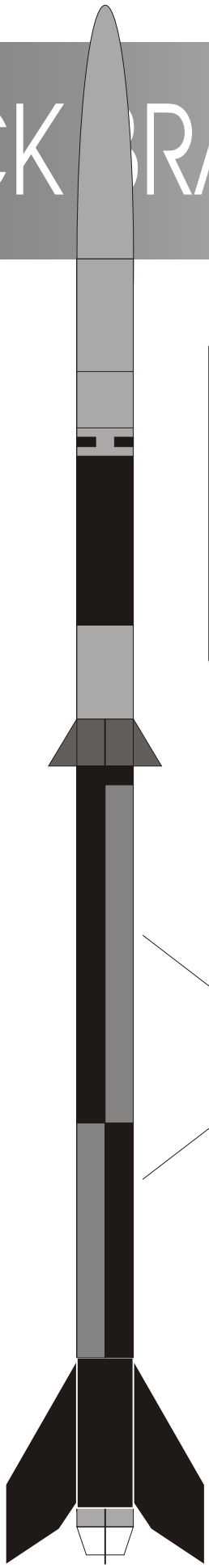
Important notice!

The Center of Pressure (CP) of this rocket is 77 inches from the tip of the nose cone. After finishing your rocket, permanently mark the Center of Pressure on the airframe.

After loading the rocket with a motor, make sure that the Center of Gravity (balancing point) is forward of the Center of Pressure mark by at least 4 inches. The center of gravity can be moved forward by adding weight to the nose cone.

Minimum motor requirerment for this rocket is an "H" motor with a minumum 180 average newtons of thrust (H-180).

It is impossible to test every rocket with every motor configuration. Therefore, if you are unsure about motor selection for any rocket, consult the motor manufacturer.



Alternating red and black quadrants

RED

BROWN

WHITE

SILVER

Colored stripes are self-adhesive Mono-Cote available at most hobby shops in 6x36 inch sheets.

Stripes can also be painted on, but this is more time consuming and difficult.