STEP 13

Install the rail guides into the booster with provided screws. Drill a hole smaller than the screw so the screw threads into it ½" forward of aft ring centered between fin set. Drop a small amount of epoxy in drilled hole, thread the rail guide and screw in the hole, rotate rocket 180 degrees & let cure. Repeat for the forward rail guide ½" aft of the forward ring. Some choose to use a wood screw & drill/tighten into the aft & forward rings. Your choice!

FINISH

Spray rocket with primer, sand and repeat until smooth finish is obtained. Spray rocket with paint of choice, let dry. Apply protective clear coat.

Sim!

This rocket is recommended for high power rocket motors J through M impulse. Depending on your flying field and finished weight, this is a very versatile kit. The Rocksim file is available on the PATRIOT product page on our website. Always check stability to ensure stable flight; the Center of Gravity (CG) must be forward of the Center of Pressure (CP) in flight ready condition.

CP= 75.6" +/- .5"

LOC PRECISION 3.0
ADVANCED ROCKETRY KITS AND COMPONENTS

U S ARMY PATRIOT

10,000'
1,000'

J - M
Capable Impulse

DIAMETER **7.5"**

HEIGHT **101"**

WEIGHT **13lb**

Featuring:
7.5" Pre-Slotted Airframe
Payload Section
Polypropylene Nose Cone
Laser Cut Fins/Rings
78" Rip-Stop Nylon Parachute
25' Tubular Nylon Shock Cord
75mm MMT down to 54mm Motor Retention
1500 Rail Guides
Nomex Fire Resistant Blanket
Hardware

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ADVANCED ROCKETRY KITS AND COMPONENTS
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HAND MADE IN THE USA

LOC 7.5” PATRIOT

-30” Slotted booster + 18”, 30” Payload Section
-Polypropylene Nose Cone
-25’ Tubular Nylon / YTN-4
-Z Clip Motor Retention
-3 Centering Rings
-2-1500 Series Rail Guide
-78” Parachute
-75MM x 30” Motor Tube
-1/4” PATRIOT Fin Set
-MMA6 Adaptor to 54mm
-FRB XL
-Hardware — 2 8x32T Nuts, 2 8/32 Screws, 3/8” Quick Link, 2-U-Bolts

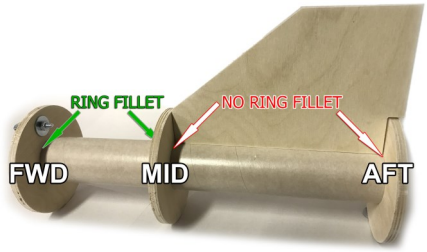
Due to the high thrust motors that can be flown in this rocket, epoxy is recommended!
Before beginning construction, read over instructions to become familiar with the proper construction steps. **TEST FIT ALL PARTS!** Light sanding may be necessary to obtain proper fit.

STEP 1

Press the T Nuts in the lasered holes in the AFT ring. Epoxy fillet the aft outer diameter of the T Nuts to ensure they remain in place.

STEP 2

Position rings on motor tube as shown. The forward (FWD) ring has a drilled hole, install eye bolt and tighten. Tack FWD ring 7.5” from forward end of motor tube. To ensure proper ring placement, fit fins between the MID and AFT rings. When tight, remove fin and tack rings into place. When cured give the joint where the rings meet the motor tube an epoxy fillet for added strength (example shown). Epoxy nut on eye bolt. Allow to cure.



STEP 3

Attach Y Harness to each U-bolt. Install U-bolts in FWD CR. Bunch up shock cord and insert into motor tube from the forward end.

STEP 4

Slather epoxy inside the airframe from the aft end, FORWARD of the fin slots. Insert motor mount assembly into the aft end of the booster section ensuring the aft ring does not protrude from the aft of the airframe or interfere with the fin slots. 1/8” recessed or so. Set upright to cure.

STEP 5

Epoxy FWD end of FWD centering ring from forward end where the ring meets the airframe. DO NOT get any epoxy in the motor tube!!! Allow to cure.

STEP 6

Epoxy a coupler in forward end of booster 7.5” or down to the forward ring. Allow to cure.

STEP 7

Epoxy 18” airframe section onto exposed coupler from booster. Allow to cure. *This is designed to be a 48” long booster, not a point of separation.*

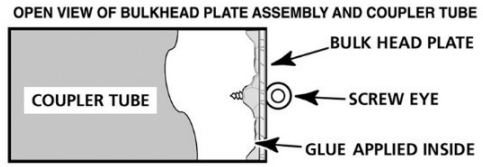
STEP 8

Flip airframe over so aft end is up. Epoxy fillet the centering to the joint that meets the airframe. DO NOT get epoxy in t nuts!

STEP 9

Test fit the fin tabs (which protrude out from the fin’s root edge) into the airframe’s fin slots. Sand the tab edge that will mate to the motor mount tube if necessary to obtain a good flush fit. Once all parts fit to your liking, apply a liberal amount of epoxy to the fin tab area and along the edge mating with the airframe and position fin perpendicular to the airframe – set aside to cure. Keep the airframe in a horizontal position while the epoxy sets up. Make sure that the fin is straight up from the airframe tube and against the slot’s bottom edge. Repeat with each of the remaining fins.

STEP 10



Attach eye bolt to bulkhead plate. Test fit of bulkhead plate assembly into either end of coupler. It may be necessary to sand the inside edge of the coupler and the outside edge of the bulkhead plate assembly to obtain a smooth fit. When this is done, place a large continuous bead of glue around the inside of the coupler’s edge. Carefully, push the bulkhead plate assembly straight into the coupler so that the bulkhead plate assembly is even with the edge of the coupler. Set the entire assembly upright immediately, making sure it is not disturbed while drying. For MAXIMUM STRENGTH, when dry, place another layer of epoxy around the inside of the bulkhead plate and eye bolt thread and nut.

STEP 11

Secure the coupler into the 30” payload section leaving 7.5” exposed to slide into booster. ***Note***, if using a permanent adhesive, dual deployment may not be possible. If dual deployment is part of your build, follow the Electronics Bay instructions.

STEP 12

Secure Nosecone to payload section for a tight friction fit. Or secure permanently if desired. Put end of tubular nylon through slit cut in the Nomex Chute Protector and slid though. This will be the first item packed into the booster and will protect recovery items from ejection gasses and flames. 1 quick link has been supplied for you to attach payload and booster together. Setup your recovery system as you desire.