OPEN VIEW OF BULKHEAD PLATE ASSEMBLY AND COUPLER TUBE



STEP 7

Assemble payload section as shown above. Recess bulkhead 1/4'' to gain a good epoxy bond.

STEP 8

Take end of the shock cord and pass it through screw eye in the payload section 2'. Knot shock cord.

STEP 9

Feed parachute shroud lines through the sewn loop in the shock cord. Take shroud line loops in one hand and, with the other hand, take the chute passing the chute through the shroud line loops. When the chute is pulled through tightly it will form a knot.

STEP 10

Lightly sand plastic nose cone with fine sandpaper to remove molding seam line. Also sand airframe and fins to produce a smooth finish.

FINISH

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

Attention!

This rocket is recommended for low to mid power rocket motors E — F impulse. Depending on your flying field and finished weight, this is a very versatile kit. 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.

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MODEL ROCKET SAFETY CODE

EFFECTIVE AUGUST 2012

Materials. I will use only lightweight, non-metal parts for the nose, body, and fins of my rocket.

Motors. I will use only certified, commercially-made model rocket motors, and will not tamper with these motors or use them for any purposes except those recommended by the manufacturer.

Ignition System. I will launch my rockets with an electrical launch system and electrical motor igniters. My launch system will have a safety interlock in series with the launch switch, and will use a launch switch that returns to the "off" position when released.

Misfires. If my rocket does not launch when I press the button of my electrical launch system, I will remove the launcher's safety interlock or disconnect its battery, and will wait 60 seconds after the last launch attempt before allowing anyone to approach the rocket.

Launch Safety. I will use a countdown before launch, and will ensure that everyone is paying attention and is a safe distance of at least 15 feet away when I launch rockets with D motors or smaller, and 30 feet when I launch larger rockets. If I am uncertain about the safety or stability of an untested rocket, I will check the stability before flight and will fly it only after warning spectators and clearing them away to a safe distance. When conducting a simultaneous launch of more than ten rockets I will observe a safe distance of 1.5 times the maximum expected altitude of any launched rocket.

Launcher. I will launch my rocket from a launch rod, tower, or rail that is pointed to within 30 degrees of the vertical to ensure that the rocket flies nearly straight up, and I will use a blast deflector to prevent the motor's exhaust from hitting the ground. To prevent accidental eye injury, I will place launchers so that the end of the launch rod is above eye level or will cap the end of the rod when it is not in use.

Size. My model rocket will not weigh more than 1,500 grams (53 ounces) at liftoff and will not contain more than 125 grams (4.4 ounces) of propellant or 320 N-sec (71.9 pound-seconds) of total impulse.

Flight Safety. I will not launch my rocket at targets, into clouds, or near airplanes, and will not put any flammable or explosive payload in my rocket. **Launch Site.** I will launch my rocket outdoors, in an open area at least as large as shown in the accompanying table, and in safe weather conditions with wind speeds no greater than 20 miles per hour. I will ensure that there is no dry grass close to the launch pad, and that the launch site does not present risk of grass fires.

Recovery System. I will use a recovery system such as a streamer or parachute in my rocket so that it returns safely and undamaged and can be flown again, and I will use only flame-resistant or fireproof recovery system wadding in my rocket.

Recovery Safety. I will not attempt to recover my rocket from power lines, tall trees, or other dangerous places.

LAUNCH SITE DIMENSIONS		
installed Total Impulse (N-sec)	Equivalent Motor Type	Minimum Site Dimensions (ft.)
0.00-1.25	1/4A, 1/2A	50
1.26-2.50	A	100
2.51-5.00	В	200
5.01-10.00	с	400
10.01-20.00	D	500
20.01-40.00	E	1,000
40.01-80.00	F	1,000
80.01-160.00	G	1,000
160.01-320.00	Two Gs	1,500

For more information on safety, guidelines or to find a local club please visit:

LOC 1.9"

RAM



-Slotted Booster -Payload Section -Polypropylene Nose Cone -21" Parachute -SCM1 Shock Cord Mount -Tubular Nylon Shock Cord -12" 29mm Motor Tube -1/8" Fin Set x2 -4 1/4" Centering Rings -1/4" Launch Lug - Rail guides - Vinyl Decal

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

Rough sand the motor tube to ensure proper adhesion OR remove the outer glassine wrap. Identify the ring with notches as this is the forward most ring.



With the motor tube flush with the aft end, Place all 4 rings onto the motor tube and space apart to

allow the fin tabs to fit in between the rings. Use the fin tabs and slots as a measuring guide. Tack rings into place with epoxy, allow to cure. Epoxy fillet both sides where the ring meets the motor tube. Be sure to **keep epoxy clear** of where the fin tabs will meet the motor tube. Allow to cure.

STEP 2

Take the length of 2' Kevlar cord and at its center make a 1" long loop knot at one end and knot tight. Feed other end through one of the ring notches. Wrap cord around motor tube and double knot. Place a bead of epoxy on knot. Allow to cure.





STEP 3

STEP 4

Feed one end of tubular nylon shock cord through the Kevlar loop. Then through other tubular nylon ends loop. Pull tight. Bunch up shock cord and feed down through motor tube for next step.



Slather epoxy in the

AFT of the airframe

Insert motor mount

assembly up the air-

frame. (shock cord

mount end FWD). Slide all the way up the air-

between each fin slot.



Epoxy airframe...



frame until the MMT is flush or slightly recessed with the AFT of the airframe. Once cured, apply a small epoxy layer to the AFT of the AFT ring. Allow to cure. Reposition airframe laying down. You can start with a FWD or AFT fin. We recommend doing them together, FWD and AFT on the same side to help with alignment. Apply a generous bead of epoxy to the root edge of one fin and insert in the fin slot. Allow to cure before moving onto the next fin. Fins should 90° apart. When all fins are epoxied in place, apply an external filet to each fin to airframe joint.



Push motor assembly into airframe

Please identify launch system to be utilized. Some choose to install guides on one side and rails on opposite, 180°. Your choice!

STEP 5 Launch Lugs

Cut the launch lug in half at an angle, making them aerodynamic. Find the high point of the airframe between fins. Mark a straight perpendicular line up 15" from the AFT of the airframe. Epoxy one lug 2" up from the AFT of the airframe. Epoxy another at least 15" FWD. Allow to cure.

STEP 6 Rail Guides

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!