

FINISH

A good practice is to dab all tube ends with a thin CA glue before paint. This helps strengthen, resist water, and add longevity to your finished kit.

CP - 36" from nose cone tip. +/- .5"



Sim!

This rocket is recommended for high power rocket motors F through H impulse. Depending on your flying field and finished weight, this is a very versatile kit. The Rocksim simulation file is available on the **LASER LOC** 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.

If you have any questions or concerns please contact us directly and not the vendor!

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Model Rocket Safety Code

- 1. Materials.** I will use only lightweight, non-metal parts for the nose, body, and fins of my rocket.
- 2. 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.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. 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.
- 7. 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.
- 8. 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.
- 9. 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.
- 10. 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.
- 11. Recovery Safety.** I will not attempt to recover my rocket from power lines, tall trees, or other dangerous places.

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	B	200
5.01–10.00	C	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

LAUNCH
SITE DI-
MENSIONS

Revision of August, 2012.

Since Yank Aeronautics LLC dba LOC PRECISION cannot control the use of it's products once sold, the buyer assumes all risks and liabilities there from, and accepts and uses LOC Precision products on these conditions.

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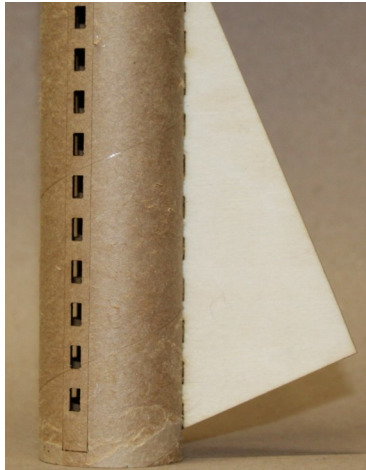
LASER LOC 1.6.3



- | | | |
|----------------------|--------------------------|----------------------|
| -23" Slotted Booster | -Polypropylene Nose Cone | -11" Payload Section |
| -21" Parachute | -12' 3/16" Tubular Nylon | -1/8" Fin Set |
| -1 Fire Blanket | -1/4" Launch Lugs | -Shock Cord Mount |
| -Quick Link | -3 Fiberglass Wrap | -MMA-2 |

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 The booster has been laser marked for easy glassine removal. With a hobby knife, lift up a section of the outer coating, one or two layers and peel away. This is in preparation for the fiberglass to be applied. Peel each section one at a time. Sand smooth once finished.

Step 2 Insert a fin into the multi-slot. The fit should be tight so they stay in place. Make certain the fin is perpendicular to the airframe. Tape in place to ensure alignment is correct. Either use a quick cure epoxy or CA glue to tack the fin in place. Set aside to cure before moving to the next. Be sure **NOT** to get any excess epoxy inside the airframe.



STEP 3 Wear disposable gloves. Mix up a long cure epoxy. 30+ minute is preferred. Utilizing a foam brush or small paint brush, coat the fins and airframe that has the glassine removed with epoxy. Depending on the epoxy your using you may want to tackle one section at a time. Once the surface has been saturated, lay a fiberglass section on each fin-airframe-fin section. The first layer of epoxy will get the glass to adhere in place. Press down the glass onto the airframe and fins with gloves on. After one or all glass sections (depending on the pot life of the epoxy you're using) do a final coat of epoxy onto the glass. Be sure to saturate the glass so it appears translucent, **NOT WHITE** or dry. To help with the finishing process, a piece of Mylar can be applied to the fins and the air bubbles squeegeed out. This results in a smooth finish. Minor pinholes will be needed when fully cured. Allow to cure.

STEP 4 IF Mylar was used on the fins, remove. Apply external fillets where each fin meets the airframe. Apply each set and allow to cure before moving onto the next.

STEP 5 Take coupler and slather epoxy inside, one end, to make a 1/4" ring. Install bulkhead into coupler, recessed 1/4". Allow to cure. Apply epoxy fillet where bulkhead meets coupler. Be sure **NOT TO** get any epoxy in the ejection vent holes.

STEP 6 Slather epoxy in the FWD of the booster section 1" wide. Insert coupler 2.5" inside. Allow to cure.

STEP 7 Fill airframe spirals if desired with a filler. Sand smooth when cured. The included decal set does **NOT** like a bumpy surface. Fill/sand, fill/sand the fins until smooth surface is acquired. Another method is to prime/sand and repeat. Using a high build primer apply 2-3 coats. sand with 400 until spirals are filled. Paint as desired or follow below. We don't want to sand into the fiberglass cloth much if at all possible to keep strong and smooth.

Createx Paint. Follow [manufacturers recommendations](https://createxcolors.com/) for applications. <https://createxcolors.com/>

To achieve OEM color(s) the following paint was used and their respective ratios.

- | | |
|-----------|---|
| 6002 | Sealer Black |
| 4258 | Gloss Black |
| 4004 | Quick Silver. 1 lite coat, 2 moderate coats (do not over coat!) |
| 4030/4661 | Balancing Clear and Candy Emerald (until desired density) |

Lightly sand with 1000 grit to knock down any over spray before applying decals. Clear as desired after decal application.

STEP 8 Attach recovery system as desired.

