

Warlock 7.5" Build Instructions



Due to the high thrust motors that can be flown in this rocket, epoxy is recommended!

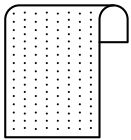
Before beginning construction, read over instructions to become familiar with the proper construction steps. Check Parts List to make sure you have all the parts.

TEST FIT ALL PARTS! Light sanding may be necessary to obtain proper fit.

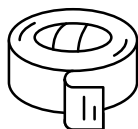
ITEMS YOU WILL NEED TO BUILD THIS KIT



Epoxy – (5, 15 and 30 Minute Recommended)



Fine and Medium Sandpaper



Masking Tape



Pencil and Ruler



Cyanoacrylate Glue (Superglue)



Paint

Parts List

Check your parts before you begin your build!

- Polyethylene Nose Cone
- Slotted Airframe
- 1/4" Fin Set
- Two Centering Rings
- Z-clip Motor Retention
- 18' Tubular Nylon Shock Cord
- 60" Ripstop Nylon Parachute
- 1000 Series Rail Guides
- Quick Link

• Keep the shipping box that your contained your Warlock! YES! You are going to use it....

STEP 1 - Centering Rings Assembly

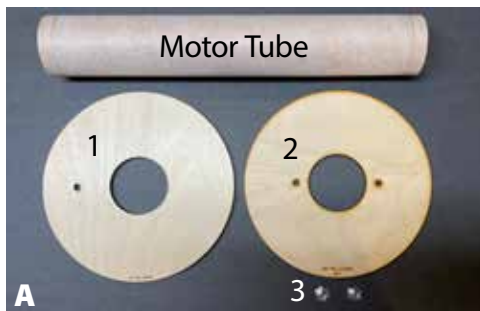
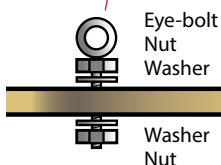
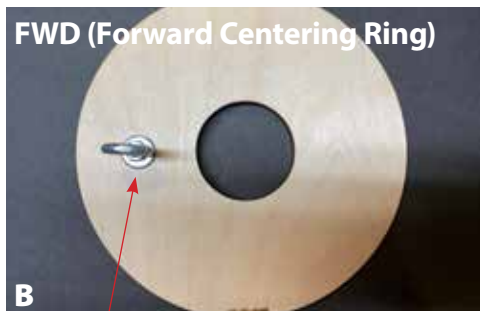


Image shows the Motor Tube, FWD Centering Ring (1), the AFT Centering Ring (2), and the two T-Nuts (3).

A. Rough sand the motor tube to ensure proper adhesion of epoxy, OR remove the outer glassine wrap.



B. Install the eye bolt into the FWD centering ring using the eye bolt, two washers, and two nuts. Tighten securely.

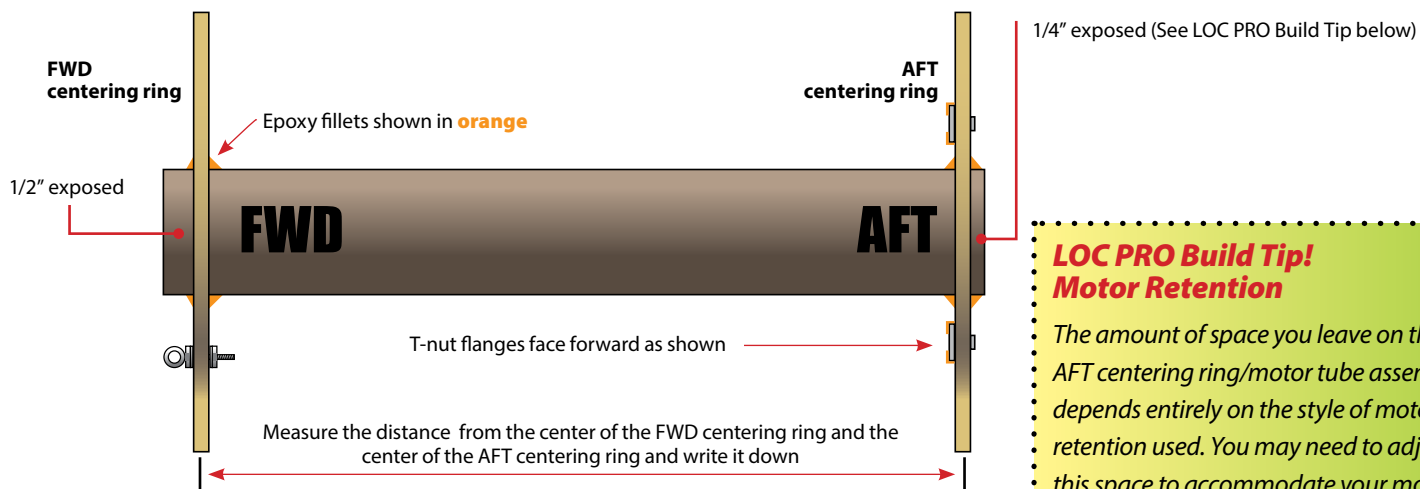


C. Press the T-nuts into the laser cut holes in the AFT centering ring. The flange side of the T-nuts will be **forward** when mounted on the motor tube.



This should be the rear view of the AFT centering ring when mounted on the motor tube.

STEP 2 - Motor Tube and Centering Rings Assembly



A. Epoxy the FWD centering ring onto the motor tube leaving 1/2" of the motor tube exposed. Make sure the eye bolt faces forward as shown.

B. Epoxy the AFT centering ring onto the motor tube leaving 1/4" of the motor tube exposed as shown.

Make sure that both centering rings are perpendicular to the motor tube!

Set aside to cure.

C. Once cured, make epoxy fillets onto the joints where the motor tube meets the centering rings. Also dab epoxy onto the

forward facing T-nut flanges and the eye bolt for added strength. **DO NOT get epoxy into the threads on the T-nuts!**

D. As a final step, measure the distance between the center of the FWD and AFT centering rings and write it down. You'll need the measurement when you mount your launch lugs.

LOC PRO Build Tip! Motor Retention

The amount of space you leave on the AFT centering ring/motor tube assembly depends entirely on the style of motor retention used. You may need to adjust this space to accommodate your motor retention.

If you are using the "Z Clip" motor retention supplied with this kit, make the space 1/4".

[Go here for optional Loc Precision Motor Retention Kits.](#)

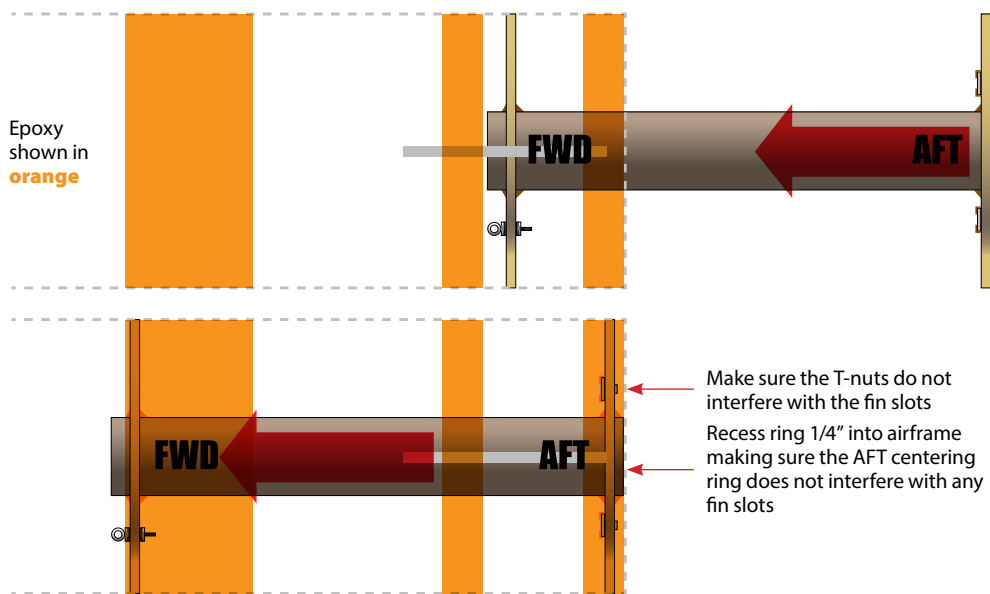


STEP 3 - Motor Tube to Airframe Assembly

Read the instructions for Step 2 carefully and make sure you understand them before proceeding!

Test fit the centering ring/motor tube assembly into the airframe. You may need to slightly sand the centering rings to get them to slide into the motor tube. Once you are satisfied with the fit...

A. With a long stick slather epoxy **inside** the AFT end of the airframe between and forward of the fin slots. Insert the motor tube assembly into the airframe until the AFT centering ring is 1/4" recessed from the bottom of the AFT end. **Make sure the centering rings do not interfere with the fin slots!** (An easy way to do this is to insert a fin into the fin slot to make sure the centering ring is not too far in.) **Also make sure the T-nuts are not aligned with any fin slots!** Stand the airframe AFT end down to cure.



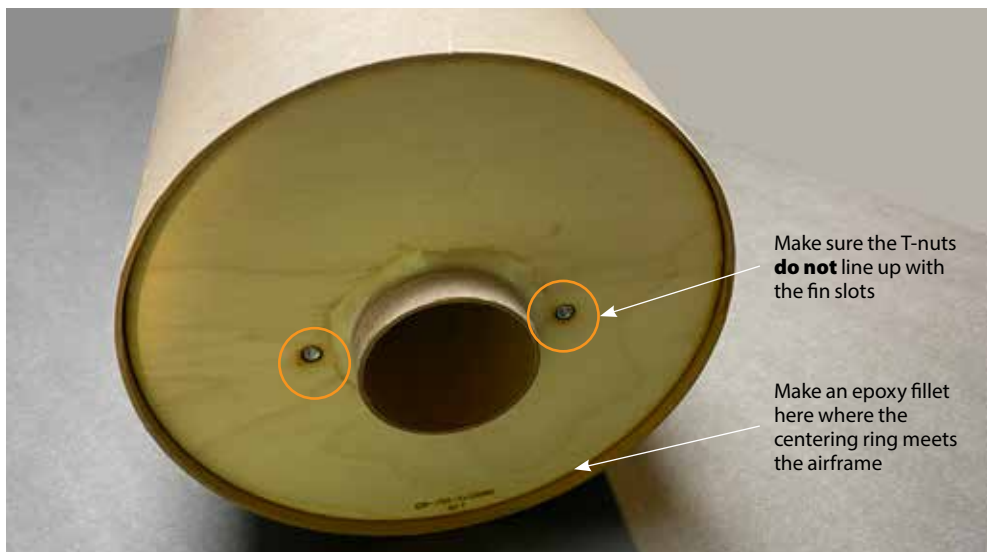
You may always add more epoxy to the FWD ring by drizzling epoxy onto the ring from the FWD end of the booster.

DO NOT get any epoxy in the motor tube!

STEP 3 - Motor Tube to Airframe Assembly - continued

B. When cured, flip airframe over so AFT end is upright. Apply an epoxy fillet to the intersection where the AFT ring meets the airframe.

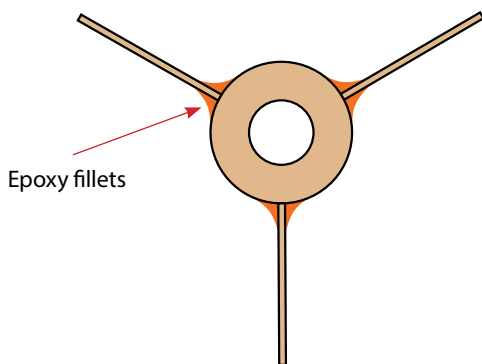
DO NOT get any epoxy in the motor tube or the T-nuts! Allow to cure.



STEP 4 - Fin to Airframe Assembly

Sand all fins smooth and round off the leading and trailing edges using medium, then fine sandpaper.

Test fit the fin tabs (which protrude out from the fin's root edge) into the airframe's fin slots. Sand where necessary for a good flush fit.



A. Once all parts fit satisfactorily, apply a liberal amount of epoxy to the root edge of one fin tab and insert fin into fin slot.

Make sure the fin is at a right angle (90°) to the airframe. Set aside to cure. Keep the airframe in a horizontal position until the epoxy cures. Do one fin at a time, and let cure; then move on to the second fin and

repeat the epoxy process. Repeat with the last remaining fin.

B. Once all the fins have completely cured, add epoxy fin fillets for additional strength. **Use the Warlock shipping box as a work stand while you create fillets!** Cut a slit in the box top for a fin and your stand is ready!



LOC PRO Build Tip! Optional Fin Can Build

Loc Precision has a build video that shows an optional way to construct the fin/motor tube assembly. The fin can is built outside of the airframe and then inserted. The pro is that you get superior epoxy strength on the fins. The con is that you end up with a heavier rocket.

The Loc Precision fin can build can be seen [here](#).



Additional epoxy gives superior strength for hard landings... the cost is additional weight.

STEP 5 - Fill Spirals

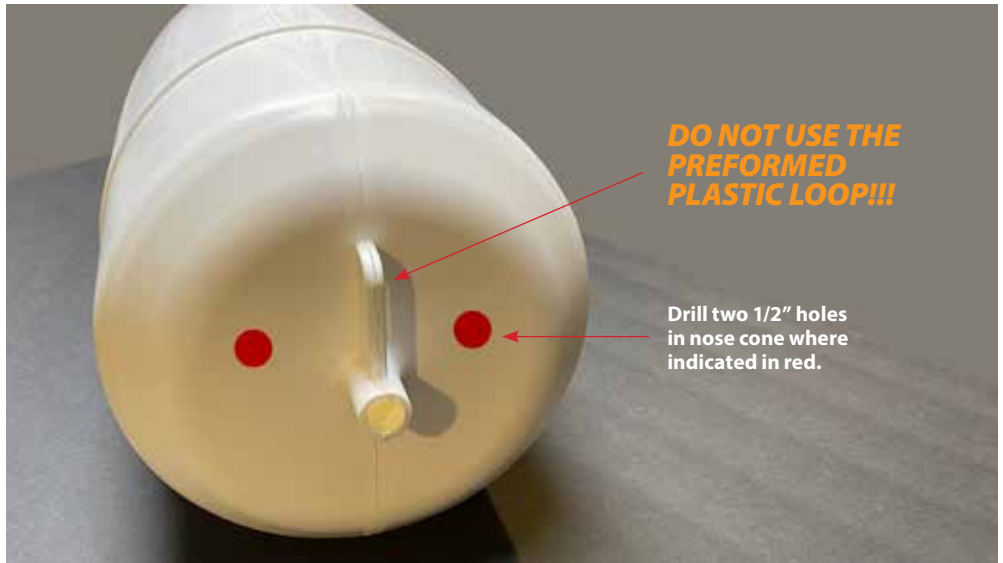
This is an optional step... fill spirals in the airframe if desired. Many builders use Elmers® Wood Filler which has been thinned down with water for this step.



STEP 6 - Nose Cone /Shock Cord Assembly

Modify the nose cone as shown. Drill 1/2" holes on opposite sides of the nose cone and feed shock cord through using a stiff guide wire. Knot shock cord approximately 3' from the end. Make a knot in the parachute paracord. Attach quick link to the sewn shock cord loop and parachute loop to the quick link. Good practice is also to add a swivel to minimize spin on decent.

Note: Loc Precision has a video that details the nose cone assembly. Nose cone mod starts at 5:18 in the video. See the video [here](#).



STEP 7 - Rail Guides Installation

A. Install the rail guides into the booster with provided screws. Using the centering ring measurement you wrote down from Step 2D, drill a small hole at the location of the forward and aft centering rings, centered between fin set.

B. Drop a small amount of epoxy in drilled holes, thread the rail guides and screws in the holes, rotate rocket 180 degrees & let cure.



STEP 8 - Shock Cord Attachment

Attach the shock cord to the eye bolt in the forward centering ring. Most builders use a quick link (not included) for this purpose. A quick link makes it easy to change out shock cords if needed.



STEP 9 - Paint / Finish

Seal fins and launch lug with sanding sealer using a brush. Sand lightly between coats to fill pores and obtain a smooth finish. Lightly sand plastic nose cone with fine sandpaper to remove molding seam line. At this time, remove any plastic flash that was molded into the nose cone eyelet.

When you are satisfied with the smooth sanded finish of your model, it is ready to prime and paint.

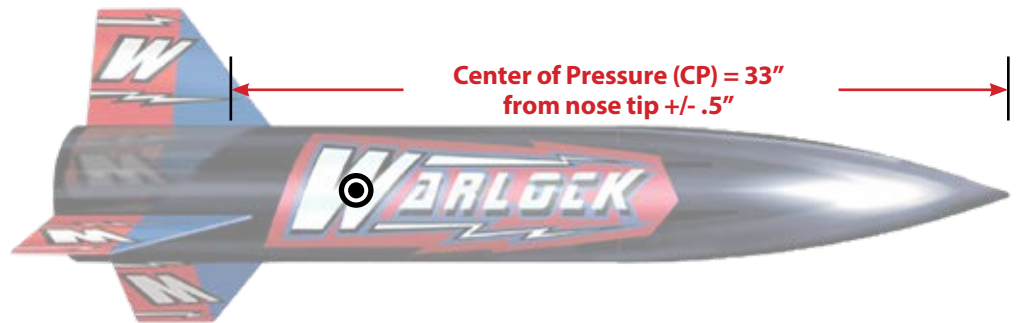
- Spray rocket with primer, sand and repeat until smooth finish is obtained
- Spray rocket with paint of choice, let dry.
- Apply protective clear coat
- Apply vinyl decals to your liking
- Repeat with clear coat.

PREFLIGHT

Sim Your Rocket!

This rocket is recommended for high power rocket motors I through K impulse. Depending on your flying field and finished weight, this is a very versatile kit. The Rocksim® file is available on the Warlock 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.



Warlock 7.5 Specs

Motor Suggestions: I-K capable impulse

Height: 52.00"

Diameter: 7.5"

Weight: 6.5 lb

Select a motor for first flight. When using 29mm motors or 38mm motors, it is necessary to use LOC's motor mount adapter [MMA-3](#), for 29mm motors and [MMA-4](#) for 38mm motors, (not included in kit). Because of all the different motor combinations available (with varying motor lengths), this kit uses no motor blocks. Instead, wrap 1 1/2" wide masking tape around the nozzle end of each motor to a diameter equal to that of the motor mount tube. This will keep the motor from pushing forward upon ignition. Friction fit the motor in place by wrapping masking tape around the motor in two places for a snug fit in the motor mount tube. This will prevent the motor from ejecting rearward upon activation of the ejection charge.

Remember to use enough recovery wadding to protect the chute and shock cord from the hot ejection gases .

Always follow motor manufacturer's instructions for motor use and ignition, and launch this vehicle on calm, windless days to insure safe recovery.



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Model Rocket Safety Code

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	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 G's	1,500'

Schools, Clubs and Other Groups

Loc Precision Multi-Packs are available for this and other Loc Precision Rocket kits. Call or email us for multi-pack pricing.



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