

Instruction Manual

Welcome to quality Model Rocketry!

Retro Mega Series

Model Rogue

Congratulations on purchasing one of QModeling's *Retro Mega Series* model rockets - the RMS-ROGUE. The *Retro Mega Series* consists of today's top quality sports class model rockets. The RMS-ROGUE is a 24mm rocket motor replica of the original Estes 1/2 A rocket motor Rogue. The original Rogue torched the skies in the late 1970's. QModeling's version of the Rogue is 2.22:1 scale of the original making it over 28 inches tall.

It enables the use of C, D, E, and F 24mm rocket motors creating low to incredibly high altitude launches. It may seem a bit early to speak of performing a count down, but with QModeling's high quality laser cut parts and easy step-by-step instructions your own Rogue will be breaking altitude records in no time. QModeling's engine mount and primary fin design not only helps to ensure correct construction for a successful first flight, but also increases durability for long lasting enjoyment

Before beginning assembly please take a moment to read through the entire instruction manual and study the different figures. It won't take long. Doing so will make assembly easier and contribute to a successful first flight. Remember to work slowly and follow the instructions as shown. Check off boxes for each step have been provided to keep track of completed steps.

.WARNING!!!

A MODEL ROCKET IS NOT A TOY, IT IS CAPABLE OF CAUSING SERIOUS BODILY INJURY AND PROPERTY DAMAGE. IT IS THE BUYERS RESPONSIBILITY TO BUILD THIS KIT CORRECTLY AND LAUNCH IT UNDER THE NATIONAL ASSOCIATION OF ROCKETRY SAFETY CODE.

Skill Level 2

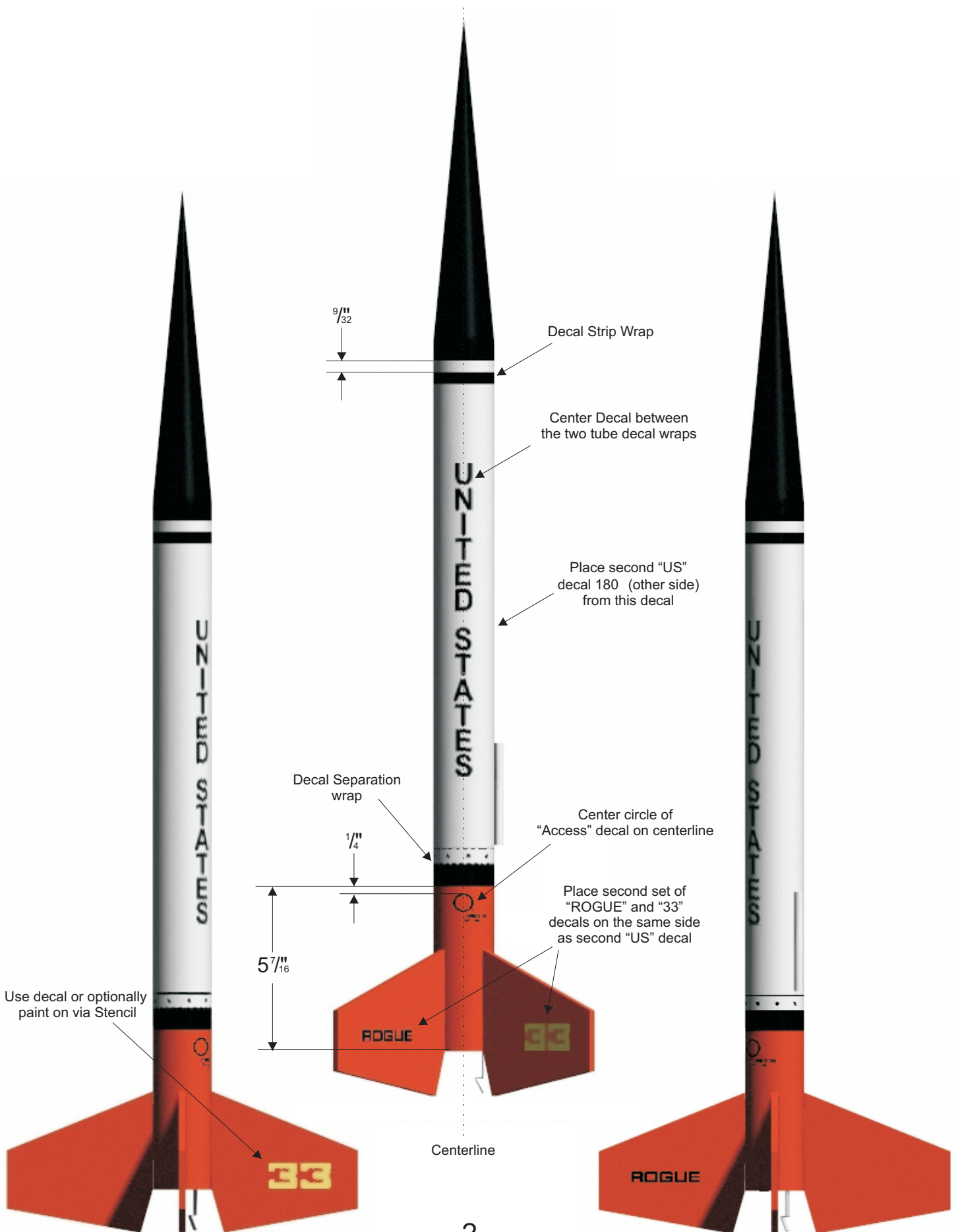
Version 4.0

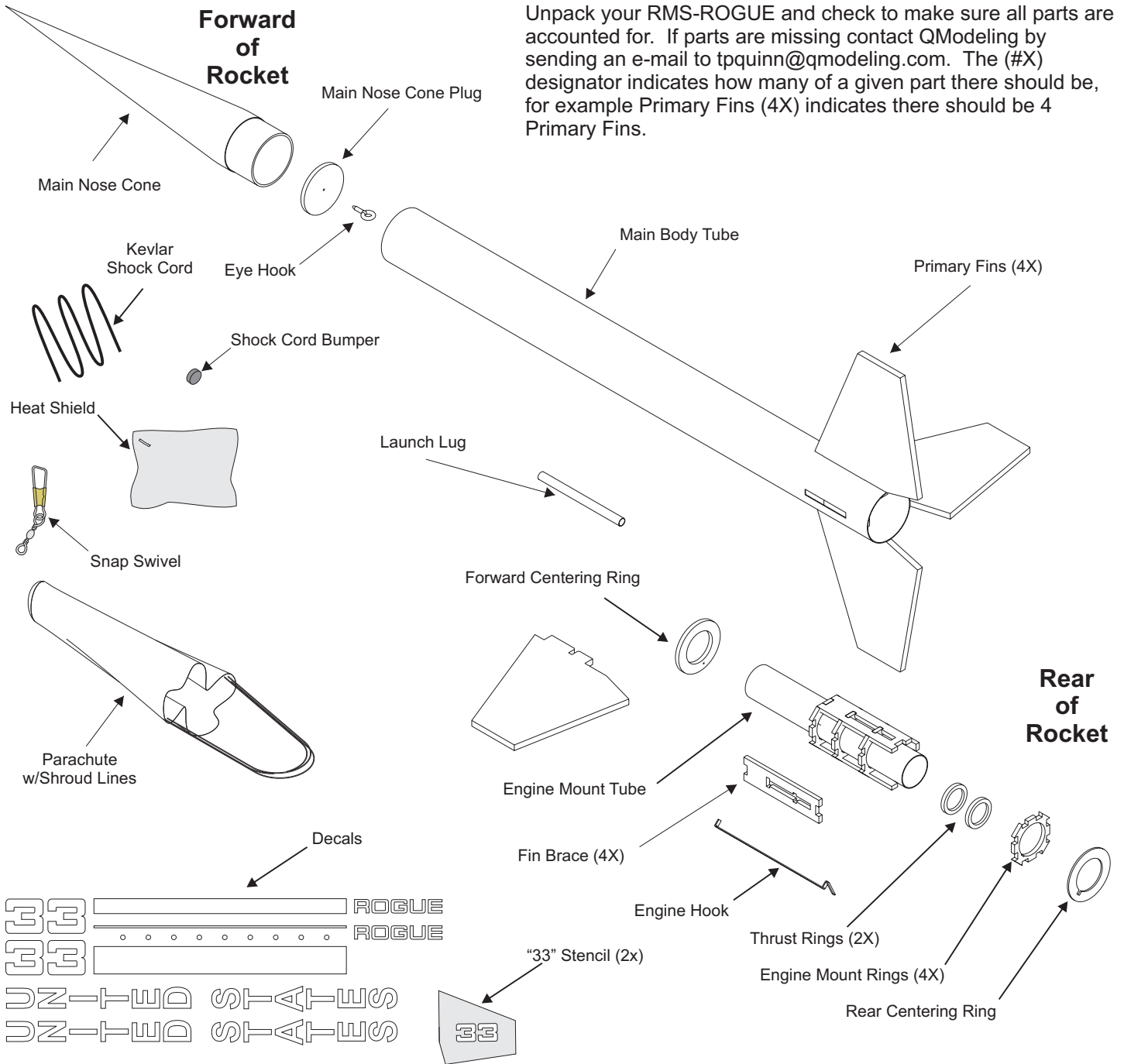


QMODELING

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Decal and Paint Scheme Renders





Please note the Parts Ordering form in your kit. Use this form to order replacement or additional parts.

Additional Items Needed

- | | | |
|--------------------------------------|---|--|
| <input type="checkbox"/> Brain | <input type="checkbox"/> Long Cotton Swab Sticks (not Q-Tips) | <input type="checkbox"/> White or Light Gray Primer Spray Paint |
| <input type="checkbox"/> Scissors | <input type="checkbox"/> CA Glue (i.e., ZAP) | <input type="checkbox"/> Gloss White Enamel Spray Paint |
| <input type="checkbox"/> Hobby Knife | <input type="checkbox"/> Wood Glue | <input type="checkbox"/> Gloss Black Enamel Spray Paint |
| <input type="checkbox"/> Pencil | <input type="checkbox"/> Sandpaper, 220-400 grit | <input type="checkbox"/> Gloss International Orange Enamel Spray Paint |
| <input type="checkbox"/> Ruler | <input type="checkbox"/> Sanding Block | <input type="checkbox"/> Optionally Gloss Yellow Enamel Spray Paint |
| <input type="checkbox"/> Paint Brush | <input type="checkbox"/> Sanding Sealer | |

Assembly Tip

Read all instructions and locate all parts before beginning assembly. Find or procure all additional items. Organize a suitable work area and layout parts and tools in front of you. Test fit all parts together during each assembly step before applying any glue, especially when using CA. If any parts don't fit sand as needed to ensure precise assembly. Don't rush, work methodically through each step ensuring you complete the previous step before moving onto the next step.

Forward versus Rear

It is imperative you understand the difference between the FORWARD and REAR ends of a rocket to fully comprehend the instructions. The forward end is towards the Main Nose Cone and the rear end is towards the Engine Hook. Refer to the exploded view on page 3 and note how certain parts are labeled based on their relative location to the Forward and Rear ends, for example the Forward Centering Ring.

Working with CA Glue

Cyanoacrylate (CA) glue is both a blessing and a curse. It bonds and hardens very quickly enabling you to proceed from step-to-step, but the fast drying time also minimizes the amount of time you have to adjust the position of parts. The key to working with CA glue is to make sure you understand the steps and test fit all parts prior to gluing. Don't use an accelerator. Most CA glues (i.e., ZAP) come in a variety of drying times. We recommend a mid-drying time (i.e., ZAP, Green 5-10 seconds) for general purpose use. Be careful to avoid getting glue on your fingers and skin. Should you accidentally glue your fingers together use nail polish remover to soften the CA. **ONE FINAL NOTE, CA GIVES OFF FUMES WHICH CAN IRRITATE EYES AND LUNGS. MAKE SURE YOU USE CA WITH ADEQUATE VENTILATION.**

Assembly Attack Strategy

It is always a good idea to have an attack strategy when building a model and is one reason we stress reading the entire manual first. The instructions are broken into four main sections - Engine Mount Assembly & Installation, Main Body Tube and Nose Cone Assembly, Finishing, and Final Assembly. The easiest assembly strategy is to simply start with the Engine Mount Assembly & Installation and perform each step in sequence through all four main sections. To speed up the process during times when glue needs to dry, other steps can be done in parallel, for example preparing the Main Nose Cone. Understanding fully all steps could also help identify other steps that can be done in parallel. What ever your strategy is make sure you understand the entire assembly process, check off steps, and ensure any **parallel assembly** doesn't effect other assembly steps. All time estimates are based on performing the assembly one step at a time.

Weight, Weight, Weight !

Watching weight goes beyond your own belt line. Rockets shouldn't become "Glue Bombs". There is a tendency to think more glue is better, it is not. Excess glue simply adds unnecessary weight and therefore decreases a rocket's performance. The MRS line of kits have been designed to be rugged kits for Sports Class Rocketry. Yes they are not designed for the "high performance dudes", but are high quality kits for the "fun-fly crowd". We encourage you to control weight and performance by limiting the amount of glue used for fillets, applying thin coats of primer and paint, sanding and shaping fins, and sanding down nose cones. There are thousands of great internet sites and forums to help with construction techniques, check them out!

Blowin' in the Wind !

Upscale kits are great, but are typically more exposed to such real phenomena as "Wind Cocking". Upscales are heavier and depending on the thrust spike of the motor used (i.e., D12, E9, etc.) they typically have lower take off speeds. The lower take off speed makes them more vulnerable to the wind. Proper engine sizing, flying in appropriate weather, using longer launch rods, and respecting the NAR Safety code will help stop you from Blowin' in the Wind. We highly recommend Harry Stine's book, "Handbook of Model Rocketry" to learn more about rocket flight dynamics.

Cleaning Plastic Molded Parts

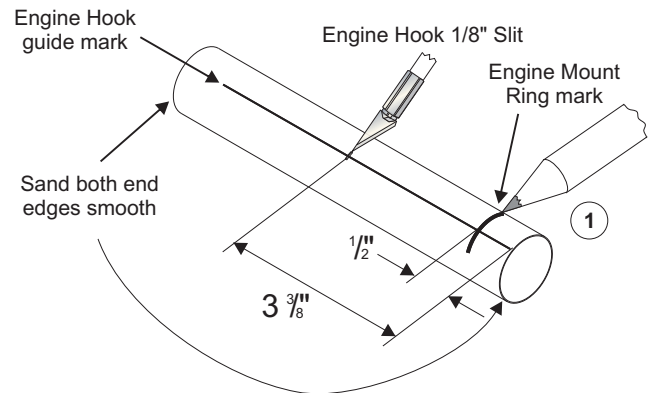
We create our plastic parts using a two-part plastic modeling process that uses aluminum molds. The molds are split molds. The halves are clamped together and a two part liquid plastic is poured into the cavity. A core is then inserted squeezing the liquid plastic upwards between the cavity and the core. To prevent the mold cavity and core from sticking to the plastic as it hardens "mold release" is used. The mold release can interfere with finishing paint. To properly clean the plastic parts first wipe them down with a clean soft cloth. Apply isopropyl alcohol to a second soft clean cloth and wipe the parts thoroughly. Let parts dry and repeat the alcohol wipe down. Finally buff parts one last time with a dry soft cloth.

It's a Manual not a Bible!

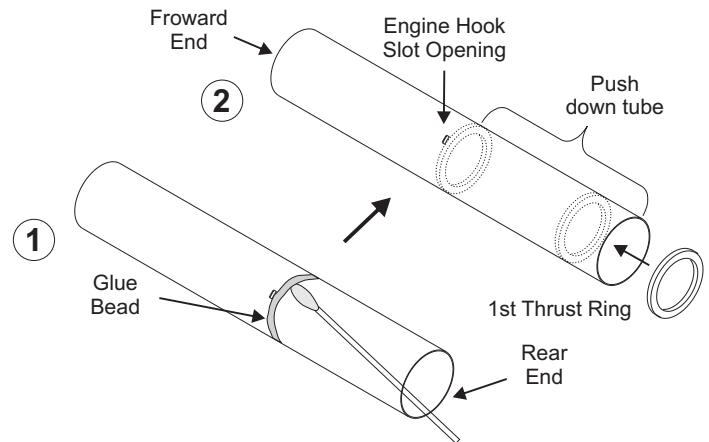
We take pride in our manuals, but there is no way to convey years of modeling experience from a huge knowledge base of model rocketeers. We highly suggest searching the web for building techniques, joining a forum to help answer questions, and/or becoming a member of a club. Remember the best aspect of any hobby is sharing ideas, telling stories, and laughing with co-hobbyist.

Engine Mount Assembly and Installation (60-75 mins)

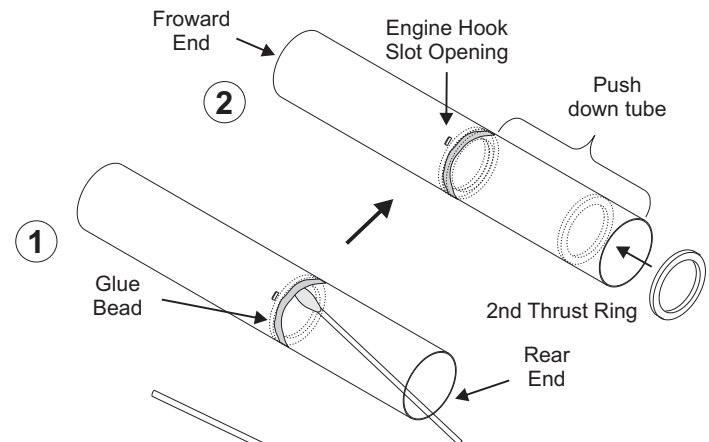
1. □ Lightly sand the Engine Mount Tube end edges (see figure) smooth using 220 grit sandpaper. Using a pencil and a ruler mark the locations for the Engine Hook and Engine Mount Ring #1 on the Engine Mount Tube as shown. Also create an Engine Hook guide line down the center of the Engine Mount Tube. Cut a 1/8 inch wide slit into the tube at the Engine Hook location using a hobby knife.



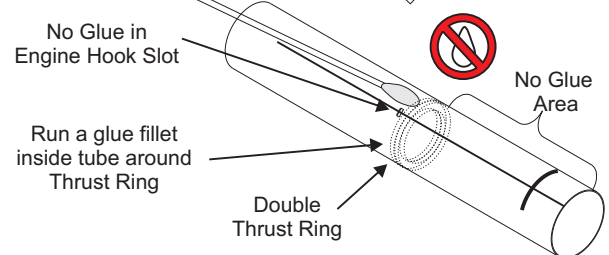
2. □ (1) Keeping the Engine Mount Tube level or tilted slightly back towards the Forward end, us a cotton swab stick to carefully run a bead of Wood glue around the inside diameter of the tube just to the rear of the Engine Hook slot. (2) Slip one of the two Thrust Rings into the tube and use a spent E-Size Rocket Motor or proper sized dowel to push the ring down into the tube until it hits the edge of the Engine Hook slot opening. **DO NOT ALLOW ANY GLUE INTO THE NO GLUE AREA AS INDICATED IN STEP #4!**



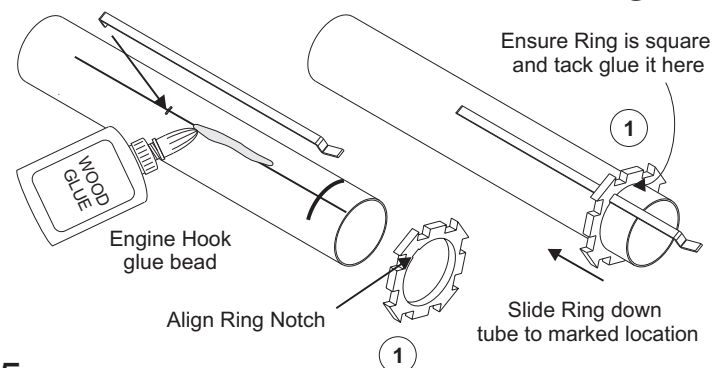
3. □ Repeat step #2 to install the 2nd Thrust Ring. (1) Again keep the Engine Mount Tube level or tilted slightly back towards the Forward end, us a cotton swab stick to carefully run a bead of Wood glue around the inside diameter of the tube just to the rear of the 1st installed Thrust Ring. (2) Slip the 2nd Thrust Ring into the tube and use a spent E-Size Rocket Motor or proper sized dowel to push the ring down into the tube until it hits the 1st installed thrust ring. **DO NOT ALLOW ANY GLUE INTO THE NO GLUE AREA AS INDICATED IN STEP #4!**



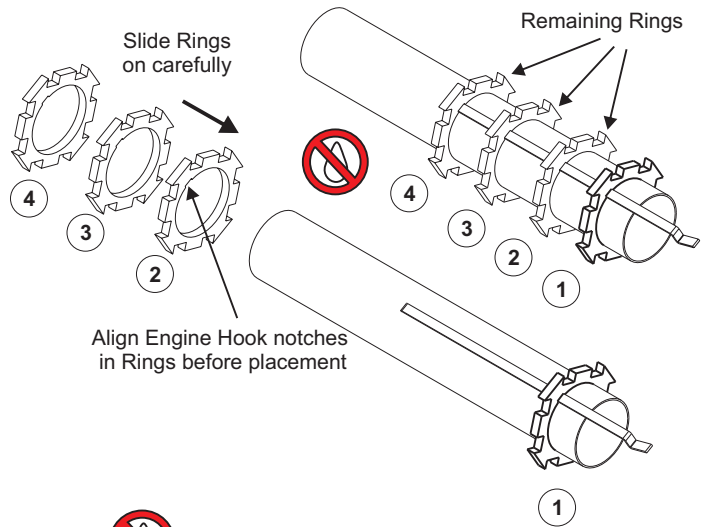
4. □ From the froward end run a fillet of Wood glue around the 1st ring and tube interface. Stand tube vertically on rear end allowing the glue to dry throughly (10-15 min) before moving onto the next step. **DO NOT ALLOW ANY GLUE INTO ENGINE HOOK SLOT OR THE NO GLUE AREA AS INDICATED!**



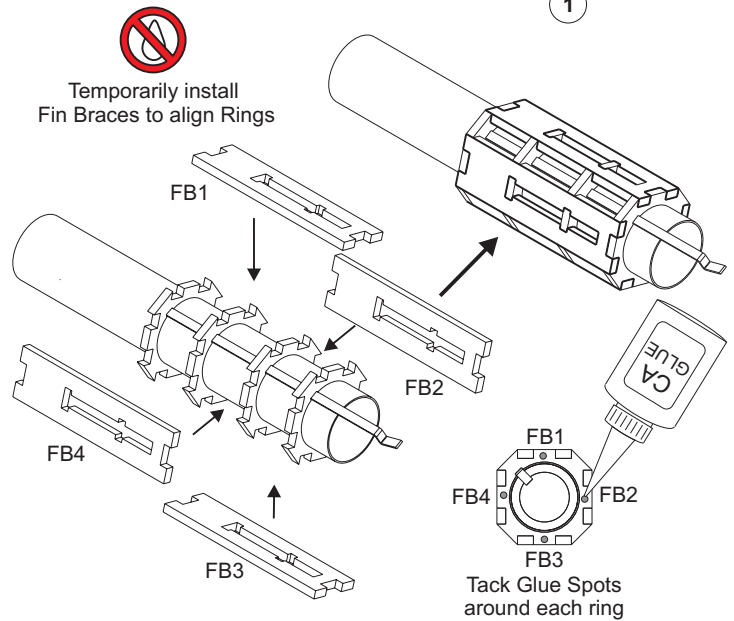
5. □ Place a bead of Wood glue as illustrated. **DO NOT RUN THE BEAD INTO THE MARKED RING AREA.** Insert one end of the Engine Hook into the slit. Align the notch in one of the four Engine Mount Rings with the Engine Hook and then slide ring down the Engine Mount Tube until it touches the pencil mark created in step #1. **THIS RING IS THE FIRST AFT RING.** Ensure ring is square with the Engine Mount Tube and then tack glue with CA in place at location shown. **DO NOT COMPLETELY GLUE THE ENGINE MOUNT RING IN PLACE AT THIS TIME!**



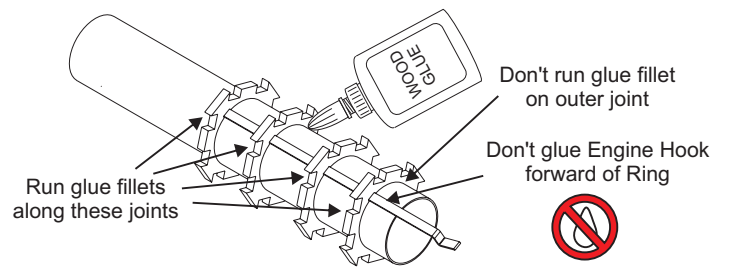
6. Carefully align and slip on the remaining three Engine Mount Rings (#2, #3, and #4) as shown. The three rings are slipped on from the front. Note previous installed ring #1 in step 2 is highlighted. **DO NOT TACK GLUE THE RINGS AT THIS TIME!**



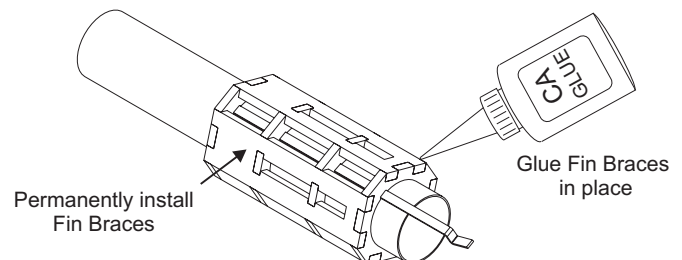
7. With the Engine Mount Rings aligned temporarily install the four Fin Braces (FB1, FB2, FB3, and FB4) in place as shown. Ensure all rings are square and then tack glue each ring to the Engine Mount Tube in three different spots around the tube using CA. **DO NOT GLUE THE FIN BRACES AT THIS TIME!**



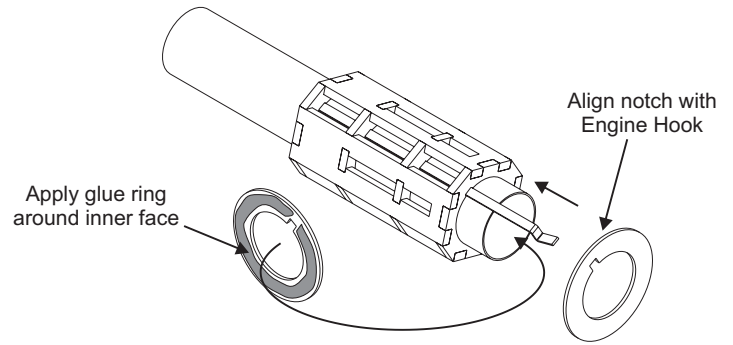
8. Remove the Fin Braces and permanently glue all rings to the Engine Mount Tube using Wood glue by running a fillet around each joint as shown. **DO NOT GLUE ENGINE HOOK TO ENGINE MOUNT TUBE FORWARD OF ENGINE MOUNT RING AS ILLUSTRATED AND DO NOT RUN A FILLETS ON THE OUTER SIDE OF THE REAR ENGINE RING.** Let glue set (10-15 min) before moving on to next step.



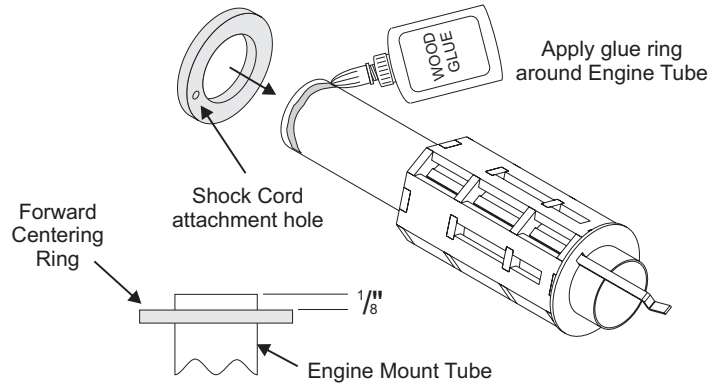
9. Replace the Fin Braces and permanently glue them to all Engine Mount Rings using CA.



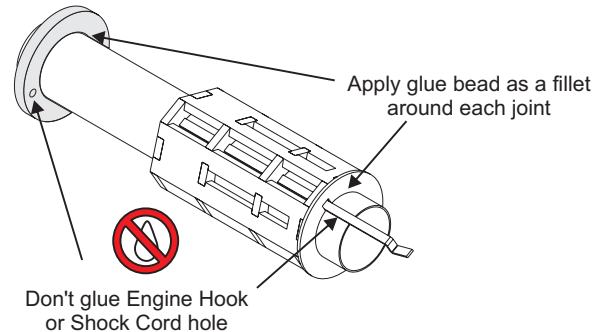
10. □ Apply a ring of Wood glue around the face of the Rear Centering Ring as shown. Make sure the Rear Centering Ring notch is aligned with the Engine Hook and then slide it onto the rear end of the Engine Mount Tube. Push ring up the tube until it meets with the rear Engine Mount Ring. Press ring firmly and let glue set (5-10 min). **DO NOT ACCIDENTALLY GLUE ENGINE HOOK TO ANY SURROUNDING PARTS FORWARD OF THE REAR CENTERING RING. IT MUST FREELY MOVE WITHIN NOTCH.**



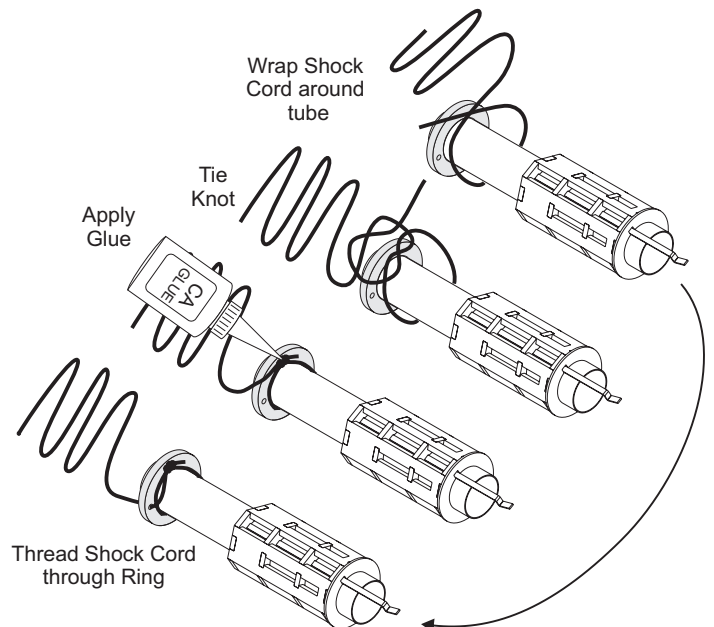
11. □ Apply a ring of Wood glue around the forward end of Engine Mount Tube as shown. The bead should be roughly 1/8" from the tube end. Slip the Forward Centering Ring onto the forward end of the tube noting alignment of the Shock Cord attachment hole. Ensure the ring is square and let dry (10-15 min). **DO NOT ACCIDENTALLY FILL SHOCK CORD ATTACHMENT HOLE WITH GLUE.**



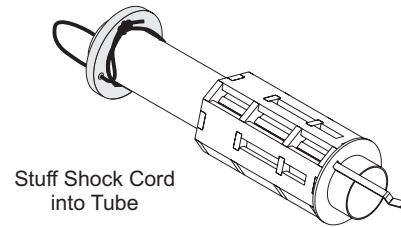
12. □ Apply a bead of Wood glue as shown around the Centering Rings and the Engine Mount Tube to form a fillet. **AGAIN DO NOT ACCIDENTALLY GLUE ENGINE HOOK OR FILL IN SHOCK CORD HOLE.**



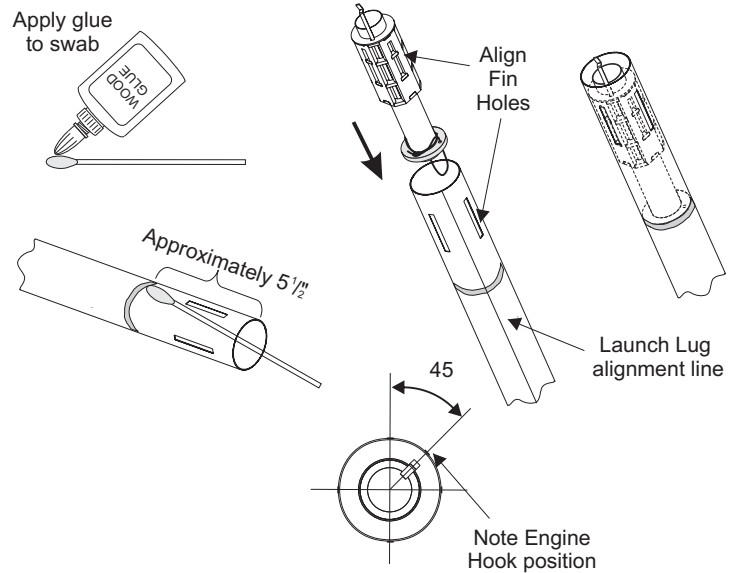
13. □ Wrap the Shock Cord around the Engine Mount Tube and tie a double knot near the Shock Cord hole in the Forward Centering Ring. Tighten knot and apply a drop or two of CA glue onto the created knot. Finally thread the Shock Cord through the hole in the Forward Centering Ring and pull the remaining cord through it.



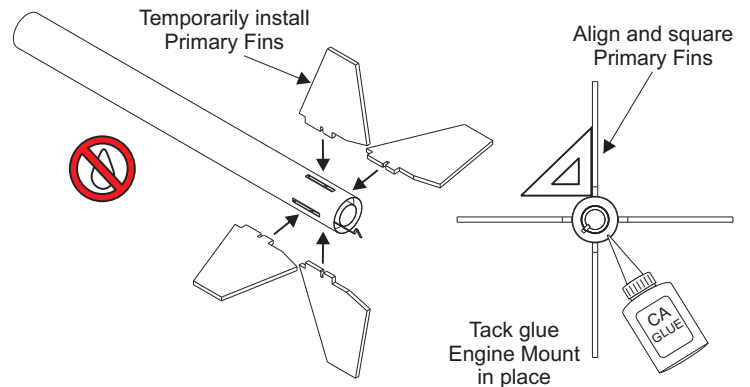
14. □ Stuff the Shock Cord into the Engine Mount Tube as shown in preparation for the next step. This will keep the Shock Cord out of the way. *Hint: Use a cotton balls to help keep Shock Cord in tube.*



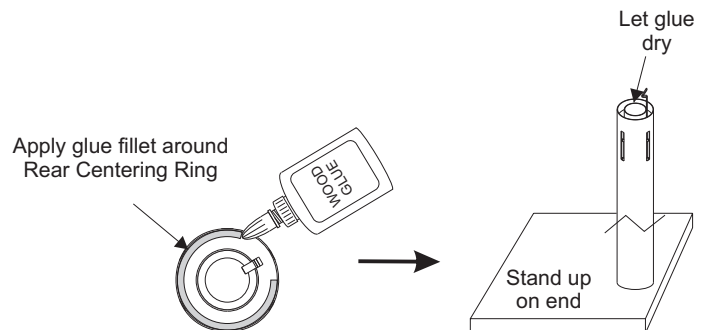
15. □ Test fit the Engine Mount Assembly into the Main Body Tube. Note how the Engine Mount Primary Fin holes line up with the Main Body Tube Primary Fin holes and how the Engine Hook lines up between two Primary Fin at 45°. Apply Wood glue to a cotton swab stick and create a bead of glue around inside of the Main Body Tube approximately 5 1/2" from rear as shown. Align the Main Body Tube Primary Fin holes with the holes in the Fin Braces on the Engine Mount Assembly. Insert the Engine Mount Assembly into the Main Body Tube keeping the Primary Fin holes aligned. **MOVE QUICKLY TO NEXT STEP.**



16. □ Keeping the Main Body Tube vertical to allow the glue bead to settle temporarily insert the Primary Fins in place as shown. Adjust the Engine Mount Assembly as needed to ensure the Primary Fins fit and are square to the Main Body Tube. Using CA tack glue the Engine Mount assemble into place around the Rear Centering Ring as shown. **DO NOT GLUE PRIMARY FINS INTO PLACE!** Carefully remove the Primary Fins and place the Main Tube assembly upright on a flat surface and let Wood glue on the Forward Centering Ring applied in step #15 dry thoroughly (15-20min).



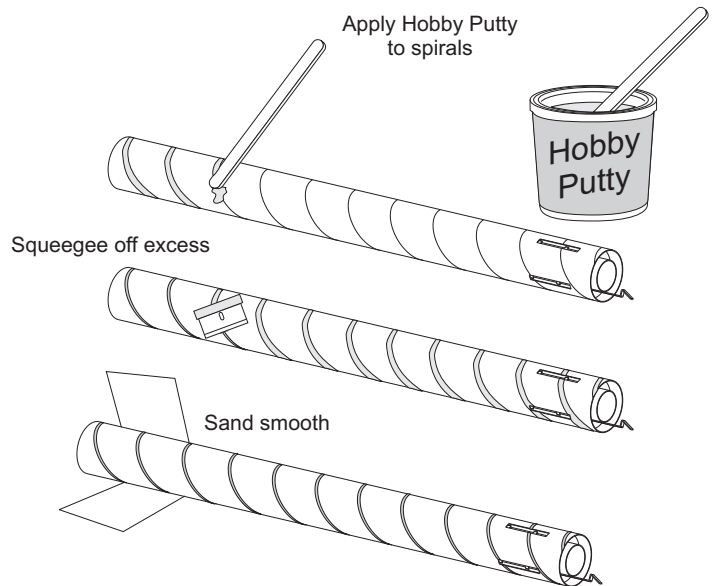
17. □ Place the Main Body Tube assembly upside down (Rear End up) on the Main Body Tube. Run a fillet of Wood glue around the Rear Centering Ring and the Main Body Tube interface. Again let glue dry thoroughly (10-15 minutes) before going to the next step.



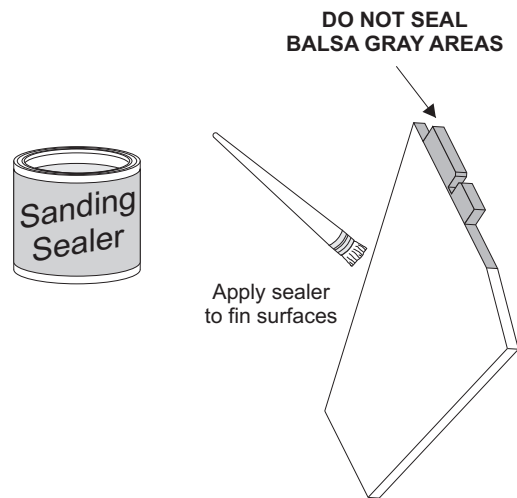
Congratulations on a job well done!

Main Body Tube and Nose Cone Assembly (60-75 mins)

1. Optionally if you chose this is a good time to fill the spirals of the Main Body Tube. Use hobby putty (i.e., Elmers Fill-n-Finish) to fill the spirals. You may need to thin down the hobby putty to the consistency of peanut-butter for easy application. Use a popsicle stick to apply putty to the spirals. Use a single edge razor blade to squeegee off excess and let dry thoroughly. Sand spirals smooth with 320 grit sandpaper. Apply additional coats and sand smooth as necessary.

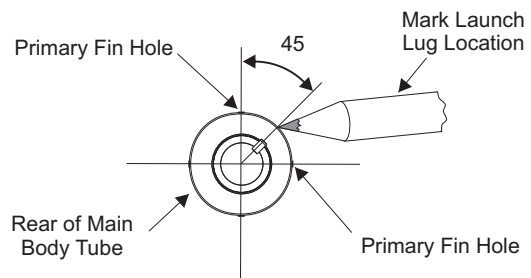


2. We highly recommend sanding and sealing the Primary Fin balsa wood surfaces now by purchasing Sanding Sealer from your local Hobby store. First fix any defects with Hobby Putty and light sanding. Apply sealer to Primary Fin balsa surfaces with a brush except on the root edge and tab surfaces as noted in gray (See illustration). *Hint: cover root and tab surfaces with masking tap to protect them.* This is very important since these areas are the gluing surfaces. Let sealer dry thoroughly. Lightly sand sealed surfaces with 220 grit sandpaper. Use a sanding block on flat surfaces when possible. Apply additional coats as needed to obtain desired finish. **AGAIN DO NOT SEAL THE GRAY AREAS DURING APPLICATION OF THE SEALER!**

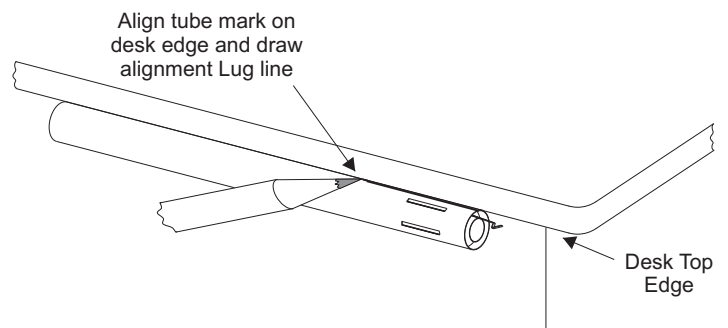


WARNING - ONLY USE AND APPLY SANDING SEALING IN A WELL VENTILATED AREA AND NEVER NEXT TO OPEN FLAMES!!!

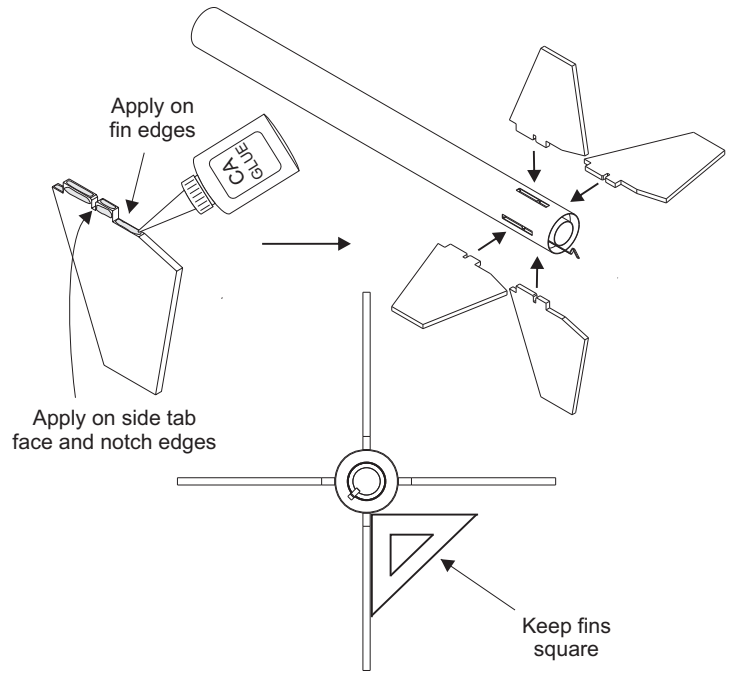
3. Using a pencil make a Launch Lug mark at the rear end of the Main Body Tube between the two Primary Fin holes with the Engine Hook as illustrated. The mark is located half way or 45 degrees between the two Primary Fin holes.



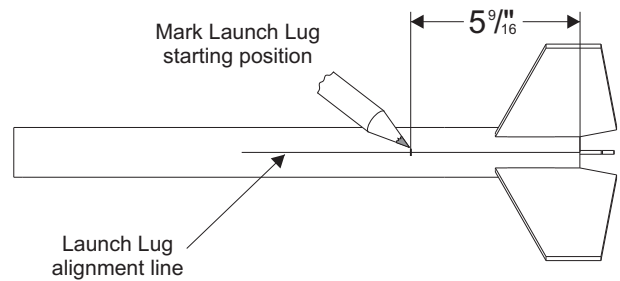
4. Using a straight edge, like a desk edge or a door jam, align the previous created Main Body Tube Launch Lug mark with the edge. Draw a Launch Lug alignment line lightly down the tube with a pencil. The line should extend down the tube roughly 10".



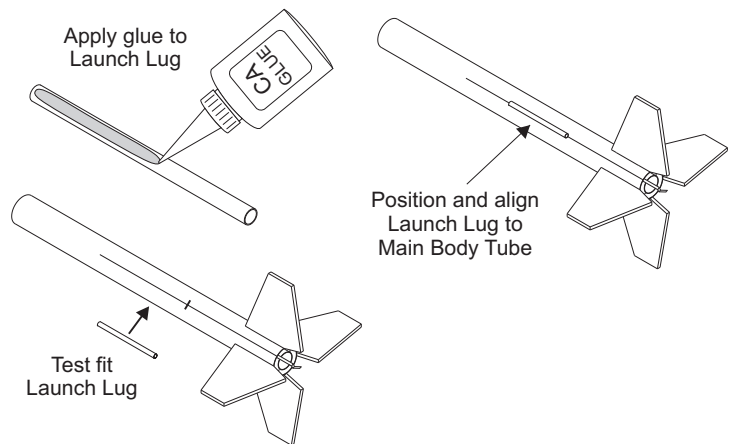
5. Take a Primary Fin and apply CA as shown to all surfaces that will contact the Engine Mount assembly and the Main Body Tube. Keeping the Primary Fin square, insert the fin into one of the Main Body Tube Primary Fin holes and press firmly in place. Hold the fin square until glue dries (20-25 seconds). Repeat the process for the other three Primary Fins.



6. Using a pencil and ruler make a mark on the Launch Lug alignment line $5 \frac{9}{16}$ " from the rear as illustrated. This will be the starting location for the Launch Lug.

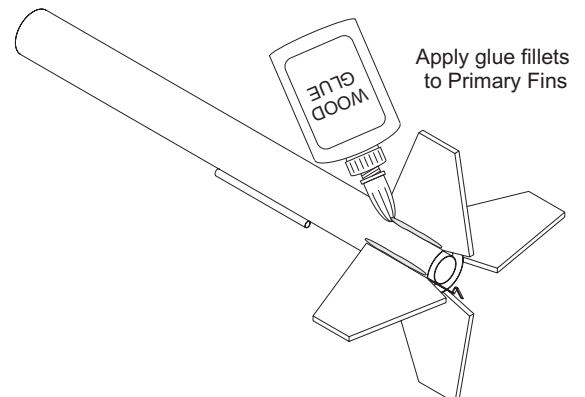


7. Locate the supplied Launch Lug tubing and test fit lug on alignment line starting at the mark produced in step #6. Apply a light film of CA glue on one side of the Launch Lug as shown. Press the Launch Lug into place as illustrated. Ensure lug remains parallel with the Main Body Tube.

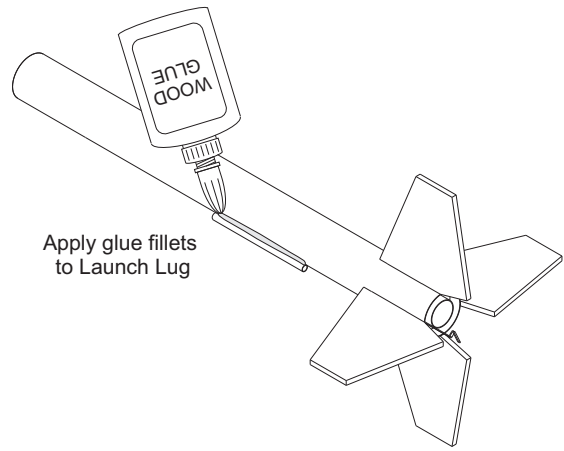


8. Using Wood glue apply glue fillets to all Primary Fin to Main Body Tube joints. Once the glue has set (10-15 minutes) rotate the rocket assembly 90° and apply the next fillet. **MAKE SURE FILLETS DO NOT RUN ONTO THE MAIN BODY TUBE OR FIN FACES. DON'T RUSH!**

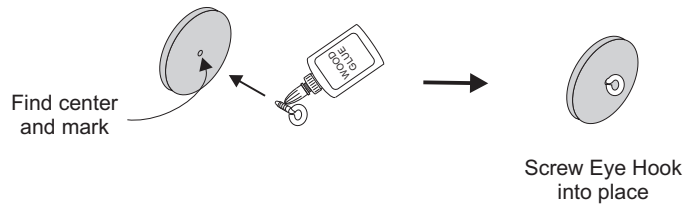
Optionally use can make fillets using epoxy. To learn more about creating and applying epoxy fillets research the internet. Note based on fillet size epoxy fillets can add significant weight.



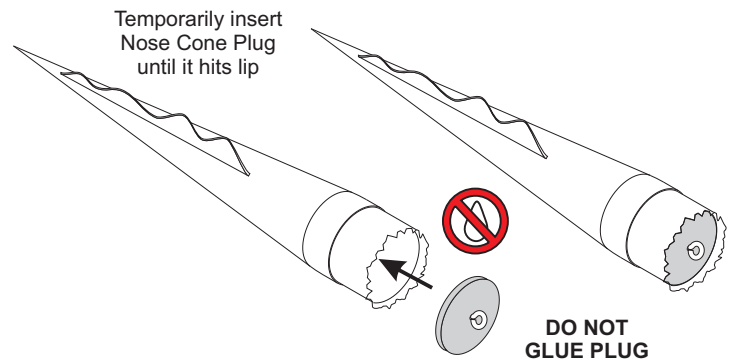
9. □ Using Wood glue apply glue fillets to all Launch Lug to Main Body Tube joints. **MAKE SURE FILLETS DO NOT RUN ONTO THE MAIN BODY TUBE OR INTO THE LAUNCH LUG OPENINGS. DON'T RUSH!**



10. □ Find the center hole of the Main Nose Cone Plug as indicated. If a **Logo** (proof of authenticity) exists please point it outward. Apply Wood glue to the threads of the Eye Hook. Screw the Eye Hook completely into hole and let the glue dry.

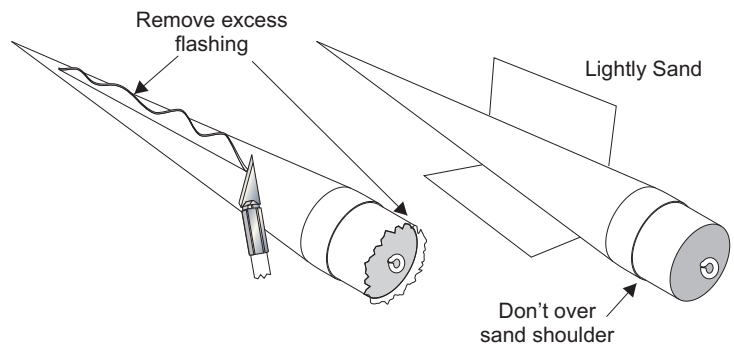


11. □ Clean Nose Cone surface using isopropyl alcohol and a clean soft cloth to remove any residual mold release. Temporarily insert the Nose Cone Plug into the Nose Cone as illustrated. **DO NOT APPLY ANY GLUE AT THIS TIME!**

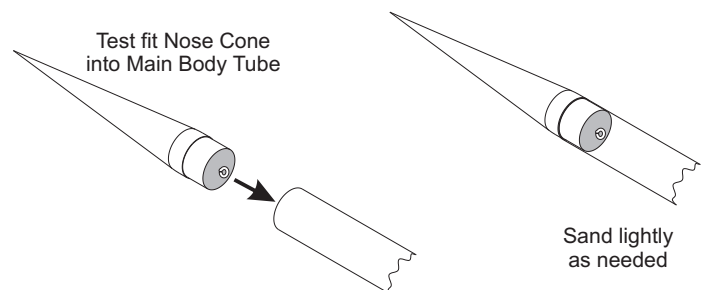


12. □ Remove any excess flashing from the Main Nose Cone using a hobby knife. Lightly sand with 220 grit sandpaper to remove any remaining plastic flash or small bumps. Additionally apply Hobby Putty as needed to fill in any holes or depressions. Lightly sand again until cone is smooth. Repeat applications of hobby putty and sanding until you are satisfied with the finish.

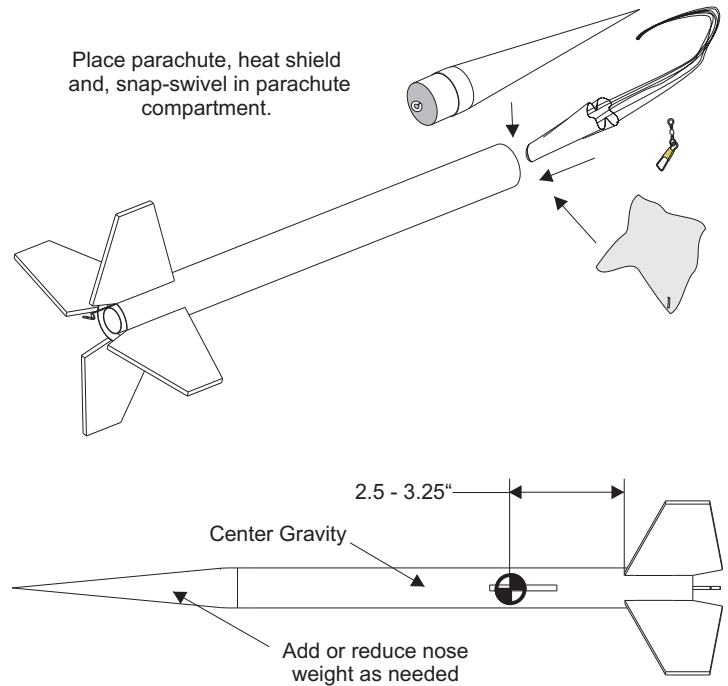
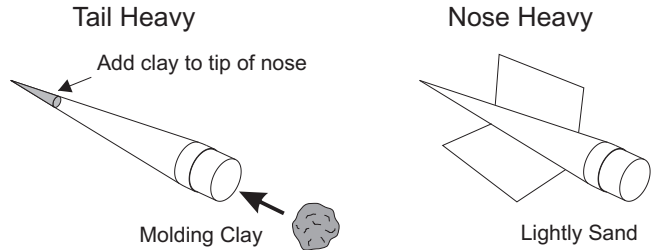
Option - reduce weight of Nose Cone by significantly sanding it forward of the shoulder. Be careful not to mis-shape the cone or over sand through the thin plastic shell.



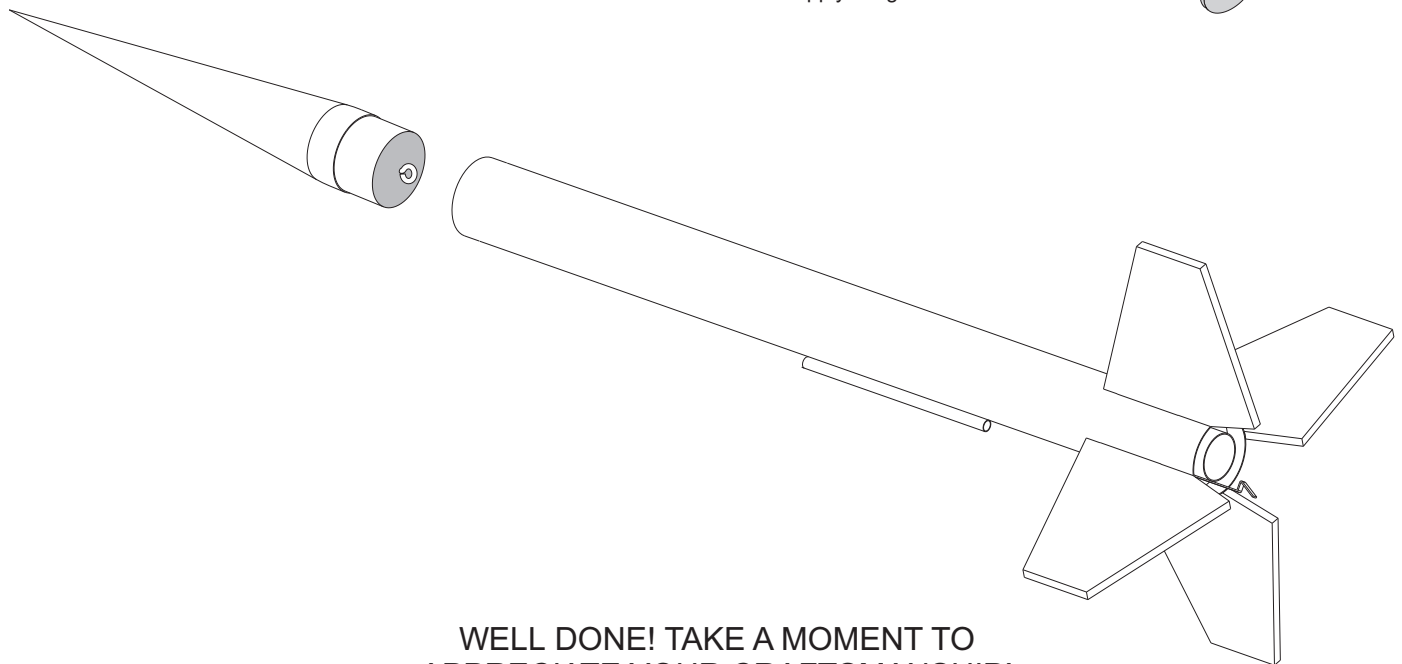
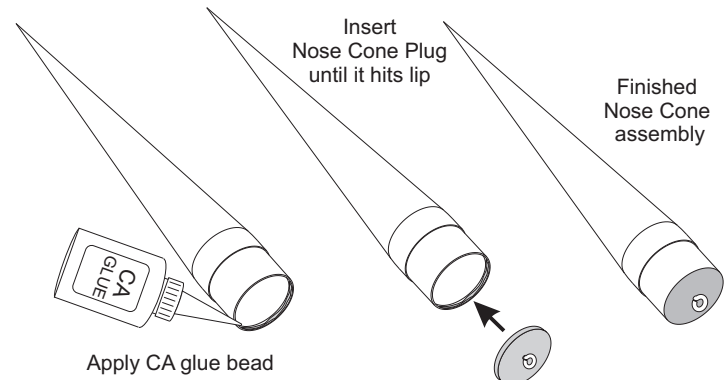
13. □ Test fit the Nose Cone into the top of the Main Body Tube. Lightly sand as needed with 220 grit sandpaper to ensure a slip fit. A good test is to hold the rocket nose-down. The Nose Cone should remain in place, but should come loose with a solid shake. **DO NOT OVER SAND OR SAND SHOULDER LIP !!!**



14. □ The RMS-ROGUE has been designed to produce a Center of Gravity (CG) 2.50 to 3.25 inches from the Primary Fins as illustrated. Test the CG by temporarily placing the parachute, heat shield, and snap swivel into the parachute compartment then find the point where the rocket balances. If the CG is too far back (tail-heavy), add weight to the nose using molding clay. If the CG is too far forward (nose-heavy), reduce the weight of the nose cone by sanding it.



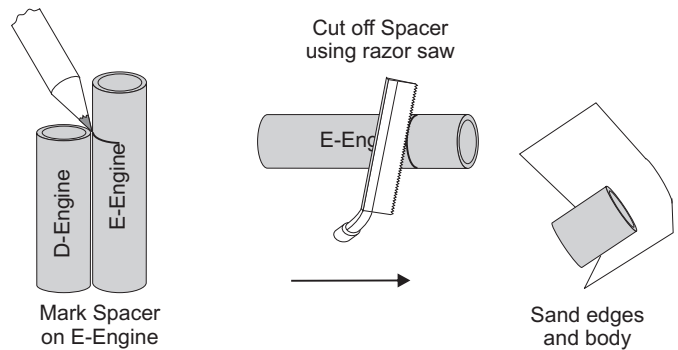
15. □ Remove the Nose Cone Plug and apply a bead of CA around inside of the Nose Cone as shown and then re-insert the Nose Cone Plug until it hits the lip inside the Nose Cone. Let dry 10-15 sec.



WELL DONE! TAKE A MOMENT TO APPRECIATE YOUR CRAFTSMANSHIP!

Making a D-Engine Spacer

1. Take both a spent D-Engine and E-Engine and set them side-by-side ejection charge end up. Using a pencil mark the height of the D-Engine onto the E-Engine as shown.
2. Using a razor saw cut the E-Engine at the mark to produce the spacer.
3. Sand edges and body of the spacer. Test fit into Engine Mount Tube. Spacer should be loose for easy insertion and removal.



Finishing

Now that your RMS-ROGUE is assembled it is time to add the finishing touches. Some modelers view model finishing - sanding, painting, and decaling as torture. Finishing enables you to bring out your personal signature or expression. There are many different finishing techniques that can be researched and implemented. The internet is full of web sites containing model finishing techniques and we encourage you to explore.

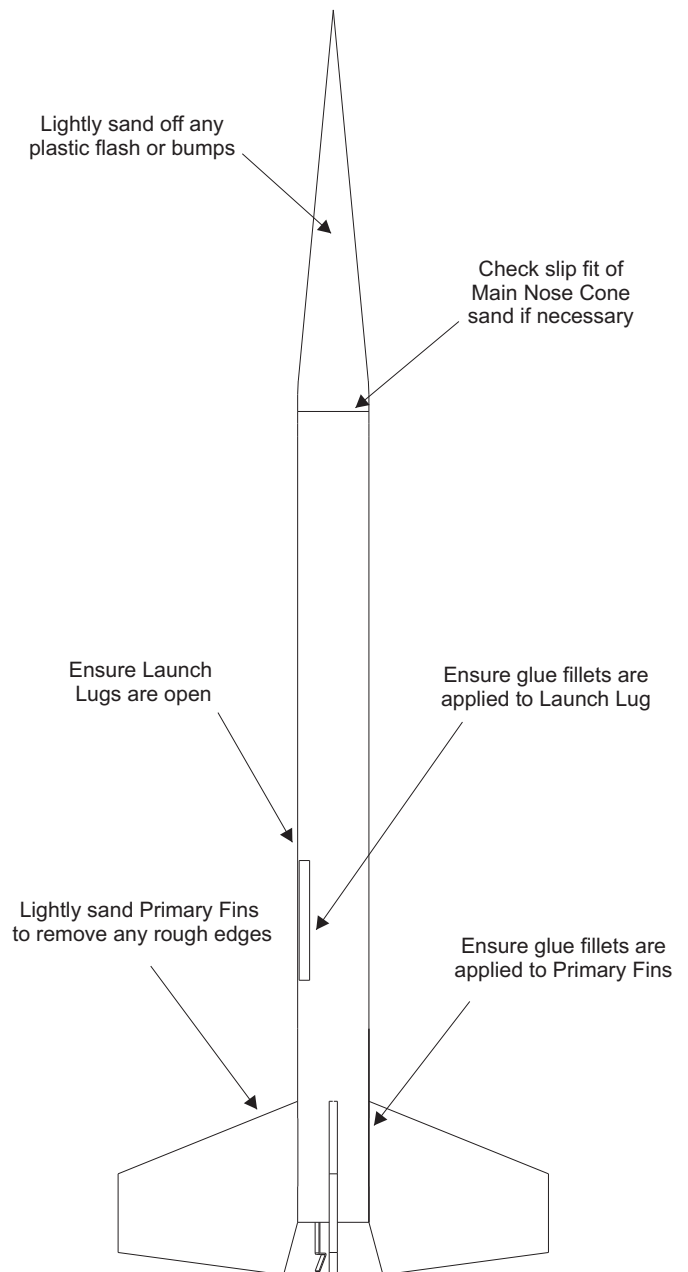
How your RMS- ROGUE is actually finished is entirely up to you. Some rocket enthusiasts may finish their Rogue using the original color schemes, while others may add their own flare (no pun intended) by using a rainbow of colors. However you decide to finish your RMS-ROGUE the point is to finish it!

The following steps will illustrate how to finish your RMS-ROGUE in the classic paint and decal scheme.

1. To finish your RMS-ROGUE start by ensuring all glue fillets are in place, all plastic flash or mold bumps are removed from the plastic nose cone, any rough balsa edges are removed, and any nicks are repaired. Review the instructions and recheck all glue fillets, fix any problems. Using 220 grit sandpaper lightly sand off any remaining plastic flash or bumps on the nose cone. Use a sanding block and 220 grit sandpaper lightly sand balsa areas and remove any rough spots. Repair any nicks using hobby putty and then sand smooth. Be careful not to over sand any area. Take your time. The time you spend on this step will be the greatest contributor to your final finish. **BE DILIGENT AND THOROUGH!!!**

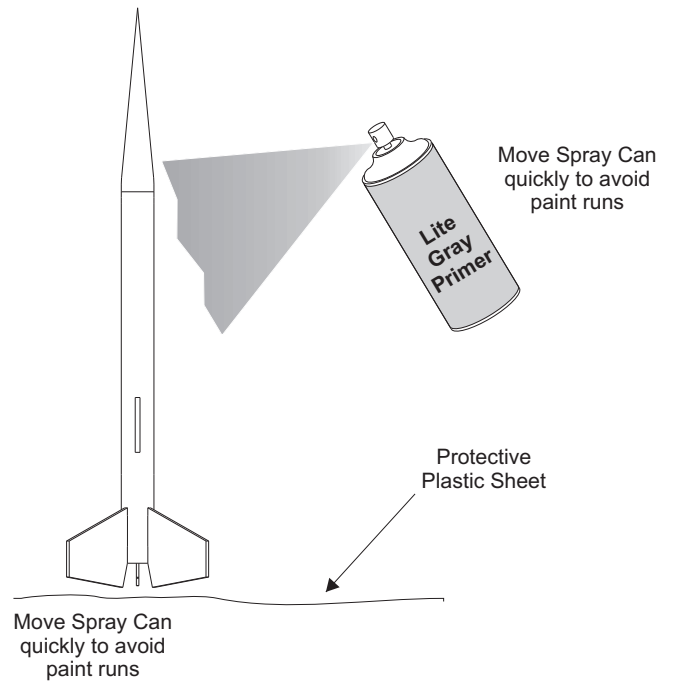
2. Study the illustrations on page #2 to understand the paint scheme of the Rogue before moving forward. Note you will be painting on the various sections using traditional masking and painting techniques.

It is important to allow paint to dry properly between coats. Improper drying time can cause previous paint layers to crinkle. Follow the directions on the spray can regarding drying times.

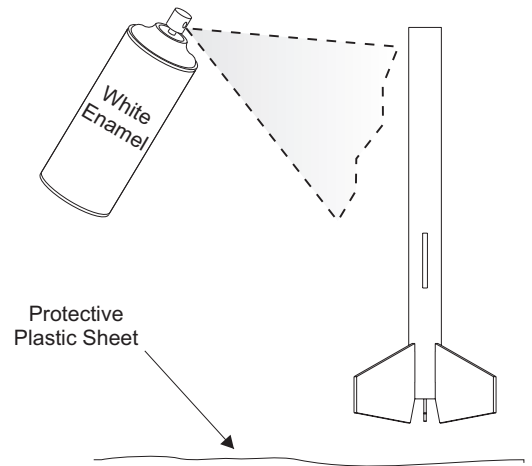


WARNING - ONLY USE AND APPLY SPRAY PAINT IN A WELL VENTILATED AREA AND NEVER NEXT TO OPEN FLAMES!!!

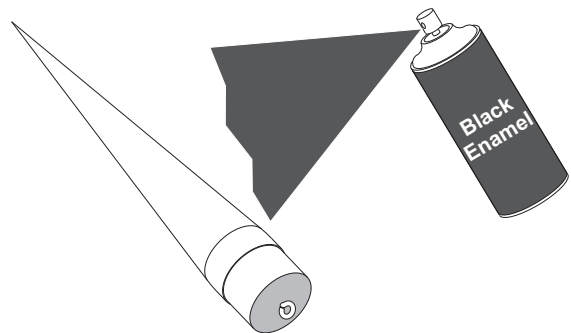
3. □ Purchase White or Lite Gray Primer from a local Hardware or Hobby store. Set the rocket over a sheet of plastic to protect your work surface and make sure surrounding work area won't be affected. Apply an even coat of primer to the entire rocket. Keep the spray moving to avoid runs. Let primer dry thoroughly and then apply a second light coat. Again let primer dry and then lightly sand using 300-400 grit sandpaper. Repeat coats of primer and light sanding until you are satisfied with the coverage and overall finish.



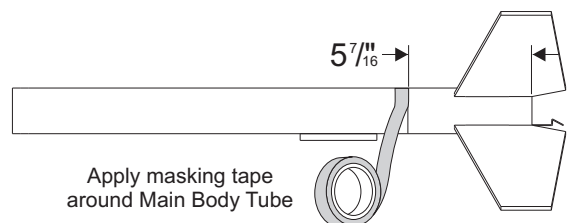
4. □ Purchase White Enamel Spray Paint from a local Hardware or Hobby store. Again set the rocket over a sheet of plastic to protect your work surface and to make sure surrounding work area won't be affected. Lightly apply an even coat of White Enamel Paint to the entire rocket body just above the fins. Only flare the white enamel down to the fins since the lower part of the rocket will be painted orange. Keep the spray moving to avoid runs. Use a series of light coats to build up your desired finish instead of one heavy coat. Let paint dry thoroughly between coats and lightly sand with 400 grit sandpaper as needed..



5. □ Purchase Black Enamel Spray Paint from a local Hardware or Hobby store. Hold the Main Nose Cone over a sheet of plastic to protect your work surface and to make sure surrounding work area won't be affected. Lightly apply an even coat of Black Enamel Paint to the entire nose cone. Keep the spray moving to avoid runs. Use a series of light coats to build up your desired finish instead of one heavy coat. Let paint dry thoroughly between coats and lightly sand with 400 grit sandpaper as needed..



6. □ Carefully apply a ring of masking tape completely around Main Body Tube 5 & 7/16" from the rear end as shown. Keep masking tape edge parallel to the rear edge.



7. □ Using hobby masking materials (i.e., Sheet stock and Tape) mask off entire upper portion of the Main Body Tube as illustrated.

8. □ Again hold the rocket over a sheet of plastic to protect your work surface and to make sure surrounding work area won't be affected. Lightly apply an even coat of International Orange Enamel Paint to the entire exposed white areas. Keep the spray moving to avoid runs. Use a series of light coats to build up your desired finish instead of one heavy coat. Let paint dry thoroughly between coats and lightly sand with 400 grit sandpaper as needed..

The supplied decals are solid ink decals. Solid ink decals require that you first apply a protective coat of Krylon Clear Coat before placing them in water and applying them. We have coated the decals at the factory once, but as a pre-caution insist the decals are sprayed again prior to use. Failure to do so will damage the decals.

6. □ Lay the decal on a protected flat surface and spray them with a even coat of Krylon Clear Coat. Let the decals dry thoroughly and repeat the process. *Hint: Use a top of a box (i.e., Paper or File box) to capture the decals and use masking tape to hold them in place while spraying.*

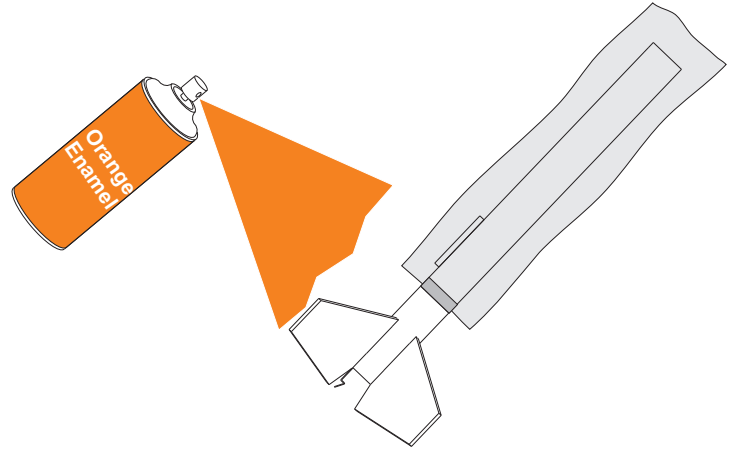
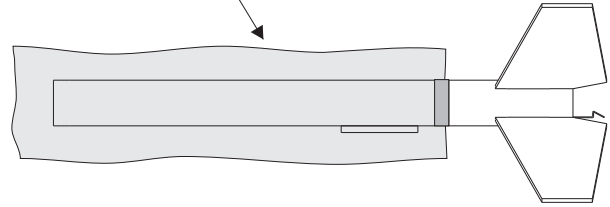
10. □ Remove all masking material and touch up any problems. Study the renders on page #2 to understand the placement of decals. The renders represent a complete 360° view of the Rogue. Use these different views to determine the exact location of each decal. Find each decal on the supplied decal sheets and understand its orientation. It is important to have a plan of attack. We recommend starting from the bottom and working towards the top. Whatever attack plan you use, take your time, and check the renders often to ensure proper placement.

11. □ Carefully cut out each decal using a hobby knife and/or a pair of scissors. Place the decal in a dish of warm water to remove the backing. Dampen the surface where the decal will be applied with water thoroughly. Orient the decal to the model and slide it off the backing and onto the model. Pat and rub the decal down and use a soft cloth to remove any excess water.

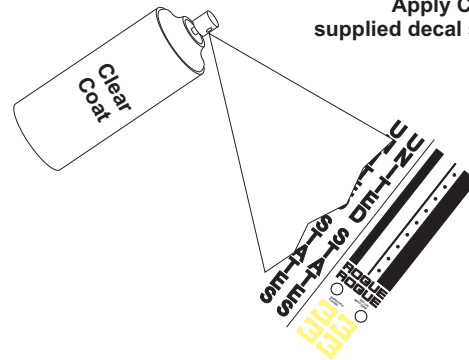
12. □ Check all decals to ensure proper placement and that all edges and surfaces of the decals are flat. Let decals dry thoroughly.

Optionally apply an appropriate non-destructive clear coat to the entire rocket to protect decals and paint scheme.

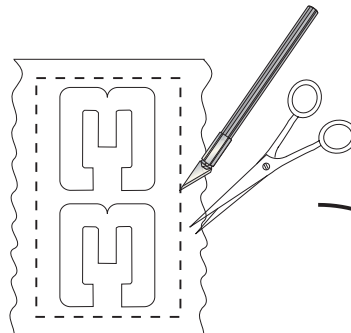
Mask off upper portion of Main Body Tube



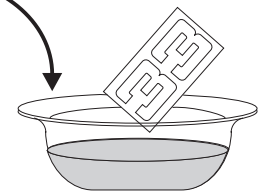
Apply Clear Coat to supplied decal sheet prior to using



Cut decal out of supplied decal sheets

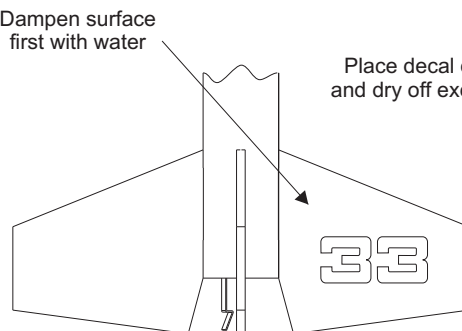


Place decal in a warm dish of water



Dampen surface first with water

Place decal on model and dry off excess water



Optional - "33" Finishing

Using the optional "33" stencil will enable the creation of a deeper, richer, more oblique "33" marking.

1. The stencil is an adhesive label that has been specially cut by our laser technology and must be prepared first. To prepare the stencil first flip it over. Note there are two cut patterns. The first pattern being the "33" pattern made up of two "3"s. This pattern is a full cut. The second pattern is a square around the "33" pattern. This pattern is a depth cut and only cuts through the label backing. Carefully punch out each of the "3"s. Then using a hobby knife carefully pry up a corner of the square pattern. Lift off only the square pattern backing. The stencil is now ready for placement.

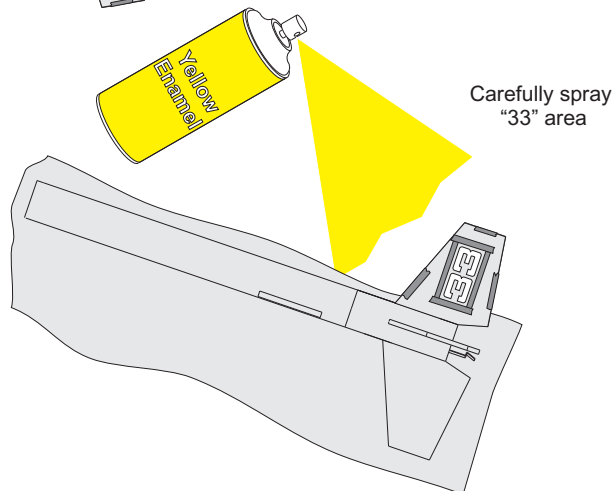
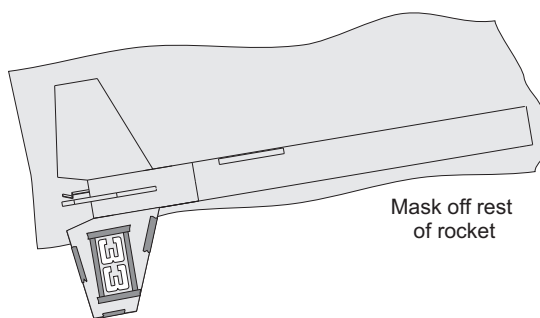
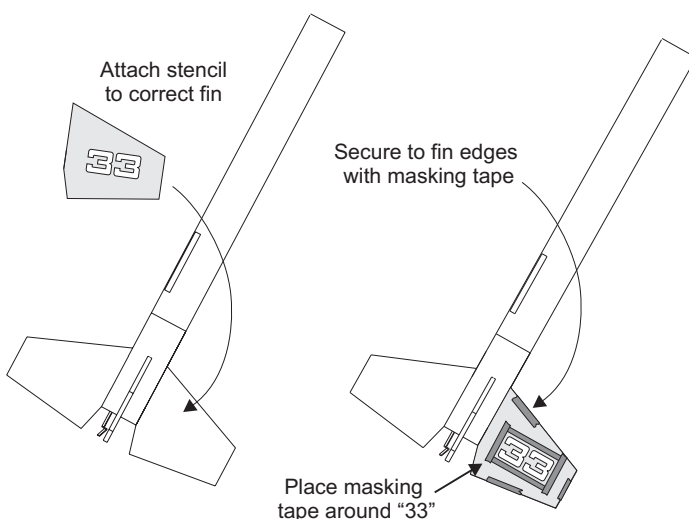
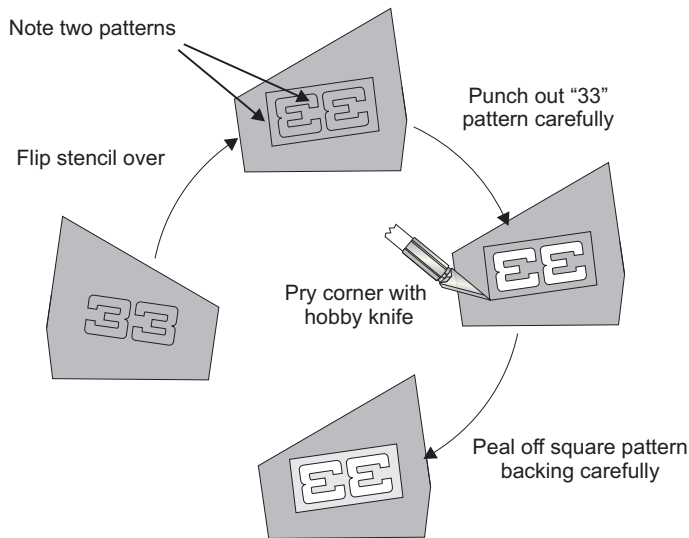
2. Flip the prepared stencil back over. Attach the stencil to the appropriate Primary Fin by aligning it to the fin edges. Press the exposed stencil adhesive area against fin sealing the edges around the "33" pattern. Secure the rest of the stencil in place using masking tape around fin edges. Place masking tape around "33" pattern to cover up any potential through holes created by the laser when creating the square pattern.

3. REPEAT STEPS 1 & 2 FOR THE OTHER SUPPLIED STENCIL.

4. Mask off the rest of the rocket using sheeting material and masking tape.

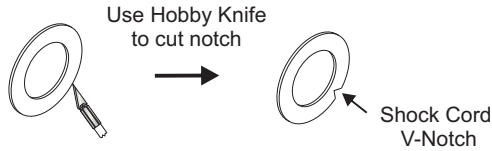
5. Hold the rocket over a sheet of plastic to protect your work surface and to make sure surrounding work area won't be affected. Lightly apply an even coat of Yellow Enamel Paint to the entire exposed "33" area. Keep the spray moving to avoid runs. Use a series of light coats to build up your desired finish instead of one heavy coat. Let paint dry thoroughly between coats. **REPEAT FOR OTHER "33" PATTERN.**

6. Carefully remove masking material and stencils.



Final Assembly (10-15 mins)

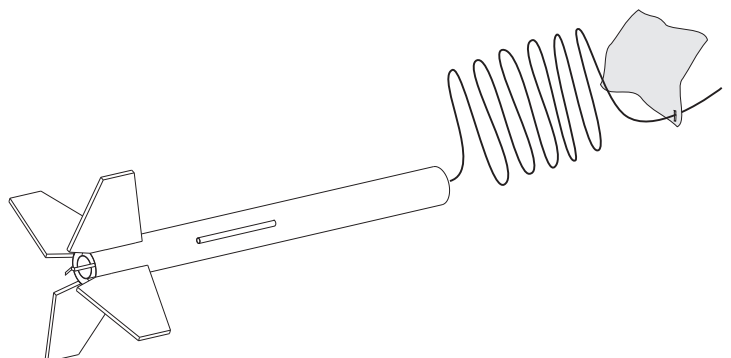
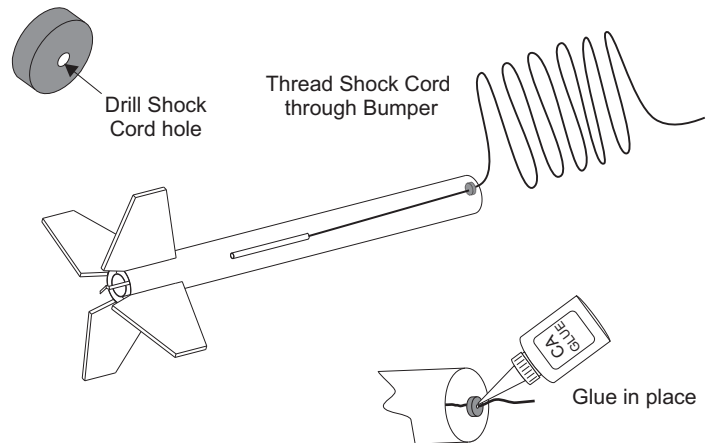
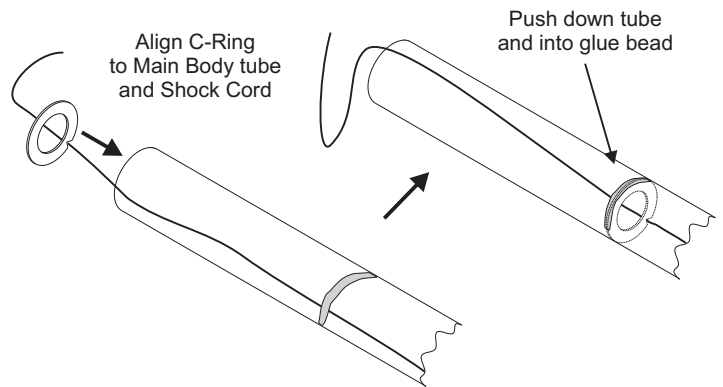
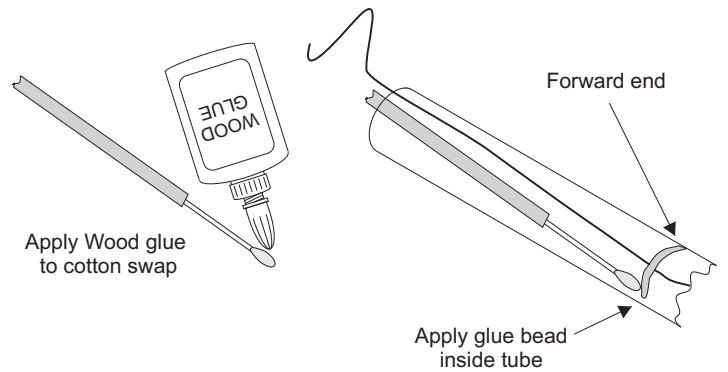
1. To create a parachute compartment first push the Shock Cord forward out of the Engine Mount Tube and through the Main Body Tube. Cut a Shock Cord V-Notch into the outside edge of the supplied C-Ring using a Hobby knife as shown below. Apply a bead of Wood glue carefully to the inside wall of the Upper Main Body Tube about 6 inches down tube as shown using a cotton swap stick attached to a longer stick (i.e., a dowel). **KEEP THE GLUE AWAY FROM THE SHOCK CORD AS MUCH AS POSSIBLE.**



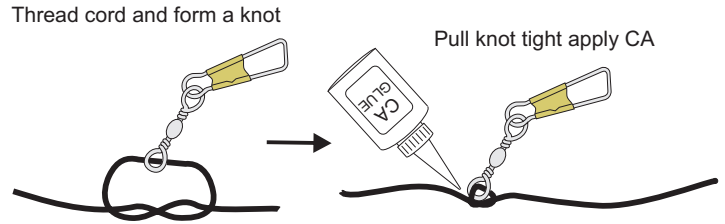
2. Align the C-Ring to the Upper Main Body Tube and the C-Ring V-Notch to the Shock Cord. Slide the C-Ring into the tube and push it down the Upper Main Body Tube until contacts with the glue bead. Apply additional glue as needed. Set the rocket right side up (on fins) and let glue dry thoroughly.

3. Locate the Shock Cord Bumper and drill a Shock Cord hole through the center. Pull the Shock Cord tautly out of the Main Body tube and thread it through the created hole of the bumper. Push the bumper down the Shock Cord until it is located approximately 1/4" from the forward end of the Upper Main Body Tube when the cord is taut. Use CA to glue the bumper permanently to the Shock Cord.

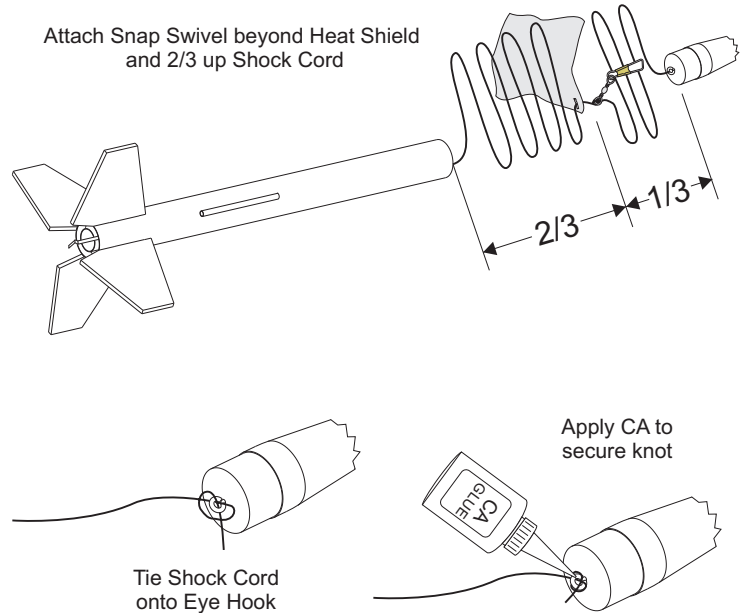
4. Pull the Shock Cord tautly out of the Main Body tube and thread it through the corner attachment hole located on the Heat Shield.



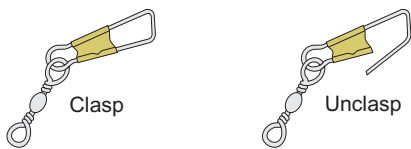
5. □ Thread Shock Cord through the Snap Swivel as shown and secure it with a knot past the Heat Shield two-thirds of the way up the Shock Cord from the Main Body tube. Apply a drop or two of CA on the knot after pulling it tight.



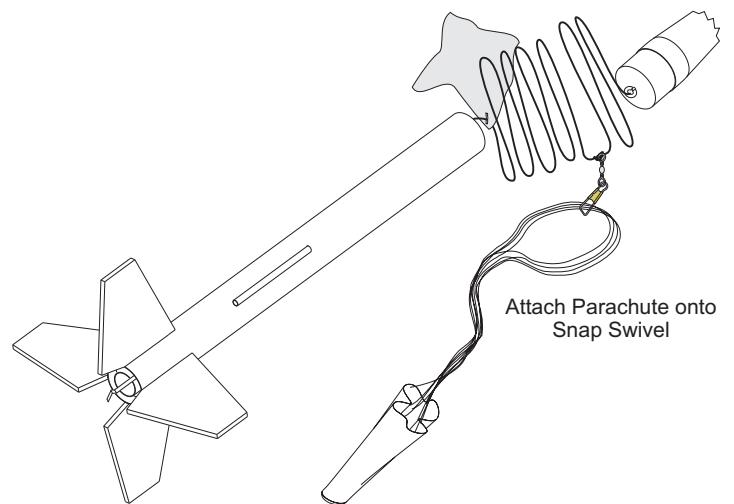
6. □ Thread the Shock Cord through the Main Nose Cone Eye Hook and tie a knot around the Eye Hook. Place a drop or two of CA on knot to secure the Shock Cord to the Eye Hook.



7. □ Group the Parachute Shroud Lines together forming a set of loops at one end. Ensure the Shroud Lines are not tangled. Unclasp Snap Swivel and attach the Parachute Shroud Line loops to the Snap Swivel. Re-clasp the Snap Swivel to secure the Parachute.



8. □ Finish final assembly by lightly wrapping the Shroud Lines around the Parachute. Pack the Parachute, Heat Shield, and Shock Cord into the Main Body Tube. Push the Main Nose Cone onto the Main Body Tube. Place completed RMS-ROGUE on flat surface and step back.



TAKE A BOW OR TWO FOR SUCCESSFULLY COMPLETING ALL THE STEPS !

National Association of Rocketry 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.

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. If my model rocket weighs more than one pound (453 grams) at liftoff or has more than four ounces (113 grams) of propellant, I will check and comply with Federal Aviation Administration regulations before flying.

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



National Association of Rocketry 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	1000
40.01--80.00	F	1000
80.01--160.00	G	1000
160.01--320.00	Two Gs	1500

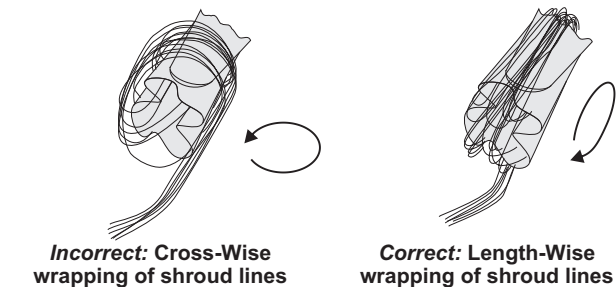
Pre-Launch Check List

1. Select an appropriate 24mm rocket engine. The table shown are engine recommendations that have been tested in the RMS-ROGUE. The actual 24mm engine selected from the available 24mm engine market is solely the responsibility of the user. **ACTUAL ENGINE SELECTION SHOULD FOLLOW NAR GUIDELINES INCLUDING FINAL CONSTRUCTION WEIGHT AND WEATHER CONDITIONS.**

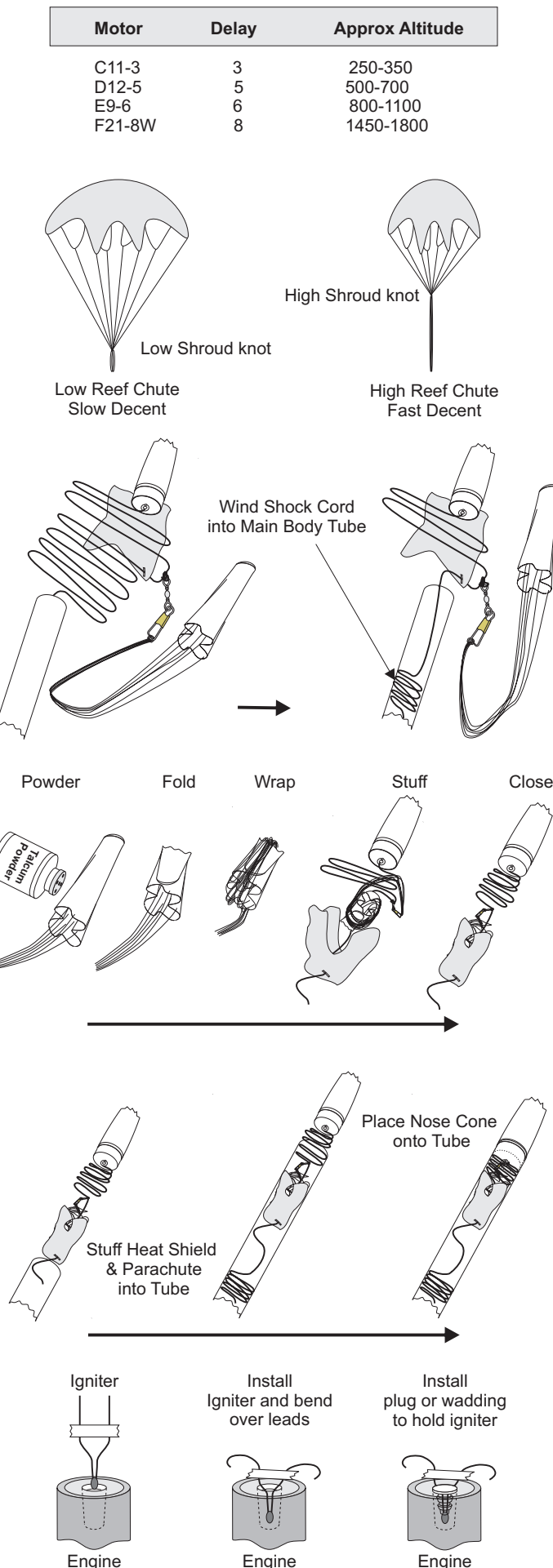
2. To control the decent rate, reef the Parachute based on the selected engine and the flying conditions. Reefing a Parachute restricts how far the Parachute opens and thus the decent rate of the rocket. To reef the Parachute tie the Shroud Lines together in a knot at the appropriate location.

3. Coil the Kevlar Shock Cord forward of the Snap Swivel Parachute attachment into the Main Body Tube as shown.

4. Powder the Parachute with talcum powder. Softly fold the Parachute and loosely wrap the Shroud Lines around it **length wise** not **cross-wise** (See illustration below). Length wise wrapping produces a springing action helping to deploy the Parachute upon ejection. Stuff the Parachute into the Heat Shield and close the Heat Shield around it, like a burrito.

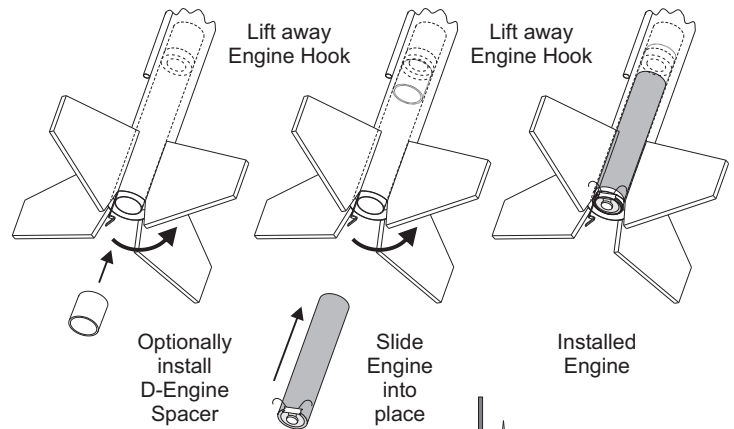


5. Slide the Heat Shield/Parachute into the Main Body Tube. Coil remaining Shroud Lines and Shock Cord on top of the Heat Shield/Parachute. Place the Nose Cone onto the top of the Main Body Tube making sure not to accidentally capture a Shroud Line or the Shock Cord.



7. If you are using a D size engine first install a D-Engine Spacer (Refer to page 13 for instructions on how to make one) by slipping it past the Engine Hook. Lift hook as needed to slide the spacer into the Engine Mount Tube.

8. Install engine into rocket by slipping it past the Engine Hook. Lift hook as needed to slide the engine completely into the Engine Mount Tube.



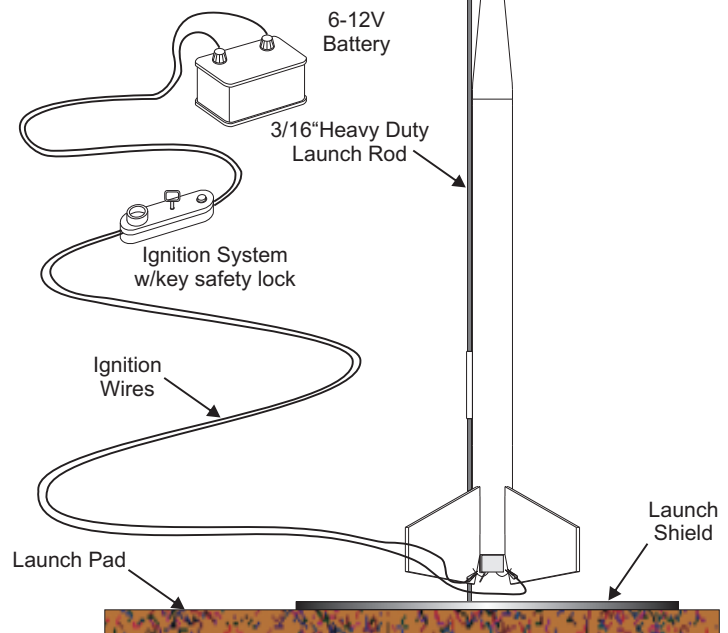
Your RMS-ROGUE is now ready to launch!!!

Launching

Prior to launch read the entire **National Association of Rocketry Safety Code (NAR)** on page 18. Follow the code and "remember only you can prevent safety hazards".

WARNING - BEFORE PLACING YOUR MRS-ROGUE ON YOUR LAUNCH PAD MAKE SURE ALL SAFETY DEVICES AND INTERLOCKS (I.E., IGNITION SYSTEM) ARE IN PLACE

For more information about launching model rockets please visit the NAR website - www.nar.org. We highly recommend joining the NAR to receive updates and learn more about the exciting hobby of model rocketry.



Thank you!

The staff at QModeling would like to thank you for purchasing our RMS-ROGUE and hopes it will bring you hours of enjoyment. Please visit our web site at www.qmodeling.com and send us feedback on the kit and instructions. Also tell us what vintage model you would like to see in the Retro Mega Series.

Specifications

Scale: 2.22:1
 Height: 29.0"
 Main Body Tube Diameter: 1.637"
 Fin Span Diameter: 9.88"
 Weight: 5.8 oz
 Center of Gravity: 2.50 to 3.25" from Primary Fins
 Launch Lug Size: 3/16"
 Engines: D or E (Recommended D12-5, E9-6)
 Average Altitudes: 600' D12-5, 950' E9-4
 Assembly Jigs: 33 Decal Stencil

Recovery System
 Parachute: 18" Octagon, Ripstop Nylon, Orange
 Shroud Lines: 24" Nylon
 Shock Cord: 9' Kevlar , 200 lb test,
 Shock Cord Attachment: Engine Mount
 Parachute Attachment: Snap Swivel #7, Black Oxide
 Heat Shield: 6" Nomex
 Nose Cone Attachment: Eye Hook