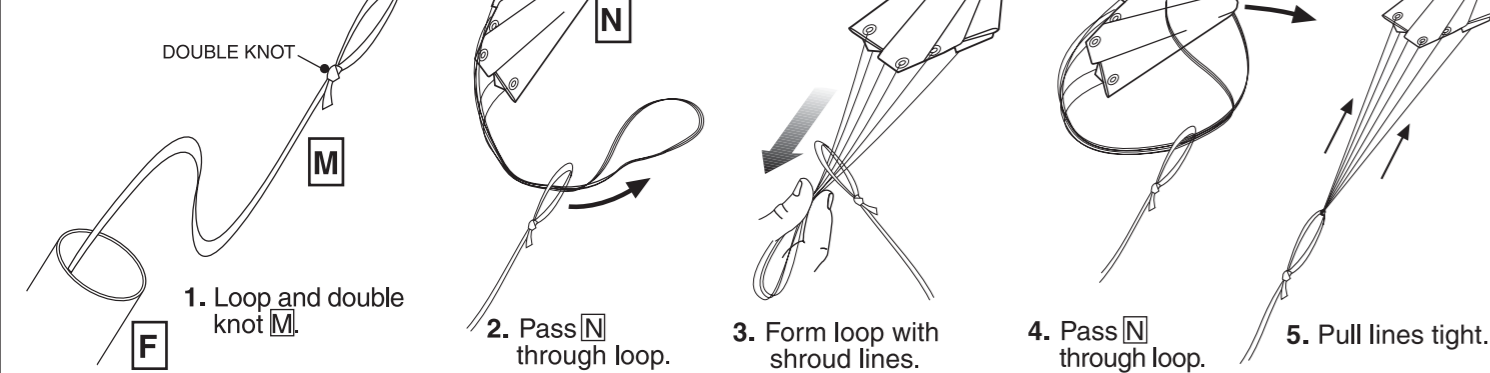
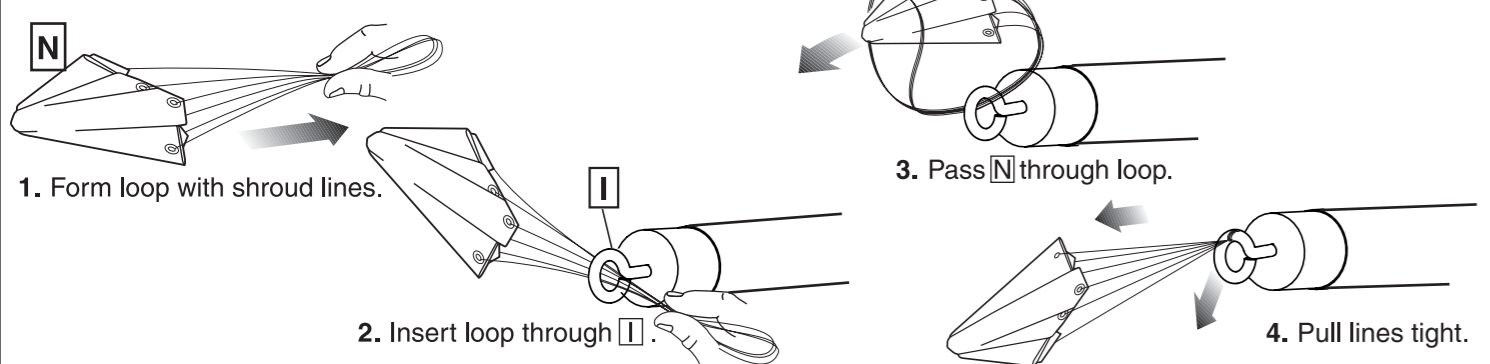


## DUAL RECOVERY SYSTEM ATTACHMENT

### MAIN ROCKET BODY



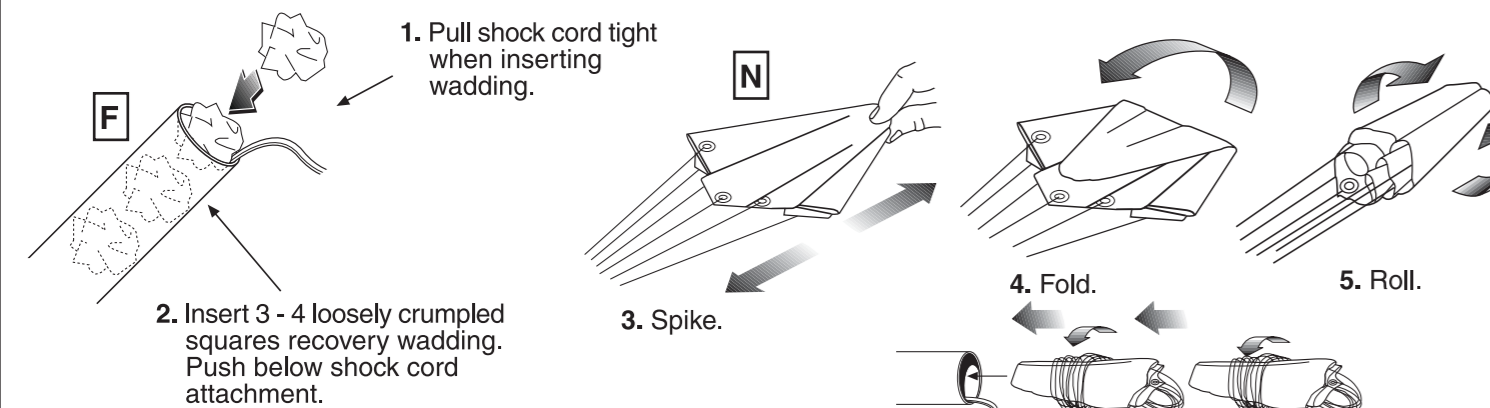
### NOSE CONE SECTION



### PREPARE FLIGHT RECOVERY

NOTE: Only Estes Recovery Wadding (302274) recommended.

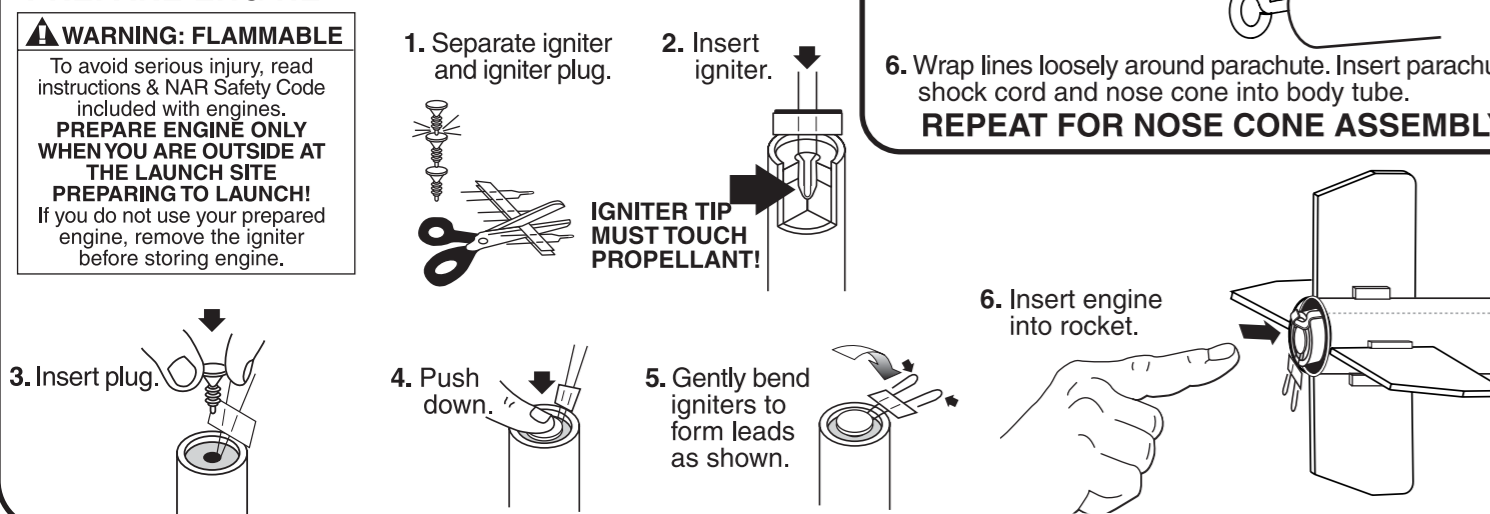
NOTE: Recovery wadding and parachute must slide easily into body tube. If too tight, redo.



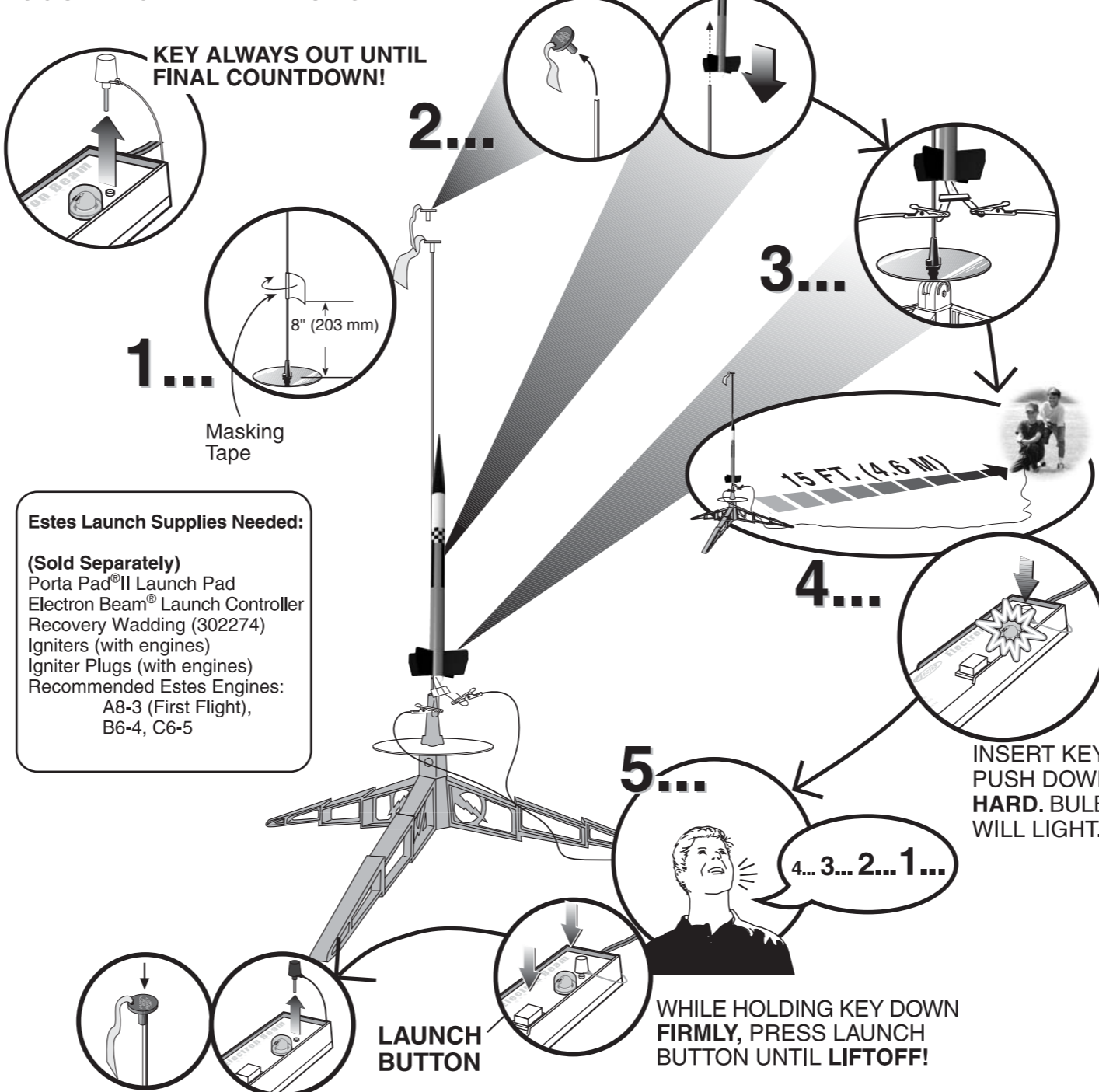
### PREPARE ENGINE

#### ⚠️ WARNING: FLAMMABLE

To avoid serious injury, read instructions & NAR Safety Code included with engines.  
**PREPARE ENGINE ONLY WHEN YOU ARE OUTSIDE AT THE LAUNCH SITE PREPARING TO LAUNCH!**  
If you do not use your prepared engine, remove the igniter before storing engine.



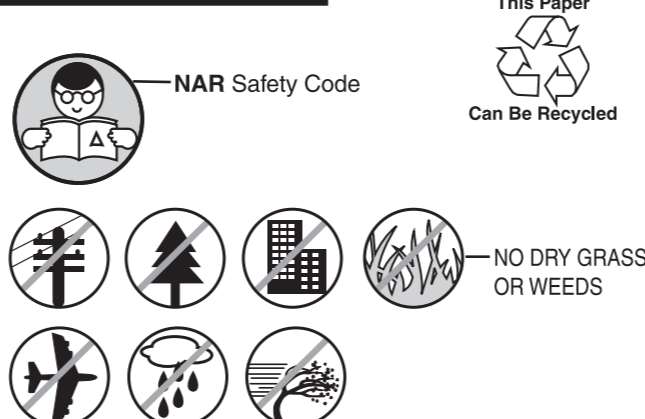
## COUNTDOWN AND LAUNCH



### Estes Launch Supplies Needed:

(Sold Separately)  
Porta Pad® II Launch Pad  
Electron Beam® Launch Controller  
Recovery Wadding (302274)  
Igniters (with engines)  
Igniter Plugs (with engines)  
Recommended Estes Engines:  
A8-3 (First Flight),  
B6-4, C6-5

## PRECAUTIONS



### PRE-LAUNCH CHECK

For safety, never launch a damaged rocket. Check the rocket's body, nose cone and fins. Also, check the engine mount, recovery system and launch lug. Repair any damage before launching the rocket.

### FLYING YOUR ROCKET

Choose a large field (500 ft. [152 m] square) free of dry weeds and brown grass. The larger the launch area, the better your chance of recovering your rocket. Football fields and playgrounds are great. Launch only with little or no wind and good visibility.

Always follow the enclosed National Association of Rocketry (NAR) SAFETY CODE.

### MISFIRES

TAKE THE KEY OUT OF THE CONTROLLER. WAIT ONE MINUTE BEFORE GOING NEAR THE ROCKET! Disconnect the igniter clips and remove the engine. Take the plug and igniter out of the engine. If the igniter has burned, it worked but did not ignite the engine because it was not touching the propellant inside the engine. Put a new igniter all the way inside the engine without bending it. Push the plug in place. Repeat the steps under Countdown and Launch.



Estes-Cox Corp.  
1295 H Street, PO Box 227  
Penrose, CO 81240-0227  
Printed in Guangdong, China

# CHUTER-TWO™

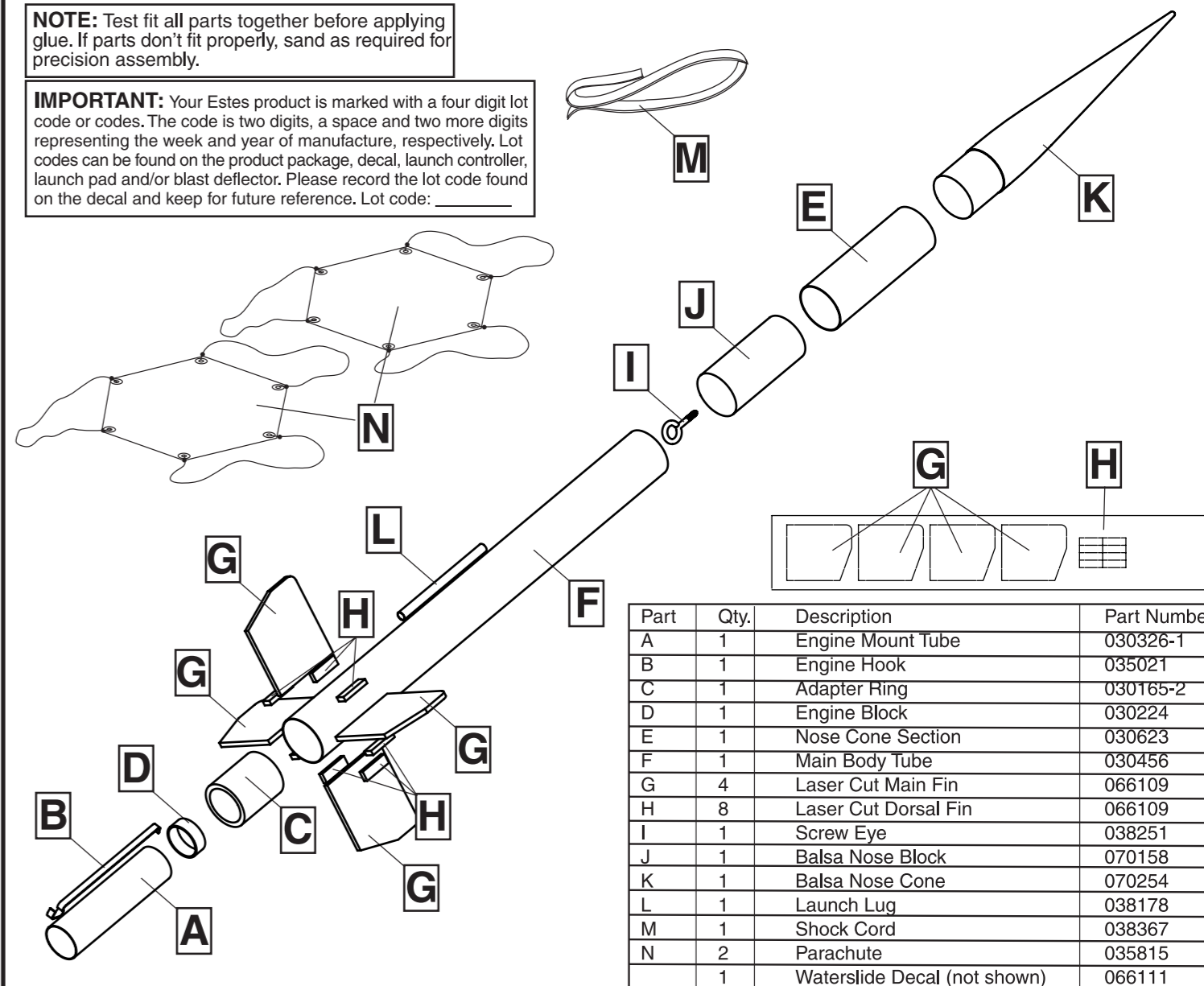
#3009

FLYING MODEL ROCKET KIT INSTRUCTIONS  
KEEP FOR FUTURE REFERENCE.

**ASSEMBLY TIP:**  
Read all instructions before beginning work on your model. Make sure you have all parts and supplies.

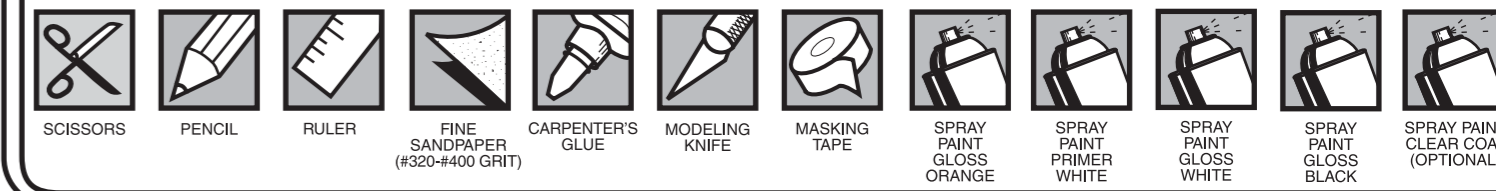
**NOTE:** Test fit all parts together before applying glue. If parts don't fit properly, sand as required for precision assembly.

**IMPORTANT:** Your Estes product is marked with a four digit lot code or codes. The code is two digits, a space and two more digits representing the week and year of manufacture, respectively. Lot codes can be found on the product package, decal, launch controller, launch pad and/or blast deflector. Please record the lot code found on the decal and keep for future reference. Lot code: \_\_\_\_\_



### SUPPLIES

In addition to the parts included in the kit you will also need:



www.  
estes  
rockets  
.com

### TUBE MARKING GUIDE

(Make a copy if you want to keep instructions.)

SECTION 3  
SECTION 2  
SECTION 1

MATCHING LINES  
FIN  
FIN  
FIN  
FIN  
MATCHING LINES  
OVERLAP TAB

### FIN PREPARATION

- Sand both sides of balsa sheet with fine sandpaper (#320 or #400 grit).
- Cut **G** and **H** from sheet.
- Stack fins together. Sand edges smooth.
- Sand leading edge of **G** round. **DO NOT** round root edge.
- Measure and mark both sides of **G**, 3/8" (10 mm) from trailing edge.

TRAILING EDGE  
LEADING EDGE  
ROOT EDGE  
LEADING EDGE  
TRAILING EDGE

### ENGINE MOUNT ASSEMBLY

- Measure and mark **A**.
- Cut slit at mark.
- Insert **B** in slit.
- Slide **C** to mark. Apply glue to both sides of **C**.
- Apply ring glue inside of **A**.
- Insert **D** until it stops. Let dry.

### TUBE MARKING

- Cut tube marking guide from instructions.
- Tape guide around **F**. Mark **FL** and **LL** at arrows.
- Remove guide. Connect and extend all lines. Use door frame as a straight edge.
- Measure and mark 2 1/2" (64 mm) from end of **F** on **LL**.

REAR  
DOOR FRAME  
FL  
LL  
FL

### FIN ATTACHMENT

- Apply glue to root edge **G**. Let dry 1 minute.
- Apply 2nd layer of glue. Position **G** centered over **FL** and even with end of **F**. Let dry. Repeat for remaining **G**.
- Apply glue to **H**.
- Position above mark on **G**. Let dry. Repeat for all **H**. Let dry.

FL  
FL  
Fin alignment guide.

**NOTE: Use fin alignment guide to check fin attachment accuracy.**

### LAUNCH LUG ATTACHMENT

- Sand **L** with fine sandpaper.
- Apply glue to **LL** line forward of mark.
- Position **L** centered on **LL**. Let dry.

### ENGINE MOUNT INSTALLATION

- Apply ring of glue inside **F**.
- Align **B** with **LL** and slide engine mount assembly into **F** even with end. Let dry.

ALIGN

### NOSE CONE SECTION ASSEMBLY

- Measure and mark half of **J**.
- Apply ring of glue inside **E**. Slide **J** to mark. Wipe excess glue. Let dry.
- Check fit of **K** in **E**. Sand as required.
- Apply ring of glue inside **E**. Slide **K** in place. Wipe excess glue and let dry.
- Screw **I** centered into **J**.

**NOTE: Insert J into F but DO NOT glue.**

### SHOCK CORD INSTALLATION

- Cut shock cord mount from instructions.
- Apply glue to mount. Place **M** on Section 2. Fold forward.
- Apply glue and fold forward.
- Squeeze tight!
- Apply glue to shock cord mount and insert in body tube. Hold until glue sets. Let dry.

1 1/2" (38 mm)

**NO**

### ROCKET FINISHING

**NOTE:** We have found Testors One Coat Lacquer, Testors Model Master spray paints (color of your choice) and Testors Gloss Lacquer (#1961) to be excellent for providing a long lasting and durable finish on your rocket. Always be sure to spray your models outside or in a well ventilated area.

### STEPS FOR A QUALITY FINISH:

- Insert shock cord into body tube and hold in place with paper.
- Lightly sand body tube, fins and nose cone with fine sandpaper (#320 or #400 grit).
- Apply glue fillets to fins and launch lug.
  - Allow glue to dry overnight.
- Paint the rocket body and nose cone section separately.
- Use a stick inserted into the motor tube end of the rocket body for painting.
- Hold the nose cone section by the screw eye with a clip or pliers for painting.
- Apply 1-2 light coats of white primer to rocket body, payload section and nose cone, lightly sanding with fine sandpaper (#320 or #400 grit) between coats.
  - Allow to dry between each coat.
- Spray paint nose cone assembly gloss white.
  - Let paint dry overnight (24 hours is best).
- Measure and mark 3 3/8" (86 mm) from base of **J** (balsa nose block).
- Apply masking tape below mark.
- Cover white paint and **J** with protective cover.
- Spray paint nose cone gloss black.
  - Let paint dry overnight (24 hours is best). Remove masking tape and protective cover.
- Spray entire rocket body gloss bright orange.
  - Let paint dry overnight (24 hours is best).
- Apply masking tape to body tube between fins.
- Cover the orange on the rocket body with protective cover.
- Spray fins gloss black.
  - Let paint dry overnight (24 hours is best). Remove masking tape and protective cover.
- Apply waterslide decals where shown.
  - Cut the decal to be applied from the decal sheet, trimming close to the decal edge.
  - Place decal in bowl of warm water until decal begins to curl.
  - Remove decal, position in place and slide the decal backing material from under the decal and onto the model as close to final position as possible.
  - Gently blot out excess water with a clean paper towel.
  - Allow decals to set overnight before applying protective clear coat.
- When decals are dry, spray entire rocket (body and nose cone section separately) with a light coat of Testors Gloss Lacquer (#1961). This will provide added protection and shine to your CHUTER - TWO™ rocket!