



EstesRockets.com

K35 ASTRON CONSTELLATION™ 1235

AGES
10+



Skill Level

INTERMEDIATE

MODEL ROCKET INSTRUCTIONS

KEEP FOR FUTURE REFERENCE

IMPORTANT: Please record date found on decal and keep for future reference. _____

READ ALL INSTRUCTIONS. Make sure you have all parts and supplies. Test fit all parts before applying glue. Refer to your glue manufacturer's dry times during build.

SUPPLIES



YELLOW GLUE



PENCIL



HOBBY KNIFE



RULER



PLASTIC CEMENT



CLEAR TAPE



WHITE PAINT



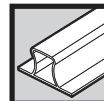
BLACK PAINT



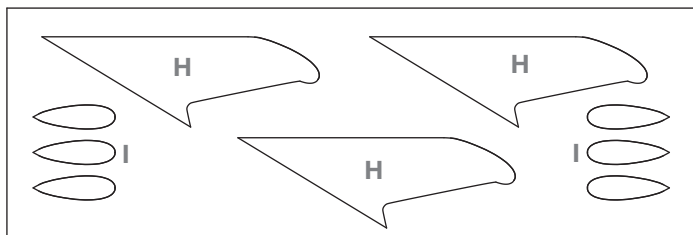
RED PAINT



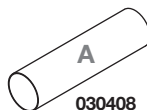
FINE SANDPAPER



SANDING BLOCK



095001-1235
Laser cut balsa sheet



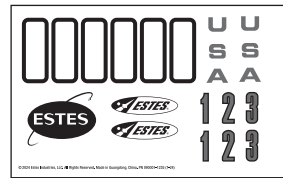
030408
Engine mount tube



035021
Engine hook



030224
Engine block



090001-1235
Water slide decals



080425
Split centering ring



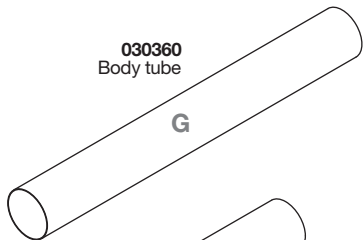
030164-2
Centering ring



030168
Mylar retainer ring



070154
Balsa payload nose block



030360
Body tube



089018
Wood dowel



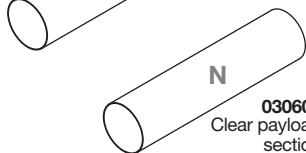
038178
Launch lug



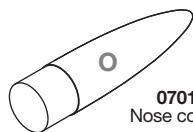
038251
Eye screw



037838
Die cut tape strips



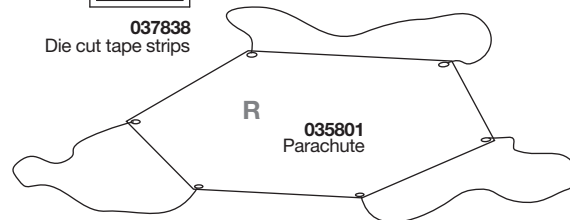
030608
Clear payload section



070153
Nose cone



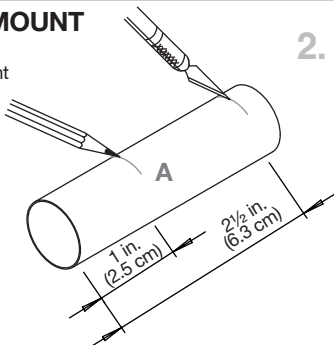
038362
Shock cord



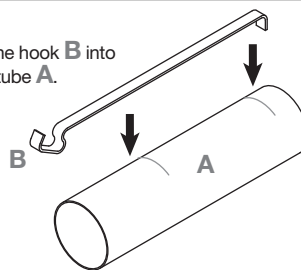
035801
Parachute

ASSEMBLE ENGINE MOUNT

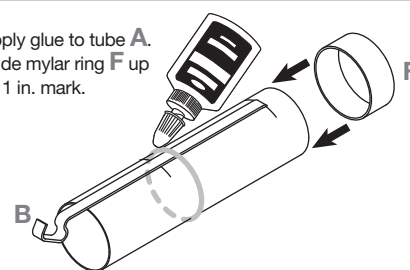
1. Make a mark on engine mount tube **A** 1 in. from end of tube. Cut a slot 1/8 in. wide 2 1/2 in. from end of tube.



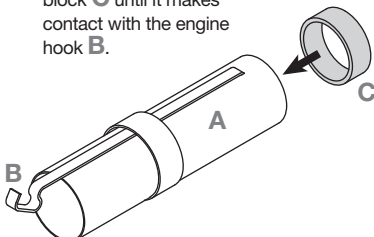
2. Insert engine hook **B** into the slot in tube **A**.



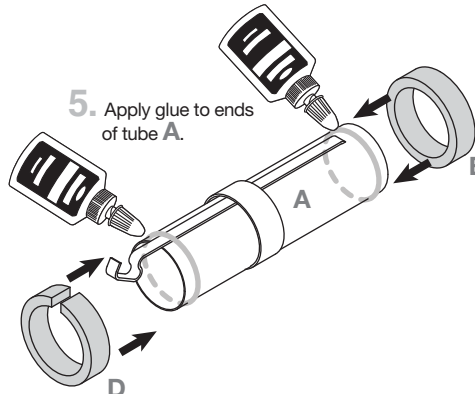
3. Apply glue to tube **A**. Slide mylar ring **F** up to 1 in. mark.



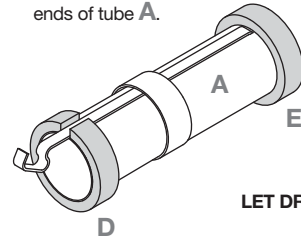
4. Apply glue to the inside of tube **A**. Insert engine block **C** until it makes contact with the engine hook **B**.



5. Apply glue to ends of tube **A**.



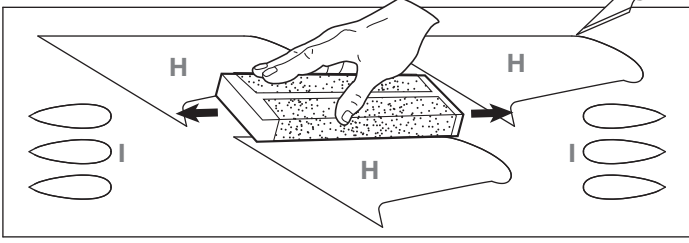
6. Place centering rings **D** and **E** over the ends of tube **A**.



LET DRY

PREPARE FINS

1. Sand both sides of laser cut balsa sheet. Cut out all **H** and **I** pieces from the balsa sheet.



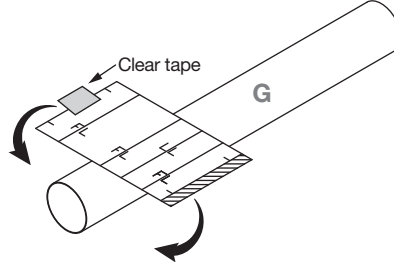
2. Use sandpaper to round the sides of **I** pieces and the fin's leading edge.
- LET DRY
4. Repeat for all three fins.
- FIN TIP VIEW
- x3**

ATTACH FINS AND LAUNCH LUG

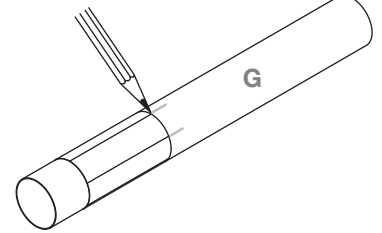
1. Cut out fin alignment guide from page 3.



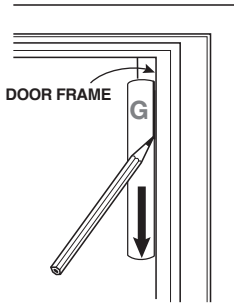
2. Wrap the fin alignment guide around body tube **G**. Secure in place with tape.



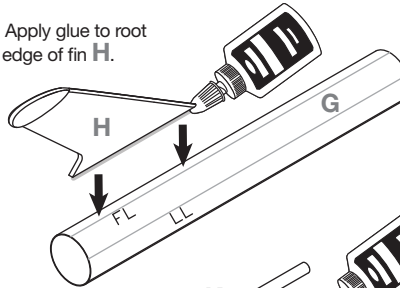
3. Mark all lines from fin alignment guide around body tube **G**. Label the fin lines and launch lug line.



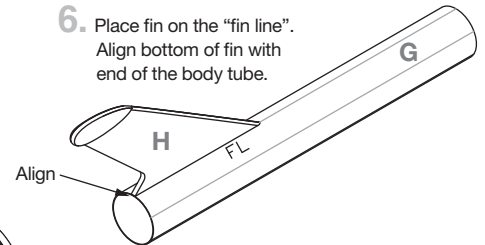
4. Use a door frame as a straight edge to extend the lines on the body tube.



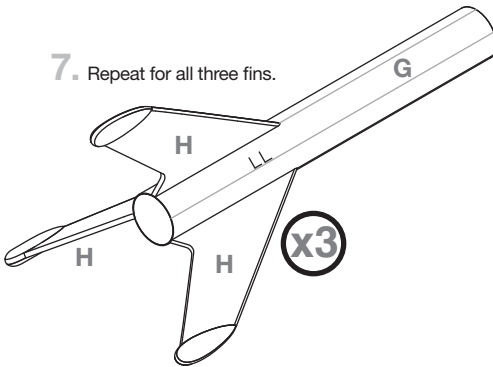
5. Apply glue to root edge of fin **H**.



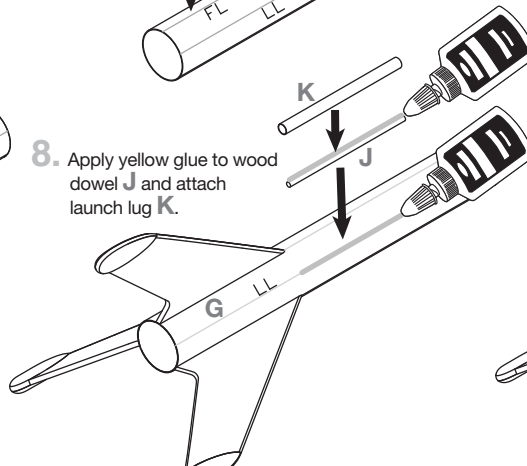
6. Place fin on the "fin line". Align bottom of fin with end of the body tube.



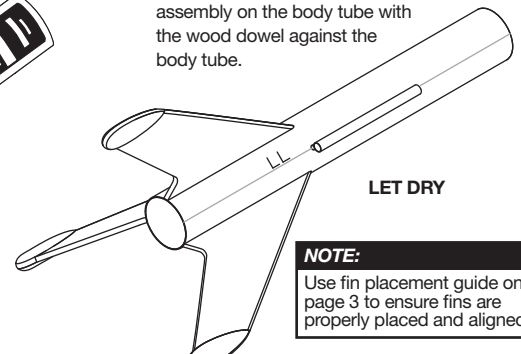
7. Repeat for all three fins.



8. Apply yellow glue to wood dowel **J** and attach launch lug **K**.



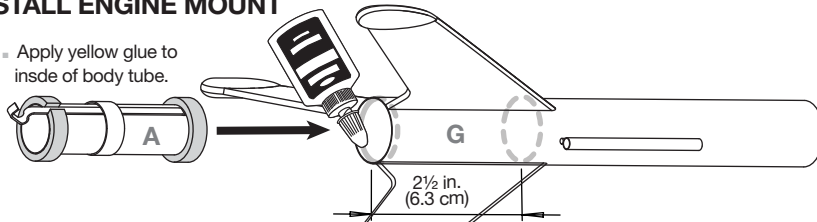
9. Apply yellow glue to body tube on the "launch lug" line. Place launch assembly on the body tube with the wood dowel against the body tube.



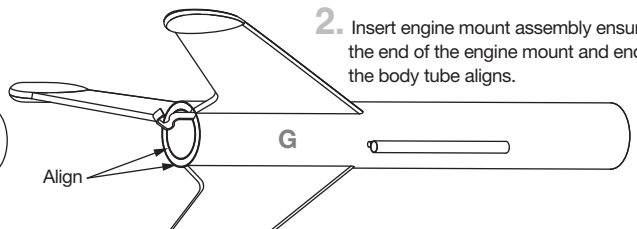
NOTE:
Use fin placement guide on page 3 to ensure fins are properly placed and aligned.

INSTALL ENGINE MOUNT

1. Apply yellow glue to inside of body tube.

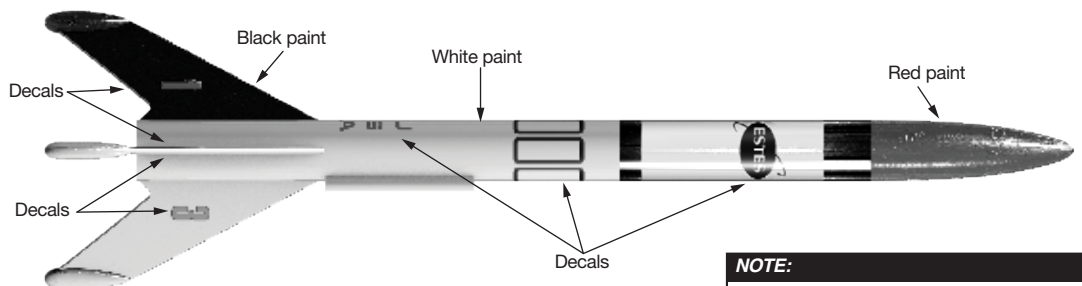


2. Insert engine mount assembly ensuring the end of the engine mount and end of the body tube aligns.



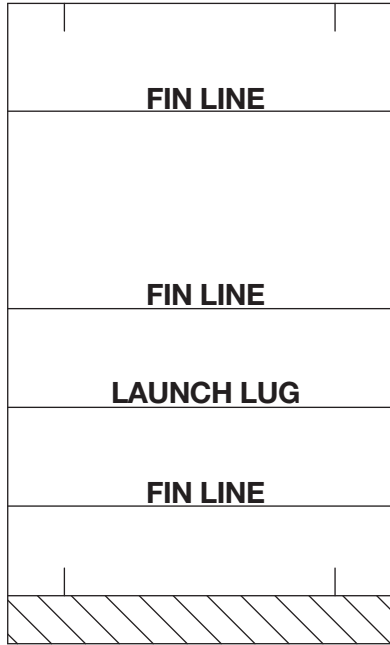
PAINT AND DECALS

1. Spray rocket with white primer, let dry, and sand. Repeat until rocket is smooth, then paint. Apply decals after paint is dry.
2. Cut decals from sheet, trimming close to edge.
3. One at a time, place in warm water until decal curls and begins to relax.
4. Remove and position on rocket, sliding decal away from backing material.
5. Blot with clean paper towel. Let set overnight.
6. OPTIONAL: Apply protective clear coat.

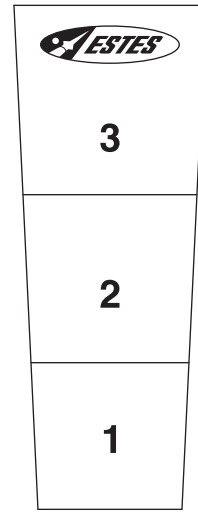


CAUTION:
See manufacturer's warnings and instructions before using spray finishing products.

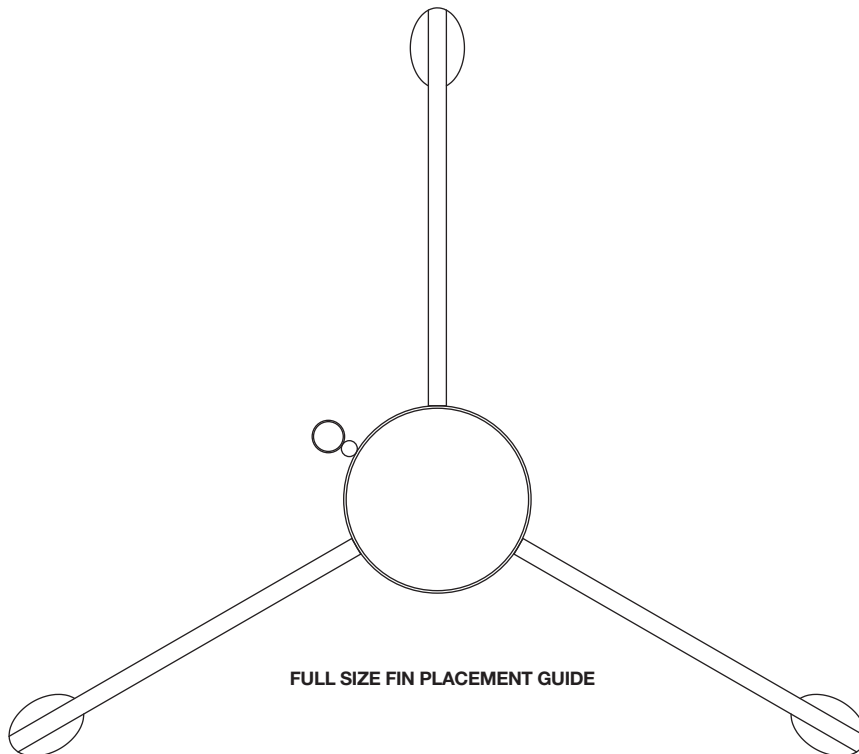
NOTE:
Please refer to panel art for painting reference.



FIN ALIGNMENT GUIDE



SHOCK CORD MOUNT



FULL SIZE FIN PLACEMENT GUIDE

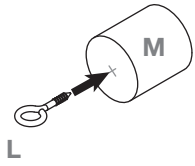
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PREPARE NOSE CONE

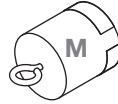
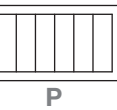
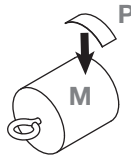
NOTE:

Complete model painting before proceeding with these steps.

1. Screw **L** into the center of balsa payload nose block **M**.



2. Unscrew, apply yellow glue to the hole, and screw back into place.



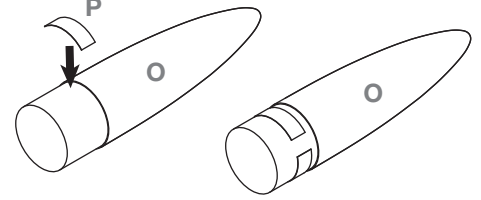
CAUTION:

For safe handling of plastic cement, see manufacturer's warnings and follow instructions for use.

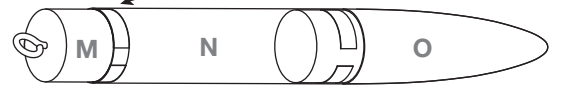
5. Apply plastic cement to the inside end of clear payload tube **N**.



4. Apply three pieces of die cut tape strips **P** around the base of nose cone **O**.



6. Insert **M** into **N** to just past tape strip **P**.



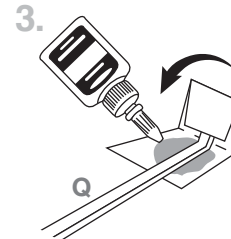
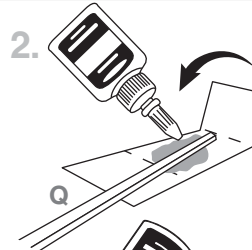
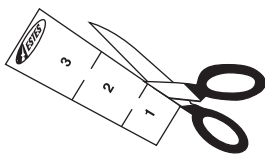
NOTE:

If needed, apply clear tape over base of nose cone for a friction fit inside clear payload tube.

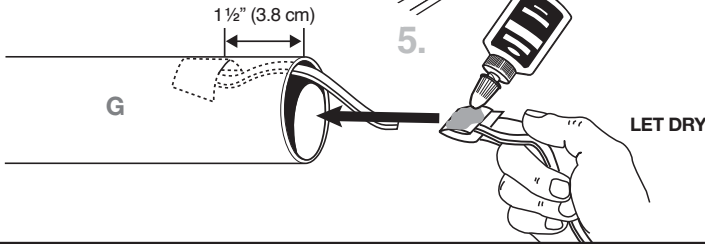
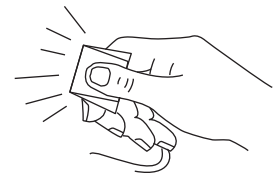
LET DRY

INSTALL SHOCK CORD

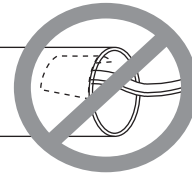
1. Cut out shock cord mount from page 3.



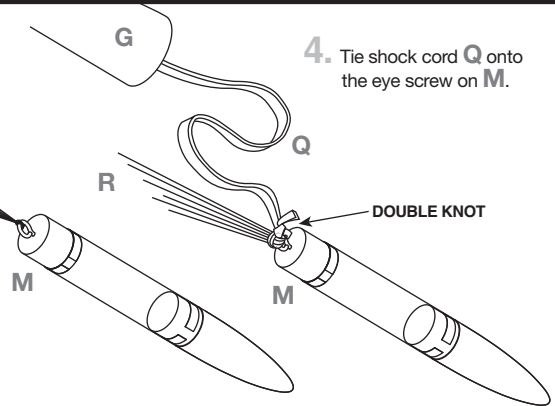
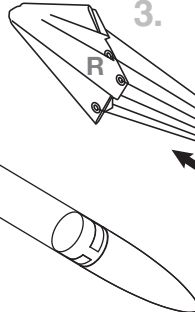
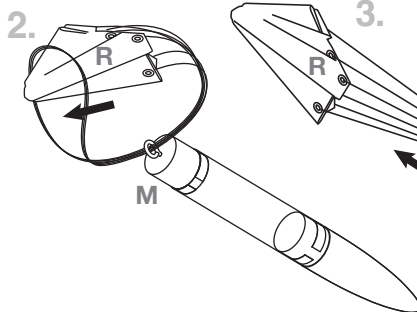
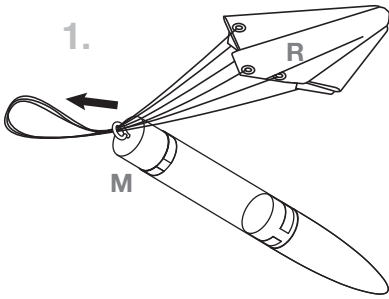
4. Hold until set.



LET DRY



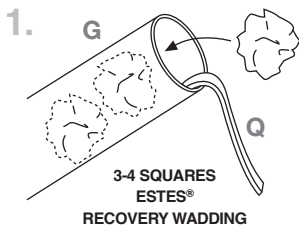
ATTACH PARACHUTE AND SHOCK CORD TO NOSE CONE



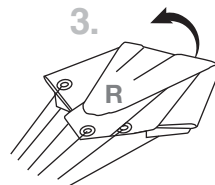
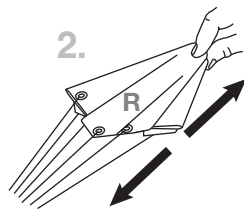
4. Tie shock cord **Q** onto the eye screw on **M**.

DOUBLE KNOT

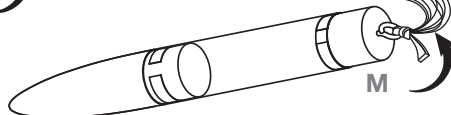
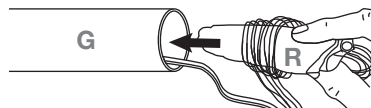
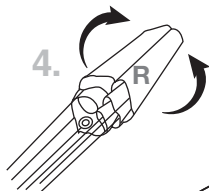
PREPARE FLIGHT RECOVERY



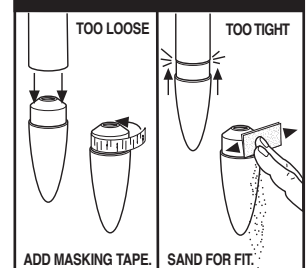
3-4 SQUARES
ESTES®
RECOVERY WADDING



5. Wrap lines loosely around parachute.



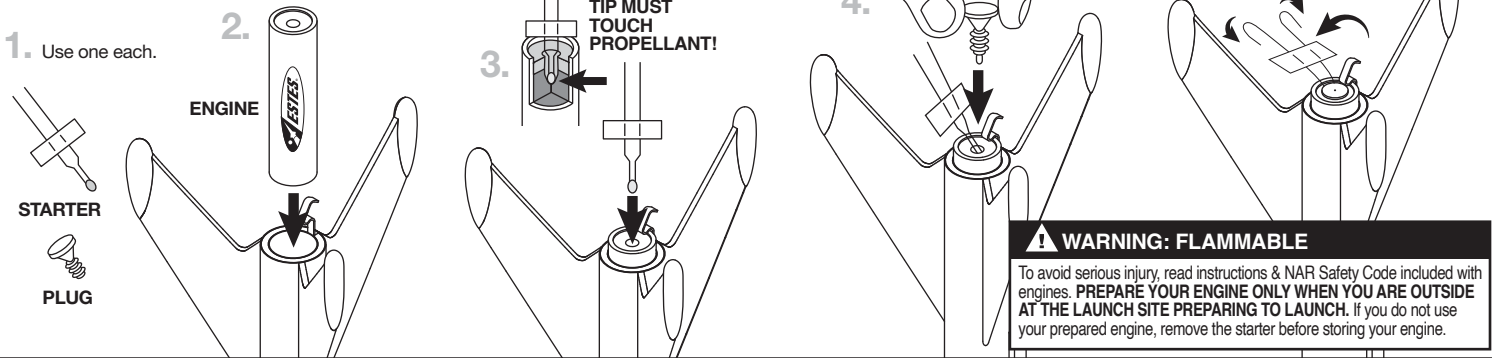
IF NOSE CONE FIT IS...



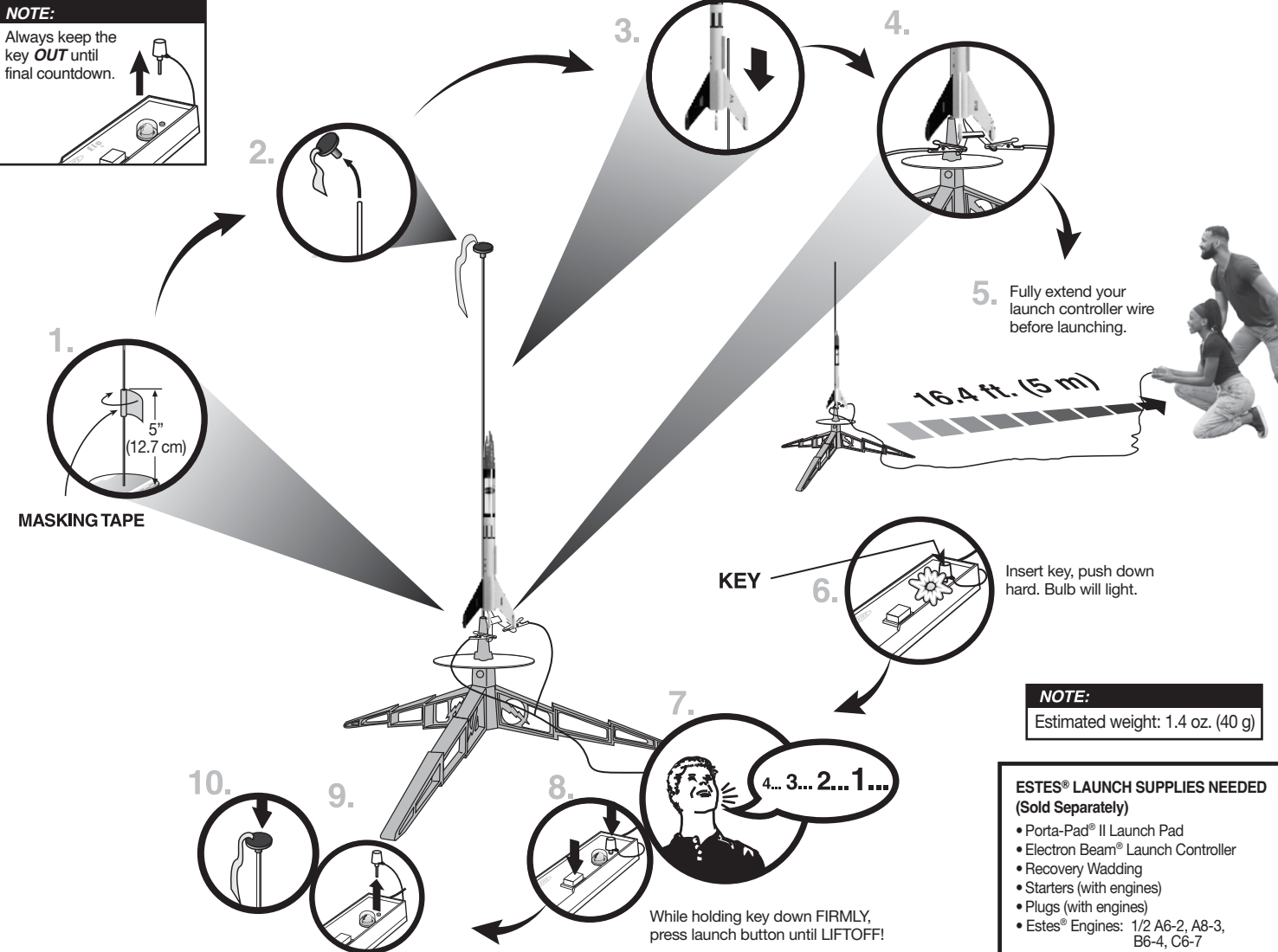
NOTE:

Recovery wadding and parachute must slide easily into body tube. If it's too tight, redo.

PREPARE ENGINE



COUNTDOWN AND LAUNCH



PRECAUTIONS



NAR SAFETY CODE



NO DRY GRASS OR WEEDS

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(s). Repair any damage before launching the rocket.

FLYING YOUR ROCKET Choose a large field (1000 ft. [305 m] square) free of dry weeds and brown grass. The larger the launch area, the better your chance of recovering your rocket. Launch only with little or no wind and good visibility. Always follow the National Association of Rocketry (NAR) SAFETY CODE (enclosed).

MISFIRES TAKE THE KEY OUT OF THE CONTROLLER. WAIT ONE MINUTE BEFORE GOING NEAR THE ROCKET. Disconnect the micro-clips and remove the engine. Take the plug and starter out of the engine. A burned starter means the starter tip was not touching engine propellant. Install a new starter; be sure the tip is touching propellant inside the engine. Push the plug in place. Repeat steps under Countdown and Launch.

