0658

# SUPER SALAMANDER™

EstesRockets.com



AGES 10+

Skill Level
ADVANCED

## MODEL ROCKET INSTRUCTIONS

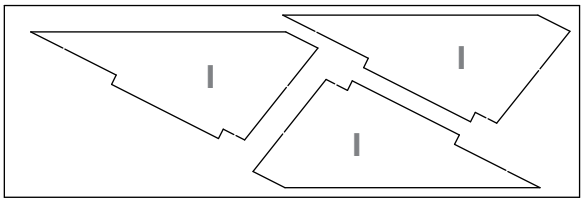
## KEEP FOR FUTURE REFERENCE

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

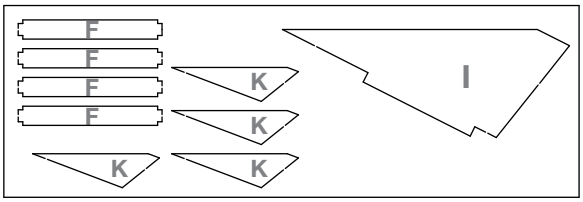
**⚠ CAUTION:** *May not apply to all kits. For safe handling of plastic cement, epoxy, spray adhesive, CA glue, CA accelerator, paint/finishing materials, see manufacturer's warnings and follow instructions for use. To avoid injury, use extreme caution when using hobby knife, scissors, drills, and any cutting tools.*

### SUPPLIES



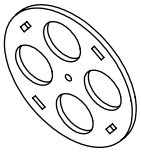

**090051A-0658**
Laser Cut Balsa Fins




**090051B-0658**
Laser Cut Balsa Parts

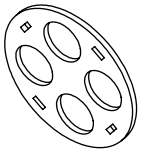
**E**
**068261**
Blind Nut

**P**
**068260**
Fender Washer



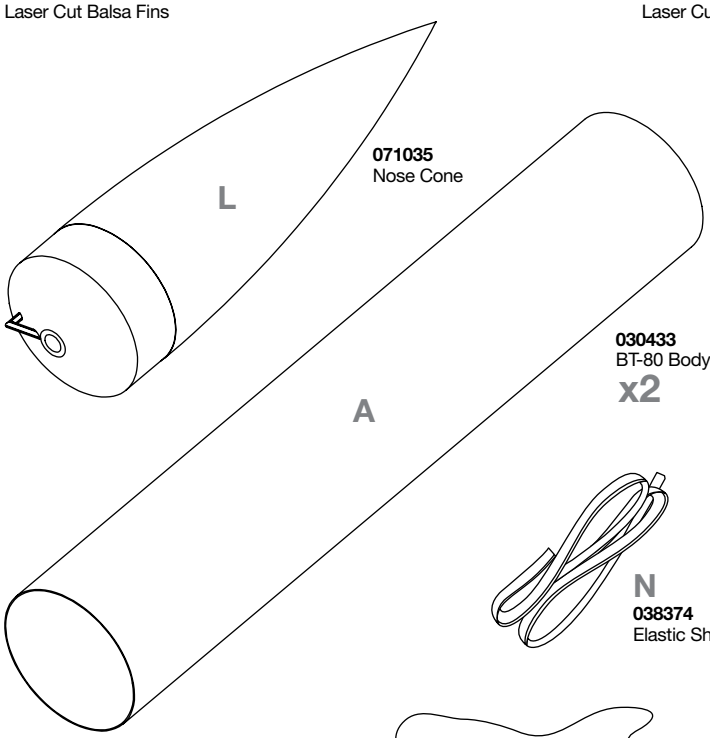
**D**
**090050A-0658**
Aft Centering Ring

**Q**
**068259**
Motor Retainer Screw



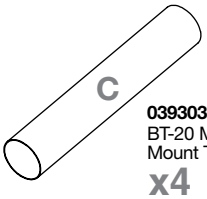
**G**
**090050B-0658**
Forward Centering Ring

**J**
**038181**
Launch Lug
**x2**




**071035**
Nose Cone

**030433**
BT-80 Body Tube
**x2**




**039303**
BT-20 Motor Mount Tube
**x4**



**035003**
Yellow Spacer Tube



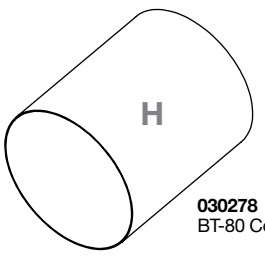
**N**
**038374**
Elastic Shock Cord



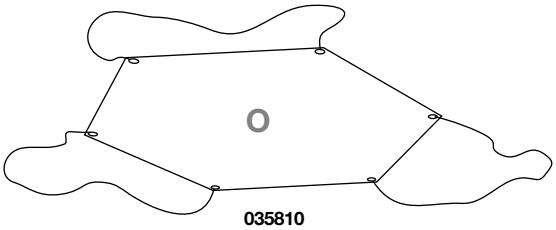
**B**
**030171-4**
Yellow Ring
**x4**



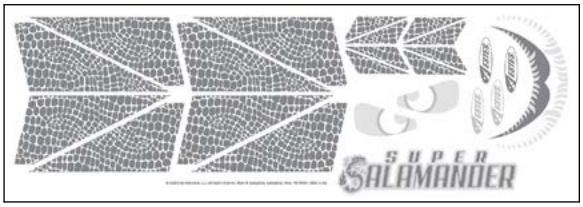
**M**
**085704**
Clay




**030278**
BT-80 Coupler



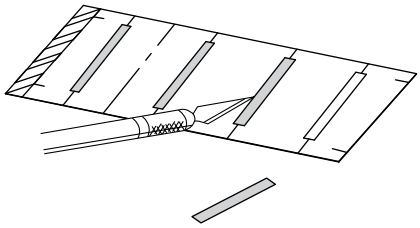

**035810**
18" Nylon Parachute



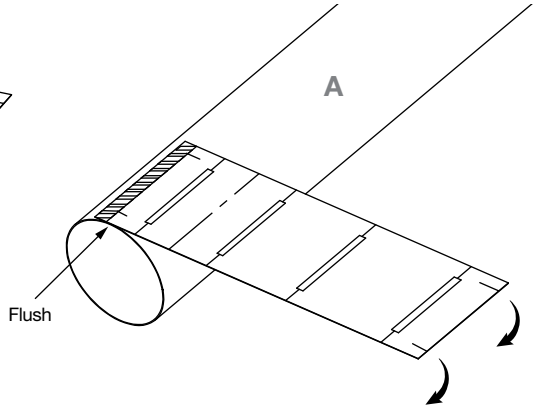

**090001-0658**
Waterslide Decal

## BODY TUBE SLOTTING

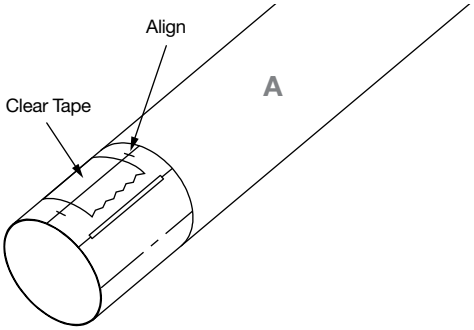
1. Cut out the tube marking guide on page 5 and use a hobby knife to remove the gray rectangles.



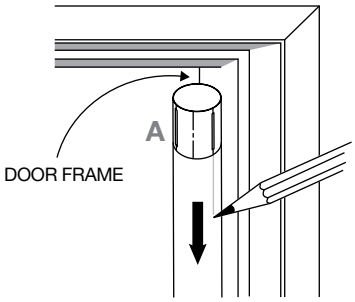
2. Place tube alignment guide flush with the base of body tube **A** and wrap around the tube.



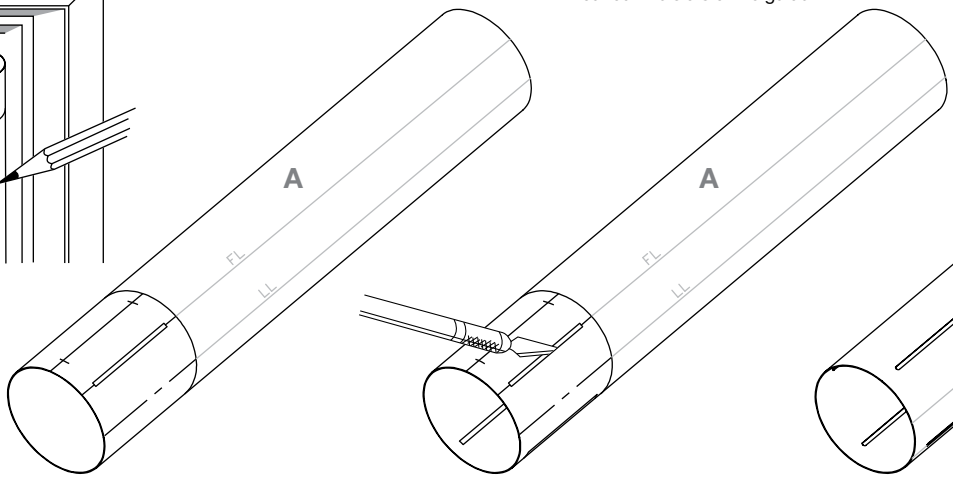

3. Align the lines on the guide and use clear tape to anchor in place.



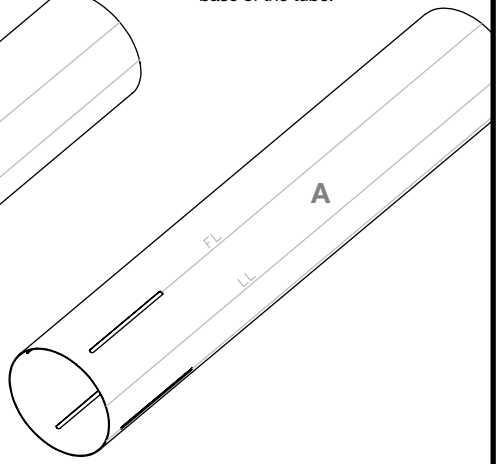

4. Using a door frame or the Estes Ultimate Tube Marking Guide, mark and extend the fin lines (FL) and the launch lug line (LL).




5. Using a hobby knife, score then cut out the slots of the guide.

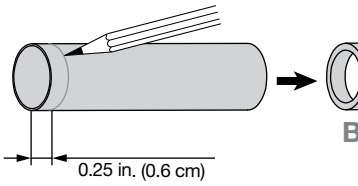



6. Remove the guide and extend the launch lug line (LL) to the base of the tube.

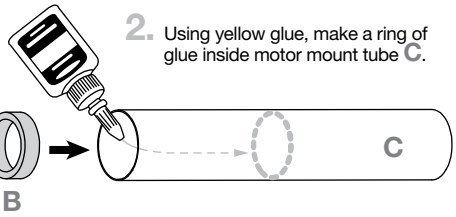



## MOTOR TUBE ASSEMBLY

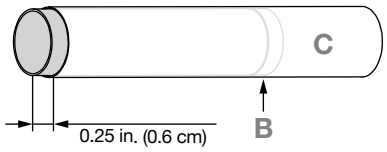
1. Mark the yellow spacer tube with a complete ring at the 0.25 inch mark.



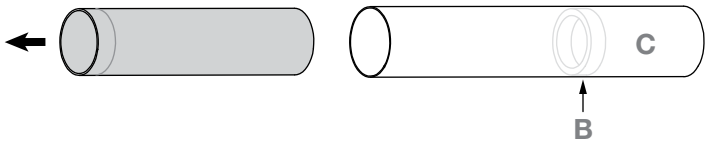

2. Using yellow glue, make a ring of glue inside motor mount tube **C**.



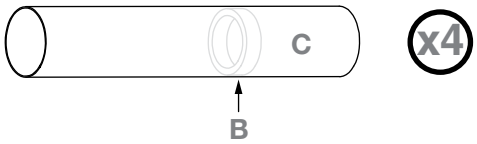

3. Slide yellow ring **B** into motor mount tube **C** followed by the yellow guide tube, stopping at the mark.




4. Remove yellow spacer tube and let dry.

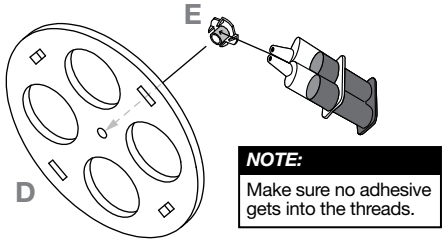



5. Repeat for remaining **C** motor mount tubes and **B** yellow rings.



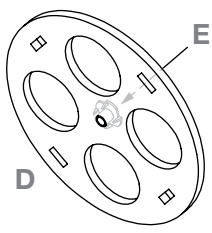

LET DRY

6. Apply epoxy to the shoulder of blind nut **E**.



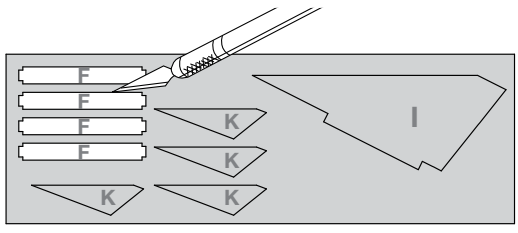

**NOTE:**
Make sure no adhesive gets into the threads.

7. Gently hammer blind nut **E** into centering ring **D**.



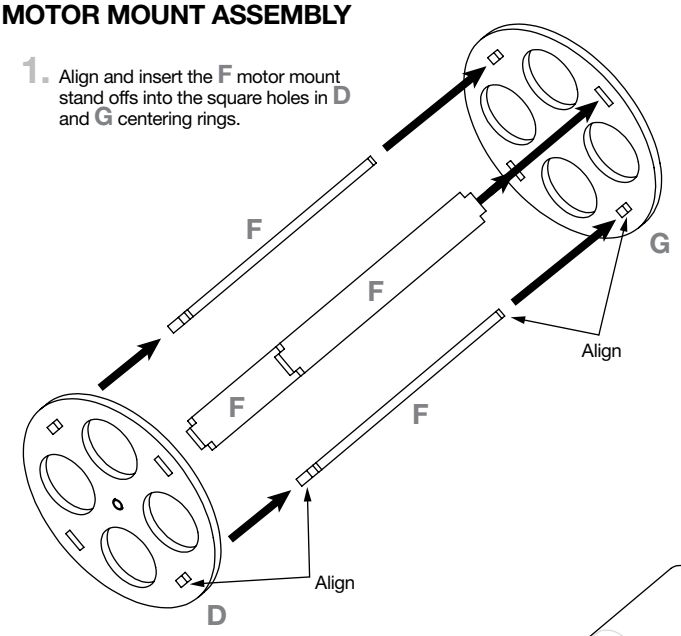

LET DRY

8. Lightly sand both sides of the laser cut balsa wood. Using a hobby knife, cut out all **F** pieces.

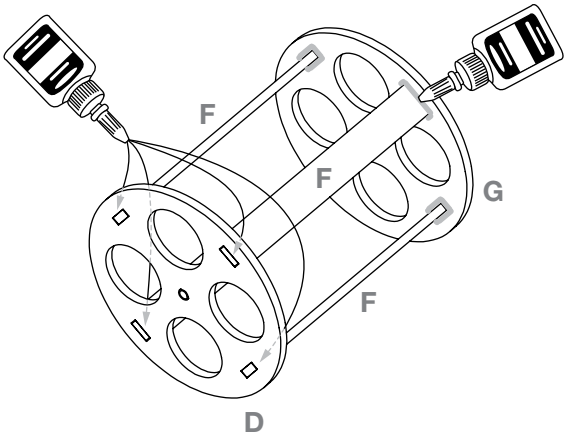


## MOTOR MOUNT ASSEMBLY

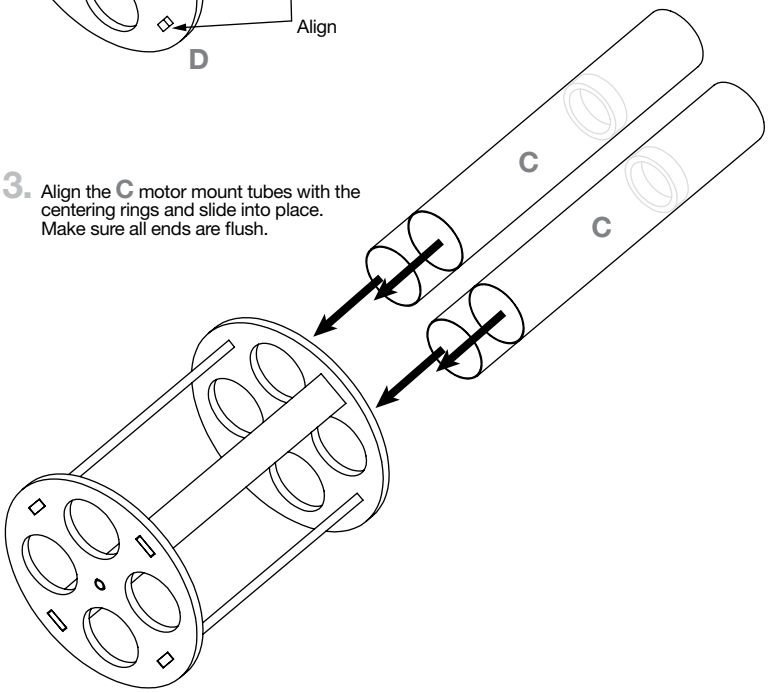
**1.** Align and insert the **F** motor mount stand offs into the square holes in **D** and **G** centering rings.



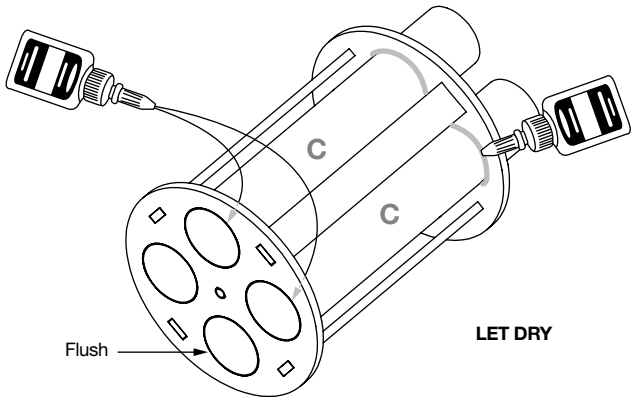

**2.** Apply fillets of yellow glue between the **F** standoffs and the **D** and **G** centering rings.




**3.** Align the **C** motor mount tubes with the centering rings and slide into place. Make sure all ends are flush.



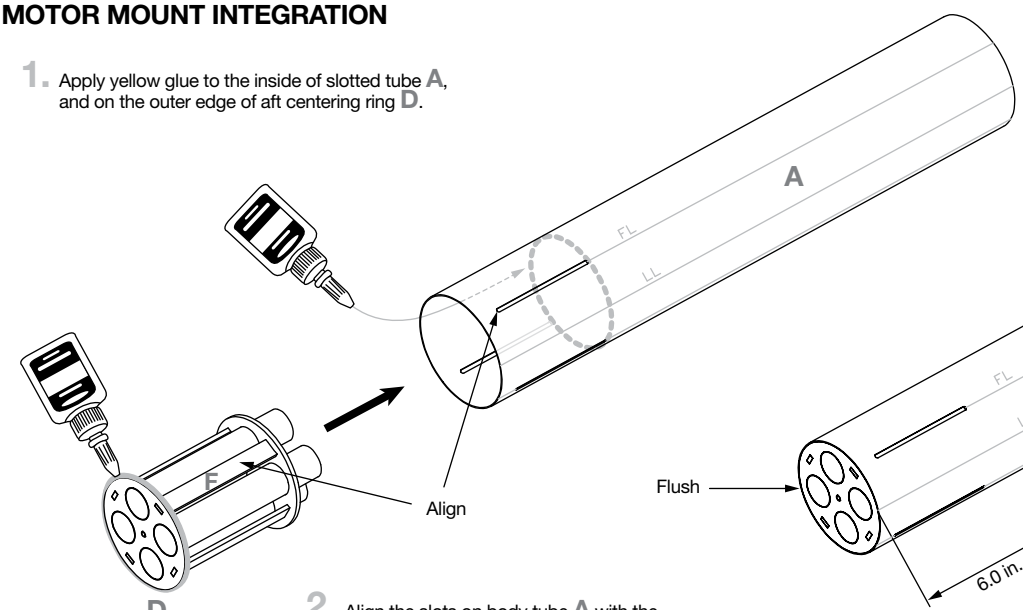

**4.** Apply fillets of yellow glue around all **C** motor mount tubes.



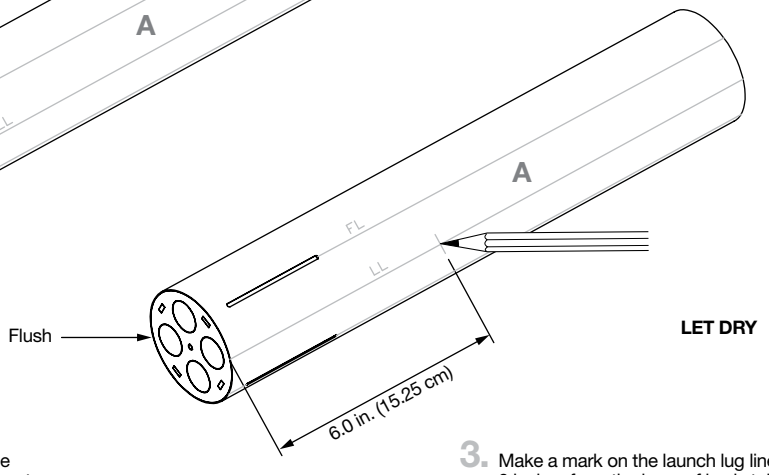

**LET DRY**

## MOTOR MOUNT INTEGRATION

**1.** Apply yellow glue to the inside of slotted tube **A**, and on the outer edge of aft centering ring **D**.




**2.** Align the slots on body tube **A** with the **F** balsa standoffs. Insert the motor mount until flush with the body tube.

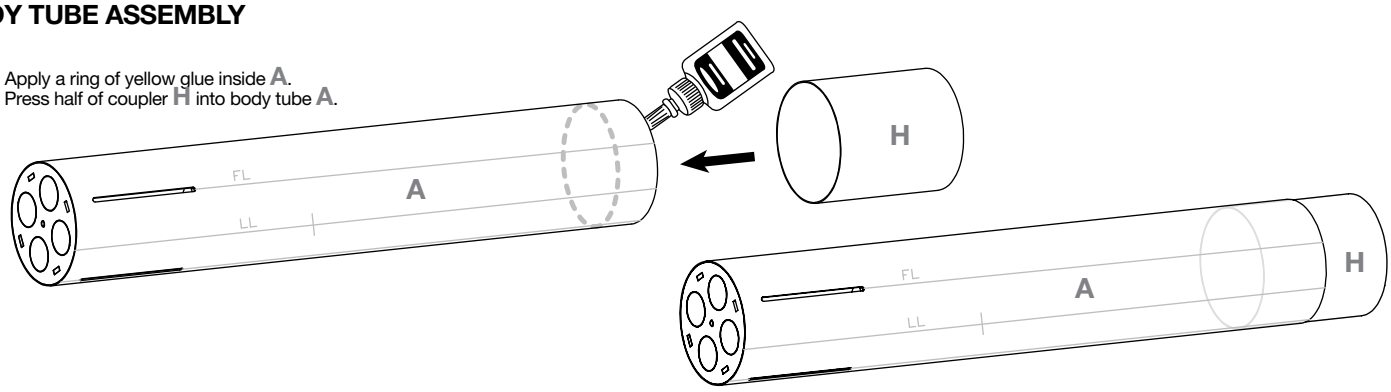



**LET DRY**

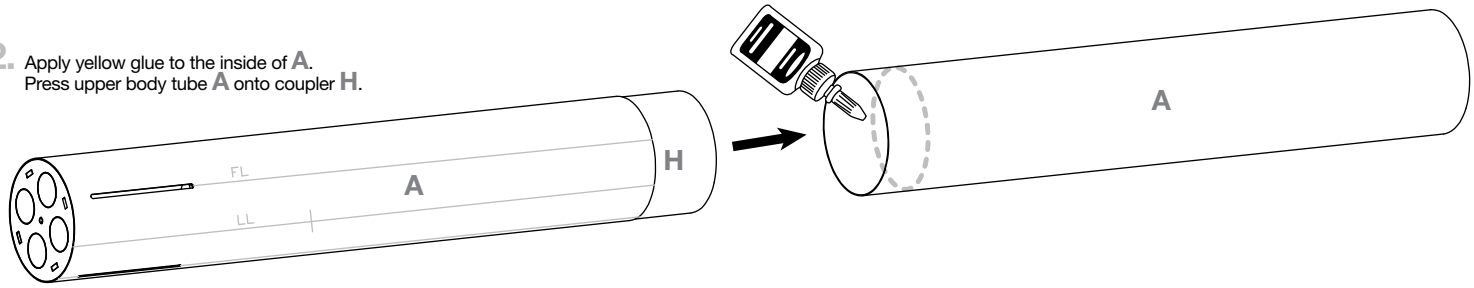
**3.** Make a mark on the launch lug line (LL) 6 inches from the base of body tube **A**.

## BODY TUBE ASSEMBLY

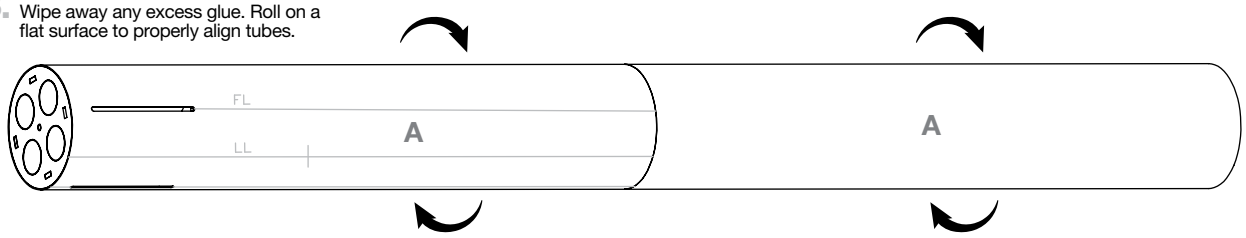
1. Apply a ring of yellow glue inside **A**.
Press half of coupler **H** into body tube **A**.




2. Apply yellow glue to the inside of **A**.
Press upper body tube **A** onto coupler **H**.



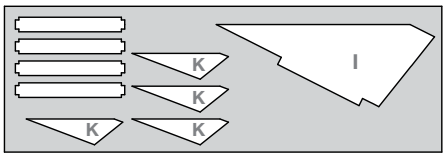

3. Wipe away any excess glue. Roll on a flat surface to properly align tubes.

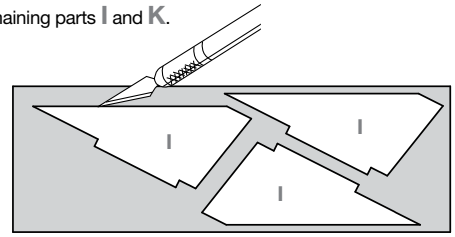



**LET DRY**

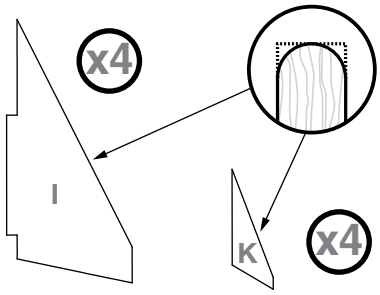
## FIN INTEGRATION

1. Lightly sand both sides of the balsa before cutting out remaining parts **I** and **K**.

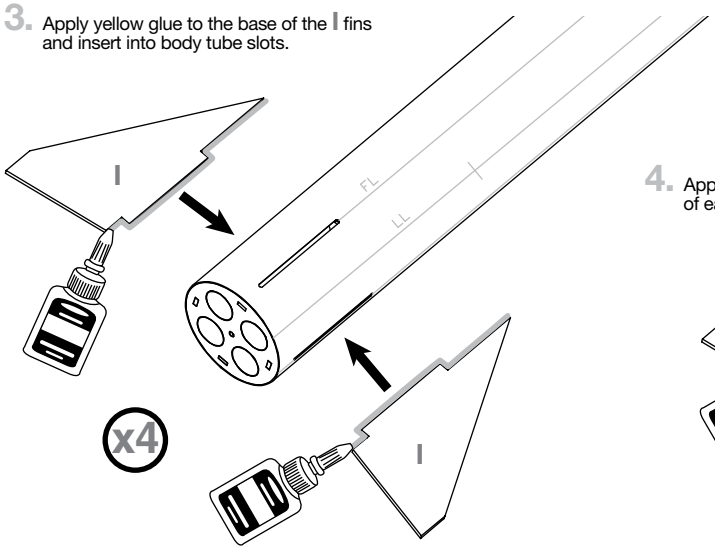


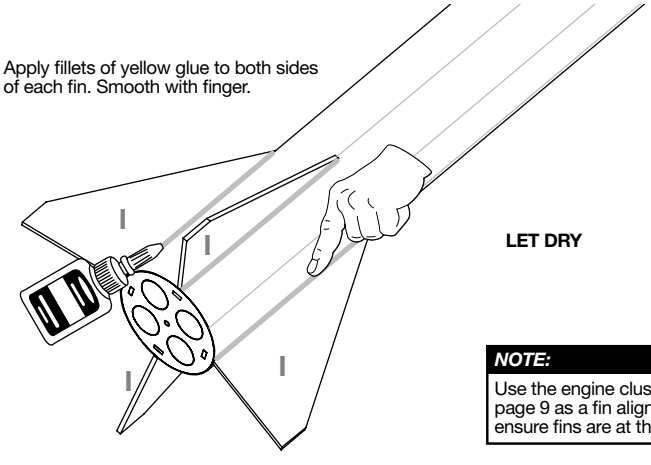

2. Sand the leading edges of parts **I** and **K**.




3. Apply yellow glue to the base of the **I** fins and insert into body tube slots.




4. Apply fillets of yellow glue to both sides of each fin. Smooth with finger.

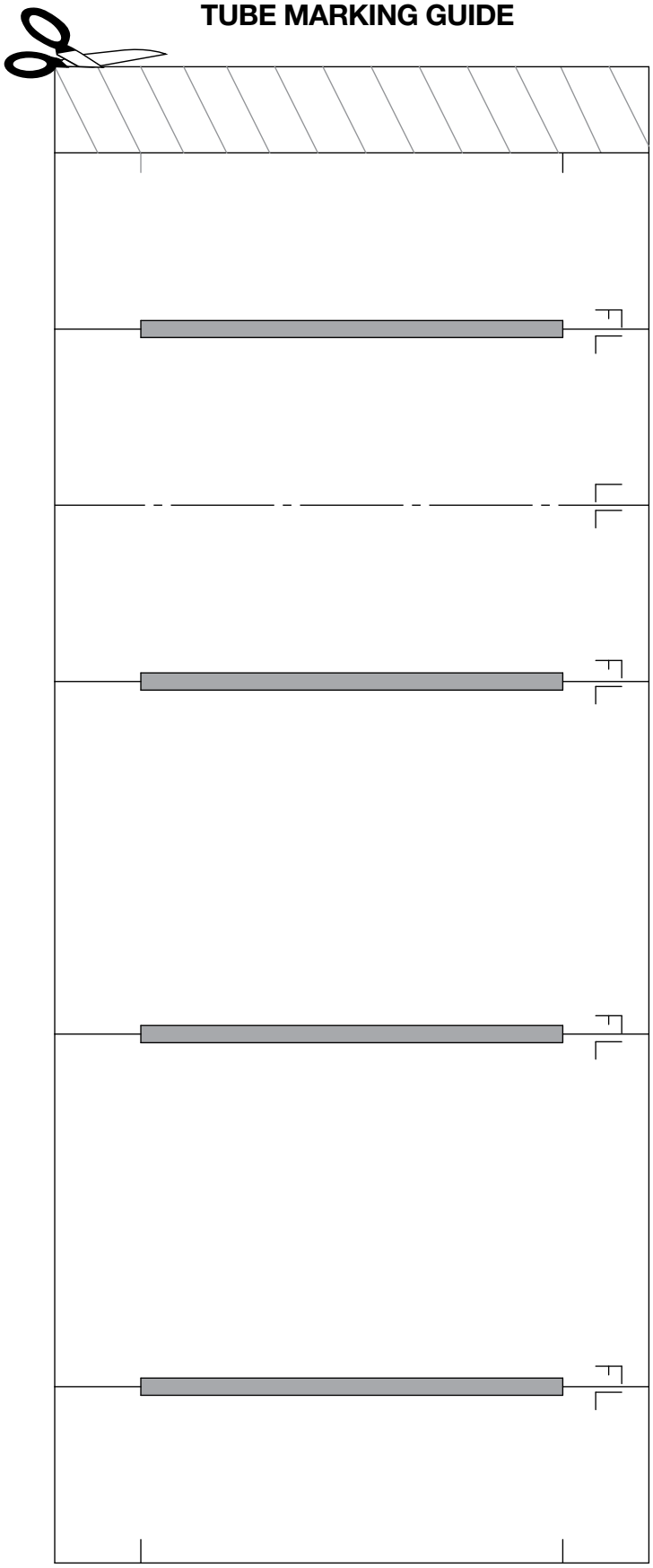



**LET DRY**

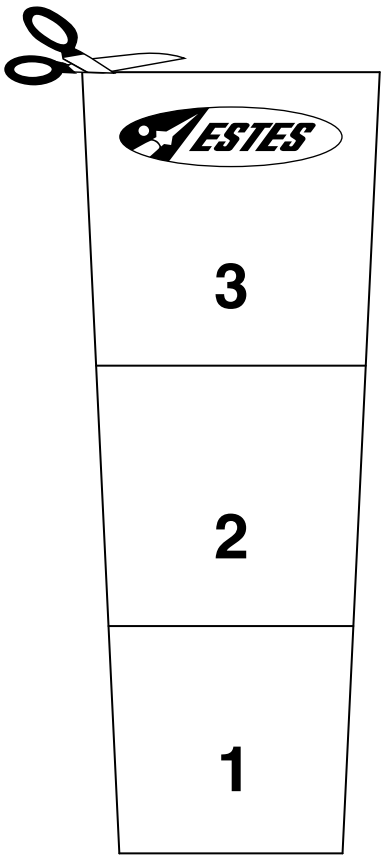
***NOTE:***

Use the engine cluster diagram on page 9 as a fin alignment guide to ensure fins are at the correct angle.

## TUBE MARKING GUIDE



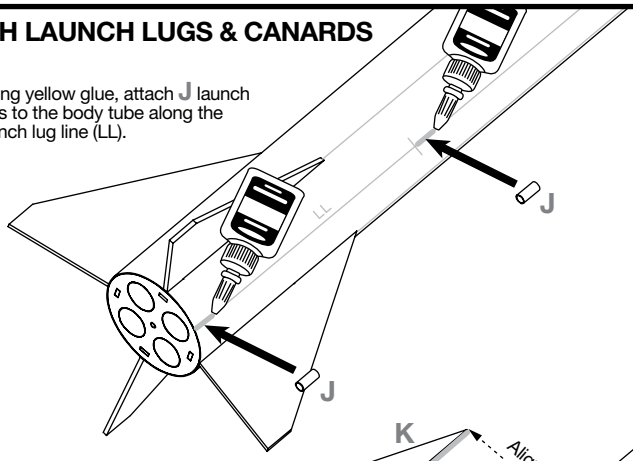
## SHOCK CORD MOUNT



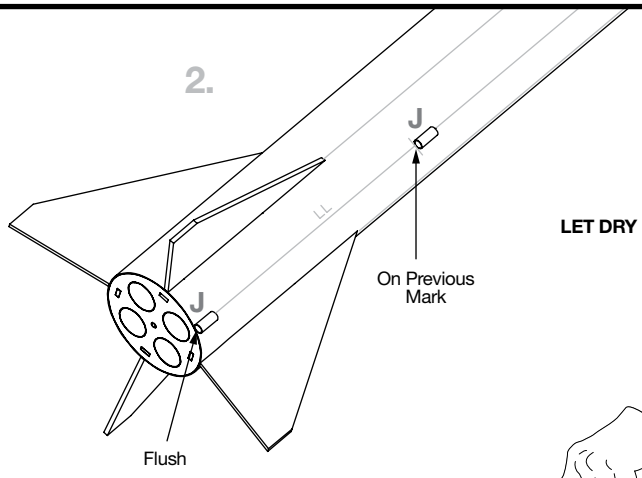
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## ATTACH LAUNCH LUGS & CANARDS

**1.** Using yellow glue, attach **J** launch lugs to the body tube along the launch lug line (LL).

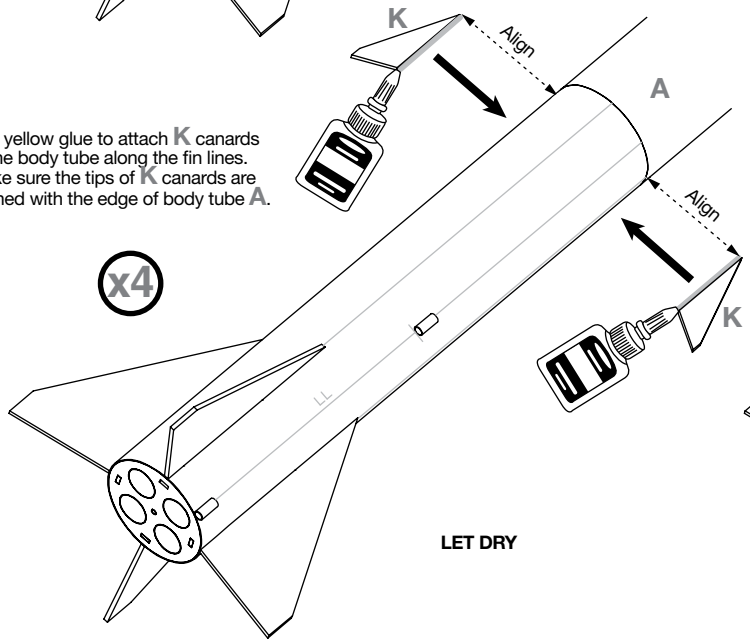



**2.**



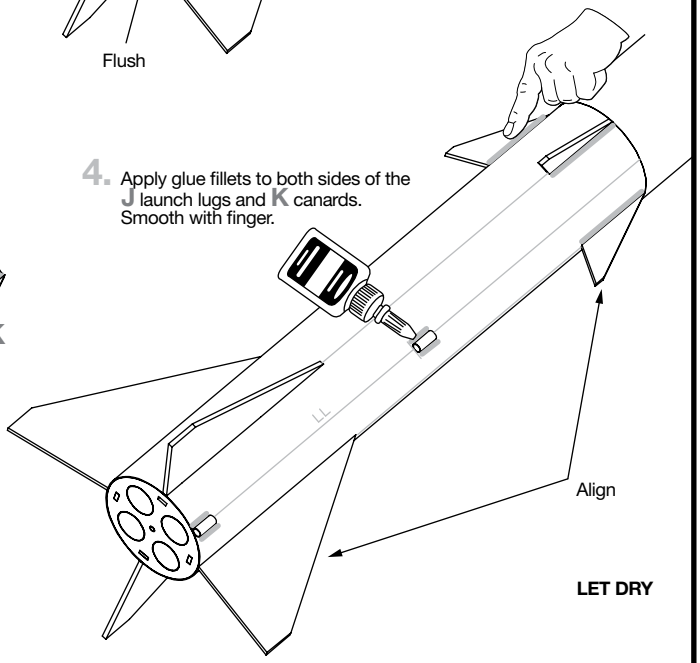

**LET DRY**

**3.** Use yellow glue to attach **K** canards to the body tube along the fin lines. Make sure the tips of **K** canards are aligned with the edge of body tube **A**.




**LET DRY**

**4.** Apply glue fillets to both sides of the **J** launch lugs and **K** canards. Smooth with finger.




**LET DRY**

## PAINT AND APPLY DECALS

**PAINT COLORS**

- Black Paint
- Neon Green Paint
- Orange Paint

1. Spray rocket with white primer, let dry, and sand. Repeat until rocket is smooth.
2. Mask off all fins and paint entire rocket black.
3. Mask off area around all fins and paint all fins neon green.
4. Mask off a pointed stripe shape along body tube (centered between fins) and paint it orange.
5. Apply decals only after paint is dry.
6. Cut decals from sheet, trimming close to edge.
7. One at a time, place in warm water until decal curls and begins to relax.
8. Remove and position on rocket, sliding decal away from backing material.
9. Blot with clean paper towel. Let set overnight.
10. OPTIONAL: Apply protective clear coat.

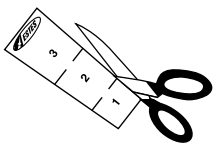
***NOTE:***

Please refer to packaging for suggested paint scheme and/or decal placement.

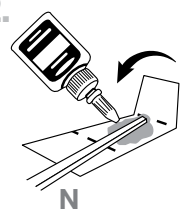



## ATTACH SHOCK CORD MOUNT

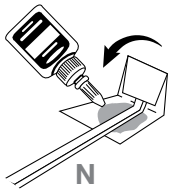
**1.** Cut out shock cord mount from page 5.



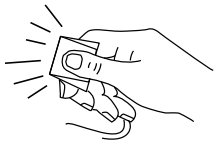
**2.**



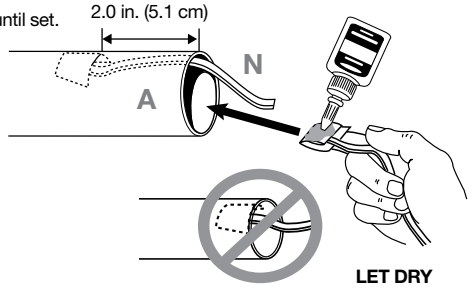

**3.**




**4.** Hold until set.



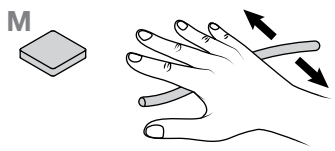
**5.** Hold until set.



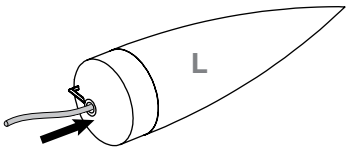

**LET DRY**

## RECOVERY & NOSE CONE INTEGRATION

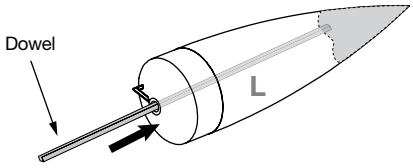
**1.** Roll clay **M** into a thin tube.



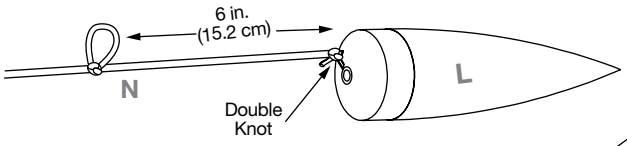

**2.** Insert clay tube into nose cone **L**.



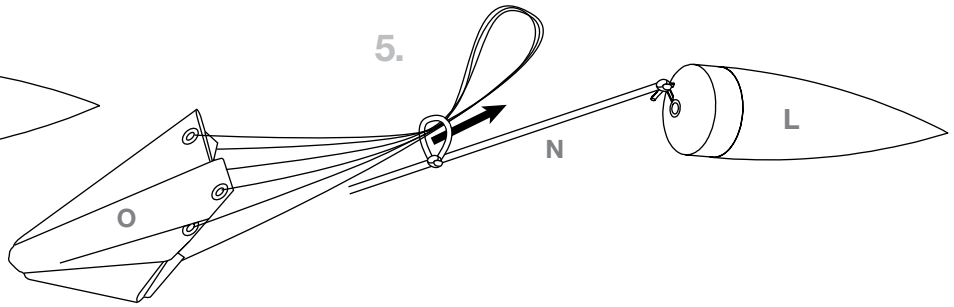

**3.** Use dowel, launch rod, or similar tool to compress clay into tip of nose cone **L**.



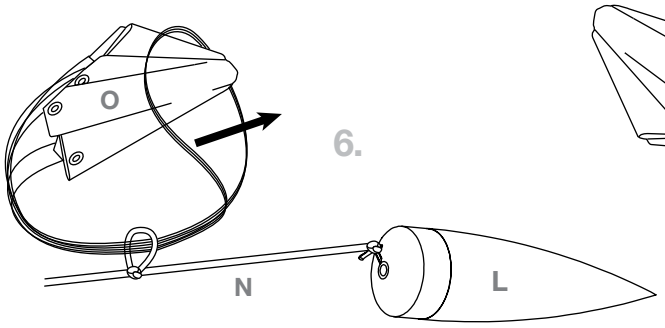

**4.** Tie a loop 6 in. from the free end of the shock cord **N**. Tie the free end of the shock cord **N** to the eyelet on **L**.



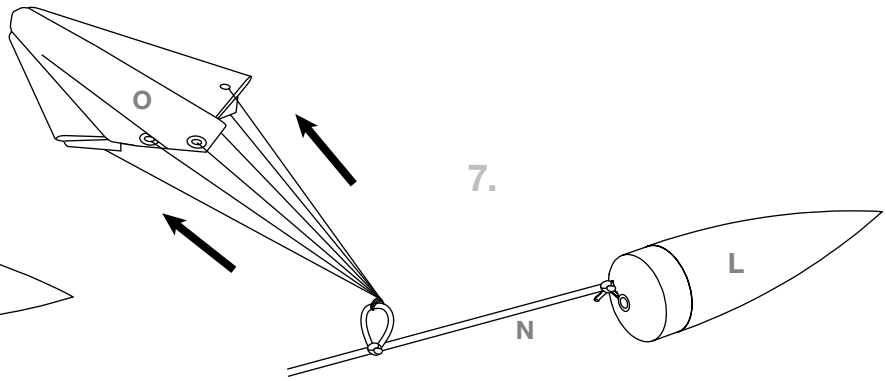

**5.**




**6.**

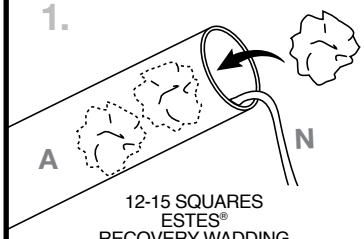



**7.**



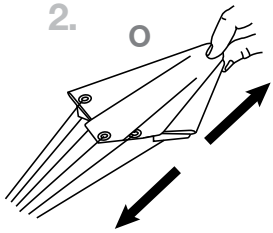

## PREPARE FLIGHT RECOVERY

**1.**

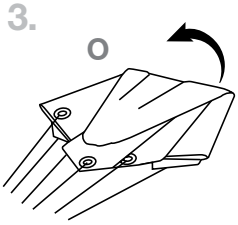



12-15 SQUARES
ESTES®
RECOVERY WADDING

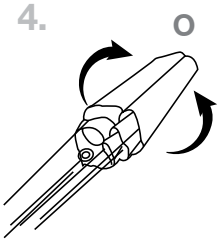
**2.**



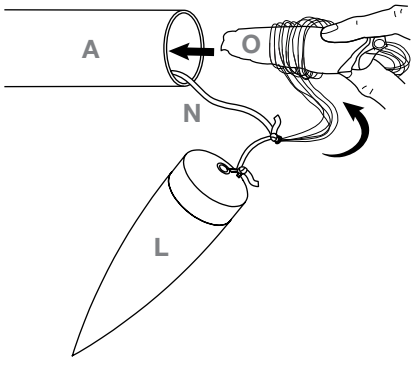

**3.**



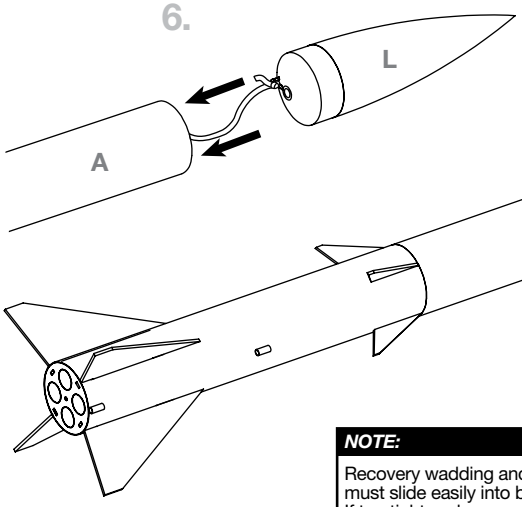

**4.**




**5.** Wrap shroud lines loosely and insert parachute into body tube **A**.




**6.**




**7.**

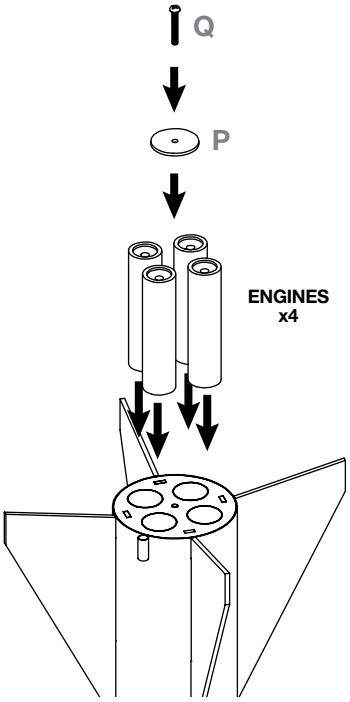


***NOTE:***

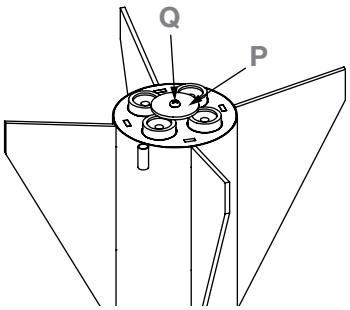
Recovery wadding and parachute must slide easily into body tube. If too tight, redo.

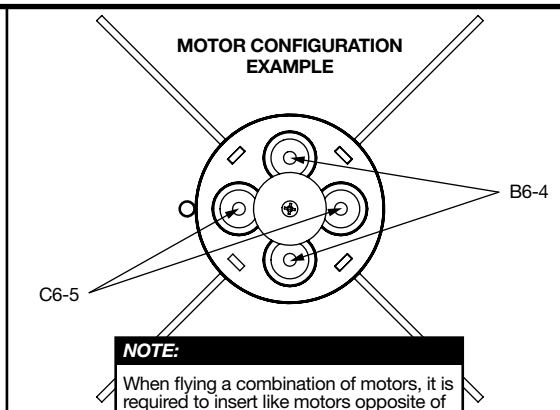
## ENGINE PREPARATION

1. Insert the motors into the motor mount tubes, followed by the washer **P** and screw **Q**.




2. Tighten the screw **Q** until washer **P** is snug against the motors.

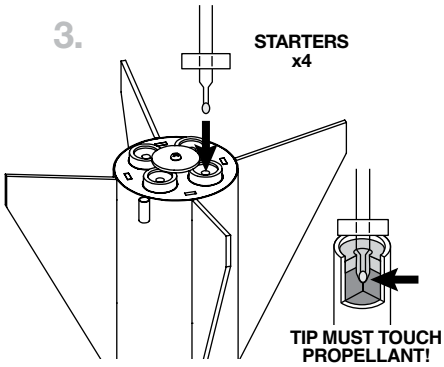


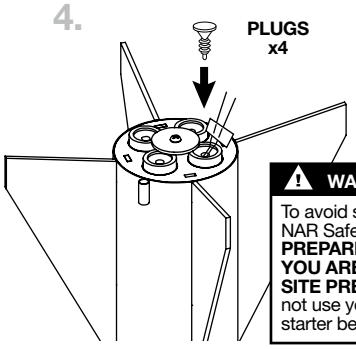

***NOTE:***

When flying a combination of motors, it is required to insert like motors opposite of one another to achieve symmetric thrust.

3.



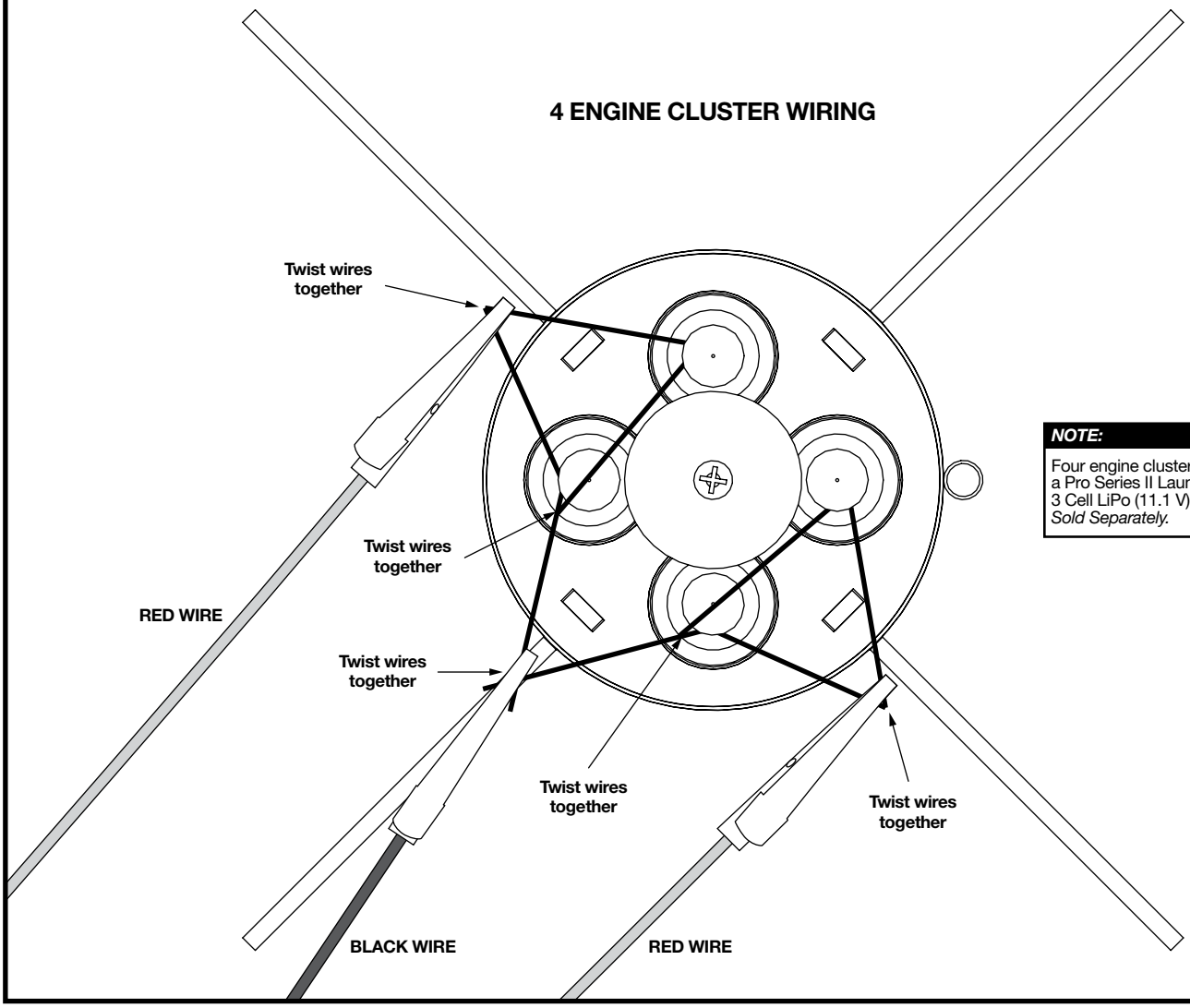

4.




**⚠ WARNING: FLAMMABLE**

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

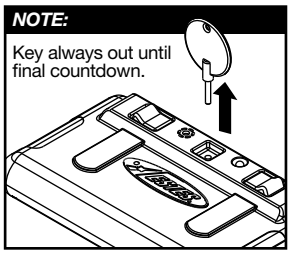
## 4 ENGINE CLUSTER WIRING




***NOTE:***

Four engine cluster configuration requires a Pro Series II Launch Controller (2240) & 3 Cell LiPo (11.1 V) Battery (2217). *Sold Separately.*

## COUNTDOWN AND LAUNCH







**NOTE:**
Estimated weight: 7 oz. (198.4 g)

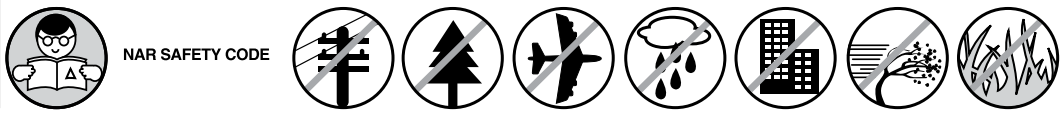
**ESTES® LAUNCH SUPPLIES NEEDED**
**(Sold Separately)**

- Porta-Pad® E Launch Pad
- 1/4" Launch Rod
- Pro Series II™ Launch Controller
- Pro Series II™ 3 Cell LiPo (11.1 V) Battery
- Recovery Wadding
- Starters (with engines)
- Plugs (with engines)
- Estes® Engines (x4): A8-3, B6-4, C5-3, C6-5

Other Engine Configurations:

| | |
|---|---|
| 2x C6-5 & 2x C5-3 | 2x C5-3 & 2x A8-3 |
| 2x C6-5 & 2x B6-4 | 2x B6-4 & 2x B4-4 |
| 2x C6-5 & 2x B4-4 | 2x B6-4 & 2x A8-3 |
| 2x C5-3 & 2x B6-4 | 2x B4-4 & 2x A8-3 |
| 2x C5-3 & 2x B4-4 | |

## 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(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.

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