



EstesRockets.com

# MINI BERTHA™

2469

AGES  
10+



Skill Level

**BEGINNER**

## MODEL ROCKET INSTRUCTIONS

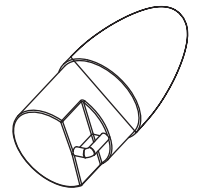
KEEP FOR FUTURE REFERENCE

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

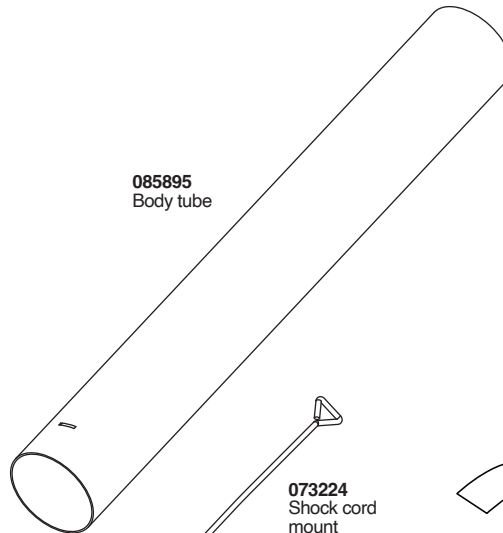
*Read all instructions. Make sure you have all parts and supplies.*



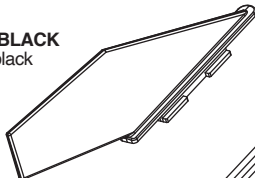
**090001-2469**  
Self-stick decal



**073229-BLACK**  
Nose cone

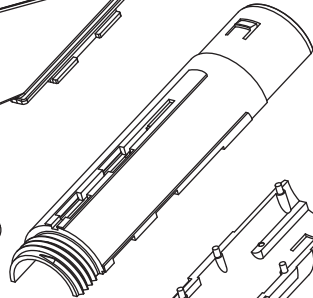


**085895**  
Body tube

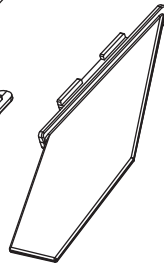
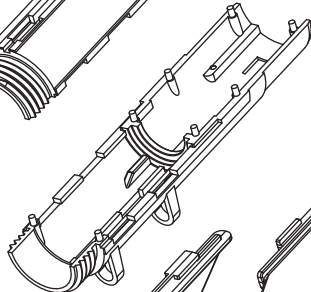


**072031-BLACK**  
Mini fin black

**032409-YELLOW**  
Engine mount fin  
can unit



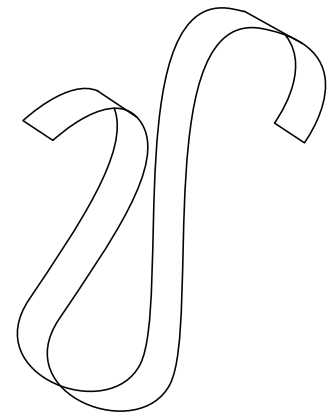
**032410-YELLOW**  
Engine mount fin  
can unit



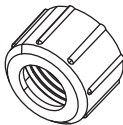
**072031-YELLOW**  
Mini fin yellow  
**x3**



**073224**  
Shock cord  
mount



**038272**  
Streamer



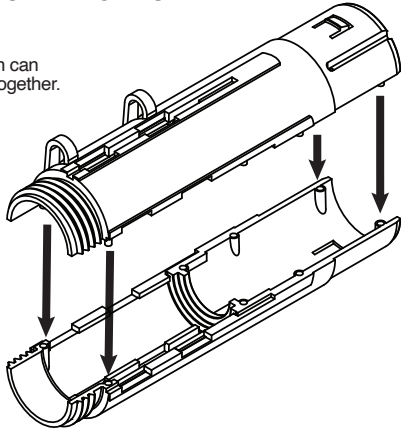
**073223-YELLOW**  
Engine retainer  
cap



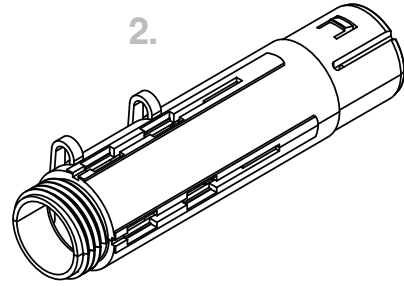
**038366**  
Shock cord

## ASSEMBLE ENGINE MOUNT FIN CAN UNIT

1. Press fin can halves together.



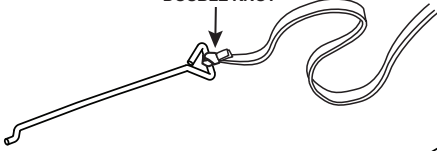
2.



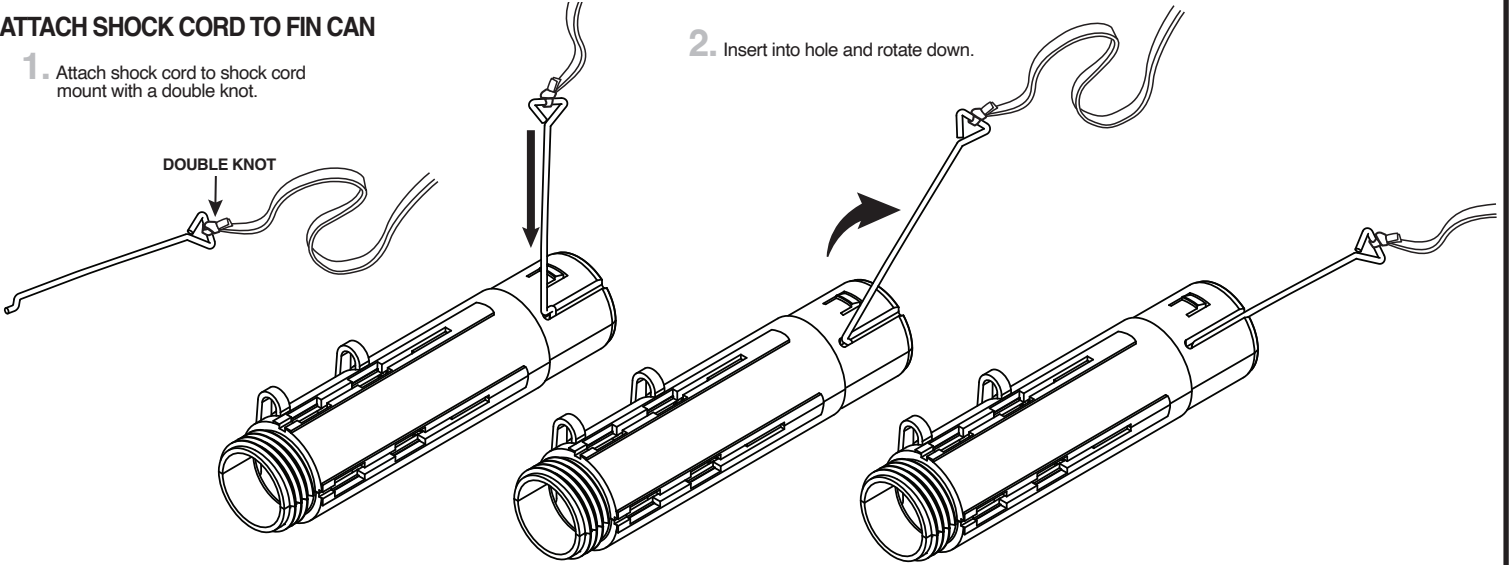
## ATTACH SHOCK CORD TO FIN CAN

1. Attach shock cord to shock cord mount with a double knot.

DOUBLE KNOT

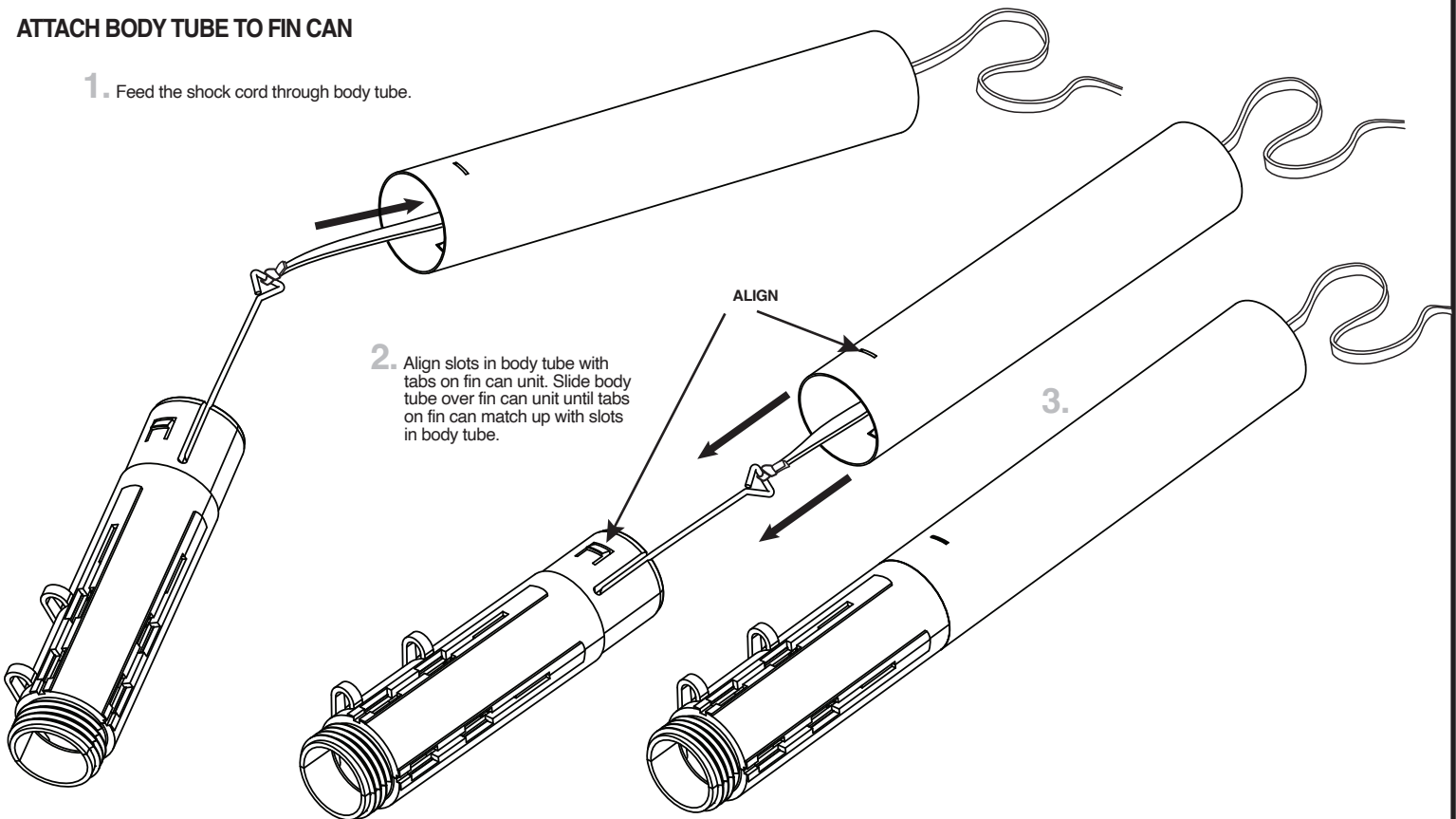


2. Insert into hole and rotate down.



## ATTACH BODY TUBE TO FIN CAN

1. Feed the shock cord through body tube.



2. Align slots in body tube with tabs on fin can unit. Slide body tube over fin can unit until tabs on fin can match up with slots in body tube.

3.

ALIGN

ALIGN

ALIGN

ALIGN

ALIGN

ALIGN

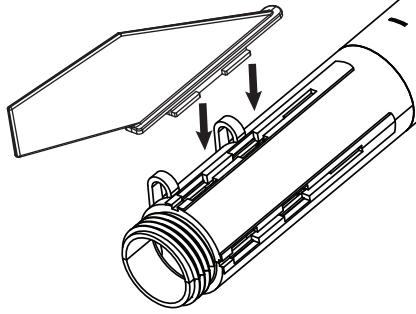
ALIGN

ALIGN

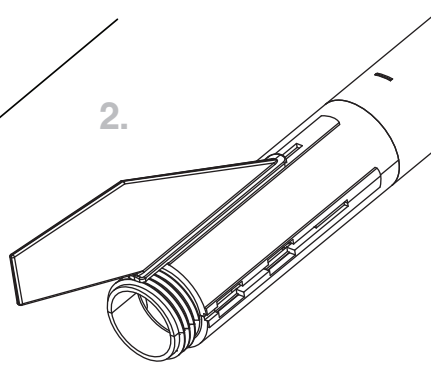
ALIGN

## ATTACH FINS

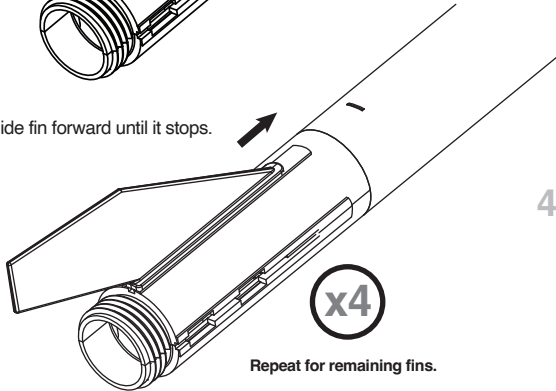
1. Insert fin into slot.



2.



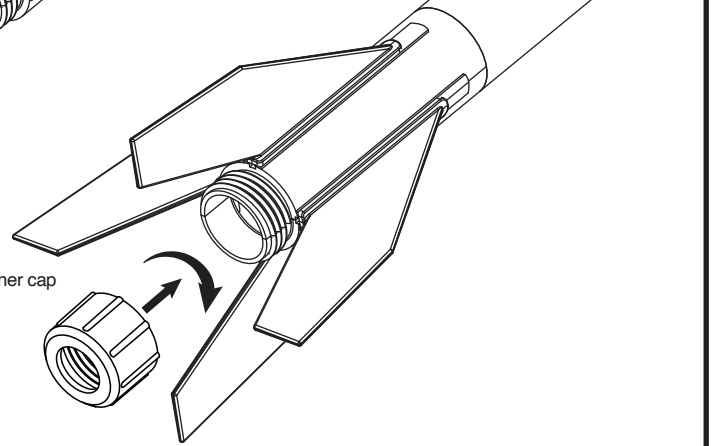
3. Slide fin forward until it stops.



x4

Repeat for remaining fins.

4. Screw engine retainer cap onto fin can unit.



## APPLY DECAL

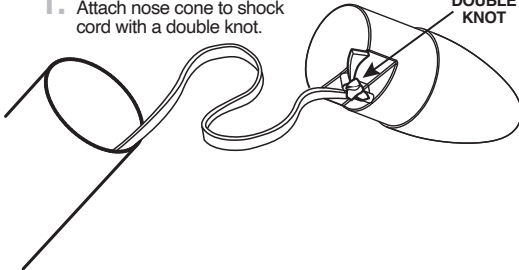
Decal



## ATTACH THE NOSE CONE AND STREAMER

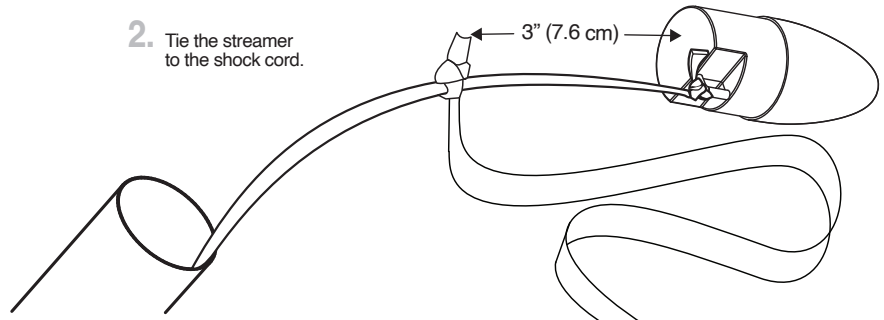
1. Attach nose cone to shock cord with a double knot.

DOUBLE KNOT



2. Tie the streamer to the shock cord.

3" (7.6 cm)



## PREPARE FLIGHT RECOVERY

1. Push recovery wadding down towards end of body tube.

2-3 SQUARES  
ESTES®  
RECOVERY WADDING

NOTE:

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

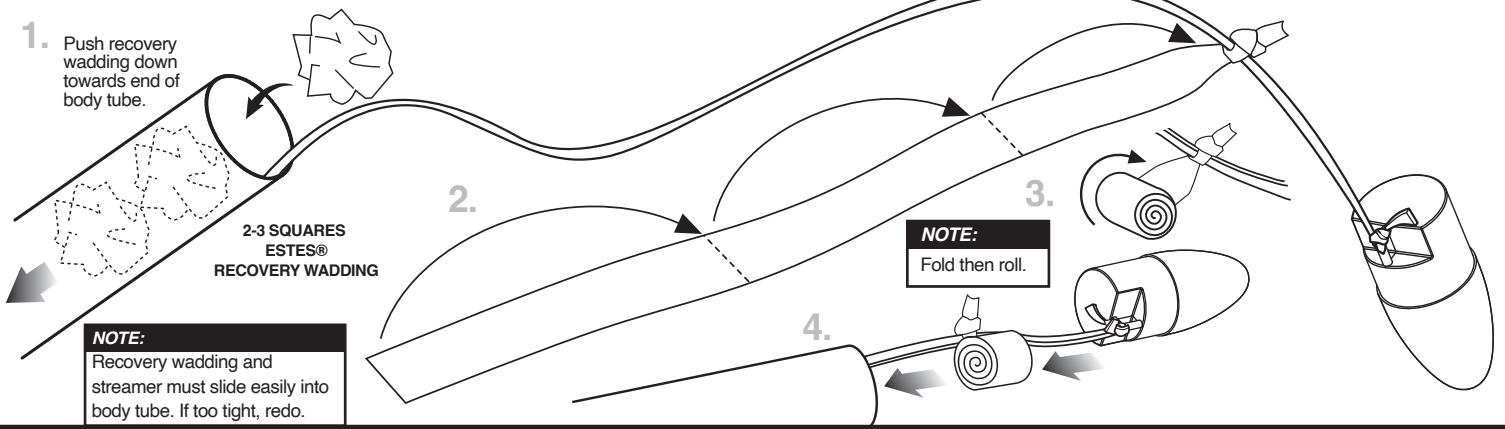
2.

3.

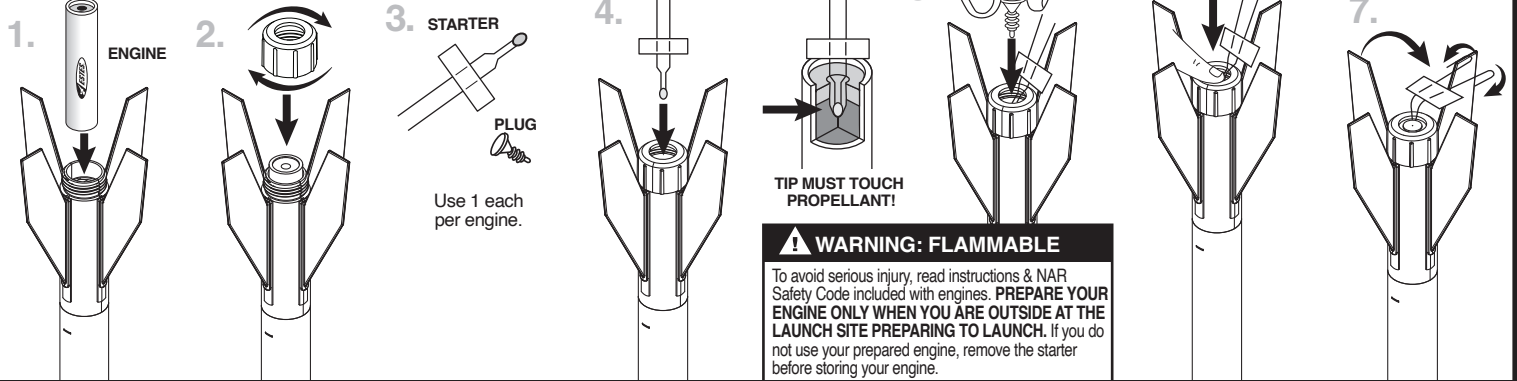
NOTE:

Fold then roll.

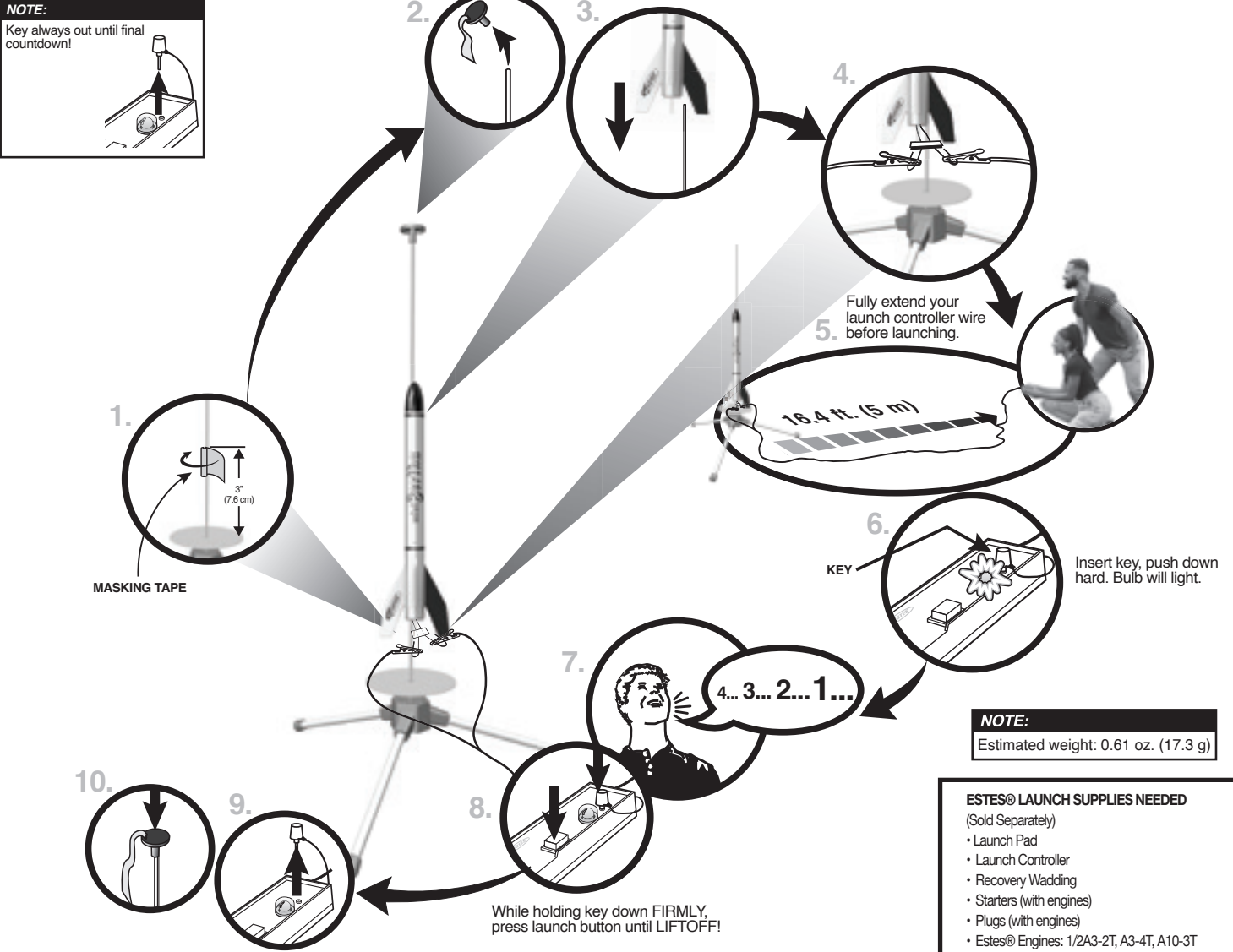
4.



## 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 (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. 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.