



# StormCaster™

www.estesrockets.com

Estes Industries  
1295 H Street  
Penrose, CO 81240  
Printed In China

FLYING MODEL ROCKET KIT

EST 1301

KEEP FOR FUTURE REFERENCE

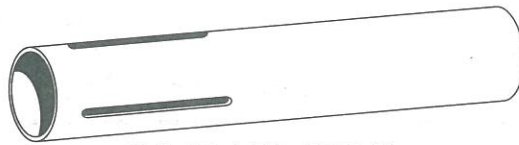
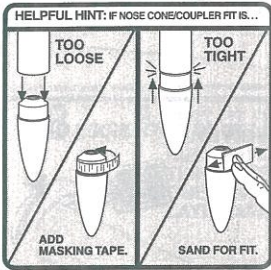
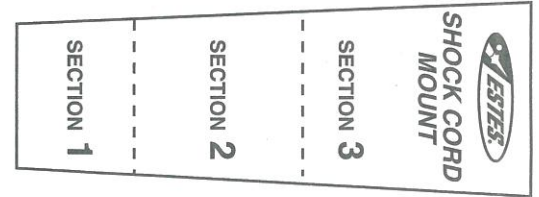
## ASSEMBLY TIP

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

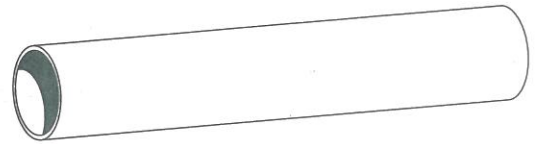
**TEST-FIT ALL PARTS TOGETHER BEFORE APPLYING ANY GLUE.** If any parts don't fit properly, sand as required for precision assembly.

## PARTS

Locate the parts shown below and lay them out on the table in front of you. DO NOT USE THIS DRAWING TO ASSEMBLE YOUR ROCKET.



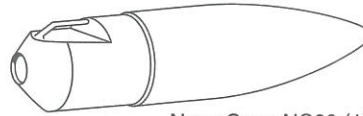
Slotted Body Tube RT-60 (1)  
(31189)



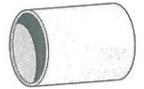
Upper Body Tube BT-60 (1)  
(30397)



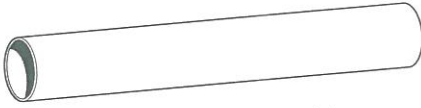
Launch Lug (1)  
(38166)



Nose Cone NC60 (1)  
(72057)



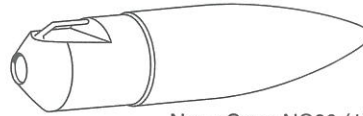
Red Tube Coupler 60C (1)  
(30176-5)



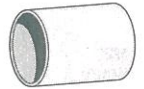
Engine Mount Tube BT-50 (1)  
(30373)



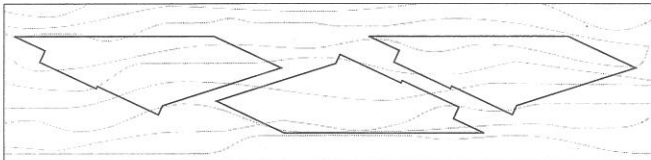
Yellow Spacer Tool ET-6 'D' (1)  
(35004)



Nose Cone NC60 (1)  
(72057)



Red Tube Coupler 60C (1)  
(30176-5)



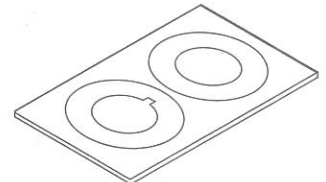
Balsa Sheet (1)  
(32394)



Green Engine Block  
AR2050 (1)  
(30164-2)



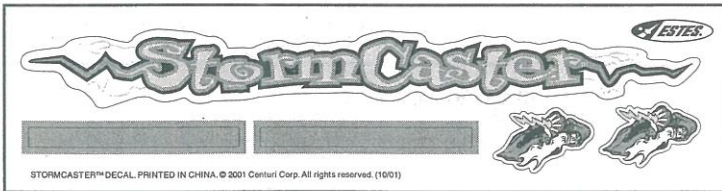
Engine Hook Retainer (1)  
(30450)



Die Cut Card Adapter  
Rings RA5060 (1)  
(30132)



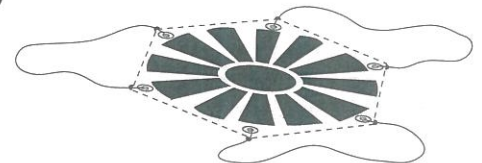
Engine Hook (1)  
(35021)



Decal Sheet (1)  
(37717)



Shock Cord (1)  
1/4" x 36"  
(38382)



Assembled Parachute  
18" (46 cm) (1)  
(35802)

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



SCISSORS



PENCIL



RULER



FINE SAND PAPER  
(#400-600 GRIT)



CARPENTER'S GLUE



MODELING KNIFE



MASKING TAPE



PRIMER (WHITE)

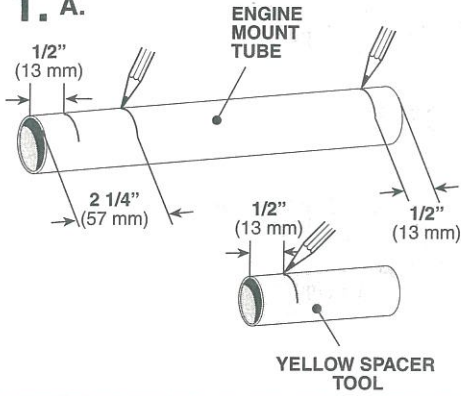


SPRAY PAINT:  
(YELLOW & CHARCOAL GRAY)

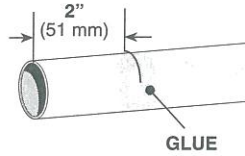


SPRAY CLEAR COAT (OPTIONAL)

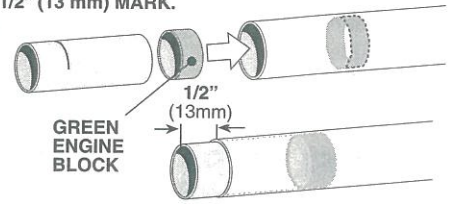
1. A.



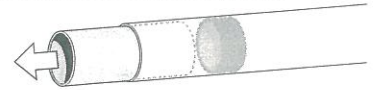
B. SMEAR GLUE 2" (51 mm) INSIDE ENGINE MOUNT TUBE.



C. INSERT GREEN ENGINE BLOCK AND YELLOW SPACER TOOL TO 1/2" (13 mm) MARK.

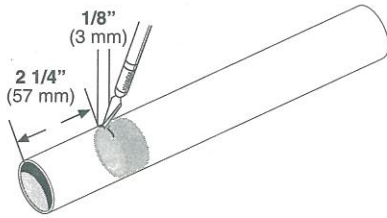


D. REMOVE SPACER TOOL IMMEDIATELY.

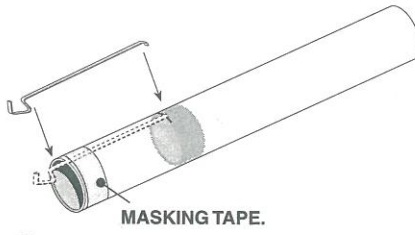


2. A.

CUT 1/8" (3 mm) SLIT AT 2 1/4" (57 mm).



B. POSITION HOOK.

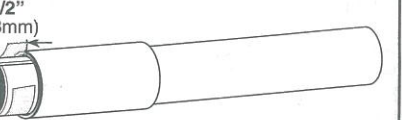


C. TAPE ENGINE HOOK DOWN.

D. SPREAD GLUE AROUND ENGINE MOUNT TUBE.



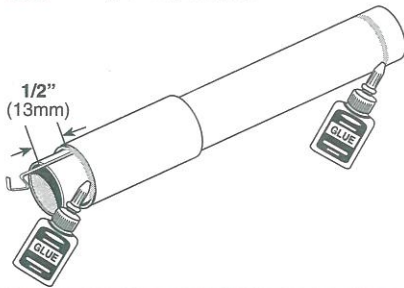
F. REMOVE TAPE.



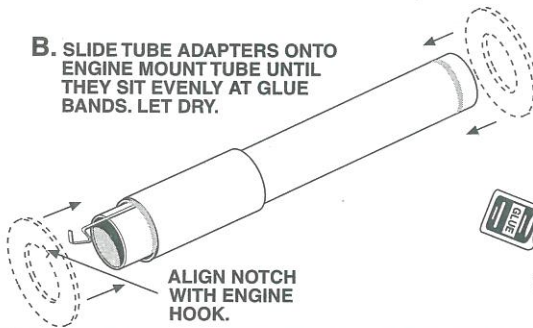
E. SLIDE ENGINE HOOK RETAINER OVER TUBE TO 1/2" (13 mm) MARK. REMOVE SOME PAPER FROM INSIDE OF ADAPTER, IF NECESSARY.

3. A.

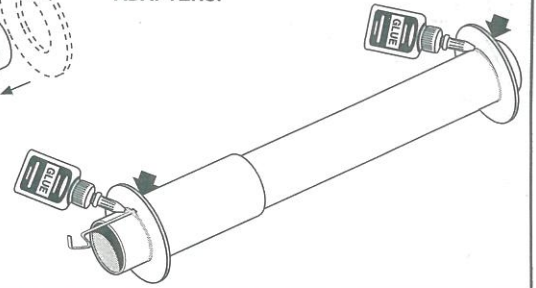
APPLY GLUE BANDS AROUND 1/2" (13 mm) MARKS.



B. SLIDE TUBE ADAPTERS ONTO ENGINE MOUNT TUBE UNTIL THEY SIT EVENLY AT GLUE BANDS. LET DRY.



C. APPLY GLUE FILLETS TO BOTH SIDES OF ADAPTERS.

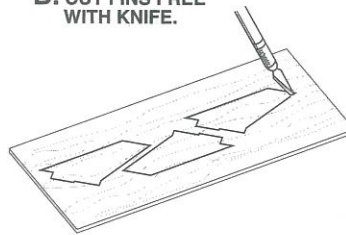


4. A.

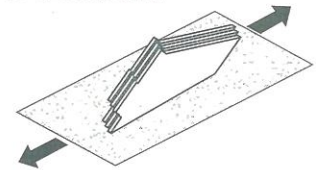
FINE SAND Balsa SHEET.



B. CUT FINN FREE WITH KNIFE.



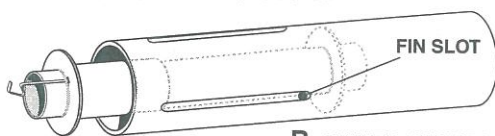
C. STACK FINN TOGETHER AND SAND EDGES SMOOTH.



D. SAVE SCRAP Balsa TO USE AS GLUE APPLICATOR.

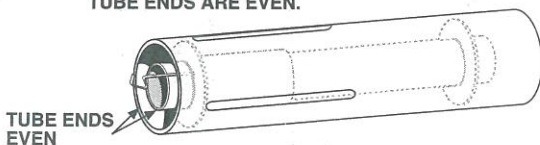
5. A.

INSERT ENGINE MOUNT TUBE HALFWAY INTO SLOTTED BODY TUBE.

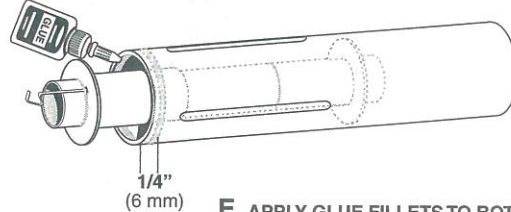


B. CENTER ENGINE HOOK BETWEEN FIN SLOTS.

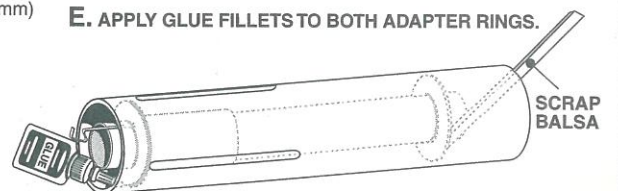
D. INSERT ENGINE MOUNT TUBE UNTIL TUBE ENDS ARE EVEN.



C. APPLY GLUE BAND 1/4" (6 mm) INSIDE SLOTTED BODY TUBE.

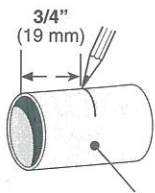


E. APPLY GLUE FILLETS TO BOTH ADAPTER RINGS.



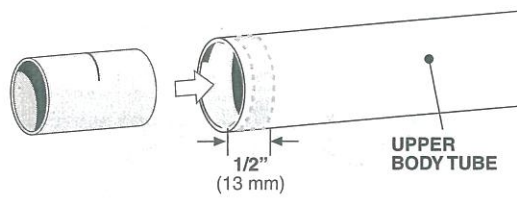


## 6. A.



RED TUBE COUPLER

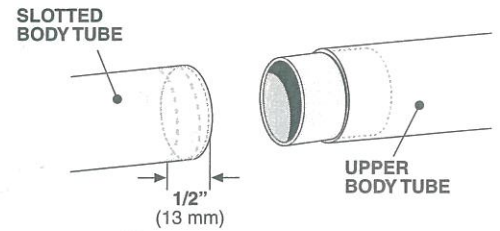
## B. SPREAD GLUE INSIDE UPPER BODY TUBE.



UPPER BODY TUBE

## C. INSERT RED TUBE COUPLER TO 3/4" (19 mm) MARK.

## D. SPREAD GLUE INSIDE SLOTTED BODY TUBE.



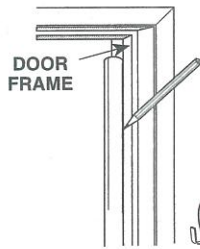
SLOTTED BODY TUBE

UPPER BODY TUBE

## E. INSERT RED TUBE COUPLER UNTIL BODY TUBES FIT SNUG. LET DRY.

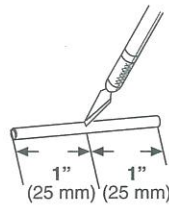
## 7. A.

DRAW A LAUNCH LUG (LL) LINE, ALIGNED WITH ENGINE HOOK, ENTIRE LENGTH OF ASSEMBLED TUBES.



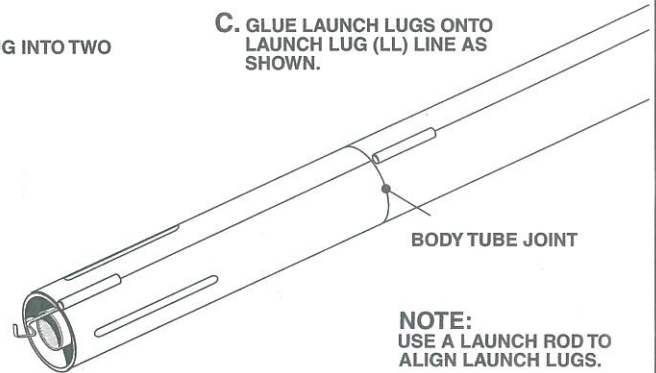
DOOR FRAME

## B. CUT LAUNCH LUG INTO TWO EQUAL PIECES.



1" (25 mm) 1" (25 mm)

## C. GLUE LAUNCH LUGS ONTO LAUNCH LUG (LL) LINE AS SHOWN.



BODY TUBE JOINT

NOTE: USE A LAUNCH ROD TO ALIGN LAUNCH LUGS.

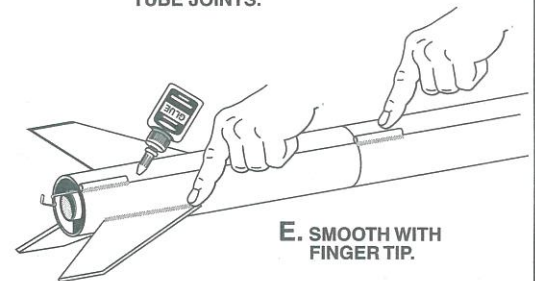
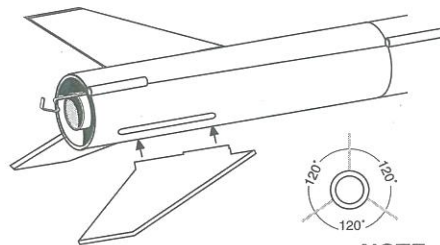
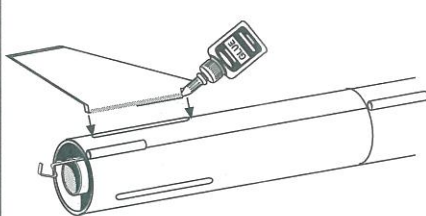
## 8. A.

TEST FIT FINS INTO EACH SLOT. SAND FIN TAB SURFACE IF NEEDED FOR PROPER FIT. APPLY THIN LAYER OF GLUE TO FIN, WAIT ONE MINUTE. APPLY SECOND LAYER AND INSERT INTO SLOT.

## B. REPEAT FOR OTHER FINS.

## C. ALLOW GLUE TO DRY.

## D. APPLY GLUE FILLETS TO ALL LAUNCH LUG AND FIN BODY TUBE JOINTS.



E. SMOOTH WITH FINGER TIP.

NOTE: FINS MUST BE ATTACHED CORRECTLY FOR A STABLE FLIGHT.

## 9. A.

CUT OUT SHOCK CORD MOUNT FROM FRONT PAGE.

## B. FOLD FORWARD.

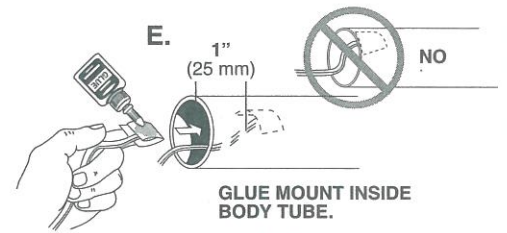
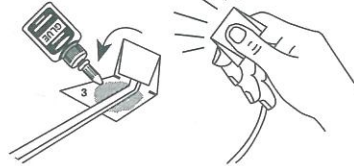
## C. FOLD FORWARD.

## D. SQUEEZE TIGHTLY.

## E.



SHOCK CORD



GLUE MOUNT INSIDE BODY TUBE.

HOLD UNTIL GLUE SETS.



NO

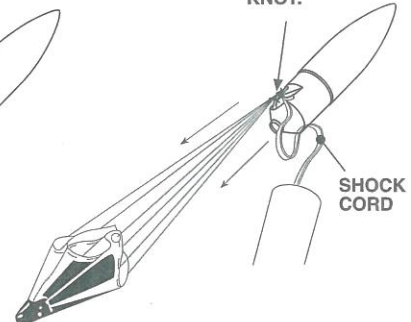
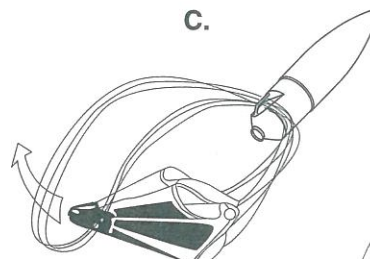
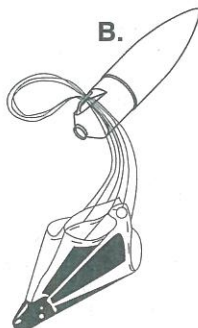
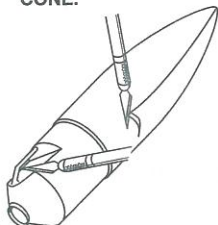
## 10. A.

REMOVE EXCESS FLASH AND CLEAN THE EYELET OF NOSE CONE.

## B.

## C.

## D. DOUBLE KNOT.

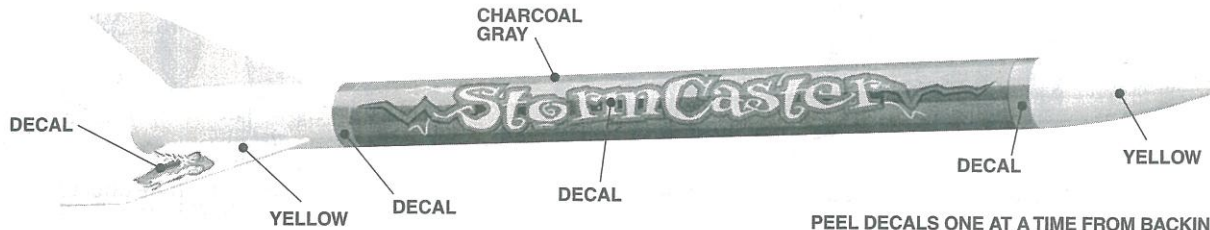


SHOCK CORD

CAUTION: DO NOT CUT OFF EYELET OF NOSE CONE

## PAINT SCHEME

FIRST SPRAY ROCKET WITH WHITE PRIMER, LET DRY AND SAND. REPEAT UNTIL ROCKET IS SMOOTH. FOLLOW THE PAINT SCHEME ON THE FRONT PANEL OR DESIGN YOUR OWN.

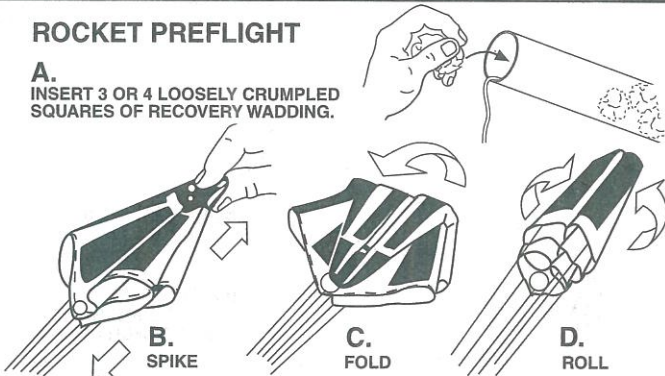


PEEL DECALS ONE AT A TIME FROM BACKING SHEET AND APPLY WHERE SHOWN. RUB DOWN TO REMOVE BUBBLES.

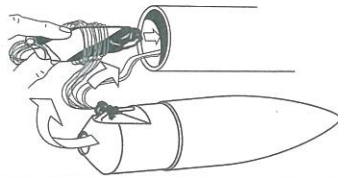
\*OPTIONAL-CLEAR COAT ENTIRE ROCKET WHEN COMPLETE.

## ROCKET PREFLIGHT

**A.** INSERT 3 OR 4 LOOSELY CRUMPLED SQUARES OF RECOVERY WADDING.



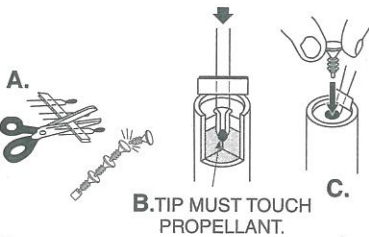
**E.** WRAP LINES LOOSELY, INSERT CHUTE, SHOCK CORD AND NOSE CONE.



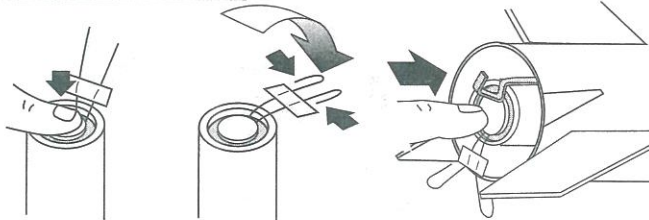
## ENGINE PREP

**WARNING: FLAMMABLE**  
Before proceeding 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 igniter before storing your engine.



**B. TIP MUST TOUCH PROPELLANT.**



**D.**

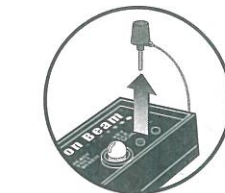
**E.**

**F. INSERT ENGINE.**

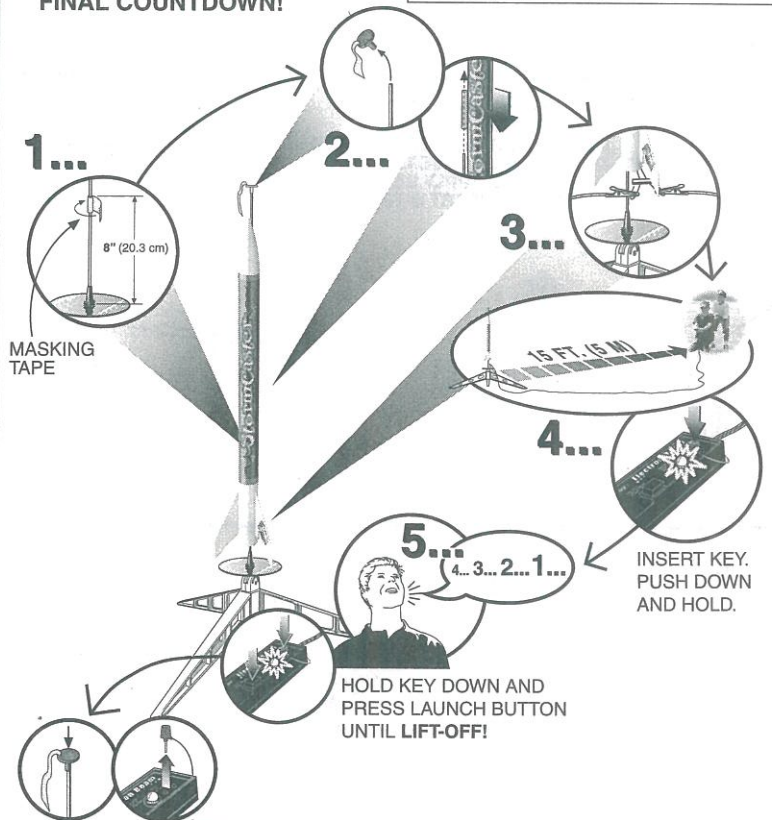
## COUNTDOWN AND LAUNCH

### LAUNCH SUPPLIES

- (Sold Separately)
- Estes® Porta Pad® II Launch Pad (Requires 3/16" (5 mm) Maxi™ Rod- Sold Separately)
  - Electron Beam® Controller
  - Recovery Wadding
  - Igniters (with Engines)
  - Igniter Plugs (with Engines)
  - Estes® Engines: C11-3, C11-5, D12-5



**KEY ALWAYS OUT UNTIL FINAL COUNTDOWN!**



**1...**  
MASKING TAPE

**2...**

**3...**

**4...**

**5...**

**4... 3... 2... 1...**  
HOLD KEY DOWN AND PRESS LAUNCH BUTTON UNTIL LIFT-OFF!

INSERT KEY. PUSH DOWN AND HOLD.

## PRECAUTIONS

NAR Safety Code



NO DRY GRASS OR WEEDS

## 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 National Association of Rocketry (NAR) SAFETY CODE.

## MISFIRES

**TAKE THE KEY OUT OF THE CONTROLLER. WAIT ONE MINUTE BEFORE GOING NEAR THE ROCKET!** 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.