



ESTES® INDUSTRIES
1295 H Street
Penrose, CO 81240
PRINTED IN CHINA

EST 2183

www.estesrockets.com

SHUTTLE EXPRESS™

FLYING MODEL ROCKET KIT INSTRUCTIONS

KEEP FOR FUTURE REFERENCE.

ASSEMBLY TIP: Read all the instructions before beginning work on your model. TEST FIT all parts before applying any glue. If any parts don't fit properly, sand as required for precision assembly.

SUPPLIES REQUIRED:



HOBBY KNIFE



TUBE TYPE
PLASTIC
CEMENT



CARPENTER'S
GLUE



MASKING
TAPE



FINE SAND
PAPER
(400-600 Grit)

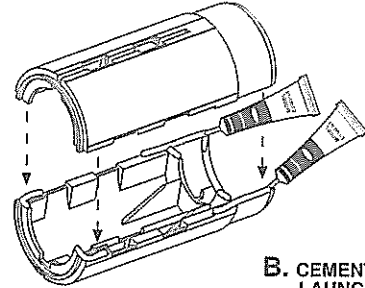


ALL GLUED AREAS ARE SHADED IN GRAY

1. ASSEMBLE FIN UNIT

C. AP
OF
SLI
SLI
FO

A. CEMENT THE TWO PLASTIC ENGINE MOUNT HALVES TOGETHER. LET DRY.



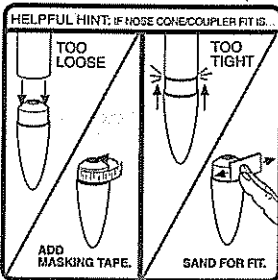
B. CEMENT PLASTIC LAUNCH LUG INTO SLOT ON ENGINE MOUNT AS SHOWN. LET DRY.



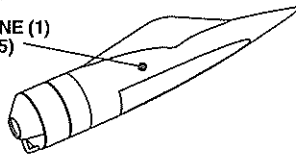
NOTE: FINS MUST BE ATTACHED CORRECTLY!

PARTS LAYOUT

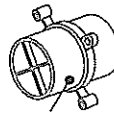
Locate the parts shown below and lay them out on the table in front of you. DO NOT USE THIS DRAWING TO ASSEMBLE YOUR ROCKET.



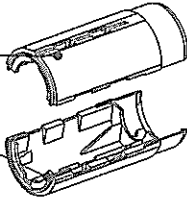
NOSE CONE (1)
(72055)



TUBE COUPLER
WITH LAUNCH LUG
(1)
(60351)



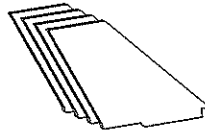
ENGINE
MOUNT RIGHT (1)
(60353)



ENGINE
MOUNT LEFT (1)
(60354)



FIN SET (4)
(60357)



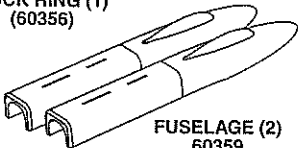
PLASTIC
LAUNCH
LUG (2)
(60355)



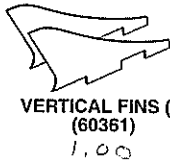
ENGINE
LOCK RING (1)
(60356)



FUSELAGE (2)
60359



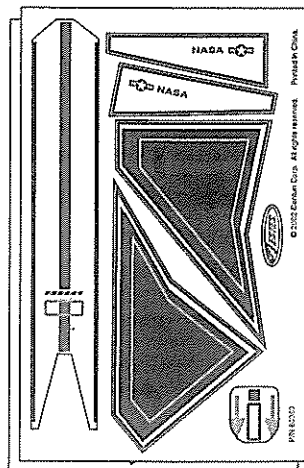
VERTICAL FINS (2)
(60361)



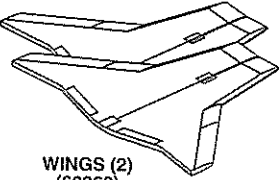
SHOCK CORD
1/8 X 18 (1)
(38374)



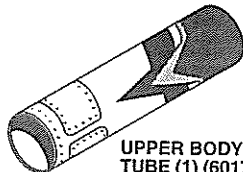
LABEL SHEET (2)
(60363)



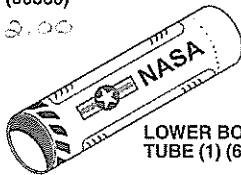
WINGS (2)
(60360)



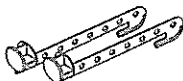
UPPER BODY
TUBE (1) (60174)



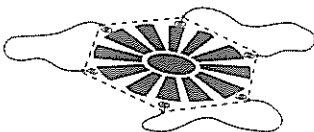
LOWER BODY
TUBE (1) (60368)



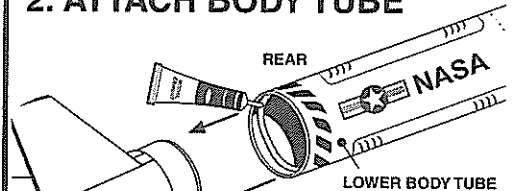
LAUNCH HOOK (2)
(60352)



ASSEMBLED
PARACHUTE 12" (1)
(35801)

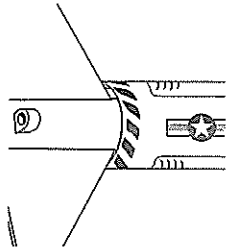


2. ATTACH BODY TUBE



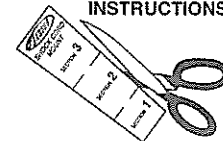
A. APPLY A RING OF CEMENT JUST INSIDE THE REAR END OF THE LOWER BODY TUBE, AND SLIDE ONTO THE ENGINE MOUNT ASSEMBLY AS SHOWN. LET DRY COMPLETELY.

C. APPLY A RING OF CEMENT JUST INSIDE THE REAR END OF THE UPPER BODY TUBE AND SLIP ONTO THE TUBE COUPLER AS SHOWN. LET CEMENT DRY COMPLETELY.

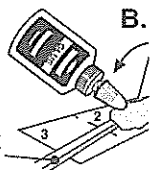


3. ATTACH SHOCK CORD MOUNT

A. CAREFULLY CUT SHOCK CORD MOUNT FROM INSTRUCTIONS.

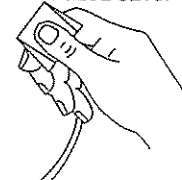


B.



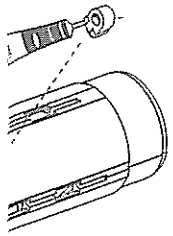
SHOCK
CORD

D. SQUEEZE TIGHTLY UNTIL GLUE SETS.

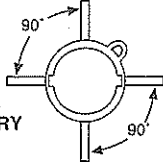


E. APPLY GLUE TO BACK PRESS MOUNT INTO TUBE AND HOLD UNTIL AT LEAST 1-1/2" (38 MM) LET GLUE DRY COMPLETELY.

APPLY CEMENT TO TAB AND INSERT FIN INTO SLOT OF ENGINE MOUNT. FORWARD. REPEAT WITH REMAINING FINS.

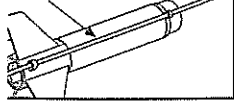


D. ALIGN FINS AS SHOWN. LET DRY COMPLETELY.



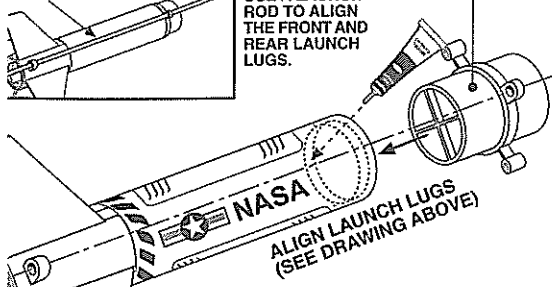
FOR STABLE FLIGHTS.

LAUNCH ROD

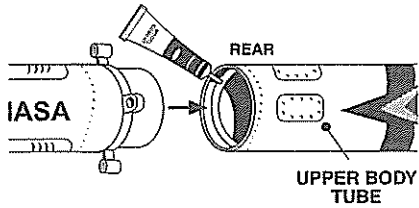


IMPORTANT! USE A LAUNCH ROD TO ALIGN THE FRONT AND REAR LAUNCH LUGS.

TUBE COUPLER



B. APPLY A RING OF CEMENT JUST INSIDE THE FRONT OF THE LOWER BODY TUBE AND SLIDE THE TUBE COUPLER INTO THE TUBE. BEFORE GLUE SETS, ALIGN THE LAUNCH LUG ON THE COUPLER WITH THE LAUNCH LUG ON THE ENGINE MOUNT. LET DRY COMPLETELY.

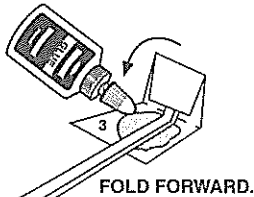


UPPER BODY TUBE

C. SMEAR GLUE.

APPLY GLUE.

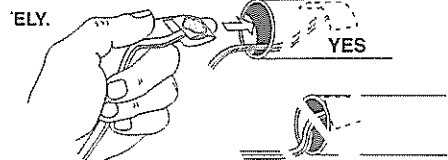
FOLD FORWARD.



SHOCK CORD MOUNT. AFTER GLUE SETS, INSERT AT FRONT END. LET DRY COMPLETELY.

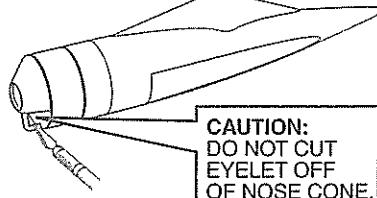
1-1/2" (38 mm)

YES



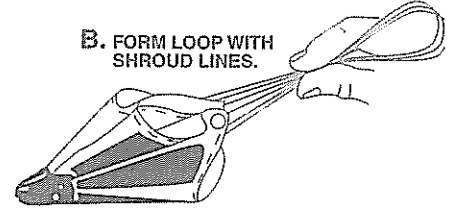
4. ATTACH PARACHUTE

A. CLEAN FLASH FROM EYELET OF NOSE CONE.

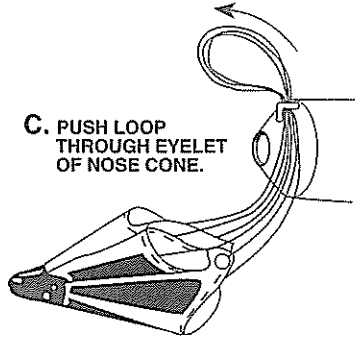


CAUTION: DO NOT CUT EYELET OFF OF NOSE CONE.

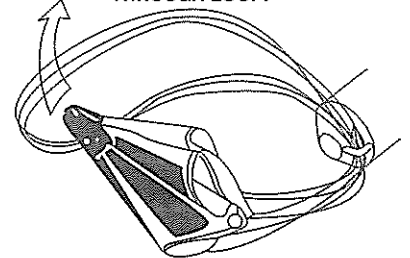
B. FORM LOOP WITH SHROUD LINES.



C. PUSH LOOP THROUGH EYELET OF NOSE CONE.

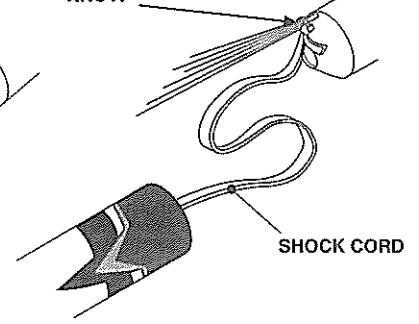
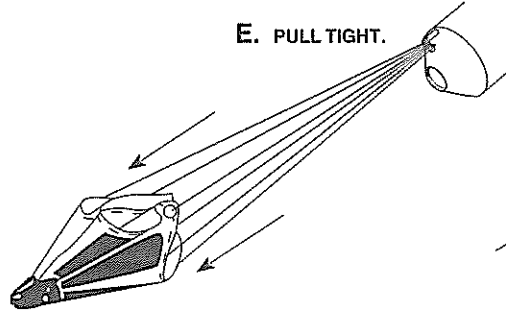


D. PASS PARACHUTE THROUGH LOOP.



F. TIE SHOCK CORD TO THE EYELET OF THE NOSE CONE WITH A DOUBLE KNOT.

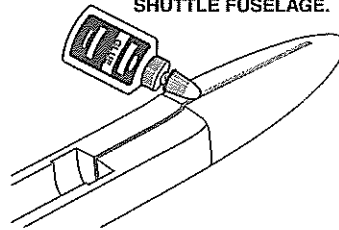
E. PULL TIGHT.



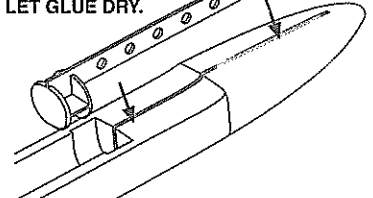
SHOCK CORD

5. ATTACH LAUNCH HOOK

A. APPLY GLUE INTO SLOT OF SHUTTLE FUSELAGE.

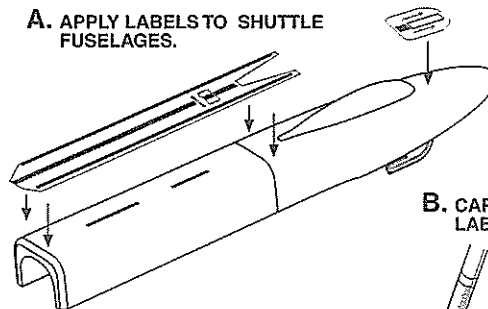


B. INSERT LAUNCH HOOK INTO SLOT. REPEAT FOR OTHER FUSELAGE. LET GLUE DRY.

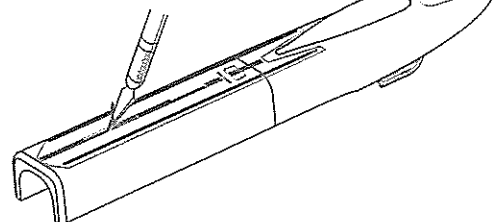


6. APPLY LABELS

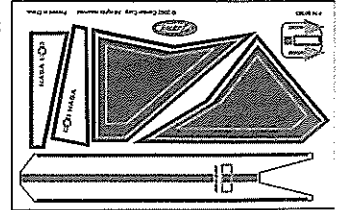
A. APPLY LABELS TO SHUTTLE FUSELAGES.



B. CAREFULLY CUT AWAY LABEL COVERING SLOT.

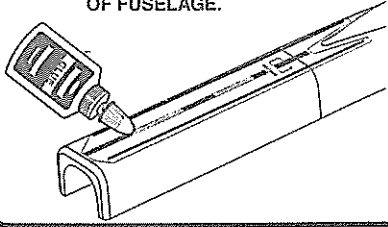


LABEL SHEET

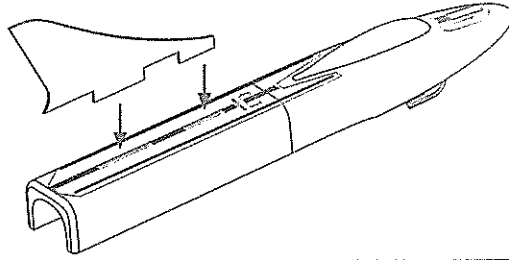


7. ASSEMBLE SHUTTLE

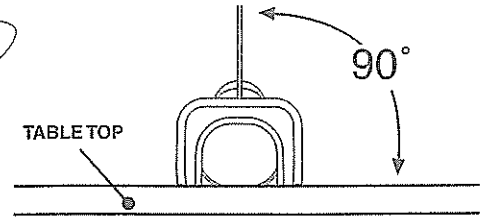
A. APPLY GLUE INTO FIN SLOT OF FUSELAGE.



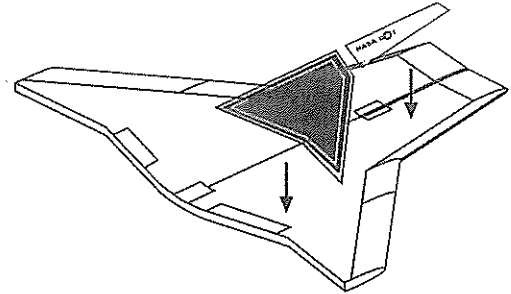
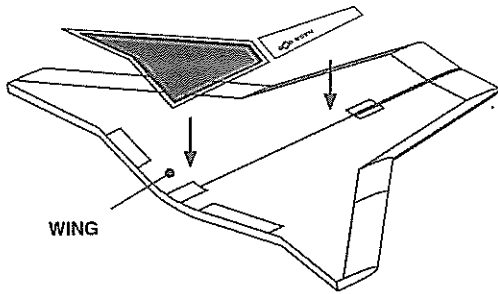
B. INSERT VERTICAL FIN INTO SLOT. REPEAT FOR OTHER SHUTTLE.



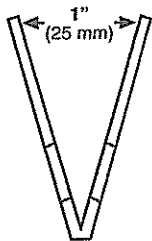
C. ALIGN VERTICAL FIN AS SHOWN. LET GLUE DRY.



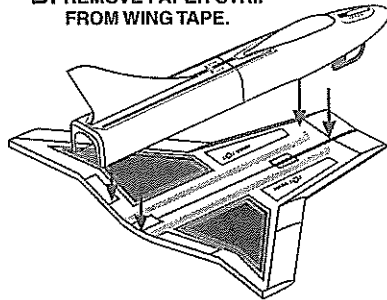
8. A. APPLY LABELS TO SILVER SIDE OF WINGS.



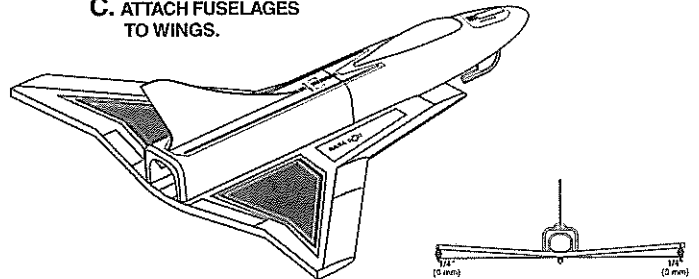
9. A. FOLD WINGS AS SHOWN.



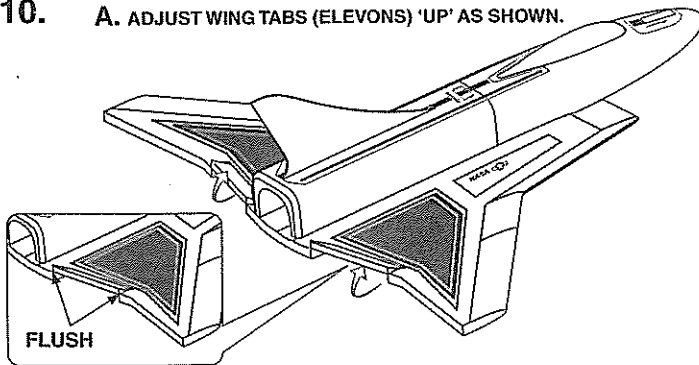
B. REMOVE PAPER STRIP FROM WING TAPE.



C. ATTACH FUSELAGES TO WINGS.



10. A. ADJUST WING TABS (ELEVONS) 'UP' AS SHOWN.



B. TEST GLIDER.

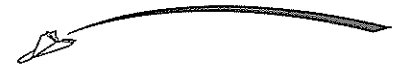
CORRECT GLIDE
NO CHANGE NECESSARY.



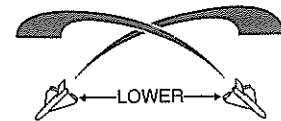
STALL
LOWER BOTH ELEVONS.



DIVE
RAISE BOTH ELEVONS.

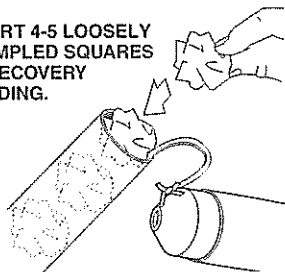


EXCESS TURNS
LOWER ELEVON AS SHOWN.

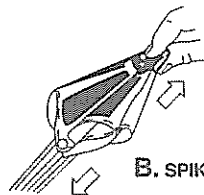


PREPARE PARACHUTE FOR FLIGHT

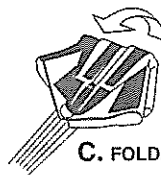
A. INSERT 4-5 LOOSELY CRUMPLED SQUARES OF RECOVERY WADDING.



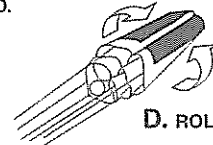
B. SPIKE.



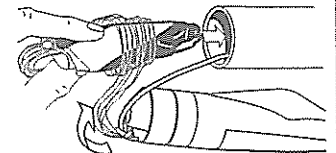
C. FOLD.



D. ROLL.



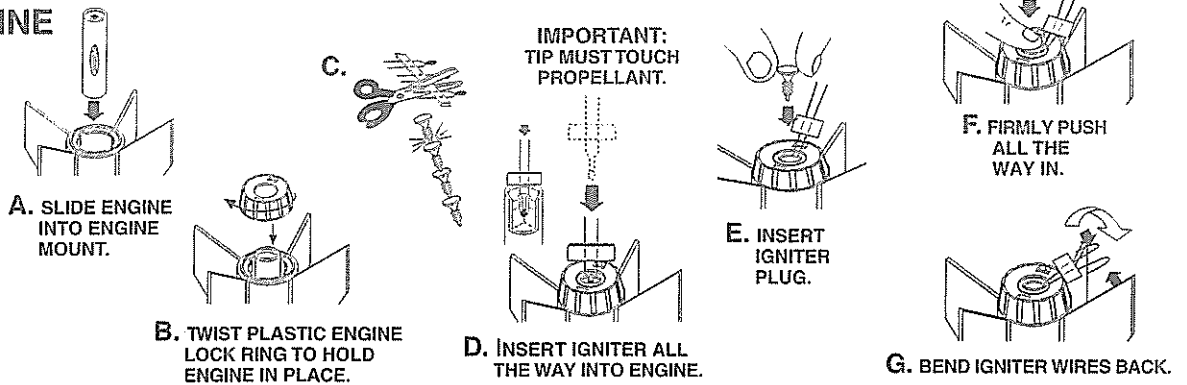
E. WRAP LINES LOOSELY AROUND ROLLED 'CHUTE. INSERT 'CHUTE AND SHOCK CORD INTO BODY TUBE AND SLIP NOSE CONE INTO PLACE.



PREPARE ENGINE

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 igniter before storing your engine.

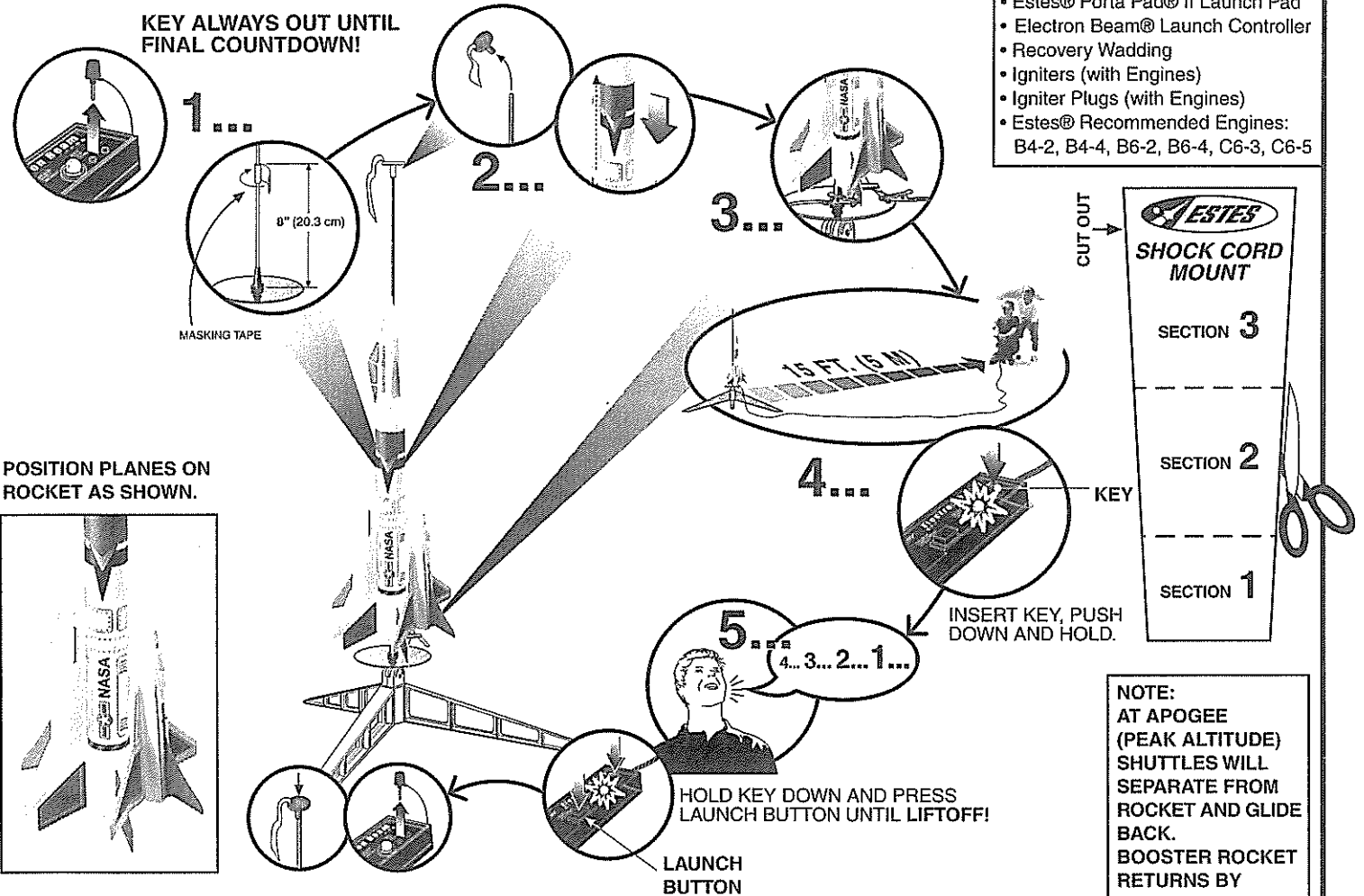


COUNTDOWN AND LAUNCH

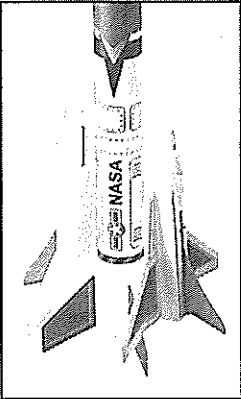
LAUNCH SUPPLIES

- (Sold Separately)
- Estes® Porta Pad® II Launch Pad
 - Electron Beam® Launch Controller
 - Recovery Wadding
 - Igniters (with Engines)
 - Igniter Plugs (with Engines)
 - Estes® Recommended Engines: B4-2, B4-4, B6-2, B6-4, C6-3, C6-5

KEY ALWAYS OUT UNTIL FINAL COUNTDOWN!



POSITION PLANES ON ROCKET AS SHOWN.



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.