



www.estesrockets.com

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

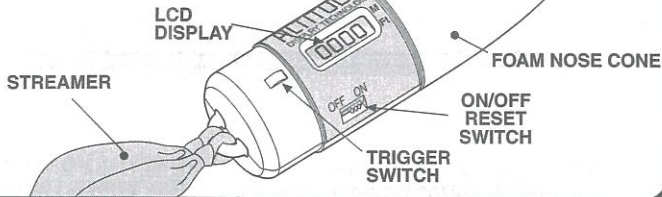
INTERACTIVE ROCKETRY™ SET

FLYING MODEL ROCKET KIT INSTRUCTIONS
KEEP FOR FUTURE REFERENCE.



#1849

Altitude readings are estimated based on time it takes capsule to descend. **NOT INTENDED FOR PRECISE MEASUREMENT.** May be used with any rocket having an Estes BT-56 body tube.



SUPPLIES REQUIRED (Not Included)



SMALL PHILLIPS
SCREWDRIVER

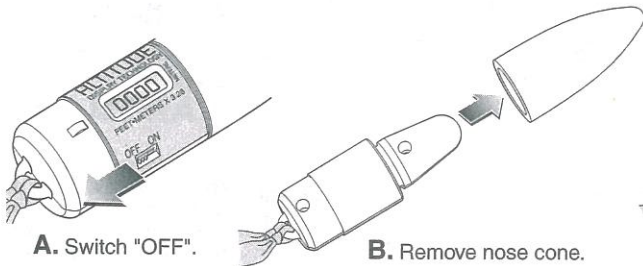


MASKING TAPE



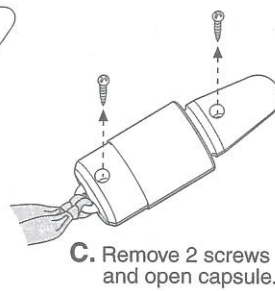
SMALL COIN

1. INSTALL THE BATTERY IN ALTITUDE CAPSULE

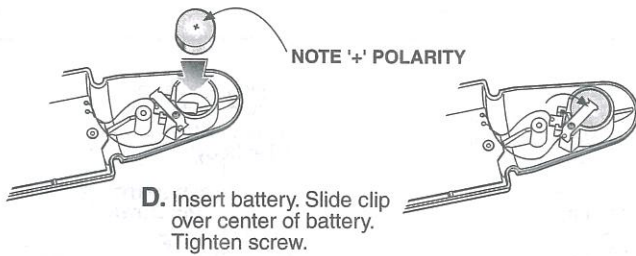
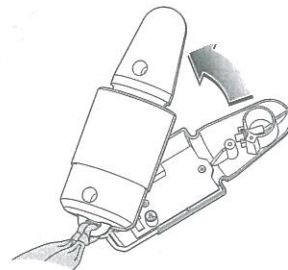


A. Switch "OFF".

B. Remove nose cone.

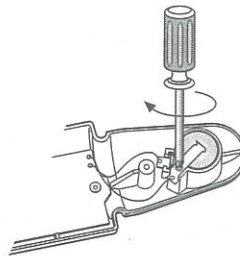


C. Remove 2 screws
and open capsule.



D. Insert battery. Slide clip
over center of battery.
Tighten screw.

NOTE '+' POLARITY



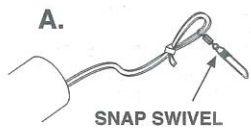
E. Close capsule.
Replace screws
and nose cone.

BATTERY CAUTION:

- Install batteries in the correct polarity.
- Use only type 76 battery.
- Do not use rechargeable batteries in capsule.
- Remove old or dead batteries from capsule.

NOTE: Do not alter length of streamer.

2. ATTACH PARACHUTE TO ROCKET

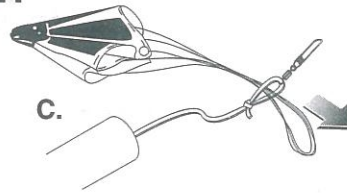


A.

SNAP SWIVEL

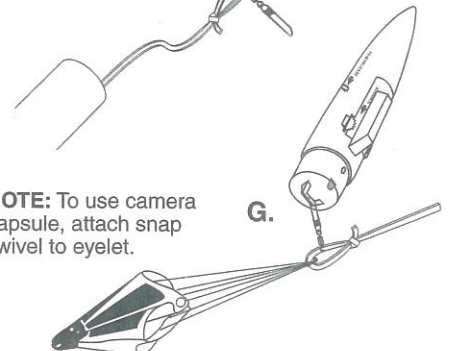


B.



C.

D.



G.

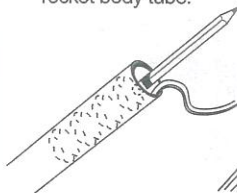
NOTE: To use camera
capsule, attach snap
swivel to eyelet.

E.

F.

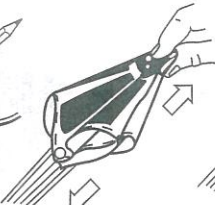
3. PREPARING RECOVERY SYSTEM

A. Insert 5-6 squares of loosely crumpled recovery wadding into rocket body tube.



NOTE: Only Estes wadding (302274) is recommended.

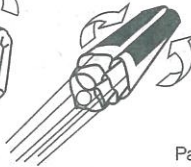
B. Spike.



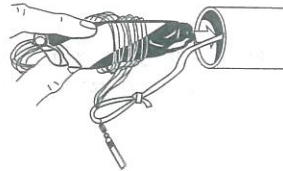
C. Fold.



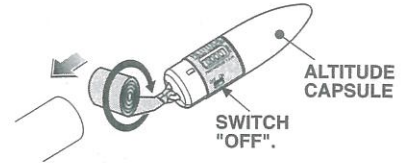
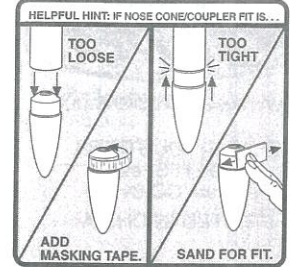
D. Roll.



E. Wrap lines loosely. Insert chute and shock cord into body tube and then either altitude or camera capsule.

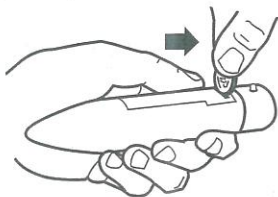


Parachute should slide easily into body tube. If fit is too tight, unfold and repack again.

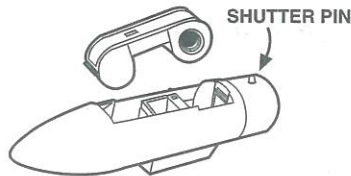


4. INSTALL FILM IN CAMERA CAPSULE

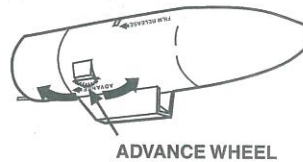
A. Insert a small coin into opening at rear of film door and press back to open door.



B. Insert film. Use ASA 400 color print 110 film cartridge **ONLY!**



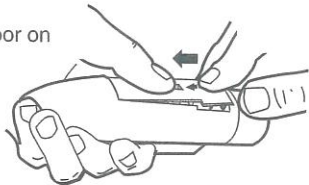
C. Rock advance wheel slightly to seat film all the way into camera.



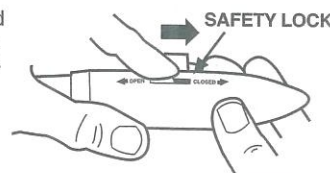
D. Insert front tab of film door under camera cone edge.



E. Press film door on with fingers.



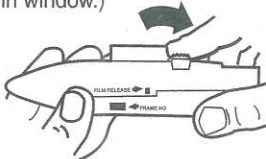
F. Push safety lock forward to "CLOSED" position to keep from exposing film.



NOTE: Wrap a piece of tape over the back door to secure it to the main body of the camera. This can prevent the film door from dislodging in the event of a hard landing.

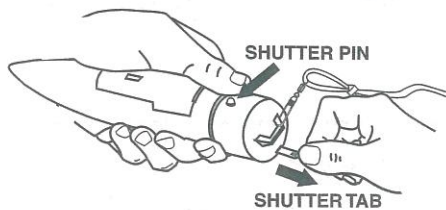
5. CAMERA OPERATION

A. Depress the film release button to advance film. Release button as soon as film begins to move. Advance film slowly with advance wheel until it locks into first frame. (Number may not be centered in window.)

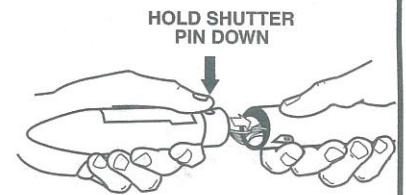


NOTE: Do not attempt to overwind or wind too fast as this may damage the camera.

B. Pull shutter tab back to cock shutter. Depress shutter pin to lock shutter in place and hold.

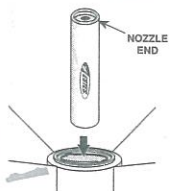


C. Keeping shutter pin pressed down, push camera all the way into rocket body.

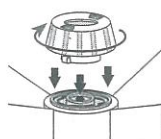


D. Push safety lock to "OPEN" before launching so a picture can be taken.

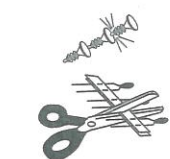
6. PREPARE ENGINE



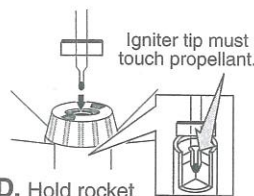
A. Remove engine lock ring. Insert engine.



B. Replace engine lock ring and turn to hold engine in place.



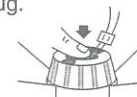
C. Separate igniter and igniter plug.



D. Hold rocket upright, drop in igniter.



E. Insert igniter plug.



F. Firmly push all the way in.

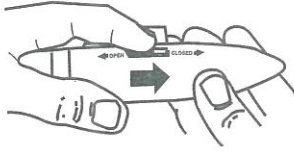


G. Bend igniter wires as shown.

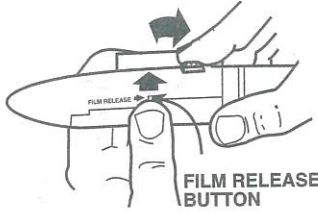
WARNING: FLAMMABLE
To avoid serious injury, read instructions & NAR Safety Code included with engines.
PREPARE YOUR ENGINE ONLY WHEN YOU ARE OUTSIDE AT THE LAUNCH SITE PREPARING TO LAUNCH!
If you do not use your prepared engine, remove the igniter before storing your engine.

7. AFTER LAUNCH

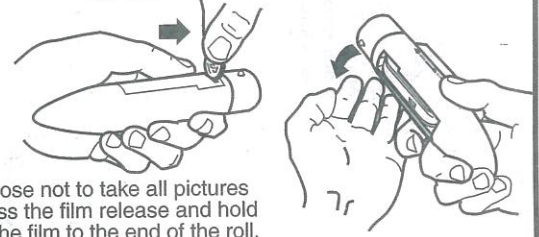
- A.** Push camera safety lock to "CLOSED" position immediately upon recovery to protect the picture just taken from further exposure.



- B.** Depress the film release button to advance film. Release the button as soon as the film begins to move. Advance film slowly with advance wheel until it locks into next frame.



- C.** After the last picture has been taken, depress the film release button and advance the film until it stops at the end of the roll. Remove tape and insert a small coin in the opening at the end of the film door and press back until the door catch releases. Holding the camera capsule with the film cartridge down, tap camera in the palm of your hand to remove the film.

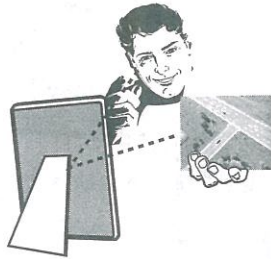


NOTE: Be sure to advance film immediately after taking a picture to avoid a double exposure.

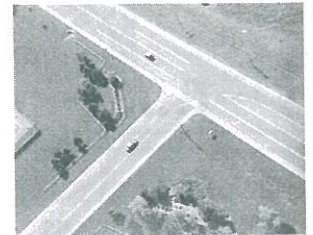
NOTE: If you choose not to take all pictures on the roll, depress the film release and hold while advancing the film to the end of the roll.

8. FILM DEVELOPING

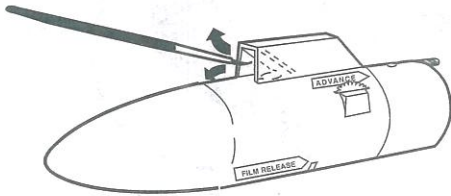
Your pictures are reversed. To view your photo, stand in front of a mirror and hold a picture chin high. The picture reflected in mirror will be correct. Enlargements from negatives are recommended not to exceed 5" x 7" (13 cm x 18 cm) size unless the quality and sharpness of the negative is exceptional. Your local photo shop can provide the best assistance.



The photo at the right is typical of the quality to be expected from the camera capsule. It was taken in a residential area during mid-afternoon. When flying your rocket in residential areas, always use a large vacant lot or field as a launch site. A thin hazy crescent at the edge of a photo, in some instances, is a partial image of the nose cone of the camera.



9. CAMERA MAINTENANCE

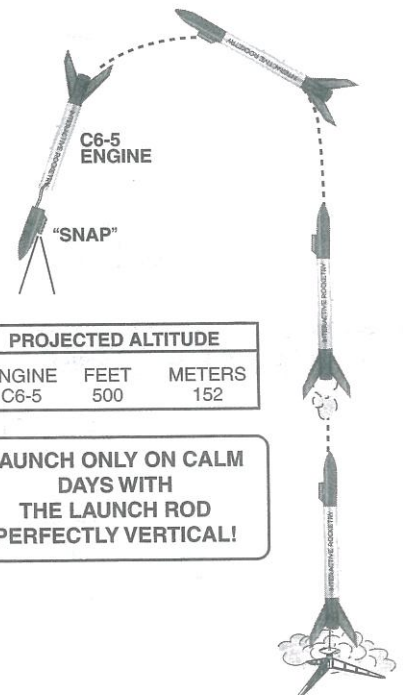


It is not recommended that the camera be flown in areas with loose and dry soil, yet the camera may land on this type of terrain. When this happens, dust may collect on the mirror and lens and must be carefully removed before the camera is flown again. To do this, use a new, clean, small camel hair brush. Never use a brush that has been used for any other purpose, as any contaminants left in the bristles may mar the mirror and lens. Insert the tip of the brush into the mirror and lens cavity and stroke outward several times with very light pressure. Never insert any object into this cavity other than the brush for any purpose. Examine the mirror and lens carefully when cleaning to be sure all contaminants are removed. Clean the remainder of the camera's exterior with a soft cloth. Camera replacement parts can be ordered from Estes.

10. ABOUT FILM, FLIGHT AND FINISHED PHOTOS FROM YOUR CAMERA

Flying the camera rocket is fun and the photographic results exciting. The subjects which can be photographed are endless - city streets, schools, rural farmlands, etc. To achieve good pictures flight after flight, follow these simple guidelines.

- Be patient! Wait for a calm, clear day and use only the recommended ASA 400 color film or equivalent.
Note: Estes recommends using only Kodak® Gold 110 Color Film in the camera.
- For greatest ground detail, launch from 9 a.m. to 11:00 a.m. in the morning or 1 p.m. to 3 p.m. in the afternoon. Flying earlier or later than this will affect the light level being reflected from the ground. This may cause some under exposure. Also, long shadows on the ground may hide some detail in the finished photograph.
- Late spring, summer and early fall are the best times during the year to fly the camera rocket because of higher sun angles. Again, light reflected from the ground plays an important part in photo quality.
- Always prep the camera rocket carefully for each flight. Remember, you cannot expose the film as long as the safety lock is in the closed position. If you are unsure about shutter setting, release it and set it again. If you are unsure about whether the number appearing in the window has been exposed, advance to the next frame.
- The **only** recommended engine for the camera rocket is the C6-5. The camera rocket has been designed so that the engine type used will regulate the angle of the camera at the time of exposure.
- For best photo results and maximum altitude, launch on calm or nearly calm days with LAUNCH ROD IN VERTICAL POSITION.
- Never move the safety lock to the open position until the rocket is on the launch pad and you are actually ready to launch.
- Always move the safety lock to its closed position and advance film immediately upon recovery.



PROJECTED ALTITUDE

ENGINE	FEET	METERS
C6-5	500	152

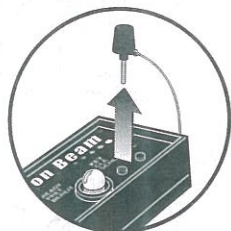
LAUNCH ONLY ON CALM DAYS WITH THE LAUNCH ROD PERFECTLY VERTICAL!

COUNTDOWN AND LAUNCH

Recommended Estes Engines:

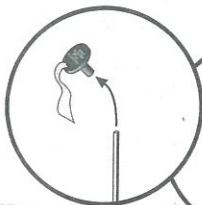
Altitude Capsule: B4-2, B6-2, B6-4,
C6-3, C6-5

Camera Capsule: C6-5 only

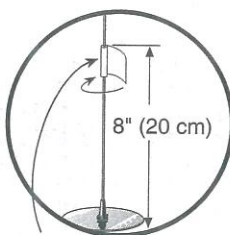


KEY ALWAYS OUT UNTIL FINAL COUNTDOWN!

2...



1...



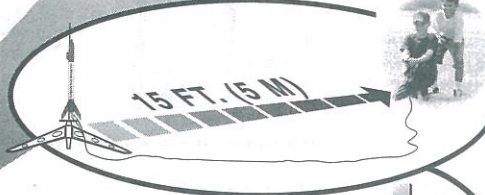
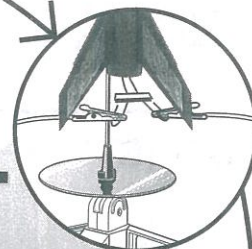
Masking Tape

ALTITUDE CAPSULE:
Slide switch to "ON" prior to launch.

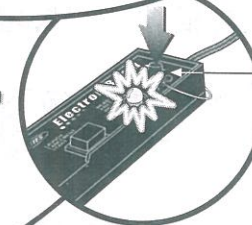
OR

CAMERA CAPSULE:
Slide the camera safety lock to open prior to launch.

3...



4...



KEY

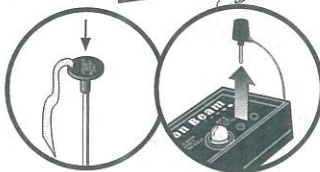
5...



INSERT KEY. PUSH DOWN AND HOLD.

HOLD KEY DOWN AND PRESS LAUNCH BUTTON UNTIL LIFT-OFF!

Reset altitude capsule for next flight by switching 'OFF' then 'ON' after recording flight data.



LAUNCH BUTTON



METERS



FEET

The capsule will display altitude in feet and meters (alternates every 2 seconds).

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! Disconnect the igniter clips and remove the engine. 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.