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ASTRON[®] ALPHA[™] IV

Series 5
Almost Ready To Fly
Flying Model Rocket Kit Instructions

(6-98) 83103 EST 1258

MATERIALS REQUIRED: PENCIL, HOBBY KNIFE, SCISSORS, WHITE OR YELLOW GLUE, TUBE-TYPE PLASTIC CEMENT, SANDPAPER, RULER

ALL GLUED AREAS ARE SHADED IN GRAY

Be sure to read all instructions, test fit all parts, and sand if necessary before gluing.

PARTS LAYOUT

- PLASTIC FIN UNIT (1) 72621
- SPLIT ADAPTER RING 2050S (1) 80425
- BLUE ENGINE MOUNT TUBE 20J (1) 30326-1
- RED PRISMATIC BODY TUBE BT-50FE (1) 30380
- NOSE CONE 50K (1) 72622
- NOSE CONE SCREW (1) 35801
- MYLAR ("CLEAR") RING 20 (1) 30188
- ADAPTER RING #2050 (1) 30164-2
- LAUNCH LUG (1) 38186
- SHOCK CORD (1) 38374
- ASSEMBLED PARACHUTE-12" (1) 35801
- ENGINE HOOK EH-2A (1) 35021
- DECAL SHEET (1) 37015
- NOSE CONE SCREW (1) 38253

4.

A. Slide the engine mount tube into the rear of the plastic fin unit until rear edges are even.

B. Test fit the remaining green adapter ring onto the front of the engine tube and sand the inside of the ring until it slides on easily.

C. Apply a band of white or yellow glue around the front of the engine mount tube.

D. Hold tube rear end even with the rear of the fin unit, and slide the front ring onto the engine mount tube until it touches the shoulder of the fin unit all the way around. (Do this in one swift motion so that ring will not catch.) Let dry **COMPLETELY.**

5.

A. Use a hobby knife to lightly scrape an area the size of the launch lug at one end of the prismatic body tube.

B. Apply plastic cement to the launch lug as shown.

C. Align the end of the launch lug with scraped end of the prismatic body tube.

D. Press into place making sure that the launch lug is straight (parallel to the tube centerline). This is now the rear of the tube. Let dry.

6.

A. Apply white or yellow glue inside the rear end of the prismatic body tube.

B. Slide the rear of the body tube down over the fin unit/engine mount assembly until the body tube rests evenly on the shoulder of the fin unit.

C. BE SURE THE LAUNCH LUG IS CENTERED BETWEEN TWO FINIS!

7.

A. Cut out shock cord mount located at the back of instructions along solid lines.

B. Crease dotted lines.

C. Spread white or yellow glue on section 2 and lay shock cord into glue at a slight angle as shown. Fold section 1 over.

D. Apply glue to section 3. Fold forward again. Clamp firmly.

E. Glue the shock cord mount about 1-1/2" (3.8cm) down inside the front end of the body tube, and press firmly into place.

1.

A. Mark the blue engine mount tube at 1" (2.5 cm) and at 2-1/4" (5.7 cm).

B. Use a hobby knife to make a 1/8" (3 mm) wide slit at the 2-1/4" (5.7 cm) mark **ONLY!**

C. Insert the engine hook into the slit as shown.

2.

A. Test fit the split adapter ring onto the rear end of the tube so that the opening allows engine hook to exit. Sand as necessary.

B. Remove ring, apply white or yellow glue to the rear end of the tube.

C. Slide ring back onto tube until ends are even and **CLAMP TIGHTLY** until glue dries.

3.

A. Test fit the mylar ("clear") ring over the engine tube and engine hook.

B. Slide ring up out of the way, apply white or yellow glue around the tube in front of the 1" (2.5 cm) mark.

C. Slide ring down until it is even with the mark. Let dry **COMPLETELY.**

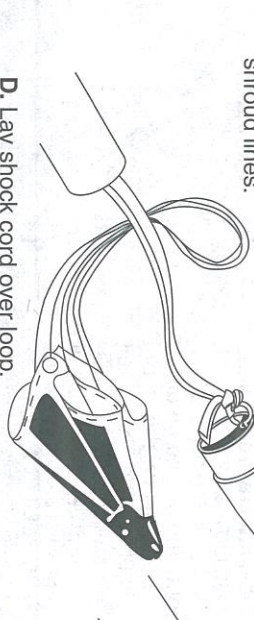
8.

A. Thread the nose cone screw into the hole in the nose cone.

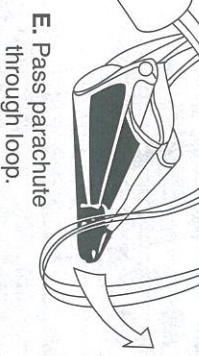
B. Tie the free end of the shock cord onto the nose cone screw eye using a double knot.



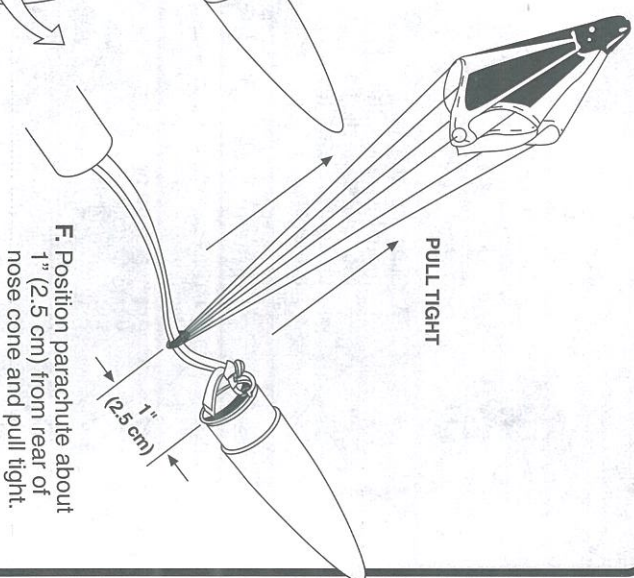
C. Form a loop with the parachute shroud lines.



D. Lay shock cord over loop.



E. Pass parachute through loop.

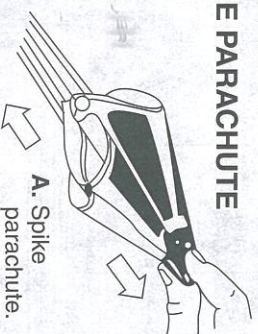


9. DECAL APPLICATION

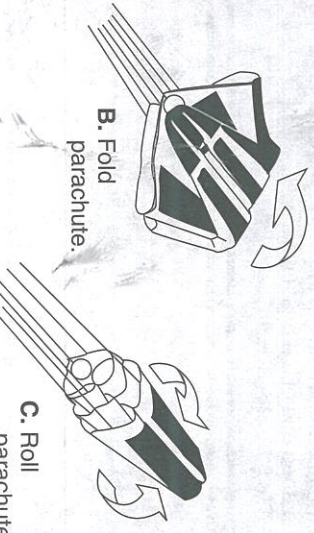


A. Carefully peel one decal at a time from backing sheet and position where shown.

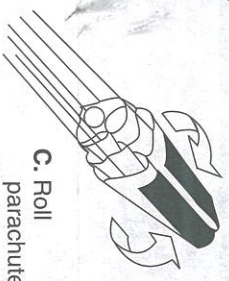
10. PACKING THE PARACHUTE



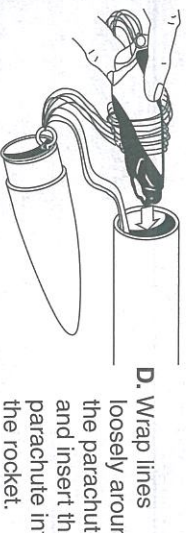
A. Spike parachute.



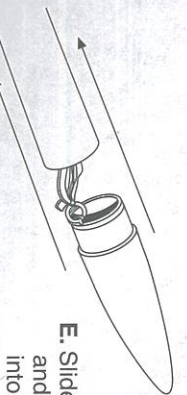
B. Fold parachute.



C. Roll parachute.



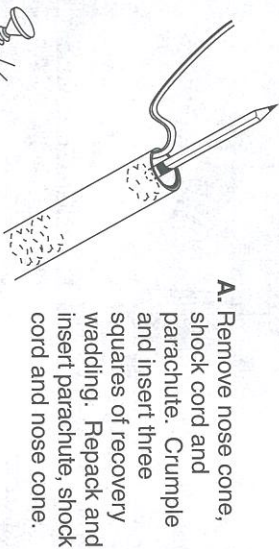
D. Wrap lines loosely around the parachute and insert the parachute into the rocket.



E. Slide shock cord and nose cone into place.

DO NOT FORGET TO PACK RECOVERY WADDING INTO THE ROCKET BEFORE FLYING - SEE STEP 11.

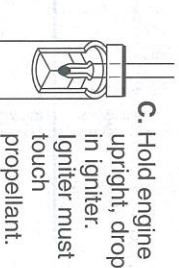
11. FLIGHT PREPARATION



A. Remove nose cone, shock cord and parachute. Crumple and insert three squares of recovery wadding. Repack and insert parachute, shock cord and nose cone.



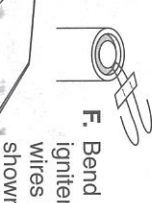
B. Separate igniter plug and igniter.



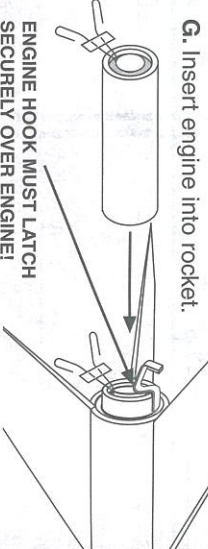
C. Hold engine upright, drop in igniter. Igniter must touch propellant.



D. Insert igniter plug.



E. Firmly push all the way in.



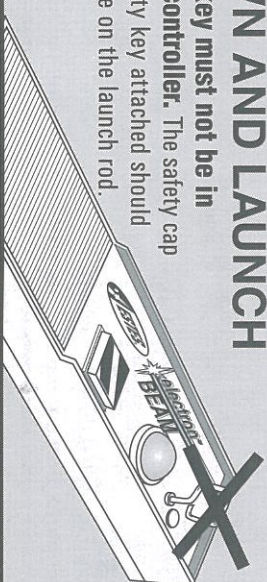
F. Bend igniter wires as shown.

G. Insert engine into rocket.

ENGINE HOOK MUST LATCH SECURELY OVER ENGINE!

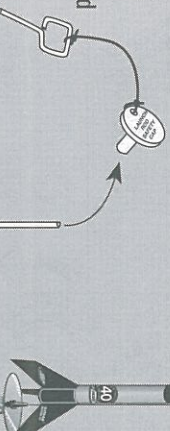
COUNTDOWN AND LAUNCH

10... Safety key must not be in launch controller. The safety cap with safety key attached should already be on the launch rod.



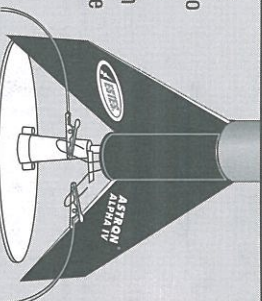
9...

Remove safety cap from launch rod, slide launch lugs over rod. Make sure rocket slides freely and micro-clips are clean for good electrical contact.



8...

Attach micro-clips to the igniter wires. Arrange the micro-clips so they do not touch each other or the metal blast deflector. Attach micro-clips as close to protective tape on igniter as possible.



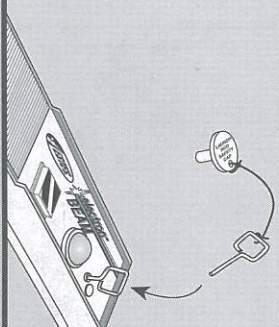
7...

Move everyone back from your rocket as far as launch wire will permit at least 15 feet - (5 meters).



6...

Insert safety key to arm the launch controller.



5...

Start audible countdown.

4...3...2...1.....



LAUNCH!

Push and hold button until engine ignites.

For safety, immediately remove safety key from launch controller and replace safety cap on launch rod.

LAUNCH SUPPLIES

To launch your rocket, you will need the following:

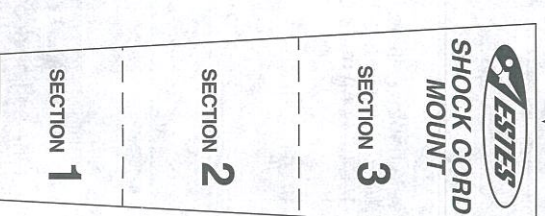
- Launch Pad (Estes Porta-Pad® II)
- Launch Controller (Electron Beam®)
- Recommended Estes Engines: 1/2A6-2, A8-3, B4-4, B6-4, B6-6, C6-5, or C6-7. Use an A8-3 engine for your first flight to become familiar with your rocket's flight pattern.
- Recovery Wadding (EST 3022274)
- Igniters and Igniter Plugs (included with Estes engines)
- Use only Estes products to launch this rocket.

ENGINE	PROJECTED ALTITUDE	
	Feet	Meters
1/2A6-2	77	23
A8-3	255	78
B4-4	565	172
B6-4/B6-6	592	180
C6-5/C6-7	1000	305

TIPS FOR FLYING YOUR ROCKET

- Choose a large field away from power lines, buildings, tall trees, and low flying aircraft. Try to find a field at least 250 feet (76 meters) square. The larger the launch area, the better your chance of recovering your rocket.
- Launch area must be free of dry weeds and brown grass.
- Launch only during calm weather with little or no wind and good visibility.
- Don't leave parachute packed more than a minute or so before launch during cold weather (colder than 40° Fahrenheit [4° Celsius]). Parachute may be dusted with talcum or baby powder to avoid sticking.
- Always follow the National Association of Rocketry (NAR) MODEL ROCKETRY SAFETY CODE while participating in any model rocketry activities. The safety code is enclosed with this kit.

CUT OUT SHOCK CORD MOUNT



SECTION 2

SECTION 3

SECTION 1

MISFIRES

When an ignition failure occurs, remove the safety key from the launch control system and wait one minute before approaching the rocket. Remove the expended igniter from the engine and install a new one. Be certain the coated tip is in direct contact with the engine propellant. Broken or chipped coating will not affect the performance of the igniter. Reinstall the igniter plug as illustrated previously. Repeat the countdown and launch procedure.