

TEAM OVERVIEW
Acceleration Engineering

Micky Badgero, the leader of Acceleration engineering, has been studying rockets for over 25 years and has degrees in Electronics and Computer Science. Mr. Badgero is currently a graduate student in computer science at Michigan State University, studying artificial intelligence and robotics.

TEAM SPECIFICATIONS:
Name: Acceleration Engineering
Website: www.xprize.org
Country of Origin: Bath, Michigan, USA

VEHICLE SPECIFICATIONS:
Name: Lucky Seven
Length: 29.53 feet (9 m), Diameter: 6.56 feet (2 m), GTOW: 5,600 lbm (2540 kg).
Dry Weight: 1,400 lbm (635 kg), Engines: Not yet disclosed. Total Thrust: 16,200 lbf. (72,000 N).
Payload Capacity: 3 passengers, 600 lbm (270 kg).

MISSION SPECIFICATIONS:
Launch Method: Vertical launch ground. Max Accel. Force on Ascent: 3 G.
Max Speed: 3,300 fps (1,000 m/s, local Mach 3). Max. Altitude: ~62 miles (100 km). Time in Weightless Conditions: 200 seconds. Landing Method: Guided, parafoil descent to a vertical landing.
Total Duration: Approximately 12 minutes.

ESTES INDUSTRIES
1295 H Street
Penrose, CO 81240
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Acceleration Engineering

Lucky Seven

FLYING MODEL ROCKET KIT INSTRUCTIONS
KEEP FOR FUTURE REFERENCE.



#0807

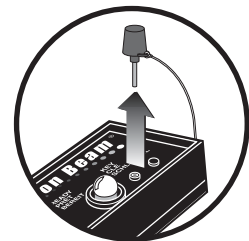
ASSEMBLY TIP: Read all instructions before beginning work on your model. Make sure you have all parts and supplies.

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

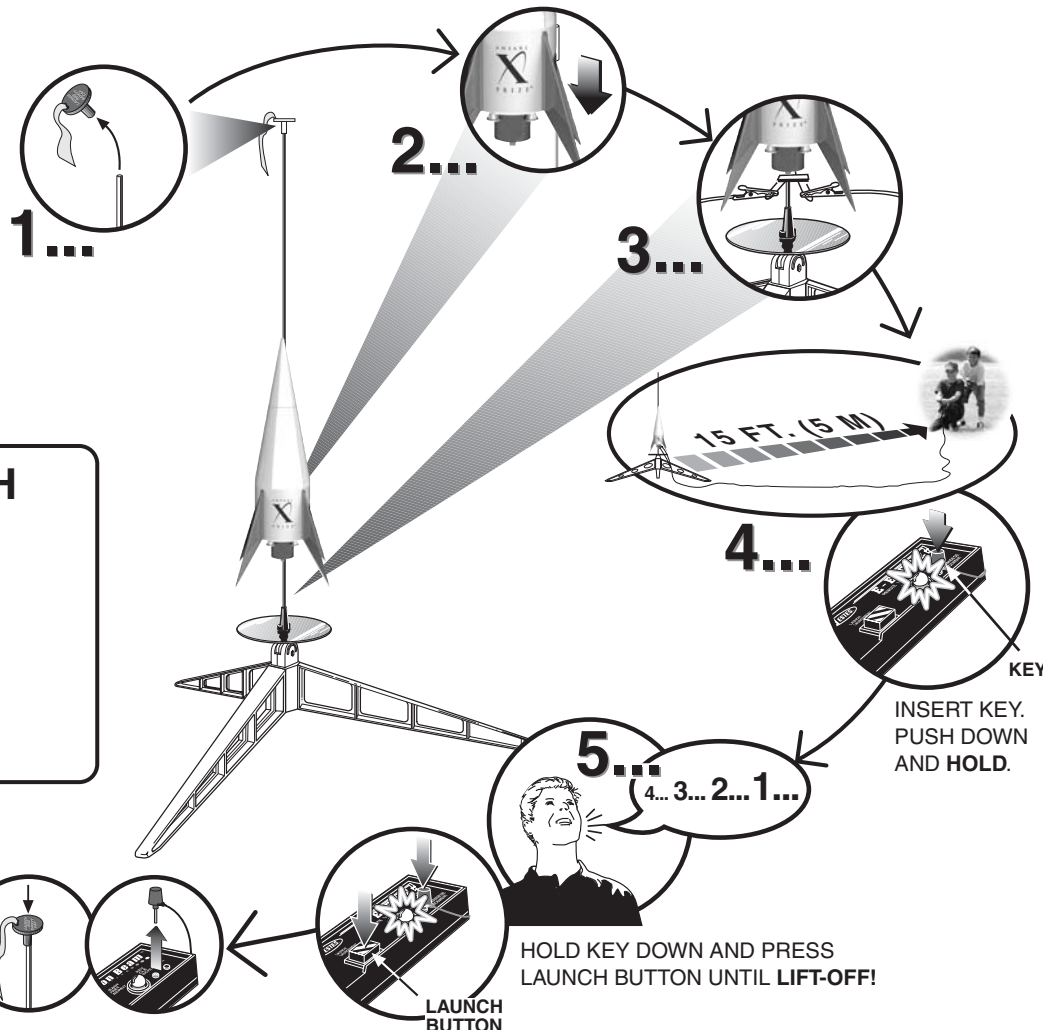
PARTS:
Locate the parts shown below and lay them out on the table in front of you. **DO NOT USE THIS DRAWING TO ASSEMBLE YOUR ROCKET.**

 White Engine Mount Tube BT-5 (1) (30468)	 Mini Engine Hook (1) EH-3 (35023)	 Clay Weight (1) (85704)	 Rubber Shock Cord (1) 1/8" x 24" (38367)	 Assembled 12" (30 cm) Parachute (1) (35801)
 Nose Cone Half (A)	 Nose Cone Half (B)	 Fins	 Body (1) (60900)	
 Nose Cone Cap	 Body Base	 Nozzles		
 Plastic Parts Set - 1 (1) (60901)		 Plastic Parts Set - 2 (1) (60902)		

COUNTDOWN AND LAUNCH



KEY ALWAYS OUT UNTIL FINAL COUNTDOWN!



ESTES LAUNCH SUPPLIES
(sold separately):

- Porta-Pad® II Launch Pad
- Electron Beam® Launch Controller
- Recovery Wadding
- Igniters (w/ engines)
- Igniter Plugs (w/ engines)
- Recommended Engine: A10-3T

PRECAUTIONS

NAR Safety Code



NO DRY GRASS OR WEEDS

FLYING YOUR ROCKET

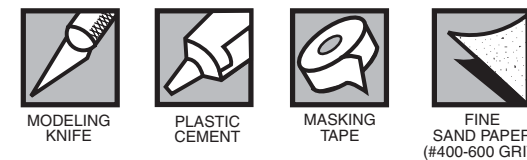
Choose a large field (250 ft. [76 m] square) free of dry weeds and brown grass. The larger the launch area, the better your chance of recovering your rocket. Football fields and playgrounds are great. Launch only with little or no wind and good visibility.

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.

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



PN 60831 (6-04)
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Acceleration Engineering, LLC

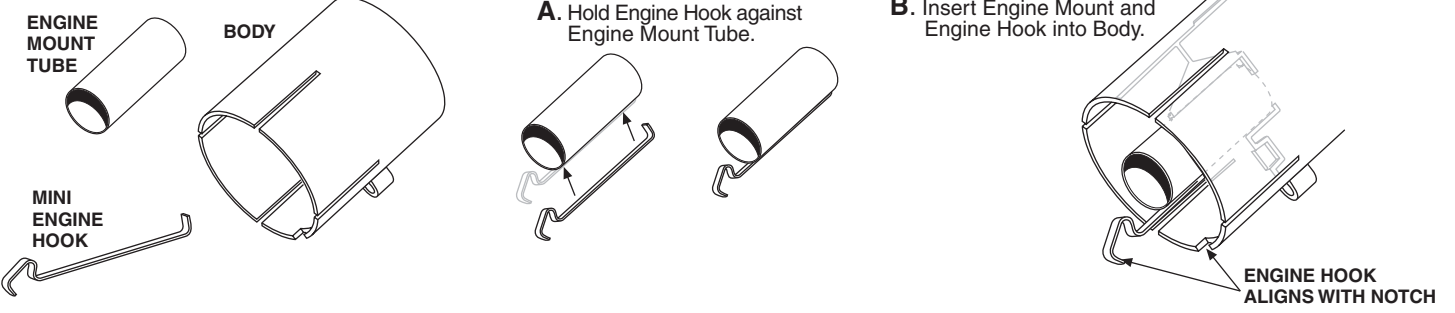
Lucky Seven

ESTES® ENGINES: **A10-3T**

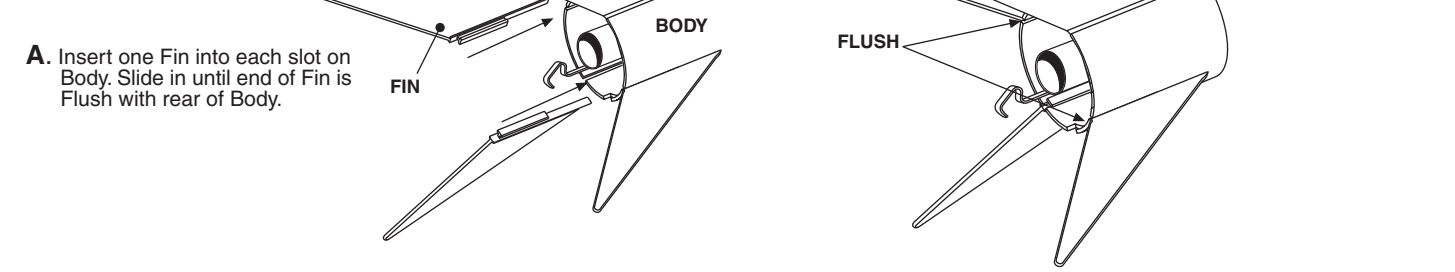
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Decal Sheet (1) (60831)

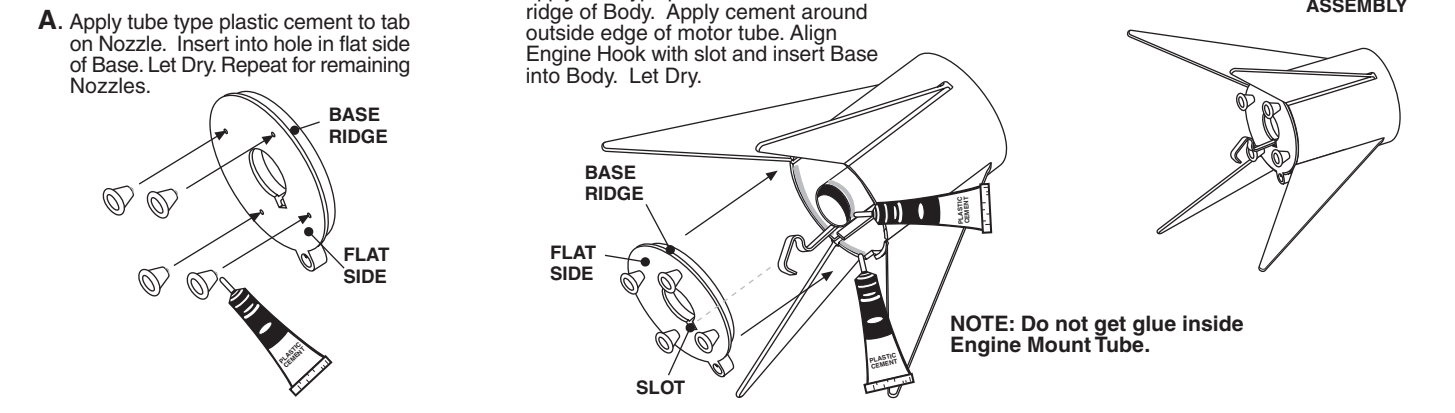
1. INSTALL ENGINE MOUNT



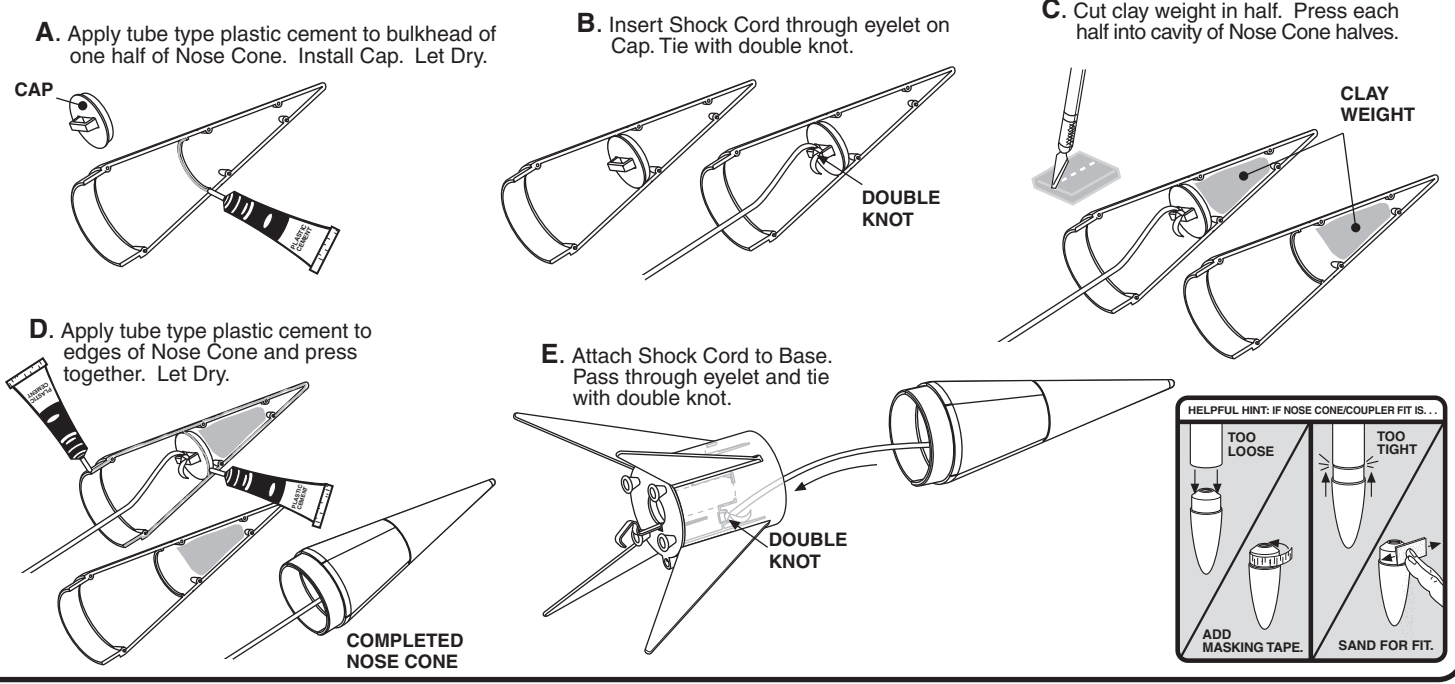
2. INSTALL FINS



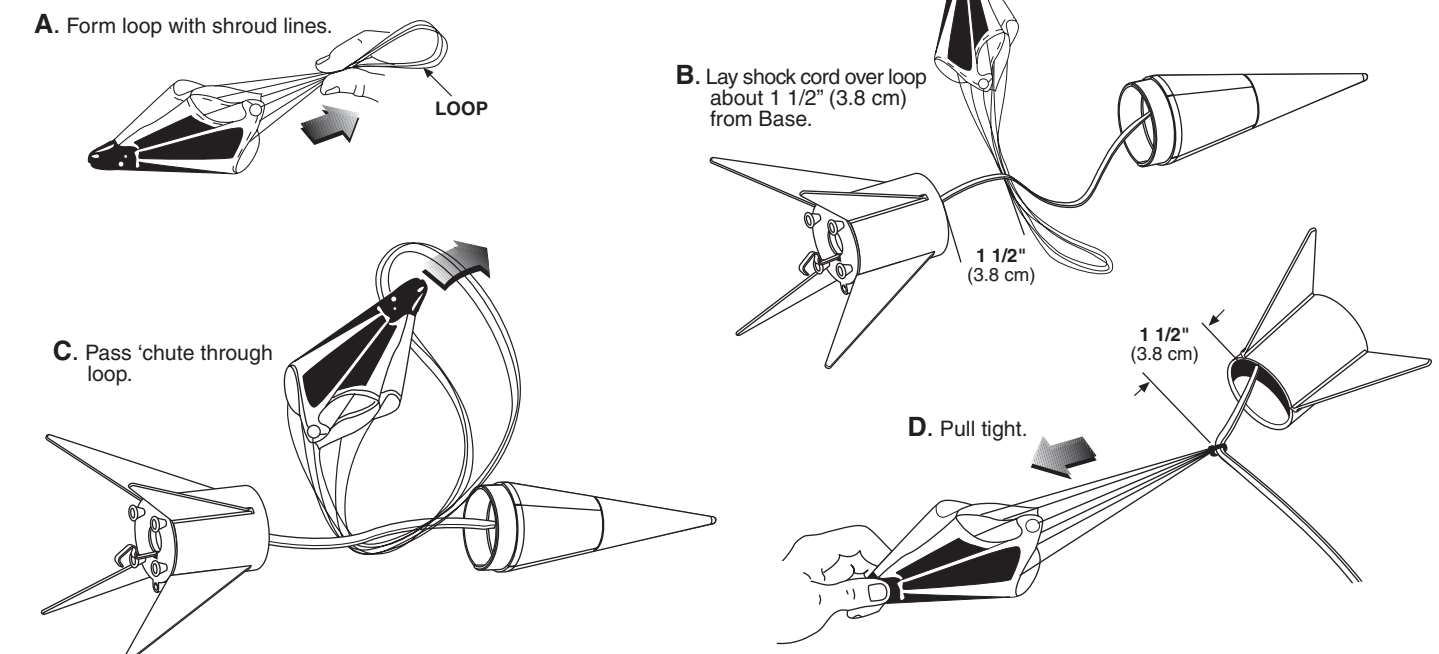
3. ASSEMBLE BASE



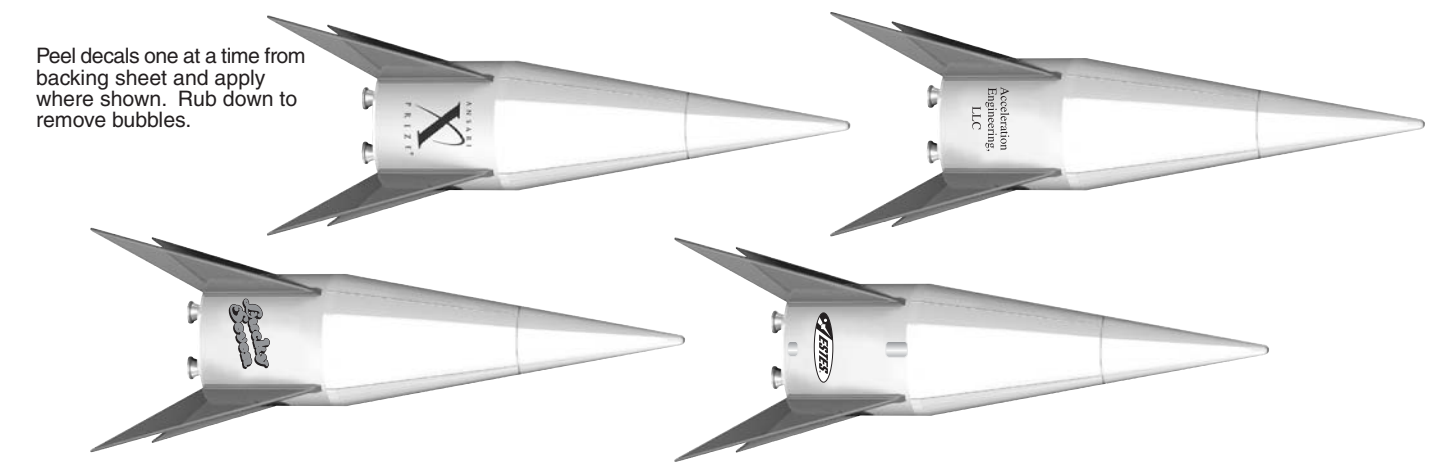
4. ASSEMBLE NOSE CONE & ATTACH SHOCK CORD



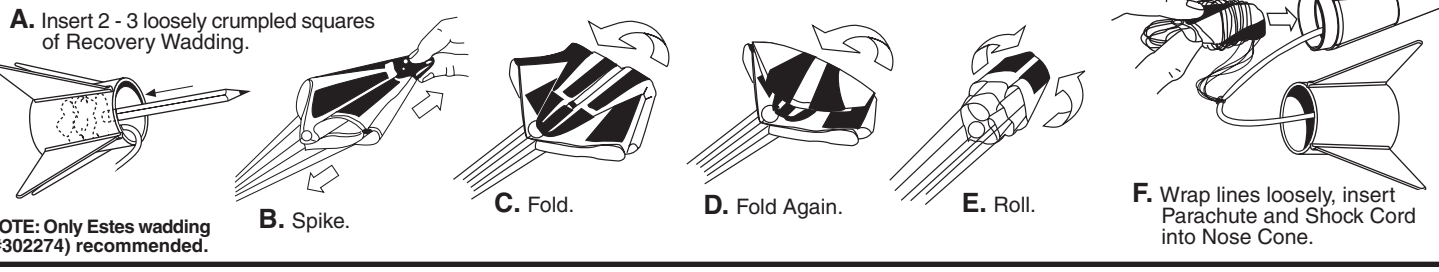
5. ATTACH PARACHUTE



6. APPLY DECALS



ROCKET PREFLIGHT



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.

