



EstesRockets.com

# ULA VULCAN

2209

AGES  
10+



Skill Level

**BEGINNER**

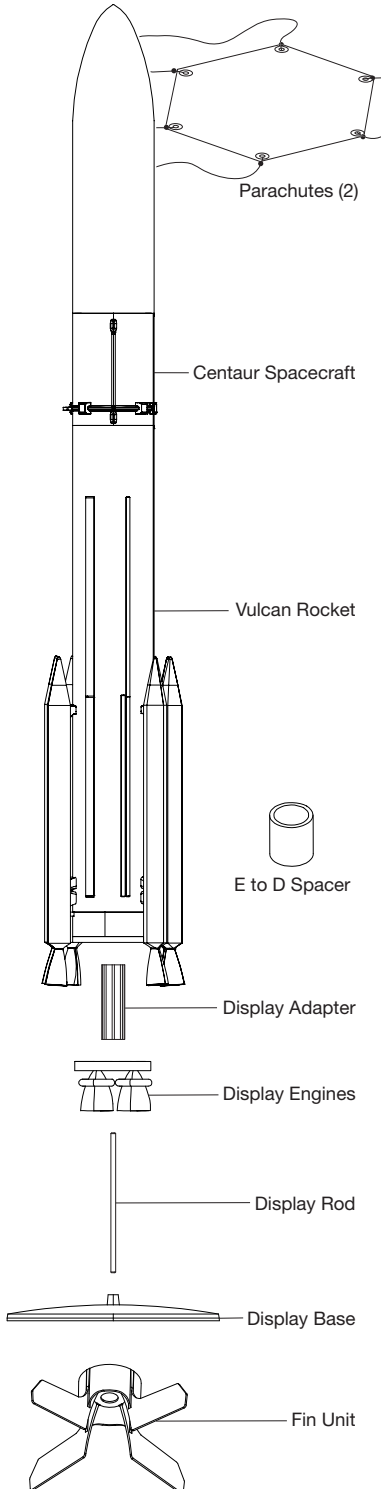
1:100 Scale

## MODEL ROCKET INSTRUCTIONS

KEEP FOR FUTURE REFERENCE

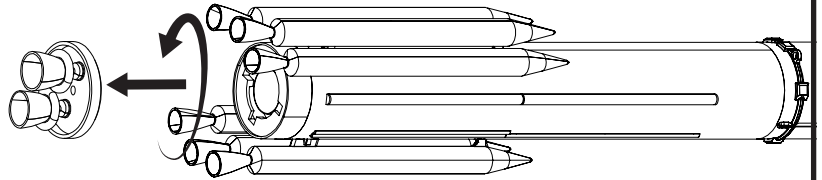
**IMPORTANT: Make sure you have all the parts and supplies. Test fit all the parts for assembly. READ ALL INSTRUCTIONS CAREFULLY.**

### PARTS

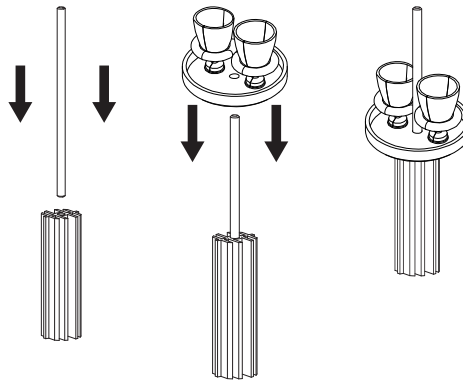


### DISPLAY SETUP

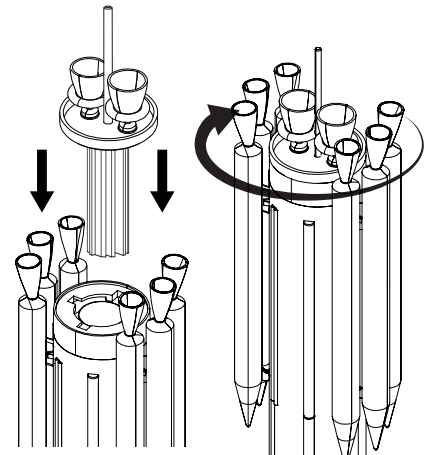
1. Remove display engines.



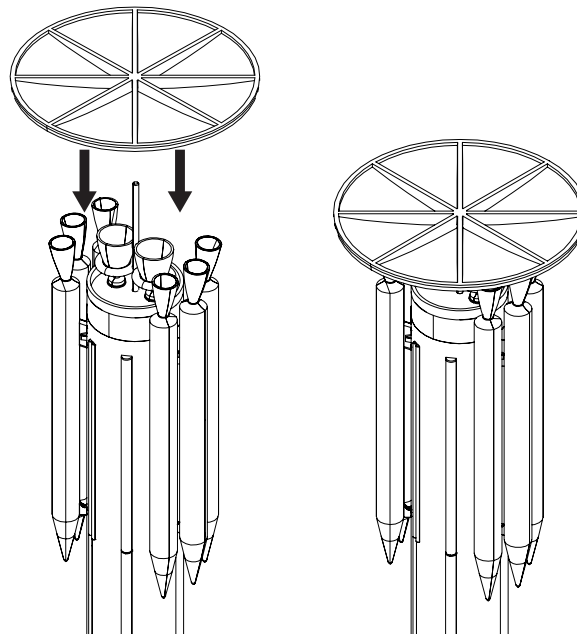
2. Push display rod into display adapter. Push display engines onto rod.



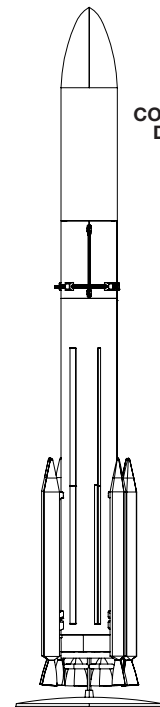
3. Slide adapter assembly into engine mount and rotate into "locked" position.



4. Slide display base onto display rod.

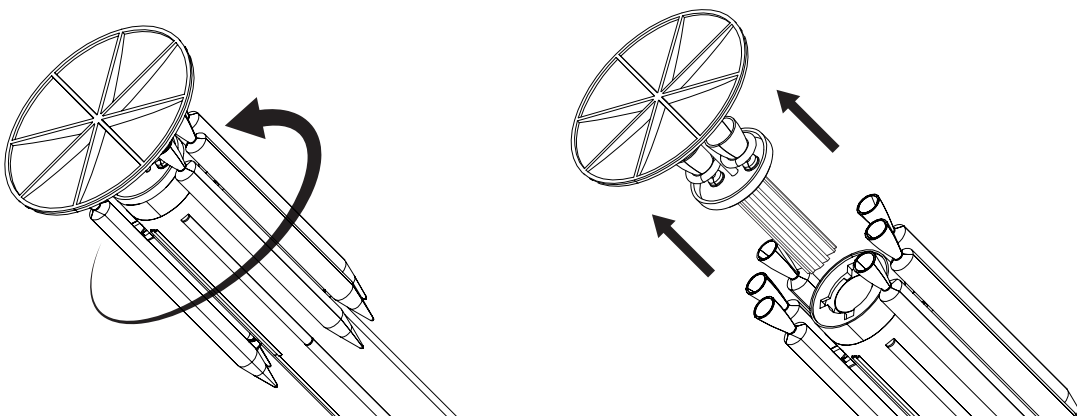


**COMPLETED  
DISPLAY**

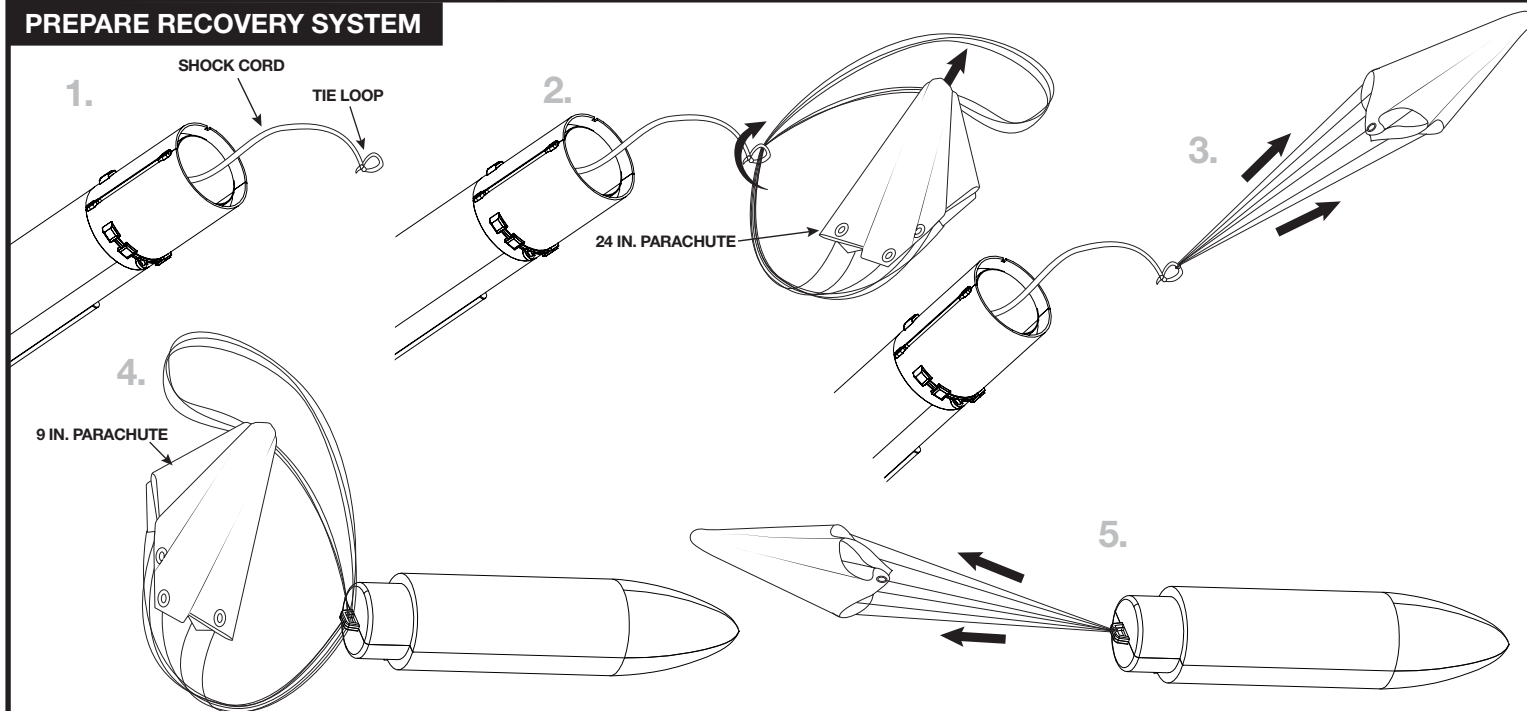


## FLIGHT PREPARATION

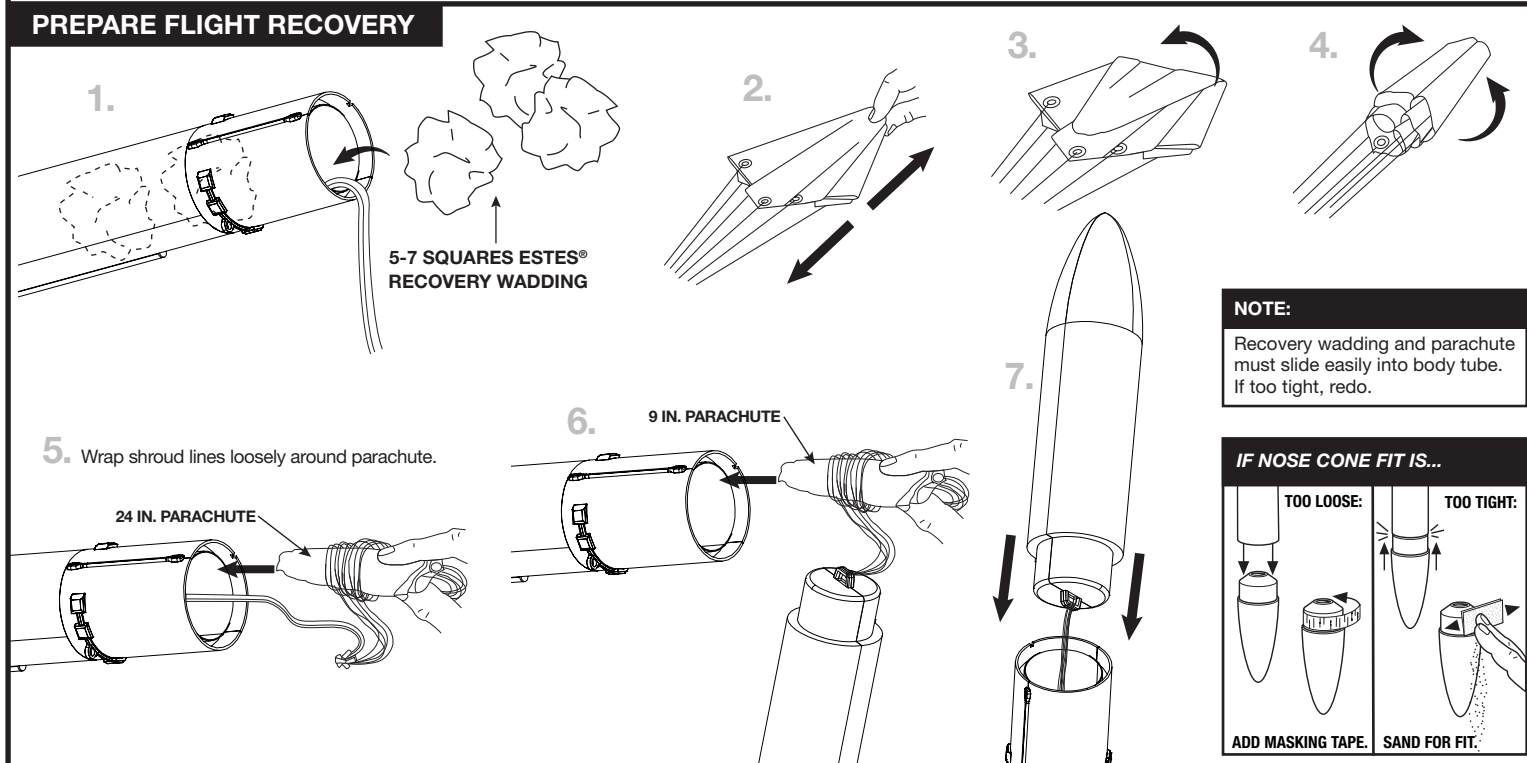
1. Remove rocket from display nozzles and adapter.



## PREPARE RECOVERY SYSTEM



## PREPARE FLIGHT RECOVERY

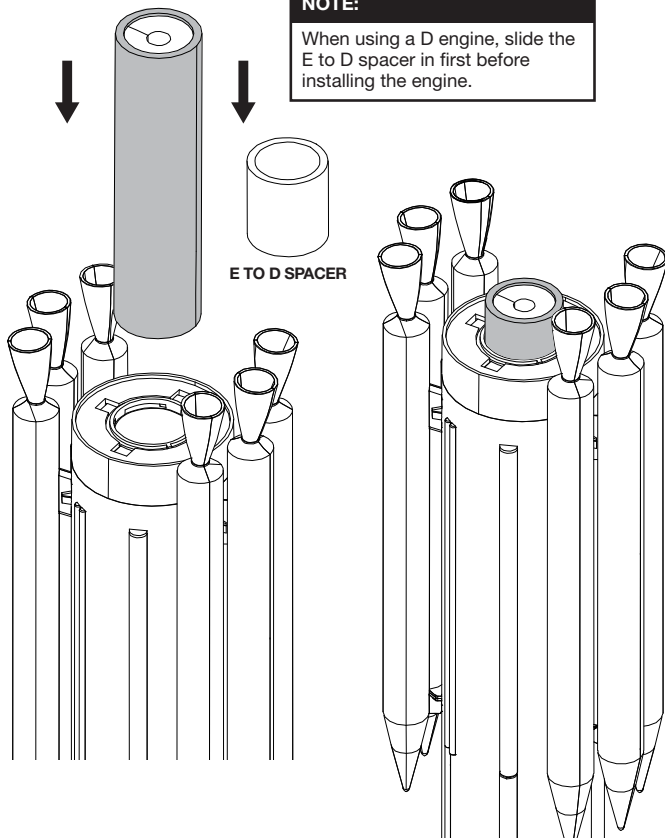


## PREPARE ENGINE

1. Slide engine into engine mount.

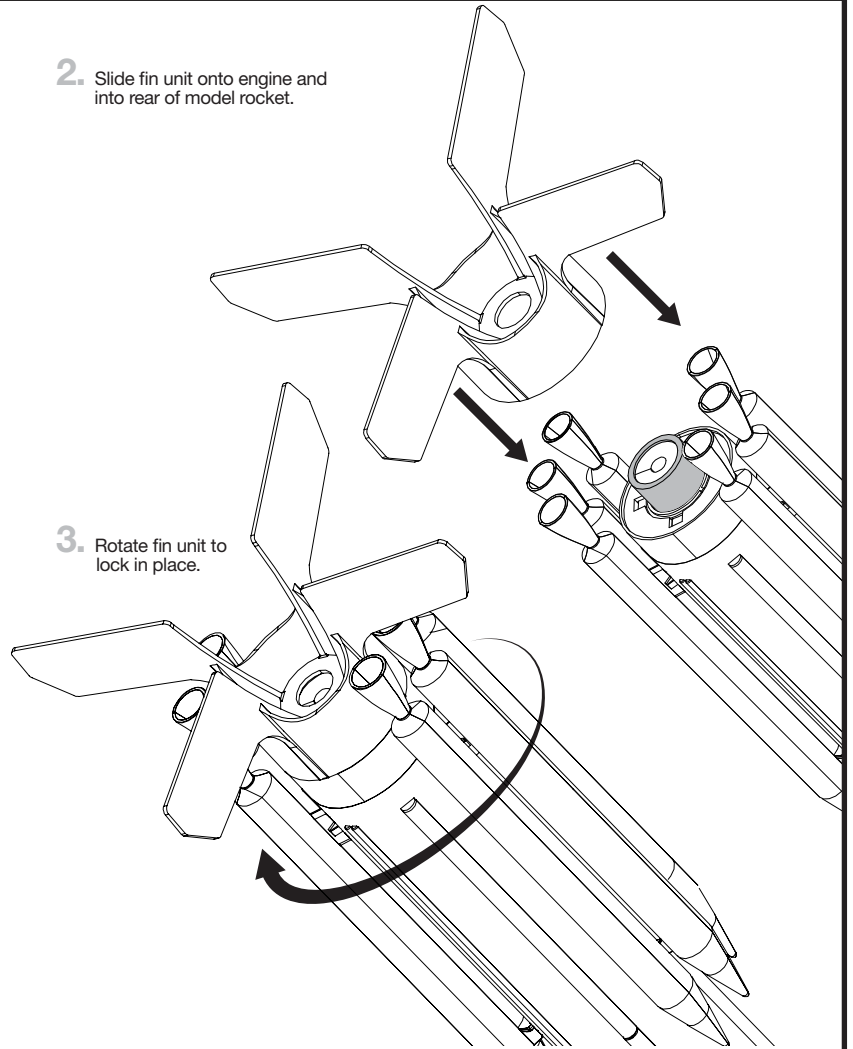
### NOTE:

When using a D engine, slide the E to D spacer in first before installing the engine.



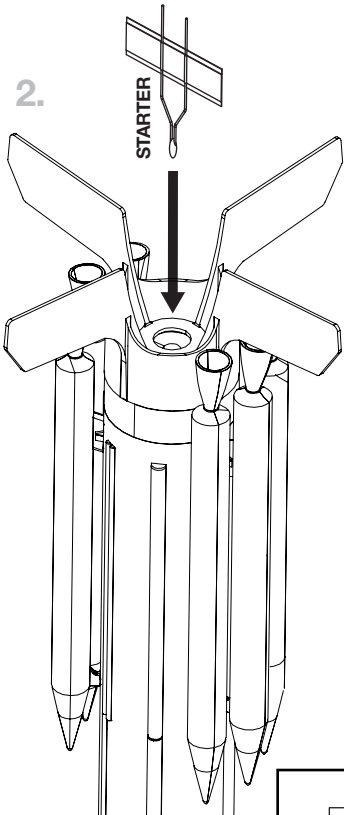
2. Slide fin unit onto engine and into rear of model rocket.

3. Rotate fin unit to lock in place.



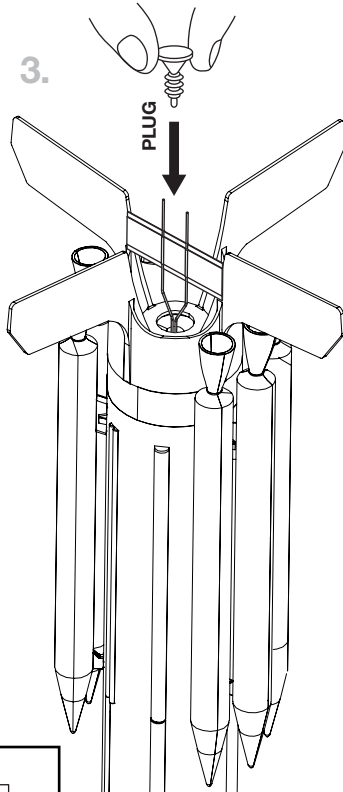
2.

STARTER

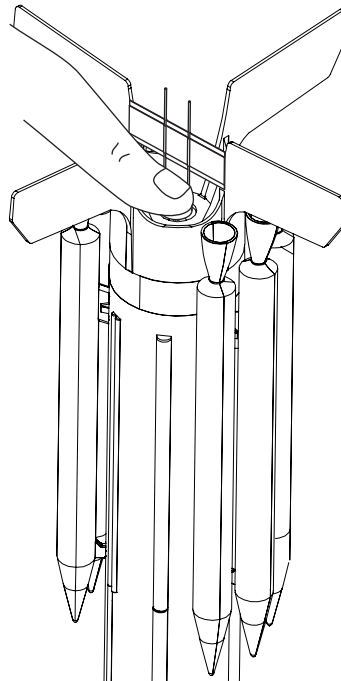


3.

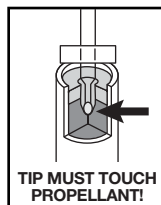
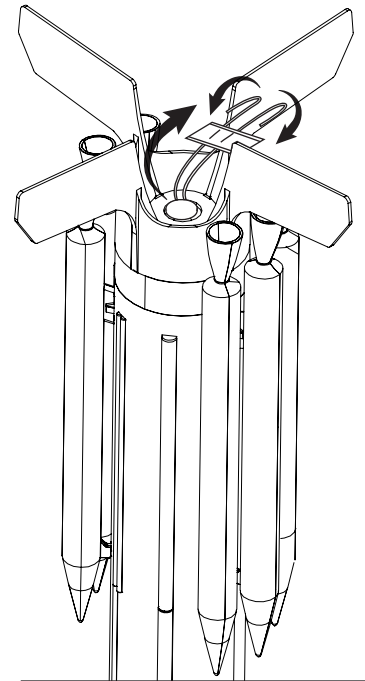
PLUG



4.



5.



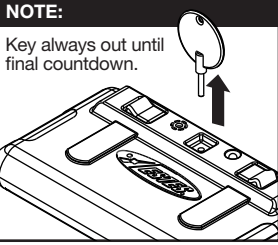
### ⚠ WARNING: FLAMMABLE

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 starter before storing your engine.

## COUNTDOWN AND LAUNCH

### NOTE:

Key always out until final countdown.

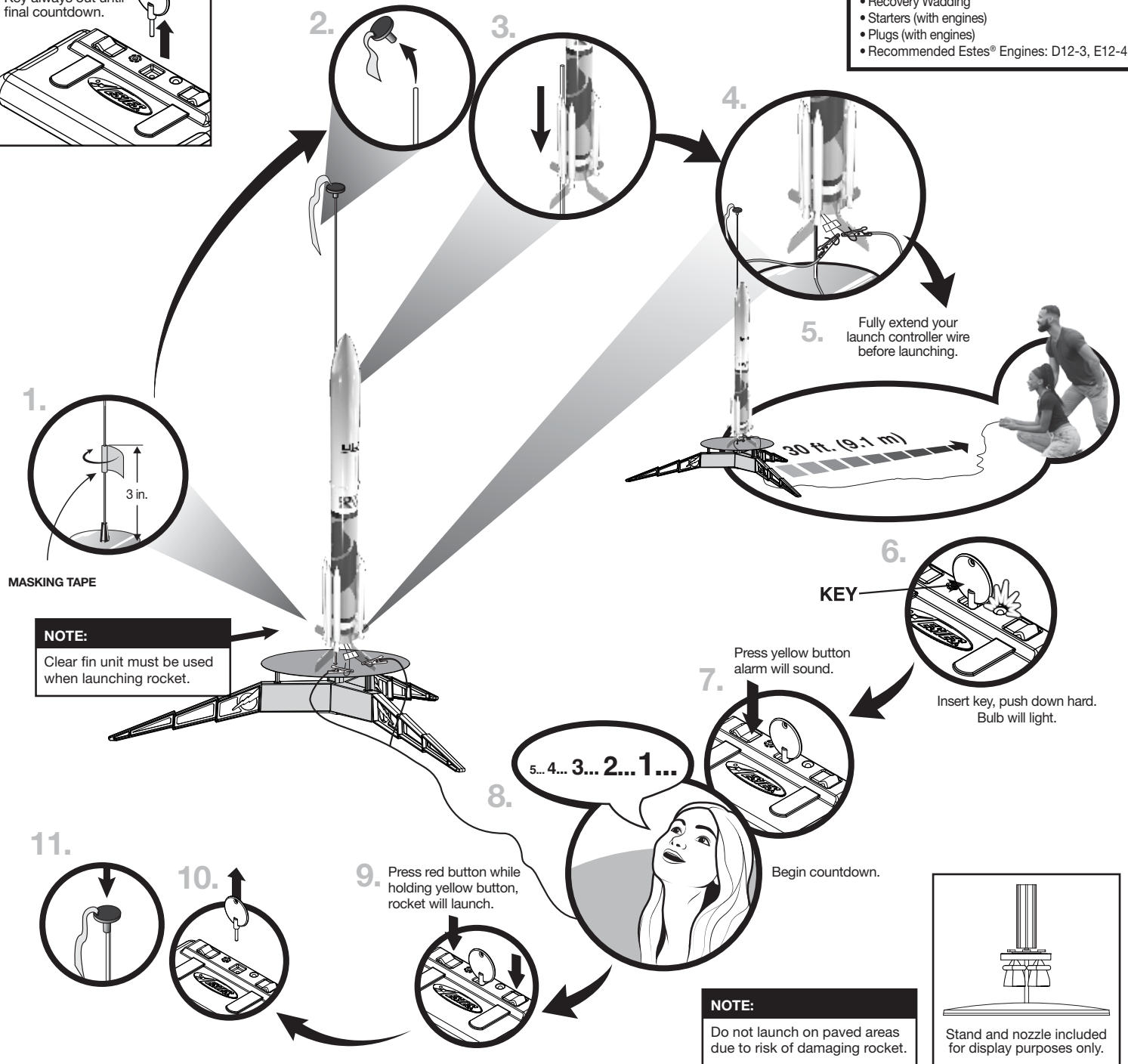


### NOTE:

E engines require E Launch Controller or Pro Series II Launch Controller.

### ESTES LAUNCH SUPPLIES NEEDED (Sold separately)

- Porta-Pad® E Launch Pad or Lifetime Launch System
- E Launch Controller or Pro Series II Launch Controller
- Recovery Wadding
- Starters (with engines)
- Plugs (with engines)
- Recommended Estes® Engines: D12-3, E12-4



## PRECAUTIONS



NAR  
SAFETY CODE



NO DRY GRASS  
OR WEEDS

**PRE-LAUNCH CHECK** For safety, never launch a damaged rocket. Check the rocket's body, nose cone and fins. Also, check the engine mount, recovery system and launch lug(s). Repair any damage before launching the rocket.

**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. Launch only with little or no wind and good visibility. Always follow the National Association of Rocketry (NAR) SAFETY CODE (enclosed).

**MISFIRES TAKE THE KEY OUT OF THE CONTROLLER. WAIT ONE MINUTE BEFORE GOING NEAR THE ROCKET.** Disconnect the micro-clips and remove the engine. Take the plug and starter out of the engine. A burned starter means the starter tip was not touching engine propellant. Install a new starter; be sure the tip is touching propellant inside the engine. Push the plug in place. Repeat steps under Countdown and Launch.