



Flying Model  
Rocket Catalog

2020



DESTINATION  
**MARS**™



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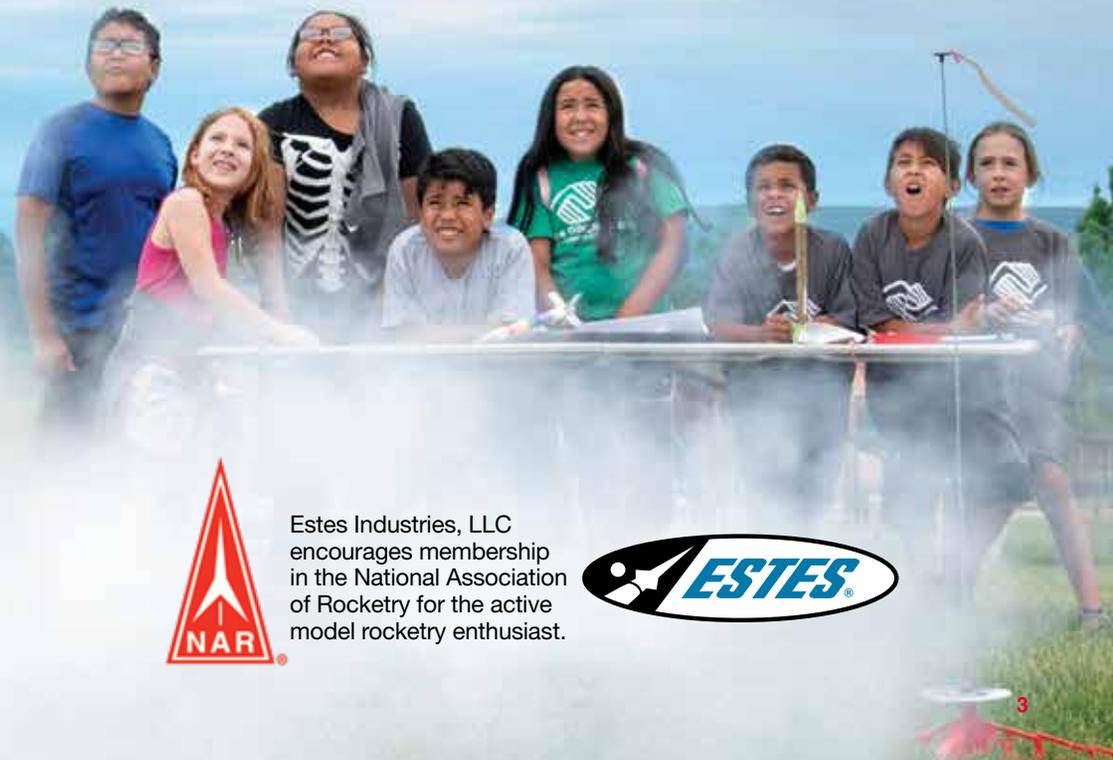
**Welcome to the  
exciting world  
of model rocketry...**

**... now this *is* rocket science!**

There is no thrill quite like launching a model rocket you have built, watching it streak skyward, reach apogee (peak altitude), then gently return to earth on its parachute. In a very real sense, model rocketeers experience the same excitement felt by America's space scientists and astronauts as they push humankind's horizons relentlessly forward to the stars. The best way to get started is with an Estes® launch set or starter set (see pages 10-15). Each launch set has nearly everything you need to build and fly your first rocket.

As you increase your rocketry skills, you can progress to new and exciting projects including multi-stage rockets, payload experiments and scale models. Whether you are a hobby beginner or expert, Estes Industries will help you advance higher, further and faster in your adventures.

2 [EstesRockets.com](http://EstesRockets.com)



Estes Industries, LLC encourages membership in the National Association of Rocketry for the active model rocketry enthusiast.





*Hello!  
From Penrose, Colo.*

**Our Vision:**

To be the best model rocket company on the planet...

**Our Mission:**

To work relentlessly to create exceptional customer experiences. Everything we do is designed to ignite passion for creativity, exploration, and innovation.

**Our Values:**

**Our safety record:**

Over 60 years and over 500 million launches.

**Our uniqueness:**

In a growing digital world, little compares to the experience of building and launching a model rocket.

**Our desire to teach:**

We recognize the value of model rocketry as an educational tool.

**Our employees:**

Many of our current employees have been on this journey with us for decades!

**Welcome to Estes Industries and the Exciting World of Model Rocketry!**

Since its creation by Vern and Gleda Estes 62 years ago, our company has made possible over 500 million rocket launches — with an amazing safety record.

**What is a Flying Model Rocket?**

Estes® flying model rockets are activity kits designed of lightweight materials such as paper tubing, balsa wood and plastic. Fins attached to the body tube help provide guidance and stability. An engine mount assembly holds the engine in place during rocket flight in most models.

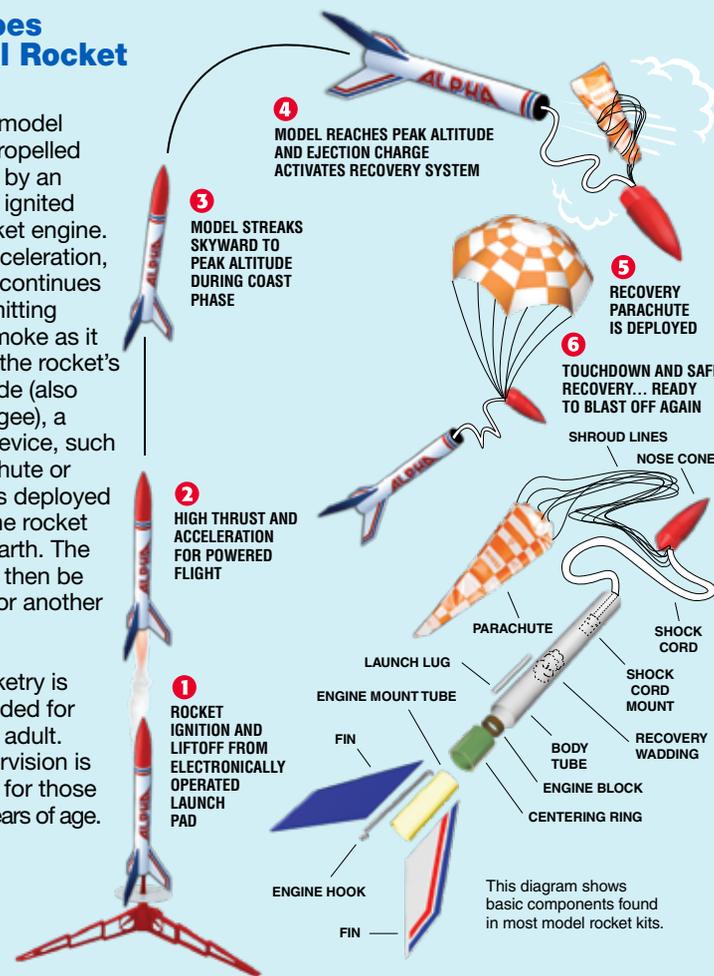


Vern and Gleda Estes, the founders of Estes Rockets.

**Flight Sequence and Model Rocket Parts**

**How Does a Model Rocket Work?**

The Estes model rocket is propelled into the air by an electrically ignited model rocket engine. After its acceleration, the rocket continues upward emitting tracking smoke as it coasts. At the rocket's peak altitude (also called apogee), a recovery device, such as a parachute or streamer, is deployed to return the rocket gently to earth. The rocket can then be prepared for another flight.



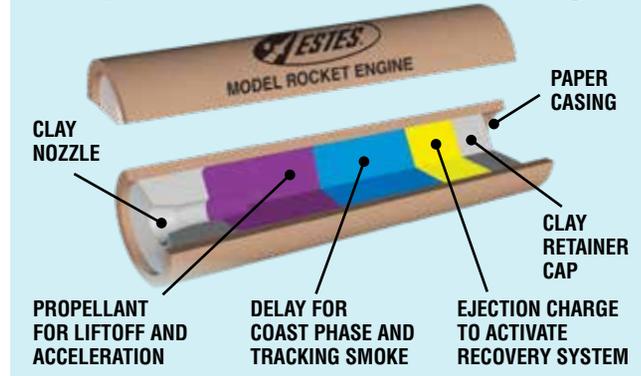
This diagram shows basic components found in most model rocket kits.

## What is a Model Rocket Engine?

Estes® model rocket engines are used to thrust a model rocket into the air. They are factory-assembled and comply with the code requirements of the National Association of Rocketry. They are single use and range in power from A to F sizes. The engine is started using an electrical launch system that is powered by alkaline batteries.

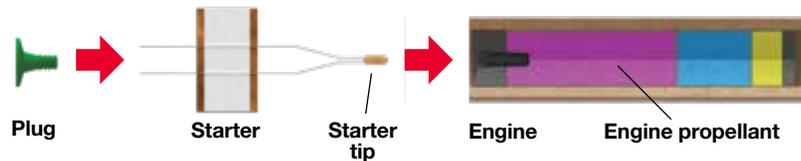


### Components of a Model Rocket Engine

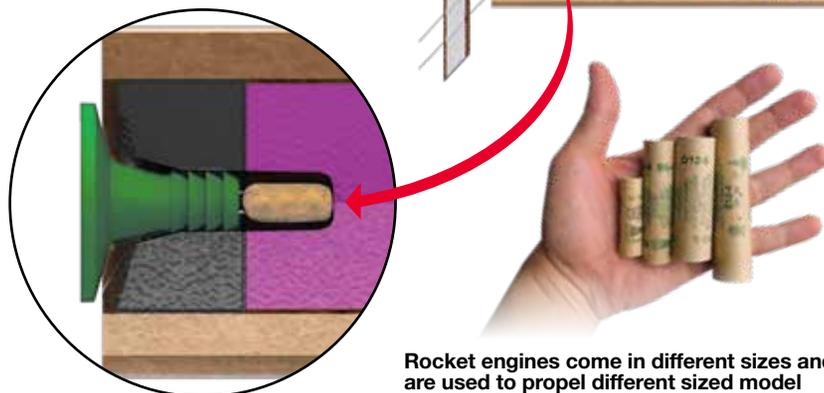


### How to Prepare Your Rocket Engine for Launch:

- 1 Use the plug to secure the starter into the exhaust port of your rocket engine.

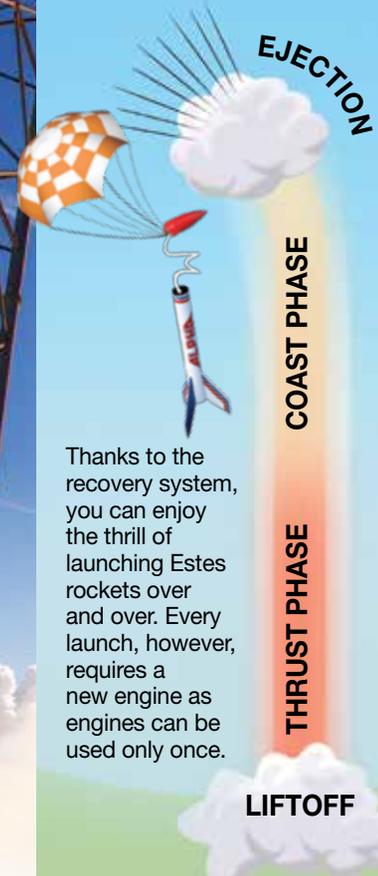


- 2 Make sure the starter is inserted into the engine nozzle and touches the propellant, then insert plug.



Rocket engines come in different sizes and are used to propel different sized model rockets. See page 71 for the Model Rocket Engine Performance Chart.

### Different Engine Phases

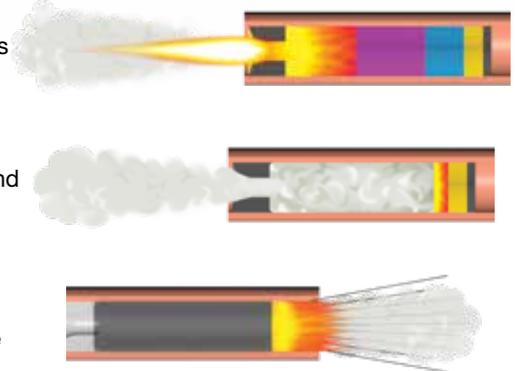


Thanks to the recovery system, you can enjoy the thrill of launching Estes rockets over and over. Every launch, however, requires a new engine as engines can be used only once.

Penrose, we have **Liftoff!**

### How Does a Model Rocket Engine Work?

- 1 When the engine is started, it produces thrust and boosts the rocket into the sky.
- 2 After the propellant is used up, the delay is activated, producing tracking smoke and allowing the rocket to coast.
- 3 After the delay is used, the ejection charge is activated, which deploys the recovery system, such as a parachute or streamer.



## Where to Launch Model Rockets

The chart below tells you what size field to use for each size engine. For launch information, look at the "NAR Model Rocket Safety Code". You should always check with your local city government for any special regulations that may apply to your area. Generally speaking, you can fly most Estes® model rockets in a clear area the size of a football field or soccer field. Launch in little or no wind, and make sure there is no dry grass close to the launch pad or in the flying field. Each engine size is designated by a letter and is up to twice as powerful as the letter before it. See the engine section (pages 70-73) of this catalog for more information.



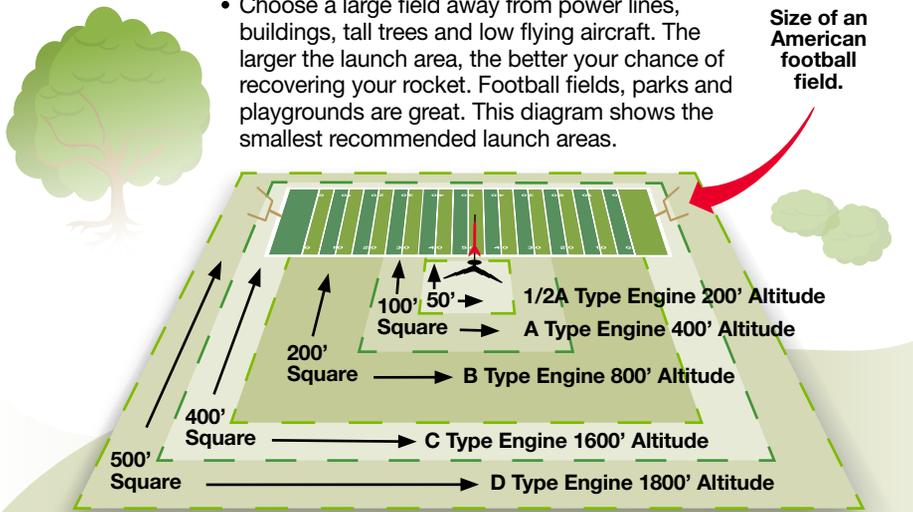
LAUNCH SITE DIMENSIONS		
Installed Total Impulse (N-sec)	Equivalent Motor Type	Minimum Site Dimensions (ft.)
0.00 - 1.25	1/4A, 1/2 A	50
1.26 - 2.50	A	100
251 - 5.00	B	200
5.01 - 10.00	C	400
10.01 - 20.00	D	500
20.01 - 40.00	E	1000
40.01 - 80.00	F	1000

## Recommended Launch Area

Minimum launch site dimension for circular area is diameter in feet, and for rectangular area is shortest side in feet.

- Choose a large field away from power lines, buildings, tall trees and low flying aircraft. The larger the launch area, the better your chance of recovering your rocket. Football fields, parks and playgrounds are great. This diagram shows the smallest recommended launch areas.

Size of an American football field.



- Make sure the launch area is free of obstructions, dry weeds, brown grass or highly flammable materials.
- Launch only during calm weather with little or no wind and good visibility.

## Where to Find Details About a Rocket Kit in the Catalog

- Measurement: length
- Special features
- Recovery system: parachute, streamer, tumble, spin, glide, featherweight
- Projected altitudes: estimates only
- Recommended engines
- Manufactured suggested retail price
- Building classification

### Example of a Rocket Kit Description

**7282 Tazz™**  
 Length: 16.6 in. (42.2 cm)  
 Recovery: 18 in. (45.7 cm) Streamer; Spin  
 Projected Altitude: 700 ft. (213 m)  
 Recommended Engines: A8-3, B4-4, B6-4, C6-5, C6-7  
**MSRP - \$22.99**



The Tazz™ is an advanced model rocket.

## BUILDING CLASSIFICATIONS

All model rocket kits in this catalog require assembly unless otherwise indicated. Building classifications are designated by a letter given to each kit.

	<b>Beginner</b>
	<b>Intermediate</b>
	<b>Advanced</b>
	<b>Expert</b>
	<b>Master</b>

## Get started with an Estes® Launch Set

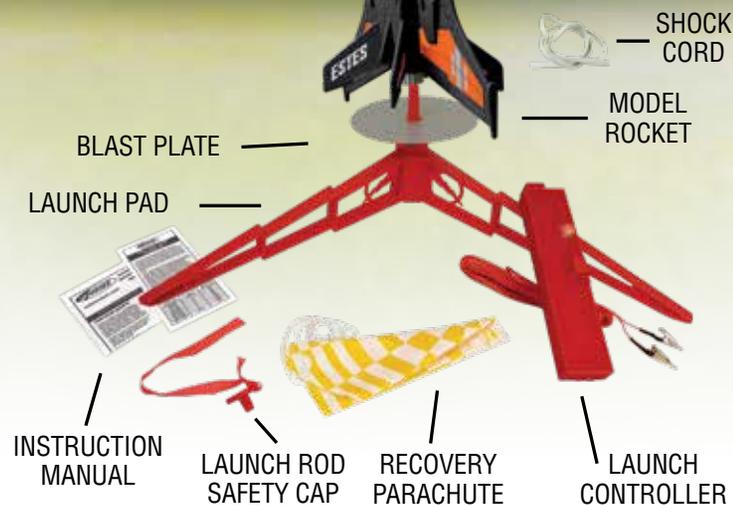
The easiest entry point into the fun and exciting world of Estes model rocketry is to purchase an Estes Launch Set. Each launch set contains a rocket (or two) and a complete, high tech Estes launch system. In addition to the fun of building, launching and recovering your own model rocket, Estes flying model rockets have significant STEM educational value. STEM stands for science, technology, engineering and math, and model rocketry utilizes all four disciplines. So rocketeers often become scientists and engineers.



**⚠ WARNING:** Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to [www.P65Warnings.ca.gov/wood](http://www.P65Warnings.ca.gov/wood)

All Estes rockets that contain wood parts/components carry this warning.

## Example of an Estes® Launch Set



### Here's what's in the box:

One or two Estes® model rockets (either in kit form or almost ready to fly), one each Estes® Electron Beam® Launch Controller and Estes® Porta-Pad® II Launch Pad, recovery device, and instructions for assembly and use.

### Here's what's not in the box:

Recommended model rocket engines, starters and recovery wadding, tools, construction and finishing supplies for the rockets and 4 new AA 1.5V alkaline batteries for the launch controller - sold separately.

Estes® model rocketry is recommended for ages 10 and up with adult supervision for those under 12.



# Start Your Estes® Experience Here!

The best way to start is with Estes® Launch Sets.



**1491 Taser™ Launch Set**  
 Length: 17 in. (43.2 cm)  
 Recovery: 12 in. (30.5 cm) Parachute  
 Projected Altitude: 1100 ft. (335 m)  
 Recommended Engines: A8-3, B4-4, B6-4, B6-6, C6-5, C6-7  
**MSRP - \$28.99**



**5324 Space Corps™ Centurion™ Launch Set**  
 Length: 11.1 in. (28.2 cm)  
 Recovery: 9 in. (22.9 cm) Parachute  
 Projected Altitude: 250 ft. (76 m)  
 Recommended Engines: A8-3, B4-4, B6-4, B6-6, C6-5, C6-7  
**MSRP - \$49.99**



The Taser™ & Alpha III® Launch Sets are Estes Best Sellers!



**1427 Alpha III® Launch Set**  
 Length: 12.1 in. (30.7 cm)  
 Recovery: 12 in. (30.5 cm) Parachute  
 Projected Altitude: 1150 ft. (351 m)  
 Recommended Engines: 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7  
**MSRP - \$35.99**



**1411 Journey™ Launch Set**  
 Length: 19.3 in. (49 cm)  
 Recovery: 12 in. (30.5 cm) Parachute  
 Projected Altitude: 1100 ft. (335 m)  
 Recommended Engines: A8-3, B4-4, B6-4, C6-5, C6-7  
**MSRP - \$32.99**



**1403 Riptide™ Launch Set**  
 Length: 18 in. (45.7 cm)  
 Recovery: 12 in. (30.5 cm) Parachute  
 Projected Altitude: 675 ft. (206 m)  
 Recommended Engines: B4-4, B6-4, C6-5  
**MSRP - \$37.99**



No Assembly Required!

**1478 Flash!® Launch Set**  
 Length: 16.2 in. (41.1 cm)  
 Recovery: 12 in. (30.5 cm) Parachute  
 Projected Altitude: 925 ft. (282 m)  
 Recommended Engines: A8-3, B4-4, B6-4, C6-5, C6-7  
**MSRP - \$28.99**



**1469 Tandem-X™ Launch Set**  
**(Amazon™ and Crossfire™ ISX)**  
**MSRP - \$35.99**

**Amazon™**

Length: 29.4 in. (74.7 cm)  
 Recovery: 18 in. (45.7 cm) Parachute  
 Projected Altitude: 600 ft. (183 m)  
 Recommended Engines: B4-2, B4-4, B6-2,  
 B6-4, C5-3, C6-3, C6-5



**1499 Rascal™ & HiJinks™ Launch Set**  
**MSRP - \$35.99**

**Rascal™**

Length: 14.5 in. (36.8 cm)  
 Recovery: 12 in. (30.5 cm) Parachute  
 Projected Altitude: 1100 ft. (335 m)  
 Recommended Engines: A8-3, B4-4, B6-4,  
 C6-5, C6-7  
 w/Engine Adapter (sold separately) - A10-3T



**The Rascal™ & HiJinks™ Launch Set Comes with Two Preassembled Rockets!**

**HiJinks™**

Length: 14.5 in. (36.8 cm)  
 Recovery: 12 in. (30.5 cm) Parachute  
 Projected Altitude: 1100 ft. (335 m)  
 Recommended Engines: A8-3, B4-4, B6-4, C6-5, C6-7  
 w/Engine Adapter (sold separately) - A10-3T



**Some Launch Sets, Like the Tandem-X™, Come Equipped with Two Rockets!**

**Crossfire™ ISX**

Length: 15.6 in. (39.6 cm)  
 Recovery: 12 in. (30.5 cm) Parachute  
 Projected Altitude: 1150 ft. (351 m)  
 Recommended Engines: A8-3, B4-4, B6-4, C6-5, C6-7



# Starter Sets

The Colonizer™ is a highly detailed rocket designed to transport humans to Mars! Starter Sets differ slightly from Launch Sets — they come equipped with the same launch equipment, but they also include two model rocket engines and required flight supplies. Starter Set packages provide everything you need to launch your rocket! For additional launches, you will need to purchase additional Estes® Engines and flight supplies. Launch controllers require batteries (sold separately).



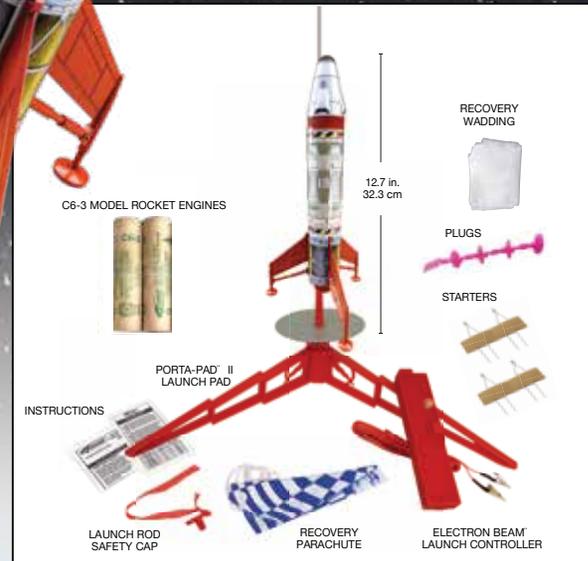
The Colonizer Starter Set includes two C6-3 engines!



**5322 Colonizer™ Starter Set**  
 Length: 12.7 in. (32.3 cm)  
 Recovery: 18 in. (45.7 cm) Parachute  
 Projected Altitude: 250 ft. (76 m)  
 Recommended Engines: C5-3, C6-3  
**MSRP - \$49.99**



**COMES WITH EVERYTHING YOU SEE HERE!**



# Add to Your Fleet!

## The Easiest Rockets to Build and Fly

**NEW!**

**7299 Illusion™**  
Length: 19.3 in. (49 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude: 1125 ft. (343 m)  
Recommended Engines: A8-3, B4-4, B6-4, C6-5, C6-7  
**MSRP - \$19.99**



**Snap Together, No Glue!**



### 1260 No. 2 Estes Sky Writer®

"Draw" a crowd with a No. 2 Estes Sky Writer flying model rocket. Sign your name on the clouds and never worry about stray marks!

Length: 26 in. (66 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude: 1100 ft. (335 m)  
Recommended Engines: A8-3, B4-4, B6-4, C6-5

**MSRP - \$14.99**



### 1256 Alpha III®

The high-flying Alpha III is another model rocketry classic! The iconic orange and black space model is easy to build and fun to fly!

Length: 12.1 in. (30.7 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude: 1150 ft. (351 m)  
Recommended Engines: 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7

**MSRP - \$21.99**



### 2452 Athena™

Length: 17 in. (43.2 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude: 1125 ft. (343 m)  
Recommended Engines: A8-3, B4-4, B6-4, C6-5

**MSRP - \$13.99**



**No Assembly Required!**



### 2603 Sundancer™

Length: 16.5 in. (41.9 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude: 1100 ft. (335 m)  
Recommended Engines: A8-3, B4-4, B6-4, B6-6, C6-5, C6-7

**MSRP - \$13.99**



### 2008 Generic E2X®

Length: 13.5 in. (34.3 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude: 1100 ft. (335 m)  
Recommended Engines: 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7 w/Engine Adapter (sold separately) - A10-3T

**MSRP - \$12.99**





**3**  
Rocket Set!

**2435 3 Bandits™**  
This trio of rockets comes in festive colors and with varied fin units.  
Length: 10.8-11.1 in. (27.4-28.2 cm)  
Recovery: 6 in. (15.2 cm) Parachute  
Projected Altitude: 550 ft. (168 m)  
Recommended Engines: 1/2A3-4T, A3-4T, A10-3T  
**MSRP - \$23.99**

**NEW!**

**7292 Terra GLM™**  
Length: 17.8 in. (45.2 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude: 875 ft. (267 m)  
Recommended Engines: B4-4, B6-4, C6-5  
**MSRP - \$19.99**

**0806 Firestreak SST™**  
Length: 10.2 in. (25.9 cm)  
Recovery: 12 in. (30.5 cm) Streamer  
Projected Altitude: 350 ft. (107 m)  
Recommended Engines: 1/2A3-2T, 1/2A3-4T, A3-4T, A10-3T  
**MSRP - \$10.99**



**Snap Together,  
No Glue  
Required!**



**2497 Nova™**  
Length: 20.6 in. (52.3 cm)  
Recovery: 15 in. (38.1 cm) Parachute  
Projected Altitude: 700 ft. (213 m)  
Recommended Engines: B4-2, B4-4, B6-2, B6-4, C5-3, C6-3, C6-5  
**MSRP - \$21.99**



**2483 Phantom Blue™**  
Length: 19.4 in. (49.3 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude: 1150 ft. (351 m)  
Recommended Engines: A8-3, B4-4, B6-4, C6-5, C6-7  
**MSRP - \$18.99**





**2492 Spirit™**  
Length: 21 in. (53.3 cm)  
Recovery: 15 in. (38.1 cm)  
Parachute  
Projected Altitude:  
700 ft. (213 m)  
Recommended Engines:  
B4-2, B4-4, B6-2, B6-4,  
C5-3, C6-3, C6-5  
**MSRP - \$17.99**



**0803 Bandito™**  
Length: 11.2 in. (28.4 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude: 600 ft. (183 m)  
Recommended Engines: 1/4A3-3T,  
1/2A3-2T, A3-4T, A10-3T  
**MSRP - \$10.99**



**2169 Dragonite™**  
Length: 16 in. (40.6 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude:  
1125 ft. (343 m)  
Recommended Engines: A8-3,  
B4-4, B6-4, C6-5, C6-7  
**MSRP - \$16.99**



**2482 Solaris™**  
Length: 18.5 in. (47 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude: 1125 ft. (343 m)  
Recommended Engines: A8-3, B4-4,  
B6-4, C6-5, C6-7  
**MSRP - \$18.99**



**0804 Firehawk™**  
Length: 11.2 in. (28.4 cm)  
Recovery: 6 in. (15.2 cm) Parachute  
Projected Altitude: 550 ft. (168 m)  
Recommended Engines: 1/4A3-3T,  
1/2A3-2T, A3-4T, A10-3T  
**MSRP - \$10.99**



**2495 Chiller™**  
Length: 19.4 in. (49.3 cm)  
Recovery: 15 in. (38.1 cm) Parachute  
Projected Altitude: 600 ft. (183 m)  
Recommended Engines: B4-2, B6-2,  
B6-4, C5-3, C6-3, C6-5  
**MSRP - \$18.99**



**2481 Power Patrol™**  
Length: 20.5 in. (52.1 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude: 1100 ft. (335 m)  
Recommended Engines: A8-3, B4-4,  
B6-4, C6-5, C6-7  
**MSRP - \$18.99**



# Challenge Yourself a Little More!

These Rockets Take  
More Time to Build.

## 2178 Hi-Flier®

Length: 12 in. (30.5 cm)  
Recovery: 12 in. (30.5 cm) Streamer  
Projected Altitude: 1500 ft. (457 m)  
Recommended Engines: 1/2A6-2,  
A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7  
w/Engine Adapter (sold separately) -  
A10-3T

**MSRP - \$11.99**



## 1261 Baby Bertha™

Length: 12.8 in. (32.5 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude: 575 ft. (175 m)  
Recommended Engines: A8-3,  
B4-4, B6-4, C6-5

**MSRP - \$14.99**



## 2442 Mini Fat Boy™

Length: 8.5 in. (21.6 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude: 250 ft. (76 m)  
Recommended Engines: A10-3T

**MSRP - \$13.99**



## 1345 Mosquito™

Length: 3.8 in. (9.7 cm)  
Recovery: Featherweight  
Projected Altitude: 800 ft. (244 m)  
Recommended Engines: 1/4A3-3T, 1/2A3-2T,  
1/2A3-4T, A3-4T, A10-3T

**MSRP - \$6.99**



## 7244 Indicator™

Length: 21.2 in. (53.8 cm)  
Recovery: 9 in. (22.9 cm) Parachute  
Projected Altitude: 200 ft. (61 m)  
Recommended Engines: A3-4T, A10-3T

**MSRP - \$16.99**



## 1225 Alpha®

Length: 12.3 in. (31.2 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude: 1000 ft. (305 m)  
Recommended Engines: 1/2A6-2,  
A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7  
w/Engine Adapter (sold separately) - A10-3T

**MSRP - \$18.99**



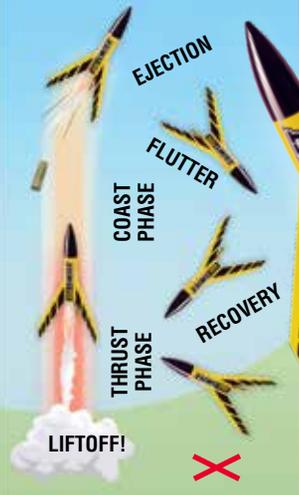
## 3031 Star Trooper™

Length: 7 in. (17.8 cm)  
Recovery: 6 in. (15.2 cm) Streamer  
Projected Altitude: 900 ft. (274 m)  
Recommended Engines: 1/4A3-3T, 1/2A3-2T,  
1/2A3-4T, A3-4T, A10-3T

**MSRP - \$6.99**



**Swift Flight Sequence**



The 220 Swift™ is lightweight and gently flutters to the ground without a parachute. During the ejection phase, the engine pops out. Insert another and you're ready to launch again!

**0810 220 Swift™**  
 Length: 4.5 in. (11.4 cm)  
 Recovery: Featherweight  
 Projected Altitude: 850 ft. (259 m)  
 Recommended Engines: 1/4A3-3T,  
 1/2A3-2T, 1/2A3-4T, A3-4T, A10-3T  
**MSRP - \$9.99**



**0651 Der Red Max™**  
 Length: 16.3 in. (41.4 cm)  
 Recovery: 18 in. (45.7 cm) Parachute  
 Projected Altitude: 600 ft. (183 m)  
 Recommended Engines: B4-2,  
 B4-4, B6-2, B6-4, C6-5  
**MSRP - \$19.99**



**7220 Crossfire™ ISX**  
 Length: 15.6 in. (39.6 cm)  
 Recovery: 12 in. (30.5 cm)  
 Parachute  
 Projected Altitude: 1150 ft. (351 m)  
 Recommended Engines: A8-3,  
 B4-4, B6-4, C6-5, C6-7  
**MSRP - \$13.99**



**1949 Viking™**  
 Length: 12.1 in. (30.7 cm)  
 Recovery: 18 in. (45.7 cm) Streamer  
 Projected Altitude: 1600 ft. (488 m)  
 Recommended Engines: 1/2A6-2, A8-3,  
 A8-5, B4-4, B6-4, B6-6, C6-5, C6-7  
 w/Engine Adapter (sold separately) - A10-3T  
**MSRP - \$13.99**



**7237 Goblin™**  
 Length: 14.4 in. (36.6 cm)  
 Recovery:  
 2 x 36 in. (91.3 cm) Streamers  
 Projected Altitude: 1400 ft. (427 m)  
 Recommended Engines: C11-3,  
 C11-5, D12-5, D12-7  
**MSRP - \$19.99**



**The Viking has 48 various fin configurations to choose from:**  
 It's up to you to decide how to build the Estes® Viking! How many fins? Where to place them? It's your choice to create the rocket YOU want!

**1381 Yankee™**  
 Length: 11 in. (27.9 cm)  
 Recovery: 18 in. (45.7 cm) Streamer  
 Projected Altitude: 1700 ft. (518 m)  
 Recommended Engines: 1/2A6-2,  
 A8-3, A8-5, B4-4, B6-4, B6-6, C6-5,  
 C6-7  
 w/Engine Adapter (sold separately)  
 - A10-3T  
**MSRP - \$13.99**



**1292 Wizard™**  
 Length: 12 in. (30.5 cm)  
 Recovery: 18 in. (45.7 cm) Streamer  
 Projected Altitude: 1600 ft. (488 m)  
 Recommended Engines: 1/2A6-2, A8-3,  
 A8-5, B4-4, B6-4, B6-6, C6-5, C6-7  
 w/Engine Adapter (sold separately) -  
 A10-3T  
**MSRP - \$13.99**





**1948 Big Bertha®**  
 Length: 24 in. (61 cm)  
 Recovery: 18 in. (45.7 cm) Parachute  
 Projected Altitude: 500 ft. (152 m)  
 Recommended Engines: B4-2, B4-4, B6-2, B6-4, C6-5  
**MSRP - \$26.99**

**7258 Space Twister™**  
 Length: 24.7 in. (62.7 cm)  
 Recovery: 12 in. (30.5 cm) Parachute  
 Projected Altitude: 900 ft. (274 m)  
 Recommended Engines: A8-3, B6-4, C6-5  
**MSRP - \$17.99**

The Space Twister™ Fin Configuration Allows it to Spin as it Attains Apogee!

**0652 Citation Patriot™**  
 Length: 25.6 in. (65 cm)  
 Recovery: 18 in. (45.7 cm) Parachute  
 Projected Altitude: 600 ft. (183 m)  
 Recommended Engines: B4-2, B6-2, B6-4, C6-5  
**MSRP - \$26.99**

**7259 Nike-X**  
 Length: 23.4 in. (59.4 cm)  
 Recovery: 15 in. (38.1 cm) Parachute  
 Projected Altitude: 600 ft. (183 m)  
 Recommended Engines: A8-3, B4-4, B6-4, C6-5  
**MSRP - \$21.99**

The Estes® Airborne Surveillance Missile packs a lot into a small package! Great flights on Estes® mini engines (not included)! You'll enjoy building this highly detailed, scale-like military missile.

**7257 Airborne Surveillance Missile™**  
 Length: 11.3 in. (28.7 cm)  
 Recovery: 9 in. (22.9 cm) Parachute  
 Projected Altitude: 375 ft. (114 m)  
 Recommended Engines: A3-4T, A10-3T  
**MSRP - \$16.99**

**0865 Mini Mean Machine™**  
 Length: 39 in. (99.1 cm)  
 Recovery: 9 in. (22.9 cm) Parachute  
 Projected Altitude: 225 ft. (69 m)  
 Recommended Engines: A3-4T, A10-3T  
**MSRP - \$14.99**

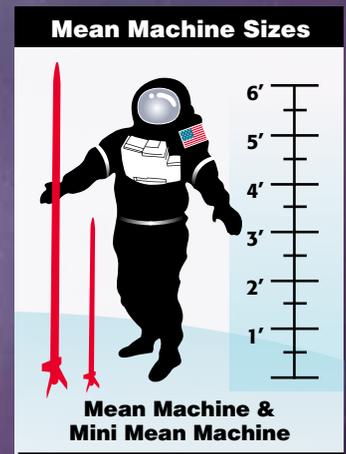
**1295 Mean Machine™**  
 Length: 79 in. (200.7 cm)  
 Recovery: 24 in. (61 cm) Parachute  
 Projected Altitude: 700 ft. (213 m)  
 Recommended Engines: D12-3, D12-5, E12-4, E12-6  
 Requires 3/16 in. (5 mm) Maxi™ Launch Rod PN 2244; sold separately.  
**MSRP - \$32.99**



Twist the 2 halves of the Mean Machine body tube in opposite directions and then pull apart.

The Mean Machine stands at over 6 feet tall and disassembles in the middle.

It's so Tall, We Had to Split it in Half for Easy Transport!





**NEW!**

**The Sidekick™ Comes Equipped with Dual Engine Mounts!**

**7287 Sidekick™**  
The only cluster rocket in the Estes® fleet. Experience side-by-side engine thrust and a dual deployment streamer recovery! Requires Estes® PS II™ Launch Controller.

Length: 21.1 in. (53.6 cm)  
Recovery:  
2 x 36 in. (91.4 cm) Mylar streamers  
Projected Altitude:  
700 ft. (213 m)  
Recommended Engines:  
Two B4-2, two B6-4  
**MSRP - \$19.99**



**7263 Hex-3™**  
Length: 3.2 in. (8.1 cm)  
Recovery: Featherweight  
Projected Altitude: 100 ft. (30 m)  
Recommended Engines: B6-0, C6-0

**MSRP - \$8.99**



**7242 Super Neon™**  
Length: 22.3 in. (56.6 cm)  
Recovery: 12 in. (30.5 cm)  
Parachute  
Projected Altitude: 1000 ft. (305 m)  
Recommended Engines: A8-3,  
B4-4, B6-4, C6-5

**MSRP - \$19.99**



**NEW!**

**7289 Low-Boom SST™**  
Based on current research into aerodynamics to reduce the effect of breaking the sound barrier. Long and sleek with the same wing profile found on research aircraft making headlines today. Will you be able to hear the "Boom" when flying yours?

Length: 30 in. (76.2 cm)  
Recovery: 15 in. (38.1 cm) Parachute  
Projected Altitude: 400 ft. (122 m)  
Recommended Engines: C5-3, C6-3  
**MSRP - \$26.99**



**7266 Red Nova™**  
The Red Nova™ flying model rocket is impressive up close and in the sky! Features include a unique nose cone and great waterslide decals

Length: 21.6 in. (54.9 cm)  
Recovery: 15 in. (38.1 cm) Parachute  
Projected Altitude: 800 ft. (244 m)  
Recommended Engines: D12-5, C11-3, D12-7  
w/Engine Adapter (sold separately) - C5-3, C6-3  
Requires 3/16 in. (5 mm) Maxi™ Launch Rod PN 2244; sold separately.

**MSRP - \$21.99**



**7000 Bull Pup 12D  
1:9 Scale**

Length: 15.6 in. (39.6 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude: 675 ft. (206 m)  
Recommended Engines:  
A8-3, B4-4, B6-4, C6-5

**MSRP - \$20.99**



**7239 Sky Warrior™**  
Length: 19 in. (48.3 cm)  
Recovery: 12 in. (30.5 cm)  
Parachute  
Projected Altitude: 850 ft. (259 m)  
Recommended Engines:  
B4-4, B6-4, C6-5

**MSRP - \$20.99**



# Model Rocket Payloads

--“A flying model rocket is a scientifically-designed educational aero model, not a toy.”

— G. Harry Stine, Founder of the National Association of Rocketry

Watching a model rocket that you’ve crafted zip off the pad and into the sky is super fun, but it is also always an educational experience! Because all Estes® model rockets are uniquely suited for teaching science, technology, engineering, and math, they are frequently used in students’ science fair projects. But which are the best model rockets for science experiments? Payloaders, of course!

What is a payload? A payload is the cargo that a model rocket carries into the atmosphere. Payloads can be grasshoppers, raw eggs, or scientific measurement devices, such as altimeters that measure the altitude rockets achieve in flight.

The best thing about Estes payloader rockets is that they are designed with clear payload sections so that you can see the cargo you’re launching. The possibilities are endless!

**A Payload Section is a Feature that Allows the Rocketeer to Launch Cargo!**

**NEW!**

## 7300 Ghost Chaser™

All the molded plastic parts in this rocket are molded in translucent color. Insert the rocket engine and you can see it inside! Truly something unique for your rocket collection.

Length: 23 in. (58.4 cm)  
 Recovery: 12 in. (30.5 cm) Parachute  
 Projected Altitude: 1000 ft. (335 m)  
 Recommended Engines: A8-3, B4-4, B6-4, C6-5, C6-7

**MSRP - \$19.99**



## 7261 Air Walker™

Length: 21.7 in. (55.1 cm)  
 Recovery: 12 in. (30.5 cm) Parachute  
 Projected Altitude: 950 ft. (290 m)  
 Recommended Engines: B4-4, B6-4, C6-5

**MSRP - \$18.99**



## 7301 Green Eggs™

Length: 23.6 in. (59.9 cm)  
 Recovery: 18 in. (45.7 cm) Parachute  
 Projected Altitude: 400 ft. (274 m)  
 Recommended Engines: w/egg: C11-3, D12-3  
 w/out egg: C11-5, D12-5

**MSRP - \$21.99**



**3227 Loadstar II™**  
 Length: 23.3 in. (59.2 cm)  
 Recovery: 18 in. (45.7 cm) Parachute; Tumble  
 Projected Altitude: 1000 ft. (305 m)  
 Recommended Engines:  
 Rocket Only: B4-4, B6-4, C6-5  
 Two Stages:  
 Rocket: A8-5, B6-4, B6-6, C6-7  
 Booster: B6-0, C6-0  
**MSRP - \$22.99**



**Recruit Your Own Fleet of Insectronauts!**

**Multi-Staged Rockets Fly Higher!**

**With the Loadstar II™ Payload Section, You Can Blast Bugs up to 1000 Feet In The Air!**

**Become an Eggspert Rocketeer!**

**7265 Space Crater™**  
 Length: 18.5 in. (47 cm)  
 Recovery: 15 in. (38.1 cm) Parachute  
 Projected Altitude: 650 ft. (198 m)  
 Recommended Engines:  
 With egg: C5-3, C6-3  
 Without egg: B4-4, B6-4, C6-5  
**MSRP - \$22.99**



**7248 Supernova™**  
 Length: 27.5 in. (69.9 cm)  
 Recovery: 9 in. (22.9 cm)  
 Parachute; Tumble  
 Projected Altitude: 1550 ft. (472 m)  
 Recommended Engines:  
 Rocket Only: A8-5, B4-4, B6-4, C6-5, C6-7  
 Two Stages:  
 Rocket: A8-5, B6-6, C6-7  
 Booster: B6-0, C6-0  
**MSRP - \$22.99**

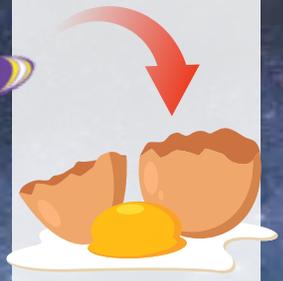


**Hurl an Egg at the High Heavens**



After assembling your Space Crater rocket nose cone, insert an egg into the payload and prepare for liftoff.

But be sure to prepare the parachute recovery system correctly, or you may end up with an egg-citing mess to clean up!



# Welcome to the Exciting World of Multi-Stage Rockets

Many full-size rockets that leave earth's atmosphere are multi-staged rockets. The amount of fuel required to lift millions of pounds of mass requires huge rockets that have multiple stages (segments) stacked on top of the main booster stage. Each upper stage requires its own rocket engine and fuel and each subsequent stage is used to increase velocity to escape earth's gravitational pull and reach Low Earth Orbit (LEO is 99 to 1200 miles). Estes® multi-stage rockets will not get to LEO, but they are designed to increase a model rocket's maximum altitude.

A two stage model rocket uses a first-stage booster engine (it has no ejection charge) to get the rocket moving vertically. When the booster engine uses up its propellant, it then ignites the upper stage engine. The booster separates from the upper stage and it tumbles to the ground. After the upper stage is ignited (also called a sustainer stage), it then accelerates to its maximum height (or apogee) and an ejection charge at apogee deploys the recovery system.

A three stage model rocket (like the Mini Comanche-3™) uses a first stage booster engine to get the rocket moving vertically. When the booster engine uses up its propellant, it then ignites the second stage engine. The first stage separates from the second stage and it tumbles to the ground. After the second stage is ignited, it carries the rocket higher until it uses up its propellant, and then it ignites the third stage. The second stage separates from the third stage, and it tumbles to the ground. The third stage then accelerates to its maximum height (or apogee), and an ejection charge at apogee deploys the recovery system.

While a full-size rocket can take several minutes to burn through the various stages to obtain LEO, in an Estes® rocket, the boost and upper stage burnouts can be measured in a matter of seconds. Multi-stage rockets are challenging and exciting to launch. Recovering a small three stage rocket on a streamer from over 2500 feet altitude can be a task!

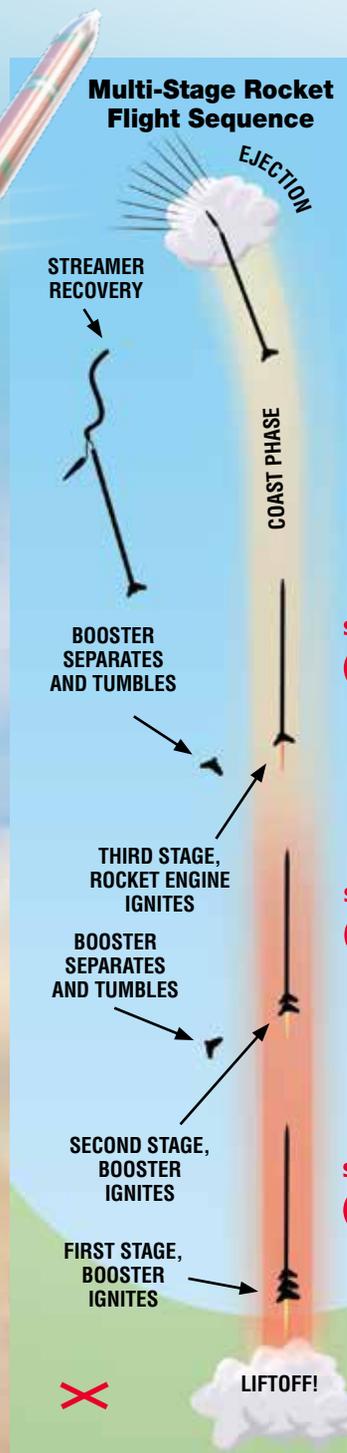
2448 Mini Comanche-3™



## ... This is How Real Rockets Fly!



Each Multi-Stage Rocket Booster Contains An Estes® Engine. Once The Engine Fuel is Exhausted, The Boosters Detach And Tumble Gently To The Ground For Reuse.



**2092 Mongoose™**  
 Length: 27 in. (68.6 cm)  
 Recovery: 12 in. (30.5 cm)  
 Parachute; Tumble  
 Projected Altitude: 1600 ft. (488 m)  
 Recommended Engines:  
 Rocket Only:  
 A8-3, B4-4, B6-4, C6-5  
 Two Stages:  
 Rocket: A8-5, B6-6, C6-7  
 Booster: B6-0, C6-0  
**MSRP - \$16.99**



**1946 Boosted Bertha™**  
 Length: 28.2 in. (71.6 cm)  
 Recovery: 18 in. (45.7 cm)  
 Parachute; Tumble  
 Projected Altitude: 1000 ft. (305 m)  
 Recommended Engines:  
 Rocket Only: B4-2, B4-4, B6-2,  
 B6-4, B6-6, C6-5, C6-7  
 Two Stages:  
 Rocket: A8-3, A8-5, B4-4, B6-2,  
 B6-4, B6-6, C6-5, C6-7  
 Booster: A8-0, B6-0, C6-0  
**MSRP - \$29.99**



**2437 Savage™**  
 Length: 31.8 in. (80.8 cm)  
 Recovery: 15 in. (38.1 cm) Parachute; Tumble  
 Projected Altitude: 1600 ft. (488 m)  
 Recommended Engines:  
 Rocket Only: B4-2, B6-2, B6-4, C6-5  
 Two Stages:  
 Rocket: A8-5, B6-4, B6-6, C6-5, C6-7  
 Booster: D12-0  
**MSRP - \$25.99**



**7276 Checkmate™**  
 Length: 17 in. (43.2 cm)  
 Recovery: 18 in. (45.7 cm) Streamer; Tumble  
 Projected Altitude: 900 ft. (274 m)  
 Recommended Engines:  
 Rocket Only: A3-4T, A10-3T  
 Two Stages:  
 Rocket: 1/2A3-4T, A3-4T, A10-3T  
 Booster: A10-0T  
**MSRP - \$12.99**



**7275 Sterling Silver™**  
 Length: 22 in. (55.9 cm)  
 Recovery: 30 in. (76.2 cm)  
 Streamer; Tumble  
 Projected Altitude: 2600 ft. (792 m)  
 Recommended Engines:  
 Rocket Only: A8-5, B6-6, C6-7  
 Two Stages:  
 Rocket: A8-5, B6-6, C6-7  
 Booster: A8-0, B6-0, C6-0  
**MSRP - \$14.99**



**7217 Hyper Bat™**  
 Length: 21.9 in. (55.6 cm)  
 Recovery: 12 in. (30.5 cm) Parachute; Tumble  
 Projected Altitude: 2125 ft. (648 m)  
 Recommended Engines:  
 Rocket Only: B6-4, B6-6, C6-5, C6-7  
 Two Stages:  
 Rocket: A8-5, B6-6, C6-5, C6-7  
 Booster: A8-0, B6-0, C6-0  
**MSRP - \$17.99**

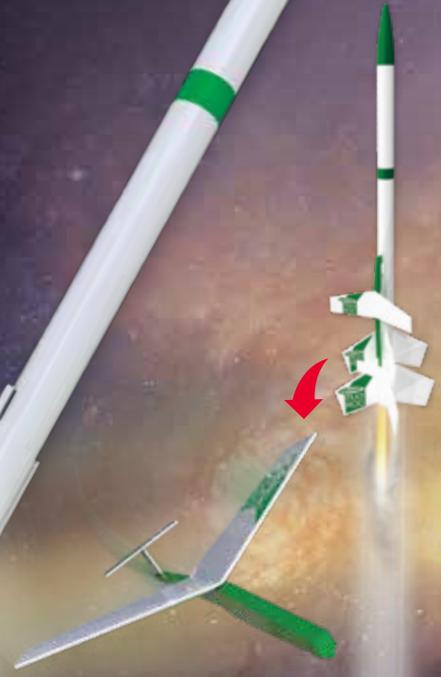




**7250 Twin Factor™**  
 Length: 6 in. (15.2 cm)  
 Recovery: Tumble  
 Projected Altitude: 150 ft. (46 m)  
 Recommended Engines:  
 Rocket Only: A3-4T, A10-3T, A10-PT  
 Two Stages:  
 Rocket: 1/4A3-3T, 1/2A3-2T, 1/2A3-4T, A3-4T,  
 A10-3T, A10-PT  
 Booster: A10-0T  
**MSRP - \$13.99**



**6 Ways to Launch!**



**1329 Multi-Roc™**  
 Length: 25 in. (63.5 cm)  
 Recovery: 12 in. (30.5 cm) Parachute;  
 Glide; Tumble  
 Projected Altitude: 1200 ft. (366 m)  
 Recommended Engines:  
 Rocket Only: B6-4, B6-6, C6-5, C6-7  
 Two Stages:  
 Rocket: B6-4, B6-6, C6-5, C6-7  
 Booster: B6-0, C6-0  
**MSRP - \$22.99**



**7245 Comanche-3™**  
 Length: 41 in. (104.1 cm)  
 Recovery: 36 in. (91.4 cm) Dual  
 Streamer; Tumble  
 Projected Altitude: 2250 ft. (686 m)  
 Recommended Engines:  
 Rocket Only: A8-3, B4-4, B6-4, C6-5  
 Two Stages:  
 Rocket: B4-4, B6-4, B6-6, C6-7  
 Booster: B6-0, C6-0  
 Three Stages:  
 Rocket: B6-6, C6-7  
 Booster: C11-0, D12-0  
 Booster: B6-0, C6-0  
**MSRP - \$23.99**



**The Comanche-3™ Model Rockets Have Boosters That Can Attain Extremely High Altitudes!**

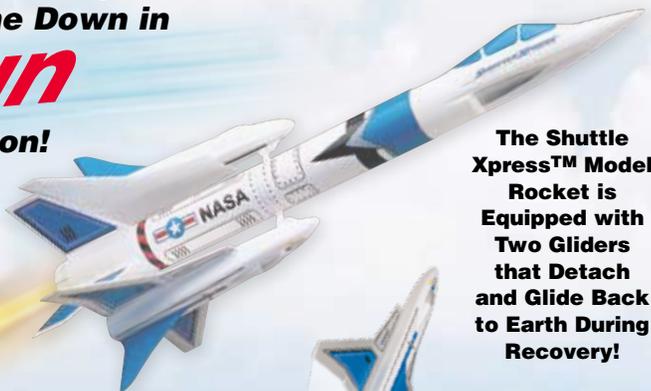
**2448 Mini Comanche-3™**  
 Length: 31.1 in. (79 cm)  
 Recovery: 18 in. (45.7 cm) Streamer;  
 Tumble  
 Projected Altitude: 900 ft. (274 m)  
 Recommended Engines:  
 Rocket Only:  
 1/2A3-2T, A3-4T, A10-3T  
 Two Stages:  
 Rocket: 1/2A3-4T, A3-4T, A10-3T  
 Booster: A10-0T  
 Three Stages:  
 Rocket: 1/2A3-4T, A3-4T, A10-3T  
 Booster: A10-0T  
 Booster: A10-0T  
**MSRP - \$14.99**



**Comanche Series Sizes**

**Mini Comanche-3™ & Comanche-3™**

**What Goes Up  
Must Come Down in  
*Fun*  
Fashion!**



**The Shuttle Xpress™ Model Rocket is Equipped with Two Gliders that Detach and Glide Back to Earth During Recovery!**

**2183 Shuttle Xpress™**  
Length: 17.7 in. (45 cm)  
Recovery: 12 in. (30.5 cm) Parachute; Glide  
Projected Altitude: 600 ft. (183 m)  
Recommended Engines: B4-2, B4-4, B6-2,  
B6-4, C5-3, C6-3, C6-5

**MSRP - \$20.99**



***Fun Recovery Systems***

Watching your model rocket liftoff is only part of the fun — seeing the whoosh — pop of the parachute when the rocket reaches apogee is equally thrilling! Estes® model rocketry recovery systems vary depending upon each rocket's specifications and engineering design. Most model rockets rely on traditional parachute or streamer recovery. Factors, such as rocket size, engine power and launch site dimension, are used to determine the size or number of parachutes to be used or if a streamer should be used to keep a high-performance rocket from drifting too far from the launch site and becoming lost. A few model rockets are so light that they either simply tumble or flutter gently back to earth; in essence, their lightweight construction is the recovery system.

And then there are combinations of recovery systems and other unique methods of recovery. These include spin and glide recovery. Spin recovery is created by the rocket's spinning (usually with helicopter blades), creating drag. And glide recovery utilizes lift created by varying wing shapes and designs, requiring careful trimming for optimum performance.



**NEW!**

**7298 Neon Tiger™**  
Length: 24.3 in. (61.7 cm)  
Recovery: 15 in. (38.1 cm)  
Parachute; Glide  
Projected Altitude: 500 ft. (152 m)  
Recommended Engines: B6-2  
C5-3, C6-3

**MSRP - \$19.99**



**2416 Flip Flyer™**  
Length: 19.2 in. (48.8 cm)  
Recovery: 9 in. (22.9 cm) Parachute; Spin  
Projected Altitude: 900 ft. (274 m)  
Recommended Engines: B4-4, B6-4, C6-5

**MSRP - \$20.99**



### 7279 Double Ringer™

Length: 25.3 in. (64.3 cm)  
Recovery: 15 in. (38.1 cm) Parachute; Glide  
Projected Altitude: 500 ft. (152 m)  
Recommended Engines: B6-2, C5-3, C6-3  
**MSRP - \$19.99**



**During the Tazz™ Recovery, the Rocket Spins Back to Earth While the Engine Mount Separates and Gently Descends with Streamer Attached!**

**The Double Ringer™ has Unique Cylindrical Gliders that Detach and Circle Back to Earth.**

### 7282 Tazz™

Length: 16.6 in. (42.2 cm)  
Recovery: 18 in. (45.7 cm) Streamer; Spin  
Projected Altitude: 700 ft. (213 m)  
Recommended Engines: A8-3, B4-4, B6-4, C6-5, C6-7  
**MSRP - \$22.99**



### 7241 Quinstar™

The Quinstar™ is a lightweight rocket which allows for a spin recovery that requires no parachute.

Length: 3 in. (7.6 cm)  
Recovery: Spin  
Projected Altitude: 150 ft. (46 m)  
Recommended Engines: B6-0, C6-0  
**MSRP - \$21.99**



**The Mini "A" Heli™ is a Competition Grade Rocket that Descends via Helicopter Blades!**

### 7272 Mini "A" Heli™

Length: 17 in. (43.2 cm)  
Recovery: Spin  
Projected Altitude: 400 ft. (122 m)  
Recommended Engines: A10-3T  
**MSRP - \$14.99**



**NEW!****7280 Gryphon™**

Our easiest to build boost glider kit ever! Designed for the true beginner, the Gryphon has all precision laser cut parts that assemble on a flat surface. No airfoil or dihedral is needed to make this clever glider fly!

Length: 18 in. (45.7 cm)

Recovery:

12 in. (30.5 cm) Streamer ; Glide

Projected Altitude: 700 ft. (213 m)

Recommended Engines: 1/2A3-2T, A3-4T, A10-3T

**MSRP - \$18.99**

**7246 Estes® Shuttle**

Length: 23.2 in. (58.9 cm)  
 Shuttle length: 12.2 in (31 cm)  
 Recovery: 24 in. (61 cm) Parachute, Glide  
 Projected Altitude: 500 ft. (152 m)  
 Recommended Engines: D12-3, E12-4  
 Requires 3/16 in. (5 mm) Maxi™ Launch Rod 2244; sold separately

**MSRP - \$53.99**



In 1960, Vern Estes, founder of Estes Industries, designed the Astron Scout, which was the first Estes® model rocket packaged for sale as a complete kit.

The Orange Bullet™ was the prototype for the famous Astron Scout™. This rocket used metal weights glued to the end of the fin tips to shift the center of gravity back after the engine popped out at apogee resulting in the rocket tumbling gently instead of streamlining in nose first. It worked, but after many experimental flights, Vern realized he could achieve the same thing without ejecting the engine. He could use the weight of the rocket engine itself to shift the center of gravity backwards. During a span of more than 20 years, Estes® sold tens of thousands of Astron Scout kits, inspiring countless young people to pursue technical careers.



Estes President Ellis Langford (top), Estes General Manager Bill Stine (lower left), and Estes Industries founder Vern Estes are pictured with Vern Estes' very first rocket design — the Orange Bullet.

**NEW!****7295 Orange Bullet™**

Length: 5.9 in. (15 cm)  
 Recovery: Featherweight  
 Projected Altitude: 500 ft. (152 m)  
 Recommended Engines: 1/2A6-2, A8-3

**\$11.99**



Featherweight Recovery -  
 No Parachute Required!

## Designer Signature Series™



A series of kits designed by some of the most famous pioneers of model rocketry. Some will be re-introductions of lesser-known classics and others will be never-before-seen designs that never made it out of the R&D room. Every serious model rocket collector will want the complete series for their own museum!

# Imagine New Worlds!

**Snap Together  
Construction Means  
You are Ready to Fly  
in Minutes!**

**NEW!**

## 7284 Starship Octavius™

Length: 20 in. (50.8 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude: 1100 ft. (335 m)  
Recommended Engines: A8-3, B4-4,  
B6-4, C6-5, C6-7

**MSRP - \$16.99**

**B**

## 7285 Leo Space Train™

Length: 17 in. (43.2cm)  
Recovery: 18 in. (45.7 cm) Parachute  
Projected Altitude: 300 ft. (91 m)  
Recommended Engines: C5-3, C6-3

**MSRP - \$24.99**

**A**

**NEW!**

**G**et ready to ride on the space train! The LEO Space Train™ is a stunning model rocket designed after government/corporate-style space planes that deploy satellites into Low Earth Orbit (LEO) — hence, the decal of the constellation “Leo” the Lion.

Not unlike the Space Shuttle, real space planes land on runways and are prepared once again for further flights. Our model can be launched over and over again using Estes® engines and each time, gently return back to earth via parachute recovery!

## 7234 Crossbow SST™

Length: 15 in. (38.1 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Projected Altitude: 1600 ft. (488 m)  
Recommended Engines: A8-3, B4-4, B6-4, C6-5

**MSRP - \$15.99**

**A**

## 1250 Interceptor™

Standing over 2 feet tall, this model rocket features laser cut precision balsa parts, a slotted body tube for extra secure wing and fin mounting, a detailed blow molded nose cone and three 5-color decal sheets that will finish this model with eye-popping décor!

Length: 26 in. (66 cm)  
Recovery: 18 in. (45.7 cm)  
Parachute  
Projected Altitude: 525 ft. (160 m)  
Recommended Engines:  
B4-2, B6-2, B6-4, C6-5

**MSRP - \$29.99**

**E**

**7260 Protostar™**

Length: 24 in. (61 cm)  
Recovery: 18 in. (45.7 cm) Parachute  
Projected Altitude: 1350 ft. (411 m)  
Recommended Engines: C11-3, D12-5, E12-6  
Requires 3/16 in. (5 mm) Maxi™ Launch Rod 2244; sold separately

**MSRP - \$30.99**



**7253 Explorer Aquarius™**

A scale-like model of the future, the interstellar voyager Explorer Aquarius! Stretch your skills with this unique and challenging kit. A great looker on the pad and in the air!

Length: 21.8 in. (55.4 cm)  
Recovery: 18 in. (45.7 cm) Parachute  
Projected Altitude: 750 ft. (229 m)  
Recommended Engines: D12-3, D12-5, E12-4, E12-6  
Requires 3/16 in. (5 mm) Maxi™ Launch Rod 2244; sold separately.

**MSRP - \$38.99**



From the first moments that man embarked from Earth to colonize the solar system, the Astron Explorer™ was a critical in furthering mankind's space explorations. Equipped with long, hefty fuel tanks, the rocket's design aims to carry passengers and payloads safely across vast reaches of the galaxy.

When mankind built its first outpost on Saturn's icy moon Europa, the Astron Explorer™ took us there. When astronauts first journeyed beyond the outskirts of Pluto — to the 10th planet of our solar system, 2003 UB313 — the Astron Explorer™ took us there.

So no matter where your imagination leads you throughout the cosmos, let the Astron Explorer™ be your steadfast guide!

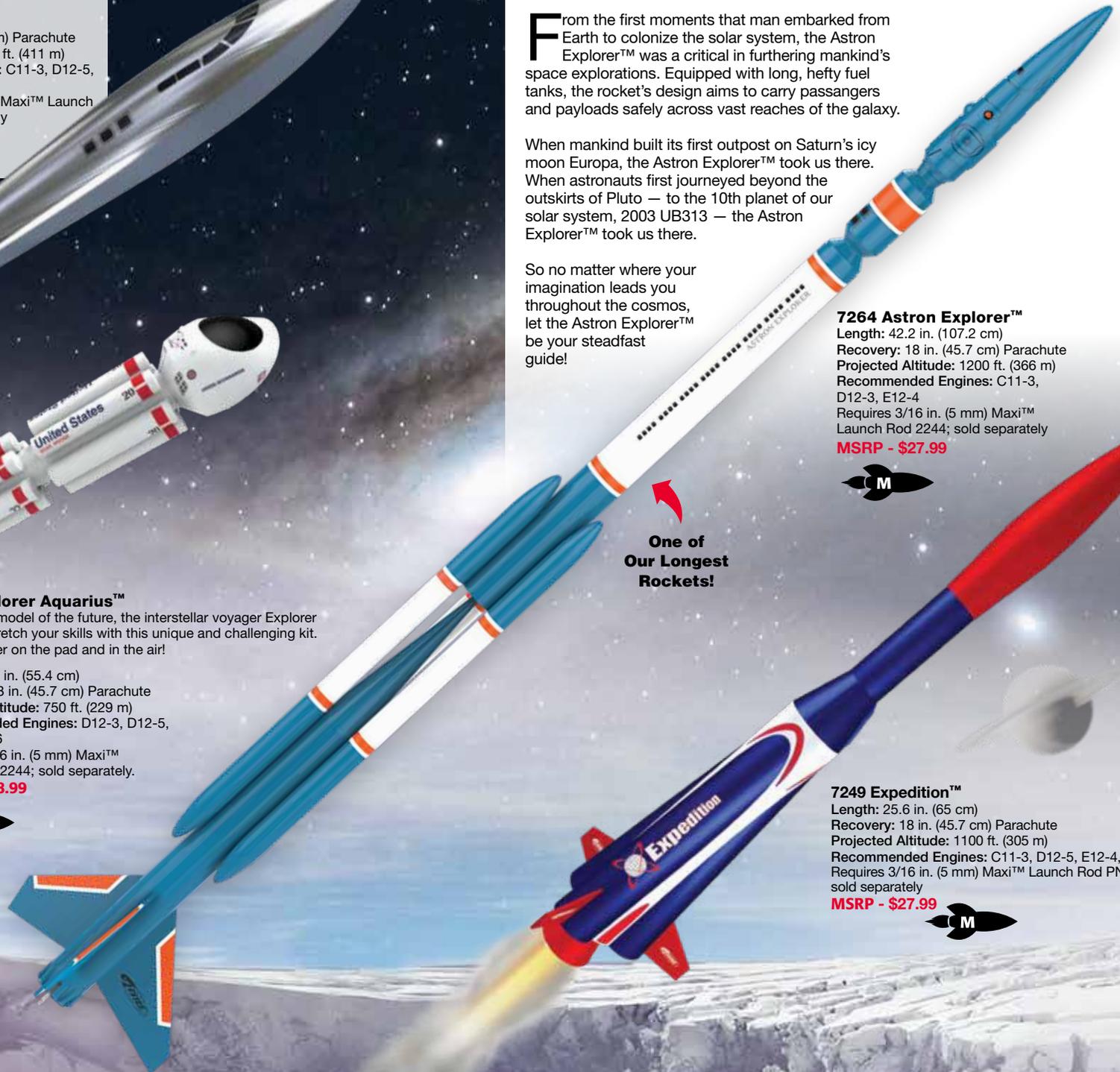
**7264 Astron Explorer™**

Length: 42.2 in. (107.2 cm)  
Recovery: 18 in. (45.7 cm) Parachute  
Projected Altitude: 1200 ft. (366 m)  
Recommended Engines: C11-3, D12-3, E12-4  
Requires 3/16 in. (5 mm) Maxi™ Launch Rod 2244; sold separately

**MSRP - \$27.99**



One of Our Longest Rockets!



**7249 Expedition™**

Length: 25.6 in. (65 cm)  
Recovery: 18 in. (45.7 cm) Parachute  
Projected Altitude: 1100 ft. (305 m)  
Recommended Engines: C11-3, D12-5, E12-4, E12-6  
Requires 3/16 in. (5 mm) Maxi™ Launch Rod PN 2244; sold separately

**MSRP - \$27.99**



# DESTINATION MARS™



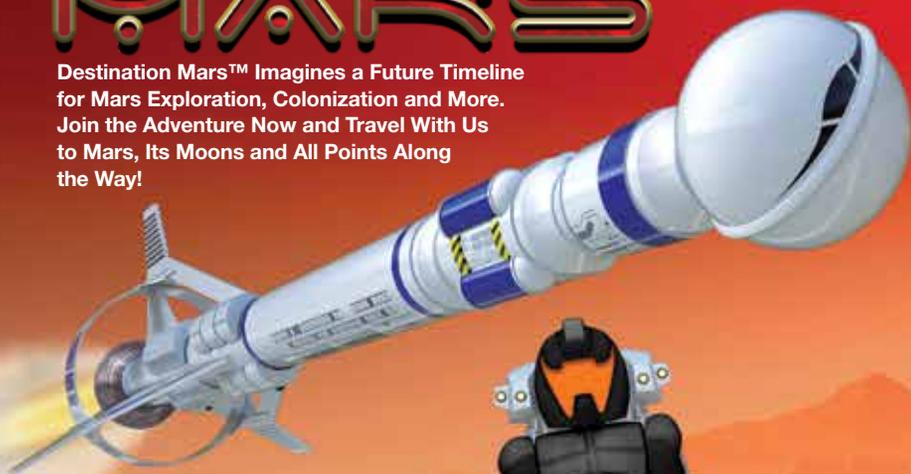
## MISSION: COLONIZE MARS

It doesn't just fly... it leaps! The Leaper helps Mars explorers get to where they need to go fast!

Officially it's the LAMP MU – Low Altitude Mars Personal Maneuvering Unit – but no one ever calls it that. To most people, on Earth and on Mars, it's simply "The Leaper." Developed for the first Mars Expedition of 2035, the jetpack was envisioned as a way to rapidly travel between surface habitats. What the engineers didn't count on was just how fun it would be! "Why walk when you can leap!" exclaimed Mission Commander Grace Henry, removing her helmet after the first test flight in the thin Martian atmosphere. And from that moment on, it was "The Leaper!"

# DESTINATION MARS™

Destination Mars™ Imagines a Future Timeline for Mars Exploration, Colonization and More. Join the Adventure Now and Travel With Us to Mars, Its Moons and All Points Along the Way!



## MARS LONGSHIP™

The workhorse of the colonization fleet and a marvel of dynamic engineering, the Destination Mars™ Mars Longship™ planetary transport is the lifeline connecting old Earth to new Mars! Add it to your Mars fleet today!

First deployed in 2052 to support the expanding Mars outpost, the Mars Longship™ carries crucial supplies and eager colonists from Earth to Mars orbit, completing a circuit between planets every 18 months. But to the colonists the massive vessel is more than a cargo ship – with each return, it's a vital link to the old planet and a reminder of home. Build and launch your own Mars Longship™ and follow the full story of the human exploration and settlement of the red planet in Estes® Destination Mars!

### 7296 Destination Mars™ Mars Longship™

Length: 27.2 in. (69.1 cm)  
Recovery: 18 in. (45.7 cm) Parachute  
Projected Altitude: 500 ft. (152 m)  
Recommended Engines: D12-3, E12-4  
**MSRP - \$34.99**

B

## MAV LANDER™

The Destination Mars™ MAV™ (Mars Ascent Vehicle) has one job: bring the Mars Expedition crew back from the surface of the red planet and get them home safely! The MAV is the first release in Estes' latest series, Destination Mars™. It's 2035 and after a second global space race humanity has taken another "giant leap" and Mars is the prize. While it may require the efforts of an entire nation to reach Mars, the return is much simpler: a single rocket – the MAV – must lift off successfully from the dusty red plains and carry the crew back home. The highly-detailed MAV is a snap to assemble, featuring a colorful body wrap, highly detailed nosecone, realistic landing struts, and a large 18" parachute. Do you have what it takes to build and launch the Estes MAV?

### 7283 Destination Mars™ MAV Lander™

Length: 12.8 in. (32.5 cm)  
Recovery: 15 in. (38.1 cm) Parachute  
Projected Altitude: 250 ft. (76 m)  
Recommended Engines: C5-3, C6-3  
**MSRP - \$16.99**

B

## THE LEAPER™

It doesn't just fly... it leaps! The Leaper helps Mars explorers get to where they need to go fast!

Officially it's the LAMPMU – Low Altitude Mars Personal Maneuvering Unit – but no one ever calls it that. To most people, on Earth and on Mars, it's simply "The Leaper™." Developed for the first Mars Expedition of 2035, the jetpack was envisioned as a way to rapidly travel between surface habitats. What the engineers didn't count on was just how fun it would be! Why walk when you can leap!

### 7290 Destination Mars™

**The Leaper™**  
Length: 4.1 in. (10.4 cm)  
Recovery: Featherweight  
Projected Altitude: 100 ft. (30 m)  
Recommended Engines: A10-0T, A10-3T  
**MSRP - \$24.99**

B

Launches Up to 100 Feet on the Porta-Pad II™ Launch Pad!



# SPACE CORPS™



## Address to Space Corps Academy Incoming Class, September 15, 2061

Welcome new cadets, to Space Corps and Space Corps Academy! I am Admiral Beard, superintendent of this fine academy and your commanding officer for the next four years. You have been selected to join an elite group of young men and women representing every settled human planet, moon, and orbital habitat. You are the bravest and brightest from one end of the Solar System to the other, and you will do great things. Starting today!

Before you begin your academy careers, let me remind you of the heroes and events that preceded you. It was barely a century ago that humanity first flew into space and only eight short years after that we were leaving footprints on Luna. What followed was the era of space stations, space shuttles, and space tourists. What an exciting time that must have been! Eventually, humanity decided to return to the moon to stay – first a moon base, then a colony, and now magnificent Armstrong City. We sent your parents' generation to Mars – five expeditions starting in '35 and now a permanent colony is underway! Today we're exploring the Asteroid Belt and the outer planets in ways that wouldn't have been possible even ten years ago. Humanity is pushing ever outward into the

solar system and to the stars... and that's where you come in!

As you surely know, Space Corps was established in 2033 by the space-faring nations of Earth to support the exploration of our solar region and provide defense against any dangers, should they arise. Upon graduating from this academy, you will be fully prepared to take your place alongside those already serving Space Corps. The opportunities are boundless! You may be assigned to a Corvette crew patrolling the moons of Mars, or aboard a survey vessel mapping the asteroids for vital resources, or even supporting a Centurion interceptor exploring the rings of Saturn up close. And someday – perhaps sooner than you think – you could be leading a mission beyond our own planets and moons to the nearest stars... and beyond. We're just getting started!

So, cadets, once again welcome to Space Corps! Work hard, learn all you can, and stay hungry for adventure. There's a universe out there waiting for you!

Admiral K. Beard, Superintendent, Space Corp Academy

# SPACE CORPS™

Space Corps™ is Here! This Thrilling New Estes® Series Takes You to the Front Line of Space Exploration and a Future of Non-Stop Excitement!

## CORVETTE CLASS™

The Estes Corvette Class military rocket is an agile “ship of the line” of the Space Corp fleet. This versatile rocket serves as the primary vessel for all functions of the Corps – from patrol missions, to transport duty, to intercept activities, the Corvette Class crews are ready to take on any task, no matter the danger!

Standing more than two feet tall from the tip of its extended nose cone to the end of its threaded engine retainer, the Corvette Class is an impressive flying model rocket! Laser-cut, multi-piece balsa fins tipped with simulated particle-beam cannons and a large sheet of red, white and blue insignia water-slide decals complete the stylish look. Join Space Corp and launch your own Corvette Class flying model rocket today!

### 7281 Space Corps™ Corvette Class™

Length: 25 in. (63.5 cm)  
 Recovery: 12 in. (30.5 cm) Parachute  
 Projected Altitude: 650 ft. (198 m)  
 Recommended Engines: B4-4, B6-4, C5-3, C6-3, C6-5  
**MSRP - \$24.99**

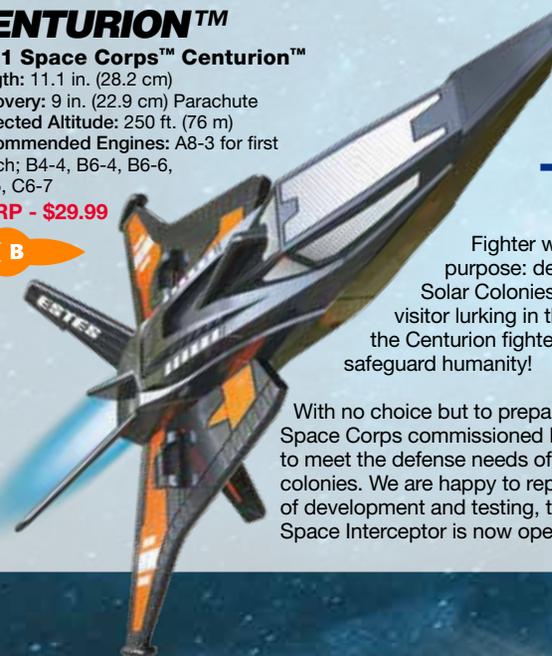


## CENTURION™

### 7291 Space Corps™ Centurion™

Length: 11.1 in. (28.2 cm)  
 Recovery: 9 in. (22.9 cm) Parachute  
 Projected Altitude: 250 ft. (76 m)  
 Recommended Engines: A8-3 for first launch; B4-4, B6-4, B6-6, C6-5, C6-7

**MSRP - \$29.99**



This Space Corps Agile Space Interceptor

Fighter was designed for one purpose: defend Earth and its Solar Colonies from a mysterious visitor lurking in the asteroid belt. Fly the Centurion fighter and do your part to safeguard humanity!

With no choice but to prepare for the worst, Space Corps commissioned Project Centurion to meet the defense needs of Earth and the colonies. We are happy to report that after years of development and testing, the Centurion Agile Space Interceptor is now operational.

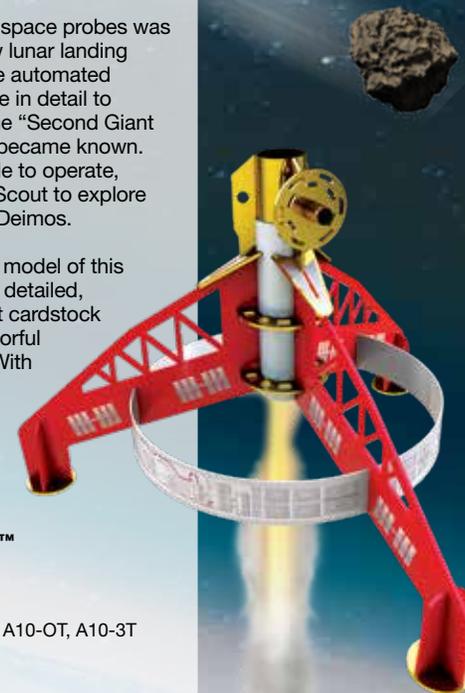
## LUNAR SCOUT™

The Lunar Scout series of remote space probes was critical to the success of the new lunar landing program of the late 2020s. These automated probes mapped out the moon's surface in detail to identify prospective landing sites for the “Second Giant Leap” as that series of lunar missions became known. Inexpensive to manufacture and reliable to operate, Space Corps later adapted the Lunar Scout to explore Mars and its twin moons Phobos and Deimos.

The Estes Lunar Scout is a lightweight model of this future historic space probe. The highly detailed, Intermediate-level kit features laser-cut cardstock fins and other structural parts, with colorful water-slide decals for added realism. With flights up to 200 feet on an Estes mini A10-OT engine and featherweight recovery, this rocket makes for a great small field launcher. No need to wait for NASA to create their Lunar Scout – build and fly yours today!

### 7290 Space Corps™ Lunar Scout™

Length: 4 in. (10.2 cm)  
 Recovery: Featherweight  
 Projected Altitude: 200 ft. (61 m)  
 Recommended Engines: 1/2A3-4T, A3-4T, A10-OT, A10-3T  
**MSRP - \$9.99**



**ESTES** is a  
Scale Modeler's *Dream!*

For More Than 61 Years, Estes®  
Has Produced the Finest Scale  
Replicas of Rockets and Missiles.

Scale Model Rockets  
Make History and Your  
Hobbies Come...

... to *Life!*



## *Scale Model Rockets*

In this category are detailed, miniature replicas of full-scale military, commercial, or space agency rockets, which come in a variety of scale sizes and model rocket engine requirements. Rockets in this class usually require advanced-level building skills using many handcrafted or molded detail parts. These rockets often require rocketeers attempting to build these models to have mastered a variety of skills in assembly, painting and launching techniques.

## 2160 Saturn V 1:200 Scale

The Estes® 1:200 scale Apollo 11 Saturn V model is almost 2 feet tall and comes fully assembled with many scale details and markings carefully reproduced for exceptional realism. This historical model of the Saturn V is suitable for launching and display.



The 2160 Saturn V Rocket Comes Almost Ready to Fly Out of the Box.

### 2160 Anniversary Saturn V

**1:200 Scale**

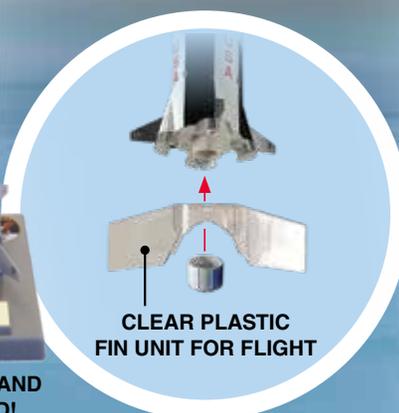
Length: 21.8 in (55.4 cm)

Recovery: 18 in. (45.7 cm) Parachute

Projected Altitude: 200 ft. (61 m)

Recommended Engines: C5-3, C6-3

**MSRP - \$69.99**



DISPLAY STAND INCLUDED!



## 7243 Black Brant II

**1:13 Scale**

The Estes® Black Brant II is a 1:13 scale replica of one of the earliest of the Black Brant sounding rockets. Loaded with scale details, this rocket really moves using the recommended Estes® D12 engines (not included).

Length: 24.9 in. (63.2 cm)

Recovery: 18 in. (45.7 cm) Parachute

Projected Altitude: 1300 ft. (396 m)

Recommended Engines: C11-3, D12-5, D12-7

Requires 3/16 in. (5 mm) Maxi™ Launch Rod (2244) sold separately.

**MSRP - \$23.99**



The Canadian Black Brant line of sounding rockets is one of the most successful launch vehicles ever flown. Since the late 1950s, several hundred Black Brant rockets have completed research missions for Canada and NASA.



## 1293 Black Brant III

**1:10 Scale**

This detailed, 1:10 scale model rocket is straightforward to build and an excellent kit for the first-time scale modeler.

Length: 20.4 in. (51.8 cm)

Recovery: 9 in. (22.9 cm) Parachute

Projected Altitude: 1300 ft. (396 m)

Recommended Engines: 1/2A6-2, A8-3, A8-5, A10-3T, B4-4, B6-4, B6-6, C6-5, C6-7

**MSRP - \$14.99**



In service for nearly 22 years, the Black Brant III was a reliable sounding rocket for the Canadian Space Agency and NASA.

**2056 U.S. Army Patriot M-104**

**1:10 Scale**  
 Length: 21.3 in. (54.1 cm)  
 Recovery: 12 in. (30.5 cm) Parachute  
 Projected Altitude: 600 ft. (183 m)  
 Recommended Engines:  
 B4-4, B6-4, B6-6, C6-5  
**MSRP - \$18.99**



The MIM-104 Patriot is a surface-to-air missile system used by the United States Army and several Allied Nations.



**7247 Nike Smoke**

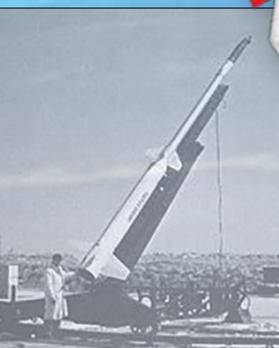
**1:10 Scale**  
 Now you can build your own 1:10 scale replica of the NASA Nike Smoke sounding rocket! This large, scale model rocket is made from quality Estes parts and looks as great as it flies!

Length: 22.9 in. (58.2 cm)  
 Recovery: 15 in. (38.1 cm) Parachute  
 Projected Altitude: 650 ft. (198 m)  
 Recommended Engines: B4-4, B6-4, C6-5

**MSRP - \$24.99**



The Nike Smoke was a sounding rocket. Part of a research project on the behavior of the horizontal winds in the upper atmosphere, it was developed by NASA in the 1960s and was based on the Nike Booster.



The Nike Apache carried hundreds of NASA research projects aloft during its operational life.



An iconic weapon of the Cold War, the MGR-1 Honest John battlefield rocket could carry nuclear or conventional warheads.

**2446 Mini Honest John**

**1:24 Scale**  
 Check out this mini-engine powered version of the U.S. Army Honest John. The Estes® Mini Honest John is a sport scale model, featuring a molded plastic nose cone and balsa fins, that's quick to build and fun to fly!

Length: 11.75 in. (29.8 cm)  
 Recovery: 12 in. (30.5 cm) Parachute  
 Projected Altitude: 325 ft. (99 m)  
 Recommended Engines: 1/2A3-2T, A3-4T, A10-3T

**MSRP - \$12.99**



**7254 Nike Apache**

**1:12 Scale**  
 The Estes® 1:12 scale model of this popular sounding rocket makes for a great introductory scale kit.

Length: 23 in. (58.4 cm)  
 Recovery: 12 in. (30.5 cm) Parachute  
 Projected Altitude: 925 ft. (282 m)  
 Recommended Engines: A8-3, B4-4, B6-4, C6-5, C6-7

**MSRP - \$17.99**





After capture by American forces at the end of WWII, dozens of German V2 ballistic missiles were brought to White Sands, New Mexico for testing, and formed the basis for the U.S. space program.

### 3228 V2 1:25 Scale

Now you can build and fly your own scale model of the rocket that ushered in the space age! Standing at nearly 23 in., this impressive model flies up to 725 ft. on the recommended Estes® E12 engines (not included).

Length: 22.4 in. (56.9 cm)  
Recovery: 18 in. (45.7 cm) Parachute  
Projected Altitude: 725 ft. (221 m)  
Recommended Engines: C11-3, D12-3, E12-4, E12-6  
Requires 3/16 in. (5 mm) Maxi™ Launch Rod PN 2244; sold separately.  
**MSRP - \$26.99**



### 7240 Honest John 1:14 Scale

Length: 23 in. (58.4 cm)  
Recovery: 15 in. (38.1 cm) Parachute  
Projected Altitude: 1400 ft. (427 m)  
Recommended Engines: C11-3, D12-5, E12-6  
Requires 3/16 in. (5 mm) Maxi™ Launch Rod (2244), sold separately.  
**MSRP - \$28.99**



Made to be a fin-stabilized, unguided artillery rocket, the Honest John was mounted on the backs of military trucks. It had a range of 15.4 miles with a 20 kiloton nuclear warhead or a 1500 pound conventional warhead.



### 7255 Little Joe I 1:34 Scale

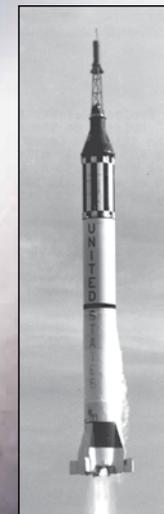
Length: 17.6 in. (94.8 cm)  
Recovery: 15 in. (38.1 cm) Parachute  
Projected Altitude: 400 ft. (122 m)  
Recommended Engines: B4-4, B6-4, C5-3, C6-3, C6-5  
**MSRP - \$32.99**



The Little Joe I booster was the first rocket designed solely for manned spacecraft qualifications and to measure critical parameters in flight.

### 1921 Mercury Redstone 4/ Liberty Bell 7

**1:34 Scale**  
Length: 28.6 in. (72.6 cm)  
Recovery: 15 in. (38.1 cm) Parachute  
Projected Altitude: 200 ft. (61 m)  
Recommended Engines: C5-3, C6-3  
**MSRP - \$26.99**



The Mercury-Redstone 4 was the second United States human spaceflight. Piloted by astronaut Virgil "Gus" Grissom, it launched on July 21, 1961.

# Fly Big!

Attain Great Heights With These Challenging Builds and Flights.

## 7271 SA-2061 Sasha™

Length: 31.5 in. (80 cm)  
 Recovery: 18 in. (45.7 cm) Parachute  
 Projected Altitude: 2300 ft. (701 m)  
 Recommended Engines:  
 Rocket Only: C11-3, C11-5, D12-5, E12-6  
 Two Stages:  
 Rocket: D12-5, D12-7, E12-8  
 Booster: D12-0, E12-0  
 Requires 3/16 in. (5 mm) Maxi™ Launch Rod 2244;  
 sold separately

MSRP - \$29.99



## 3226 Hi-Flier® XL

Length: 31 in. (78.7 cm)  
 Recovery:  
 18 in. (45.7 cm) Parachute  
 Projected Altitude:  
 1325 ft. (404 m)  
 Recommended Engines:  
 C11-3, D12-5, D12-7, E12-6, E12-8  
 w/Engine Adapter  
 (sold separately) - C5-3, C6-3  
 Requires 3/16 in. (5 mm) Maxi™  
 Launch Rod 2244; sold separately

MSRP - \$21.99



## 2162 Big Daddy™

Length: 19 in. (48.3 cm)  
 Recovery: 24 in. (61 cm) Parachute  
 Projected Altitude: 900 ft. (274 m)  
 Recommended Engines: C11-3, D12-3,  
 D12-5, E12-4, E12-6  
 Requires 3/16 in. (5 mm) Maxi™ Launch  
 Rod 2244; sold separately.

MSRP - \$34.99



## 9719 Super Big Bertha™

Length: 36.8 in. (93.5 cm)  
 Recovery: 24 in. (61 cm) Parachute  
 Projected Altitude: 1200 ft. (366 m)  
 Recommended Engines:  
 E16-4, F15-6  
 w/Engine Adapter (sold separately)  
 - D12-3

MSRP - \$39.99



NEW!

## 9720 Doorknob Pro Series II™

1:12 Scale  
 Length: 26.9 in. (68.3 cm)  
 Recovery: 24 in. (61 cm) Parachute  
 Projected Altitude: 1100 ft. (335 m)  
 Recommended Engines:  
 E16-4, F15-6

MSRP - \$39.99



## 9707 Majestic™

Pro Series II™ E2X®  
 Length: 35.3 in. (89.7 cm)  
 Recovery: 18 in. (45.7 cm)  
 Nylon Parachute  
 Projected Altitude: 2200 ft.  
 (671 m)  
 Recommended Engines:  
 E16-6, F15-6, F15-8  
 w/Engine Adapter (sold  
 separately) - D12-3, E12-4

MSRP - \$48.99

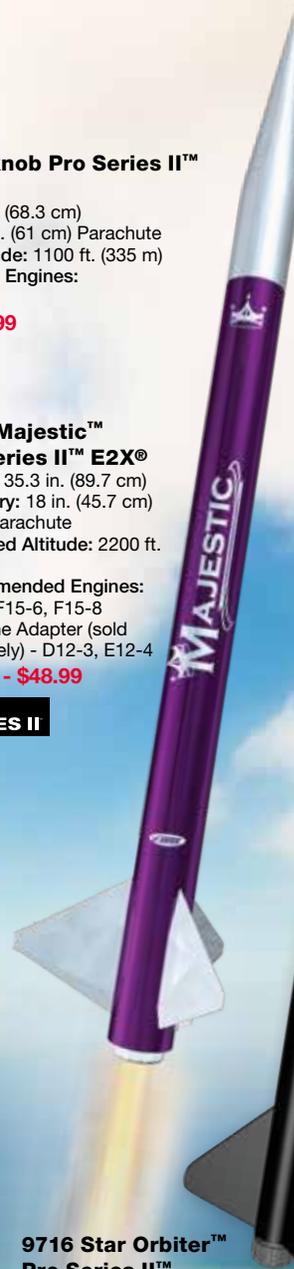


The Doorknob was a sounding rocket manufactured from Lacrosse rocket motors for the project Hardtack Nuclear Test Series.

## 9716 Star Orbiter™

Pro Series II™  
 Length: 45.2 in. (114.8 cm)  
 Recovery: 18 in. (45.7 cm)  
 Parachute  
 Projected Altitude: 1800 ft.  
 (549 m)  
 Recommended Engines:  
 E16-6, F15-8  
 w/Engine Adapter (sold  
 separately) - D12-3, E12-4

MSRP - \$24.99



## 9706 Ascender™

Pro Series II™  
 Length: 42.1 in. (106.9 cm)  
 Recovery: 18 in. (45.7 cm)  
 Nylon Parachute  
 Projected Altitude:  
 2000 ft. (610 m)  
 Recommended Engines:  
 E16-6, F15-6, F15-8  
 w/Engine Adapter (sold  
 separately) - D12-3, E12-4

MSRP - \$44.99



To launch your model rocket electronically from a safe distance, consider the 2240 Pro Series II™ Launch Controller. If you are planning to fly a variety of model rocket types and power levels, it will meet all your launch needs — including the Pro Series II models. It is also capable of accomodating cluster engine launches (see below).



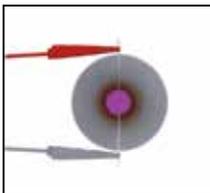
**2240 PS II™ Launch Controller**

- 2240 Pro Series II Launch Controller
- 30 feet launch cable
- Required set back distance for rocket engines with more than 30 grams propellant
- Audible Continuity
- Easily hear if the starter is connected correctly
- Two hands required for launch
- Even with the Safety Key left in, the rocket will not launch without both buttons pressed
- Requires 6 1.5V "C" size alkaline batteries
- Includes 4 wire leads with micro clips for multi-engine clusters
- Includes JST style plug for alternate battery use (8-10 cell 1000mAh NimH or 3 cell LiPo (11.1V) battery)

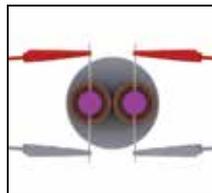
**MSRP - \$39.99**



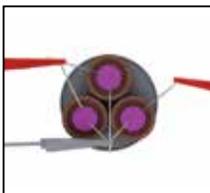
**Engine Configuration for a Cluster Launch**



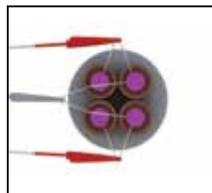
**Single Engine Arrangement**



**Two Engine Cluster Arrangement**



**Three Engine Cluster Arrangement**



**Four Engine Cluster Arrangement**



**9753 PS II™ 24 mm to 29 mm Engine Adapter Set**  
**MSRP - \$5.99**

**9752 Pro Series II™ E2X® Booster**  
For use with rockets 9706 Ascender™, and 9707 Majestic™  
Recommended Engine: F15-0  
**MSRP - \$9.99**

**3172 PS II™ Shock Cord Accessory Pack**  
3 heavy-duty elastic shock cords; 1/2 in. (13 mm) x 96 in. (243.8 cm)  
**MSRP - \$10.99**



**3552 PS II™ Launch Base**  
• It stands 18 inches off the ground!  
• Sturdy enough to launch our biggest Pro Series rockets  
• Two-piece 1/4" (6 mm), 5' Launch Rod  
**MSRP - \$39.99**

**Paint Your Launch Base the Color of Your Choice!**



**3556 PS II™ Recovery Wadding**  
Approximately 216 sheets for larger rockets. Can be used in any Estes® rocket.  
**MSRP - \$9.99**



**FLY HIGH WITH THE ESTES™ SUPER G ENGINE**

**NEW!**



**⚠ WARNING:**  
 This product can expose you to silica, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).  
 This warning is on all Estes engine packaging.

**MODEL ROCKET ENGINE PERFORMANCE CHART**

- Delays have a tolerance of plus or minus 10% or one second, whichever is greater.
- All Estes engines come complete with starters and starter plugs.  
 The Estes starter plug makes engine ignition extremely reliable.

Prod. No.	Engine Type	Total Impulse		Time Delay	Est. Max. Lift Wt.	Max Thrust		Thrust Duration	Initial Weight		Propellant Weight	Diameter	Quantity per Pack	Retail Price per Pack
		N-sec	Sec			g	oz		lbs	g				
<b>SINGLE STAGE ENGINES</b>														
1502	1/4A3-3T	0.625	3	1.0	28	4.90	1.1	0.25	0.21	5.9	0.05	1.3	4	\$10.29
1503	1/2A3-2T	1.25	2	2.0	57	8.30	1.9	0.30	0.23	6.4	0.07	1.9	4	\$10.29
1507	A3-4T	2.50	4	2.0	57	6.80	1.5	0.60	0.28	8.0	0.12	3.3	4	\$10.29
1511	A10-3T	2.50	3	3.0	85	13.00	2.9	0.80	0.29	8.1	0.12	3.5	4	\$10.29
1593	1/2A6-2	1.25	2	2.0	57	8.90	2.0	0.30	0.48	13.6	0.10	2.7	3	\$10.29
1598	A8-3	2.50	3	3.0	85	10.70	2.4	0.50	0.55	15.5	0.14	4.1	3	\$10.29
1601	B4-2	5.00	2	4.0	113	13.20	3.0	1.10	0.66	18.6	0.27	7.6	3	\$10.79
1602	B4-4	5.00	4	3.5	99	13.20	3.0	1.10	0.68	19.2	0.27	7.6	3	\$10.79
1605	B6-2	5.00	2	4.5	127	12.10	2.7	0.80	0.61	17.3	0.23	6.5	3	\$10.79
1606	B6-4	5.00	4	4.0	113	12.10	2.7	0.80	0.63	17.8	0.23	6.5	3	\$10.79
1617	C5-3	10.00	3	8.0	227	20.40	4.6	1.85	0.83	23.6	0.39	11	3	\$11.79
1613	C6-3	10.00	3	4.0	113	15.30	3.4	1.60	0.83	23.4	0.43	12.2	3	\$11.79
1614	C6-5	10.00	5	4.0	113	15.30	3.4	1.60	0.85	24.0	0.43	12.2	3	\$11.79
1522	C11-3	10.00	3	6.0	170	22.10	4.9	0.80	1.13	32.1	0.44	12.4	2	\$7.99
1523	C11-5	10.00	5	5.0	142	22.10	4.9	0.80	1.18	33.4	0.44	12.4	2	\$7.99
1566	D12-3	20.00	3	14.0	396	32.90	7.4	1.60	1.57	44.5	0.85	24.2	2	\$11.99
1567	D12-5	20.00	5	10.0	283	32.90	7.4	1.60	1.61	45.7	0.85	24.2	2	\$11.99
1692	E12-4	30.00	4	17.0	482	30.60	6.9	2.70	2.16	61.2	1.3	36.9	3	\$23.99
1693	E12-6	29.50	6	14.0	397	29.60	6.7	2.70	2.23	63.2	1.3	36.9	3	\$23.99
1651	F15-4	49.61	4	21.0	595	25.26	5.7	3.45	3.59	101.5	2.12	60	2	\$26.99
1652	F15-6	49.61	6	17.0	482	25.26	5.7	3.45	3.66	103.7	2.12	60	2	\$26.99
1696	E16-4	33.68	4	20.0	566	26.44	5.9	2.09	2.86	81.0	1.41	40	2	\$22.99
1697	E16-6	33.68	6	16.0	453	26.44	5.9	2.09	2.92	82.7	1.41	40	2	\$22.99

**MODEL ROCKET ENGINE PERFORMANCE CHART CONTINUED**

Prod. No.	Engine Type	Total Impulse	Time Delay	Est. Max. Lift Wt.	Max Thrust	Thrust Duration	Initial Weight	Propellant Weight	Quantity per Pack	Retail Price per Pack				
											<b>UPPER STAGE ENGINES</b>			
1504	1/2A3-4T	1.25	4	1.0	28	8.30	1.9	0.30	0.23	6.6	0.07	1.9	4	\$10.29
1599	A8-5	2.50	5	2.0	57	13.30	3.0	0.50	0.55	15.7	0.14	4.1	3	\$10.29
1607	B6-6	5.00	6	2.5	71	12.10	2.7	0.80	0.64	18.2	0.23	6.5	3	\$10.79
1615	C6-7	10.00	7	2.5	71	15.30	3.4	1.60	0.85	24.3	0.43	12.2	3	\$11.79
1524	C11-7	10.00	7	4.0	113	22.10	4.9	0.80	1.19	33.8	0.44	12.4	2	\$7.99
1568	D12-7	20.00	7	8.0	226	32.90	7.4	1.60	1.62	46.0	0.85	24.2	2	\$11.99
1694	E12-8	29.80	8	12.0	340	31.80	7.1	2.70	2.24	63.5	1.3	36.9	3	\$23.99
1653	F15-8	49.61	8	15.0	425	25.26	5.7	3.45	3.69	104.4	2.12	60	2	\$26.99
1698	E16-8	33.68	8	14.0	396	26.44	5.9	2.09	2.99	84.7	1.41	40	2	\$22.99
<b>BOOSTER STAGE ENGINES</b>														
1510	A10-0T	2.50	NONE	4.0	113	13.00	2.9	0.80	0.24	6.8	0.12	3.5	4	\$10.29
1600	A8-0	2.50	NONE	3.0	85	13.30	3.0	0.30	0.47	13.5	0.14	4.1	3	\$10.29
1608	B6-0	5.00	NONE	4.0	113	12.10	2.7	0.80	0.55	15.7	0.23	6.5	3	\$10.79
1616	C6-0	10.00	NONE	4.0	113	15.30	3.4	1.60	0.76	21.4	0.43	12.2	3	\$11.79
1521	C11-0	10.00	NONE	6.0	170	22.10	4.9	0.80	1.03	29.2	0.44	12.4	2	\$7.99
1565	D12-0	20.00	NONE	14.0	396	32.90	7.4	1.60	1.43	40.4	0.84	23.8	2	\$11.99
1691	E12-0	28.80	NONE	16.0	454	31.30	7.0	2.60	2.05	58.1	1.3	36.9	3	\$23.99
1650	F15-0	49.61	NONE	19.0	539	25.26	5.7	3.45	3.32	94.0	2.12	60	2	\$26.99
1695	E16-0	33.68	NONE	18.0	509	26.44	5.9	2.09	2.58	73.2	1.41	40	2	\$22.99
<b>PLUGGED ENGINES—FOR USE WITH ROCKET-POWERED RACERS &amp; R/C ROCKET GLIDERS</b>														
1505	A10-PT	2.50	NONE	3.0	85	13.00	2.9	0.80	0.26	6.83	0.13	3.5	4	\$10.29

The data listed above is from randomly chosen production samples.  
 NOTE: The "T" designates a mini-engine.

\* There are 4 mini-engines per package. All other engines are 2 or 3 per package.

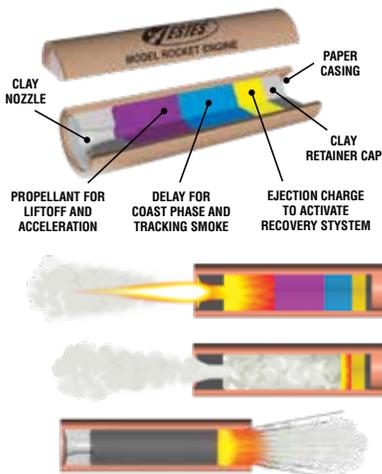
### ESTES MODEL ROCKET ENGINES

The famous model rocket engines that made model rocketry the great activity it is today! Estes® model rocket engines have been proven consistent and reliable in more than 500 million launches.

- The concept of a factory assembled model rocket engine is the foundation of this scientific and educational activity!
- 3% of all Estes® engines are static-tested at the factory for reliability and adherence to performance specifications.
- All engines comply with the code requirements of the National Fire Protection Association and are certified by the National Association of Rocketry.

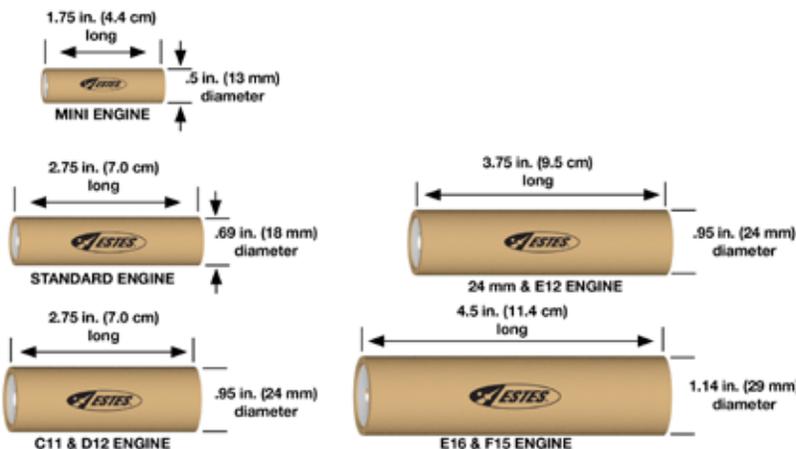
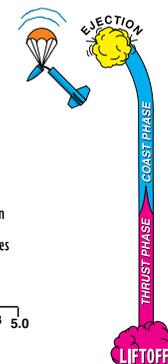
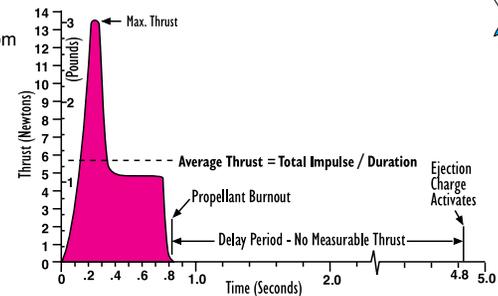
### HOW DOES A MODEL ROCKET ENGINE WORK?

1. When engine is ignited, it produces thrust and boosts the rocket into the sky
2. After propellant is used up, delay is activated, producing tracking smoke allowing rocket to coast.
3. After delay, ejection charge is activated, deploying recovery system.



### ENGINE TIME/THRUST CURVES

- Time/thrust curves are representative of random production samples
- Graphs are not drawn to the same scale



Each engine type is color coded.

Single Stage - Green

Upper Stage - Purple (Upper stage engines can be used as single stage engines in lightweight rockets.)

Booster - Red (Booster engines contain no delay or ejection charge.)

Plugged - Blue (Plugged engines are used for R/C gliders and contain no delay or ejection charge.)



#### B = TOTAL IMPULSE

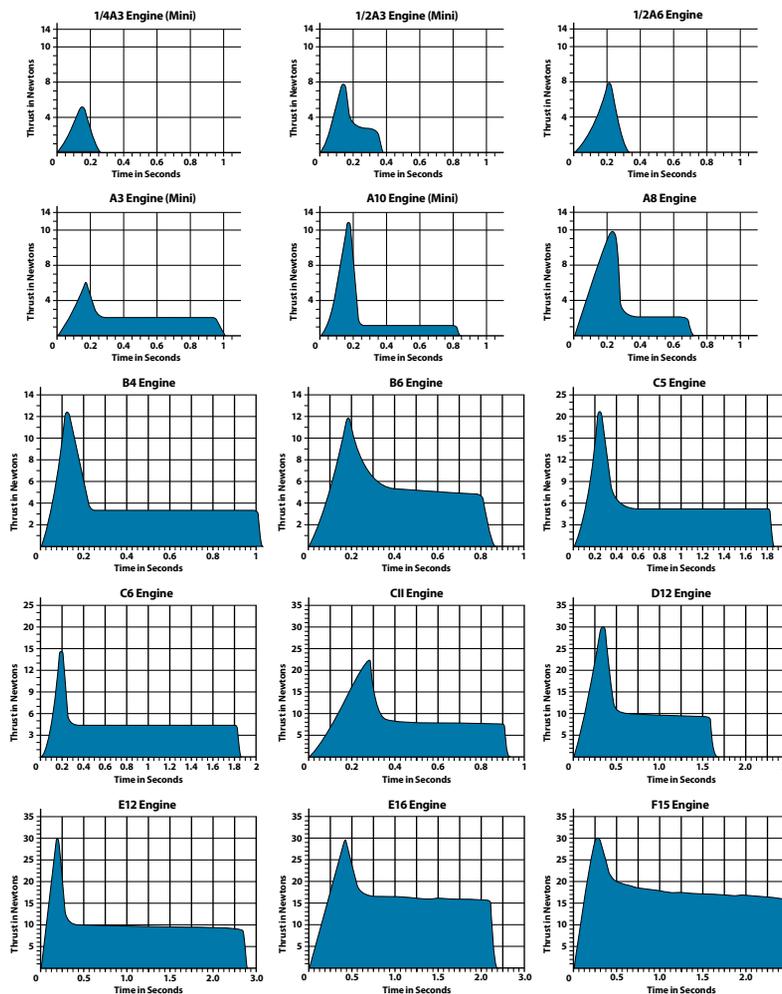
This letter is the total power (in Newton-seconds) produced by the engine. Each succeeding letter has up to twice the total power as the previous letter. (Example: "B" engines have up to twice the power of "A" engines, which results in approximately twice the altitude the rocket will reach.)

#### 6 = AVERAGE THRUST

This number shows the engine's average push or how fast the engine powers the rocket to go. The higher the number, the faster the speed. It is measured in Newtons (4.45 Newtons = 1 lb.).

#### 4 = TIME DELAY

This number gives you the time delay in seconds between the end of the thrust phase and ignition of the ejection charge. Engine types ending in "0" have no time delay or ejection and are used for booster stages and special purposes only. Engines ending in "P" have no time delay or ejection charge and the forward end is plugged.





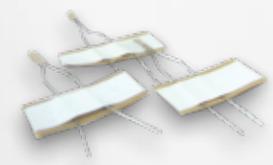
**Take Your Rocketry Hobby to the Next Level With Estes®**  
*Building Supplies*

The key to any successful rocket launch, whether it's a full-size rocket or a flying model rocket, is the accuracy with which the rocket is assembled. To accomplish this task, full-size rocket companies utilize many assembly jigs and fixtures to ensure accurate alignment of critical components. Here at Estes®, we do our best to provide our rocketeer customers with useful jigs, fixtures, and templates for accurate alignment and assembly of our model rocket kits. In addition, we have a variety of useful tools and accessories that can make your model rocket building experience truly enjoyable. And equally important, the accuracy these tools provide will assure that your rocket performs at its ultimate potential.



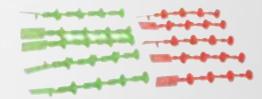
The Estes® model rocket starter is the basic ignition device used to start the combustion process in the rocket engine. Starters are placed inside of all Estes® model rocket engines.

**2302 Estes® Model Rocket Starters**  
 Easy-to-use Estes® starters in a convenient six pack. It's always good to have spares.  
**MSRP - \$5.49**

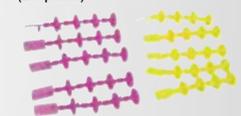


Estes® starter plugs are used to safely secure your model rocket starters to your Estes® engines during ignition. Different colored starter plugs are designed to accommodate different sized engines. They are a convenient way to ensure the success of your rocket launches; they are reusable.

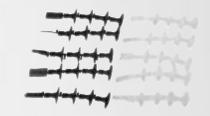
**2250 Estes® Plugs for Mini Engines -**  
 1/4A3, 1/2A3, A3, and A10 (20 pack)  
**MSRP - \$5.99**



**2251 Estes® Plugs for Standard Engines -**  
 1/2A6, A8, B4, B6, and C6 (20 pack)  
**MSRP - \$5.99**



**2252 Estes® Plugs for Large Engines -** C11, D12, E9, E12, E16 and F15 (20 pack)  
**MSRP - \$5.99**



Shock cords hold the parts of a model rocket together once they separate during the ejection phase. The shock cord is made of an elastic material to help absorb the shock placed upon the rocket when the parachute ejects, then opens — creating drag during the recovery phase. Shock cord mounts fasten the shock cord to the inside of the rocket's body tube.

**2278 Shock Cords & Mounts Pack**  
 Includes three 1/8 in. x 36 in. (3 mm x 914 mm) and one 1/4 in. x 36 in. (6 mm x 914 mm) rubber shock cords (enough for four shock cords). Includes shock cord mounts and instructions.  
**MSRP - \$5.99**



Model rocket recovery wadding is placed inside the rocket to protect the parachute from intense heat during the rocket's ejection stage. All Estes® recovery wadding is flame resistant, ensuring the safety of your rocket flights. Crumple sheets lightly, insert wadding into rocket making sure it touches the body tube walls and then insert the recovery system!

**2274 Estes® Recovery Wadding**  
 Flame-resistant wadding protects recovery system. Required in most Estes rockets. Contains approximately 72 squares — enough for about 18-25 flights!  
**MSRP - \$5.49**

## Recovery Parachutes (plastic)

2268 9 in. (22.9 cm)  
MSRP - \$3.49

2262 6 in. (15.2 cm)  
MSRP - \$2.99

2264 12 in. (30.5 cm)  
MSRP - \$3.99

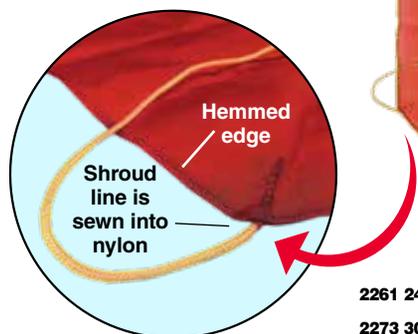
2265 15 in. (38.1 cm)  
MSRP - \$4.49

2267 18 in. (45.7 cm)  
MSRP - \$4.99

2271 24 in. (61 cm)  
MSRP - \$5.49

## All Parachutes are Fully-Assembled

Sturdy sewn fabric chutes for your biggest, heaviest rockets.



2261 24 in. (61 cm) Nylon Parachute MSRP - \$12.99

2273 30 in. (76.2 cm) Nylon Parachute MSRP - \$16.99

Launch equipment is what you'll need to safely and successfully launch your rocket time after time. The essentials are: launch base, launch rod, blast plate and launch controller. Different sized launch bases and launch rods are used to accommodate different sized rockets.

With the 2230 E Launch Controller, you will need longer cable when igniting E and F engines. Longer cable will accommodate any size of Estes® engines.

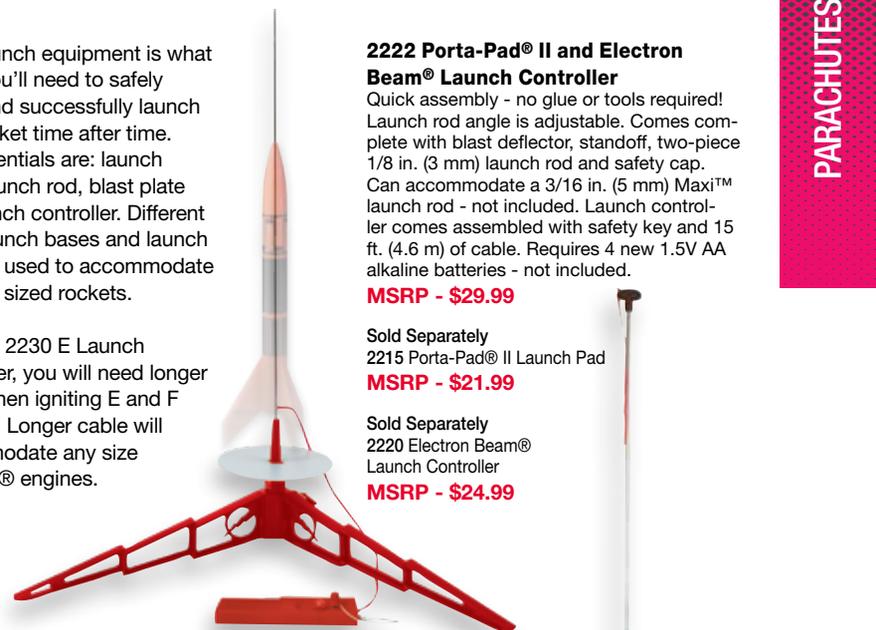
### 2222 Porta-Pad® II and Electron Beam® Launch Controller

Quick assembly - no glue or tools required! Launch rod angle is adjustable. Comes complete with blast deflector, standoff, two-piece 1/8 in. (3 mm) launch rod and safety cap. Can accommodate a 3/16 in. (5 mm) Maxi™ launch rod - not included. Launch controller comes assembled with safety key and 15 ft. (4.6 m) of cable. Requires 4 new 1.5V AA alkaline batteries - not included.

MSRP - \$29.99

Sold Separately  
2215 Porta-Pad® II Launch Pad  
MSRP - \$21.99

Sold Separately  
2220 Electron Beam® Launch Controller  
MSRP - \$24.99



**2230 E Launch Controller**  
Comes assembled with safety key and 30 ft. (9.7 m) of cable. Requires 4 new 1.5V AA alkaline batteries - not included.  
MSRP - \$32.99

**2243 Estes® 1/8 in. (3 mm) Two-Piece Launch Rod**  
Replacement rod ideal for most rockets.  
MSRP - \$6.99

**2244 Estes® 3/16 in. (5 mm) Two-Piece Maxi™ Launch Rod**  
Launch rod with extra strength and length for larger rockets.  
MSRP - \$11.99



**38206 1/4 in. (6 mm) Two-Piece Launch Rod**  
Screws together. For use with the 2238 Porta-Pad® E Launch Pad and PS II™ Launch Pad.  
MSRP - \$16.99

### 2238 Porta-Pad® E Launch Pad

Quick assembly - no glue or tools required. Launch rod angle is adjustable. Includes a three-piece 1/4 in. (6 mm) launch rod, but can accommodate a 3/16 in. (5 mm) Maxi™ launch rod - not included.

MSRP - \$30.99

**2241 Blast Deflector Plate**  
Replaces that worn-out deflector. For use with 2215 Porta-Pad® II  
MSRP - \$5.99



Now you can make exact, easy measurements when attending to your fleet of Estes® model rockets. Tube marking guides and fin alignment tools help make your hobby rocket endeavors fast, efficient and fun! These are must-have items for the advanced model rocket enthusiast.

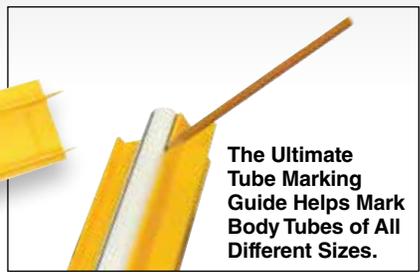
**A Set of 3 Different Building Tools!**



**2227 Tube Marking Guide**  
The tube marking guide is an easy way to mark your fin and launch lug placement. The marking guide is a must for any rocket builder!  
**MSRP - \$12.99**



The Tube Marking Guide Allows for Accurate and Consistent Fin Placement When Building Your Rocket.



The Ultimate Tube Marking Guide Helps Mark Body Tubes of All Different Sizes.

**2228 Ultimate™ Tube Marking Guide**  
Accurately mark your body tubes for a variety of rocket-assembly purposes.  
**MSRP - \$11.99**



**2315 Tube Cutting Guides**  
Assorted sizes: BT-5, BT-20, BT-50, BT-55, and BT-60 (hobby knife not included).  
**MSRP - \$11.99**



Never Misalign Your Rocket Fins Again!

**2231 Fin Alignment Guide**  
Fast and accurate fin alignment for three- or four-finned rockets.  
**MSRP - \$21.99**

Model rockets are constructed using various essential parts. Nose cones streamline a rocket's ascent. Nose cone weights help stabilize a rocket's trajectory. Payloads allow the rocketeer to view their cargo.

With Estes model rocket parts, you can build, launch, repair and create using any of the items listed here!



**3180 Clay Nose Cone Weights**  
**MSRP - \$5.99**



**3175 BT-5 through BT-55 Centering Ring Assortment**  
**MSRP - \$5.99**



- 3160 NC-5 Nose Cone Assortment (5 pack) **MSRP - \$5.49**
- 3161 NC-20 Nose Cone Assortment (4 pack) **MSRP - \$5.49**
- 3162 NC-50 Nose Cone Assortment (5 pack) **MSRP - \$8.99**
- 3163 NC-55 Nose Cone Assortment (4 pack) **MSRP - \$7.99**
- 3164 NC-56 Nose Cone Assortment (4 pack) **MSRP - \$7.99**
- 3165 NC-60A Nose Cone Assortment (3 pack) **MSRP - \$8.99**
- 3168 NC-80B Nose Cone (1 Pack) **MSRP - \$4.49**
- 3173 Sci-Fi Nose Cone Assortment (5 pack) **MSRP - \$16.99**



**3171 Clear Payload Assortment**  
**MSRP - \$17.99**

**Estes® BODY TUBE PACKS**  
High quality spiral wound paper tubes. Use tube couplers to connect tubes of the same diameter. Outer diameters listed. (not all body tube sizes shown)

- 3084 • BT-5 • 0.54 in./14 mm diameter • 18 in./45.7 cm long (4 pack) **MSRP - \$7.49**
- 3085 • BT-20 • 0.74 in./19 mm diameter • 18 in./45.7 cm long (4 pack) **MSRP - \$8.49**
- 3086 • BT-50 • 0.98 in./25 mm diameter • 18 in./45.7 cm long (3 pack) **MSRP - \$8.49**
- 3087 • BT-55 • 1.33 in./34 mm diameter • 18 in./45.7 cm long (3 pack) **MSRP - \$8.99**
- 3089 • BT-60 • 1.64 in./42 mm diameter • 18 in./45.7 cm long (3 pack) **MSRP - \$9.49**
- 3090 • BT-80 • 2.60 in./66 mm diameter • 14.2 in./36 cm long (2 pack) **MSRP - \$8.99**



**3176 Estes® Tube Couplers for BT-5, BT-20, BT-50 (2 each)**  
MSRP - \$3.99



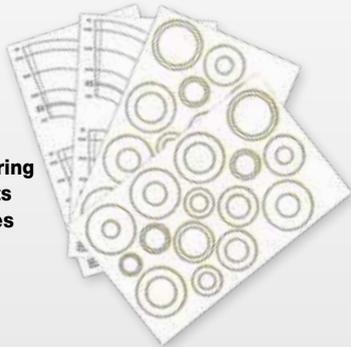
**3177 Estes® Tube Couplers for BT-55, BT-60 (2 each)**  
MSRP - \$5.49



**3178 Estes® Tube Couplers for BT-80 (2 each)**  
MSRP - \$4.99



**3196 Estes® Tube Coupler Assortment Pack**  
Includes two couplers for BT-55, BT-56 and BT-60; One for BT-80.  
MSRP - \$6.99



**3179 2x Sets Laser Cut Centering Rings and 2x Sets Shroud Templates**  
MSRP - \$8.49



**3181 Engine Mount Parts Assortment**  
Engine mounts for mini-engines, standard engines, and D engines. (3 each)  
MSRP - \$8.49



**3158 Standard Engine Mount Kit**  
Fits BT-50, BT-55 and BT-60 tubes. Can also be used to make a conversion mount for lightweight D powered rockets.  
MSRP - \$7.49



**3159 D and E12 Engine Mount Kit**  
Heavy duty engine mounts for D and E12 engines. Fits BT-55, BT-60 and BT-80 tubes.  
MSRP - \$10.99



**3143 Engine Hook Accessory Pack**  
Hooks fit mini engines (two), regular and D engines (three) and E12 engines (two).  
MSRP - \$5.49



**9750 Pro Series II™ Engine Retainer Set 29mm (2 sets)**  
MSRP - \$8.99



**9751 Engine Retainer Set 24mm (2 sets)**  
MSRP - \$7.99



**3187 Engine Retainer Set 18mm (3 sets)**  
MSRP - \$6.99



**2316 Mini to Standard Engine Adapters**  
Two simple steps transform a mini-engine into a standard size. Insert a mini-engine into the adapter, and insert the adapter into a rocket. 3 adapters per pack. Reusable. (Engines not included).  
MSRP - \$5.99



**2317 Standard to D Engine Adapters**  
Two simple steps transform a standard engine into a D size. Insert a standard engine into the adapter, and insert the adapter into a rocket. 3 adapters per pack. Reusable. (Engines not included).  
MSRP - \$5.99



**2320 Launch Lug Pack**  
Contains 4 each: 1/8 in. x 2 3/8 in. (3 mm x 60 mm), 1/8 in. x 1 1/4 in. (3 mm x 32 mm), 3/16 in. x 2 in. (5 x 51 mm) and 1/4 in. x 1 in. (6 mm x 25 mm) launch lugs.  
MSRP - \$5.99



**3170 Waterslide Decal Set**  
MSRP - \$12.99

The Estes® Model Rocket Cradle holds rockets in a horizontal fashion.



**Proudly Display Your Rockets!**

In the world of hobby rocketry, models become more than mere ships — they become works of art that must be treated as such! Proudly display the rocket that you meticulously constructed, adorned and flew using your bare hands and brawny brain!

The rocket display cradle holds your rocket in a horizontal fashion while the display stands hold your rockets upright for the whole world to see!

**2293 Estes® Model Rocket Cradle**

Multiple ways to use: Assembly, display or transportation to the field.

**MSRP - \$8.49**

**2290 Estes® Model Rocket Display Stand**

For 13 mm engines. (3 pack)

**MSRP - \$7.49**

**2292 Estes® Model Rocket Display Stand**

For 24 mm engines. (3 pack)

**MSRP - \$7.49**

**2291 Estes® Model Rocket Display Stand**

For 18 mm engines. (3 pack)

**MSRP - \$7.49**

Estes® Rocket Display Stands come in various sizes and hold different sized rockets upright.

# Challenge Your Imagination!



**Contains 100+ parts. Design and build the rockets of your dreams!**

Experiment with your own designs. Includes enough parts to build at least 8 complete rockets. Just add imagination.

**1980 Designer's Special™**  
**MSRP - \$86.99**

Designs shown are for inspiration only and may include other imaginative parts not included in your Designer's Special.



# How High Did It Fly?

HEIGHT  
1,200'  
1,100'  
1,000'  
900'  
800'  
700'  
600'  
500'  
400'  
300'  
200'  
100'  
0'

**Altitrak™:** Part of the fun in launching a model rocket is knowing how high it goes. The Estes® AltiTrak is a favorite, easy-to-use rocketry tool that provides fairly accurate measurements of flight altitudes.

The process uses good old reliable trigonometry, and it requires creating an invisible right triangle. A right triangle is any triangle that has a 90-degree angle (also called a right angle). The three points of this invisible triangle are the launch pad, the person who tracks the rocket's altitude with the AltiTrak, and the point in the sky where the rocket reaches peak altitude (apogee).

The AltiTrak works like a protractor, providing the angle between the base line and the triangle's hypotenuse (a big math word for the straight line between the person using the AltiTrak and the rocket when it's at peak altitude). If you measure the base line as given in the instructions (500 feet), the AltiTrak also provides your rocket's altitude. The AltiTrak is great for students' science experiments and for teachers' math lessons!

**RIGHT  
90°  
ANGLE**



**2232 Altitrak™**  
Measure altitude with this easy to use device. Follow the rocket in the sights to apogee, and release the trigger to lock the reading.  
**MSRP - \$21.99**

**Altimeter:** Another method for measuring the altitude without the need for a helper is by using an electronic altimeter. These onboard electronic devices can attach to the nose cone or be inserted into a payload bay. Altimeters incorporate a highly sensitive barometric sensor and an electronic triggering logic that provides maximum altitude at apogee. The Estes® 2246 Electronic Altimeter provides a direct LCD readout and can record heights in one-foot increments up to 10,000 feet (+/- 3 feet) and can store up to 10 launches in the unit's memory. The Estes® Altimeter weighs about 1/2 oz. and is slightly over 5/8 in. in diameter.



**2246 Estes® Altimeter**  
Record up to 10 flights. LCD display, battery included.  
**MSRP - \$39.99**

**The Hand-Held Altitrak™ Quickly Tells How High Your Rocket Flies!**

**HYPOTENUSE**

**Track Your Rocket's Altitude!**

**The Altitrak™ Measures This Angle.**



The Altimeter hooks onto the nose cone of your rocket and is inserted into the body tube right above the parachute. As your rocket climbs in altitude, the Altimeter digitally calculates the maximum height attained.



**BASELINE**



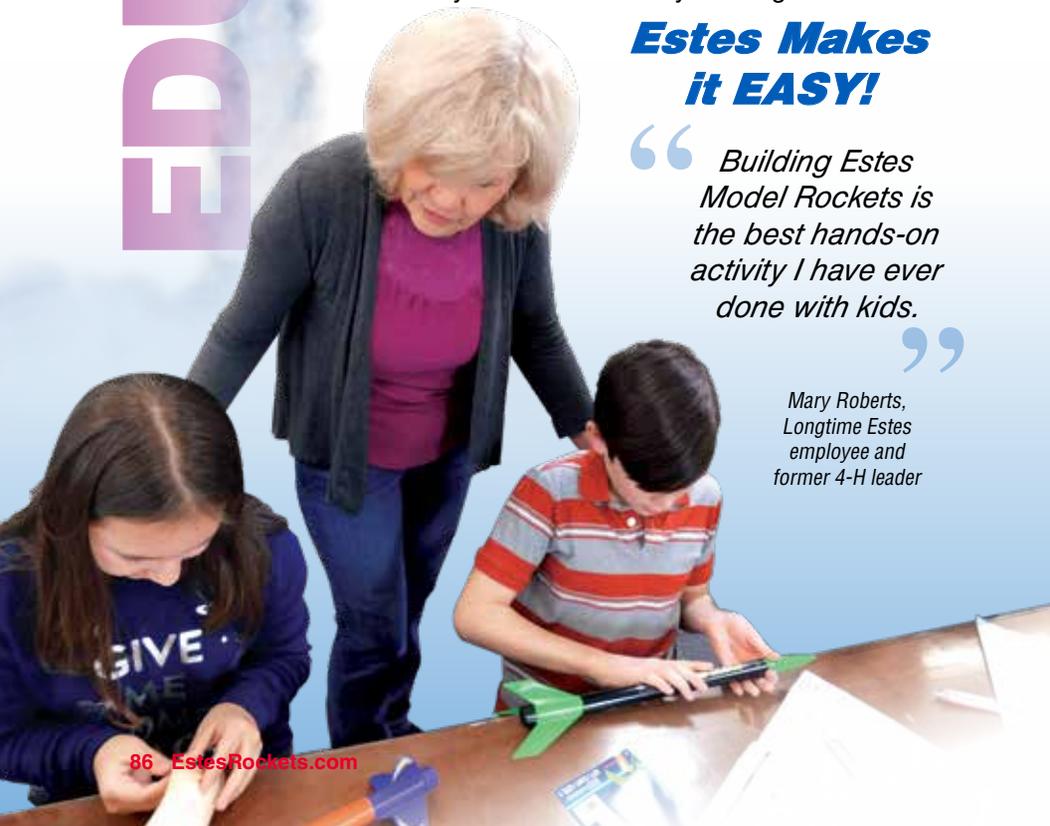
## EXPLORE IT, ENGINEER IT, LAUNCH IT!

Inspiring students, young and old – that’s the focus of Estes Education! Log onto: [EstesRockets.com/education](http://EstesRockets.com/education) to find everything you need for your classroom or youth organization.

### Estes Makes it EASY!

“ Building Estes Model Rockets is the best hands-on activity I have ever done with kids. ”

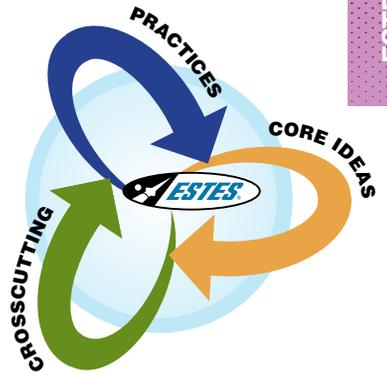
Mary Roberts,  
Longtime Estes employee and former 4-H leader



## TEACHING WITH ESTES® ROCKETRY IS REAL-WORLD STEM

Estes Curriculum & Lesson Plans Include:

- NGSS standards
- 3-D Practices, Core Ideas, Crosscutting
  - **Engage:** Interact with STEM curriculum with proven methods.
  - **Explore:** Use authentic materials to engineer and experience the model rocket phenomenon with crosscutting adventures.
  - **Explain:** Students gather data and summarize experiences by interpreting results and communicating possible improvements, successes and challenges.
  - **Elaborate:** Take the students’ understanding to the next level, digging deeper, reaching higher, applying concepts in self-directed learning.
  - **Evaluate:** Students evaluate their engineering design process and scientific explorations relating to real-world applications.



## FREE ONLINE RESOURCES

At: [EstesRockets.com/education](http://EstesRockets.com/education) you can find useful information about:

- **Classroom Activities**
  - Close reading
  - Close reading
  - Games
- **Model Rocket Basics for:**
  - Youth Groups
  - Homeschooling
  - Enrichment
- **How to Choose a Launch Site**
- **Videos, Animation, and More!**



## SPECIAL BULK PACKS FOR EDUCATORS

Estes® offers 12-piece rocket bulk packs especially for educators and youth group leaders. (rocket engines, recovery wadding, starters and engine plugs are sold separately.)



### HOW TO CHOOSE THE RIGHT ROCKET FOR YOUR GROUP

Consider these four things when making your plan:

#### Age

Younger kids (Grades 5-8) need simpler to assemble rockets. They're not quite ready for the challenge of gluing on individual fins yet, so choose one of our kits with a one-piece plastic fin unit and fewer assembly steps. Older kids do a better job of reading, understanding and following assembly instructions. They will have the eye-hand skills to glue wood fins to the body tube.

#### Staff

Conducting a build session with 30 kids yourself is a challenge. We recommend you get helpers for both your build session and on your launch. Short on adult volunteers? Recruit kids from higher grade levels.

#### Time

Do you have a single session to both build and fly the rocket? Consider the amount of time needed for glue to dry and how much time it will take to prep the rockets before launch.

#### Flying Field Size

Recovery method (parachute or streamer), engine size (A, B, C) and wind all play a role in what rocket is best suited for the size field you may have. You can't make your field bigger, but you can choose the right size rocket to fly on it!

Parachutes drift farther and come down slower, so you'll need a bigger field.

Streamers have very little drift and mostly come down within a small radius of your launch pad.

Rocket engines double in power with each succeeding engine letter. For example: B engines effectively fly your rocket twice as high as A engines.

Educator

# Bulk Packs!

These are Our Easiest-to-Build Rockets!



Streamer Recovery

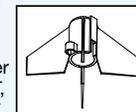


## GNOME™ Bulk Pack

MSRP - \$69.99

1749 Gnome™

Length: 10.3 in. (26.2 cm)  
Recovery: 12 in. (30.5 cm) Streamer  
Recommended Engines: 1/4A3-3T, 1/2A3-2T, 1/2A3-4T, A3-4T, A10-3T



One-piece molded fin unit.



INCLUDES 12 ROCKETS!



Parachute Recovery

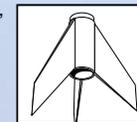


## ALPHA III® Bulk Pack

MSRP - \$129.99

1751 Alpha III®

Length: 12.1 in. (30.7 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Recommended Engines: 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7



One-piece molded fin unit.



INCLUDES 12 ROCKETS!



Parachute Recovery

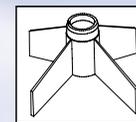


## GENERIC E2X® Bulk Pack

MSRP - \$114.99

1764 Generic E2X®

Length: 13.5 in. (34.3 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Recommended Engines: 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7



One-piece molded fin unit.



INCLUDES 12 ROCKETS!



Parachute or Streamer Recovery

**AVG Bulk Pack**  
MSRP - \$89.99

**1753 AVG**  
Recovery: Streamer or Parachute  
Recommended Engines: 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7



INCLUDES  
**12**  
ROCKETS!

Assorted bulk pack includes 3 styles of rockets!



4 Alphas 4 Vikings 4 Generic E2X

**These rockets are more challenging to build!**

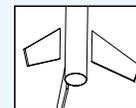
They can be built in two hours or less. Fins must be glued to the body tube and this requires dry time before launch. Painting and finishing will take more time.



Streamer Recovery

**Wizard™ Bulk Pack**  
MSRP - \$79.99

**1754 Wizard™**  
Length: 12 in. (30.5 cm)  
Recovery: 18 in. (45.7 cm)  
Streamer  
Recommended Engines: 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7 w/Engine Adapter (sold separately) - A10-3T



Three balsa fins that glue onto body tube.



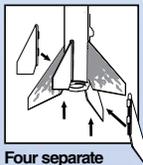
INCLUDES  
**12**  
ROCKETS!



Streamer Recovery

**Firestreak SST™ Bulk Pack**  
MSRP - \$104.99

**1794 Firestreak SST™**  
Quick Snap - No gluing!  
Length: 10.2 in. (25.9 cm)  
Recovery: 12 in. (30.5 cm)  
Streamer  
Recommended Engines: 1/2A3-2T, 1/2A3-4T, A3-4T, A10-3T



Four separate molded fins that snap into body tube.



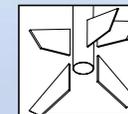
INCLUDES  
**12**  
ROCKETS!



Streamer Recovery

**Viking™ Bulk Pack**  
MSRP - \$84.99

**1755 Viking™**  
Length: 12.1 in. (30.7 cm)  
Recovery: 18 in. (45.7 cm)  
Streamer  
Recommended Engines: 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7 w/Engine Adapter (sold separately) - A10-3T



Cardstock fins that glue onto body tube in 48 possible configurations.



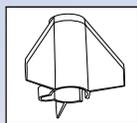
INCLUDES  
**12**  
ROCKETS!



Streamer Recovery

**UP Aerospace™ SpaceLoft™ Bulk Pack**  
MSRP - \$69.99

**1793 UP Aerospace™ SpaceLoft™**  
Length: 11 in. (27.9 cm)  
Recovery: 12 in. (30.5 cm)  
Streamer  
Recommended Engines: 1/4A3-3T, 1/2A3-2T, 1/2A3-4T, A3-4T, A10-3T



One-piece molded fin unit.



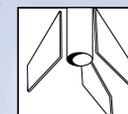
INCLUDES  
**12**  
ROCKETS!



Parachute Recovery

**Alpha® Bulk Pack**  
MSRP - \$129.99

**1756 Alpha®**  
Length: 12.3 in. (31.2 cm)  
Recovery: 12 in. (30.5 cm) Parachute  
Recommended Engines: A8-3 for first launch; 1/2A6-2, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7



Three balsa fins that glue onto body tube.



INCLUDES  
**12**  
ROCKETS!



## Green Eggs™ Bulk Pack

MSRP - \$199.99

**NEW!**



Parachute Recovery

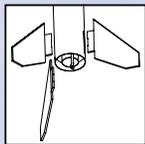
### 1718 Green Eggs™

An egg lofting rocket designed for the unique needs of teachers and youth group leaders. Features laser cut balsa fins with tabs that fit into pre-cut slots in the body tube. This makes it easier for your students to get their fins aligned correctly AND it greatly increases the fin/body tube glue joint so the fins don't break off easily upon the hard landing with an egg. Uses our "mighty" C11 rocket engines to safely lift the extra weight of an egg and keep it well within an average school yard for safe recovery.

Length: 23.6 in. (59.9 cm)  
 Recovery: 18 in. (45.7 cm) Parachute  
 Recommended Engines:  
 w/egg: C11-3, D12-3  
 w/out egg: C11-5, D12-5



INCLUDES  
**12**  
 ROCKETS!



Three balsa fins that glue onto body tube.

I'm Bug Rogers!  
 With the Loadstar II Bulk Pack you can command me and my insectronaut friends on countless off-world adventures!



**The Loadstar II™ Comes With A Clear Payload and Engine Booster which Can Achieve Spectacular Heights!**

## Loadstar II™ Bulk Pack

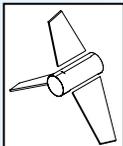
MSRP - \$169.99

### 1760 Loadstar II™

Length: 23.3 in. (59.2 cm)  
 Recovery: 18 in. (45.7 cm) Parachute  
 Recommended Engines:  
 Rocket Only: B4-4, B6-4, C6-5  
 Two Stages:  
 Rocket: A8-5, B6-4, B6-6, C6-7  
 Booster: B6-0, C6-0



INCLUDES  
**12**  
 ROCKETS!



Three balsa fins (six including booster) that glue onto body tube.

## MODEL ROCKET ENGINE BULK PACKS

Every launch requires engines, recovery wadding, starters and plugs. These convenient engine bulk packs include enough of each for 24 launches. Choose from a variety of engine sizes. We advise using the smallest recommended engine for first launches.

- 1781** A8-3 Engines (24); 30 starters; 24 plugs; 72 sheets wadding ..... **MSRP - \$71.99**
- 1783** B6-4 Engines (24); 30 starters; 24 plugs; 72 sheets wadding..... **MSRP - \$72.99**
- 1784** B6-0 & B6-6 Engines (12 each); 30 starters; 24 plugs; 72 sheets wadding.. **MSRP - \$80.59**
- 1788** 1/2A3-4T Engines (24); 30 starters; 24 plus wadding ..... **MSRP - \$57.79**
- 1789** C6-5 Engines (24); 30 starters; 24 plugs; 72 sheets wadding..... **MSRP - \$84.99**
- 1672** Blast-Off® Flight Pack A8-3, B6-4, C6-3, C6-5 engines (6 each); 30 starters; 28 plugs; 72 sheets wadding ..... **MSRP - \$69.99**



Get more  
 Blast-Off® for  
 Your Bulk with  
 Bulk Pack  
 Pricing!



### 1672 Blast-Off® Flight Pack

A8-3, B6-4, C6-3, C6-5 engines (6 each); 30 starters; 28 plugs; 72 squares of wadding

# THE LIFETIME LAUNCH SYSTEM IS DESIGNED FOR TEACHERS

(Includes Controller & Launch Pad)

## Pro Series II™ Launch Controller



Pro Series II Launch Controller

- **30 ft. (9.1 m) launch cable**
  - Students get a better launch view.
- **Audible Continuity**
  - Students can easily hear if the starter is connected correctly.
- **Two hands required for launch**
  - Even with the safety key left in, the rocket will not launch without both buttons pressed.
- **Requires 6 "C" size alkaline batteries**

## Lifetime Launch System

- **It stands 18 inches off the ground!**
  - Students can easily see the starter wires and make a good connection.
- **Tiltable**
  - Students can make last-minute adjustments to the launch angle.
- **2 Two-piece Launch Rods 1/8 in. (3 mm) and 3/16 in. (5 mm)**
  - The rod stores inside a pad leg.

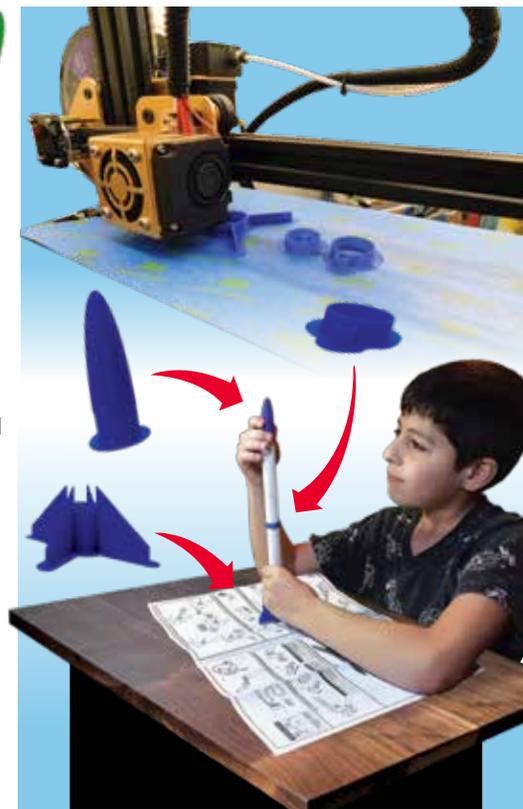
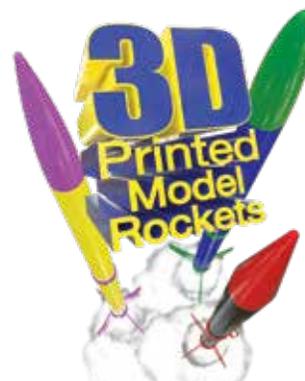
**Designed to withstand the rigors of multiple use, the launch pad and launch controller are the best Estes® has ever made!**

**Paint Your Launch Base the Color of Your Choice!**

\* The Lifetime Launch System comes with a lifetime limited warranty available to read at [estesrockets.com/lifetime-launch-system-warranty](http://estesrockets.com/lifetime-launch-system-warranty).

**2310  
Estes® Lifetime  
Launch System  
MSRP - \$79.99**

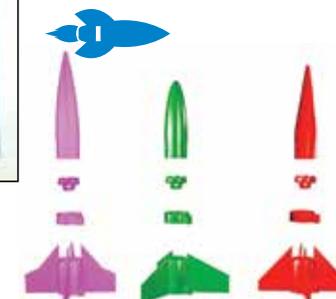
# BRING NEXT GENERATION SCIENCE INTO YOUR CLASSROOM



That's right, 3D printed model rockets. Buy the Orbis™ bulk pack and download the .stl files from the Estes® website to print your 3D plastic parts. Then you are ready to build your rocket! Our parts that you purchase + your parts that you grow = a great learning experience and lots of fun! Nine different designs and simple straightforward assembly! Build 12 rockets!



**1706 Orbis 3D Bulk Pack**  
 Length: 10 - 12 in. (25.4 - 30.5 cm)  
 Recovery: 9 in. (22.9 cm) Parachute  
 Projected Altitude: 400 ft. (122 m)  
 Recommended Engines: A8-3, B4-4, B6-4, C6-5  
**MSRP - \$59.99**



**Students 3D print These Parts!**

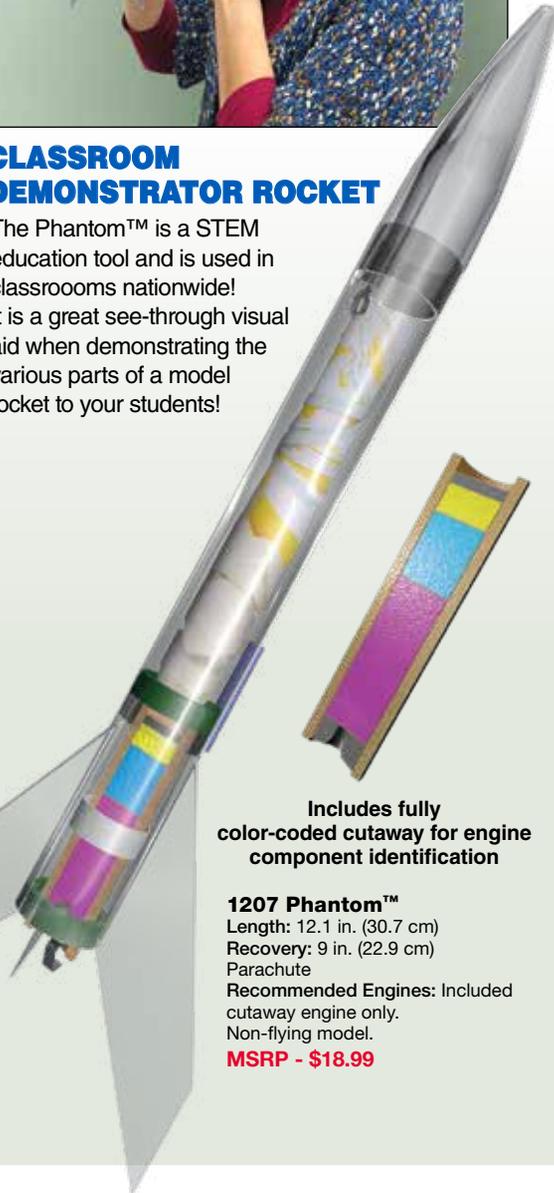
**Students actively engage in scientific and engineering practices and apply crosscutting concepts to deepen their understanding of the core ideas in these fields.**

# PHANTOM



## CLASSROOM DEMONSTRATOR ROCKET

The Phantom™ is a STEM education tool and is used in classrooms nationwide! It is a great see-through visual aid when demonstrating the various parts of a model rocket to your students!



Includes fully color-coded cutaway for engine component identification

### 1207 Phantom™

Length: 12.1 in. (30.7 cm)

Recovery: 9 in. (22.9 cm)

Parachute

Recommended Engines: Included cutaway engine only.

Non-flying model.

**MSRP - \$18.99**



**Official Rockets and Engine Supplier for Space Camp!**

SPACE CAMP • AVIATION CHALLENGE • SPACE CAMP ROBOTICS • U.S. CYBER CAMP

# SPACE CAMP



**Which student today will pioneer deep space exploration tomorrow?**

*Begin training today! Space Camp programs are available for individuals and groups. Visit [spacecamp.com](http://spacecamp.com) to learn more.*



 SpaceCampUSA

*Equipped with his five senses, man explores the universe around him and calls the adventure Science.  
- Edwin Powell Hubble*

**Perfect for Science Fairs!**

**5302 Rocket Science Starter Set**

Discover the fun of science! Build the rocket, launch with one of the three included engines, and observe as a reaction occurs to make the rocket soar! Launch again with a different size engine and measure the difference in altitude.



**5302 ROCKET SCIENCE STARTER SET INCLUDES:**

- 1 Rocket
- 1 Porta-Pad® II Launch Pad
- 1 Electron Beam® Launch Controller
- 1 12 in. (30.5 cm) Parachute
- 1 Shock Cord
- 1 each A8-3, B6-4, C6-5 Model Rocket Engine
- 4 Starters
- 8 Plugs
- 12 Sheets of Recovery Wadding
- 1 Altitude Tracker

Length: 12.8 in. (32.5 cm)  
 Recovery: 12 in. (30.5 cm) Parachute  
 Projected Altitude: 1100 ft. (335 m)  
 Recommended Engines: 1/2A6-2, A8-3, B4-4, B6-4, B6-6, C6-5, C6-7

**MSRP - \$34.99**



**National Association of Rocketry  
MODEL ROCKET SAFETY CODE**  
(Basic Version, Eff. August 2012)



**1. Materials.** I will use only lightweight, non-metal parts for the nose, body, and fins of my rocket.

**2. Motors.** I will use only certified, commercially-made model rocket motors, and will not tamper with these motors or use them for any purposes except those recommended by the manufacturer.

**3. Ignition System.** I will launch my rockets with an electrical launch system and electrical motor igniters. My launch system will have a safety interlock in series with the launch switch, and will use a launch switch that returns to the "off" position when released.

**4. Misfires.** If my rocket does not launch when I press the button of my electrical launch system, I will remove the launcher's safety interlock or disconnect its battery, and will wait 60 seconds after the last launch attempt before allowing anyone to approach the rocket.

**5. Launch Safety.** I will use a countdown before launch, and will ensure that everyone is paying attention and is a safe distance of at least 15 feet away when I launch rockets with D motors or smaller, and 30 feet when I launch larger rockets. If I am uncertain about the safety or stability of an untested rocket, I will check the stability before flight and will fly it only after warning spectators and clearing them away to a safe distance. When conducting a simultaneous launch of more than ten rockets I will observe a safe distance of 1.5 times the maximum expected altitude of any launched rocket.

**6. Launcher.** I will launch my rocket from a launch rod, tower, or rail that is pointed to within 30 degrees of the vertical to ensure that the rocket flies nearly straight up, and I will use a blast deflector to prevent the motor's exhaust from hitting the ground. To prevent accidental eye injury, I will place launchers so that the end of the launch rod

is above eye level or will cap the end of the rod when it is not in use.

**7. Size.** My model rocket will not weigh more than 1500 grams (53 ounces) at liftoff and will not contain more than 125 grams (4.4 ounces) of propellant or 320 N-sec (71.9 pound-seconds) of total impulse.

**8. Flight Safety.** I will not launch my rocket at targets, into clouds, or near airplanes, and will not put any flammable or explosive payload in my rocket.

**9. Launch Site.** I will launch my rocket outdoors, in an open area at least as large as shown in the accompanying table, and in safe weather conditions with wind speeds no greater than 20 miles per hour. I will ensure that there is no dry grass close to the launch pad, and that the launch site does not present risk of grass fires.

**LAUNCH SITE DIMENSIONS**

Installed Total Impulse (N-sec)	Equivalent Motor Type	Minimum Site Dimensions (ft.)
0.00-1.25	1/4A, 1/2A	50
1.26-2.50	A	100
2.51-5.00	B	200
5.01-10.00	C	400
10.01-20.00	D	500
20.01-40.00	E	1000
40.01-80.00	F	1000
80.01-160.00	G	1000
160.01-320.00	Two Gs	1500

**10. Recovery System.** I will use a recovery system such as a streamer or parachute in my rocket so that it returns safely and undamaged and can be flown again, and I will use only flame-resistant or fireproof recovery system wadding in my rocket.

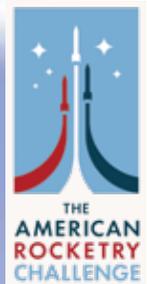
**11. Recovery Safety.** I will not attempt to recover my rocket from power lines, tall trees, or other dangerous places.  
www.nar.org



**A proud Sponsor  
of The American  
Rocketry Challenge**



The American Rocketry Challenge (TARC) is the world's largest rocket contest with nearly 5,000 students nationwide competing each year. The contest gives middle and high school students the opportunity to design, build and launch model rockets and hands-on experience solving engineering problems.



rocketcontest.org



aia-aerospace.org



# Our Return Policy

## YOU'RE COVERED WITH THE ESTES FULL ONE-YEAR WARRANTY

Your Estes® model rocket product is warranted against defects in materials or workmanship for one year from the date of the original purchase. If this Estes® product, because of a manufacturing mistake, malfunctions or proves to be defective within the one-year warranty period, it will be repaired or replaced, at Estes' option and at no charge to you.

This warranty does not cover incidental or consequential damage to persons or property caused by the use, abuse, misuse, failure to comply with operating instructions or improper storage of the

warranted products. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

For repair or replacement under this warranty, please contact us at EstesRockets.com or by mail at Estes Industries, LLC, Customer Service Department, 1295 H Street, Penrose, Colorado 81240-9698.

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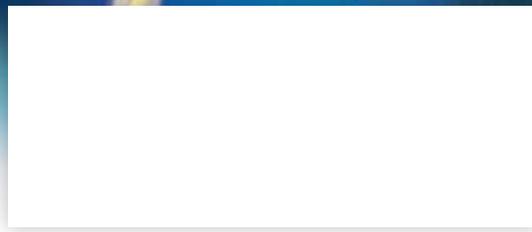
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