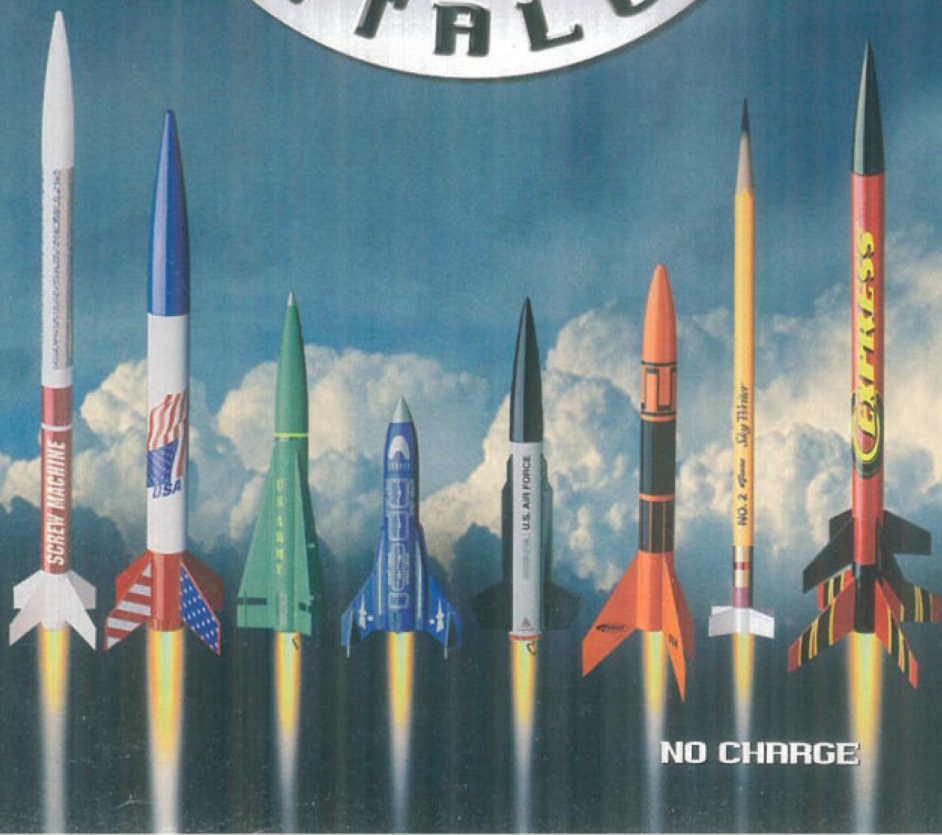


[www.estesrockets.com](http://www.estesrockets.com)



**NO CHARGE**

## TABLE OF CONTENTS

Index	2	Skill Level 3 Model Rocket Kits	26
How To Start	3	E Engine Powered Kits	28
Model Rocket Safety Code	5	Educational Products	30
Ready To Fly Starter Sets	6	Estes® Accessories	31
E2X® Starter Sets	8	Estes® Model Rocket Engines	32
Ready To Fly Model Rockets	12	Estes® Engine Time/Thrust Curves	33
E2X® Model Rocket Kits	12	Estes® Engine Chart	34
Skill Level 1 Model Rocket Kits	18	Estes® Specialty Products	35
Skill Level 2 Model Rocket Kits	23	Estes Air™ Rocket Systems	36

## INDEX

A.R.V. Condor™	24	Jet Stix™	35
Accessories	31	Kick Dis™	35
AGM-57X Heatseeker™	17	Loadstar™ Bulk Pack	30
Alpha®	18	Mean Machine™	22
Alpha® Bulk Pack	30	Mega Maxx™	11
Alpha III®	13	Menace™	25
Alpha III® Bulk Pack	30	Mercury Redstone	24
AstroCam® RTF	6	Mighty Mites® Outlaw™	7
AstroSat LSX™	16	Military Super Shot™	9
Baby Bertha®	18	Mini Marz Lander™	13
Bandit™	15	Mini Meanie™	12
Banshee™	16	Mini Super Shot™	8
Big Bertha™	20	Missile Command™	7
Big Daddy™	24	Mk-109 Stingray™	16
Black Brant II™	23	Monarch™	22
Blue Ninja™	14	Mongoose™	20
Bull Pup 12D™	26	Mosquito™	18
Bull Pup 12D™ Bulk Pack	30	Nemesis™	25
CC Express™	22	Night Wing™	27
Code Red™	6	Nova Payloader™	20
Comanche-3™	26	Phoenix™	26
Cosmic Cobra™	14	Polaris™	25
Cruise Missile™	12	Quark™	18
Cyclone™	35	Sizzler®	23
Deluxe Super Shot™	10	Sky Writer™	14
EchoStar™	27	Skywinder™	15
Educational Products™	30	Snitch™	12
Eliminator™	28	Spicy Wings™	35
Engine Bulk Packs™	30	Spitfire SSI™	11
Engines	32-34	Star Dart™	23
Estes Air™ GL-X200™	36	Stars & Stripes™	8
Estes Air™ HL-X150™	36	StormCaster™	19
Estes Air™ Rocket Class Pack™	30	Super Nova Payloader™	24
Executioner™	28	Super Shot™	10
ExoSkell™	22	T25 Centurian™	29
Fat Boy™	22	The Dude™	26
FireFlash™	17	Tidal Wave™	6
Flash®	16	Transwing™ Super Glider	21
1406 Alpha III™ Starter Set	8	Twister™	10
Freaky Flyer™	12	V-2	28
Gemini DC™	24	Venus Probe™	21
Generic E2X® Bulk Pack	30	Viking™	20
Gnome™	12	Viking™ Bulk Pack	30
Gnome™ Bulk Pack	30	Wizard™	18
Goliath™	11	Wizard™ Bulk Pack	30
HeliCat™	10	X-Ray™	12
i28 Impulse™	29	X-Ray™ Bulk Pack	30
Ionizer™	6	Yankee™	19

## HOW DO I START MY OWN ESTES® ROCKET FLEET?

The best way to begin model rocketry is with an Estes® flying model rocket starter set. You can either start with a Ready To Fly Starter Set that has a fully constructed model rocket or an E2X® Starter Set that requires assembly prior to launching. Both types of sets come complete with an electrical launch controller, adjustable launch pad, engines, flight supplies and an information booklet to get you out and flying in no time. You'll need four "AA" alkaline batteries and perhaps glue, depending on which set you select.

## HOW EASY AND HOW MUCH TIME DOES IT TAKE TO BUILD MY ROCKETS?

Estes® model rocket kits range from ready to fly in just minutes to those that provide many enjoyable hours of building fun. Estes® kits are classified into six categories.

**READY TO FLY (RTF):** No paint, glue or modeling skills required. Rocket comes assembled and is ready for lift-off in just minutes.

**E2X® ROCKET KITS:** No paint or special tools needed. E2X® kits contain parts that are colored and easy to assemble. Simply glue the parts together as per the instructions, apply the self-adhesive decals, attach the recovery system and you are ready to blast off! Assembly takes as little as 1 hour.

**SKILL LEVEL 1 ROCKET KITS:** Requires some painting, gluing and sanding. Features die cut balsa fins, slotted body tubes, plastic nose cones and rub-down decals. Step by step instructions make building very easy. Assembly takes at least an afternoon.

**SKILL LEVEL 2 ROCKET KITS:** First tier of more advanced kits. Requires beginner skills in model rocket construction and finishing. Features die cut balsa or plastic fins, plastic nose cones and unfinished body tubes. Assembly time may take a complete day.

**SKILL LEVEL 3 ROCKET KITS:** Second tier of more advanced kits. Requires moderate skills in model rocket construction and finishing. Features multiple die cut balsa fins and parts, unfinished body tubes, complex designs and plastic nose cones. Assembly time may take a couple of days.

**SKILL LEVEL 4 ROCKET KITS:** The most advanced level of kit. Requires high degree of model rocket construction and finishing skills. Features multiple die cut balsa parts, vacuum formed plastic detailing, unfinished body tubes and water soluble decals. Assembly can take several days depending on detail required.

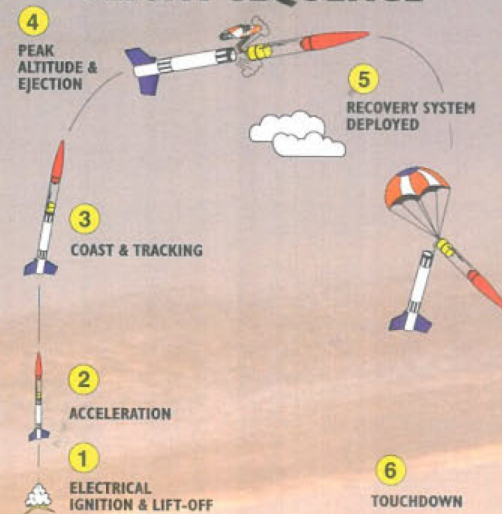
## HOW DO ESTES® MODEL ROCKETS WORK?

Estes® model rockets are activity kits designed of lightweight materials such as paper tubing, balsa wood and plastic. Balsa or plastic fins are glued to the body tube for guidance and stability. A model rocket engine holder is also part of the rocket to keep the engine in place during thrust.

Estes® was the first to develop a mass produced model rocket engine and has produced the engines for over 40 years.

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 plastic parachute or streamer, is deployed to return the rocket gently to earth. The rocket can then be prepped for another flight.

## FLIGHT SEQUENCE



## ESTES® WARRANTY

Your Estes® product is warranted against defects in materials or workmanship for a period from the date of original purchase. Any Estes® product, which, because of a manufacturing mistake, malfunctions or proves to be defective within the period noted in the warranty will be repaired or replaced, at Estes®' option and at no charge to you, provided it is returned to Estes® with proof of purchase.

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 return the defective part of your Estes® product with proof of purchase to: Estes Industries, Customer Service Department, 1295 H Street, Penrose, Colorado 81240.

## WHERE DO I FLY ESTES® MODEL ROCKETS?

The chart on the next page tells you what size field to use for what size engine. 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 32-34) of this catalog for more information.

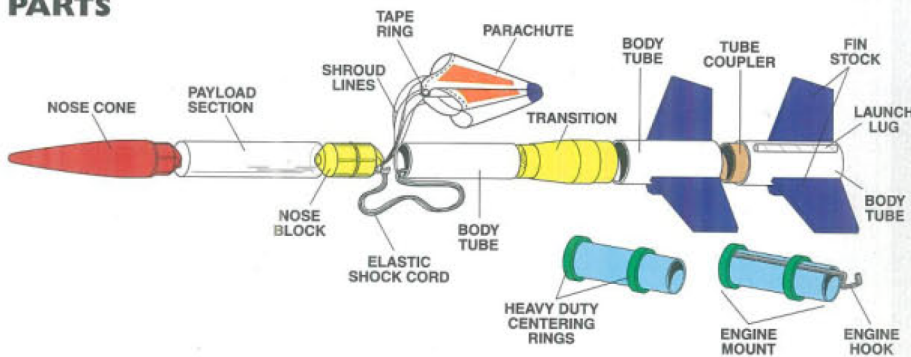
## WHAT DO I NEED TO KNOW?

In this catalog, each description lists important INFORMATION:

- Something fun about the rocket.
- Specifications - how tall, wide and heavy.
- What engines we recommend.
- How high, on the largest engine recommended, the rocket flies (in feet and in meters). Maximum altitudes are projections only, your rocket's actual performance may vary.
- The sort of recovery system that brings the rocket back - parachute, streamer or other.
- The type of fin material - plastic, balsa or fiber.

Remember - Estes® model rocket kits offer you a wide spectrum of building and flying. Best of all, they are all fun!

## PARTS



## PLEASE READ: IMPORTANT STUFF!

Estes® model rocketry is recommended for ages 10 years and up. Adult supervision is recommended for those under 12 years of age.

Unless otherwise specified all models require assembly. Engines, launch system, glue and finishing supplies are not included with model rocket kits unless specified otherwise.

## USE ONLY WITH ESTES® PRODUCTS

Caution: Use of any Estes® product with any other brand-name rocket product containing any defect or causing any damage may void the Estes® warranty.



**ROCKET TIP:**

*In most cases, baseball, soccer or football fields are great launch areas!*

## N.A.R.\* MODEL ROCKET SAFETY CODE

Effective February 10, 2001

**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 (4.6 m) away when I launch rockets with D motors or smaller, and 30 feet (9 m) 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.

**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 53 ounces (1500 grams) at liftoff and will not contain more than 4.4 ounces (125 grams) of propellant or 71.9 pound-seconds (320 N-sec) of total impulse. If my model rocket weighs more than one pound (453 grams) at liftoff or has more than 4 ounces (113 grams) of propellant, I will check and comply with Federal Aviation Administration regulations before flying.

**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 (32 k/h). 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	Equivalent Motor Type	Minimum Site Dimensions	
		Feet	Meters
.00- 1.25	1/4A, 1/2A	50	15
1.26- 2.50	A	100	30
2.51- 5.00	B	200	60
5.01- 10.00	C	400	120
10.01- 20.00	D	500	150
20.01- 40.00	E	1,000	300
40.01- 80.00	F	1,000	300
80.01- 160.00	G	1,000	300
160.01- 320.00	Two G's	1,500	450

**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.

**II. RECOVERY SAFETY.** I will not attempt to recover my rocket from power lines, tall trees, or other dangerous places.

As a member of the Estes® Model Rocketry Program, I promise to faithfully follow all rules of safe conduct as established in the above code.

Signature \_\_\_\_\_



www.nar.org

**Important Note: "G" engines must be sold to and used by adults (18 and up) only.**

To launch large model rockets weighing more than one lb. (453 g) including propellant or rockets containing more than 4 oz. (113 g) but no more than 4.4 oz. (125 g) of propellant (net weight), you must notify and perhaps obtain authorization from the Federal Aviation Administration (FAA). Check your telephone directory for the office nearest you or contact Estes® Industries for further information.

\*National Association of Rocketry



# READY TO FLY STARTER SETS



TIDAL WAVE™

IONIZER™



ASTROCAM™ RTF

CODE RED™

**SNAP A SHOT OF YOURSELF!**



EVERY STARTER SET INCLUDES LAUNCH EQUIPMENT & FLIGHT SUPPLIES!



Estes® model rocketry is recommended for ages 10 years and up. Adult supervision is recommended for those under 12 years of age. Must be 14 to purchase in California or New Jersey.

## Ready to Fly (RTF) Starter Sets

- Fully constructed and decorated rocket
- Complete launch system with flight supplies
- Ready to fly in minutes

## ESTES® RTF STARTER SETS

**TIDAL WAVE™ EST 1811**  
 Make a splash! The Tidal Wave™ features a holographic body tube that catches your eye. Ready for launch in minutes.  
**SPECS:** Length: 18 in. (45.7 cm); Dia.: 1.35 in. (34.3 mm);  
**Wt.:** 2.7 oz. (75 g); **Recovery:** 12 in. (30 cm) Parachute;  
**Fins:** Plastic molded; **Max. Altitude:** 600 ft. (183 m);  
**Recommended Engines:** A8-3, B4-4, B6-4, C6-5 (Includes two engines)

**IONIZER™ EST 1812**  
 Start flying minutes after opening the package. This hot RTF rocket comes with a holographic body tube for cool visual effects.  
**SPECS:** Length: 18 in. (45.7 cm); Dia.: 1.35 in. (34.3 mm);  
**Wt.:** 2.7 oz. (75 g); **Recovery:** 12 in. (30 cm) Parachute;  
**Fins:** Plastic molded; **Max. Altitude:** 600 ft. (183 m);  
**Recommended Engines:** A8-3, B4-4, B6-4, C6-5 (Includes two engines)

**ASTROCAM® RTF EST 1813**  
 The AstroCam® RTF Starter Set features a real camera that allows you to take photographs of your launch area from 500 feet up! You'll be snapping pictures right away! You'll look at things as never before with this easy, fun introduction to aerial photography. Uses 110 film - not included. Film and developing available locally.  
**SPECS:** Length: 18.38 in. (46.7 cm); Dia.: 1.34 in. (34.0 mm);  
**Wt.:** 2.7 oz. (76 g); **Recovery:** 12 in. (30 cm) Parachute;  
**Fins:** Plastic molded; **Max. Altitude:** 500 ft. (152 m);  
**Recommended Engine:** C6-7 ONLY (Includes two engines)

**CODE RED™ EST 1824**  
 A great rocket from Estes®. The Code Red™ comes with a wrapped holographic body tube. It's ready to fly in minutes.  
**SPECS:** Length: 18 in. (45.7 cm); Dia.: 1.35 in. (34.3 mm);  
**Wt.:** 2.7 oz. (75 g); **Recovery:** 12 in. (30 cm) Parachute;  
**Fins:** Plastic molded; **Max. Altitude:** 600 ft. (183 m);  
**Recommended Engines:** A8-3, B4-4, B6-4, C6-5 (Includes two engines)

**MISSILE COMMAND™ EST 1818**  
 The Missile Command™ RTF Starter Set features two rockets, one resembling an "Army" surface-to-surface missile, and the other a "Navy" ship-to-air missile. You can defend your airspace in no time with this exciting military rocket set!  
**SPECS:** Length: Army - 16.6 in. (42.2 cm); Navy - 16 in. (40.6 cm); Dia.: Army - 1.0 in. (25.4 mm); Navy - 1.0 in. (25.4 mm);  
**Wt.:** Army - 1.6 oz. (45 g); Navy - 1.7 oz. (47 g);  
**Recovery:** Two 12 in. (30 cm) Parachutes; **Fins:** Plastic molded;  
**Max. Altitude:** Army - 1100 ft. (335 m); Navy - 1000 ft. (305 m);  
**Recommended Engines:** 1/2A6-2, A8-3, B4-4, B6-4, B6-6, C6-5, C6-7 (Includes two engines)

**MIGHTY MITES® OUTLAW™ EST 1841**  
 This mini sized RTF starter set is a fun way to get into model rocketry. The Mighty Mites® Outlaw™ Starter Set includes factory assembled plastic rocket, special launch pad and controller and flight supplies. The Outlaw™ rocket flies on Estes® Mini Engines.  
**SPECS:** Length: 5.13 in. (13.0 cm); Dia.: 0.75 in. (19.1 mm);  
**Wt.:** 0.4 oz. (11 g); **Recovery:** Streamer; **Fins:** Plastic molded;  
**Max. Altitude:** 400 ft. (122 m);  
**Recommended Engines:** 1/4A3-3T, 1/2A3-4T, A3-4T, A10-3T (Includes two engines)



ARMY

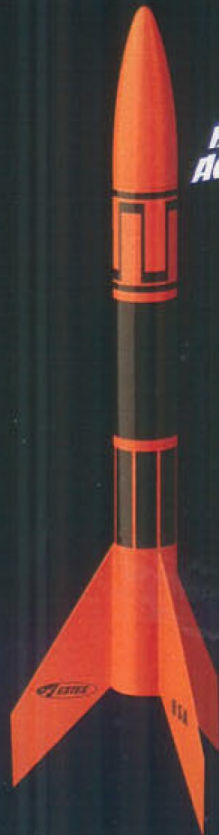
NAVY



MIGHTY MITES® OUTLAW



## E2X® STARTER SETS



1406 ALPHA III™

BACK AGAIN!



STARS & STRIPES™

NEW!



SPACE HAULER

NEW!



SPACE BUS  
MINI SUPER SHOT™



### E2X® Starter Sets

- Almost ready to fly rocket
- Assembled parachute
- Self-adhesive decals
- Complete launch system with engines
- Colored parts



AIR FORCE



ARMY

MILITARY SUPER SHOT™



HI-TECH CARRYING CASE!

## E2X® STARTER SETS

### 1406 ALPHA III™

EST 1406

More people have started with this timeless rocket than any other in the history of the world! Features a bright molded one piece fin unit and nose cone and engines for two fantastic parachute recovered flights.

**SPECS:** Length: 12.25 in. (31.1 cm); Dia.: 0.98 in. (24.9 mm); Wt.: 1.2 oz. (34 g); Recovery: 12 in. (30 cm) Parachute; Fins: One piece plastic molded; Max. Altitude: 1100 ft. (335 m); Recommended Engines: 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7 (Includes two engines)

### STARS & STRIPES™

EST 1407

Honors the American spirit of freedom. Included in the starter set is a Red, White and Blue model rocket and a choice between 2 self-adhesive patriotic decals. A special edition, 4 in. x 6 in. Freedom Flag decal is also included to proudly display.

**SPECS:** Length: 17.5 in. (44.5 cm); Dia.: 1.0 in. (25.4 mm); Wt.: 2.3 oz. (65 g); Recovery: American Flag Streamer; Fins: Two piece plastic molded; Max. Altitude: 600 ft. (183 m); Recommended Engines: A8-3, B4-4, B6-4, C6-5, C6-7 (Includes two engines)

### MINI SUPER SHOT™

EST 1431

The Mini Super Shot™ Starter Set features two mini-engine powered rockets. Both of these mini rockets come with colored body halves and nose cones, and can be ready to fly in an hour. Also includes special mini-rocket launch pad.

**SPECS:** Length: Space Bus - 5.25 in. (13.3 cm); Space Hauler - 5.38 in. (13.7 cm); Dia.: Space Bus - 1.0 in. (25.4 mm); Space Hauler - 0.75 in. (19.1 mm); Wt.: Space Bus - 0.74 oz. (21.2 g); Space Hauler - 0.67 oz. (18.9 g) Recovery: Streamer; Fins: Plastic molded; Max. Altitude: Space Bus - 700 ft. (213 m); Space Hauler - 760 ft. (231 m); Recommended Engines: 1/4A3-3T, 1/2A3-4T, A3-4T, A10-3T (Includes two engines)

### MILITARY SUPER SHOT™

EST 1432

Defenders of Freedom...the Military Super Shot™ Model Rocket Starter Set includes two military style rockets that will help you protect the sky from enemy attacks. Each rocket comes with military-styled, colored body tubes, nose cones and fins.

**SPECS:** Length: 11.25 in. (28.6 cm); Dia.: 1.0 in. (25.4 mm); Wt.: 1.7 oz. (47 g); Recovery: Streamer; Fins: Plastic molded; Max. Altitude: 250 ft. (76 m); Recommended Engines: A3-4T, A10-3T (Includes two engines)



Estes® model rocketry is recommended for ages 10 years and up. Adult supervision is recommended for those under 12 years of age. Must be 14 to purchase in California or New Jersey.

## E2X® STARTER SETS



DELUXE SUPER SHOT™

**NEW!**

**1 ROCKET...  
15 DIFFERENT  
COMBINATIONS!**



SUPER SHOT™

TWISTER™



SUPER SHOT™



**HELICOPTER  
NOSE CONE!**



HELICAT™



GOLIATH™

MEGA MAXX™



SPITFIRE SSI™



### DELUXE SUPER SHOT™

EST I433

Screw it...that's all you have to do to change the size of the Deluxe Super Shot™ Screw Machine™ Rocket. The Screw Machine™ comes with prismatic body tubes that screw together, allowing you to launch 3 different size rockets! "Quick-Change" fins slip in and out for different fin configurations. Up to 15 different combinations can be assembled. **SPECS:** Length: From 27 in. (68.6 cm) to 45.75 in. (116.2 cm); Dia.: 1.33 in. (33.8 mm); Wt.: From 3.5 oz. (99.2 g) to 4.9 oz. (138.9 g) Recovery: 18 in. (46 cm) Parachute; Fins: T™ 3 sets plastic molded; Max. Altitude: 750 ft. (228 m); Recommended Engines: A8-3, B4-2, B4-4, B6-4, B6-6, C6-3, C6-5 (Includes two engines)

### SUPER SHOT™

EST I449

A two rocket combo with superb performance and a sky full of fun! The Super Shot™ rocket delivers high performance in an easy to build kit. The Twister™ rocket is a build and paint kit featuring a helicopter recovery. After the flight, the Twister™ rocket separates into two helicopter recovered pieces.

### SUPER SHOT™

**SPECS:** Skill Level: E2X®; Length: 16.5 in. (41.9 cm); Dia.: 1.0 in. (25.4 mm); Wt.: 1.6 oz. (46 g); Recovery: 12 in. (30 cm) Parachute; Fins: T™ Plastic molded; Max. Altitude: 1000 ft. (305 m)

Recommended Engines: A8-3, B4-4, B6-4, B6-6, C6-5, C6-7

### TWISTER™

**SPECS:** Skill Level: I; Length: 9.5 in. (24.1 cm); Dia.: 0.74 in. (18.8 mm); Wt.: 0.5 oz. (14 g); Recovery: Helicopter; Fins: Die cut balsa; Max. Altitude: 1000 ft. (305 m); Recommended Engines: 1/2A6-2, A8-3, B4-4, B6-4, B6-6 (Includes two engines)

### HELICAT™

EST I465

A huge, rip-roaring rocket with helicopter recovered nose cone. The nearly three foot tall rocket has a colorful, extra large decal sheet and engines for three flights.

**SPECS:** Length: 33.5 in. (85.1 cm); Dia.: 1.35 in. (34.3 mm); Wt.: 3.7 oz. (105 g); Recovery: Rocket; 18 in. (46 cm) Parachute, Nose Cone: Helicopter; Fins: T™ Plastic molded; Max. Altitude: 485 ft. (148 m);

Recommended Engines: B4-2, B6-2, C6-3, C6-5 (Includes three engines)

### MEGA MAXX™

EST I474

This starter set combines the power of the over two-foot Goliath™ and the speed of the Spitfire SSI™ to create one powerful package. The easy to build Goliath™ delivers a thrill as it flies to 500 ft. (152 m). The sleek Spitfire SSI™ is a simple to build and paint kit, which screams to over 900 ft. (274 m).

### GOLIATH™

**SPECS:** Skill Level: E2X® Length: 28 in. (71.1 cm); Dia.: 1.34 in. (34 mm); Wt.: 3 oz. (85 g); Recovery: 18 in. (46 cm) Parachute; Fins: T™ Plastic molded; Max. Altitude: 500 ft. (152 m);

Recommended Engines: B4-2, B4-4, B6-2, B6-4, C6-3, C6-5

### SPITFIRE SSI™

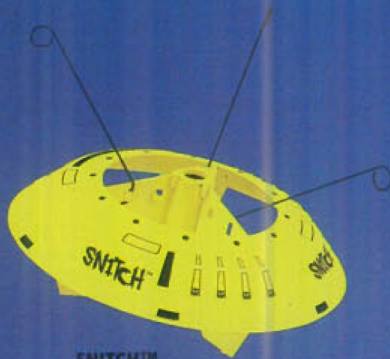
**SPECS:** Skill Level: I Length: 16.25 in. (41.3 cm); Dia.: 0.98 in. (24.9 mm); Wt.: 1.7 oz. (48 g); Recovery: 12 in. (30 cm) Parachute; Fins: Die cut balsa; Max. Altitude: 900 ft. (274 m); Recommended Engines: 1/2A6-2, A8-3, B4-4, B6-4, B6-6, C6-5, C6-7 (Includes two engines)

Estes® model rocketry is recommended for ages 10 years and up. Adult supervision is recommended for those under 12 years of age. Must be 14 to purchase in California or New Jersey.



## READY TO FLY ROCKETS

\* Engines and launch equipment sold separately.



SNITCH™



CRUISE MISSILE™



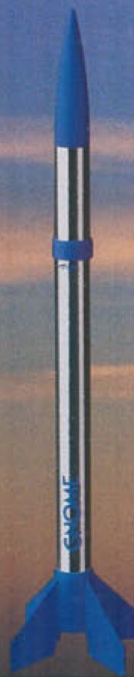
MINI MARZ LANDER™

## E2X® ROCKET KITS

- Great First Rocket!
- No Painting Required
- Assemble in about an hour
- Engines sold separately



X-RAY™



GNOME™



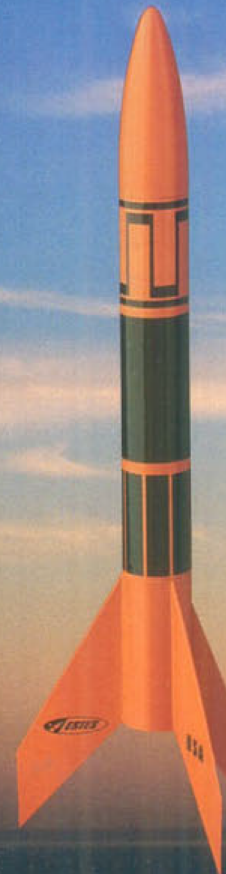
MINI MEANIE™

NEW!



FREAKY FLYER™

NEW!



ALPHA III®

## READY TO FLY (RTF) ROCKETS

Ready to fly rockets are completely assembled and decorated. An RTF rocket can be ready for launch in just minutes.

**SNITCH™** **EST 1807**  
Travel out of this world with this hot, neon colored flying saucer. This RTF alien space ship comes fully assembled and decorated. **SPECS:** Dia.: 7.75 in. (19.7 cm); **Wt.:** 2.1 oz. (59 g); **Recovery:** Spring action; **Max. Altitude:** 120 ft. (37 m); **Recommended Engines:** B6-0, C6-0

**CRUISE MISSILE™** **EST 1847**  
Imagine the thrill of launching this realistic model of America's most potent strategic weapon. Ready to fly in just minutes. **SPECS:** Length: 9.0 in. (22.9 cm); **Dia.:** 1.0 in. (25.4 mm); **Wt.:** 1.4 oz. (40 g); **Recovery:** 12 in. (30 cm) Parachute; **Fins:** Plastic molded; **Max. Altitude:** 200 ft. (61 m); **Recommended Engines:** A3-4T, A10-3T

**MINI MARZ LANDER™** **EST 1826**  
Explore the outer reaches of the galaxy with your very own Mini Marz Lander™. It includes spring action landing legs for a pinpoint landing. **SPECS:** Length: 5.38 in. (13.7 cm); **Dia.:** 1.75 in. (44.5 mm); **Wt.:** 1.6 oz. (45 g); **Recovery:** 12 in. (30 cm) Parachute; **Fins:** Plastic molded; **Max. Altitude:** 200 ft. (61 m); **Recommended Engines:** 1/2A3-2T, A3-4T, A10-3T

## E2X® ROCKET KITS

**X-RAY™** **EST 0834**  
Carry cargo through the air with the X-Ray™! The X-ray features a clear payload tube that allows you to launch cargo into the air and return it back to earth. Perfect for science experiments. Colored, one piece fin unit for a quick assembly. **SPECS:** Length: 14.8 in. (37.6 cm); **Dia.:** 0.74 in. (18.8 mm); **Wt.:** 0.6 oz. (17 g); **Recovery:** Streamer; **Fins:** One piece plastic molded; **Max. Altitude:** 500 ft. (152 m); **Recommended Engines:** 1/2A3-2T, A3-4T, A10-3T

**GNOME™** **EST 0886**  
Eye-dazzling, chrome rocket soars to heights of 800 ft. (244 m). The Gnome™ comes with a colored one piece fin unit for quick assembly. Be ready to launch in less than an hour. **SPECS:** Length: 10.3 in. (26.0 cm); **Dia.:** 0.54 (13.8 mm); **Wt.:** 0.4 oz. (12 g); **Recovery:** Streamer; **Fins:** One piece plastic molded; **Max. Altitude:** 800 ft. (244 m); **Recommended Engines:** 1/2A3-2T, 1/2A3-4T, A3-4T, A10-3T

**MINI MEANIE™** **EST 1202**  
Get out of the way...the Mini Meanie™ is tearing up the sky. It soars up to 700 ft. (213 m). The Mini Meanie™ comes with a colored nose cone and body halves, so no painting is required. **SPECS:** Length: 5.25 in. (13.3 cm); **Dia.:** 1.0 in. (25.4 mm); **Wt.:** 0.74 oz. (21.2 g); **Recovery:** Streamer; **Fins:** Plastic molded; **Max. Altitude:** 700 ft. (213 m); **Recommended Engines:** 1/4A3-3T, 1/2A3-4T, A3-4T, A10-3T

**FREAKY FLYER™** **EST 1203**  
This "Freaky" mini-engine rocket has an eye-catching look to it. It blasts to 750 ft. (228 m). The Freaky Flyer™ comes with a colored nose cone and body halves, so it can be ready in under an hour. **SPECS:** Length: 5.38 in. (13.7 cm); **Dia.:** 0.75 in. (19.1 mm); **Wt.:** 0.67 oz. (18.9 g); **Recovery:** Streamer; **Fins:** Plastic molded; **Max. Altitude:** 750 ft. (228 m); **Recommended Engines:** 1/4A3-3T, 1/2A3-4T, A3-4T, A10-3T

**ALPHA III®** **EST 1256**  
The very first Estes® E2X® rocket! One piece fin unit for easy construction. Millions have started with this classic design. **SPECS:** Length: 12.3 in. (31.1 cm); **Dia.:** 0.98 in. (24.8 mm); **Wt.:** 1.2 oz. (34 g); **Recovery:** 12 in. (30 cm) Parachute; **Fins:** One piece plastic molded; **Max. Altitude:** 1100 ft. (335 m); **Recommended Engines:** 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7

Estes® model rocketry is recommended for ages 10 years and up. Adult supervision is recommended for those under 12 years of age.

## E2X® ROCKET KITS



SKY WRITER™

new!



COSMIC COBRA™

HELICOPTER  
NOSE CONE!



new!



BLUE NINJA™

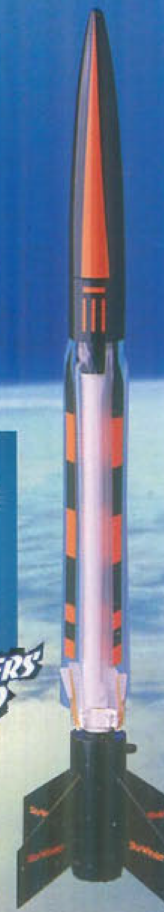
new!



BANDIT™



HELICOPTERS  
BACK TO  
EARTH!



SKYWINDER™

**SKY WRITER™** EST I260  
This fun rocket looks like a wooden pencil. It "sky writes" up to 1100 ft. (335 m) in the air. The Sky Writer™ comes with colored body tubes, fins and nose cone, so assembly is quick and easy.  
**SPECS:** Length: 26 in. (66 cm); Dia.: 0.98 in. (24.8 mm); Wt.: 1.5 oz. (41.3 g); Recovery: 12 in. (30 cm) Parachute; Fins: One piece plastic molded; Max. Altitude: 1100 ft. (335 m); Recommended Engines: A8-3, B4-4, B6-4, C6-5

**COSMIC COBRA™** EST I262  
The Cosmic Cobra™ features a two-way recovery system. The booster returns to earth using a 12 in. (30 cm) parachute, while the nose cone helicopters down gently using rotor blades.  
**SPECS:** Length: 19.5 in. (49.5 cm); Dia.: 1.35 in. (34.3 mm); Wt.: 3.1 oz. (88 g); Recovery: Booster - 12 in. (30 cm) Parachute; Nose Cone - Helicopter; Fins: Two piece plastic molded; Max. Altitude: 530 ft. (162 m); Recommended Engines: B4-2, B6-2, B6-4, C6-3, C6-5

**BLUE NINJA™** EST I300  
The Blue Ninja™ is the biggest rocket in the E2X® class! It is over 30 in. (76.2 cm) tall and is powered by a "C11" or "D" engine. The Blue Ninja™ comes with shiny blue prismatic body tubes and colored fins and nose cone.  
**SPECS:** Length: 31.3 in. (79.5 cm); Dia.: 1.64 in. (41.6 mm); Wt.: 5.1 oz. (145.4 g); Recovery: 18 in. (46 cm) Parachute; Fins: T™ Plastic molded; Max. Altitude: 780 ft. (238 m); Recommended Engines: C11-3, D12-3  
Requires 3/16" (5 mm) Maxi™ launch rod (EST 302244) - sold separately.

**BANDIT™** EST 2060  
Rugged, sleek and merciless performance every time - escapes to over 1000 ft. (305 m) and every flight recovers with a parachute.  
**SPECS:** Length: 16.6 in. (42.2 cm); Dia.: 1.0 in. (25.4 mm); Wt.: 1.6 oz. (45 g); Recovery: 12 in. (30 cm) Parachute; Fins: T™ Plastic molded; Max. Altitude: 1000 ft. (305 m); Recommended Engines: A8-3, B4-4, B6-4, B6-6, C6-5, C6-7

**SKYWINDER™** EST 2077  
The easiest way to get into helicopter recovery rocketry. Rocket launches skyward, at apogee the blades fold out and the one piece rocket helicopters back to earth.  
**SPECS:** Length: 20 in. (50.8 cm); Dia.: 1.35 in. (34.3 mm); Rotor Span: 20 in. (50.8 cm); Wt.: 2.5 oz. (71 g); Recovery: Helicopter; Fins: T™ Plastic molded; Max. Altitude: 530 ft. (162 m); Recommended Engines: B4-2, B6-2, C6-3



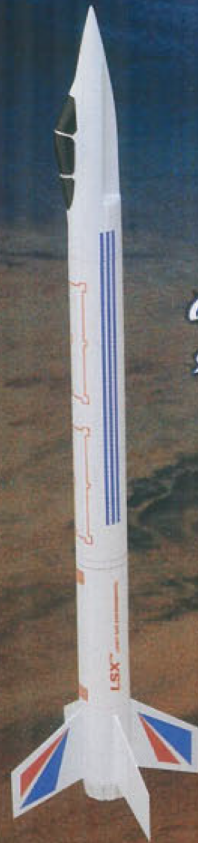
# E2X<sup>®</sup> ROCKET KITS



MK-109 STINGRAY™



BANSHEE™



ASTROSAT LSX™

**GLITTERING  
BODY  
SECTION!**



FLASH®



AGM-57X  
HEATSEEKER™



FIREFLASH™

**MK-109 STINGRAY™** **EST 2131**  
Ship-to-Air missile looks authentic with US Navy markings. Easy to build. No painting. Launches to 1000 ft. (305 m) in the air!  
**SPECS:** Length: 16 in. (40.6 cm); Dia.: 1.0 in. (25.4 mm);  
**Wt.:** 1.7 oz. (47 g); **Recovery:** 12 in. (30 cm) Parachute;  
**Fins:** T™ Plastic molded; **Max. Altitude:** 1000 ft. (305 m);  
**Recommended Engines:** A8-3, B4-4, B6-4, B6-6, C6-5, C6-7

**BANSHEE™** **EST 2132**  
Howl at the sun with this screaming bad boy! Lean and mean! Quick to build. The high performance design assures maximum altitude every time.  
**SPECS:** Length: 16.6 in. (42.2 cm); Dia.: 1.0 in. (25.4 mm);  
**Wt.:** 1.6 oz. (45 g); **Recovery:** 12 in. (30 cm); **Fins:** T™ Plastic molded; **Max. Altitude:** 1100 ft. (335 m);  
**Recommended Engines:** A8-3, B4-4, B6-4, B6-6, C6-5, C6-7

**ASTROSAT LSX™** **EST 2133**  
AstroSat LSX™ (Light Satellite Experiment) ejects two streamer equipped satellites at the end of its ascent. This futuristic vehicle flies missions up to 300 ft. (91 m). Easy to assemble - no painting and authentic looking self-adhesive decals.  
**SPECS:** Length: 19 in. (48.3 cm); Dia.: 1.35 in. (34.3 mm);  
**Wt.:** 3.2 oz. (91 g); **Recovery:** 18 in. (46 cm) Parachute;  
**Fins:** T™ Plastic molded; **Max. Altitude:** 300 ft. (91 m)  
**Recommended Engines:** B4-2, B6-2, C6-3, C6-5

**FLASH®** **EST 2137**  
A stellar performer with a long, prismatic payload section. The huge Flash® will be noticed anywhere - on the ground or in the air.  
**SPECS:** Length: 28.3 in. (71.9 cm); Dia.: 1.0 in. (25.4 mm);  
**Wt.:** 2.0 oz. (57 g); **Recovery:** 12 in. (30 cm) Parachute;  
**Fins:** T™ Plastic molded; **Max. Altitude:** 1000 ft. (305 m);  
**Recommended Engines:** A8-3, B4-4, B6-4, B6-6, C6-5, C6-7

**AGM-57X HEATSEEKER™** **EST 2158**  
Defend your neighborhood with this air-to-air missile. No painting required. The AGM-57X Heatseeker™ can be ready to fly in under an hour.  
**SPECS:** Length: 18.6 in. (47.2 cm); Dia.: 1.0 in. (25.4 mm);  
**Wt.:** 1.9 oz. (55 g); **Recovery:** 12 in. (30 cm) Parachute;  
**Fins:** T™ Plastic molded; **Max. Altitude:** 800 ft. (244 m);  
**Recommended Engines:** A8-3, B4-4, B6-4, B6-6, C6-5, C6-7

**FIREFLASH™** **EST 2159**  
This long sounding rocket will dominate the sky with its sleek appearance. Colored body tubes and one piece fin unit make for an easy to build rocket.  
**SPECS:** Length: 41.6 in. (105.7 cm); Dia.: 0.98 in. (24.9 mm); **Wt.:** 2.3 oz. (65 g); **Recovery:** 12 in. (30 cm) Parachute; **Fins:** One piece plastic molded; **Max. Altitude:** 800 ft. (244 m);  
**Recommended Engines:** A8-3, B4-4, B6-4, C6-5, C6-7



## SKILL LEVEL I ROCKET KITS

### Level I

- Quick and easy to build kits with sanding, cutting and painting required.
- Some kits feature our T™ (Through-The-Tube) Fin System.
- Engines sold separately



MOSQUITO™



QUARK™



ALPHA®



BABY BERTHA™

**new!**



WIZARD™



STORMCASTER™

**new!**



YANKEE™

## SKILL LEVEL I ROCKET KITS

### MOSQUITO™ EST 0801

Mini-engine powered bug of a rocket with screaming high altitude performance. Featherweight recovery.  
**SPECS:** Length: 3.9 in. (9.9 cm); Dia.: 0.54 in. (13.7 mm);  
**Wt.:** 0.1 oz. (2.8 g); **Recovery:** Featherweight; **Fins:** Balsa;  
**Max. Altitude:** 800 ft. (244 m);  
**Recommended Engines:** 1/4A3-3T, 1/2A3-4T, A3-4T, A10-3T

### QUARK™ EST 0802

Mini-engine powered mighty mite. With incredibly simple construction (only seven parts), a little spray paint and decals, and whoosh - out-a-sight flights to 700 ft. (213 m). Quick featherweight recovery for this micro rocket.  
**SPECS:** Length: 5.2 in. (13.2 cm); Dia.: 0.54 in. (13.7 mm);  
**Wt.:** 0.1 oz. (3 g); **Recovery:** Featherweight; **Fins:** Balsa; **Max. Altitude:** 700 ft. (213 m);  
**Recommended Engines:** 1/4A3-3T, 1/2A3-4T, A3-4T, A10-3T

### ALPHA® EST 1225

For over 35 years, the Alpha® has been the first choice for millions of rocket modelers. Easy to build, rugged high performance, parachute recovery - the perfect rocket to get you started!  
**SPECS:** Length: 12.3 in. (31.2 cm); Dia.: 0.98 in. (24.9 mm);  
**Wt.:** 0.8 oz. (23 g); **Recovery:** 12 in. (30 cm) Parachute;  
**Fins:** Die cut balsa; **Max. Altitude:** 1000 ft. (305 m);  
**Recommended Engines:** 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7

### BABY BERTHA™ EST 1261

A miniature version of one of the most popular kits of all time, the Big Bertha®. The Baby Bertha™ soars to 575 ft. (175 m).  
**SPECS:** Length: 12.75 in. (32.4 cm); Dia.: 0.98 in. (24.8 mm);  
**Wt.:** 1.5 oz. (41.3 g); **Recovery:** 12 in. (30 cm) Parachute; **Fins:** Die cut balsa; **Max. Altitude:** 575 ft. (175 m);  
**Recommended Engines:** A8-3, B4-4, B6-4, C6-5

### WIZARD™ EST 1292

No tricks here - the Wizard™ is an easy to build high-performance kit. A great first or second kit that promises real excitement and fun!  
**SPECS:** Length: 12 in. (30.5 cm); Dia.: 0.74 in. (18.8 cm);  
**Wt.:** 0.4 oz. (12 g); **Recovery:** Streamer; **Fins:** Die cut balsa; **Max. Altitude:** 1500 ft. (457 m);  
**Recommended Engines:** 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7

### STORMCASTER™ EST 1301

Go big on a small budget! Powered by the "C11" engine, this big rocket can also be used with a "D" engine. The StormCaster™ is over 30 in. (76.2 cm) tall. It flies up to 930 ft. (283 m).  
**SPECS:** Length: 30.25 in. (76.8 cm); Dia.: 1.64 (41.6 mm);  
**Wt.:** 2.9 oz. (80.8 g); **Recovery:** 18 in. (46 cm) Parachute; **Fins:** T™ Die cut balsa; **Max. Altitude:** 930 ft. (283 m);  
**Recommended Engines:** C11-3, C11-5, D12-5  
 Requires 3/16 in. (5 mm) Maxi™ launch rod (EST 302244) - sold separately.

### YANKEE™ EST 1381

A rocket with All-American performance - screams to 1400 ft. (427 m) altitude! Comes with cool self-adhesive decals, for that red, white and blue look.  
**SPECS:** Length: 11 in. (27.9 cm); Dia.: 0.74 in. (18.8 mm);  
**Wt.:** 0.4 oz. (12 g); **Recovery:** Streamer; **Fins:** Die cut balsa; **Max. Altitude:** 1400 ft. (427 m);  
**Recommended Engines:** 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7

Estes® model rocketry is recommended for ages 10 years and up. Adult supervision is recommended for those under 12 years of age.

# SKILL LEVEL I ROCKET KITS



**BIG BERTHA®**



**VIKING™**



**NOVA PAYLOADER™**



**MONGOOSE™**



**ALIEN LANDER!**



**TRANSWING™  
SUPER GLIDER**



**VENUS PROBE™**



**TRANSFORMS  
INTO GLIDER!**

**BIG BERTHA®** **EST 1948**

Burly, big and beautiful! Over the decades this is the first big (two feet tall) rocket for many modelers. Slow, realistic lift-offs from this true classic.

**SPECS:** Length: 24 in. (61 cm); Dia.: 1.64 in. (41.7 mm); Wt.: 2.2 oz. (62 g); Recovery: 18 in. (46 cm); Fins: Die cut balsa; Max. Altitude: 500 ft. (152 m); Recommended Engines: B4-2, B4-4, B6-2, B6-4, C6-5

**VIKING™** **EST 1949**

Fantastic rocket with multiple possible fin configurations - 48 in all. Features die cut card fins, self-adhesive decals and streamer recovery. Super high altitude flights.

**SPECS:** Length: 12.1 in. (30.7 cm); Dia.: 0.74 in. (18.8 mm); Wt.: 0.6 oz. (17 g); Recovery: Streamer; Fins: Die cut card; Max. Altitude: 1470 ft. (448 m); Recommended Engines: 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7

**NOVA PAYLOADER™** **EST 1960**

Clear payload capsule, lightweight design with balsa fins and high altitude performance combine to make this a great cargo carrying rocket!

**SPECS:** Length: 21.1 in. (53.6 cm); Dia.: 0.98 in. (24.9 mm); Wt.: 1.3 oz. (38 g); Recovery: 12 in. (30 cm) Parachute; Fins: Die cut balsa; Max. Altitude: 1000 ft. (305 m); Recommended Engines: A8-3, B4-4, B6-4, C6-5

**MONGOOSE™** **EST 2092**

Snakes won't get close to this one! Perfect first two-stage rocket! Super quick to build with high altitude performance - over 1600 ft. (488 m)! Colored with two one piece fin units, crazy-looking self-adhesive decals.

**SPECS:** Length: 26.5 in. (67.3 cm); Dia.: 0.98 in. (24.9 mm); Wt.: 2.3 oz. (65 g); Recovery: Streamer; Fins: One piece plastic molded; Max. Altitude: 1600 ft. (488 m); Recommended Engines: Single Stage - A8-3, B4-4, B6-4, C6-5; Two Stage: Booster - B6-0, C6-0; 2nd Stage - A8-5, B6-6, C6-7

**TRANSWING™ SUPER GLIDER** **EST 2112**

Blazes off the pad like a rocket, but at apogee, the power pod falls away, releasing the wings and the Transwing™ transforms into a long duration glider. Easy to build - no painting! Flights over one minute are possible.

**SPECS:** Length: 22 in. (55.9 cm); Dia.: 0.98 in. (24.9 mm); Glider Wingspan: 24 in. (61 cm); Total Wt.: 3.8 oz. (108 g); Recovery: Glider; Power Pod: Streamer; Fins: Die cut balsa; Max. Altitude: 305 ft. (93 m); Recommended Engines: B4-2, B6-2, C6-3

**VENUS PROBE™** **EST 2120**

Find the truth! Mothership deploys alien lander (alien included). Lander extends legs and descends under its own parachute - lands upright every time! Mothership returns on its own parachute.

**SPECS:** Length: 27 in. (68.6 cm); Dia.: 1.33 in. (33.8 mm); Wt.: 5.1 oz. (145 g); Landing Gear Span: 24 in. (61 cm); Alien Lander Ht.: 10.5 in. (26.7 cm); Recovery: 12 in. (30 cm) and 18 in. (46 cm) Parachutes; Fins: T™ Die cut balsa; Max. Altitude: 250 ft. (76 m); Recommended Engines: C6-3 ONLY!

Estes® model rocketry is recommended for ages 10 years and up. Adult supervision is recommended for those under 12 years of age.

## SKILL LEVEL I ROCKET KITS



FAT BOY™



EXOSKELL™



MONARCH™



CC EXPRESS™



STAR DART™



SIZZLER®



BLACK BRANT II

## SKILL LEVEL 2 ROCKET KITS

- Requires more skill in building and painting.
- Assembly time may take a complete day.
- Engines sold separately

OVER 6 FT.  
LONG!  
(1.8 M)

NEW!

2  
STAGE!

MEAN MACHINE™

Estes® model rocketry is recommended for ages 10 years and up. Adult supervision is recommended for those under 12 years of age.

**FAT BOY™** EST 2139  
Fat Boy™...and proud of it! Over 2 1/2 in. (63.5 mm) in diameter and just over 12 in. (30.5 cm) tall. Bullets its way to over 300 ft. (91 m) in altitude and recovers with a parachute.  
**SPECS:** Length: 12.9 in. (32.8 cm); **Dia.:** 2.6 in. (66 mm); **Wt.:** 3.0 oz. (85 g); **Recovery:** 18 in. (46 cm) Parachute; **Fins:** T™ Die cut balsa; **Max. Altitude:** 325 ft. (99 m); **Recommended Engines:** B4-2, B6-2, C6-3

**EXOSKELL™** EST 2163  
This spectacular rocket has a reptilian look that will "WOW" even the biggest sci-fi fan. The mothership deploys an alien pod (alien included). The pod extends legs and descends under its own parachute - lands upright every time. Mothership returns on its own parachute.  
**SPECS:** Length: 18.5 in. (47 cm); **Dia.:** 2.25 in. (57 mm); **Wt.:** 5.3 oz. (150 g); **Recovery:** Booster - 12 in. (30 cm) Parachute; Alien Pod - 18 in. (46 cm) Parachute; **Fins:** Plastic molded; **Max. Altitude:** 215 ft. (66 m); **Recommended Engines:** C6-3 ONLY

**MONARCH™** EST 2172  
The Monarch™ has a unique fin configuration that gives extra stability during flight. This regal rocket flies over 1200 ft. (366 m).  
**SPECS:** Length: 17.25 in. (43.8 cm); **Dia.:** 0.98 in. (24.9 mm); **Wt.:** 1.8 oz. (49.6 g); **Recovery:** 12 in. (30 cm) Parachute; **Fins:** Die cut balsa; **Max. Altitude:** 1225 ft. (373 m); **Recommended Engines:** A8-3, B4-4, B6-4, C6-5

**STAR DART™** EST 2170  
This rocket flies through the air with amazing speed! It can hit altitudes over 2000 ft. (607 m)!  
**SPECS:** Length: 12.75 in. (32.4 cm); **Dia.:** 0.74 in. (18.8 mm); **Wt.:** 1.0 oz. (27.2 g); **Recovery:** 12 in. (30 cm) Parachute; **Fins:** Die cut balsa; **Max. Altitude:** 2010 ft. (613 m); **Recommended Engines:** 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7

**SIZZLER®** EST 2171  
Burn up the sky with the Sizzler®! This rocket scorches through the atmosphere with flights over 2000 ft. (607 m)!  
**SPECS:** Length: 11.75 in. (29.8 cm); **Dia.:** 0.74 in. (18.8 mm); **Wt.:** 0.8 oz. (23.8 g); **Recovery:** 12 in. (30 cm) Parachute; **Fins:** Die cut balsa; **Max. Altitude:** 2040 ft. (622 m); **Recommended Engines:** 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7

## SKILL LEVEL 2 ROCKET KITS

**MEAN MACHINE™** EST I295  
Stand back from this beauty! Over six ft. (1.8 m) of rocket with kick-in-the-pants "D" power to boot. Its long, lean looks and great soaring flights make this one of our most popular rockets.  
**SPECS:** Length: 78.8 in. (200.2 cm); **Dia.:** 1.64 in. (41.7 mm); **Wt.:** 5.8 oz. (164 g); **Recovery:** 24 in. (61 cm) Parachute; **Fins:** Die cut balsa; **Max. Altitude:** 600 ft. (183 m); **Recommended Engines:** D12-5 ONLY  
*Requires 3/16 in. (5 mm) Maxi™ launch rod (EST 302244) - sold separately.*

**CC EXPRESS™** EST I302  
The CC Express™ is a high-flying, two-stage rocket powered by "C11" engines. It can also be flown using "D" engines. It soars to 1790 ft. (546 m) in the air.  
**SPECS:** Length: 28.38 in. (72.1 cm); **Dia.:** 1.33 in. (33.7 mm); **Wt.:** 2.7 oz. (75.3 g); **Recovery:** 18 in. (46 cm) Parachute; **Fins:** Die cut balsa; **Max. Altitude:** 1790 ft. (546 m); **Recommended Engines:** Single Stage - C11-5, D12-5; Two-Stage: Booster - C11-0, D12-0; 2nd Stage - C11-5, C11-7, D12-7  
*Requires 3/16 in. (5 mm) Maxi™ launch rod (EST 302244) - sold separately.*

**BLACK BRANT II** EST I958  
Beautiful 1/13th scale model of a Canadian research sounding missile used in the 1960's. High altitude flights on "D" engines. Great detailing!  
**SPECS:** Length: 24.9 in. (63.2 cm); **Dia.:** 1.33 in. (33.8 mm); **Wt.:** 2.3 oz. (65 g); **Recovery:** 18 in. (46 cm) Parachute; **Fins:** Die cut balsa; **Max. Altitude:** 1170 ft. (357 m); **Recommended Engines:** C11-5, D12-5, D12-7

## SKILL LEVEL 2 ROCKET KITS



A.R.V. CONDOR™

SENDS 2  
DRONES AT  
APOGEE!



GEMINI DC™

REAR  
EJECTION  
PARACHUTE  
SYSTEM!



BIG DADDY™



MERCURY REDSTONE

GREAT FOR  
1ST TIME  
SCALE  
BUILDERS!



SUPER NOVA  
PAYLOADER™



MENACE™



NEMESIS™



POLARIS™

Estes® model rocketry is recommended for ages 10 years and up. Adult supervision is recommended for those under 12 years of age.

**A.R.V. CONDOR™** **EST 2075**  
Atmospheric research vehicle of the next century! At apogee, two drones detach for a gliding return to Earth. Booster returns on a streamer.  
**SPECS:** **Booster Length:** 18.5 in. (47.0 cm); **Drone Length:** 6.1 in. (15.5 cm); **Booster Dia.:** 0.98 in. (24.9 mm); **Drone Wingspan:** 10.8 in. (27.4 cm); **Booster Wt.:** 1.1 oz. (32 g); **Drone Wt.:** 0.5 oz. (14 g); **Recovery:** Drones: Glider; Booster: Streamer; **Fins:** Die cut balsa; **Max. Altitude:** 700 ft. (213 m); **Recommended Engines:** B4-2, B6-2, C6-3

**GEMINI DC™** **EST 2136**  
Twin parachutes are rear-ejected from the side pods on this stunning rocket. Nearly out of this world flights. Easy to build! A great flier! A unique rocket!  
**SPECS:** **Length:** 21.5 in. (54.6 cm); **Dia.:** 0.98 in. (24.9 mm); **Wt.:** 3.4 oz. (95 g); **Recovery:** Dual 12 in. (30 cm) Parachutes; **Fins:** T™ Die cut balsa; **Max. Altitude:** 800 ft. (244 m); **Recommended Engines:** B4-2, B4-4, B6-2, B6-4, C6-3, C6-5

**SUPER NOVA PAYLOADER™** **EST 2155**  
Using the powerful Estes® "D" engine, the Super Nova Payloader™ lifts your cargo hundreds of feet into the air. The large, clear payload section allows you to stock it with science experiments, bugs, small action figures or other exciting cargo.  
**SPECS:** **Length:** 46.5 in. (118.1 cm); **Dia.:** 1.64 in. (41.7 mm); **Wt.:** 6.2 oz. (175 g); **Recovery:** 24 in. (61 cm) Parachute; **Fins:** T™ Plastic molded; **Max. Altitude:** 500 ft. (152 m); **Recommended Engines:** D12-5 ONLY  
Requires a 3/16 in. (5 mm) Maxi™ launch rod (EST 302244) - sold separately.

**BIG DADDY™** **EST 2162**  
Watch out because Big Daddy™ thinks he's king of the skies! Backed by the power of the mighty Estes® "D" engine, this rocket is KING!  
**SPECS:** **Length:** 19 in. (48.3 cm); **Dia.:** 3.0 in. (76.2 mm); **Wt.:** 5.3 oz. (150 g); **Recovery:** 24 in. (61 cm) Parachute; **Fins:** T™ Die cut balsa; **Max. Altitude:** 350 ft. (107 m); **Recommended Engines:** C11-5, D12-3, D12-5  
Requires 3/16 in. (5 mm) Maxi™ launch rod (EST 302244) - sold separately.

**MERCURY REDSTONE** **EST 2167**  
Perfect for beginners in scale model rocket building - great for rocketeers looking for a challenging yet uncomplicated scale model. Includes "Liberty Bell 7" decals commemorating the return of "Gus" Grissom's capsule that was lost at sea for 38 years.  
**SPECS:** **Length:** 23.5 in. (59.7 cm); **Dia.:** 1.6 in. (40.6 mm); **Wt.:** 3.0 oz. (84 g); **Recovery:** 12 in. (30 cm) and 18 in. (46 cm) Parachutes; **Fins:** T™ Plastic molded; **Max. Altitude:** 500 ft. (152 m); **Recommended Engines:** B6-4, C6-3, C6-5

**MENACE™** **EST 2173**  
The Menace™ is a great defender of freedom. This ground-to-air missile is definitely a menace to its target. Protect the skies with the Menace™!  
**SPECS:** **Length:** 18 in. (45.7 cm); **Dia.:** 1.64 in. (41.7 mm); **Wt.:** 2.6 oz. (73 g); **Recovery:** 18 in. (46 cm) Parachute; **Fins:** Die cut balsa; **Max. Altitude:** 650 ft. (198 m); **Recommended Engines:** A8-3, B4-4, B6-4, C6-5

**POLARIS™** **EST 2174**  
Launch an attack on your enemies. The Polaris™ missile is capable of hitting a target in the air or in outer space.  
**SPECS:** **Length:** 18.75 in. (47.6 cm); **Dia.:** 1.33 in. (33.8 mm); **Wt.:** 3.0 oz. (85 g); **Recovery:** 12 in. (30 cm) Parachute; **Fins:** Die cut balsa; **Max. Altitude:** 700 ft. (213 m); **Recommended Engines:** A8-3, B4-4, B6-4, C6-5

**NEMESIS™** **EST 2175**  
One of the most feared spaceships in the galaxy! The Nemesis™ has destroyed hundreds of spaceships in battle.  
**SPECS:** **Length:** 16.25 in. (41.3 cm); **Dia.:** 0.98 in. (24.9 mm); **Wt.:** 1.8 oz. (50 g); **Recovery:** 12 in. (30 cm) Parachute; **Fins:** Die cut balsa; **Max. Altitude:** 1225 ft. (373 m); **Recommended Engines:** A8-3, B4-4, B6-4, C6-5



## SKILL LEVEL 2 ROCKET KITS



THE DUDE™



BULL PUP I2D™



INCLUDES ITS OWN LAUNCH PAD AND CONTROLLER!

## SKILL LEVEL 3 ROCKET KITS

- The construction and flying of these kits require a higher level of skill.
- Assembly may take a couple of days.
- Engines sold separately



PHOENIX™



COMANCHE-3™



ECHOSTAR™



NIGHT WING™

**THE DUDE™** EST 2199  
Huge inflatable rocket set. The Dude™ stands over 7 ft. (2.1 m) tall! Includes Electron Beam® Launch Controller and special launch pad, with 48" x 1/4" (122 cm x 6 mm) launch rod and 10 1/2" (26.7 cm) diameter blast deflector plate.  
**SPECS:** Length: 88 in. (223.5 cm); Dia.: 5.75 in. (146.1 mm); Wt.: 8.0 oz. (226.8 g); Recovery: 12 in. (30 cm) Parachute; Fins: Plastic molded; Max. Altitude: 300 ft. (91 m)  
**Recommended Engines:** D12-3 ONLY

**BULL PUP I2D™** EST 7000  
Sport scale version of the USAF AGM-12D Bull Pup. Plastic tail cone and authentic color decals! Great first scale model.  
**SPECS:** Length: 9.5 in. (24.1 cm); Dia.: 1.33 in. (33.8 mm); Wt.: 1.8 oz. (51 g); Recovery: 12 in. (30 cm) Parachute; Fins: Die cut balsa; Max. Altitude: 675 ft. (206 m);  
**Recommended Engines:** A8-3, B4-4, B6-4, C6-5

## SKILL LEVEL 3 ROCKET KITS

**PHOENIX™** EST I380  
Huge 1/9th semi scale model of the AIM-54 air-to-air Phoenix missile. Giant full color decal sheet. "D" engine powered for fantastic flights.  
**SPECS:** Length: 30 in. (76.2 cm); Dia.: 2.6 in. (66 mm); Wt.: 6.6 oz. (197 g); Recovery: 18 in. (46 cm) Parachute; Fins: Die cut balsa; Max. Altitude: 350 ft. (107 m);  
**Recommended Engines:** D12-3 ONLY  
Requires 3/16 in. (5 mm) Maxi™ launch rod (EST 302244) - sold separately.

**COMANCHE-3™** EST I382  
When two stages simply aren't enough, try three! A "D" engine powered booster stage gets things going in a hurry. Estes® highest flying rocket roars to ultra high altitudes - over half a mile (805 m) high!  
**SPECS:** Length: 41 in. (104.1 cm); Dia.: 0.98 in. (24.9 mm); Wt.: 2.1 oz. (59 g); Recovery: Two Streamers; Fins: Die cut balsa; Max. Altitude: 2660 ft. (811 m);  
**Recommended Engines:** Single Stage Flights - A8-3, B4-4, B6-4, C6-5; Three Stage Flights - Booster: C11-0, D12-0; Second Stage: B6-0, C6-0; Third Stage: B6-6, C6-7  
Requires 3/16 in. (5 mm) Maxi™ launch rod (EST 302244) - sold separately.

**ECHOSTAR™** EST 2176  
This fun rocket is a big, two-stage payload. The EchoStar™ has a clear payload section to store cargo during flights.  
**SPECS:** Length: 29 in. (73.7 cm); Dia.: 1.33 in. (33.8 mm); Wt.: 3.6 oz. (102.1 g); Recovery: 18 in. (46 cm) parachute Fins: T™ die cut balsa; Max. Altitude: 1200 ft. (366 m);  
**Recommended Engines:** Single Stage - B4-4, B6-4, C6-5; Single Stage with Payload - B4-2, B6-2, C6-3; Two-Stages: Booster - B6-0, C6-0; 2nd Stage - B6-6, C6-7

**NIGHT WING™** EST 2177  
Infiltrate enemy air space with this sleek, super spy plane! The Night Wing™ comes with precision die cut balsa parts that feature "slot and tab" design, a blow-molded nose cone and die cut card stock fuselage fairings.  
**SPECS:** Length: 19 in. (48.3 cm); Wingspan: 9.5 in. (24.1 cm); Wt.: 3.2 oz. (90.7 g); Recovery: 18 in. (46 cm) parachute; Fins: Die cut balsa; Max. Altitude: 650 ft. (198 m);  
**Recommended Engines:** B4-4, B6-4, C6-5

Estes® model rocketry is recommended for ages 10 years and up. Adult supervision is recommended for those under 12 years of age.



## "E" ENGINE POWERED KITS

- Kits powered by Estes® "E" engines - sold separately.
- For ages 18 and up. Adult supervision required for ages under 18.
- Requires Estes® Porta-Pad® E Launch Pad (EST 2238) and E™ Launch Controller (EST 2230) for use - sold separately.
- Can also be flown on Estes® "D" engines.



ELIMINATOR™



EXECUTIONER™



V-2



i28 IMPULSE™

FOR USE WITH R/C!



T25 CENTURIAN™

### ELIMINATOR™

EST 1950

Reach new heights with this quick-build, high-flying sport rocket. The Eliminator™ comes with colored body tubes, nose cone and fin unit, so no painting is required.

**SPECS:** Skill Level: 2 Length: 30.8 in. (78.2 cm); Dia.: 1.35 in. (34.3 mm); Wt.: 4.6 oz. (130 g); Recovery: 12 in. (30 cm) Parachute; Fins: One piece plastic molded; Max. Altitude: 1420 ft. (433 m); Recommended Engines: C11-5, D12-5, D12-7, E9-6, E9-8

### EXECUTIONER™

EST 1951

Huge rocket stands over 3 ft. (0.9 m) tall! The Executioner™ comes with laser cut fins and a slotted body tube for precise fin alignment.

**SPECS:** Skill Level: 3 Length: 38.5 in. (97.8 cm); Dia.: 2.6 in. (66.0 mm); Wt.: 8.1 oz. (230 g); Recovery: 24 in. (61 cm) Parachute; Fins: T™ Laser cut wood; Max. Altitude: 590 ft. (180 m); Recommended Engines: D12-3, E9-4, E9-6

### V-2

EST 1952

Beautiful 1/19th scale model of a German ground-to-ground ballistic missile. Comes with blow molded nose cone and tail cone and vacuum formed fins.

**SPECS:** Skill Level: 4; Length: 33.5 in. (85.1 cm); Dia.: 3.94 in. (100 mm); Wt.: 12.05 oz. (354 g); Recovery: Two 24 in. (61 cm) Parachutes; Fins: Vacuum formed plastic; Max. Altitude: 300 ft. (91 m); Recommended Engines: D12-3, E9-4

### i28 IMPULSE™

EST 2200

The i28 Impulse™ Boost Glider combines boost glider technology with R/C aerobatics to deliver maximum flying fun! It blasts 600 ft. (183 m) into the air. The i28 Impulse™ comes almost ready to fly with factory built and covered wings, tail and fuselage, with linkage installed. Requires 2-Channel R/C system - sold separately. It can also be converted to fly with a Cox® .049 glow engine - not included.

**SPECS:** Wingspan: 34.75 in. (88.3 cm); Recommended Engines: D11-P, E9-P

### T25 CENTURIAN™

EST 2201

Experience the thrill of combining boost glider technology with R/C aerobatics. The T25 Centurian™ is a twin tail sailplane that rockets to maximum soaring heights of close to 600 ft. (183 m). The T25 Centurian™ comes almost ready to fly with factory built and covered wings, tail and fuselage, with linkage installed. Requires 2-Channel R/C system - sold separately. It can also be converted to fly with a Cox® .049 glow engine - not included.

**SPECS:** Wingspan: 34.5 in. (87.6 cm); Recommended Engines: D11-P, E9-P

## ROCKETRY AND EDUCATION

FOR MORE DETAILS AND INFORMATION ON OUR MODEL ROCKET EDUCATIONAL SUPPLIES, SEE THE ESTES EDUCATOR™ CATALOG OR VISIT US AT: [www.esteseducator.com](http://www.esteseducator.com)

### ESTES AIR™ ROCKET CLASS PACK™ NEW!

EST I778

(Pictured at right)

- Rocketry for Primary Grades
- Rockets COMPLETELY POWERED BY AIR!
- Includes Teacher's Hands-on Activity Guide
- Fulfills Many National Education Standards

CLASS PACK INCLUDES:

- 1 - Estes Air™ Pump & Launcher
- 1 - "Awesome Estes Air™ Rocket Activities" - Teacher's Guide
- 30 - Estes Air™ Rocket Kits
- 30 - Colorful Decal Sheets



ESTES AIR™ ROCKET CLASS PACK™

### MODEL ROCKET BULK PACKS

12 rockets per pack, complete with 12 sets of instructions and extra parts.

#### E2X® SERIES

- Gnome™ Bulk Pack (See page 13 for rocket description) EST I750
- Alpha III® Bulk Pack (See page 13 for rocket description) EST I751
- Generic E2X® Bulk Pack (Pictured at right) EST I764
- X-Ray™ Bulk Pack (See page 13 for rocket description) EST I768

#### SKILL LEVEL 1

- Wizard™ Bulk Pack (See page 19 for rocket description) EST I754
- Viking™ Bulk Pack (See page 21 for rocket description) EST I755
- Alpha® Bulk Pack (See page 19 for rocket description) EST I756

#### SKILL LEVEL 2

- Loadstar™ Bulk Pack (Pictured at right) EST I760
- Bull Pup 12D™ (See page 27 for rocket description) EST I767

### MODEL ROCKET ENGINE BULK PACKS

Includes 24 engines and igniter plugs, 30 igniters and a package of recovery wadding - 75 sheets. (Pictured at right) See pages 32-34 for engine descriptions.

- 1/2A3-2T Bulk Pack EST I780
- A8-3 Bulk Pack EST I781
- B6-4 Bulk Pack EST I783
- C6-0/B6-6 Bulk Pack (12 each) EST I784
- Blast-Off® Flight Pack EST I672  
(Includes 6 each: A8-3, B6-4, C6-3, C6-5)

### CURRICULA

- Industrial Technology & Model Rockets™ EST 2850  
(For grades 6-12)
- Aviation and Light Gliders™ EST 2851  
(For grades 2-4 and up)
- Ignite the Imagination™ Curriculum Guide EST 2852  
(Pictured at right)
  - For grades 5-8.
  - Hands-on activities on model rockets and space.
  - National Education Standards Incorporated.

### VIDEO

- Ignite the Imagination™ Video (Pictured at right) EST 2794
  - Introduces lessons in the Ignite the Imagination™ Curriculum Guide.
  - Total running time: 23 minutes.

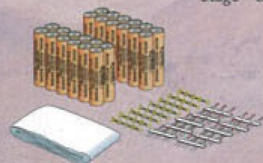


GENERIC E2X® BULK PACK  
EST I764

**SPECS:** Length: 15 in. (38.1 cm); Dia.: 0.98 in. (24.8 mm); Wt.: 1.3 oz. (36 g); Recovery: 12 in. (30 cm) Parachute; Fins: One piece plastic molded; Max. Altitude: 1100 ft. (335 m); Recommended Engines: 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7,

LOADSTAR™ BULK PACK  
EST I760

**SPECS:** Length: 15 in. (38.1 cm); Dia.: 0.98 in. (24.8 mm); Wt.: 1.3 oz. (36 g); Recovery: 12 in. (30 cm) Parachute; Fins: One piece plastic molded; Max. Altitude: 1100 ft. (335 m); Recommended Engines: Single Stage - B4-4, A8-3, A8-5, B6-4, C6-5 or: First Stage - B6-0, C6-0; Second Stage - B6-6, C6-7



MODEL ROCKET ENGINE BULK PACK



IGNITE THE IMAGINATION™ CURRICULUM GUIDE & VIDEO

## ESTES® MODEL ROCKET ACCESSORIES

DESIGNER'S SPECIAL . . . . . EST 1463  
Contains parts to design and build 7-8 of your own rockets.

BLAST-OFF® FLIGHT PACK . . . . . EST 1672  
Includes 6 each of A8-3, B6-4, C6-3, C6-5 engines, 30 igniters and 75 sheets of recovery wadding

E™ LAUNCH CONTROLLER . . . . . EST 2230  
Comes complete with safety key and 30 ft. (9 m) of cable. Requires 4 "AA" alkaline batteries - not included. Adult supervision is required for anyone under 18 when launching "E" engine powered rockets.

COMMAND CONTROL™ LAUNCH CONTROLLER . . . . . EST 2234  
The ultimate launcher for model rocket launches. Launches any Estes® rocket. The Command Control™ Launch Controller has multiple power source options. Power from an internal NiCd or external 12-volt battery source (NiCd not included). Comes with 30 ft. (9 m) of cable.

PORTA-PAD® E LAUNCH PAD . . . . . EST 2238  
Quick assembly - no glue or tools required. Includes a 1/4 in. (6 mm) launch rod, but can accommodate a 3/16 in. (5 mm) Maxi™ launch rod - not included. Adult supervision required for anyone under 18 when launching "E" engine powered rockets.

PORTA-PAD® II LAUNCH PAD . . . . . EST 302215  
Quick assembly - no glue or tools required! Comes complete with blast deflector and standoff, two-piece 1/8 in. (3 mm) launch rod, safety cap and key. Porta-Pad® II can accommodate a 3/16 in. (5 mm) Maxi™ launch rod - not included.

ELECTRON BEAM® LAUNCH CONTROLLER . . . . . EST 302220  
Launch controller comes complete with safety key and 17 ft. (5.2 m) of cable. Requires four "AA" alkaline batteries - not included.

TUBE MARKING GUIDE . . . . . EST 302227  
Easy way to mark fin and launch lug placement lines. Also includes a fin gluing jig.

ALTRITRAX™ . . . . . EST 302232  
Measure altitude with this easy to use device. Follow the rocket in the sights to apogee, release the trigger to lock the reading.

EMERGENCY REPAIR KIT . . . . . EST 302233  
Contains: shock cord mounts, tape rings, safety key, recovery wadding, 12 in. (30 cm) assembled parachute kit, shroud line, launch lugs, shock cords and launch rod safety cap.

BLAST DEFLECTOR PLATE . . . . . EST 302241  
Replaces that worn-out deflector.

1/8 in. (3 mm) TWO-PIECE LAUNCH ROD . . . . . EST 302243  
Replacement rod; ideal for most rockets.

3/16 in. (5 mm) TWO-PIECE MAXI™ LAUNCH ROD . . . . . EST 302244  
Launch rod with extra strength and stiffness for larger rockets.

12 in. (30 cm) PARACHUTE (Assembled) . . . . . EST 302264

18 in. (46 cm) PARACHUTE (Assembled) . . . . . EST 302267

24 in. (61 cm) PARACHUTE (Assembled) . . . . . EST 302271

RECOVERY WADDING . . . . . EST 302274  
Flame resistant wadding protects recovery system. Required in most Estes® rockets. Contains 75 sheets - enough for about 18-25 flights!

SHOCK CORDS & MOUNT PACK . . . . . EST 302278  
Contains two 1/8 in. x 18 in. (3 mm x 450 mm), and one 1/4 in. x 36 in. (6 mm x 910 mm) elastic shock cords (enough for four shock cords). Includes mounts and instructions.

MODEL ROCKET IGNITERS . . . . . EST 302301  
Dependable, easy-to-use Estes® igniters in a convenient six pack. It is always a good idea to have a few spares.

LAUNCH LUG PACK . . . . . EST 302320  
Contains eight 1/8 in. (3 mm), four 3/16 in. (5 mm) and two 1/4 in. (6 mm) launch lugs.

BT-5 BODY TUBE . . . . . EST 303084  
Includes four 18 in. (45.7 cm) BT-5 body tubes. . . . .

BT-20 BODY TUBE . . . . . EST 303085  
Includes four 18 in. (45.7 cm) BT-20 body tubes.

BT-50 BODY TUBE . . . . . EST 303086  
Includes three 18 in. (45.7 cm) BT-50 body tubes.

BT-55 BODY TUBE . . . . . EST 303087  
Includes three 18 in. (45.7 cm) BT-55 body tubes.

BT-60 BODY TUBE . . . . . EST 303089  
Includes three 14.2 in. (36.1 cm) BT-60 body tubes.

BT-80 BODY TUBE . . . . . EST 303090  
Includes two 11 in. (27.9 cm) BT-80 body tubes.

ENGINE HOOK ACCESSORY PACK . . . . . EST 303143  
Hooks fit mini-engines (one), regular and "D" engines (three) and "E" engines (two). Includes spacer for "E" engine hooks.

MINI ENGINE MOUNT KIT . . . . . EST 303157  
Fits BT-20 tubes. Also can be used to fly lightweight standard engine kits with mini-engines.

REGULAR ENGINE MOUNT KIT . . . . . EST 303158  
Fits BT-50, 55, 56 & 60 tubes. Plus can be used to make a conversion mount for lightweight D powered rockets.

D AND E ENGINE MOUNT KIT . . . . . EST 303159  
Heavy duty engine mounts for "D" and "E" engines. Fits BT-55, 60 and 80 tubes.

NC-5 NOSE CONE ASSORTMENT (5 pack) . . . . . EST 303160

NC-20 NOSE CONE ASSORTMENT (4 pack) . . . . . EST 303161

NC-50 NOSE CONE ASSORTMENT (5 pack) . . . . . EST 303162

NC-55 NOSE CONE ASSORTMENT (4 pack) . . . . . EST 303163

NC-56 NOSE CONE ASSORTMENT (4 pack) . . . . . EST 303164

NC-60A NOSE CONE ASSORTMENT (2 pack) . . . . . EST 303165

NC-80B NOSE CONE (1 pack) . . . . . EST 303168

NC-1090 NOSE CONE ASSORTMENT (4 pack) . . . . . EST 303169

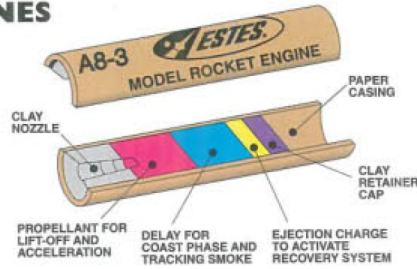
LARGE TUBE COUPLER PACK . . . . . EST 303196  
Includes two couplers for BT-55, BT-56, and BT-60; One for BT-80.



# ESTES® MODEL ROCKET ENGINES

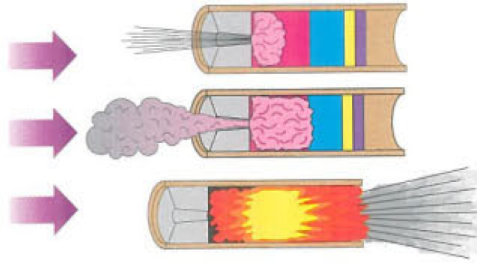
The famous model rocket engines that made model rocketry the great activity it is today.. Estes® model rocket engines have been proven consistent and reliable in more than 300,000,000 launches.

- 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 codes 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 rocket into sky.
2. After propellant is used up, delay is activated, producing tracking smoke and allowing rocket to coast.
3. After delay, ejection charge is activated, deploying recovery system.



## WHAT SIZES ARE AVAILABLE?

Estes® engines are available in a wide variety of sizes and power levels:

TYPE TOTAL	IMPULSE	ENGINE TYPES
1/4A	0.313 - 0.625	Mini
1/2A	0.626 - 1.25	Standard, Mini
A	1.26 - 2.50	Standard, Mini
B	2.51 - 5.00	Standard
C6	5.01 - 10.00	Standard
C11	5.01 - 10.00	"D" Size
D	10.01 - 20.00	"D" Size
E	20.01 - 30.00	"E" Size

## WHAT DO THE DIFFERENT COLOR ENGINES MEAN?

Each type of engine is printed in a different color:

- 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.)

Each engine has a letter-number-number code. (e.g., B6-4)

Letter: B  
Number: 6  
Number: 4



### 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

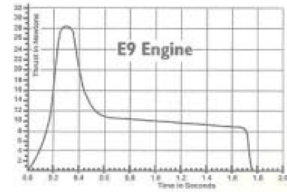
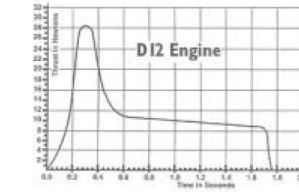
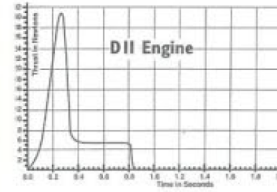
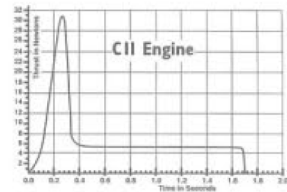
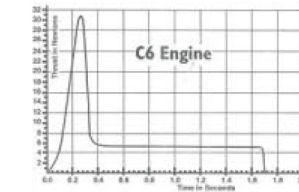
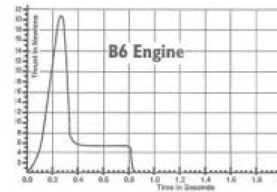
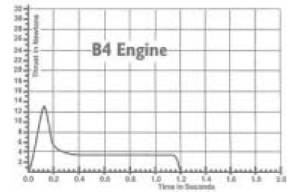
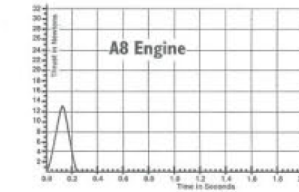
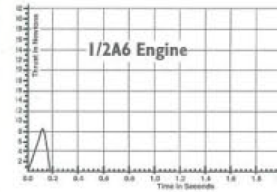
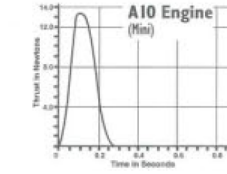
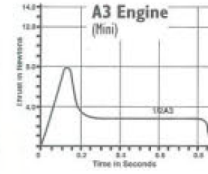
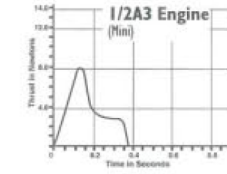
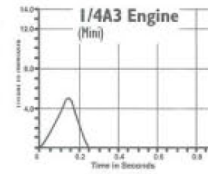
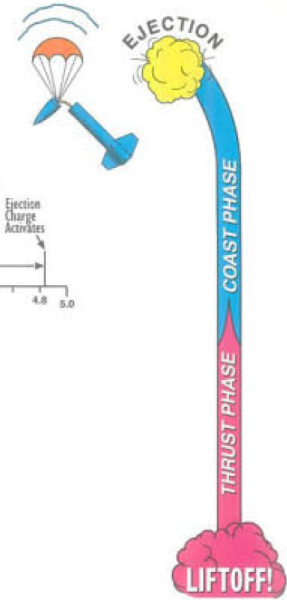
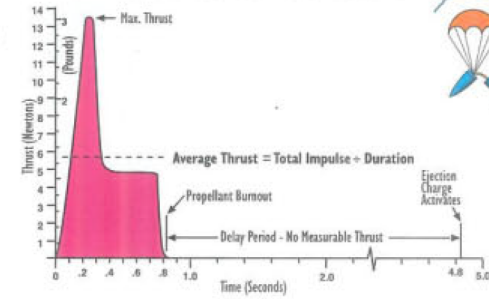
This number shows the engine's average push or how fast the engine powers the rocket to go. The higher the number, the faster the speed. It is measured in Newtons (4.45 Newtons = 1 lb.).

### 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.

## TIME/THRUST CURVES

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



## ESTES® ENGINE CHART

- Delays have a tolerance of plus or minus 10% or 1 second, whichever is greater.
- All Estes® engines come complete with igniters and patented igniter plugs (Pat. No. 5,410,966 and 5,509,354). The Estes® Igniter Plug makes engine ignition extremely reliable.
- Do not fly a rocket/engine combination whose maximum lift-off weight exceeds the recommended maximum lift-off weight.

Prod. No.	Engine Type	Total Impulse	Time Delay	Max. Lift Wt.		Max. Thrust		Thrust Duration	Initial Weight		Propellant Weight	
		N-sec	Sec.	Oz.	g	Newtons	Lbs.	Sec.	Oz.	g	Oz.	g
<b>SINGLE STAGE ENGINES (GREEN LABEL)</b>												
1502	1/4A3-3T	0.625	3	1.0	28	4.9	1.1	0.25	0.20	5.6	0.03	0.85
1503	1/2A3-2T	1.25	2	2.0	57	8.5	1.9	0.3	0.20	5.6	0.06	1.75
1507	A3-4T	2.50	4	2.0	57	8.5	1.9	0.6	0.27	7.6	0.12	3.50
1511	A10-3T	2.50	3	3.0	85	13.0	2.9	0.8	0.28	7.9	0.13	3.78
1593	1/2A6-2	1.25	2	2.0	57	11.8	2.7	0.3	0.53	15.0	0.06	1.56
1598	A8-3	2.50	3	3.0	85	11.8	2.7	0.5	0.57	16.2	0.11	3.12
1601	B4-2	5.00	2	4.0	113	13.2	3.0	1.1	0.70	19.8	0.29	8.33
1602	B4-4	5.00	4	3.5	99	13.2	3.0	1.1	0.74	21.0	0.29	8.33
1605	B6-2	5.00	2	4.5	127	12.1	2.7	0.8	0.68	19.3	0.22	6.24
1606	B6-4	5.00	4	4.0	113	12.1	2.7	0.8	0.71	20.1	0.22	6.24
1613	C6-3	10.00	3	4.0	113	15.3	3.4	1.6	0.88	24.9	0.44	12.48
1614	C6-5	10.00	5	4.0	113	15.3	3.4	1.6	0.91	25.8	0.44	12.48
1622	C11-3	10.00	3	6.0	170	22.1	4.9	0.8	1.14	32.2	0.39	11.00
1623	C11-5	10.00	5	5.0	142	22.1	4.9	0.8	1.18	33.3	0.39	11.00
1666	D12-3	20.00	3	14.0	396	32.9	7.4	1.6	1.49	42.2	0.88	24.93
1667	D12-5	20.00	5	10.0	283	32.9	7.4	1.6	1.52	43.1	0.88	24.93
1673	E9-4	30.00	4	15.0	425	25.0	5.6	2.8	2.00	56.7	1.27	35.80
1674	E9-6	30.00	6	15.0	425	25.0	5.6	2.8	2.00	56.7	1.27	35.80
<b>UPPER STAGE ENGINES (PURPLE LABEL)</b>												
1504	1/2A3-4T	1.25	4	1.0	28	8.3	1.9	0.3	0.21	6.0	0.06	1.75
1599	A8-5	2.50	5	2.0	57	13.3	3.0	0.5	0.62	17.6	0.11	3.12
1607	B6-6	5.00	6	2.5	71	12.1	2.7	0.8	0.78	22.1	0.22	6.24
1615	C6-7	10.00	7	2.5	71	15.3	3.4	1.6	0.95	26.9	0.44	12.48
1624	C11-7	10.00	7	4.0	113	22.1	4.9	0.8	1.22	34.5	0.39	11.00
1668	D12-7	20.00	7	8.0	226	32.9	7.4	1.6	1.55	44.0	0.88	24.93
1675	E9-8	30.00	8	15.0	425	25.0	5.6	2.8	2.00	56.7	1.2	35.80
<b>BOOSTER STAGE ENGINES (RED LABEL)</b>												
1608	B6-0	5.00	None	4.0	113	12.1	2.7	0.8	0.58	16.4	0.22	6.24
1616	C6-0	10.00	None	4.0	113	15.3	3.4	1.6	0.80	22.7	0.44	12.48
1621	C11-0	10.00	None	6.0	170	22.1	4.9	0.8	0.98	27.8	0.39	11.00
1665	D12-0	20.00	None	14.0	396	32.9	7.4	1.6	1.44	40.9	0.88	24.93
<b>PLUGGED ENGINES - FOR USE WITH R/C ROCKET GLIDERS (BLUE LABEL)</b>												
1669	D11-P	20.00	None	16.0	453	27.6	6.2	1.8	1.55	44.0	0.88	24.93
1676	E9-P	30.00	None	15.0	425	25.0	5.6	2.8	2.0	56.	1.27	35.80

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

## ESTES® SPECIALTY PRODUCTS



CYCLONE™

**CYCLONE™** **EST 1853**  
Water/Air powered glider. Soars up to 200 ft. (61 m) through the sky. Includes an easy to assemble glider, pump and water bottle. Recommended for ages 8 and up.  
**SPECS:** Length: 14.5 in. (36.8 cm); Wingspan: 15.5 in. (39.4 cm)



JET STIX™

**JET STIX™** **EST 1854**  
Pump it up and watch it fly! This sporty little glider comes with a small hand pump for great flying fun. Recommended for ages 8 and up.  
**SPECS:** Length: 6.25 in. (15.9 cm);



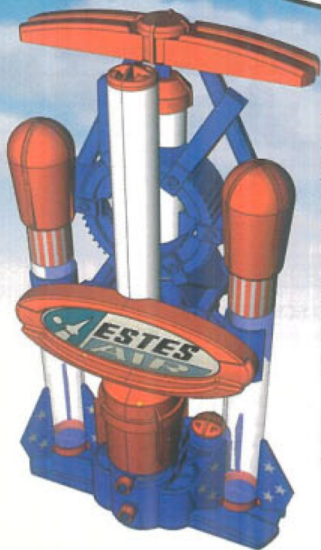
SPICY WINGS™  
ELECTRIC PLANES

**SPICY WINGS™ ELECTRIC PLANES** **EST 9117**  
These hot little planes can circle the sky for more than a minute on a single charge of just 45 seconds! Great for parks, playgrounds or athletic fields. Available in three sporty styles, each ready to fly, including a pocket-size charger that restores power in just seconds. (Requires 2 - 'AA' alkaline batteries - sold separately). Recommended for ages 7 and up.  
**SPECS:** Length: 11.38 in. (28.0 cm) Wingspan: 13 in. (33.0 cm);



KICK DIS™ POWER PUCK

**KICK DIS™ POWER PUCK** **EST 8300**  
Hit it with a stick, play soccer or hockey with it, even use it to bowl. The Kick Dis™ Power Puck floats on a cushion of air and is surrounded by a tough rubber bumper, so it can be played with indoors or out. Includes rechargeable NiCd battery and a wall mount charger.  
**SPECS:** Dia.: 7.5 in. (19.1 cm);



**ESTES AIR™ GL-X200™  
AIR ROCKET SYSTEM  
EST 1875**

The Estes Air™ GL-X200™ sends a rocket to awesome heights with a few pumps of air. Quick to set up and easy to operate. The Estes Air™ GL-X200™ comes with two RTF rockets, pump and launcher. **SPECS: Rocket Length:** 10.5 in. (26.7 cm); **Max. Altitude:** 250 ft. (76 m); **Recovery:** Bounce

Recommended for ages 8 and up. Adult supervision for those under 8.



**ESTES AIR™ HL-X150™ HAND  
LAUNCH ROCKET SYSTEM  
EST 1877**

For the first time ever, kids can launch real rockets right out of their hand. The Estes Air™ HL-X150™ is a hand launch system that blasts miniature air rockets up to 150 ft. (46 m) using the power of air. It comes with a pistol grip pump/launcher and 2 RTF miniature rockets.

**SPECS: Rocket Length:** 7 in. (17.8 cm); **Max. Altitude:** 150 ft. (46 m); **Recovery:** Bounce

Recommended for ages 8 and up. Adult supervision for those under 8.



[www.estesrockets.com](http://www.estesrockets.com)

Estes Industries  
1295 H Street  
Penrose, CO 81240 USA