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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 liftoff 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 self-adhesive 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 kit level. 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 45 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 prepared for another flight.

WHERE DO I FLY ESTES MODEL ROCKETS?
The chart on page 5 tells you what size field to use for each 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 29-31) of this catalog for more information.
How Did It All Get Started?
In the mid-1950’s when the space age began, flying rockets became very popular. However, there were no safe propellants readily available to launch rockets. In 1958 Vernon Estes developed the first safe mass-produced model rocket engine. The Estes rocket engine was destined to make model rocketry one of the most popular outdoor activities enjoyed today. Estes products have changed with the times and you can see all the exciting rockets, planes and specialty items in this catalog or on the web @ www.estesrockets.com.

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 card stock.

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

Parts of a Model Rocket

Parts of a Model Rocket

Model rocket kits are constructed of lightweight materials such as paper, balsa and plastic. This diagram shows how parts fit together. Nearly all Estes parts that have the same series description number fit together. For instance, a BT-20 body tube will fit a NC-20 nose cone. An AR2050 centering ring will center a BT-20 into a BT-50.

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.

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 provided with the product 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. Tel. 719-372-6565 Fax 719-372-3419.
N.A.R.* MODEL ROCKET SAFETY CODE
Effective February 10, 2001

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___________________________________

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
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.

4 "AA" Alkaline Batteries required - not included.
Ready to Fly (RTF) Starter Sets

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

INCLUDES FREE KODAK 110 COLOR FILM!

RTF STARTER SETS

MAX TRAX® 1434
Track how high this rocket flies. The Max Trax® features an electronic altitude-tracking capsule that automatically calculates and displays how high the rocket traveled in feet and meters.

SPECS:
- Length: 17 in. (43.2 cm);
- Dia.: 1.35 in. (34.3 mm)
- Wt.: 2.6 oz. (73.9 g);
- Recovery: Rocket - 12 in. (30 cm) Parachute; Capsule - Streamer
- Fins: Plastic molded;
- Max. Altitude: 600 ft. (183 m);
- Recommended Engines: B4-2, B6-2, B6-4, C6-3, C6-5
  (Includes two engines)

PATRIOT 1825
The Patriot dominates the skies. This classic scale-like model rocket is built ready-to-fly and looks like the genuine surface-air defense missile used by the U.S. Army.

SPECS:
- Length: 18.0 in. (46 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)

NSA STARSHIP™ 1827
“Penrose, we have liftoff!” Explore new worlds with the NSA Starship™. Like those launched at the cape, this ready-to-fly model rocket soars high into the sky then deploys a parachute to return to earth.

SPECS:
- Length: 18.0 in. (46 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)

SNAPSHOT™ 1848
Take fantastic photos from 500 feet high! The Snapshot™ camera rocket is factory assembled and ready to launch. Includes a FREE roll of Kodak 110 color print film. Film developing available locally.

SPECS:
- Length: 18.0 in. (46 cm);
- Dia.: 1.35 in. (34.3 mm)
- Wt.: 3 oz. (86.2 g);
- Recovery: 12 in. (30 cm) Parachute;
- Fins: Plastic molded;
- Max. Altitude: 500 ft. (152 m);
- Recommended Engine: C6-5 ONLY
  (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

ALPHA III® 1406
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)

MINI SUPER SHOT™ 1431
Features two mini-engine powered rockets that 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)

LAUNCHABLES™ 1452
A complete starter set that includes two exciting model rockets, the Black Diamond™ that streaks over 1400 feet high and the Astron® Outlaw™ that’s almost two feet tall. The Astron® Outlaw™ assembles in less than an hour, the Black Diamond™ is easy to build and finish.

Black Diamond™
SPECs: Length: 12.1 in. (30.7 cm);
Dia.: 0.736 in. (18.7 mm);
Wt.: 0.6 oz. (17 g);
Recovery: Streamer;
Fins: Die cut card stock;
Max Altitude: 1470 ft. (448m);
Recommended Estes Engines: 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7

Astron® Outlaw™
SPECs: Length: 21.5 in. (54.6 cm);
Dia: 1.35 in. (34.3 mm);
Wt: 2.4 oz. (69.1 g);
Recovery: 12 in. (30 cm) Assembled Parachute
Fins: Plastic molded;
Max Altitude: 600 ft. (183m);
Recommended Estes Engines: A8-3, B4-4, B6-4, C6-5

* All starter sets require 4 - “AA” alkaline batteries - not included
Estes model rocketry is recommended for ages 10 years and up. Adult supervision is recommended for those under 12 years of age.
READY TO FLY (RTF) ROCKETS

CRUISE MISSILE™ 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

E2X® ROCKET KITS

BANDITO™ 0803
The high-flying Bandito™ sport rocket can be easily assembled in under an hour. Includes pre-colored slotted body tube and plastic parts and screams into the sky on mini-engines.

**SPECs:**
- **Length:** 11.2 in. (28.4 cm);
- **Dia.:** 0.736 in. (18.7 mm);
- **Wt.:** 0.60 oz. (17 g);
- **Recovery:** 12 in. (30 cm) Parachute;
- **Fins:** Plastic molded;
- **Max. Altitude:** 600 ft. (183 m);
- **Recommended Engines:** 1/4A3-3T, 1/2A3-2T, A3-4T, A10-3T

FIREHAWK™ 0804
The Firehawk™ is a high performance, quick-to-build rocket that streaks over 500 feet high on mini-engines. Includes pre-colored body tube and plastic parts. Builds in less than 30 minutes.

**SPECs.:**
- **Length:** 11.2 in. (28.4 cm);
- **Dia.:** 0.736 in. (18.7 mm);
- **Wt.:** 0.65 oz. (18.4 g);
- **Recovery:** 12 in. (30 cm) Parachute; **Fins:** Plastic molded;
- **Max. Altitude:** 550 ft. (168 m);
- **Recommended Engines:** 1/4A3-3T, 1/2A3-2T, A3-4T, A10-3T

FIRESTREAK SST™ 0806
An Estes original! The first-ever snap together rocket. No fuss, no muss, simply snap the Firestreak SST™ together and get out and launch this hot looking rocket in minutes.

**SPECs.:**
- **Length:** 10.2 in. (26 cm);
- **Dia.:** 0.885 in. (22.5mm);
- **Wt.:** 1.14 oz. (32.3 g);
- **Recovery:** Streamer; **Fins:** Plastic molded;
- **Max. Altitude:** 350 ft. (107 m);
- **Recommended Engines:** 1/2A3-2T, A3-4T, A10-3T

LUCKY SEVEN 0807
The Lucky Seven is a stellar-looking version of the Acceleration Engineering X Prize competition spaceship. Blasting 200 feet in the air and powered by an Estes mini-engine. Recovered with a colorful, fully assembled parachute. Easy assembly: 1:50 scale.

**SPECs.:**
- **Length:** 7.9 in. (20 cm);
- **Dia.:** 1.37 in. (41.6 mm);
- **Wt.:** 1.5 oz. (43.4 g);
- **Recovery:** 12 in. (30 cm) Parachute
- **Fins:** Plastic Molded
- **Max Altitude:** 200 ft. (61 m)
- **Recommended Engine:** A10-3T

GNOME™ 0886
Eye-dazzling, chrome rocket soars to heights of 800 ft. (244m). 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 in. (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

Colors may vary.

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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

MINI MEANIE™ 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™ 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® 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

No. 2 ESTES SKY WRITER® 1260
This fun rocket looks like a wooden pencil. It "sky writes" up to 1100 ft. (335 m) in the air. The No. 2 Estes 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. (43 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™ 1262
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™ 1300
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: Plastic molded;
Max. Altitude: 780 ft. (238 m);
Recommended Engines: C11-3, D12-3
Requires 3/16 in. (5 mm) Maxi™ launch rod (302244) - sold separately.
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

ASTROCAM® 110 1327
The AstroCam® 110 is back and better than ever! The aerial camera nose cone has a newly designed shutter release that makes it even easier to use. Includes a FREE roll of Kodak Gold 110 film. Launch it on a B6-4 for close-up low altitude photos or take it to the limit on a C6-7 for high altitude shots.

SPECs.: Length: 18.4 in. (46.7 cm)
Dia.: 1.35 in. (34.3 mm)
Wt.: 2.7 oz. (76.4 g)
Recovery: 12 in. (30 cm) parachute
Fins: Plastic molded
Max Altitude: 500 ft. (152 m)
Film: 110 ASA 400
Recommended Engines: B6-4, C6-7

CHROME DOMES™ GOLD SERIES
Catch some attention! Chrome Domes™ - Gold Series rockets feature gold chrome plated fins and nose cone. The body tube comes in a variety of prismatic colors (each color sold separately).

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: Two piece plastic molded;
Max. Altitude: 600 ft. (183 m);
Recommended Engines: A8-3, B4-4, B6-4, C6-3, C6-5

WACKY WIGGLER™ 2182
Wacky Wiggler™ launches like a standard rocket, but comes down in a whole new way. The prismatic body sections separate and the entire rocket “wiggles” its way back to earth. This wacky recovery rocket can fly over 1000 ft. (305 m).

SPECs: Length: 17.75 in (45.1 cm);
Dia.: 1.1 in. (27.9 mm);
Wt.: 2.0 oz. (56.5 g);
Recovery: Break-apart;
Fins: Plastic molded;
Max. Altitude: 1040 ft. (317 m);
Recommended Engines: 1/2A6-2, A8-3, A8-5, B4-4, B6-4, C6-3, C6-5

SHUTTLE XPRESS™ 2183
New wave of fighter technology. The Shuttle Xpress™ carries two fighter shuttles to battle. At apogee, it releases the two fighter shuttles that glide back to earth. The booster is recovered by a 12 in. (30 cm) Parachute.

SPECs.: Length: 17.69 in. (44.9 cm);
Dia.: 1.35 in. (34.3 mm);
Wt.: 3.2 oz. (89.7 g);
Recovery: Booster - 12 in. (30 cm) Parachute; Shuttles - Glider;
Fins: Plastic molded;
Max. Altitude: 586 ft. (179 m);
Recommended Engines: B4-2, B4-4, B6-2, B6-4, C6-3, C6-5

EAGLE™ BOOST GLIDER 2186
This easy-to-assemble boost glider is ready for the next boost glider contest. The assembly of the glider and power pod is nearly foolproof and takes the complexity out of trimming and launching rocket boosted gliders.

SPECs.: Length: 24.8 in. (62.9 cm);
Wingspan: 13 in. (33 cm);
Dia.: 0.74 in. (18.8 mm);
Wt.: 3.4 oz. (97.1 g);
Recovery: 30 in. (76 cm) Glider & Streamer on a B6-4 for close-in landings;
Max Altitude: 500 ft. (152 m);
Recommended Engines: B4-2, B6-2, C6-3

ORACLE™ 2187
See first hand what it looks like from your rocket’s point-of-view to be blasted off and then recovered. The easy-to-use video camera allows you to capture digital movies from liftoffs to landings. Save the movies to your laptop or PC using the included software and USB cable.

SPECs: Length: 36 in. (91.4 cm)
Dia.: 1.64 in. (41.7 mm)
Wt.: 7.6 oz. (215 g)
Recovery: 18 in. (46 cm) Nylon Parachute
Fins: Plastic molded
Max Altitude: 600 ft. (183 m)
Recommended Engines: D12-3, D12-5

Requires Windows-based computer, with CD-ROM and USB port. Requires one ‘AAA’ alkaline battery - sold separately.
Estes model rocketry is recommended for ages 10 years and up. Adult supervision is recommended for those under 12 years of age.

1:55 SCALE
LITTLE JOE II
STYLING!

LASER CUT
BALSA!

QUARK™

220 SWIFT™

ALPHA®

New!

GO BALLISTIC!

GAUCHITO

SKILL LEVEL 1 ROCKET KITS

• Quick and easy to build kits with sanding, cutting and painting required
• Some kits feature a Through-The-Tube Fin System
• Engines and launch equipment-sold separately

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SKILL LEVEL 1 ROCKET KITS

QUARK™ 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: Die cut balsa;
Max. Altitude: 700 ft. (213 m);
Recommended Engines: 1/4A3-3T, 1/2A3-4T, A3-4T, A10-3T

GAUCHITO 0809
A Pablo de Leon creation with a retro-looking Little Joe II design. Entered in X Prize competition lifts-off to 300 feet into the air using an Estes mini-engine. Laser cut balsa parts. 1:55 scale.
SPECs: Length: 8.6 in. (21.8 cm)
Dia.: 1.54 in. (39.1 mm)
Wt.: 1.08 oz. (30.6 g)
Recovery: 12 in. (30 cm) Parachute
Fins: Laser cut balsa
Max. Altitude: 300 ft. (92 m)
Recommended Engines: 1/2A3-2T, A3-4T, A10-3T

220 SWIFT™ 0810
This fun and easy to build “itty-bitty” rocket really scoots through the sky. The 220 Swift™ is sleek and launches on mini-engines then tumbles back to earth.
SPECs: Length: 4.5 in. (11.4 cm)
Dia.: 0.54 in. (13.7 mm)
Wt.: 0.094 oz. (2.7 g)
Recovery: Featherweight;
Fins: Die cut balsa;
Max. Altitude: 750 ft. (260 m);
Recommended Engines: 1/4A3-3T, 1/2A3-4T, A3-4T, A10-3T

ALPHA® 1225
For over 36 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™ 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.: 1.64 in. (41.6 mm)
Wt.: 1.6 oz. (45.3 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™ 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
SKILL LEVEL 1 ROCKET KITS

Classic Kit!

STORMCASTER™

BIG BERTHA®

YANKEE™

VIKING™

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Estes model rocketry is recommended for ages 10 years and up. Adult supervision is recommended for those under 12.
## Skill Level 1 Rocket Kits

### Stormcaster™ 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 in. (41.6 mm);
  - Wt.: 2.9 oz. (80.8 g);
  - Recovery: 18 in. (46 cm) Parachute;
  - Fins: Die cut balsa;
  - Max. Altitude: 930 ft. (283 m);
  - Recommended Engines: C11-3, C11-5, D12-5

### Yankee™ 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

### Big Bertha® 1948
- Burly, big and beautiful! Over the decades this is the first big (two feet tall) rocket for many modelers. Slow, realistic liftoffs from this true classic.
- **SPECS:**
  - Length: 24 in. (61 cm);
  - Dia.: 1.64 in. (41.6 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™ 1949
- Fantastic rocket with 48 possible fin configurations. Features die cut card fins, decals and streamer recovery. Super high 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 stock;
  - 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

### Blu-97B Cluster Bomb™ 2055
- Bombs away with the BLU-97B Cluster Bomb™! Drops four cluster bombs in flight. This is a 1:6.4 scale replica of the U.S. Air Force anti-armor/anti-personnel weapon.
- **SPECS:**
  - Length: 14.4 in. (36.6 cm);
  - Dia.: 2.217 in. (56.3 mm);
  - Wt.: 3.1 oz. (86.9 g);
  - Recovery: 12 in. (30 cm) Parachute;
  - Fins: Die cut balsa;
  - Max. Altitude: 390 ft. (119 m);
  - Recommended Engines: B4-2, B6-2, C6-3

### U.S. Army Patriot M-104 2056
- A classic 1:10 scale model rocket of the desert hero and mother of all air defense missiles. Based on the U.S. Army’s M-104 surface-air missile. Blasts 600 feet high!
- **SPECS:**
  - Length: 21.3 in. (54.1 cm);
  - Dia.: 1.637 in. (41.6 mm);
  - Wt.: 1.95 oz. (55 g);
  - Recovery: 12 in. (30 cm) Parachute;
  - Fins: Die cut balsa;
  - Max. Altitude: 600 ft. (183 m);
  - Recommended Engines: B4-2, B6-2, C6-3

### Mongoose™ 2092
- Perfect first two-stage rocket! Super quick to build with high altitude performance - over 1600 ft. (488 m)!
- **SPECS:**
  - Length: 26.5 in. (67.3 cm);
  - Dia.: 0.98 in. (24.9 mm);
  - Wt.: 2.3 oz. (65 g);
  - Recovery: Booster-Tumble; Main Stage-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
Estes model rocketry is recommended for ages 10 years and up. Adult supervision is recommended for those under 12 years of age.
**SKILL LEVEL 1 ROCKET KITS**

**FAT BOY™** 2139
Fat Boy™...and proud of it! 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:** Die cut balsa;
- **Max. Altitude:** 325 ft. (99 m);
- **Recommended Engines:** B4-2, B6-2, C6-3

**STAR DART™** 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

**SISSLER®** 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

**HI-FLIER®** 2178
Keep an eye on this one! The Hi-Flier® rocket is a high altitude rocket. It soars over 1600 ft. (488 m), and is recovered by a bright orange streamer.

**SPECs.:**
- **Length:** 12 in. (30.5 cm);
- **Dia.:** 0.74 in. (18.8 mm);
- **Wt.:** 0.82 oz. (23.2 g);
- **Recovery:** Streamer;
- **Fins:** Die cut balsa;
- **Max. Altitude:** 1690 ft. (515 m);
- **Recommended Engines:** 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7

**RUBICON** 2189
Designed after the Space Transport X Prize spacecraft, the mighty rocket blasts-off on a powerful "D" engines reaching 450 feet in altitude. Once at peak altitude, a fully assembled 18 in. parachute is ejected for a slow, safe recovery. 1:11 scale.

**SPECs.:**
- **Length:** 22.9 in. (58.2 cm);
- **Dia.:** 3.21 in. (81.5 mm);
- **Wt.:** 7.3 oz. (206.9 grams);
- **Recovery:** 18 in. (45 cm) Parachute;
- **Fins:** Plastic molded;
- **Max. Altitude:** 450 ft. (137 m);
- **Engines:** D12-3, D12-5

**EAGLE** 2193
A highly detailed X Prize spaceship from the Vanguard Spacecraft team. The Eagle soars 500 feet into the sky! Includes multiple display nozzles and laser cut balsa parts. 1:91 scale.

**SPECs.:**
- **Length:** 19.5 in. (49.5 cm);
- **Dia.:** 1.637 in. (41.6 mm);
- **Wt.:** 3.0 oz. (85.0 g);
- **Recovery:** 12 in. (30 cm) Parachute;
- **Fins:** Plastic molded & Laser cut balsa;
- **Max. Altitude:** 500 ft. (152 m);
- **Recommended Engines:** B4-2, B6-4, C6-3, C6-5
Estes model rocketry is recommended for ages 10 years and up. Adult supervision is recommended for those under 12 years of age.
SKILL LEVEL 2 ROCKET KITS

CC EXPRESS™ 1302
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 (302244) sold separately.

GBU-24 PAVEWAY III™ 2053
The GBU-24 Paveway III™ is a 1:8 scale rocket modeled after the laser-guided smart bomb used by the U.S. Air Force and Navy. Includes authentic decals and flies over 600 feet high!
SPECS: Length: 21.3 in. (54.1 cm);
Dia.: 1.325 in. (33.7 mm)
Wt.: 2.3 oz. (65.5 g)
Recovery: 12 in. (30 cm) Parachute;
Fins: Die cut balsa;
Max. Altitude: 665 ft. (203 m);
Recommended Engines: A8-3, B4-2, B4-4, B6-2, B6-4, C6-3, C6-5

PYTHON 4™ ASRAAM 2054
The Python 4™ is a 1:5 scale version of the fourth generation Advanced Short Range Air-Air Missile. Includes realistic decals and flies 500 feet into the sky!
SPECS: Length: 24 in. (61 cm);
Dia.: 1.325 in. (33.7 mm)
Wt.: 2.8 oz. (79.3 g)
Recovery: 12 in. (30 cm) Parachute;
Fins: Die cut balsa;
Max. Altitude: 500 ft. (152 m);
Recommended Engines: B4-2, B4-4, B6-2, B6-4, C6-3, C6-5

GEMINI DC™ 2136
Twin parachutes are rear-ejected from the side pods on this stunning rocket. 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: Die cut balsa;
Max. Altitude: 800 ft. (244 m);
Recommended Engines: B4-2, B4-4, B6-2, B6-4, C6-3, C6-5

GUARDIAN™ 2179
The Guardian™ rocket simulates a ground-to-air missile. This multi-finned guardian of the sky soars over 700 ft. (213 m).
SPECS.: Length: 19.13 in. (48.6 cm);
Dia.: 1.33 in. (33.8 mm)
Wt.: 2.4 oz. (68.6 g)
Recovery: 12 in. (30 cm) Parachute;
Fins: Die cut balsa;
Max. Altitude: 723 ft. (220 m);
Recommended Engines: A8-3, B4-4, B6-4, B6-6, C6-5

METEOR MASHER™ 2184
The Meteor Masher™ soars into the sky carrying 3 deep space cluster bombs.
SPECS.: Length: 27 in. (68.6 cm);
Dia.: 1.33 in. (33.8 mm)
Wt.: 4.0 oz. (113 g)
Recovery: Rocket - 12 in. (30 cm) Parachute; Bombs - Streamer Fins: Die cut balsa;
Max. Altitude: 490 ft. (149 m);
Recommended Engines: B4-2, B4-4, B6-2, B6-4, C6-3, C6-5
Estes model rocketry is recommended for ages 10 years and up. Adult supervision is recommended for those under 12 years of age.

**New!**

**1:67 Scale D Engine Boost Glider**

**New!**

**1:30 Scale 1.5" Private Manned Spaceship!**

**New!**

**SCREAMIN' MIMI™**

**WHISTLES THROUGH THE AIR!**

**SpaceShipOne™**

**COSMOS MARINER**

**Ansari X Prize Winner!**

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SKILL LEVEL 2 ROCKET KITS

**SCREAMIN’ MIMI™ 2185**
Launch and listen to this amazing, screamin’ rocket. The Screamin’ Mimi™ rocket whistles while flying. It is powered by Estes C11 and D engines.

**SPECS.**
- **Length:** 25.5 in. (64.8 cm)
- **Dia.:** 1.64 in. (41.7 mm)
- **Wt.:** 5.3 oz. (150.3 g)
- **Recovery:** 12 in. (30 cm) Parachute
- **Fins:** Die cut balsa
- **Max. Altitude:** 752 ft. (229 m)
- **Recommended Engines:** C11-3; For Sound-D12-5, D12-7 Requires 3/16 in. (5 mm) Maxi™ launch rod (302244) - sold separately.

**COSMOS MARINER 2190**
The Estes Cosmos Mariner is a boosted glider version of the sleek X Prize rocket plane from the Lone Star Space Access team. The rocket plane blasts off 250 ft. into the air using a powerful "D" engine. Laser cut balsa parts. 1:67 scale.

**SPECS.**
- **Length:** 18 in. (46 cm)
- **Wingspan:** 13.5 in. (34.3 cm)
- **Dia.:** 1.637 in. (41.6 mm)
- **Wt.:** 8.6 oz. (243.6 g)
- **Recovery:** Glider & 18 in. (46 cm) Parachute
- **Fins:** Laser cut balsa
- **Max. Altitude:** 250 ft. (76 m)
- **Recommended Engine:** D12-3 Requires 3/16" (5 mm) Maxi™ Rod (302244) - sold separately.

**SPACESHIPONE™ 2191**
The famous Scaled Composites X Prize winning spacecraft, designed by Burt Rutan. Based on the first privately manned spaceship to reach outer space. It blasts 400 feet into the air and uses an Estes B or C engine. Laser cut balsa parts. 1:30 scale.

**SPECS.**
- **Length:** 13.0 in. (33 cm)
- **Wingspan:** 6.5 in. (16.5 cm)
- **Dia.:** 2.0 in. (50.8 mm)
- **Wt.:** 3.0 oz. (85.0 g)
- **Recovery:** 12 in. (30 cm) Parachute
- **Fins:** Laser cut balsa
- **Max. Altitude:** 400 ft. (122 m)
- **Recommended Engines:** B4-2, B6-2, C6-3

**THUNDERSTAR 2192**
Designed by Starchaser Industries, the Thunderstar X Prize entry uses a cluster of two Estes engines to reach 1,000 feet in the air. At apogee, a fully assembled 18" parachute is deployed allowing for a safe recovery. Laser cut balsa parts. 1:41 scale.

**SPECS.**
- **Length:** 26.5 in. (67.3 cm)
- **Dia.:** 1.637 in. (41.6 mm)
- **Wt.:** 2.75 oz. (78.1 g)
- **Recovery:** 18 in. (46 cm) Parachute
- **Fins:** Laser cut balsa
- **Max. Altitude:** 1000 ft. (305 m)
- **Recommended Engines:** 2xA8-3, 2xB4-4, 2xB6-4, 2xC6-5 (DO NOT MIX ENGINES)

**BULL PUP 12D™ 7000**
Sport scale version of the USAF AGM-12D Bull Pup. Plastic tail cone and authentic color decals! Great first scale model.

**SPECS.**
- **Length:** 15.6 in. (39.6 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

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

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SKILL LEVEL 3 ROCKET KITS

SCISSOR WING TRANSPORT™️
This classic rocket boosted glider with revolutionary swing-wing recovery is back! Launches as a rocket - recovers as a glider! New and improved pivot mechanism for increased transition reliability. Laser cut balsa parts.

**SPECs:**
- **Length:** 23.4 in. (59.4 cm)
- **Wingspan:** 16 in. (40.6 cm)
- **Dia.:** 0.98 in. (24.9 mm)
- **Wt.:** 3.1 oz. (89.1 g)
- **Recovery:** Glider & 12 in. (30 cm) Parachute
- **Fins:** Laser cut balsa
- **Max. Altitude:** 750 ft. (229 m)
- **Recommended Engines:** B4-4, B6-2, C6-3

COMANCHE-3™️
A "D" engine powered booster stage rocket that 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:** Booster-Tumble; Main Stage-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 (302244) - sold separately.

SR-71 BLACKBIRD™️
Build and fly the world’s fastest manned jet! This SR-71 Blackbird™️ is a scale model and includes authentic looking “Blackbird Skin”, plastic components and decals.

**SPECs:**
- **Length:** 19.0 in. (48.3 cm)
- **Dia.:** 0.97 6 in. (24.8 mm)
- **Wt.:** 3.2 oz. (90.7 g)
- **Recovery:** 18 in. (46 cm) Parachute
- **Fins:** Die cut balsa;
- **Max. Altitude:** 600 ft. (183 m)
- **Recommended Engines:** B4-2, B6-2, B6-4, C6-5

RENEGADE™️
Going staged is awesome! Witness a magnificent lift-off with the Renegade™️. It’s over two feet tall and can be launched as a single stage or two-stage rocket.

**SPECs:**
- **Length:** 26.6 in. (67.6 cm)
- **Dia.:** 1.637 in. (41.6 mm)
- **Wt.:** 4.3 oz. (120.9 g)
- **Recovery:** 12 in. (30 cm) Parachute
- **Fins:** Die cut balsa;
- **Max. Altitude:** 850 ft. (260 m)
- **Recommended Engines:** Single Stage - A8-3, B4-4, B6-4, C6-5; Two-Stage: Booster - B6-0, C6-0; 2nd Stage - A8-5, B6-4, B6-6, C6-5, C6-7

OUTLANDER™️
Get ready to explore the outer rim of the galaxy with the Outlander™️. It’s stellar-looking design and decals compliment the unique ‘Chute & Lander recovery system.

**SPECs:**
- **Length:** 12.5 in. (31.8 cm)
- **Dia.:** 4.375 in. (111.1 mm)
- **Wt.:** 4.2 oz. (120.2 g)
- **Recovery:** 18 in. (46 cm) Parachute
- **Fins:** Die cut balsa;
- **Max. Altitude:** 200 ft. (61 m)
- **Recommended Engines:** B4-2, B6-2, C6-3

CANADIAN ARROW

**SPECs:**
- **Length:** 26.8 in. (67.9 cm)
- **Dia.:** 2.60 in. (60.5 mm)
- **Wt.:** 5.3 oz. (150 g)
- **Recovery:** 18 in. (46 cm) Parachute
- **Fins:** Laser cut balsa
- **Max. Altitude:** 500 ft. (152 m)
- **Recommended Engines:** D12-3, D12-5

Requires 3/16 in. (5 mm) Maxi™️ launch rod (302244) - sold separately.
“E” ENGINE POWERED ROCKET KITS

“E” ENGINE POWERED KITS
• Estes “E” engines - sold separately.
• For ages 18 and up. Adult supervision required for ages under 18.
• Requires Estes Porta-Pad® E Launch Pad (2238) and E™ Launch Controller (2230) for use - sold separately.
• Can also be flown on Estes “D” engines.

ELIMINATOR™ 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™ 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 cm);
- Wt.: 8.1 oz. (230 g);
- Recovery: 24 in. (61 cm) Parachute;
- Fins: Laser cut birch wood;
- Max. Altitude: 590 ft. (180 m);
- Recommended Engines: D12-3, E9-4, E9-6

T-25 CENTURIAN™ 2201
Experience the thrill of combining boost glider technology with R/C aerobatics. The T-25 Centurian™ is a twin tail sailplane that rockets to maximum soaring heights of close to 600 ft. (183 m). The T-25 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.

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

BLURZZ™ ROCKET POWERED RACERS 9115
Shred some tread with Rocket Powered Racers and experience the thrill of racing at scale speeds close to the speed of sound! The racers operate on any smooth stretch of asphalt or concrete. They’re powered by an Estes solid fuel rocket engine and stop at the end of the track by parachute. The entire racetrack sets up in just minutes and packs up into its own carrycase when the racing is over.

SPECS:
- Length: 8.25 in. (21 cm);
- Wheelbase: 4.75 in. (12.1 cm);
- Recommended Engines: A10-PT only

Tuners Asst.#9115
- Drag ‘On 2046
- Gear Zilla 2047
- Slammurai 2048
- 4 “AA” Alkaline batteries required - not included.
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 310,000,000 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 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 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:

<table>
<thead>
<tr>
<th>TYPE</th>
<th>TOTAL IMPULSE</th>
<th>ENGINE TYPES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4A</td>
<td>0.313 - 0.625</td>
<td>Mini</td>
</tr>
<tr>
<td>1/2A</td>
<td>0.626 - 1.25</td>
<td>Standard, Mini</td>
</tr>
<tr>
<td>A</td>
<td>1.26 - 2.50</td>
<td>Standard, Mini</td>
</tr>
<tr>
<td>B</td>
<td>2.51 - 5.00</td>
<td>Standard</td>
</tr>
<tr>
<td>C6</td>
<td>5.01 - 10.00</td>
<td>Standard</td>
</tr>
<tr>
<td>C11</td>
<td>5.01 - 10.00</td>
<td>&quot;D&quot; Size</td>
</tr>
<tr>
<td>D</td>
<td>10.01 - 20.00</td>
<td>&quot;D&quot; Size</td>
</tr>
<tr>
<td>E</td>
<td>20.01 - 30.00</td>
<td>&quot;E&quot; Size</td>
</tr>
</tbody>
</table>

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. Engines ending in "P" have no time delay or ejection charge and the forward end is “Plugged”.
### UPPER STAGE ENGINES (PURPLE LABEL)

<table>
<thead>
<tr>
<th>Prod. No.</th>
<th>Engine Type</th>
<th>Total Impulse (\text{N-sec})</th>
<th>Time Delay (\text{Sec.})</th>
<th>Max. Lift Wt. (\text{oz.})</th>
<th>Max. Thrust (\text{Newton})</th>
<th>Thrust Duration (\text{g})</th>
<th>Initial Weight (\text{oz.})</th>
<th>Propellant Weight (\text{g})</th>
</tr>
</thead>
<tbody>
<tr>
<td>1504</td>
<td>1/2A3-4T</td>
<td>1.25</td>
<td>4</td>
<td>1.0</td>
<td>28</td>
<td>8.3</td>
<td>1.9</td>
<td>0.3</td>
</tr>
<tr>
<td>1599</td>
<td>A8-5</td>
<td>2.50</td>
<td>5</td>
<td>2.0</td>
<td>57</td>
<td>13.3</td>
<td>3.0</td>
<td>0.5</td>
</tr>
<tr>
<td>1607</td>
<td>B6-6</td>
<td>5.00</td>
<td>6</td>
<td>2.5</td>
<td>71</td>
<td>12.1</td>
<td>2.7</td>
<td>0.8</td>
</tr>
<tr>
<td>1615</td>
<td>C6-7</td>
<td>10.00</td>
<td>7</td>
<td>2.5</td>
<td>71</td>
<td>15.3</td>
<td>3.4</td>
<td>1.6</td>
</tr>
<tr>
<td>1624</td>
<td>C11-7</td>
<td>10.00</td>
<td>7</td>
<td>4.0</td>
<td>113</td>
<td>22.1</td>
<td>4.9</td>
<td>0.8</td>
</tr>
<tr>
<td>1668</td>
<td>D12-7</td>
<td>20.00</td>
<td>7</td>
<td>8.0</td>
<td>226</td>
<td>32.9</td>
<td>7.4</td>
<td>1.6</td>
</tr>
<tr>
<td>1675</td>
<td>E9-8</td>
<td>30.00</td>
<td>8</td>
<td>10.0</td>
<td>283</td>
<td>25.0</td>
<td>5.6</td>
<td>2.8</td>
</tr>
</tbody>
</table>

### BOOSTER STAGE ENGINES (RED LABEL)

<table>
<thead>
<tr>
<th>Prod. No.</th>
<th>Engine Type</th>
<th>Total Impulse (\text{N-sec})</th>
<th>Time Delay (\text{Sec.})</th>
<th>Max. Lift Wt. (\text{oz.})</th>
<th>Max. Thrust (\text{Newton})</th>
<th>Thrust Duration (\text{g})</th>
<th>Initial Weight (\text{oz.})</th>
<th>Propellant Weight (\text{g})</th>
</tr>
</thead>
<tbody>
<tr>
<td>1608</td>
<td>B6-0</td>
<td>5.00</td>
<td>None</td>
<td>4.0</td>
<td>113</td>
<td>12.1</td>
<td>2.7</td>
<td>0.8</td>
</tr>
<tr>
<td>1616</td>
<td>C6-0</td>
<td>10.00</td>
<td>None</td>
<td>4.0</td>
<td>113</td>
<td>15.3</td>
<td>3.4</td>
<td>1.6</td>
</tr>
<tr>
<td>1621</td>
<td>C11-0</td>
<td>10.00</td>
<td>None</td>
<td>6.0</td>
<td>170</td>
<td>22.1</td>
<td>4.9</td>
<td>0.8</td>
</tr>
<tr>
<td>1665</td>
<td>D12-0</td>
<td>20.00</td>
<td>None</td>
<td>14.0</td>
<td>396</td>
<td>32.9</td>
<td>7.4</td>
<td>1.6</td>
</tr>
</tbody>
</table>

### PLUGGED ENGINES - FOR USE WITH ROCKET POWERED RACERS & R/C ROCKET GLIDERS (BLUE LABEL)

<table>
<thead>
<tr>
<th>Prod. No.</th>
<th>Engine Type</th>
<th>Total Impulse (\text{N-sec})</th>
<th>Time Delay (\text{Sec.})</th>
<th>Max. Lift Wt. (\text{oz.})</th>
<th>Max. Thrust (\text{Newton})</th>
<th>Thrust Duration (\text{g})</th>
<th>Initial Weight (\text{oz.})</th>
<th>Propellant Weight (\text{g})</th>
</tr>
</thead>
<tbody>
<tr>
<td>1505</td>
<td>A10-PT</td>
<td>2.50</td>
<td>None</td>
<td>3.0</td>
<td>85</td>
<td>13.0</td>
<td>2.9</td>
<td>0.8</td>
</tr>
<tr>
<td>1669</td>
<td>D11-P</td>
<td>20.00</td>
<td>None</td>
<td>16.0</td>
<td>453</td>
<td>27.6</td>
<td>6.2</td>
<td>1.8</td>
</tr>
<tr>
<td>1676</td>
<td>E9-P</td>
<td>30.00</td>
<td>None</td>
<td>15.0</td>
<td>425</td>
<td>25.0</td>
<td>5.6</td>
<td>2.8</td>
</tr>
</tbody>
</table>

The data listed above is from randomly chosen production samples.

**NOTE:** The “T” designates a mini engine.
• Time/thrust curves are representative of random production samples.
• Graphs are not drawn to the same scale.

TIME/THRUST CURVES

Max. Thrust

Average Thrust = Total Impulse / Duration

Propellant Burnout

Delay Period - No Measurable Thrust

Ejection Charge Activates

I/4A3 Engine (Mini)

A3 Engine (Mini)

1/2A6 Engine

A8 Engine

B4 Engine

B6 Engine

C6 Engine

C11 Engine

D11 Engine

D12 Engine

E9 Engine

www.estesrockets.com

LIFTOFF!
DESIGNER’S SPECIAL ........................................ 1463
Contains parts to design and build 7-8 of your own rockets.

BLAST-OFF® FLIGHT PACK .............................. 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 ............................ 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 ...... 2234
The ultimate launch controller for model rockets. Comes with 30 ft. (9 m) of heavy duty cable, LED launch indicators and audible alerts. Power from one or two 7.2 volt NiCd battery packs (NiCds not included). Includes an igniter and ignition plug storage compartment.

PORTA-PAD® E LAUNCH PAD .......................... 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 .......................... 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 .......... 302220
Launch controller comes complete with safety key and 1 ft. (3.2 m) of cable. Requires four "AA" alkaline batteries - not included.

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

ALTITRAK™ ............................................. 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 ............................. 302233
Contains: shock cord mounts, tape rings, safety key, recovery wadding, 12 in. (30 cm) assembled parachute, shroud lines, launch lugs, shock cords and launch rod safety cap.

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

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

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

12 in. (30 cm) PARACHUTE (Assembled) ............ 302264
18 in. (46 cm) PARACHUTE (Assembled) ............ 302267

24 in. (61 cm) PARACHUTE (Assembled) ............ 302271
RECOVERY WADDINg ................................... 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 ....................... 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) rubber shock cords (enough for four shock cords). Includes mounts and instructions.

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

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

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

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

NC-5 NOSE CONE ASSORTMENT (5 pack) ............ 303160
NC-20 NOSE CONE ASSORTMENT (4 pack) ............ 303161
NC-50 NOSE CONE ASSORTMENT (5 pack) ............ 303162
NC-55 NOSE CONE ASSORTMENT (4 pack) ............ 303163
NC-56 NOSE CONE ASSORTMENT (4 pack) ............ 303164
NC-60A NOSE CONE ASSORTMENT (4 pack) ............ 303165
NC-80B NOSE CONE (1 pack) .......................... 303168

NOSE CONE ASSORTMENTS
Each package of nose cones contains a variety of shapes. Some are one piece, others two-piece. All have eyelets for shock cord and shroud line attachments.

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

BODY TUBES
High quality spiral wound paper tubes. Use tube couplers to connect tubes of the same diameter.

Four tubes per package with BT-5 & BT-20, three per package with BT-50, BT-55, and BT-60 & two per package in BT-80.

<table>
<thead>
<tr>
<th>Product Number</th>
<th>Body Tube Size</th>
<th>Inside Dimension in/mm</th>
<th>Outside Dimension in/mm</th>
<th>Length in/cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>303084</td>
<td>BT-5</td>
<td>0.518/13.2</td>
<td>0.544/13.8</td>
<td>18.0/45.7</td>
</tr>
<tr>
<td>303085</td>
<td>BT-20</td>
<td>0.710/18.0</td>
<td>0.736/18.7</td>
<td>18.0/45.7</td>
</tr>
<tr>
<td>303086</td>
<td>BT-50</td>
<td>0.950/24.1</td>
<td>0.976/24.8</td>
<td>18.0/45.7</td>
</tr>
<tr>
<td>303087</td>
<td>BT-55</td>
<td>1.283/32.6</td>
<td>1.325/33.7</td>
<td>18.0/45.7</td>
</tr>
<tr>
<td>303089</td>
<td>BT-60</td>
<td>1.595/40.5</td>
<td>1.637/41.6</td>
<td>18.0/45.7</td>
</tr>
<tr>
<td>303090</td>
<td>BT-80</td>
<td>2.588/65.7</td>
<td>2.600/66.0</td>
<td>14.2/36.1</td>
</tr>
</tbody>
</table>
ESTES EDUCATOR™
MODEL ROCKET BULK PACKS
12 rockets per pack, complete with 12 sets of instructions and extra parts.

E2X® SERIES
Gnome™ Bulk Pack (See page 11 for rocket description) 1750
Alpha III® Bulk Pack (See page 13 for rocket description) 1751
Generic E2X® Bulk Pack (Pictured below) 1764

SKILL LEVEL 1
Wizard™ Bulk Pack (See page 17 for rocket description) 1754
Viking™ Bulk Pack (See page 19 for rocket description) 1755
Alpha® Bulk Pack (See page 17 for rocket description) 1756

SKILL LEVEL 2
Polaris™ Bulk Pack (Pictured below) 1791

CURRICULA
Ignite the Imagination™ Curriculum Guide 2852
(Pictured at right)
• For grades 5-8.
• Hands-on activities on model rockets and space.
• National Education Standards incorporated.

Additional Curricula, Technical Publications and Software available at: www.esteseducator.com

ESTES EDUCATOR™ 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 29-31 for engine descriptions.

1/2A3-4T Bulk Pack 1788
A8-3 Bulk Pack 1781
B6-4 Bulk Pack 1783
B6-0/B6-6 Bulk Pack (12 each) 1784
C6-5 Bulk Pack 1789
Blast-Off® Flight Pack 1672
(Includes 6 each: A8-3, B6-4, C6-3, C6-5)

POLARIS™ BULK PACK
(Skill Level 2)

SPECS: Length: 18.75 in. (47.6 cm);
Dia.: 1.33 in (33.8 mm);
Wt.: 3 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
ESTES SPECIALTY PRODUCTS

HYDROGEN FUEL ROCKET™ 1876
A revolutionary new way to launch rockets! Converts water into hydrogen fuel for unlimited launches. Sends one of two included rockets 200 feet (61m) into orbit. Includes hydrogen generating launch pad, remote launch controller & two ready to fly rockets. Ages 10+ with adult supervision for those under 12.
SPECs.: Launch Platform Length: 20.5 in. (52 cm)
Rocket Length: 11 in. (28 cm)
Recovery: Helicopter and Bounce
Max Altitude: 200 ft. (61 m)
Propellant: Hydrogen fuel from water
Power Supply: 6-“D” alkaline batteries - sold separately.

GL-X200™ AIR ROCKET SYSTEM 1880
Uses air-powered launcher to shoot one of two included rockets over 200 feet (61m) high! Comes complete with pump, launcher and two ready to fly rockets. Ages 10+.
SPECs: Rocket Length: 10.5 in. (26.7 cm)
Max. Altitude: 250 ft. (76 m); Recovery: Bounce

FLIGHT MASTER™ RAVEN™ 4014
FLIGHT MASTER™ CONDOR™ 4016
Wind ‘em up...toss ‘em into the wind...and let the flying adventures begin! Easy to build, scale looking, rubber band powered. Ages 8+.
SPECs: Wingspan: 15 in. (38.1 cm); Length: 13 in. (33 cm)

AERO X™ ELECTRIC INDOOR FLYER 4021
A free flight plane so small it flies indoors! Keeps flying even after contact with ceilings & walls. 10-second charge. Includes hand held charging launcher. Ages 8+.
Wingspan: 9 in. (22.9 cm) Length: 8 in. (20.3 cm)
Requires 3 - AAA Batteries - sold separately.

SKY RANGERS® R/C JET 4112
Wingspan: 30 in. (75.2 cm); Length: 25 in. (63.5 cm);
Freq: 27.145 MHz; Range: 750 ft. (229m);
Requires 6 - AAA batteries - sold separately.

SKY RANGERS® R/C FIGHTER R/C PLANES 4115
Wingspan: 14 in. (35.6 cm); Length: 12 in.
Freq: 27.145 MHz; Range: 300 ft. (91m);
Requires 1-9 Volt & 6 - C size batteries - sold separately.

PRESIDENTIAL VIP R/C AIRLINER 4120
Wingspan: 55 in. (140 cm); Length: 34 in. (86.4 cm);
Freq: 27.145 MHz; Range: 1000ft. (305 m);
Requires 6 - AAA batteries - sold separately.

KICK DIS™ POWER PUCK LIGHTS & SOUNDS 8304
This fast moving 7-1/2 inch puck flashes lights and blasts sounds as it hovers on a cushion of air! Play indoors or out, on sidewalks, driveways, floors or low-pile carpet! Play soccer, hockey, bowling or create all sorts of fun and games. Includes wall charger & rechargeable battery. Ages 7+.
Dia.: 7.5” (19.1 cm)

SHOCKWAVE™ LIGHTS & SOUNDS PLAY PUCK 8306
Hit this wild 4-inch play puck and watch the lights and sounds blast as it slides across the floor! Four super bright strobes light up and four screaming sounds blast from the puck. Hit it, kick it, and slap it for hours of fun. Official playbook included. Ages 6+.
Dia.: 4 in. (10.2 cm). Includes 3 “AAA” batteries.

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