

#### TABLE OF CONTENTS

What to Know	Skill Level 1
Model Rocket Safety Code5	Skill Level 2
New	Skill Level 3
Classic Series	How Model Rocket Engines Work42
Launch Sets	Model Rocket Engine Chart43
Ready To Fly	Engine Time/Thrust Curves
Skill Level 1	Madel Desket Assessaries 45
	Model Rocket Accessories 45
Launch Sets	Estes Educator™ Products 46
Ready To Fly Rockets	
0651 Der Red Max™30	1951 Executioner™
0802 Quark™30	1960 Nova Payloader™32
0803 Bandito™	2037 D-Region Tomahawk
0804 Firehawk™	2050 Super Neon™
0806 Firestreak™ SST	2056 U.S. Army Patriot M-10434
0810 220 Swift™ 30	2092 Mongoose™ 3/1
0810 220 Swift™	2092 Mongoośe™
1235 Alaba® 70	2117 Screanling Lagrew
1225 Alpha®30	2123 Eggscaliber™       38         2162 Big Daddy™       38         2168 Metalizer™       26
1250 Interceptor®	2162 Big Daddy'''
1256 Alpha III®24	2168 Metalizer™
1260 No. 2 ESTES Sky Writer®	2169 Dragonite™
1261 Baby Bertha™.΄30 1262 Cosmic Cobra™26	2178 Hi-Flier®34
1262 Cosmic Cobra™26	2179 Guardian™
1292 Wizard™ 32 1295 Mean Machine™ 36 1300 Blue Ninja™ 26 1301 Stormcaster™ 32	2178 Hi-Flier®.       34         2179 Guardian™       38         2181 Chrome Domes™ Gold Series       28
1295 Mean Machine™ 36	2183 Shuttle Xpress™
1300 Blue Ninia™ 26	2/01 Solar Flare™ 38
1701 StormsostorIM 70	2401 Soldi Tidle
1301 Stoffficaster	2410 Kellegade-D40
1302 CC Express***	2421 Cosmic Explorer
1350 Interceptor-E <sup></sup> 40	2422 Reflector™14
1302 CC Express™. 36 1350 Interceptor-E™. 40 1381 Yankee™. 32 1382 Comanche-3™. 40 1403 Riptide™. 20	2421 Cosmic Explorer™ 144 2422 Reflector™ 14 2425 Super Neon XI™ 40 2426 Gald Gailen 40
1382 Comanche-3™40	2430 Gold Strike™28
1403 Riptide™20	2430 Gold Strike™
1427 Alpha III(R)	2445 Mini Max™       14         2450 EX-200™       12         2452 Athena™       12
1465 HeliCat™ 10 1469 Tandem-X™ 20 1475 Solar Scouts™ 20 1476 Moon Mutt™ 20 1478 Flash®! 20	2450 FX-200™ 12
1469 Tandem-X™ 20	2452 Athena™ 12
1475 Solar Scouts™ 20	24954 Skyfrax™ 12 2456 LoadStar™ 12 3003 Alien Invader™ 6 3009 Chuter-Two™ 6 3013 Flutter-By™ 6 3016 Long Tom™ 6
1476 Moon Muttill	2456 LoadStarIM 12
1470 Flook®I	7007 Alian Invadarii
14/6 FldSII®!	3003 Allen invader
1491 laser'20	3009 Cnuter-Iwo'''
1491 Taser™       20         1497 Customizer™ Mini       10         1498 Sky Lofter™       10         1500 Customizer™       10	3013 Flutter-By™6
1498 Sky Lofter™10	3016 Long Tom™6
1500 Customizer™	3UZZ PAVIDAGER II''' 6
1672 Blast-Off® Flight Pack 47	3024 Phoenix Bird™
1751 Alpha III® Bulk Pack47	3025 Photon Disruptor™8
1754 Wizard™ Bulk Pack	3026 Photon Probe™
1755 Viking™ Bulk Pack 47	3026 Photon Probe™ 8 3027 Satellite Interceptor™ 8 3031 Star Trooper™ 8 3033 Twister™ 8
1755 Viking™ Bulk Pack	3031 Star Trooper™ 8
1764 Generic E2X® Bulk Pack47	7077 Twictor™ 0
	7077 H 1
1781 A8-3 Engines Bulk Pack	3037 Hornet
1783 B6-4 Engines Bulk Pack	3201 Taser Twin™
1784 B6-0/B6-6 Engines Bulk Pack 47	3202 Comet Chaser™14
1788 1/2 A3-4T Engines Bulk Pack	3203 Equinox™ 14 3205 Fusion X25™ 16 3206 Star Stryker™ 16
1789 C6-5 Engines Bulk Pack	3205 Fusion X25™
1792 Firestreak SST™ Bulk Pack	3206 Star Strvker™
1793 UP Aerospace™ SpaceLoft™ Bulk Pack	7207 Croschow SSTM 16
1894 Sky Hawker™	3208 Ricochet™ 16
1805 Patriarch™ 22	3200 Space Fade™ 16
1906 DumaTM 22	7210 Voctor ForceTM
1896 Puma™	3210 Vector Force
1906 KdSCd1	3211 Plasma Prope
1907 HiJinks™ 22 1942 SR-71 Blackbird™ 40 1948 Big Bertha®. 32	3208 Ricochet™
1942 SR-71 Blackbird™	7000 Bull Pup 12D™
1948 Big Bertha®32	7214 Monarch™
1949 Viking™32	7215 Stratocruiser™
1950 Eliminator™	aucla 71 .

Skill Level F2X® 24

#### Prices and Availability are subject to change without notice.

© 2010 Estes-Cox Corp., 1295 H Street, PO Box 227, Penrose, CO 81240-0227.
A subsidiary of Hobbico, Inc. All rights reserved. Printed in Denver, CO, USA. PN2927-10 (2-10)

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

The best way to begin model rocketry is with an Estes flying model rocket launch set. Most of our launch sets are from the E2X® (Easy to Assemble) line. The rocket itself requires minor assembly. All launch sets come with an electrical launch controller, adjustable launch pad and instructions to get you out and flying in no time. You will need to purchase flight supplies (engines, recovery wadding, igniters and igniter plugs) and four new AA batteries (for the controller) – sold separately.

#### 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 five categories.

**READY TO FLY (RTF):** No paint, glue or modeling skills required. Rocket comes assembled and is ready to launch in minutes.

**E2X**®: No paint or special tools needed. E2X® kits contain parts that are colored, easy to assemble, plastic fins or fin units and plastic nose cones. Glue the parts together as instructed, apply the self-stick decals and attach the recovery system.

**Skill Level 1:** Requires some painting, gluing and sanding. Features laser cut balsa fins, plastic or balsa nose cones, self-stick or waterslide decals, unfinished body tubes and step-by-step instructions. Most kits are single stage rockets.

**Skill Level 2:** First tier of more advanced kits that require beginner skills in model rocket construction, finishing and painting. Features laser cut balsa fins, plastic or balsa nose cones, self-stick or waterslide decals, unfinished body tubes and step-by-step instructions. These are unique designs that include multi-stages, payloads and scale models.

**Skill Level 3**: Second tier of more advanced kits that require moderate skills in model rocket construction, finishing and painting. Features multiple laser cut balsa fins and parts, unfinished body tubes, waterslide decals, balsa or plastic nose cones, vacuum-formed plastic detailing and step-by-step instructions. These complex designs include scale models, payloads and multi-stages that can use D and E engines.

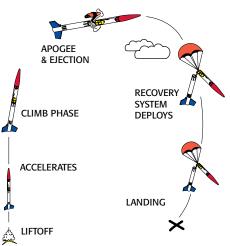
# WHAT IS AN ESTES MODEL ROCKET?

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

#### **HOW DOES IT WORK?**

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

# FLIGHT SEQUENCE



#### 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 42-44) of this catalog for more information.

#### **HOW DID IT ALL GET STARTED?**

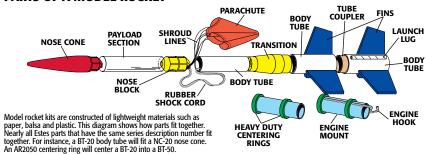
In the mid-1950s when the space age began, flying rockets became very popular. However, there were no propellants readily available to launch model rockets. In 1958 Vernon Estes developed the first, mass-produced model rocket engine. The Estes rocket engine was destined to make model rocketry one of the most popular outdoor activities enjoyed today. Estes products have changed with the times and you can see all of the exciting rockets in this catalog or on the web at www.estesrockets.com.

#### WHAT DO I NEED TO KNOW?

In this catalog, each description lists important INFORMATION:

- Specifications length, diameter and estimated weight.
- What engines we recommend. How high, on the largest engine recommended, the rocket flies (feet and meters).
- Projected altitudes are estimates only and your rocket's actual performance may vary.
- The type of recovery system that brings the rocket back parachute, streamer or other.

#### PARTS OF A MODEL ROCKET



#### 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 speci-fied, all models require assembly. Engines, recovery wadding, igniters and igniter plugs, launch system, glue and finishing supplies are not included with model rocket kits.

#### **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.



#### **FULL ONE-YEAR WARRANTY**

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

For repair or replacement under this warranty, please contact us at www.estesrockets.com or by mail at Estes-Cox Corp., Customer Service Department, 1295 H Street, PO Box 227, Penrose, Colorado 81240-0227.



(Basic Version, Eff. March 2009)



- Materials. I will use only lightweight, non-metal parts for the nose, body, and fins of my rocket.
- 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.
- **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.
- Misfires. If my rocket does not launch when I press the button of my electrical launch system, I will remove the launcher's safety interlock or disconnect its battery, and will wait 60 seconds after the last launch attempt before allowing anyone to approach the rocket.
- 5. Launch Safety. I will use a countdown before launch, and will ensure that everyone is paying attention and is a safe distance of at least 15 feet away when I launch rockets with D motors or smaller. and 30 feet when I launch larger rockets. If I am uncertain about the safety or stability of an untested rocket, I will check the stability before flight and will fly it only after warning spectators and clearing them away to a safe distance.
- 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 1,500 grams (53 ounces) at liftoff and will not contain more than 125 grams (4.4 ounces) of propellant or 320 Nsec (71.9 pound-seconds) of total impulse.
- 8. Flight Safety. I will not launch my rocket at targets, into clouds, or near airplanes, and will not put any flammable or explosive payload in my rocket.
- 9. Launch Site. I will launch my rocket outdoors, in an open area at least as large as shown in the accompanying table, and in safe weather conditions with wind speeds no greater than 20 miles per hour. I will ensure that there is no dry grass close to the launch pad, and that the launch site does not present risk of grass fires.

#### **LAUNCH SITE DIMENSIONS**

Installed Total Impulse (N-sec)	Equivalent Motor Type	Minimum Site Dimensions (ft.)
0.00-1.25	1/4A, 1/2A	50
1.26-2.50	Α	100
2.51-5.00	В	200
5.01-10.00	С	400
10.01-20.00	D	500
20.01-40.00	E	1,000
40.01-80.00	F	1,000
80.01-160.00	G	1,000
160.01-320.00	Two Gs	1,500

- 10. Recovery System. I will use a recovery system such as a streamer or parachute in my rocket so that it returns safely and undamaged and can be flown again, and I will use only flame-resistant or fireproof recovery system wadding in my rocket.
- 11. Recovery Safety. I will not attempt to recover my rocket from power lines, tall trees, or other dangerous places.

www.nar.org

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



#### 3003 Alien Invader™

Summer 2010 Skill Level: 2

Length: 20.2 in. (51.3 cm) Diameter: .98 in. (25 mm) Estimated Weight: 2.4 oz (68 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 900 ft. (274 m)

Recommended Engines: B4-4 (First Flight), B6-4, C6-5

#### 3009 Chuter-Two™

Summer 2010 Skill Level: 1 Length: 18.5 in. (47 cm) Diameter: .98 in. (25 mm)

Estimated Weight: 1.2 oz (34 g) Recovery: 2 12 in. (30.5 cm) Parachutes

Projected Altitude: 900 ft. (274 m)

Recommended Engines: A8-3 (First Flight), B6-4, C6-5

#### 3013 Flutter-By™

Summer 2010 Skill Level: 1 Length: 7.7 in. (19.6 cm)

Diameter: .98 in. (25 mm) Estimated Weight: 1.0 oz (28.3 g) Recovery: Tumble

Projected Altitude: 1,000 ft. (305 m)

Recommended Engines: A8-3 (First Flight), B6-4, C6-5

#### 3016 Long Tom™

Length: 33.25 in. (84.4 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 3.2 oz (91 g) Recovery: 18 in. (46 cm) Parachute Projected Altitude: 1,100 ft. (488 m) Recommended Engines: B6-0, B6-6 (First Flight),

C6-0, C6-7

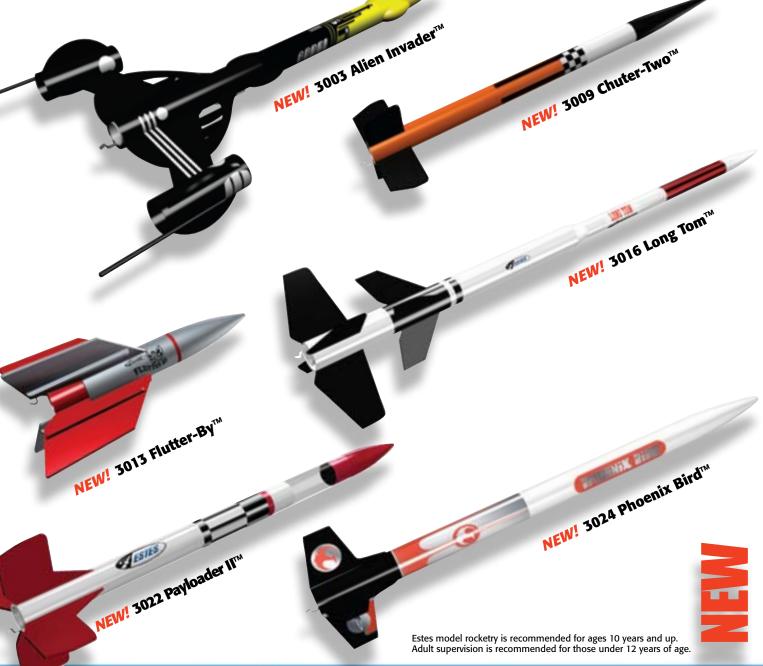
#### 3022 Payloader II™

Skill Level: 1 Length: 17 in. (43 cm) Diameter: .98 in. (25 mm) Estimated Weight: 1.2 oz (62.4 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 1,000 ft. (305 m)

Recommended Engines: A8-3 (First Flight), B6-4, C6-5

#### 3024 Phoenix Bird™

Skill Level: 1 Length: 24 in. (61 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 2.8 oz (79 g) Recovery: 18 in. (46 cm) Parachute Projected Altitude: 550 ft. (168 m) Recommended Engines: B4-4 (First Flight). B6-4, C6-5





#### 3025 Photon Disruptor™

Skill Level: 2

Length: 24.5 in. (62.2 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 2.4 oz (68 g) Recovery: 18 in. (46 cm) Parachute Projected Altitude: 750 ft. (229 m)

Recommended Engines: B4-4 (First Flight), B6-4, C6-5

#### 3026 Photon Probe™

Skill Level: 2

Length: 23 in. (58.4 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 3.45 oz (98 g) Recovery: 18 in. (46 cm) Parachute Projected Altitude: 575 ft. (175 m)

Recommended Engines: B4-4 (First Flight), B6-4, C6-5

#### 3027 Satellite Interceptor™

Skill Level: 2

Length: 22 25 in. (56.5 cm)
Diameter: .98 in. (25 mm)
Fin Span: 5.5 in. (14 cm)
Estimated Weight: 2.3 oz (65 g)
Recovery: 12 in. (30.5 cm) Parachute
Projected Altitude: 950 ft. (290 m)
Recommended Engines: B4-4 (First Flight), B6-4, C6-5

3031 Star Trooper™

Summer 2010

Skill Level: 1 Length: 7.4 in. (18.8 cm) Diameter: .54 in. (14 mm) Estimated Weight: .3 oz. (8.5 g)

Recovery: Streamer

Projected Altitude: 900 ft. (274 m)

Recommended Engines: A3-4T (First Flight), A10-3T

#### 3033 Twister™

Summer 2010 Skill Level: 1 Length: 13.8 in. (35 cm) Diameter: .98 in. (25 mm) Estimated Weight: 1.1 oz (31 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 1,100 ft. (335 m)

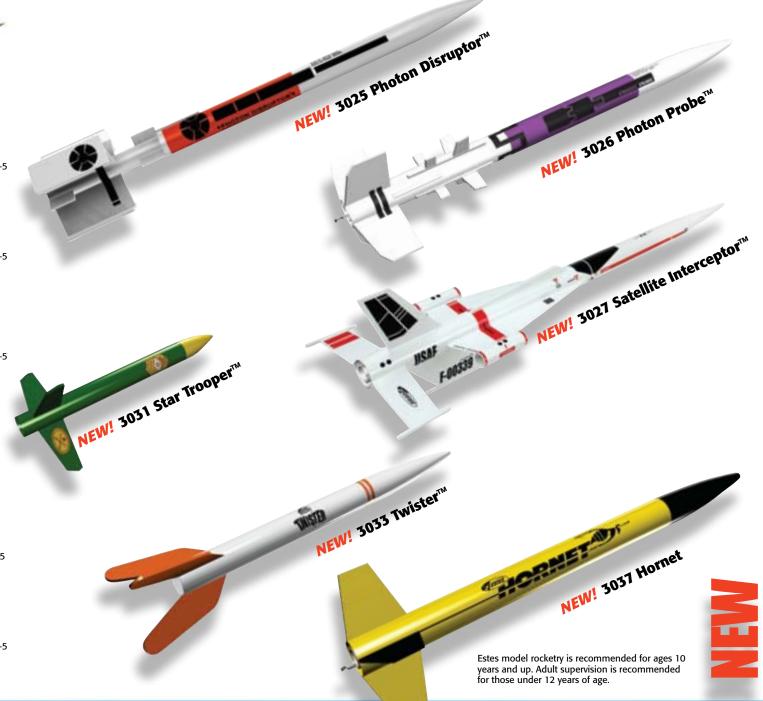
Recommended Engines: A8-3 (First Flight) B6-4, C6-5

#### 3037 Hornet

Skill Level: 1

Length: 19.25 in. (48.9 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 2.3 oz (65 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 775 ft. (236 m)

Recommended Engines: B4-4 (First Flight), B6-4, C6-5



1427 Alpha III® Length: 12.3 in. (31.2 cm) Diameter: .98 in. (25 mm) Estimated Weight: 1.2 oz (34 g) Projected Altitude: 1,150 ft. (350 m) Recovery: 12 in. (30.5 cm) Parachute

Recommended Engines: Á8-3 (First Flight), A8-5, B4-4,

B6-4, B6-6, C6-5, C6-7

1465 HeliCat™ Fall 2010

Length: 30.25 in. (76.8 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 3.5 oz. (99 g)

Recovery: 18 in. (46 cm) Parachute; Nose Cone - Heli-

Projected Altitude: 550 ft. (168 m)

Recommended Engines: B6-2 (First Flight), B4-2, C6-3,

#### 1497 Customizer™ Mini

A mini engine powered counterpart to the 1500 Customizer™, you get to be the MODEL ROCKET DESIGNER with this kit too! Fewer parts, just 24, and fewer combinations, about 12, still allow you to build one taller rocket or two other rockets. Also from the E2X® (Easy to Assemble) line, all parts are pre-colored and you simply glue together. Fewer parts, fewer combinations, still a great kit at a great price! Recommended Engines: 1/2A3-2T (First Flight) A3-4T,

A10-3T

#### 1498 Sky Lofter™

Fall 2010

Length: 22 in. (55.9 cm) Diameter: .98 in. (25 mm) Estimated Weight: 1.9 oz. (54 g) Recovery: 12 in. (30 cm) Parachute Projected Altitude: 1,025 ft. (312 m)

Recommended Engines: A8-3 (First Flight), B4-4, B6-4,

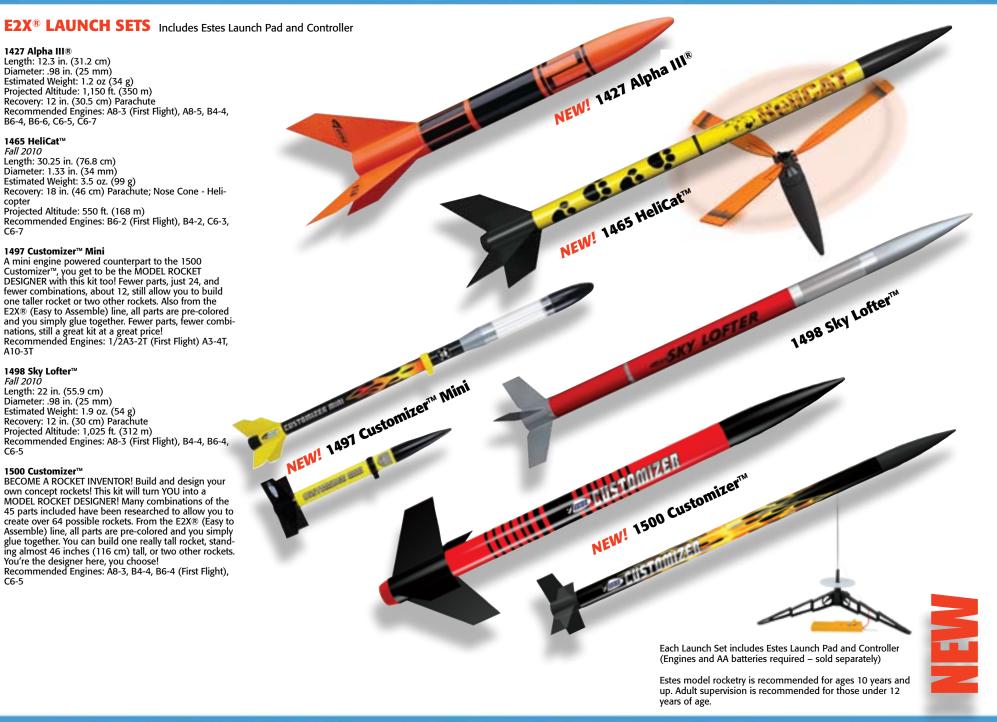
C6-5

#### 1500 Customizer™

BECOME A ROCKET INVENTOR! Build and design your own concept rockets! This kit will turn YOU into a MODEL ROCKET DESIGNER! Many combinations of the 45 parts included have been researched to allow you to create over 64 possible rockets. From the E2X® (Easy to Assemble) line, all parts are pre-colored and you simply glue together. You can build one really tall rocket, standing almost 46 inches (116 cm) tall, or two other rockets. You're the designer here, you choose!

Recommended Engines: Á8-3, B4-4, B6-4 (First Flight),

C6-5



## **READY TO FLY ROCKETS**

In a hurry with no time to build or just looking for another great flying, high performance rocket to add to your collection? Then any of these fine, Ready To Fly, kits are just for you! When we say Ready To Fly, we mean just that. Completely built and decorated right out of the box, all you have to do is tie on the parachute (included), add launch system, engines, wadding, igniters and igniter plugs (sold separately) and you are ready to blast off! Great rockets - Great fun!

#### 2450 EX-200™

Length: 14.25 in. (36.2 cm) Diameter: .74 in. (19 mm) Estimated Weight: .78 oz. (22.1 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 550 ft. (168 m)

Recommended Engines: 1/2A3-4T (First Flight), A3-4T,

A10-3T

#### 2452 Athena™

Length: 16.5 in. (41.9 cm) Diameter: .98 in. (25 mm) Estimated Weight: 1.4 oz. (39.7 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 1,125 ft. (343 m) Recommended Engines: A8-3 (First Flight), B6-4, C6-5

#### 2454 SkyTrax™

Length: 20.75 in. (52.7 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 2.6 oz. (73.7 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 675 ft. (206 m) Recommended Engines: B6-4 (First Flight), C6-5

#### 2456 LoadStar™

Length: 22.6 in. (57.4 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 2.2 oz. (62.4 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 725 ft. (221 m)

Recommended Engines: B4-4, B6-4 (First Flight), C6-5



2421 Cosmic Explorer™

Length: 24 in. (61 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 2.75 oz (78 g) Recovery: 18 in. (46 cm) Parachute Projected Altitude: 650 ft. (198 m)

Recommended Engines: B4-4 (First Flight), B6-4, C6-5

#### 2422 Reflector™

Length: 20.25 in. (51.4 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 2.1 oz (60 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 750 ft. (228 m) Recommended Engines: B4-4 (First Flight), B6-4, C6-5

#### 2445 Mini Max™

Length: 9.75 in. (24.8 cm) Diameter: .98 in. (25 mm) Estimated Weight: 1.3 oz (37 g) Recovery: Streamer Projected Altitude: 300 ft. (91.5 m) Recommended Engines: 1/2A3-2T (First Flight), 1/2A3-4T, A3-4T, A10-3T

#### 3201 Taser Twin™

Fall 2010

Length: 15.4 in. (39 cm) Diameter: .74 in. (19 mm) Estimated Weight: 1.8 oz. (51 g) Recovery: Tumble/Streamer Projected Altitude: 2.000 ft. (610 m) Recommended Engines: B6-0, B6-6 (First Flight), C6-0, C6-7

#### 3202 Comet Chaser™

Summer 2010 Length: 14.4 in. (36.5 cm) Diameter: .98 in. (25 mm) Estimated Weight: 1.26 oz. (35.7 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 1,150 ft. (351 m)

Recommended Engines: A8-3 (First Flight), B6-4, C6-5

#### 3203 Equinox™

Summer 2010 Length: 15 in. (38.1 cm) Diameter: .74 in. (19 mm) Estimated Weight: 1.1 oz (31.2 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 1,575 ft. (480 m) Recommended Engines: A8-3 (First Flight), B6-4, C6-5



#### 3205 Fusion X25™

Summer 2010 Length: 13.5 in. (34 cm) Diameter: .98 in. (25 mm) Estimated Weight: 1.25 oz. (35.4 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 1,150 ft. (350.5 m)

Recommended Engines: A8-3 (First Flight), B6-4, C6-5

#### 3206 Star Stryker™

Fall 2010

Length: 16.8 in. (42.7 cm) Diameter: .98 in. (25 mm) Estimated Weight: 1.06 oz. (30 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 1,175 ft. (358 m) Recommended Engines: A8-3 (First Flight), B6-4, C6-5

#### 3207 Crossbow SST™

Fall 2010

Length: 14.4 in. (36.6 cm) Diameter: .74 in. (19 mm) Estimated Weight: 1.1 oz. (31.2 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 1,600 ft. (488 m) Recommended Engines: A8-3 (First Flight), B6-4, C6-5

#### 3208 Ricochet™

Fall 2010 Length: 22 in. (55.8 cm) Diameter: .98 in. (25 mm)

Estimated Weight: 1.45 oz. (41 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 1,125 ft. (343 m)

Recommended Engines: A8-3 (First Flight), B6-4, C6-5

# **3209 Space Eagle™** Summer 2010

Length: 26.75 in. (67.9 cm) Diameter: .98 in. (25 mm) Estimated Weight: 2.2 oz (62.4 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 975 ft. (297 m) Recommended Engines: B6-4 (First Flight), C6-5



#### 3210 Vector Force™

Summer 2010 Length: 28.25 in. (71.8 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 2.36 oz. (67 g) Recovery: 18 in. (46 cm) Parachute Projected Altitude: 725 ft. (221 m) Recommended Engines: B6-4 (First Flight), C6-5

#### 3211 Plasma Probe™

Summer 2010 Length: 18.5 in. (47 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 1.7 oz (48.1 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 800 ft. (244 m) Recommended Engines: B6-4 (First Flight), C6-5

#### 3216 Super Alpha™

Summer 2010 Length: 19.5 in. (49.5 cm) Diameter: 1.64 in. (42 mm) Estimated Weight: 2.2 oz (62.3 g) Recovery: 18 in. (46 cm) Parachute Projected Altitude: 600 ft. (183 m) Recommended Engines: B6-4 (First Flight), C6-5

#### 7214 Monarch™

Summer 2010 Length: 22.5 in. (57.1 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 2.4 oz. (68 g) Recovery: 18 in. (46 cm) Parachute Projected Altitude: 700 ft. (228 m) Recommended Engines: B6-4 (First Flight), C6-5

#### 7215 Stratocruiser™

Summer 2010 Length: 23.5 in. (59.7 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 2.2 oz. (62.4 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 725 ft. (221 m) Recommended Engines: B6-4 (First Flight), C6-5





20 estesrockets.com See page 10 for more Launch Sets 21

#### READY TO FLY ROCKETS

#### 1894 Sky Hawker™

A rocket that will prey on the clouds! This sleek bird soars over 1,000 feet (305 m) and returns to earth by parachute.

Length: 16.5 in. (41.9 cm) Diameter: .98 in. (25 mm)

Estimated Weight: 1.48 oz. (42.1 g) Recovery: 12 in. (30.5 cm); Fins: Plastic molded

Projected Altitude: 1,000 ft. (305 m)

Recommended Engines: A8-3 (First Flight), B4-4, B6-4, C6-5,

C6-7

#### 1895 Patriarch™

This rocket looks just like a long-range ballistic missile used in the National Missile Defense System. The special CLEAR FINS make it look like a real missile.

Length: 18 in. (45.7 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 2.7 oz. (75 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 600 ft. (183 m)

Recommended Engines: B4-4 (First Flight), B6-4, C6-5

#### 1896 Puma™

This sleek cat will scratch through the clouds, is powered by mini engines and returns to earth with a bright orange streamer.

Length: 10.3 in. (26 cm) Diameter: .54 in. (14 mm) Estimated Weight: .4 oz. (12 g)

Recovery: Streamer

Projected Altitude: 800 ft. (244 m)

Recommended Engines: 1/2A3-2T (First Flight), 1/2A3-4T, A3-4T, A10-3T

1906 Rascal™ Length: 14 in. (35.6 cm)

Diameter: .98 in. (25 mm) Estimated Weight: 1.52 oz. (43 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 1,200 ft. (366 m)

Recommended Engines: A8-3 (First Flight), B4-4, B6-4, C6-5, C6-7

#### 1907 HiJinks™

Length: 14 in. (35.6 cm) Diameter: .98 in. (25 mm) Estimated Weight: 1.52 oz. (43 g) Recovery: 12 in. (30.5 cm) Parachute Projected Altitude: 1,200 ft. (366 m) Recommended Engines: A8-3 (First Flight),

B4-4, B6-4, C6-5, Č6-7

1906 Rascalin

\* Rascal

1907 Hilinks<sup>™</sup> HIJINKS

1895 Patriarch

Fipuma

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

1894 Sky Hawker''

1896 Puma<sup>™</sup>

READYTO E

#### **SKILL LEVEL E2X**®

#### 0803 Bandito™

This high-flying sport rocket can be easily assembled in under an hour. Includes pre-colored slotted body tube and plastic parts.

Length: 11.2 in. (28.4 cm) Diameter: .74 in. (19 mm)
Estimated Weight: .60 oz. (17 g)
Recovery: 12 in. (30.5 cm) Parachute

Fins: Plastic molded

Projected Altitude: 600 ft. (183 m)

Recommended Engines: 1/4A3-3T (First Flight), 1/2A3-

2T, A3-4T, A10-3T

#### 0804 Firehawk™

A high performance, quick-to-build rocket powered by mini engines. Includes pre-colored body tube and plastic

Length: 11.2 in. (28.4 cm) Diameter: .74 in. (19 mm) Estimated Weight: .65 oz. (18.4 g) Recovery: 12 in. (30.5 cm) Parachute Fins: Plastic molded

Projected Altitude: 550 ft. (168 m)

Recommended Engines: 1/4A3-3T (First Flight), 1/2A3-2T, A3-4T, A10-3T

#### 0806 Firestreak™ SST

An Estes original! The first ever SST, Simple Snap Together, rocket has you on the flying field fast!

Length: 10.2 in. (25.9 cm) Diameter: .89 in. (23 mm) Estimated Weight: 1.1 oz. (32.3 g)

Recovery: Streamer Fins: Plastic molded

Projected Altitude: 350 ft. (107 m)

Recommended Engines: 1/2A3-2T, A3-4T (First Flight),

A10-3T

#### 0886 Gnome™

An eye-dazzling chrome rocket that soars to amazing heights. Comes with a colored one-piece fin unit for quick assembly.

Length: 10.3 in. (26 cm) Diameter: .54 in. (14 mm) Estimated Weight: .4 oz. (12 g) Recovery: Streamer

Fins: Plastic molded Projected Altitude: 800 ft. (244 m)

Recommended Engines: 1/2A3-2T (First Flight), 1/2A3-4T, A3-4T, A10-3T

#### 1256 Alpha III®

The very first Estes E2X® rocket! Has one-piece fin unit for easy construction. Millions have started with this classic design.

Length: 12.3 in. (31.2 cm) Diameter: .98 in. (25 mm) Estimated Weight: 1.2 oz. (34 g) Recovery: 12 in. (30.5 cm) Parachute Fins: Plastic molded

Projected Altitude: 1,100 ft. (335 m)

Recommended Engines: A8-3 (First Flight), A8-5, B4-4,

B6-4, B6-6, C6-5, C6-7



#### **SKILL LEVEL E2X**®

1260 No. 2 ESTES Sky Writer®

This fun rocket looks just like a giant wooden pencil. All parts are pre-colored so assembly is quick and easy. Length: 26 in. (66 cm)

Diameter: .98 in. (25 mm) Estimated Weight: 1.5 oz. (41.3 g) Recovery: 12 in. (30.5 cm) Parachute Fins: Plastic molded

Projected Altitude: 1,100 ft. (335 m)

Recommended Engines: A8-3 (First Flight), B4-4, B6-4,

#### 1262 Cosmic Cobra™

This rocket features a two-way recovery system. The booster returns to earth using a colorful parachute, while the nose cone helicopters down gently using rotor blades.

Length: 19.5 in. (49.5 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 3.1 oz. (88 g)

Recovery: Booster - 12 in. (30.5 cm) Parachute; Nose

Cone - Helicopter

Fins: Two piece plastic molded Projected Altitude: 530 ft. (162 m)

Recommended Engines: B4-2 (First Flight), B6-2, B6-4, C6-3, C6-5

#### 1300 Blue Ninja™

The biggest rocket in the E2X® class and is powered by a C11 or D engine.

Length: 31.3 in. (79.5 cm) Diameter: 1.64 in. (42 mm) Estimated Weight: 5.1 oz. (145.4 g) Recovery: 18 in. (46 cm) Parachute Fins: Plastic molded

Projected Altitude: 780 ft. (238 m)

Recommended Engines: C11-3 (First Flight), D12-3 Requires 3/16 in. (5 mm) Maxi™ launch rod (302244), sold separately.

#### 2168 Metalizer™

Get your shades out (sunglasses not included)! This baby reflects some rays with its awesome metallic chrome finish.

Length: 22.5 in. (57.2 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 2.4 oz. (68 g) Recovery: 12 in. (30.5 cm) Parachute Fins: Plastic molded

Projected Altitude: 760 ft. (232 m)

Recommended Engines: B4-4 (First Flight), B6-4, C6-5



#### **SKILL LEVEL E2X®**

2169 Dragonite™

As much fun to put together as it is to fly! Another SST, Simple Snap Together, rocket with pre-colored parts and

is perfect for the first-time rocketeer! Length: 16 in. (40.6 cm)

Diameter: 1.1 in. (28 mm) Estimated Weight: 1.8 oz. (52 g) Recovery: 12 in. (30.5 cm) Parachute

Fins: Plastic molded

Projected Altitude: 1,129 ft. (344 m)

Recommended Engines: A8-3 (First Flight), B4-4, B6-4,

C6-5, C6-7

#### 2181 Chrome Domes™ Gold Series

This rocket features shiny, gold-plated fins and nose cone.

Length: 18 in. (45.7 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 2.7 oz. (75 g) Recovery: 12 in. (30.5 cm) Parachute Fins: Two-piece plastic molded Projected Altitude: 600 ft. (183 m)

Recommended Engines: B4-4 (First Flight), B6-4, C6-5

2183 Shuttle Xpress™

Rocket carries two fighter shuttles to battle. At apogee, it releases the two fighter shuttles that glide back to earth.

Length: 17.7 in. (44.9 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 3.2 oz. (89.7 g)

Recovery: Booster - 12 in. (30.5 cm) Parachute; Shuttles

- Glide

Fins: Plastic molded

Projected Altitude: 586 ft. (179 m)

Recommended Engines: B4-2 (First Flight), B4-4, B6-2,

B6-4, C6-3, C6-5

#### 2430 Gold Strike™

Length: 18.75 in. (47.6 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 2.17 oz (61.5 g) Recovery: 12 in. (30.5 cm) Parachute

Fins: Plastic molded

Projected Altitude: 725 ft. (221 m)

Recommended Engines: B4-4 (First Flight), B6-4, C6-5

Bonus Rocket: Silver Streak™ Length: 10.25 in. (26 cm) Diameter: .74 in. (19 mm) Estimated Weight: .6 oz. (17 g) Recovery: 12 in. (30.5 cm) Parachute Fins: Plastic molded

Projected Altitude: 550 ft. (168 m)

Recommended Engines: 1/4A3-3T (First Flight), 1/2A3-2T,

A3-4T, A10-3T



#### 0651 Der Red Max™

A far-out super fun model! Large stable design gives great sport performance. Freaky "Red Max" decals and a molded plastic nose cone.

Length: 16.25 in. (41.3 cm) Diameter: 1.64 in. (42 mm) Estimated Weight: 2.38 oz. (67 g) Recovery: 18 in. (46 cm) Parachute Projected Altitude: 593 ft. (181 m)

Fins: Laser cut balsa

Recommended Engines: B6-2 (First Flight), B6-4, C6-5

#### 0802 Quark™

Mini engine powered mighty mite. With incredibly simple construction (only seven parts), a little spray paint and decals, and whoosh - out-a-sight flights.

Length: 5.2 in. (13.2 cm) Diameter: .54 in. (14 mm) Estimated Weight: .1 oz. (3 g) Recovery: Featherweight Fins: Laser cut balsa Projected Altitude: 700 ft. (213 m)

Recommended Engines: 1/4A3-3T (First Flight), 1/2A3-4T, A3-4T, A10-3T

#### 0810 220 Swift™

This fun and easy to build itty-bitty rocket really scoots through the sky.

Length: 4.5 in. (11.4 cm) Diameter: .54 in. (14 mm) Estimated Weight: .09 oz. (2.5 g) Recovery: Featherweight Fins: Laser cut balsa

Projected Altitude: 750 ft. (229 m)

Recommended Engines: 1/4A3-3T (First Flight), 1/2A3-4T, A3-4T, A10-3T

#### 1225 Alpha®

The first choice for millions of rocket modelers for over 40 years. Easy to build, rugged high performance - the perfect

rocket to get you started! Length: 12.3 in. (31.2 cm) Diameter: .98 in. (25 mm) Estimated Weight: .8 oz. (23 g) Recovery: 12 in. (30.5 cm) Parachute Fins: Laser cut balsa Projected Altitude: 1,000 ft. (305 m)

Recommended Engines: 1/2A6-2, A8-3 (First Flight), A8-5,

B4-4, B6-4, B6-6, C6-5, C6-7

#### 1261 Baby Bertha™

A miniature version of one of the most popular kits of all time, the Big Bertha®. Length: 12.75 in. (32.4 cm) Diameter: 1.64 in. (42 mm) Estimated Weight: 1.6 oz. (45.3 g) Recovery: 12 in. (30.5 cm) Parachute

Fins: Laser cut balsa

Projected Altitude: 575 ft. (175 m)

Recommended Engines: A8-3 (First Flight), B4-4, B6-4, C6-5



**SKILL LEVEL 1 1292 Wizard™**No tricks here – this rocket is an easy to build high-performance kit. 1292 Wizard' A great first or second kit that promises real excitement and fun! Diameter: .74 in. (19 cm)
Estimated Weight: .5 oz. (14.2 g)
Recovery: Streamer Fins: Laser cut balsa Projected Altitude: 1,692 ft. (516 m) Recommended Engines: 1/2A6-2, A8-3 (First Flight), A8-5, B4-4, B6-4, B6-6, C6-5, C6-7 1301 StormCaster™ 1381 Yankee<sup>™</sup> Go big on a small budget! Powered by the C11 engine, this 1301 StormCaster<sup>™</sup> big rocket can also be used with a D engine. Length: 30.25 in. (76.8 cm)
Diameter: 1.64 (42 mm)
Estimated Weight: 2.9 oz. (80.8 g) Recovery: 18 in. (46 cm) Parachute Fins: Laser cut balsa Projected Altitude: 930 ft. (283 m) Recommended Engines: C11-3 (First Flight), D12-5 Requires 3/16 in. (5 mm) Maxi™ launch rod (302244), sold separately. 1381 Yankee™ A rocket with All-American performance! Comes with cool selfstick decals for that red, white and blue look. Length: 11 in. (27.9 cm) Diameter: .74 in. (19 mm) Estimated Weight: .4 oz. (12 g) Recovery: Streamer Fins: Laser cut balsa Projected Altitude: 1,850 ft. (564 m) Recommended Engines: 1/2A6-2, A8-3 (First Flight), A8-5, B4-4, 1949 Viking<sup>m</sup> B6-4, B6-6, C6-5, C6-7 1948 Big Bertha® Burly, big and beautiful! Over the decades this is the first BIG rocket for many modelers. Slow, realistic liftoffs from this true Length: 24 in. (61 cm) 1948 Big Bertham Diameter: 1.64 in. (42 mm) Estimated Weight: 2.2 oz. (62 g) Recovery: 18 in. (46 cm) Fins: Laser cut balsa Projected Altitude: 500 ft. (152 m) Recommended Engines: B4-2 (First Flight), B4-4, B6-2, B6-4, C6-5 SKILLEV Fantastic rocket with 48 possible fin configurations and super high flights! 1960 Nova Payloaderm Length: 12.1 in. (30.7 cm)
Diameter: .74 in. (19 mm)
Estimated Weight: .6 oz. (17 g) Recovery: Streamer Fins: Dié cut card stock Projected Altitude: 1,698 ft. (518 m) Recommended Engines: 1/2A6-2, A8-3 (First Flight), A8-5, B4-4, B6-4, B6-6, C6-5, C6-7 1960 Nova Payloader™ Clear payload capsule, lightweight design and high altitude performance combine to make this a great cargo carrying rocket! Length: 21.1 in. (53.6 cm) Diameter: .98 in. (25 mm) Estimated Weight: 1.3 oz. (38 g) Recovery: 12 in. (30.5 cm) Parachute Fins: Laser cut balsa Estes model rocketry is recommended for ages 10 Projected Altitude: 1,000 ft. (305 m) Recommended Engines: A8-3 (First Flight), B4-4, B6-4, C6-5 years and up. Adult supervision is recommended for those under 12 years of age.

This awesome D and E engine rocket is a 1:5 scale model of NASA's sounding rocket that was launched to the D layer of the ionosphere in 1968.

Length: 38.8 in. (98.6 cm) Diameter: 1.8 in. (46 mm)

Estimated Weight: 9.2 oz. (260 g) Recovery: 18 in. (46 cm) Parachute

Fins: Laser cut balsa

Projected Altitude: 787 ft. (240 m)

Recommended Engines: D12-5 (First Flight), E9-6\* Requires 3/16 in. (5 mm) Maxi<sup>™</sup> launch rod (302244), sold

separately.

2056 U.S. Army Patriot M-104

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.

Length: 21.3 in. (54.1 cm) Diameter: 1.64 in. (42 mm) Estimated Weight: 1.95 oz. (55 g) Recovery: 12 in. (30.5 cm) Parachute Fins: Laser cut balsa Projected Altitude: 600 ft. (183 m)

Recommended Engines: B4-4 (First Flight), B6-4, C6-5

2092 Mongoose™

Snakes won't get close to this one! The perfect first two-stage rocket is a super quick build that's easy to decorate.

Length: 26.5 in. (67.3 cm) Diameter: .74 in. (19 mm) Estimated Weight: 2.3 oz. (65g) Recovery: 12 in. (30.5 cm) Parachute Fins: Two one piece Plastic molded Projected Altitude: 1,600 ft. (488 m)

Recommended Engines: Single Stage - A8-3, B4-4, B6-4, C6-5; Two Stage: Booster Stage – B6-0, C6-0; Second Stage –

B6-6, C6-7

2178 Hi-Flier®

Keep an eye on this one! A high flying rocket with streamer

recovery.

Length: 12 in. (30.5 cm) Diameter: .74 in. (19 mm) Estimated Weight: .82 oz. (23.2 g) Recovery: Streamer

Fins: Laser cut balsa

Projected Altitude: 1.690 ft. (515 m)

Recommended Engines: 1/2A6-2, A8-3 (First Flight), A8-5,

B4-4, B6-4, B6-6, C6-5, C6-7



\* Use of E engines is for those 18 years and older. Adult supervision required for those under 18. Also requires the Porta-Pad® E™ Launch Pad (2238) and the E Launch Controller (2230), sold separately.

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

1250 Interceptor®

One of the most popular model rockets of all time! This rocket retains the intergalactic cruiser look it had decades ago. No doubt this classic rocket will be the talk of any launch site!

Length: 36 in. (91.4 cm) Diameter: 1.3 in. (33 mm) Wingspan: 7.4 in. (18.8 cm) Estimated Weight: 3.85 oz. (109 g) Recovery: 18 in. (46 cm) Parachute Fins: Laser cut balsa

Projected Altitude: 525 ft. (160m)

Recommended Engines: B6-2 (First Flight), B6-4, C6-5

#### 1295 Mean Machine™

Back and meaner than ever! Fly it on Estes E engines and soar over 900 feet high! That's not all! Includes waterslide decals, D engine adapter and a new connector to break it down for easy transport.

Length: 79 in. (200.6 cm) Diameter: 1.64 in. (42 mm) Estimated Weight: 5.8 oz. (164 g) Recovery: 24 in. (61 cm) Parachute Fins: Laser cut balsa Projected Altitude: 941 ft. (287 m)

Recommended Engines: D12-3, D12-5 (First Flight), E9-4\*,

Requires 3/16 in. (5 mm) Maxi™ launch rod (302244), sold separately.

#### 1302 CC Express™

A high-flying, two-stage rocket powered by D engines.

Length: 28.4 in. (72.1 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 2.7 oz. (75.3 g) Recovery: 18 in. (46 cm) Parachute Fins: Laser cut balsa

Projected Altitude: 1,790 ft. (546 m)

Recommended Engines: Single Stage - D12-5; Two-Stage: Booster - D12-0; Second Stage - D12-7 Requires 3/16 in. (5 mm) Maxi™ launch rod

(302244), sold separately.

#### 1950 Eliminator™

Reach new heights with this quick-build, high-flying sport rocket. Comes with colored body tubes, nose cone and fin unit.

Length: 30.8 in. (78.2 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 4.6 oz. (130 g) Recovery: 12 in. (30.5 cm) Parachute Fins: Plastic molded

Projected Altitude: 1,420 ft. (433 m)

Recommended Engines: D12-5 (First Flight), D12-7, E9-6\*,

Requires Estes Porta-Pad® E Launch Pad (2238) and E™ Launch Controller (2230), sold separately.

#### 2050 Super Neon™

Hot neon and cool color scheme plus special tubular flight stabilizers will make this a favorite to build and fly. Length: 22.1 in. (56.1 cm)

Diameter: .98 in. (25 mm) Estimated Weight: 1.7 oz. (48 g) Recovery: 12 in. (30.5 cm) Parachute Fins: Laser cut balsa Projected Altitude: 1,105 ft. (337 m)

Recommended Engines: A8-3 (First Flight), B4-4, B6-4, C6-5

1950 Eliminatoria

EGS. DJ SONGJ HIV.S.

. A. AIR PORCE PC-803

1250 Interceptor®

2050 Super Neon<sup>TM</sup>

**37** 

1295 Mean Machine

1302 CC Expressin

\* Use of E engines is for those 18 years and older. Adult supervision required for those under 18. Also requires the Porta-Pad® É™ Launch Pad (2238) and the E Launch Controller (2230), sold separately.

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

2117 Screaming Eagle®
This cool-looking rocket looks great just sitting in the hangar, but screams to be out flying with other eagles.
Length: 16.75 in. (42.5 cm)
Diameter: 1 in. (25.4 mm)
Estimated Weight: 2.3 oz. (65.2 g)
Recovery: 12 in. (30.5 cm) Parachute

Fins: Laser cut balsa Projected Altitude: 600 ft. (183 m) Recommended Engines: B4-4 (First Flight), B6-4, C6-5

Launch eggs on four different engine sizes using the same rocket! Includes an adapter to launch an egg on B & C engines or remove it to use D and E engines. Length: 20 in. (51 cm)
Diameter: 1.33 in. (34 mm)
Estimated Weight. (without egg): 2.6 oz. (74 g)
Recovery: 12 in. (30.5 cm) Parachute and 18 in. (46 cm)

Parachute

Fins: Laser cut balsa

Projected Altitude: 610 ft. (186 m)

Recommended Engines: With egg − B6-2, C6 − 3, C11-3, D12-3, E9-4\*; Without egg − B4-2, B6-2, C6-5, D12-5, E9-6\*.

Requires 3/16 in. (5 mm) Maxi™ launch rod (302244), sold

2162 Big Daddy™
Re-designed to fly twice as high using Estes E engines, but still flies on Ds as well. A contemporary new look may just answer the question... "Who's Your Daddy?"
Length: 19 in. (48.3 cm) Diameter: 3 in. (76 mm)
Estimated Weight: 5.3 oz. (150 g)
Recovery: 24 in. (61 cm) Parachute Fins: Laser cut balsa Projected Altitude: 900 ft. (274 m)

Recommended Engines: C11-3 (First Flight), D12-3, D12-5,

Requires 3/16 in. (5 mm) Maxi™ Launch Rod (302244), sold separately.

2179 Guardian™

A unique multi-finned rocket that simulates a ground-to-air missilė.

Length: 19.1 in. (48.5 cm) Diameter: 1.33 in. (34 mm) Estimated Weight: 2.4 oz. (68.6 g) Recovery: 12 in. (30.5 cm) Parachute Fins: Laser cut balsa

Projected Altitude: 723 ft. (220 m) Recommended Engines: B4-4 (First Flight), B6-4, B6-6, C6-5

2401 Solar Flare™

This cool looking, two-stage rocket sports a unique look with flare fins and a clear payload section.
Length: 27 in. (68.6 cm)
Diameter: 98 in. (25 mm)

Estimated Weight: 3.2 oz. (90.7 g) Recovery: Booster Stage – Tumble; Second Stage - 12 in. (30.5

cm) Parachute

Fins: Laser cut balsa

Projected Altitude: 800 ft. (244 m)

Recommended Engines: Single Stage - A10-3T; Two Stage: Booster - B6-0 or C6-0; Second Stage - A10-3T

7000 Bull Pup 12D™

Sport scale version of the USAF AGM-12D Bull Pup. Authentic color decals! Great first scale model. Length: 15.6 in. (39.6 cm) Diameter: 1.33 in. (34 mm)
Estimated Weight: 1.8 oz. (51 g)
Recovery: 12 in. (30.5 cm) Parachute Fins: Laser cut balsa

Projected Altitude: 675 ft. (206 m)

Recommended Engines: A8-3 (First Flight), B4-4, B6-4, C6-5



**1350 Interceptor-E**<sup>™</sup> Length: 39 in. (99 cm) Diameter: 2 in. (51 mm) Wingspan: 11.25 in. (28.5 cm) Estimated Weight: 13.5 oz. (363 g) Recovery: 24 in. (61 cm) Nylon Parachute Fins: Laser cut balsa Projected Altitude: 450 ft. (137m) Recommended Engine: E9-4\* Requires Estes Porta-Pad® E Launch Pad (2238) and E™ Launch Controller (2230), sold separately.

**1382 Comanche-3**™ Length: 41 in. (104.1 cm) Diameter: .98 in. (25 mm) Estimated Weight: 2.1 oz. (59 g) Recovery: Booster - Tumble; Main Stage - Two Streamers Recovery: Booster - Tumble; Main Stage - Two Streamers Fins: Laser cut balsa Projected Altitude: 2,660 ft. (811 m) Recommended Engines: Single Stage Flights - A8-3, B4-4, B6-4, C6-5; Three Stage Flights: Booster - D12-0; Second Stage - C6-0; Third Stage - B6-6, C6-7. Requires 3/16 in. (5 mm) Maxi™ launch rod (302244), sold separately.

1942 SR-71 Blackbird™ Length: 19 in. (48.3 cm) Diameter: .98 in. (25 mm) Estimated Weight: 3.2 oz. (90.7 g) Recovery: 18 in. (46 cm) Parachute Fins: Laser cut balsa Projected Altitude: 600 ft. (183 m) Recommended Engines: B4-2 (First Flight), B6-2, B6-4, C6-5

1951 Executioner™ Length: 38.5 in. (97.8 cm) Diameter: 2.6 in. (66 cm) Diameter: 2.6, in. (66 cm)
Estimated Weight: 8.1 oz. (230 g)
Recovery: 24 in. (61 cm) Parachute
Fins: Laser cut birch wood
Projected Altitude: 590 ft. (180 m)
Recommended Engines: D12-3 (First Flight), E9-4\*, E9-6\*
Requires Estes Porta-Pad® E Launch Pad (2238) and E<sup>™</sup> Launch Controller (2230), sold separately.

**2410 Renegade-D™** Length: 26.6 in. (67.6 cm) Diameter: 1.64 in. (42 mm) Estimated Weight: 4.3 oz. (120.9 g) Recovery: 18 in. (46 cm) Parachute Fins: Laser cut balsa Projected Altitude: 850 ft. (260 m) Recommended Engine: D12-5 Requires 3/16 in. (5 mm) Maxi™ Launch Rod (302244) and E™ Launch Controller (2230), sold separately.

**2425 Super Neon XL™** Length: 37.75 in. (95.9 cm) Diameter: 1.64 in (42 mm) Recovery: 24 in (42 init) Recovery: 24 in (61 cm) Parachute Fins: Laser cut balsa Projected Altitude: 1,000 ft. (305 m) Recommended Engines: D12-5 (First Flight), E9-4\*, E9-6\* Requires 3/16 in. (5 mm) Maxi™ Launch Rod (302244) and E™ Launch Controller (2230), sold separately.

2440 Magician™ Length: 33.5 in. (85 cm) Diameter: 1.33 in. (34 mm)
Estimated Weight: 3.5 oz. (100 g)
Recovery: 18 in. (46 cm) Parachute Fins: Laser cut balsa Projected Altitude: 1,600 ft. (488 m)
Recommended Engines: D12-5 (First Flight), E9-6\*
Requires 3/16 in. (5 mm) Maxi™ Launch Rod (302244), sold separately.

2410 Renegade-Div 1942 SR-71 Blackbird" JEDN XL NEW! 2425 Super Neon XL' SKILL LEVE NEW! 2440 Magician<sup>M</sup> \* Use of E engines is for those 18 years and older. Adult supervision required for those under 18. Also requires the Porta-Pad® E™ Launch Pad (2238) and the E™ Launch Controller (2230), sold separately.

Estes model rocketry is recommended for ages 10 years and up. Adult supervision is

recommended for those under 12 years of age.

1350 Interceptor-E'

1382 Comanche-3TM

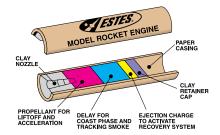
1951 Executioner

E LLE. AIR PORCE OF 307

#### **ESTES MODEL ROCKET ENGINES**

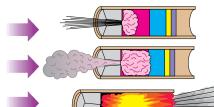
The famous model rocket engines that made model rocketry the great activity it is today. Estes model rocket engines have been proven consistent and reliable in more than 400,000,000 launches.

- 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:

TYPE	TOTAL IMPULSE	ENGINE TYPES
1/4A	0.313 - 0.625	Mini
1/2A	0.626 - 1.25	Standard, Mini
Α	1.26 - 2.50	Standard, Mini
В	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

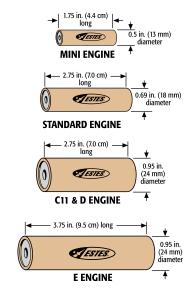
#### Each engine type is color coded.

Single Stage - Green

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

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

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



# Each engine has an alpha-numeric code printed on it.

#### **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

B6-4

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.).

ESTES.

#### 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.

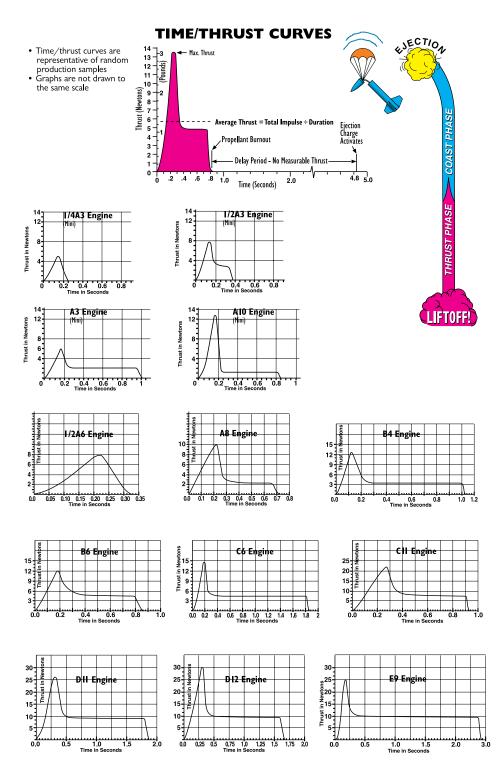
#### **ENGINE CHART**

- 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 liftoff weight exceeds the recommended maximum liftoff weight.

Prod. No.	Engine Type	Total Impulse	Time Delay	Ma Lift	ıx. Wt.	Max. Thrust		Max. Thrust		Max. Thrust Initial Thrust Duration Weight			Propellant Weight	
		N-sec	Sec.	Oz.	g	Newtons	Lbs.	Sec.	Oz.	g	Oz.	g		
SING	SINGLE STAGE ENGINES													
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	8.3	1.9	0.3	0.20	5.6	0.06	1.75		
1507	A3-4T*	2.50	4	2.0	57	6.8	1.5	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	8.9	2.0	0.3	0.53	15.0	0.06	1.56		
1598	A8-3	2.50	3	3.0	85	10.7	2.4	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		
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	12.0	340	25.0	5.6	2.8	2.00	56.7	1.27	35.80		
UPPI	ER STAGE ENG	INES												
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		
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	10.0	283	25.0	5.6	2.8	2.00	56.7	1.2	35.80		
BOOSTER STAGE ENGINES														
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		
1665	D12-0	20.00	None	14.0	396	32.9	7.4	1.6	1.44	40.9	0.88	24.93		
PLUGGED ENGINES - FOR USE WITH ROCKET POWERED RACERS & R/C ROCKET GLIDERS														
1505	A10-PT*	2.50	None	3.0	85	13.0	2.9	0.8	0.26	7.4	0.13	3.78		
1669	D11-P	20.00	None	16.0	453	27.6	6.2	1.8	1.55	44.0	0.88	24.93		

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

<sup>\*</sup> There are 4 mini engines per package. All other engines are 3 per package.



#### **MODEL ROCKET ACCESSORIES**

#### 1672 BLAST-OFF® FLIGHT PACK

Includes 6 each of A8-3, B6-4, C6-3, C6-5 engines, 30 igniters and 75 sheets of recovery wadding.

#### 2230 E™ LAUNCH CONTROLLER

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.

#### 2238 PORTA-PAD® E LAUNCH PAD

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<sup>m</sup> launch rod - not included. Adult supervision required for anyone under 18 when launching E engine powered rockets.

#### 302215 PORTA-PAD® II LAUNCH PAD

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

#### **302220 ELECTRON BEAM® LAUNCH CONTROLLER**

Launch controller comes complete with safety key and 15 ft. (4.6 m) of cable. Requires four AA alkaline batteries - not included.

#### **302227 TUBE MARKING GUIDE**

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

#### 302232 ALTITRAK™

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

#### **302241 BLAST DEFLECTOR PLATE**

Replaces that worn-out deflector.

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

#### 302244 3/16 in. (5 mm) TWO-PIECE MAXI™ LAUNCH ROD

Launch rod with extra strength and length for larger rockets.

302264 12 in. (30.5 cm) PARACHUTE (Assembled)

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

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

#### **302274 RECOVERY WADDING**

Flame resistant wadding protects recovery system. Required in most Estes rockets. Contains 75 sheets – enough for about 18-25 flights!

#### 302278 SHOCK CORDS & MOUNT PACK

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.

#### **302301 MODEL ROCKET IGNITERS**

Dependable, easy-to-use Estes igniters in a convenient six pack. It's always a good idea to have a few spares.

#### **302320 LAUNCH LUG PACK**

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

#### **303143 ENGINE HOOK ACCESSORY PACK**

Hooks fit mini engines (one), regular and D engines (three) and E engines (two). Includes spacer for E engine hooks.

#### **303158 REGULAR ENGINE MOUNT KIT**

Fits BT-50, 55 and 60 tubes. Can also be used to make a conversion mount for lightweight D powered rockets.

#### **303159 D AND E ENGINE MOUNT KIT**

Heavy duty engine mounts for D and E engines. Fits BT-55, 60 and 80 tubes.

#### 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.

303160 NC-5 NOSE CONE ASSORTMENT (5 pack)

303161 NC-20 NOSE CONE ASSORTMENT (4 pack)

303162 NC-50 NOSE CONE ASSORTMENT (4 pack)

303163 NC-55 NOSE CONE ASSORTMENT (4 pack)

303164 NC-56 NOSE CONE ASSORTMENT (4 pack)

303165 NC-60A NOSE CONE ASSORTMENT (4 pack)

303168 NC-80B NOSE CONE (1 pack)

#### **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 and two per package in BT-80.

Product Number	Body Tube Size	Inside Dimension in./mm	Outside Dimension in./mm	Length in./cm
303084	BT-5	.52/13	.54/14	18.0/45.7
303085	BT-20	.71/18	.74/19	18.0/45.7
303086	BT-50	.95/24	.98/25	18.0/45.7
303087	BT-55	1.28/33	1.33/34	18.0/45.7
303089	BT-60	1.60/41	1.64/42	18.0/45.7
303090	BT-80	2.56/65	2.60/66	14.2/36.1



# Excite & motivate your students with **ESTES MODEL ROCKETS!**

• Hands-on Education • Cost Saving Bulk Packs • Ready-To-Use Curriculums

# **GET STARTED WITH ESTES LAUNCH SETS**

Launch sets include a rocket (or two), launch pad & launch controller. Engines sold separately.



#### 1403 Riptide™

Ready To Fly (RTF) Rocket Set

#### 1469 Tandem-X™

Extra Value Set-Two Rockets!

#### 1475 Solar Scouts™

Extra Value Set-Two Rockets!

#### 1491 Taser™

Easy to Assemble (E2X®) Rocket Set

#### **FOR TECHNOLOGY CLASSES CURRICULUM**



#### 2855 Estes Rocket Labs™ DVD

Make learning fun! Use Estes model rocketry to teach social studies, language arts, math, science and technology. DVD includes 45 lesson plans for all five subjects for one, two, or three class periods. Lessons are for Grades 3-5, 6-8, and 9-12 that include national standards correlations, objectives, background information, materials list, activities, assessments, support materials, and more.

2126 Tech-Pak™ Scratch Build Rocket Advanced, make your own body tube. Skill Level 2, Length: 15.1 in. Engines: 1/2A6-2, A8-3, B4-4, B6-4, B6-6, C6-5, C6-7

# Estes Rockets Have Launched Students' Dreams for over 50 Years!

#### Where to Buy Estes Educator™ Products:

From school suppliers, wholesalers and at your local Estes hobby retailer including Estes Education Station™ retailers.

# **ESTES EDUCATOR™ ROCKET BULK PACKS**

#### E2X® BULK PACKS

• Great beginner kits • No painting! • 12 rockets per pack



1751 Alpha III®

Length: 12.3 in. (31.2 cm) Engines: 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7

A8-5, B4-4, B6-4, B6-6,

C6-5, C6-7

1764 Generic E2X® Length: 15 in. (38.1 cm) Engines: 1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7

1792 Firestreak SST™ 24 per pack Length: 10.2 in. (25.9 cm) Engines: 1/2A3-2T, A3-4T, A10-3T

1793 UP Aerospace™ SpaceLoft™ Length: 12.5 in. (31.8 cm) Engines: 1/2A6-2, 1/2A3-4T, A3-4T, A10-3T

#### **SKILL LEVEL 1 BULK PACKS**

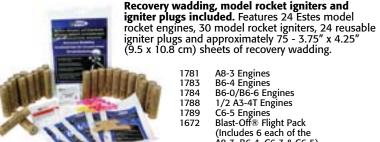
• Easy construction • Simple painting • 12 rockets per pack



# **ROCKET ENGINE BULK PACKS**

C6-5, C6-7

A8-5, B4-4, B6-4, B6-6,



B6-0/B6-6 Engines 1/2 A3-4T Engines C6-5 Engines Blast-Off® Flight Pack (Includes 6 each of the À8-3, B6-4, C6-3 & C6-5)

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.

# Classic Series

The Estes Classic Series is a line of rocket products that were introduced to the modeling world during the 1970s and 1980s. This period is fondly remembered by many as the Golden Age of Model Rocketry, when new exotic designs were appearing at an astonishing rate.

Estes has gone back to the archives, pulled up old drawings and spec sheets and brought these fantastic flying machines back for old and new rocketeers to enjoy. Look inside to see the complete line, pages 6-9.

estes rockets