





# **TABLE OF CONTENTS**

Index2	Skill Level 2 Rocket Kits30
How To Start3	Skill Level 3 Rocket Kits34
What to Know	'E' Engine Powered Kits36
Model Rocket Safety Code5	Blurzz <sup>™</sup> Rocket Racers
Ready To Fly Starter Sets 6	How Model Rocket Engines Work
E2X® Starter Sets8	Model Rocket Engine Chart39
Ready to Fly Launch Sets10	Engine Time/Thrust Curves40
Launch Sets	Model Rocket Accessories41
Ready To Fly Rockets	Estes R/C Airplanes42
E2X® Rocket Kits	Estes Educator™ Products
Skill Level 1 Rocket Kits22	Air & Hydrogen Power

# INDEX

220 Swift™ 23
220 Swift™
36 D Squared
Accessories
AeroX™ Interceptor™ R/C Mobile Launcher 44
Air Force One Electric R/C Jet
Air Power Action Hero
All Power Action nero
Air Power Blast Jets*47
Air Show™ Launch Set
Air Show™ Launch Set       13         Alpha*       23
Alpha III*
Alpha III* Starter Set9
Astrobeam™
Astrocam* 110
AstroVision™ Launch Set
Baby Bertha™         23           Bandito™         17
Bandito™ 17
Big Bertha®25
Die Doddui
Big Daddy™
Blue Ninja™19
Rlurzz™ Rocket Racers 36
Bull Pup 12D™
CC Express™ 31
Chrome Domes™ – Gold Series 21
Bull Pup 12D™       33         CC Express™       31         Chrome Domes™ – Gold Series       21         Comanche-3™       35
Containine-5
Converter™21
Cosmic Cobra™19
Cosmos Mariner
Cruise Missile™
Der Red Max <sup>™</sup>
Dragonite™
Diagonile
D-Region Tomahawk
Eagle <sup>™</sup> Boost Glider
Eggscaliber™
Eggscaliber™
Engine Lab Packs
Engines 79.40
Executioner™
Executioner
FireDug'''43
Firehawk™
Firestreak™ SST
Flight Master® ROG R/C Plane 43
Flight Master* ROG R/C Plane         43           Generic E2X*         45           Gnome™         17
CnomoTM 17
GHOINE
Guardian™       33         Hi-Flier*       29
Hi-Flier®
Hi Jinks™
Hydrogen Fuel Rocket
Hydrogen Fuel Rocket with Lights & Sound 47
Hyper X™
Intercenter M 71
Interceptor™31
Interceptor-E™
Kick Dis <sup>™</sup> Power Puck
Launchables® Starter Set
Launchables® Starter Set
Launchables* Starter Set     9       Liquidator™     29       Mean Machine™     37
Launchables® Starter Set       .9         Liquidator™       .29         Mean Machine™       .37         Metalizer™       .21

Micro TigorTM
Micro-figer 43
Mini Super Shot™ Starter Set9
Nitro™ Launch Set
No. 2 Estes Sky Writer <sup>®</sup>
NO. 2 Estes Sky Willel
Nova Payloader™ 25 NSA Starship™ Starter Set 7
NSA Starship™ Starter Set
Operation Search & Destroy™ Launch Set
Operation Search & Destroy™ Launch Set
DiddeZI
Patriarch™15
Patriot™ Starter Set
$ \begin{array}{llllllllllllllllllllllllllllllllllll$
Porta-Pot Shot™ 27
Presidential VIP Electric R/C Jet Airplane
Presidential vir Electric R/C Jet Alipiane44
Puma™
Quark™
Rascal™ 15
Rascal™
Riptide™ Launch Set11
Riptide
Rocket Lab Packs
Rock-it <sup>™</sup> Stone Age Flyer
Rubicon
Scissor Wing Transport™ 35
Caroning Fools® 71
Sciediffing Eagle
Snockwave Light & Sound Play Puck 47
Shuttle Xpress™
Sizzler <sup>®</sup>
Rubicon
Sky Rangers™ Micro R/C Airplane 44
Sky Rangers™ R/C Airplane
Sky kangers k/C Airpiane44
SnapShot™ Starter Set
Snitch™ 15 Solar Flare™ 13
Solar Flare™
SpaceShip()ne® 44
SpaceShipOne® E-Powered
Carachia On all Larrow Larrow Cat
SpaceShipOne® Launch Set
Speed Freak™ Starter Set7
Speed Freak™ Starter Set.       .7         Spin Control™       .7         SR-71 Blackbird™       .35         StormCaster™       .25         Super Neon™       .27
SR-71 Blackbird™
StormCaster™ 25
Currer Near <sup>TM</sup>
Super Neon
Supersnot <sup>***</sup> Wilni KTF Compo
SuperShot™ Race Set
Taser™ Launch Set
Tandem-X <sup>™</sup> Launch Set
IID Agrospaco <sup>TM</sup> Spacol of t <sup>TM</sup>
UP Aerospace™ SpaceLoft™ 45 U.S. Army Patriot M-104 27
U.S. Army Patriot IVI-104
Viking™
Viper <sup>™</sup> 43
Wicked Streak™ SST Launch Set
Viper™
VP 70 EnglevoTM Floctric P/C Digital Camera Plana 47
V 100 Televill Air Decree Declar District Plane
X-100 Idion Air Power Rocket Plane4/
Xenox™43
Yankee™

# **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 or Launch Set. You can either start with a Ready To Fly Starter Set or Launch Set that has a fully constructed model rocket or an EZX\* Starter Set or Launch Set with a rocket that requires assembly prior to launching. Both types of sets come complete with an electrical launch controller, adjustable launch pad and an information booklet to get you out and flying in no time. Starter Sets include engines, Launch Sets let you choose your own engines (not included). 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 five 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-stick decals, attach the recovery system and you are ready to blast off! Assembly takes 1 hour or less.

**SKILL LEVEL 1 ROCKET KITS:** Requires some painting, gluing and sanding. Features laser cut balsa fins, slotted body tubes, plastic nose cones and self-stick 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 laser cut balsa or plastic fins, plastic nose cones and unfinished body tubes. Assembly 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 laser cut balsa fins and parts, unfinished body tubes, complex designs and plastic nose cones. Assembly may take a couple of days.

# 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 50 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.

# PEAK ALTITUDE & EJECTION SCOAST & TRACKING COAST & TRACKING TOUCHDOWN ELECTRICAL IGNITION & LIFTOFF

# 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 38-40) of this catalog for more information.

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

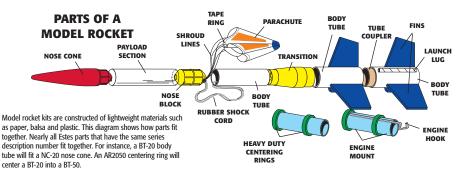
In the mid-1950s when the space age began, flying rockets became very popular. However, there were no safe propellants readily available to launch rockets. In 1958 Vernon Estes developed the first safe, mass-produced model rocket engine. The Estes rocket engine was destined to make model rocketry one 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 at 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!



# 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 brandname rocket product containing any defect or causing any damage may void the Estes warranty.





Do not return your Estes product to the store. Estes will repair or replace factory defects for 90 days from date of purchase. This warranty specifically does not cover crash damage or abuse!

For fast courteous service, if you find a defect or a part is missing, please contact Estes Customer Service at http://www.estesrockets.com or call 1-866-532-6962.

Obtain a Return Merchandise Authorization (RMA) number from Estes Customer Service before returning a defective part or product. Any part or product returned to Estes without a RMA number clearly marked on the shipping label will not be accepted. Send only the defective part(s). There may be additional charges if you send more than is necessary. Ship returns to: Estes-Cox Corp. 1295 H St., P.O. Box 227, Penrose, CO 81240-0227.

This warranty applies only if the product is operated in compliance with instructions and warnings provided with each model. Estes-Cox assumes no liability except for the exclusive remedy of repair or replacement of parts as specified above. Estes shall not be liable for consequential or incidental damages. Some states do not allow the exclusion 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.

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

Effective February 10, 2001

- 1. MATERIALS. I will use only lightweight, nonmetal parts for the nose, body, and fins of my rocket.
- 2. MOTORS. I will use only certified, commercially-made model rocket motors, and will not tamper with these motors or use them for any purposes except those recommended by the manufacturer.
- **3. IGNITION SYSTEM.** I will launch my rockets with an electrical launch system and electrical motor igniters. My launch system will have a safety interlock in series with the launch switch, and will use a launch switch that returns to the "off" position when released.
- 4. MISFIRES. If my rocket does not launch when I press the button of my electrical launch system, I will remove the launcher's safety interlock or disconnect its battery, and will wait 60 seconds after the last launch attempt before allowing anyone to approach the rocket.
- 5. LAUNCH SAFETY. I will use a countdown before launch, and will ensure that everyone is paying attention and is a safe distance of at least 15 feet (4.6 m) away when I launch rockets with D motors or smaller, and 30 feet (9 m) when I launch larger rockets. If I am uncertain about the safety or stability of an untested rocket, I will check the stability before flight and will fly it only after warning spectators and clearing them away to a safe distance.
- 6. LAUNCHER. I will launch my rocket from a launch rod, tower, or rail that is pointed to within 30 degrees of 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 the launcher so that the end of the launch rod is above eye level or will cap the end of the rod when it is not in use.
- **7. SIZE.** My model rocket will not weigh more than 53 ounces (1500 grams) at liftoff and will not contain more than 4.4 ounces (125 grams)

of propellant or 71.9 pound-seconds (320 Nsec) of total impulse. If my model rocket weighs more than one pound (453 grams) at liftoff or has more than 4 ounces (113 grams) of propellant, I will check and comply with Federal Aviation Administration regulations before flying.

- 8. FLIGHT SAFETY. I will not launch my rocket at targets, into clouds, or near airplanes, and will not put any flammable or explosive payload in mv rocket.
- 9. LAUNCH SITE. I will launch my rocket outdoors, in an open area at least as large as shown in the accompanying table, and in safe weather conditions with wind speeds no greater than 20 miles per hour (32 km/h). I will ensure that there is no dry grass close to the launch pad, and that the launch site does not present risk of grass fires.

# **LAUNCH SITE DIMENSIONS**

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

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

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

Signature

Important Note: 'G' engines must be sold to and used by adults (18 and up) only. To launch large model rockets weighing more than one lb. (453 g) including propellant or rockets containing more than 4 oz. (113 g) but no more than 4.4 oz. (125 g) of propellant (net weight), you must notify and perhaps obtain authorization from the Federal Aviation Administration (FAA). Check your telephone directory for the office nearest you or contact Estes Industries for further information. \*National Association of Rocketry



# READY TO FLY STARTER SETS

ARMY

# **READY TO FLY (RTF) STARTER SETS**

- · Fully constructed and decorated rocket
- Complete launch system with flight supplies
- Ready to fly in minutes
- · Two engines included in each set

INCLUDES FREE KODAK® 110 COLOR FILM!



(Actual photo taken from SnapShot™ Camera Rocket)

# SPIN CONTROL

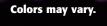
**EVERY STARTER SET INCLUDES LAUNCH EQUIPMENT & FLIGHT SUPPLIES!** 



4 'AA' Alkaline Batteries required - not included.



STARSHIP





SPEED FREAK

# RTF STARTER SETS

# 1414 SPIN CONTROL™

\$46.99

A new 'SPIN' on model rocketry! Adjust the Spin Control™ to spin from 0 to over 100 times per flight.

The Electronic Nose Cone counts the number of spins per flight and displays the results on its LCD screen. Over 40 different combinations of spin set ups are possible. Count the spins then compare the results to see who wins - you or the rocket!

Length: 19 in. (48.3 cm); Dia.: 1.35 in. (34.3 mm) Wt.: 3.2 oz. (90.7 g); Fins: Plastic molded Recovery: 12 in. (30 cm) Parachute Max. Altitude: 630 ft. (192 m) **Recommended Engines:** B4-2, B6-2, B6-4, C6-3, C6-5

# 1843 PATRIOT™

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.

**Wt.:** 2.7 oz. (75 g); **Fins:** Plastic molded **Recovery:** 12 in. (30 cm) Parachute

**Max. Altitude:** 600 ft. (183 m) **Recommended Engines:** A8-3, B4-4, B6-4, C6-5

# 1852 NSA STARSHIP™

"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:

Wt.: 2.7 oz. (75 g); Fins: Plastic molded Recovery: 12 in. (30 cm) Parachute

Max. Altitude: 600 ft. (183 m)

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

# 1848 SNAPSHOT™

\$47.99

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:

Wt.: 3 oz. (86.2 g); Fins: Plastic molded

Recovery: 12 in. (30 cm) Parachute

Max. Altitude: 500 ft. (152 m) Recommended Engine: B6-4, C6-5

# 1889 SPEED FREAK\*\*

How FAST does your rocket fly? Track the speed of the Speed Freak™ using the 'Advanced Velocity Tracking Technology' capsule. The capsule contains a digital speedometer that computes the speed of your rocket, flight after flight.

**Length:** 17 in. (43.2 cm); **Dia.:** 1.35 in. (34.3 mm) Wt.: 2.6 oz. (74 g); Fins: Plastic molded Recovery: Rocket - 12 in. (30 cm) Parachute;

Capsule - Streamer

Max. Altitude: 600 ft. (183 m)

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



# **E2X® STARTER SETS®**

- Almost ready to fly rocket
- Self-stick decals
- Complete launch system with engines
- Colored parts

FLIES 1400 FT.!

BLACK DIAMOND

MINI SUPER SHOTTM

STARTER SET

SPACE HAULER

21IN.

TALL! (55 CM)

1406 ALPHA III® STARTER SET



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.

# **LAUNCHABLES®** STARTER SET



Colors may vary.

# **E2X® STARTER SETS**

# 1406 ALPHA III®

\$28.99

Features a bright molded one piece fin unit and nose cone and engines for two fantastic parachute recovered flights.

SPECS:

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)

# 1431 MINI SUPER SHOT™

\$21.99

Features two mini-engine powered rockets that can be ready to fly in an hour. Also includes special minirocket launch pad.

SPECS: Space Bus

**Length:** 5.25 in. (13.3 cm) Dia.: 1.0 in. (25.4 mm)
Wt.: 0.74 oz. (21.2 g)
Max. Altitude: 700 ft. (213 m)

Space Hauler™

**Length:** 5.38 in. (13.7 cm) **Dia.:** 0.75 in. (19.1 mm) Wt.: 0.67 oz. (18.9 g) Max. Altitude: 760 ft. (231 m)

**Recovery:** Streamer **Fins:** Plastic molded

**Recommended Engines:** 1/4A3-3T, 1/2A3-4T, A3-4T, A10-3T (Includes two engines)

# 1452 LAUNCHABLES®

\$40.99

A complete starter set that includes two exciting model rockets, the Black Diamond™ that streaks over 1400 feet high and the Astron<sup>®</sup> Outlaw<sup>™</sup> that's almost two feet tall. The Astron\* Outlaw™ assembles in less than an hour, the Black Diamond™ is easy to build and finish. (Includes two engines)

# Black Diamond™ (Skill Level 1)

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. (448 m)

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

Astron\* Outlaw™ (E2X\*)

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) Parachute Fins: Plastic molded

Max Altitude: 600 ft. (183 m)

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

\* All starter sets require 4 - 'AA' alkaline batteries - not included



# READY TO FLY LAUNCH SETS

# **ESTES LAUNCH SETS\***

Launch Sets are a great way to get started in model rocketry! They include a rocket (or two), versatile launch pad and reliable launch controller. Plus, you get to choose what Estes rocket engine(s) you'd like to use to launch your new rocket(s) by purchasing them separately.

TAKES DIGITAL INOVIES & PHOTOS!

SUPER SHOT™

RACE SET

OPERATION **SEARCH & DESTROY**<sup>TM</sup>



SR-71 BLACKBIRD

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 LAUNCH SETS**

1417 ASTROBEAM™

1417 ASTROBEAM™

Have you always wanted to launch rockets at night?

Now you can with the Astrobeam™. This shiny rocket features a multi-colored strobe light body that glows so bright it can be seen as far as 500 feet away!

(Engines not included — sold separately)

SPECS: Length: 24.75 in. (62.9 cm)

Diameter: 1.35 in. (3.4 cm)

Weight: 3.4 oz (96.9 g)

Recovery: 18 in. (46 cm) Parachute

Fins: One piece plastic molded

Max. Altitude: 575 ft. (175.3 m)

Engines: B6-2, C6-3

1886 OPERATION SEARCH & DESTROY™ \$46.99
Burn up the atmosphere in the SR-71 Blackbird™ Mach
3 and the AGM-86B™ Cruise Missile! Both rockets are
fully assembled with authentic decor and USAF markings. (Engines not included – sold separately)
SPECS:
SPECS:
SPECS: (A 3 cm): Wingspan: 9 3 in (23.5 cm)

Str-71 Blackbird\*\*
Length: 19 in. (48.3 cm); Wingspan: 9.3 in. (23.5 cm)
Wt.: 2.4 oz. (67.3 g)
Recovery: 18 in. (46 cm) Parachute
Max. Altitude: 600 ft. (183 m)
Recommended Engines: B4-2, B6-2, B6-4, C6-3

AGM-86B™ Cruise Missile
Length: 9 in. (22.9 cm); Wingspan: 6 in. (15.2 cm)
Wt.: 1.4 oz. (30.6 g)
Recovery: 12 in. (30 cm) Parachute
Max. Altitude: 200 ft. (61 m)
Recommended Engines: A3-4T, A10-3T
Produced under license from Boeing Marlagement Company, Boeing, McDonnell
Douglas, McDonnell, Douglas, North American Aviation, their distinctive liveries, logos, and product markings are among the trademarks owned by Boeing.

1888 SUPER SHOT™ RACE SET

1888 SUPER SHOT™ RACE SET

3...2...1...RACE! First one off the dueling launch pad
wins! Load up the Slash™ and Streak™ with a mini
engine and you're off to the races. Deluxe carrying case
converts into dueling launch pad. (Engines and 4°D'
alkaline batteries not included − sold separately)

SPECS: Slash™ & Streak™
Length: 5.25 in. (13.3 cm); Dia.: 0.63 in. (16 mm)
Wt.: 0.32 oz, (9 g)

Recovery: 9 in. (22.9 cm) Streamer
Max. Altitude: 700 ft. (213 m)

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

1891 SPACESHIPONE\*
Fly a scale replica of SpaceShipOne\*, the Ansari X
PRIZE winner. Designed by Burt Rutan of Scaled
Composites, this is the first privately funded manned
spacecraft to reach outer space. (Engines not included
- sold separately)
SPECS:
Length: 13 in (33 cm): Wingspan: 65 in (16.5 cm)

Length: 13 in. (33 cm); Wingspan: 6.5 in. (16.5 cm)
Recovery: 12 in. (30 cm) Parachute
Max. Altitude: 400 ft. (122 m)
Recommended Engines: 84-2, 86-2, 66-3
X PRIZE is a registered frademan of the X PRIZE foundation and is used by permission. Spaceship one is a registered trademark of Mojave Aerospace Ventures and is used by permission. Virgin and Virgin Caladic, are registered trademarks of Virgin Engineering Caladic, are used by Permission.

VECS: 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 Max. Alfitude: 600 ft. (183 m) Recommended Engines: A8-3, B4-4, B6-4, C6-5

1899 ASTROVISION™

Take fantastic digital movies from liftoff to landing! Switch modes and take digital photos from over 300 feet high. Save the movies and photos to your laptop or PC with the included software and USB cable. (Engines not included - sold separately)

SPECS:

SPECS: Length: 19 in. (48.3 cm); Dia.: 1.35 in. (34.3 mm) Wt.: 3.4 oz. (96.g); Recovery: 12 in. (30 cm) Parachute Fins: Plastic molded Max. Altitude: 300 ft. (91 m) Recommended Engines: B4-2, C6-3 Camera: 640 X 480 pixels, 72 dpi, Requires Windows-based computer with CD-ROM and USB port. Uses one 'AAA' alkaline battery' - sold separately.

\* Most Launch Sets require 4 'AA' alkaline batteries



AMAZON" Estes model rocketry is recommended for ages 10 years and up. Adult supervision is recom-mended for those under 12 years of age.

TANDEM-X™ LAUNCH SET



# **LAUNCH SETS**

1480 AIR SHOW™ \$46.99
Create your own air show by launching two supersonic jets together! This set comes with the two jet gliders, launch equipment and reusable flight case. (Engines not included – sold separately)
SPECS: Skill Level: E2X\*
Length: 16.5 in. (41.9cm)
Wingspan: 12 in. (30 cm)
Wit. 4.7 oz. (135.9)
Recovery: Engine Pod – 12 in. (30 cm) Parachute; Jets-Glide Max. Alfitude: 350 ft. (107 m)
Recommended Engines: B6-2, C6-3

1481 TASER™

\$20.99

The Taser™ is an easy to build rocket kit. Just assemble the rocket, apply the decal and you're ready to launch. (Engines not included – sold separately)

SPECS: Skill Level: E2X\*
Length: 16.5 in. (41.9 cm)
Dia. 0.98 in (24.8 mm)
Wtt. 1.5 oz. (42.5 g)

Recovery: 12 in. (30 cm) Parachute
Fins: Plastic molded
Max. Altitude: 1,000 ft. (305 m)
Recommended Engines: A8-3, B4-4, B6-4, B6-6, C6-5, C6-7

1483 TANDEM-X™
The Tandem-X™ Launch Set offers Xtra value! The Crossfire ISX™ is a Skill Level 1 kit that will streak over J,200 feet. The Amazon™ is an E2X® kit that's almost 3 feet tall! (Engines not included — sold separately)

teet tall! (Engines not included – sold separately)
SPECS:
Amazon™ (Skill Level E2X\*)
Length: 3.3 6 in. (85.3 cm)
Dia.: 1.35 in. (34.3 mm)
Wt: 3.3 oz. (94 g)
Fins: Plastic molded
Recovery: 18 in. (46 cm) Parachute
Max. Alfitude: 644 ft. (196 m)
Recommended Engines: B4-2, B4-4, B6-2, B6-4, C6-3, C6-5

Crossfire ISX™ (Skill Level 1)
Length: 15,6 in. (39.6 cm)
Dia.: 0.98 in. (24.8 mm)
Wt.: 1.3 oz. (37.8)
Fins: Plastic molded
Recovery: 12 in. (30 cm) Parachute
Max. Altitude: 1,208 ft. (368 m)
Recommended Engines: 1/2A6-2, A8-3, B4-2, B4-4, B6-2, B6-4, C6-3, C6-5

1484 WICKED STREAK™ SST \$17.99
No fuss, no muss! Simply snap the Wicked Streak™ SST together and get out and lauhch this wicked rocket in minutes. (Engines not included – sold separately)
SPECS: Skill Level: E2X\*
Length: 10.2 in. (25.9 cm)
Dia.: 0.885 in. (22.5 mm)
Wt.: 1.14 oz. (32.3 g)
Fins: Plastic molded
Recovery: 12 in. (30 cm) Streamer
Max. Alfitude: 350 ft. (107 m)
Recommended Engines: 1/2A3-2T, A3-4T, A10-3T

1485 NITRO™

Perfect for the first time rocketeer! With pre-decorated parts, it glues together in minutes. The Nitro™ flies over 700 feet using Estes mini-engines! (Engines not included - sold separately)

SPECS: Skill Level: E2X\*
Length: 5.25 in. (13.3 cm)

Dia: 0.69 in. (18 mm)

WF: 0.32 oz. (9 g)

Vit.: 0.39 in. (18 11111)
Wt.: 0.32 oz. (9 g)
Recovery: Streamer
Fins: Plastic molded
Max. Altitude: 700 ft. (213 m)
Recommended Engines: 1/4A3-3T, 1/2A3-2T, A3-4T, A10-3T

2400 SOLAR FLARETM
This cool looking, two-stage rocket sports a unique look with flare fins and a clear payload section for launching stuff into space. You'll get stellar flights over and over!

SPECS: Skill Level: 2
Length: 77 in. (68.6 cm)
Dia: 0.976 in. (24.8 mm)
Wt.: 3.2 oz. (90.7 g)
Recovery: Booster Stage – Tumble; Second Stage - 12 in. (30 cm) Parachute
Fins: Laser cut balsa
Max. Altitude: 800 ft. (244 m)
Engines: Single Stage: A10-31 Two Stage: Booster Stage: B6-0 or C6-0; Second Stage: A10-31

\* Most Launch Sets require 4 'AA' alkaline batteries - not included.

# READY TO FLY ROCKETS

- Great First Rocket!
- No Painting
- No Assembly Required
- Engines and launch equipment sold separately









CLEAR FINS!



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

Colors may vary.



# **READY TO FLY (RTF) ROCKETS**

1847 CRUISE MISSILE™

\$13.99

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

**1887 SUPER SHOT™ MINI RTF COMBO** \$10.99 Shred the skies with the Sting Ray™ and Shark Attack™! These sleek, high-speed flyers scream to 700 feet high!

SPECS: Sting Ray™ & Shark Attack™

Length: 5.25 in. (13.3 cm)

Dia: 0.69 in. (18 mm); Wt.: 0.32 oz. (9 g)

Recovery: Streamer; Fins: Plastic molded

Max. Altitude: 700 ft. (213 m) Recommended Engines: 1/4A3-3T, 1/2A3-4T, A3-4T, A10-3T

1894 SKY HAWKER™

The Sky Hawker™ rocket will prey on the clouds! This sleek bird soars over 1000 feet and returns to earth by parachute.

SPECS:

Length: 16.5 in. (41.9 cm)

Dia: 0.98 in. (25 mm); Wt.: 1.48 oz. (42.1 g)

Recovery: 12 in. (30 cm); Fins: Plastic molded

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

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

1895 PATRIARCH™

The Patriarch™ looks a like a long-range ballistic missile used in the National Missile Defense System. It blasts 600 feet into the sky. The special CLEAR FINS make this rocket look like a real missile.

SPECS:

Length: 18.0 in. (45.7 cm)

Dia.: 1.35 in. (34 mm); Wt.: 2.7 oz. (75 g)

Recovery: 12 in. (30 cm) Parachute; Fins: Plastic molded

Max. Altitude: 600 ft. (183 m) Recommended Engines: B4-4, B6-4, C6-5

1896 PUMA™

\$10.49

The Puma™ rocket scratches through the clouds! This sleek cat will soar up to 800 feet using a mini-engine and returns to earth with a 9 inch hi-viz orange streamer.

SPECS:

Length: 10.3 in. (26 cm)

Dia.: 0.54 in. (13.8 mm); Wt.: 0.4 oz. (12 g)

Max. Altitude: 800 ft. (244 m)
Recommended Engines: 1/2A3-2T, 1/2A3-4T, A3-4T, A10-3T

1807 SNITCH™

\$12.99

Travel out of this world with this hot, neon-colored

flying saucer. **SPECS:** 

Dia.: 7.75 in. (19.7 cm) Wt.: 2.1 oz. (59 g)

**Recovery:** Spring action **Max. Altitude:** 120 ft. (37 m)

Recommended Engines: B6-0, C6-0

1905 RASCAL™/HI JINKS™

These sleek, chrome babies really soar in the sky! These mischievous rockets are great for beginners. Take your pick – gold HI Jinks or silver Rascal!

**Length:** 14.0 in. (35.56 cm) **Diameter:** 0.98 in. (25 mm)

**Weight:** 1.37 oz. (38.8 g) **Recovery:** 12 in. (30 cm) Parachute

Fins: One piece plastic molded Max. Altitude: 1,200 ft. (366 m)

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

# E2X® ROCKET KITS

# **E2X® ROCKET KITS**

- Easy to Assemble
- No Painting
- Self-stick decals
- Engines and launch equipment - sold separately

HIGH FLYING

"SNAPS" TOGETHER

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

Colors may vary.

CLASSIC DESIGN & EASY TO BUILD

# **E2X® ROCKET KITS**

# 0803 BANDITO™

\$7.29 The high-flying Bandito™ sport rocket can be easily assembled in under an hour. Includes pre-colored slotted body tube and plastic parts.

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

# 0804 FIREHAWK™

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. **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

# 0806 FIRESTREAK™ SST

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. (25.9 cm) Dia.: 0.885 in. (22.5 mm)

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

# 0886 GNOME™

Eye-dazzling, chrome rocket soars to heights of 800 ft. (244 m). The Gnome™ comes with a colored one piece fin unit for quick assembly. Be ready to launch in less

than an hour.

**SPECS: Length:** 10.3 in. (26.0 cm) **Dia.:** 0.54 in. (13.7 mm) Wt.: 0.4 oz. (12 g)

Recovery: Streamer Fins: Plastic molded

Max. Altitude: 800 ft. (244 m)

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

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: Plastic molded

Max. Altitude: 1100 ft. (335 m)

**Recommended Engines:** 1/2A6-2, A8-3, A8-5, B4-4, B6-4,

B6-6, C6-5, C6-7



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

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COSMIC COBRA

# **E2X® ROCKET KITS**

1260 NO. 2 ESTES SKY WRITER® \$9.39 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 sets Sky writer comes with colored body tube and nose cone, so assembly is quick and easy.

SPECS: Length: 26 in. (66 cm)

Dia.: 0.98 in. (24.8 mm)

Wt.: 1.5 oz. (41.3 g)

Recovery: 12 in. (30 cm) Parachute

Fins: Plastic molded

**Max. Altitude:** 1100 ft. (335 m)

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

# 1262 COSMIC COBRA™

\$10.99

The Cosmic Cobra<sup>™</sup> 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

# 1300 BLUE NINJA™

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 It is over 30 in. (76.2 cm) fall 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.

2027 POP FLY™ \$17.49

The Pop Fly™ is a one-of-a-kind interactive rocket! A ball is launched atop a bat shaped rocket that "pops off" at the peak of its flight to create a major league pop fly. Play catch with the ball while the 'bat' returns with a parachute! Major league fly balls - Major League Fun!

SPECS.:

Length: 24.0 in. (61 cm)

**Dia.:** 24.0 in. (51 mm) **Wt.:** 1.8 oz. (51 g) **Recovery:** 12 in. (30 cm) Parachute Fins: Plastic molded

Max. Altitude: 300 ft. (91 m)

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

# 2181 CHROME DOMES™ GOLD SERIES

\$12.99

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, C6-5



# **E2X® ROCKET KITS**

2029 CONVERTER™

\$15.49

The Converter™ rocket is a collection of four screw togethre body tubes that assemble at the field into a rocket 24 inches to over 40 inches long! Change the length of the rocket after each launch and record the differences!

SPECS: Length: 38.5 in. (97.8 cm)

Dia.: 1.35 in. (34.3 mm); Wt.: 4.7 oz. (134 g)

Recovery: 18 in. (46 cm) Parachute; Fins: Plastic molded

**Max. Altitude:** 750 ft. (229 m) **Recommended Engines:** B4-2, B4-4, B6-2, B6-4, C6-3, C6-5

2168 METALIZER™

Get your shades out (sunglasses not included)! This baby reflects some rays with its awesome metallic chrome finish. The Métalizer™ will get you out launch-

Dia.: 1.35 in. (34.3 mm); Wt.: 2.4 oz. (68 g)

Recovery: 12 in. (30 cm) Parachute; Fins: Plastic molded Max. Altitude: 760 ft. (232 m)

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

2169 DRAGONITE™

2169 DRAGDNITE™ \$12.49

The Dragonite™ is as much fun to put together as it is to fly! Just snap the pre-colored parts together (no cutting or painting), apply the colorful decals and you're ready to fly in minutes. It's perfect for the first-time rocketeer!

SPECS: Length: 16 in. (40.6 cm)

Dia.: 1.09 in. (28 mm); Wt.: 1.8 oz. (52 g)

Recovery: 12 in. (30 cm) Parachute; Fins: Plastic molded Max. Altitude: 1, 129 ft. (344 m)

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

2183 SHUTTLE XPRESS

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 - Glide Fins: Plastic molded

**Max. Altitude:** 586 ft. (179 m) **Recommended Engines:** B4-2, B4-4, B6-2, B6-4, C6-3, C6-5

2186 EAGLE" BOOST GLIDER

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. (18.9 cm): Wit : 3.4 oz. (67.1 g)

**Dia.:** 0.74 in. (18.8 mm); **Wt.:** 3.4 oz. (97.1 g) **Recovery:** 30 in. (76 cm) Streamer & Glider

Fins: Die cut foam

**Max Altitude:** 500 ft. (152 m)

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

2187 ORACLE™

The easy-to-use video camera allows you to capture digital movies from liftoffs to landings. Save the movies to your computer using the included software and USB cable. Resolution is 320 x 240 Pixels (CIF).

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 drive and USB port. Requires one 'AAA' alkaline battery - sold separately. Requires 3/16 in. (5 mm) Maxi™ launch rod (302244) - sold separately.

# SKILL LEVEL 1 ROCKET KITS · Quick and easy to build kits Sanding, cutting and painting required Engines and launch equipment - sold separately BABY BERTHA BRING BACK OF A CLASSIC ROCKET! DER RED MI BALLISTICS 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**

0651 DER RED MAX™

\$19.99

Far-out super fun model! Large stable design gives great sport performance. Freaky "Red Max" decal sheet, molded plastic nose cone and laser cut fins.

Dia.: 1.64 in. (41.3 cm)
Dia.: 1.64 in. (41.6 mm)
Wt: 2.38 oz. (67 g)
Recovery: 18 in. (46 cm) Parachute
Max. Altitude: 593 ft. (180.74 m)

Fins: Laser cut balsa

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

0802 OUARK\*\*

\$5.89

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).

SPECS:

**Length:** 5.2 in. (13.2 cm) **Dia.:** 0.54 in. (13.7 mm) Wt.: 0.1 oz. (3 g)

Recovery: Featherweight

Fins: Laser cut balsa Max. Altitude: 700 ft. (213 m)

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

0810 220 SWIFT\*

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: Laser cut balsa

Max. Altitude: 750 ft. (229 m)

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

1225 ALPHA®

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: Laser 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

A miniature version of one of the most popular kits of all time, the Big Bertha<sup>®</sup>. The Baby Bertha<sup>™</sup> soars to 575 ft. (175 m).

SPECS:

**Length:** 12.75 in. (32.4 cm) **Dia.:** 1.64 in. (41.6 mm)

1261 BABY BERTHA™

Wt.: 1.6 oz. (45.3 g)
Recovery: 12 in. (30 cm) Parachute Fins: Laser cut balsa

Max. Altitude: 575 ft. (175 m) Recommended Engines: A8-3, B4-4, B6-4, C6-5

1381 YANKEE™

A rocket with All-American performance - screams to 1850 ft. (564 m) altitude! Comes with cool self-stick

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: Laser cut balsa

Max. Altitude: 1850 ft. (564 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**

1292 WIZARD

\$8.99

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!

Length: 12 in. (30.5 cm)
Dia.: 0.74 in. (18.8 cm)
Wt.: 0.5 oz. (14.2 g)
Recovery: Streamer

Fins: Laser cut balsa

Max. Altitude: 1692 ft. (516 m)
Recommended Engines: 1/2A6-2, A8-3, A8-5, B4-4, B6-4,

B6-6, C6-5, C6-7

\$14.99

\$19.99

1301 STORMCASTER™ 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).

Dia.: 1.64 (41.6 mm);
Wt: 2.9 oz. (80.8 g)
Wecovery: 18 in. (46 cm) Parachute
Fins: Laser cut balsa

Max. Altitude: 930 ft. (283 m)
Recommended Engines: C11-3, D12-5 Requires 3/16 in. (5 mm) Maxi™ launch rod (302244) - sold separately.

1948 BIG BERTHA®

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

SPECS:

Length: 24 in. (61 cm)
Dia.: 1.64 in. (41.6 mm)
Wt.: 2.2 oz. (62 g)
Recovery: 18 in. (46 cm)

Fins: Laser cut balsa

Max. Altitude: 500 ft. (152 m) Recommended Engines: B4-2, B4-4, B6-2, B6-4,C6-5

1949 VIKING"

\$8.89 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: 1698 ft. (518 m)
Recommended Engines: 1/2A6-2, A8-3, 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!

SPECS:

**Length:** 21.1 in. (53.6 cm) Dia.: 0.98 in. (25 mm)
Wt.: 1.3 oz. (38 g)
Recovery: 12 in. (30 cm) Parachute

Fins: Laser cut balsa

Max. Altitude: 1000 ft. (305 m)

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



# **SKILL LEVEL 1 ROCKET KITS**

2037 D-REGION TOMAHAWK \$35.99
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. The realistic D-Region Tomahawk includes detailed parts, waterslide decals and a D engine adapter. SPECS:

SPECS: Length: 38.8 in. (98.6 cm) Dia.: 1.8 in. (45.7 mm) Wt.: 9.2 oz. (260 g) Recovery: 18 in. (46 cm) Parachute Fins: Laser cut balsa Max. Altitude: 787 ft. (240 m) Recommended Engines: D12-5, E9-6\* Requires 3/16 in. (5 mm) Maxi™ launch rod

(302244) - 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. Watch it soar to heights of 1000 feet!

Dia.: 0.98 in. (25 mm)
Wt: 1.7 oz. (48 g)
Recovery: 12 in. (30 cm) Parachute
Fins: Laser cut balsa

**Max. Altitude:** 1,105 ft. (337 m) **Recommended Engines:** A8-3, B4-4, B6-4, C6-5

**2056 U.S. ARMY PATRIOT M-104** \$13.49 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:** 21.3in. (54.1 cm) **Dia.:** 1.637 in. (41.6 mm)

Wt.: 1.95 oz. (55 g)
Recovery: 12 in. (30 cm) Parachute

Fins: Laser cut balsa

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

2092 MONGOOSE™

\$12.99

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

that's easy to decorate.

SPECS:
Length: 26.5 in. (67.3 cm)
Dia.: 0.736 in.
Wt.: 2.3 oz. (65g)
Recovery: 12 in. (30 cm) Parachute
Fins: Two one piece plastic molded
Max. Altitude: 1600 ft. (488 m)

Max. Altitude: 1600 It. (468 III)

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

2145 PORTA-POT SHOT™

The Porta-Pot Shot™ is sure to attract the most attention at rocket launches. This unique rocket comes with a molded foam body, detailed plastic roof and clear plastic fins. It really does fly, over 300 feet high! SPECS:

Length: 8.0 in. (20.3 cm) Dia.: 3.25 in. (8.3 cm)

Wt.: 4.2 oz. (117.5 g) **Recovery:** 12 in. (30 cm) Parachute

Fins: Plastic molded

Max. Altitude: 309 ft. (94 m) Recommended Engines: B4-2, B6-2, C6-3

<sup>\*</sup> Use of E engines is recommended for those 18 years and older. Adult supervision recommended for those under 18.



# **SKILL LEVEL 1 ROCKET KITS**

2121 LIQUIDATOR™ \$19.99 Launch liquids into Space! The Liquidator™ includes a water-tight payload capsule that lets you launch a payload of water, gelatin, soda or whatever liquid you want. Rocket up some fruit juice and when it returns, pretend its moon juice! Great for science class payloads, too.

**Dia.:** 1.0 in. (68.6 cm) **Dia.:** 1.0 in. (25.4 mm) **Wt.:** Empty - 5.7 oz. (161 g) **Recovery:** 12 in. (30 cm) Parachute & 18 in. (46 cm)

Nylon Parachute

Fins: Plastic molded

Max. Altitude: Empty - 626 ft. (191 m)

Recommended Engines: D12-3, D12-5 (with or

without payload)

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

(302244) - sold separately.

2171 SIZZLER®

\$12.49

Burn up the sky with the Sizzler\*! This rocket scorches through the atmosphere with flights over 1600 ft. (488 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: Laser cut balsa

**Max. Altitude:** 1686 ft. (514 m) **Recommended Engines:** 1/2A6-2, A8-3, A8-5, B4-4,

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

2178 HI-FLIER®

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: Laser 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

**2189 RUBICON** 

Designed after the Space Transport X Prize spacecraft, the mighty rocket blasts off on a powerful D engine 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.

Dia: 3.21 in. (58.2 cm)
Dia: 3.21 in. (81.5 mm)
Wt: 7.3 oz. (206.9 grams)
Recovery: 18 in. (46 cm) Parachute
Fins: Plastic molded

Max. Altitude: 450 ft. (137 m) Recommended Engines: D12-3, D12-5

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.

# SKILL LEVEL 2 ROCKET KITS Assembly may take a complete dayEngines and launch equipment -HIGH FLYING 'D' ENGINE CLUSTER POWER!



# **SKILL LEVEL 2 ROCKET KITS**

1250 INTERCEPTOR™

\$24.99

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

SPECS:

**Length:** 36.0 in. (91.4 cm) **Diameter:** 1.3 in. (33.0 mm) **Wingspan:** 7.4 in. (18.8 cm) **Weight:** 3.85 oz. (109 g) **Recovery:** 18 in. (46 cm) Parachute

Fins: Laser cut balsa
Max. Altitude: 525 ft. (160m)

**Recommended Engines:** B6-2; B6-4; C6-5

1302 CC EXPRESS™

\$15.99

The CC Express™ is a high-flying, two-stage rocket powered by D engines. It soars to 1790 ft. (546 m) in

**SPECS: Length:** 28.38 in. (72.1 cm) **Dia.:** 1.33 in. (33.7 mm)

Dia: 1.33 in. (33.7 mm)
Wt.: 2.7 oz. (75.3 g)
Recovery: 18 in. (46 cm) Parachute
Fins: Laser cut balsa
Max. Altitude: 1790 ft. (546 m)
Recommended Engines: Single Stage - D12-5
Two-Stage: Booster - D12-0; 2nd Stage - D12-7
Requires 3/16 in. (5 mm) Maxi™ launch rod (302244)

sold separately.

2117 SCREAMING EAGLE®

2117 SCREAMING EAGLE\*
This cool-looking rocket looks great just sitting in the hangar, but screams to be out flying with other eagles. The Eagle is a superbly detailed model with awesome markings that will be the envy of all rocketeers. Decorate it with waterslide decals.

SPECS: Length: 16.75 in. (42.5 cm)
Dia.: 1 in. (25.4 mm)
Wt.: 2.3 oz. (65.2 g)
Recovery: 12 in. (30 cm) Parachute
Fins: Laser cut balsa

Fins: Laser cut balsa

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

2119 36 D SQUARED™

The one you've been dreaming about! It's got the full package. Sleek, yet full body design, a payload section, asser cut fins and waterslide decals. This rocket launches on two Estes D size model rocket engines.

on two Estes D size model rocket eng SPECS: Length: 36 in. (91.4 cm) Dia.: 2.217 in. (56.3 mm) Wt: 5.7 oz. (162 g) Recovery: 24 in. (61 cm) Parachute Fins: Laser cut balsa

Max. Altitude: 800 ft. (244 m) Recommended Engines: 2 each D12-3, 2 each D12-5, 2

(DO NOT MIX ENGINE SIZES WHEN LAUNCHING)

IMPORTANT: Requires 3/16 in. (5 mm) Maxi™ launch
rod (302244) – sold separately. The Estes E™

Controller (#2230) is recommended to launch this

two-engine cluster – sold separately.

2123 EGGSCALIBER™

Launch eggs on four different engines sizes using the same rocket! Eggscaliber™ includes an adapter to launch an egg on B & C engines or remove it to use D and E engines. Includes a set of decals to decorate your egg into your favorite "eggstronaut."

SPECS: Length: 20 in. (51 cm)

Dia.: 1.35 in. (34.2 mm)

Wf. (without egg): 26.62 (74.6)

Wt. (without egg): 2.6 oz. (74 g)

Recovery: 12 in. (30 cm) Parachute and 18 in. (46 cm)

Parachute

Fins: Laser cut balsa
Max. 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 separately.



# **SKILL LEVEL 2 ROCKET KITS**

2146 ROCK-IT™ STONE AGE FLYER

\$18.49 2146 ROCK-IT™ STONE AGE FLYER \$18.49
Maybe this is what the first rocket ever launched looked like! Don't let the Rock-it™ fool you. Under its rocky exterior are a pre-shaped 'rock' nose cone and a sleek design that lets this rock fly over 500 feet high.

SPECS: Length: 19.25 in. (48.9 cm)
Dia: 2.6 in. (66 mm); Wt.: 5.3 oz. (150 g)
Recovery: 18 in. (46 cm) Parachute; Fins: Laser cut balsa Max. Altitude: 540 ft. (165 m)
Recommended Engines: C11-3, D12-3, D12-5
Requires 3/16 in. (5 mm) Maxi™ launch rod (302244) - sold separately.

2179 GUARDIAN™

\$12.99 2179 GUARDIAN"

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: Laser cut balsa

Max. Altitude: 723 ft. (220 m)

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

**2190 COSMOS MARINER** 

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. 1:67 scale.

\$32.99

SPECS:

Length: 18 in. (45.7 cm) Wingspan: 13.5 in. (34.3 cm)

**Dia.:** 1.637 in. (41.6 mm) **Wt.:** 8.6 oz. (243.6 g) **Recovery:** Glide & 18 in. (46 cm) Parachute

Fins: Laser cut balsa Max. Altitude: 250 ft. (76 m)

Recommended Engine: D12-3 Requires 3/16 in. (5 mm) Maxi™ Rod (302244) -

sold separately.

2191 SPACESHIPONE®

\$18.99

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, 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

7000 BULL PUP 12D™

\$16.49 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: Laser cut balsa

Max. Altitude: 675 ft. (206 m)

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



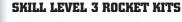
# SKILL LEVEL 3 ROCKET KITS

- 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



**IMPROVED SWING WING** PIVOT **MECHANISM!** 

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



1265 SCISSOR WING TRANSPORT™

This classic rocket boosted glider with revolutionary swing-wing recovery is back! Launches as a rocket swing-wing recovery is back! Launches as a rocket - recovers as a glider! 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: Glide & 12 in. (30 cm) Parachute

Fins: Laser cut balsa

Max. Altitude: 750 ft. (229 m) Recommended Engines: B4-4. B6-2, C6-3

# 1382 COMANCHE-3"

AWESOME

LAUNCHES!

\$21.99

\$22.49

A D engine powered booster stage rocket that roars to ultra high altitudes - over half a mile (805 m) high! Updated with laser cut balsa fins and waterslide decals.

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: Laser 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: 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™

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.: 0.976 in. (24.8 mm) Wt.: 3.2 oz. (90.7 g)

Recovery: 18 in. (46 cm) Parachute

Fins: Laser cut balsa

**Max. Altitude:** 600 ft. (183 m)

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

# 1951 EXECUTIONER™

\$49.99

Huge rocket stands over 3 ft. (0.9 m) tall! The Executioner™ comes with a slotted body tube for pre-

Executioner "Comes with a slotted to cise 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
May Alithdus 500 ft (180 m)

Max. Altitude: 590 ft. (180 m) Recommended Engines: D12-3, E9-4, E9-6

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

# 2410 RENEGADE-D™

Witness a magnificent liftoff with the Renegade-D™. This sleek, multi-finned rocket is over two feet tall with a huge parachute for recovery.

SPECS:

Length: 26.6 in. (67.6 cm) **Dia.:** 1.637 in. (41.6 mm) **Wt.:** 4.3 oz. (120.9 g)

Recovery: 18 in. (46 cm) Parachute

Fins: Laser cut balsa Max. Altitude: 850 ft. (260 m)

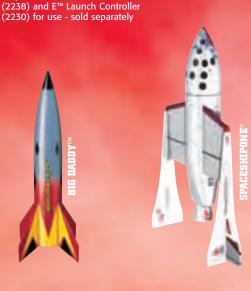
**Recommended Engine:** D12-5

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



# 'E' ENGINE POWERED ROCKET KITS

- Estes 'E' engines sold separately
- For ages 18 and up. Adult supervision required for ages under 18
- Require Estes Porta-Pad® E Launch Pad (2238) and E<sup>™</sup> Launch Controller (2230) for use - sold separately







BLURZZ™ ROCKET RACERS 9114 DRAGSTER SPECS:

\$33.99 EACH

Length: 14 in. (35.6 cm)
Wheelbase: 4.5 in. (11.4 cm)
Recommended Engine: Blurzz<sup>M</sup> A10-PT Race Engine ONLY
Assorted Colors: Red, Blue, Green

9120 FUNNY CAR W/ DIGITAL SPEEDOMETER

(CAR ONLY) SPECS:

\$22.49 EACH

Length: 9.38 in. (23.8 cm)
Wheelbase: 5.25 in. (13.3 cm)
Recommended Engine: Blurzz™ A10-PT Race Engine ONLY
Assorted Colors: Red, Blue, Yellow

Blurzz™ Rocket Racers are for ages 12 and over only.





# 'E' ENGINE POWERED ROCKET KITS

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 CON-NECTOR to break it down for easy transport.

SPECS: Skill Level: 2

Length: 79.0 in. (200.6 cm) **Dia.:** 1.64 in. (41.7 mm) Wt.: 5.8 oz. (164 g)

Recovery: 24 in. (61 cm) Parachute

Fins: Laser cut balsa

Max. Altitude: 941 ft. (287 m)

Recommended Engines: D12-3, D12-5, E9-4, E9-6

# 1350 INTERCEPTOR-E™

\$49.99

Giant scale deep space galactic cruiser! You'll get sensational flight performance with this E Engine rocket. Kit includes three huge decal sheets for

realistic detailing.

SPECS: Skill Level: 2

Length: 39.0 in. (990.6 mm) **Diameter:** 2.0 in. (51.0 mm) Wingspan: 11.25 in. (285.8mm) **Weight:** 13.5 oz. (363 g)

Recovery: 24 in. (609.6mm) Nylon Parachute

Fins: Laser cut balsa Max. Altitude: 450 ft. (137m) Recommended Engine: È9-4

# 1950 ELIMINATOR®

\$28.99

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

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: Plastic molded Max. Altitude: 1420 ft. (433 m)

**Recommended Engines:** D12-5, D12-7, E9-6, E9-8

# 2162 BIG DADDY™

\$29.99

Re-designed to fly twice as high using Estes E engines. It will fly on Ds as well. Waterslide decals and a contemporary new look may just answer the question...

"Who's Your Daddy?" SPECS: Skill Level: 2 **Length:** 19 in. (48.3 cm) **Dia.:** 3 in. (76.2 mm)

Wt.: 5.3 oz. (150 g) Recovery: 24 in. (61 cm) Parachute

Fins: Laser cut balsa Max. Altitude: 900 ft. (274 m)

**Recommended Engines:** C11-3, D12-3, D12-5, E9-4, E9-6

# 2196 SPACESHIPONE®

Large, 1:15 scale version of the famous Ansari X PRIZE winner. It's launched by a powerful Estes E engine and is an actual replica of Burt Rutan's design.

SPECS: Skill Level: 3 Length: 26 in. (66 cm) Wingspan: 12.8 in. (32.5 cm) **Dia.:** 4 in. (102 mm)

Wt.: 11 oz. (311 g)
Recovery: 18 in. (46 cm) Nylon Parachute Max. Altitude: 600 ft. (183 m)

Recommended Engines: E9-4, E9-6

# **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 315,000,000 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?**

- 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.
- 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

# 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

# B6-4 FESTES

# **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

"E" ENGINE

MODEL ROCKET ENGINE

DELAY FOR

COAST PHASE AND TRACKING SMOKE

→ 1.75 in. (4.4 cm)

long

A10-3T FESTES

MINI ENGINE

2.75 in. (7.0 cm) →
long

D12-3 SESTES.

"CII" & "D" ENGINE

- 3.75 in. (9.5 cm) long

ESTES.

B6-4

PAPER

CLAY RETAINER CAP

**EJECTION CHARGE** 

0.5 in. (13 mm)

diameter

0.69 in. (18 mm)

diameter

0.95 in.

(24 mm)

diametei

0.95 in.

(24 mm)

diameter

A8-3

CLAY NOZZLE

PROPELLANT FOR

LIFTOFF AND ACCELERATION

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 "O" 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".

ESTES.



# **ENGINE CHART**

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

Prod. No.	Engine Type	Total Impulse	Time Delay	Ma Lift	ix. Wt.	Ma Thru		Thrust Duration	Init Wei		Prop We	ellant eight	Retail /Pkg*
		N-sec	Sec.	Oz.	g	Newtons	Lbs.	Sec.	Oz.	g	Oz.	g	\$
SING	LE STAGE ENG	INES (GI	REEN L	ABEL)									
1502	1/4A3-3T	0.625	3	1.0	28	4.9	1.1	0.25	0.20	5.6	0.03	0.85	\$7.85
1503	1/2A3-2T	1.25	2	2.0	57	8.3	1.9	0.3	0.20	5.6	0.06	1.75	\$7.85
1507	A3-4T	2.50	4	2.0	57	6.8	1.5	0.6	0.27	7.6	0.12	3.50	\$7.85
1511	A10-3T	2.50	3	3.0	85	13.0	2.9	0.8	0.28	7.9	0.13	3.78	\$7.85
1593	1/2A6-2	1.25	2	2.0	57	8.9	2.0	0.3	0.53	15.0	0.06	1.56	\$7.85
1598	A8-3	2.50	3	3.0	85	10.7	2.4	0.5	0.57	16.2	0.11	3.12	\$7.85
1601	B4-2	5.00	2	4.0	113	13.2	3.0	1.1	0.70	19.8	0.29	8.33	\$8.15
1602	B4-4	5.00	4	3.5	99	13.2	3.0	1.1	0.74	21.0	0.29	8.33	\$8.15
1605	B6-2	5.00	2	4.5	127	12.1	2.7	0.8	0.68	19.3	0.22	6.24	\$8.15
1606	B6-4	5.00	4	4.0	113	12.1	2.7	0.8	0.71	20.1	0.22	6.24	\$8.15
1613	C6-3	10.00	3	4.0	113	15.3	3.4	1.6	0.88	24.9	0.44	12.48	\$9.15
1614	C6-5	10.00	5	4.0	113	15.3	3.4	1.6	0.91	25.8	0.44	12.48	\$9.15
1622	C11-3	10.00	3	6.0	170	22.1	4.9	0.8	1.14	32.2	0.39	11.00	\$11.19
1666	D12-3	20.00	3	14.0	396	32.9	7.4	1.6	1.49	42.2	0.88	24.93	\$13.25
1667	D12-5	20.00	5	10.0	283	32.9	7.4	1.6	1.52	43.1	0.88	24.93	\$13.25
1673	E9-4	30.00	4	15.0	425	25.0	5.6	2.8	2.00	56.7	1.27	35.80	\$18.89
1674	E9-6	30.00	6	12.0	340	25.0	5.6	2.8	2.00	56.7	1.27	35.80	\$18.89
UPPE	R STAGE ENG	INES (PU	RPLE L	ABEL)									
1504	1/2A3-4T	1.25	4	1.0	28	8.3	1.9	0.3	0.21	6.0	0.06	1.75	\$7.85
1599	A8-5	2.50	5	2.0	57	13.3	3.0	0.5	0.62	17.6	0.11	3.12	\$7.85
1607	B6-6	5.00	6	2.5	71	12.1	2.7	0.8	0.78	22.1	0.22	6.24	\$8.15
1615	C6-7	10.00	7	2.5	71	15.3	3.4	1.6	0.95	26.9	0.44	12.48	\$9.15
1668	D12-7	20.00	7	8.0	226	32.9	7.4	1.6	1.55	44.0	0.88	24.93	\$13.25
1675	E9-8	30.00	8	10.0	283	25.0	5.6	2.8	2.00	56.7	1.2	35.80	\$18.89
B005	STER STAGE EN	NGINES (	RED LA	BEL)									
1608	B6-0	5.00	None	4.0	113	12.1	2.7	0.8	0.58	16.4	0.22	6.24	\$8.69
1616	C6-0	10.00	None	4.0	113	15.3	3.4	1.6	0.80	22.7	0.44	12.48	\$9.15
1665	D12-0	20.00	None	14.0	396	32.9	7.4	1.6	1.44	40.9	0.88	24.93	\$13.25
PLUG	GED ENGINES - I	FOR USE V	VITH ROC	KET PO	WERE	RACERS	& R/0	ROCKET	GLIDER	S (BLL	JE LAB	EL)	
1505	A10-PT	2.50	None	3.0	85	13.0	2.9	0.8	0.26	7.4	0.13	3.78	\$7.85
1669	D11-P	20.00	None	16.0	453	27.6	6.2	1.8	1.55	44.0	0.88	24.93	\$13.25

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

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

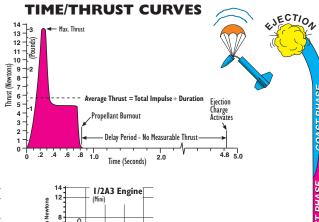
This catalog is FREE. If you bought it, call us at 800-525-7561

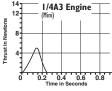
39

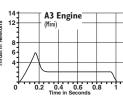
38

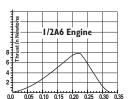


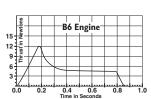
- Time/thrust curves are representative of random production samples
- production samples
   Graphs are not drawn to the same scale

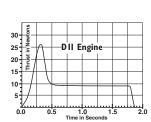


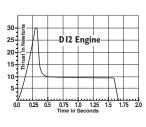












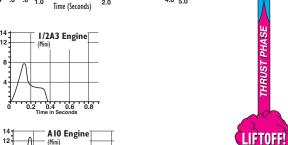
0.2 0.4 0.6 Time in Seconds

A8 Engine

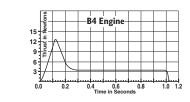
0.3 0.4 0.5 0.6 0.7 0.8 Time in Seconds

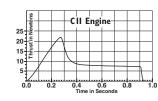
C6 Engine

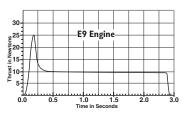
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2 Time in Seconds













# **MODEL ROCKET ACCESSORIES**

1463 DESIGNER'S SPECIAL	302271 24 in. (61 cm) PARACHUTE (Assembled) \$8.19
1672 BLAST-OFF* FLIGHT PACK	302274 RECOVERY WADDING \$5.19 Flame resistant wadding protects recovery system. Required in most Estes rockets. Contains 75 sheets - enough for about 18-25 flights!
2230 E <sup>TM</sup> LAUNCH CONTROLLER	302278 SHOCK CORDS & MOUNT PACK\$4.99 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.
2238 PORTA-PAD® E LAUNCH PAD	302301 MODEL ROCKET IGNITERS
302215 PORTA-PAD® II LAUNCH PAD\$29.99  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.	two 1/4 in. (6 mm) launch lugs.  303143 ENGINE HOOK ACCESSORY PACK\$6.19  Hooks fit mini engines (one), regular and 'D' engines (three) and 'E' engines (two). Includes spacer for 'E' engine hooks.
<b>302220 ELECTRON BEAM* LAUNCH CONTROLLER \$32.99</b> Launch controller comes complete with safety key and 17 ft. (5.2 m) of cable. Requires four 'AA' alkaline batteries - not included.	303158 REGULAR ENGINE MOUNT KIT\$9.89 Fits BT-50, 55, 56 & 60 tubes. Plus can be used to make a conversion mount for lightweight D powered rockets.  303159 D AND E ENGINE MOUNT KIT\$11.89
302227 TUBE MARKING GUIDE\$11.99 Easy way to mark fin and launch lug placement lines. Also includes a fin gluing jig.	Heavy duty engine mounts for 'D' and 'E' engines. Fits BT-55, 60 and 80 tubes.  NOSE CONE ASSORTMENTS
302232 ALTITRAK™	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.
the reading.	303160 NC-5 NOSE CONE ASSORTMENT (5 pack)\$10.79
302233 EMERGENCY REPAIR KIT	303161 NC-20 NOSE CONE ASSORTMENT (4 pack)\$10.79
ery wadding, 12 in. (30 cm) assembled parachute, shroud lines, launch lugs, shock cords and launch rod safety cap.	303162 NC-50 NOSE CONE ASSORTMENT (5 pack)\$10.79
302241 BLAST DEFLECTOR PLATE\$6.59	303163 NC-55 NOSE CONE ASSORTMENT (4 pack)\$13.19
Replaces that worn-out deflector.	303164 NC-56 NOSE CONE ASSORTMENT (4 pack)\$10.49
302243 1/8 in. (3 mm) TWO-PIECE LAUNCH ROD \$13.79	303165 NC-60A NOSE CONE ASSORTMENT (4 pack) \$10.49
Replacement rod; ideal for most rockets.	303168 NC-80B NOSE CONE (1 pack)\$7.49
302244 3/16 in. (5 mm) TWO-PIECE MAXI™ LAUNCH ROD \$16.49 Launch rod with extra strength and length for larger rockets.	
302264 12 in. (30 cm) PARACHUTE (Assembled) \$6.89	303196 LARGE TUBE COUPLER PACK
302267 18 in. (46 cm) PARACHUTE (Assembled)\$7.59	Includes two couplers for BT-55, BT-56, and BT-60; One for BT-80.
BODY THRES	

# **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, BT-56 and BT-60 & two per package in BT-80.

Product Number	Body Tube Size	Inside Dimension in./mm	Outside Dimension in./mm	Length in./cm	Retail Price
303084	BT-5	0.518/13.2	0.544/13.8	18.0/45.7	\$8.39
303085	BT-20	0.710/18.0	0.736/18.7	18.0/45.7	\$8.29
303086	BT-50	0.950/24.1	0.976/24.8	18.0/45.7	\$9.29
303087	BT-55	1.283/32.6	1.325/33.7	18.0/45.7	\$9.29
303088	BT-56	1.304/33.1	1.346/34.2	18.0/45.7	\$9.29
303089	BT-60	1.595/40.5	1.637/41.6	18.0/45.7	\$10.49
303090	BT-80	2.588/65.7	2.600/66.0	14.2/36.1	\$10.49



All Estes R/C Electric Planes come with transmitter, charger, flight batteries and installed electronics.





Colors may vary.

# M.A.S.C. R/C AIRPLANES

- Revolutionary Motion Auto Sensing Control
- Fly right! Fly left! Just twist your wrist!
- Total control with only one hand left or right hand.

# 4180 XENOX™

Fly like a real pilot with this great beginner plane. Control the throttle by squeezing the trigger for more altitude and speed. Twist your wrist left to turn left and right to turn right. Ages 8+.

# SPECS:

Wingspan: 14.0 in. (35.6 cm) **Length:** 11.5 in. (29.2 cm) Freq: 27.095 MHz Range: 300 ft. (61 m)

Requires 6 'AA' alkaline batteries for controller/charger - sold separately.

# 4181 VIPER™

\$49.99

Enjoy extreme outdoor action with the Viper™! Customize your plane with the Viper™ skin. This snarky, twin engine plane climbs, dives and performs stunt maneuvers. Ages 10+.

# SPECS:

Wingspan: 20.5 in. (52.1 cm) **Length:** 12.5 in. (31.8 cm) Freq: 27.095 MHz **Range:** 500 ft. (152 m)

Requires 6 'AA' alkaline batteries for controller/charger sold separately.

# 4173 FIREBUG™

The Firebug™ has cool, red light-up wings just like a real firebug! This indoor biplane flies in small rooms. It can fly circular flight patterns, clockwise and counterclockwise, and even fly a figure 8 pattern. Ages 10+.

Wingspan: 9 in. (22.9 cm) Length: 8.75 in. (22.2 cm) Freq: 27.095 MHz

Requires 4 'AA' alkaline batteries for controller/charger - sold separately.

# 4404 MICRO-TIGER™

\$49.99

Extreme indoor flying action! MICRO-TIGER™ flies in real tiny spaces. A blue LED light shines in the cockpit for night flying. Customize your heli with tiger stripes! Perfect for beginners and experienced pilots! Ages 10+.

# SPECS:

Blade Length: 5.25 in. (13.3 cm) Length: 6.25 in. (15.9) Height: 2.75 in. (7.0 cm)

Freq: 27.095 MHz

Requires 5 'AA' alkaline batteries for controller/charger - sold separately.

All Estes R/C Electric Planes come with transmitter, charger, flight batteries and installed electronics.



PRESIDENTIAL VIP R/C AIRLINER



XB-39 EAGLEYE\* DIGITAL CAMERA R/C PLANE

Eagleye is a registered trademark of ETI. LLC and used with permission.



**Length:** 7.75 in. (19.7 cm) Requires 4 - 'AA' alkaline batteries – sold separately. Aero X™ is a TM of Hosung and is used by permission.



# **4120 PRESIDENTIAL VIP R/C AIRLINER**

Air Force 2 look-a-like! Easy 2 channel control. Thrust vector steering provides trouble free flight control. Includes 2 flight batteries. Complete and ready to fly. Ages 12+.

SPECS:

Wingspan: 55 in. (140 cm); **Length:** 34 in. (86.4 cm)

Freq: 27.145 MHz; Range: 1000 ft. (305 m) Requires 6 - 'AAA' batteries - sold separately.

# 4127 XB-39 EAGLEYE® DIGITAL CAMERA R/C PLANE

Take some of the most fantastic digital pictures ever from an eagle's eye view with this amazing R/C model airplane. Designed for anyone to fly, this giant size, twin engine (ducted fan jet engines) jet can reach heights of 1000 feet and snap up to 26 digital pictures on command along the way. Camera pod snaps off the plane for easy download of your pictures to your computer. Includes a sim-ple to use takeoff system, two rechargeable flight batteries, a charger that operates at home or the flying field, a 4 function controller, software, USB cable and two button cell batteries for camera. Camera's resolution is 72 dpi. Ages 12+.

Wingspan: 55 in. (140 cm); Length: 34 in. (86.4 cm) Freq.: 27.145 MHz; Range: 1000 ft. (305 m) Requires 6 – 'AAA' alkaline batteries – sold sepa-

# 4022 AERO X™ INTERCEPTOR™

This mini-sized R/C Mobile Launcher drives around the house, room to room, to launch its AeroX™ plane with a simple push of buttons. The plane is electric powered and charges in seconds while on the Interceptor<sup>11</sup> Jauncher. Designed to fly in most any room of the house, it's light and durable enough to bounce off walls and ceilings and keep on flying! You can even fly it outdoors on calm days. R/C Controller included. Ages 8+.

SPECS: Mobile Launcher: **Length:** 7 in. (17.8 cm) **Width:** 4.5 in. (11.4 cm) Freq.: 27.145 MHz

# **Electric Free Flight Plane:**

Wingspan: 9.25 in. (23.5 cm)





FOR MORE DETAILS AND INFORMATION ON OUR MODEL ROCKET EDUCATIONAL SUPPLIES SEE THE ESTES EDUCATOR™ CATALOG OR VISIT US AT: www.estesrockets.com

# **ESTES EDUCATOR™** ROCKET LAB PACKS™

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

E2X® SERIES	
1751 Alpha III* (See page	

1793 UP Aerospace™ SpaceLoft™ (Pictured below)

1764 Generic E2X\* (Pictured below) \$98.99 \$57.79

# IMAGINATION TM

# SKILL LEVEL 1

1754 Wizard™ (See page 25 for rocket description) \$65.99 1755 Viking™ (See page 25 for rocket description) \$55.49 1756 Alpha\* (See page 23 for rocket description) \$92.49

UP Aerospace™ SpaceLoft™ (E2X® Series) **Length:** 12.5 in. (31.8 cm) Dia.: 0.54 in. (13.8 mm) **Wt.:** 0.47 oz. (13.3 g) Recovery: Streamer

Fins: Plastic molded Max. Altitude: 800 ft. (244 m) **Recommended Engines:** 1/2A3-2T, 1/2A3-4T, A3-4T,

(E2X® Series) SPECS: Length: 15 in. (38.1 cm) **Dia.:** 0.98 in (24.8 mm) Wt.: 1.3 oz. (36 g) Recovery: 12 in. (30 cm)

**GENERIC E2X®** 

Parachute

Fins: Plastic molded Max. Altitude: 1100 ft. (335 m) **Recommended Engines:** 

1/2A6-2, A8-3, A8-5, B4-4, B6-4, B6-6, C6-5, C6-7,

# **ESTES EDUCATOR™** ROCKET ENGINE LAB PACKS™

A10-3T

Includes 24 engines and igniter plugs, 30 igniters and a package of recovery wadding - 75 sheets. (Pictured at right) See pages 38-40 for engine descriptions and specifications.

see pages 30-40 for engine descriptions and	specificatio
1788 1/2A3-4T Bulk Pack	\$47.29
1781 A8-3 Bulk Pack	\$59.89
1783 B6-4 Bulk Pack	\$60.89
1784 B6-0/B6-6 Bulk Pack (12 each)	\$68.29
1789 C6-5 Bulk Pack	\$70.39
1672 Blast-Off* Flight Pack	\$56.99
(Includes 6 each: A8-3, B6-4, C6-3, C6-5)	

**ESTES EDUCATOR™** ROCKET ENGINE LAB PACK™

# **CURRICULA**

2852 Ignite the Imagination™ Curriculum Guide (Pictured at right)

\$12.59

- For grades 5-8.
- Hands-on activities on model rockets and space.
- National Education Standards incorporated.

FREE ADDITIONAL CURRICULA, TECHNICAL PUBLICATIONS AND SOFTWARE AVAILABLE AT: EDUCATION ON WWW.ESTESROCKETS.COM



IGNITE THE IMAGINATION™ **CURRICULUM GUIDE** 

AERO X™ INTERCEPTOR™

44







# **ESTES SPECIALTY PRODUCTS**

1860 AIR POWER ACTION HERO \$46.95
Slide the Action Hero Rocket onto the launch tube, pressurize the system with a few pumps, push the button and blast off! Set comes complete with rocket and air power launch system. Ages 10+.

SPECS: Rocket Length: 10.5 in. (26.7 cm)
Max. Altitude: 10 Stories High
Recovery: Bounce \$46.99

1861 AIR POWER BLAST JETS\* \$51.9
Blast Jets\* are air rocket-launched airplanes! Two super-flying jets are thrust over 7 stories into the sky on the back of a booster rocket. The jets separate from the rocket and circle overhead. Booster rocket has a foam nose cone for "Bounce-Back" recovery.

nas a foam nose cone for "Bounce-Back" recovery.
Includes complete air powered launch system, booster
rocket and two jets. Ages 10+.

SPECS: Blast Jet: Wingspan: 6.5 in. (16.5 cm)

Length: 5.75 in. (14.6 cm)

Rocket: Length: 11.25 in. (28.6 cm)

Max. Altitude: Over 7 Stories High Recovery: Bounce

1863 HYDROGEN FUEL ROCKET SET
WITH LIGHTS AND SOUND
Generate hydrogen fuel from tap water! Lights
synchronize fuel generation from start to finish. The
'Talking Command Center' tells you when the gas
generation starts, gives you facts about hydrogen
during generation and tells you when it's ready to
launch. Launches a 'Spin Recovery' (helicopter) ready
to fly rocket nearly 200 feet high! Set comes complete
and is ready for launch in minutes. Ages 10+ with
adult supervision for those under 12.

SPECS: Launch Platform Length: 20.5 in (52.1 cm)
Rocket Length: 11 in. (27.9 cm)
Recovery: Spin

Recovery: Spin
Max. Altitude: 200 ft. (61 m)
Propellant: Hydrogen fuel from water
Power Supply: 6 - 'D' alkaline batteries - sold separately.

AIR POWER ROCKET PLANE

This amazing air powered rocket plane transforms from a rocket into a high performance glider after liftoff! Place the Talon™ onto its air power launcher, pump in some air and blast off nearly 5 stories high! When it rockets into space, watch it flip open its wings and glide back down for another launch. Ages 10+.

SPECS: Length: 12 in. (30.5 cm)

Wingspan: 15.5 in. (39.4 cm)
Max. Altitude: 5 Stories High Recovery: Glider

1876 HYDROGEN FUEL ROCKET \$51.99
A revolutionary new way to launch rockets! Converts water into hydrogen fuel for unlimited launches. Sends a rocket (included) 250 feet (76 m) into orbit. Includes hydrogen generating launch pad, remote launch controller & one ready to fly rocket. Ages 10+ with adult supervision for those under 12.

SPECS: Launch Platform Length: 20.5 in. (52.1 cm)
Rocket Length: 11 in. (27.9 cm)
Recovery: Bounce
Max Altitude: 200 ft. (61 m)
Propellant: Hydrogen fuel from water
Power Supply: 6 - 'D' alkaline batteries - sold separately.

8304 KICK DIS™ POWER PUCK LIGHTS & SOUNDS

This fast moving power puck flashes lights and blasts sounds as it hovers on a cushion of air! Play indoors or out – soccer, hockey, bowling or create all sorts of fun and games. Includes wall charger & rechargeable battery. Ages 7+.

Dia.: 7.5 in. (19.1 cm)

8306 SHOCKWAVE™ PLAY PUCK \$17
Hit this play puck and watch the lights and sounds blast as it slides across the floor! Official playbook \$17.99 included. Ages 6+.

Dia.: 4 in. (10.2 cm). Includes 3'- 'AAA' batteries.