HERE’S HOW TO USE YOUR ESTES CATALOG

Information on each rocket kit is provided on each page of the catalog where rockets are displayed. This information includes:
- Skill Level number recommends the general skill level and experience necessary for a rocketeer to successfully complete the kit. Skill Level 1 kits are suggested for beginners, Skill Level 2 for intermediate rocketeers, and so on to Skill Level 5, expert rocketeer. All kits in this catalog have the appropriate Skill Level indicated.
- Rocket type is indicated in the upper left corner of each catalog spread. Rocket kits in this catalog are grouped by type, whether sport flyers, mini brutes, multi-stagers, futuristic kits, scale models or "D" powered rockets.
- Name of kit.
- Special features and additional kit information including kit length, diameter and weight.
- Engine types lists all recommended engines for flying the rocket. Engines are listed from least powerful to most powerful. Also indicates which engines should be used for first flight.
- Product number for kit which should always be used when ordering.
- Price of kit (or see price list).
- Average shipping weight for these models.
- Kit feature symbols indicate the following kit features:
  - Parachute & Size
  - Plastic Nose Cone
  - Streamer Recovery
  - Balsa Nose Cone
  - Die-Cut Balsa Fins or Paper Parts
  - Plastic Fins or Fin Unit
  - Kit Decals
  - Quick-Release Engine Mount

MODEL ROCKET FLIGHT SEQUENCE

Recommended Launch Area:
In choosing a launch area, the larger the better. Football fields, parks and playgrounds are great. The chart below shows the smallest recommended sizes. Remember, the larger the launch area, the better your chance of recovering your rocket. Choose a large field away from power lines, tall trees, and low flying aircraft.

Recommended Launch Area:
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PARTS OF A MODEL ROCKET

MODEL ROCKET ENGINE

Screw Eye

Payload Section

Shock Cord

Nose Cone

Shroud Lines

Quick-Release Engine Mount

Body Tube

Igniter

Model Rocketry is an Internationally Recognized Hobby with a Safety Record of More Than 200 Million Successful Model Rocket Launchings

Model rocketry is endorsed as a safe and rewarding hobby by:
- United States Air Force
- U.S. A.F. J.T.O.T.C. Programs
- 15,000 Elementary, Jr. High, and High Schools
- Major Colleges and Universities
- Hundreds of Camp and Recreation Programs

Estes Rocket Engines Are Safely Tested and Conceived

Certified by:
- U.S. National Association of Rocketry
- Canadian Association of Rocketry
- Estes Rocket Engines Have Been Tested and Approved By:
- United States Department of Transportation
- Federal Aviation Administration
- National Fire Protection Association
- U.S. Consumer Product Safety Commission
- U.S. Food & Drug Administration
- U.S. Department of Transportation
- Federal Aviation Administration
- U.S. Postal Service

SKILL LEVELS

All model rocket kits in this catalog require assembly unless otherwise stated. Some of these flying model rockets can be put together and ready to launch in minutes. Others with their sophisticated aerodynamics and wealth of detail are more challenging. The Skill Level number given for each kit recommends the skills and experience necessary for a rocketeer to successfully complete the kit. Generally speaking, it is not wise to jump skill levels. Unless you are an extremely experienced modeler, you should complete a kit of Skill Level 1 before attempting Skill Level 2... and you should build a Skill Level 2 rocket before moving on to Skill Level 3... and so on.

SKILL LEVEL 1 Very Simple - Recommended for beginners.

SKILL LEVEL 2 Fairly Easy - Recommended for individuals with some model building experience.

SKILL LEVEL 3 Average Challenge - Recommended for the experienced model builder.

SKILL LEVEL 4 Very Challenging - Recommended for the advanced model builder.

SKILL LEVEL 5 Challenging - Recommended for the expert model builder.
ALPHA III
SKILL LEVEL 1
Another great first or second kit. Plastic nose cone and fin assembly make for easy, quick assembly. This rocket will deliver outstanding performance flight-after-flight. Length 12.25" Dia. 0.976" Wt. 1.2 oz.
ENGINES: 1: A6-2, A8-3 (1st Flt.), A8-5, B4-4, B6-4, B8-5, C6-5, C6-7.
No. 1296
$4.75

THE BAT
SKILL LEVEL 1
Unique sport model with far-out "Bat" decor. Easy-to-build. Delivers great flights over 1,000 feet and returns via 90° long streamer. Length 16.63" Dia. 0.976" Wt. 92 oz.
ENGINES: 1: A6-2, A6-3 (1st Flt.), A8-5, B4-4, B6-4, B8-5, C6-5, C6-7.
No. 1362
$4.50

MAVERICK
SKILL LEVEL 1
This sleek sport performer features streamlined recovery and flights over 1,000 feet. Easy-to-build and fun-to-fly. Length: 16.5" Dia. 0.976" Wt. 1.13 oz.
ENGINES: A8-3 (1st Flt.), B4-4, B6-4, B8-5, C6-5.
No. 1904
$3.95

DER RED MAX
SKILL LEVEL 2
ENGINES: B4-2 (1st Flt.), B4-4, B6-2, B6-4, B8-5, C6-5, C6-7.
No. 0651
$7.50

CHALLENGER - 1
FLYING MODEL ROCKETRY STARTER KIT
SKILL LEVEL 1
Includes easy-to-assemble, high-performance Challenger-1 model rocket featuring orange plastic nose cone and fin unit. No painting required! Flights over 1000 feet. Also includes Challenger-1 launch control system with futuristically designed launch controller, 15 feet of launch cable, micro-clips, launch pad with blast deflector plate and 1 8" x 36" launch rod. Flight pack includes three N.A.R. Safety Certified model rocket engines, recovery wadding and reliable solar igniters for three exciting flights.
(Requires 6 or 12 volt lantern battery and glue - not included.) Ship Wt. 1 Ib.
ENGINES: 1: A6-2, A8-3 (First Flt.), A8-5, B4-4, B6-4, B8-5, C6-5, C6-7.
No. 1416
$11.95
ASTRO BEE
SKILL LEVEL 1 Reach altitudes over 1,200 feet with this sounding rocket style design. Length: 14.75"
Dia: 0.976" Wt: 0.923 oz
ENGINES: 1 2A6-2, A8-3 (1st Fit.) B4-4, B6-4, B8-5, C6-5, C6-7
No. 1356
$4.25

SIZZLER
SKILL LEVEL 1 High performance design for flights over 600 feet. A long bird that's great for demonstrations. Length: 23.5" Dia: 0.976" Wt: 1.41 oz
ENGINES: A8-3 (1st Fit.), B4-4, B6-4, B8-5, C6-5
No. 1906
$4.50

SCAMP
SKILL LEVEL 1 Great sports flyer with sleek, high performance design. Flights over 1,000 feet with "C" type engine. Length: 13.75" Dia: 0.976" Wt: 0.8 oz
ENGINES: 1 2A6-2 (1st Fit.), A8-3, A8-5, B4-4, B6-4, B8-5, C6-5, C6-7
No. 1296
$6.00

SPIN FIN
SKILL LEVEL 1 Unique spin-flight design creates dramatic curving smoke trail on its way up. Spectacular flights over 1,200 feet with 30° streamer recovery. Length: 11.6" Dia: 0.756" Wt: 0.6 oz
ENGINES: 1 2A6-4, A8-5 (1st Fit.), B4-6, B6-6, C6-7
No. 1355
$3.00

ALPHA III STARTER KIT
SKILL LEVEL 1 Includes easy-to-build Alpha III model rocket kit. Pre-colored parts - no painting required! Also includes newly re-designed Porta-Pad tripod launcher with blast deflector plate and 1/8 x 36" two-piece launch rod, Solar Launch Controller and Flight Pak including three N.A.R. safety certified model rocket engines, parachute recovery wadding and Solar Igniters. (Requires 4 alkaline AA batteries for operation - not included). Ship. Wt 3 lbs.
ENGINES: 1 2A6-2, A8-3 (1st Fit.), A8-5, B4-4, B6-4, B8-5, C6-5, C6-7
No. 1406
$18.95
(Batteries, glue and finishing supplies - not included.)
STILETTO
SKILL LEVEL 2
Exciting scale-like surface-to-air interceptor missile with realistic military decals. Single engine super-sport performance with two-stage appearance. 
Length: 22.4 in
Dia: 0.975 in
Wt: 1.27 lb
ENGINES: A6-3 (1st Flt.), B4-4, B6-4, B6-5, C6-5
No. 1323
$6.00

MINI SHUTTLE
SKILL LEVEL 2
Sport scale version of the space shuttle orbiter. Uses regular size engines. 
Length: 9.37
Dia: 1.63
Wt: 1.35 lb
ENGINES: A8-3 (1st Flt.), B4-4, B6-4, B6-5, B8-5, C6-5
No. 1391
$4.00

SCOUT
SKILL LEVEL 1
Estes Industries first model rocket, originally developed in 1959. Teaches you elementary balance and design principles. 
Length: 7
Dia: 0.766
Wt: 0.3 oz
ENGINES: 1/2A8-2 (1st Flt.), A8-3, B4-4, B6-4, B8-5, C6-5
No. 1201
$2.50

DELCHE
FLYING MODEL ROCKET STARTER KIT
SKILL LEVEL 1
Complete with everything you need including Alpha model rocket kit, construction supplies, finishing materials, Porta-Pod launcher with blast deflector plate and two-piece 1/8" x 36" launch rod, Solar Launch Controller, and Flight Pak with 3 high performance model rocket engines, Solar igniters and recovery wadding. 
(Requires 4 alkaline AA batteries for operation - not included). 
Shp. Wt: 3 lbs
ENGINES: 1/2A8-2, A8-3 (1st Flt.), A8-5, B4-4, B6-4, B8-5, C6-5, C6-7
No. 1407
$24.95
QUASAR
SKILL LEVEL 1  Dramatic, easy-to-build model for beginners. Bright white plastic nose cone and fin assembly. Metalized pre-printed mylar wrap-on decal for the body tube. No painting required! Length: 14” Dia. 0.976” Wt. 1.5 oz.
ENGINES: 1:2A6-2, A8-3 (1st. Fit.), B4-2, B4-4, B6-2, B6-4, B8-5, C6-5.
No. 0650
$6.25

COMET
SKILL LEVEL 1  High performance sport flyer over 2 feet long. Quick and easy-to-assemble. Delivers great flights over 1,200 feet. Length: 24.25” Dia. 1.325” Wt. 1.8 oz.
No. 1568
$5.25

STINGER
SKILL LEVEL 1  A sleek sport performer capable of flights over 1,000 feet. Easy-to-build and fun-to-fly.
Length: 13.5” Dia. 0.976” Wt. 0.98 oz.
ENGINES: A8-3 (1st. Fit.), B4-4, B6-4, B8-5, C6-5.
No. 1905
$3.95

POLARIS
SKILL LEVEL 1  Sleek sounding rocket design with large payload section. Excellent performance for flights over 1,000 feet. Perfect for small insect payloads.
Length: 18” Dia. 0.976” Wt. 1.3 oz.
ENGINES: 1:2A6-2, A8-3 (1st. Fit.), A8-5, B4-4, B6-4, B8-5, C6-5, C6-7.
No. 1324
$6.00

ALPHA
SKILL LEVEL 1  The ideal kit for your first or second rocket. Swept-finned design makes it a really great performer. Features balsa nose cone and fins.
Length: 12.25” Dia. 0.976” Wt. 0.3 oz.
ENGINES: 1:2A6-2, A8-3 (1st. Fit.), A8-5, B4-4, B6-4, B8-5, C6-5, C6-7.
No. 1225
$4.00

Engine, launch system, glue, and finishing supplies not included. Avg. Ship. Wt. 10 oz.
ICARUS
SKILL LEVEL 1 High altitude payload vehicle with see-through cargo section. Achieve flights of over 1,000 feet with lightweight payload. Simulated sounding rocket appearance with dual roll pattern decor. Length: 20.0" Dia: 0.976" Wt: 1.3 oz.
ENGINES: 1/2A-6, A-8-3 (1st Fit.), A-8-5, B-4-4, B-6-4, B-8-5, C-6-5, C-6-7.
No. 1277
$6.50

CYCLONE
SKILL LEVEL 1 Flights over 800 feet make this one you'll want to add to your fleet. Unique decal and big size make it ideal for demos. Length: 16" Dia: 1.32" Wt: 1.48 oz.
ENGINES: A-8-3 (1st Fit.), B-4-4, B-6-4, B-8-5, C-6-5.
No. 1907
$4.50

BIG BERTHA
ENGINES: A-8-3, B-4-2, B-4-4, B-6-2 (1st Fit.), B-6-4, B-8-5, C-6-5.
No. 1223
$7.50

KADET
SKILL LEVEL 1 Achieve flights over 1,000 feet with this super high flying sport model. Nearly indestructible with pre-colored plastic nose cone and fn-unit. Quick and easy-to-assemble. No painting required! Easy-track recovery with 50" fluorescent streamer. Length: 15" Dia: 0.98" Wt: 1.13 oz.
ENGINES: 1/2A-6-2, A-8-3, A-8-5, B-4-4 (1st Fit.), B-6-4, B-8-5, C-6-5, C-6-7.
No. 1328
$4.50

SPRINT
SKILL LEVEL 3 Real competition design. Highest performance in its class. Up to 1,600 ft with C-6-7 engine. Low drag ogive nose cone and reduced tail section. Contest winning elliptical fins, and streamer recovery. Length: 13.8" Dia: 0.976" Wt: 1.0 oz.
ENGINES: 1/2A-6-2, A-8-3 (1st Fit.), A-8-5, B-4-6, B-6-6, B-8-5, C-6-5, C-6-7.
No. 1249
$5.50
Engines, launch system, glue, and finishing supplies not included.
Avg. Ship. Wt: 10 oz.
FIRECAT
SKILL LEVEL 1
Authentic looking anti-tank missile of the future. Features unique scale-like plastic nose cone. Flights over 1,000 feet are possible with a C engine. Length: 15" Dia. 1.04" Wt. 1.5 oz.
ENGINES: 1 2A6-2, AB-3 (1st Fli.) AB-5, B4-4, B6-4, BB-5, C6-5, C6-7.
No. 1378
$4.50

AERO-FIN
SKILL LEVEL 2
Unique five-fin design. Flights over 1200 feet with 18" streamer recovery. Length: 11.62" Dia. 0.736" Wt. 0.53 oz.
ENGINES: 1 2A6-2, AB-3 (1st Fli.), AB-5, B4-4, B6-4, BB-5, C6-5, C6-7.
No. 1390
$3.50

WIZARD
SKILL LEVEL 1
Simple and quick to assemble. One of the highest performing vehicles in Estes' fleet with its 1,600 foot altitude capability and huge 30" streamer recovery system that makes it easy to track. Length: 12" Dia. 0.736" Wt. 0.79 oz.
ENGINES: 1 2A6-2, AB-3 (1st Fli.), AB-5, B4-4, B6-4, BB-5, C6-5, C6-7.
No. 1292
$2.50

YANKEE
SKILL LEVEL 1
Easy-to-build, yet performance that will rival any rocket. Capable of flights over 2,000 feet with 30" long streamer recovery. Length: 11" Dia. 0.736" Wt. 0.42 oz.
ENGINES: 1 2A6-2, 1 2A6-4, AB-3, AB-5 (1st Fli.), B4-4, B4-6, B6-4, B8-5, C6-5, C6-7.
No. 1381
$2.25

*Engines, launch system, glue and finishing supplies not included.
Avg. Ship. Wt. 8 oz.
**GYROC**
*Skill Level 3*  
An amazing and unique "helicopter" recovery system makes the Gyroc a must for your fleet. Lifts off with main fins in straight away position. Engine's ejection charge allows rear fin tips to snap sideways causing rotor effect and helicopter recovery. Unusual appearance and strange performance are sure to catch the interest of on-lookers. Length: 9-3/8" Dia: 0.736" Wt: 0.6 oz.  
*Engines*: 1-2A6-2 (1st Flt.), A8-3, B4-4, B6-4, B8-5, C6-5  
*No.* 1224  
*Price*: $4.25

**MARK II**
*Skill Level 1*  
Ideal for sport or demonstration flying. Designed for midbody ejection separation system with streamer recovery. It's an excellent challenge for the novice rocketeer. Top-notch performance. Length: 9" Dia: 0.765" Wt: 0.7 oz.  
*Engines*: 1-2A6-2 (1st Flt.), A8-3, B4-4, B6-4, B8-5, C6-5  
*No.* 1202  
*Price*: $4.00

**COBRA - 1500**
*Skill Level 2*  
Attains flights over 700 feet, with "C" type engine, from this extra long sport flyer. Perfect demonstration model with large 18" parachute recovery. Length: 59" Dia: 1.325" Wt: 1.17 oz.  
*Engines*: B4-2, B4-4 (1st Flt.), B6-2, B6-4, B8-5, C6-5  
*No.* 1294  
*Price*: $6.25

**BLUE BIRD ZERO**
*Skill Level 2*  
*Engines*: B4-2, B4-4, B6-2, B6-4 (1st Flt.), B8-5, C6-5, C6-7  
*No.* 1335  
*Price*: $7.75

**METEOR**
*Skill Level 1*  
Super sport flyer with 90" streamer recovery. High performance flights to 1,200 feet. Length: 18.63" Dia: 0.976" Wt: 0.94 oz.  
*Engines*: 1-2A6-2, A8-3 (1st Flt.), A8-5, B4-4, B6-4, B8-5, C6-5, C6-7  
*No.* 1370  
*Price*: $4.75  
*Note*: Engines, launch system, glue, and finishing supplies not included. Avg. Ship. Wt: 10 oz.
X-RAY
SKILL LEVEL 1 Perfect for your first payload or second kit. Features large see-through payload cargo section. The recommended single-stage payload vehicle for small biological or insect projects. Length: 16 3/4" Dia. 0.736" Wt. 0.7 oz.
ENGINES: 1A46-2, A8-3 (1st F.), B4-4, B6-4, B8-5, C6-5
No. 1218
$5.50

COURIER
SKILL LEVEL 1 Single Stage Performance. Scale-like appearance of two-stage sounding rocket. Flights over 1,100 feet. Length: 12 1/3" Dia. 0.736" Wt. 0.5 oz.
ENGINES: 1A46-2, A8-5 (1st F.), B4-6, B6-4, B8-5, C6-5
No. 1911
$2.75

PATRIOT
SKILL LEVEL 2 Big, burly, and impressive sport model over 25" tall. Spectacular "All-American" red, white, and blue decor. Makes a great demonstration model. Fast, easy construction. Length: 26" Dia. 1.63" Wt. 3.3 oz.
ENGINES: B4-2 (1st F.), B4-4, B6-2, B6-4, B8-5, C6-5, C6-7
No. 0052
$3.95

SKY HOOK
SKILL LEVEL 1 An excellent kit for your second rocket. Easy-to-build with terrific performance flight after flight. Length: 12" Dia. 0.765" Wt. 0.7 oz.
ENGINES: 1A46-2 (1st F.), A8-3, A8-5, B4-4, B4-6, B6-4, B6-6, B8-5, C6-5, C6-7
No. 1208
$4.00

STREAK
SKILL LEVEL 1 Lightweight, wind-cheating design (1-8 oz. without engine). Great for contests and records. Features simple feather-weight recovery. Length: 5.6" Dia. 0.72" Wt. 0.1 oz.
ENGINES: 1A46-4 (1st F.), A8-5, B4-6, B6-6, C6-7
No. 1204
$2.50

Engines, launch system, glue and finishing supplies not included. Avg. Ship. Wt. 12 oz.
ESTES STARLINER
SKILL LEVEL 3  Futuristic Estes version of a commercial space transport ship of the 21st Century. Mini-engine powered for low cost flights. Length: 12.6" Dia. 0.736" Wt: 0.9 oz.
ENGINES: 12A3-2T (1st Fit.), A3-2T, A3-4T, A10-3T.
No. 0863
$4.25

MINI MEAN MACHINE
SKILL LEVEL 1  Mini-powered version of our huge Mean Machine kit. Over 38 inches long and capable of flights over 700 feet. Length: 38.5" Dia. 0.736" Wt: 1.06 oz.
ENGINES: 12A3-2T, A3-2T (1st Fit.), A10-3T.
No. 0865
$5.00

ECLIPSE
SKILL LEVEL 1  Reach altitudes over 600 feet with this great Mini-Brute sport flyer. Very high performance design. Length: 12.1" Dia. 0.736" Wt: 0.51 oz.
ENGINES: 12A3-2T (1st Fit.), 12A3-4T, A3-4T, A3-6T, A10-3T.
No. 0846
$4.25

MOSQUITO
SKILL LEVEL 1  The smallest of all Mini-Brutes combines fantastic performance with feather-weight recovery. Balsa and paper construction with simple spray paint decor makes for quick-and-easy assembly. Length: 3.9" Dia. 0.541" Wt: 0.1 oz.
ENGINES: 12A3-4T (1st Fit.), A3-6T, A10-3T.
No. 0801
$9.99

Ready-To-Launch
X-15 STARTER KIT
SKILL LEVEL 1  The ideal starter kit for parent and child. Your X-15 rocket can be ready to launch in less than 15 minutes. Includes ready-to-fly X-15 Rocket Plane with 10" recovery parachute, authentic scale decor and easy-lock engine mount. Ruggedly designed portable launch system includes hand-held controller, realistic launch pad with 24" two-piece launch rod, blast deflector and pre-soldered micro clips. Entire system is pre-wired. Also included are 3 NAR Safety Certified A3-4T Mini Engines, parachute recovery wadding and Solar Igniters (Requires four AA size alkaline batteries for operation - Not Included). Ship. Wt: 2 lbs. 8 oz.
No. 0715
$24.95
**MINI BRUTES**

**MINI MEAN MACHINE STARTER KIT**

**STAR DART**
**SKILL LEVEL 1**
High performance, mini-engine powered sport rocket. Flies over 1,000 feet and returns via streamer recovery. Very easy-to-assemble. Length 8.4" Dia. 0.54" Wt. 0.225 oz.

ENGINES: 12A3-4T (1st Fit.), A3-6T

No. 0660
$2.50

**MINI TRI PAK**
**SKILL LEVEL 2**
Three unique rocket kits in one package - for one low price!

Kit includes:

**STAR SEEKER**
Interstellar seeker for short hops between galaxies. Mini-power boosts it near 1,500 feet. The model breaks apart into two connected pieces for safe recovery. Length: 6.9" Dia. 0.5 Wt. 0.26 oz.

ENGINES: 12A3-2T (1st Fit.), 12A3-4T, A3-2T, A3-4T, A3-6T, A10-3T.

**STING RAY**
Two-stage mini performance. Out-of-sight flights to 2,500 feet. Length 3.4" Dia. 0.5 Wt. 0.33 oz.

ENGINES: Booster: A10-0T (1st Fit.)
Upper Stage: 12A3-2T (1st Fit.), 12A3-4T, A3-2T, A3-4T, A3-6T, A10-3T.

**S.C.R.A.M.**
Military styled surface-to-air missile. Flights over 1,000 feet. Break-apart recovery. Length: 7.3" Dia. 0.5 Wt. 0.29 oz.

ENGINES: 12A3-2T (1st Fit.), 12A3-4T, A3-4T, A3-6T, A10-3T.

**MINI TRI PAK**
No. 0666
$5.00
(Engines, launch system, glue and finishing supplies not included in rocket kits) Avg. Ship. Wt. 9 oz.

**MINI MEAN MACHINE**
**Flying Model Rocket Starter Kit**
**SKILL LEVEL 1**
Includes Mini Mean Machine rocket kit capable of flights over 700 feet. Power-Pulse™ Launch Controller, Porta-Pad launcher and Flight Pak including three high-performance model rocket engines, parachute recovery wadding and Solar Igniters. The ideal way to start with our highest-technology launch support equipment. Ship Wt. 1 lb.

ENGINES: 12A3-2T, A3-2T (1st Fit.), A10-3T

No. 469
$22.95
(Requires white glue, paint, finishing supplies and 8-volt Polaroid "Pola-Pulse" P-100 battery - not included. See page 54.)
MINI-BRUTES

BETA
SKILL LEVEL 2 Two stage Mini-Brute for really high flights. Low-drag design with sounding rocket style decor. Booster stage has tumble recovery while top stage returns via parachute. Pkg. No. 3,392-302. Length: 13.79 Dia: 0.736 Wt: 0.75 oz.
ENGINES: Upper Stage: 12A3-4T (1st Fli.), A3-6T, A10-3T
Booster Stage: A10-0T (1st Fli.)
No. 0845
$4.50

AIRBORNE SURVEILLANCE MISSILE
SKILL LEVEL 3 Unique scale-like appearance and a challenge to build. Length: 11.4 Dia: 0.976 Wt: 0.71 oz.
ENGINES: A3-4T (1st Fli.), A10-3T
No. 0867
$3.50

COMBO KIT:
Skill Level 1 Two mini kits for the price of one!
Includes:

JAVELIN
Super performance, easy-to-build competition design with streamer recovery. Scale-like sounding rocket appearance. Reaches altitudes over 1,000 feet. Length: 12.4 Dia: 0.541 Wt: 0.34 oz.
ENGINES: 12A3-2T (1st Fli.), A3-4T, A10-3T.
No. 0815
$4.75

SUPER FLEA
The "Flea"s" competition design gives ultra-high performance. Reaches incredible altitudes with ogive nose cone and swept fins. Easy-to-build and features break-away drag recovery. Length: 7.34 Dia: 0.541 Wt: 0.158 oz.
ENGINES: 12A3-2T (1st Fli.), 12A3-4T, A3-4T, A10-3T

JAVELIN & SUPER FLEA COMBO KIT
No. 0815
$4.75

SPARTAN
SKILL LEVEL 1 This super sleek mini-powered model flies over 400 feet and returns to Earth on a brightly colored 30" streamer. Length: 14.2 Dia: 0.976 Wt: 0.91 oz.
ENGINES: 12A3-2T, A3-4T (1st Fli.), A10-3T
No. 0864
$4.25

A.S.P.
SKILL LEVEL 2 Mini-engine powered, semi-scale model of famous atmosphere sounding projectile. Features spinners for realistic spin-flight performance. Length: 20.5 Dia: 0.736 Wt: 0.82 oz.
ENGINES: 12A3-4T (1st Fli.), A3-4T, A10-3T
No. 0862
$4.00

Engine, launch system, glue and finishing supplies not included. Avg. Ship. Wt: 10 oz.
DELTA STAR
SKILL LEVEL 2. Really sleek, super high performance two-stage payloader capable of lofting a 1 oz. payload over 1,000 feet with “C” type engines. Can be flown either single or multi-stage. Booster stage employs tumble recovery. Length: 24” Dia. 0.98” Wt: 1.13 oz.
ENGINES: Single Stage: A8-3 (1st Fli.), B4-4, B6-4, B8-5, C6-5, C6-7.
Upper Stage: A6-5 (1st Fli.), B4-6, B6-6, C6-7.
Booster Stage: A8-0 (1st Fli.), B6-0, C6-0.
No. 1322
$7.25

SCORPION
SKILL LEVEL 2. High flying two-stage sport model with research vehicle styling. Easy to build and exciting to fly with all plastic fin units. Booster employs tumble recovery while upper stage streaks skyward to altitudes over 1,000 feet. Length: 26.5” Dia. 0.976” Wt: 1.8 oz.
ENGINES: Single Stage: A8-3 (1st Fli.), A8-5, B4-4, B4-6, B6-4, B8-5, C6-5, C6-7.
Upper Stage: A8-5 (1st Fli.), B4-6, B6-6, C6-7.
Booster Stage: A8-0 (1st Fli.), B6-0, C6-0.
No. 1333
$7.00

SKY-HI
SKILL LEVEL 2. High performance two-stager with single-stage sounding rocket appearance. Nose cone fins create very sleek design. Simplified construction Length: 25” Dia. 0.976” Wt: 1.7 oz.
ENGINES: Single Stage: A8-3 (1st Fli.), B4-4, B6-4, B8-5, C6-5.
Upper Stage: A8-5 (1st Fli.), B6-6, C6-7.
Booster Stage: A8-0 (1st Fli.), B6-0, C6-0.
No. 1365
$5.75

Engines, launch system, glue and finishing supplies not included. Avg. Ship: Wt: 12 oz.
MULTI-STAGERS

HERCULES
Skill Level 3
Clear payload section highlights this two-stager. Sleek design that can be flown as a single or two-stage model. Flights over 2,500 feet. Length: 21.5" Dia. 0.976" Wt. 1.84 oz.
Engines: Single Stage: A8-3 (1st Ft.), B4-4, B6-4, B6-5, C6-5.
Upper Stage: A8-5 (1st Ft.), B6-6, B8-5, C6-7.
Booster: A8-0 (1st Ft.), B6-0, C6-0.
No. 1377 $6.00

APACHE-2
Skill Level 3
Ultra-high performance two-stager with unique kit decal. Streamer for reliable high-altitude recovery. Capable of flights over 2,500 feet. Length: 18.25" Dia. 0.976" Wt. 1.34 oz.
Engines: Single Stage: 1.2A6-2, A8-3 (1st Ft.), B4-4, B6-4, B6-5, C6-5.
Upper Stage: 1.2A6-4, A8-5 (1st Ft.), B4-6, B6-6, C6-7.
Booster: A8-0 (1st Ft.), B6-0, C6-0.
No. 1386 $5.00

VIGILANTE
Skill Level 2
Ultra-high performance two-stage model for flights over 1,100 feet. Sleekly designed; upper stage returns via 18" parachute while the booster employs tumble recovery. Length: 26.5" Dia. 1.325" Wt. 2.25 oz.
Engines: Upper Stage: A8-5 (1st Ft.), B4-6, B6-6, C6-7.
Booster Stage: A8-0 (1st Ft.), B6-0, C6-0.
No. 1278 $7.50

COMMANCHE-3
Skill Level 3
Big three-stager with mighty "D" powered booster. Can be flown in single, two-stage or three-stage configurations. Incredible flights over 2,600 feet. Length: 41" Dia. 0.976" Wt. 2.06 oz.
Engines: Single Stage: A8-3 (1st Ft.), B4-4, B6-4, B8-5, C6-5.
Upper Stage: A8-5 (1st Ft.), B4-6, B6-6, C6-7.
Second Stage: A8-0 (1st Ft.), B6-0, C6-0.
Booster: D12-0 (1st Ft.).
No. 1382 $6.00

Engines, launch system, glue and finishing supplies not included. Avg. Ship. Wt. 12 oz.
**Futuristic**

**Orbital Transport**

*Skill Level: 4*

Only a gleam in the eye of NASA, but it's flying for Estes rocketeers right now! Astonishingly realistic recovery system where mothership returns to Earth via huge 18" parachute and interplanetary orbiter glides home. Long and sleek, developed for both orbital and near-space missions. Transport vehicle and glider fly piggy-backed and separate at apogee for spectacular dual recovery. TRANSPORT SHIP: Length: 23" Dia. 0.976" Wing Span 7.9" Wt. 2 oz. RE-ENTRY VEHICLE Length: 8.6" Dia. 0.736" Wing Span 5" Wt. 0.5 oz.

**Engines:** B-2, B-4, B-6, B-8, C-5-6 (1st Fli.), B-8-9, C-5-6.

**No.:** 1242

**Price:** $5.50

**Galactic Taxi**

*Skill Level: 3*

Lightweight 3 passenger planet hopping taxi. Flights to 1,000 feet with 12" parachute recovery. Ideal display model and impressive in the air. Length: 15" Dia. 0.976" Wt. 1.27 oz.

**Engines:** A-6-3 (1st Fli.), B-4, B-6-8, B-8-9, C-5-6.

**No.:** 1914

**Price:** $6.00

**Attack Craft**

*Skill Level: 3*

Unique design for dramatic space fighter of the future with quad mounted laser cannons in nose and dual fusion reactor engines. Flies over 1,300 feet with C engine. Length: 12.3" Dia. 0.976" Wt. 1.41 oz.

**Engines:** A-6-3 (1st Fli.), B-4, B-6-8, B-8-9, C-5-6.

**No.:** 1374

**Price:** $6.25

**Falcon Commander**

*Exotic Flying Model Rocket Starter Kit*

*Skill Level: 1*

This exciting starter kit features the forward swept-wing Falcon Commander model rocket kit capable of flights to 1,200 feet. Launch control system is also included with hand-held launch controller, bias deflector plate and 16" x 35" two-piece launch rod. Also included is flight pak containing three high-performance NAR safety certified model rocket engines, recovery wadding and Solar igniters. Ship. Wt. 1 lb.

**Engines:** A-6-3 (1st Fli.), A-8-5, B-4, B-6-8, B-8-9, C-5-6, C-6-7.

**No.:** 1428

**Price:** $12.95
"WIN YOUR WEIGHT IN ROCKETS"

Sweepstakes

25th Anniversary 1983

1st Prize:
Win Your Weight In Estes Model Rocketry Products.

2nd Prize:
Win 2/3rds Your Weight In Estes Model Rocketry Products.

3rd Prize:
Win 1/3rd Your Weight In Estes Model Rocketry Products.

25 - 4th Place Prizes:
Win an AstroCam 110 Aerial Camera with Delta II Launch Vehicle.

100 - 5th Place Prizes:
Win a $10.00 Gift Certificate for Estes Model Rocketry Products.

Rules:
1. No purchase is required to enter.
2. You may enter as many times as you like.
3. Winners will be chosen entirely at random.
4. Winners will be required to submit proof of weight.
5. Employees of Estes industries and members of their immediate families are not eligible.
7. Contest drawing for winners will be held on July 15, 1983. Winners will be notified by mail and will be published in a future issue of Model Rocket News.
8. 1st, 2nd and 3rd place prizes will consist of a selection of Estes model rocketry products.
9. All names and addresses received on Sweepstakes Entry Forms may be used for mailing list solicitations.
10. This Sweepstakes is void where prohibited by law.
11. All entries should be mailed to Estes Industries

To enter Just Fill-out and mail sweepstakes entry form below...

"WIN YOUR WEIGHT IN ROCKETS"

Sweepstakes Entry Form

Name:

Address:

City:

State:

Zip:

Phone: ( )

Weight in Lbs.:

Estes aerospace CLUB

Join more than 24,000 Estes rocketeers getting the most out of model rocketry. The EAC Thrust Bar Achievement Program awards members with iron-on thrust bars & achievement certificates as they progress from one skill level to the next. Your membership includes:

VIPER ROCKET KIT Club's Exclusive High Performance Design. REC. ENGINES: 1/2A3-2T (1st Pvt.), A3-4T, A10-3T.

MEMBERSHIP CERTIFICATE Official iron-on patch. As you progress to higher skill levels, you receive additional iron-on thrust bars.

DECAL SHEET Identify your rockets as part of the EAC team!

RANGE BOX STICKERS EAC STATIONERY MODER ROCKETS TECHNICAL MANUAL Includes information on construction techniques, finishing, stability, tracing, recovery systems, multi-staging, and boost glider plus much, much more.

COPY OF MODEL ROCKET NEWS Features free plan designs, technical articles, contest, rocketeer contributions and more.

THRUHT BAR ACHIEVEMENT PROGRAM

Build Your Own Design With Estes Quality Model Rocket Parts

Once you have constructed several model rocket kits and have become familiar with the basic Estes Technical Reports you will no doubt have a variety of ideas for unique designs of your own. In order to select the proper parts for your original design it is important for you to understand our system of parts description numbers.

Nearly all matching Estes parts have the same description number. Those which do not feature an additional explanation as to where they can be used. Normally, parts listing the same description number will be interchangeable with each other. For instance, a #20 body tube (BT-20) would mate with a #20A balsa nose cone (BNC-20A), a #20C payload section (PS-20C), or a #20B engine block (EB-20B)

Further a #200 tube adapter (TA-200) will adapt a BT-20 to a BT-60, and a #5055 centering ring (AR-5055) will center a BT-50 within a BT-55. By using balsa or paper adapters almost any combination of parts can be joined together for ordering, be sure to use both the product number and the series description number (name).

Model Rocket Parts

**Fin Stock**
Top quality balsa sheeting for making fins for model rockets. For maximum strength, grain of wood should follow the leading edge of fin.

**Body Tubes**

<table>
<thead>
<tr>
<th>Prod. No.</th>
<th>Description</th>
<th>Price</th>
<th>Dimensions (In Inches)</th>
<th>Weight in Oz.</th>
<th>Major Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>3164</td>
<td>BFS-20</td>
<td>$1.35</td>
<td>1/16x3/32</td>
<td>0.130</td>
<td>4</td>
</tr>
<tr>
<td>3166</td>
<td>BFS-20L</td>
<td>$1.55</td>
<td>1/16x13/32</td>
<td>0.173</td>
<td>6</td>
</tr>
<tr>
<td>3168</td>
<td>BFS-30</td>
<td>$1.40</td>
<td>3/32x3/32</td>
<td>0.150</td>
<td>4</td>
</tr>
<tr>
<td>3170</td>
<td>BFS-30L</td>
<td>$1.60</td>
<td>3/32x13/32</td>
<td>0.200</td>
<td>6</td>
</tr>
<tr>
<td>3172</td>
<td>BFR-40</td>
<td>$1.45</td>
<td>1/8x3/32</td>
<td>0.255</td>
<td>6</td>
</tr>
<tr>
<td>3174</td>
<td>BFR-40L</td>
<td>$1.60</td>
<td>1/8x13/32</td>
<td>0.290</td>
<td>6</td>
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</table>

**Engine Blocks**

<table>
<thead>
<tr>
<th>Prod. No.</th>
<th>Description</th>
<th>Price</th>
<th>Net</th>
<th>Diameter</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3131</td>
<td>EB-20A</td>
<td>$1.15</td>
<td>.700</td>
<td>.65</td>
<td>1/4</td>
</tr>
</tbody>
</table>

SPECIAL PUBLICATIONS

- Rocket Stability - TR-1 No. 84721 - $0.70
- Multi-Staging - TR-2 No. 84722 - $0.70
- Altitude Tracking - TR-3 No. 84723 - $0.70
- Rear Engine Boost Gliders - TR-6 No. 84724 - $0.70
- Cluster Techniques - TR-6 No. 84726 - $0.70
- Front Engine Boost Gliders - TR-7 No. 84727 - $0.70
- Model Rocketry Guide - TR-9 No. 84728 - $1.20
- Altitude Prediction Charts - TR-10 No. 84730 - $1.70
- Aerospace Education and Model Rocketry No. 2916 - $1.70
- Model Rocket Launch Systems No. 2911 - $0.70
- Estes Guide For Aerospace Clubs No. 2817 - $0.95
- Space Age Technology No. 2813 - $1.70
- A "Teacher's" Manual (No. 2823) is available to educators for $1.70
- Estes Model Rocket Contest Guide No. 2815 - $0.95
- The Laws of Motion and Model Rocketry No. 2821 - $0.55
- RECON - Recreational Program No. 2826 - $1.45
- Model Rocketry Manual No. 2922 - $1.20

Model Rocket Rockety No. 901022 - $0.35
Nose Cones
Nose cone dimensions listed in columns 1, 2, and 3.
In "Description" column BNC stands for balsa nose cone and PNC for plastic nose cone.

<table>
<thead>
<tr>
<th>Shape</th>
<th>No.</th>
<th>Prod. No.</th>
<th>Description</th>
<th>Price Each</th>
<th>Dimensions</th>
<th>Average Weight</th>
<th>Ship Wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8002</td>
<td>BNC-5V</td>
<td>$1.30</td>
<td>3/4&quot;</td>
<td>0.541&quot;</td>
<td>1/4&quot;</td>
<td>0.013 oz. 1 oz.</td>
</tr>
<tr>
<td>2</td>
<td>8003</td>
<td>BNC-5E</td>
<td>$1.30</td>
<td>1-3/8&quot;</td>
<td>0.541&quot;</td>
<td>1/4&quot;</td>
<td>0.020 oz. 1 oz.</td>
</tr>
<tr>
<td>3</td>
<td>8004</td>
<td>BNC-6S</td>
<td>$1.30</td>
<td>1-1/2&quot;</td>
<td>0.541&quot;</td>
<td>1/4&quot;</td>
<td>0.016 oz. 1 oz.</td>
</tr>
<tr>
<td>4</td>
<td>8005</td>
<td>BNC-6W</td>
<td>$1.50</td>
<td>2-7/8&quot;</td>
<td>0.541&quot;</td>
<td>1/4&quot;</td>
<td>0.039 oz. 2 oz.</td>
</tr>
<tr>
<td>5</td>
<td>8006</td>
<td>BNC-20A</td>
<td>$1.20</td>
<td>13/16&quot;</td>
<td>0.736&quot;</td>
<td>1/4&quot;</td>
<td>0.003 oz. 2 oz.</td>
</tr>
<tr>
<td>6</td>
<td>8007</td>
<td>BNC-20B</td>
<td>$1.40</td>
<td>1-11/16&quot;</td>
<td>0.736&quot;</td>
<td>5/16&quot;</td>
<td>0.05 oz. 2 oz.</td>
</tr>
<tr>
<td>7</td>
<td>8008</td>
<td>BNC-20C</td>
<td>$1.50</td>
<td>2-3/4&quot;</td>
<td>0.736&quot;</td>
<td>3/8&quot;</td>
<td>0.07 oz. 2 oz.</td>
</tr>
<tr>
<td>8</td>
<td>8009</td>
<td>BNC-20D</td>
<td>$1.60</td>
<td>2-3/4&quot;</td>
<td>0.736&quot;</td>
<td>1/2&quot;</td>
<td>0.12 oz. 2 oz.</td>
</tr>
<tr>
<td>9</td>
<td>8010</td>
<td>BNC-50J</td>
<td>$1.50</td>
<td>1-3/8&quot;</td>
<td>0.976&quot;</td>
<td>1/2&quot;</td>
<td>0.08 oz. 4 oz.</td>
</tr>
<tr>
<td>10</td>
<td>8011</td>
<td>BNC-50K</td>
<td>$1.65</td>
<td>2-3/4&quot;</td>
<td>0.976&quot;</td>
<td>1/2&quot;</td>
<td>0.13 oz. 4 oz.</td>
</tr>
<tr>
<td>11</td>
<td>8012</td>
<td>PNC-50KA</td>
<td>$1.40</td>
<td>2-3/4&quot;</td>
<td>0.976&quot;</td>
<td>1/2&quot;</td>
<td>0.13 oz. 4 oz.</td>
</tr>
<tr>
<td>12</td>
<td>8013</td>
<td>BNC-50X</td>
<td>$1.75</td>
<td>3-1/4&quot;</td>
<td>0.976&quot;</td>
<td>1/2&quot;</td>
<td>0.15 oz. 4 oz.</td>
</tr>
<tr>
<td>13</td>
<td>8014</td>
<td>BNC-50Y</td>
<td>$2.00</td>
<td>4-3/8&quot;</td>
<td>0.976&quot;</td>
<td>3/8&quot;</td>
<td>0.16 oz. 6 oz.</td>
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<tr>
<td>14</td>
<td>8015</td>
<td>PNC-50Y</td>
<td>$2.00</td>
<td>4-3/8&quot;</td>
<td>0.976&quot;</td>
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<td>0.16 oz. 6 oz.</td>
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<tr>
<td>15</td>
<td>8016</td>
<td>BNC-55AA</td>
<td>$1.90</td>
<td>3-1/8&quot;</td>
<td>1.325&quot;</td>
<td>1/2&quot;</td>
<td>0.15 oz. 4 oz.</td>
</tr>
<tr>
<td>16</td>
<td>8017</td>
<td>BNC-55AB</td>
<td>$2.20</td>
<td>3-7/8&quot;</td>
<td>1.325&quot;</td>
<td>1/2&quot;</td>
<td>0.18 oz. 4 oz.</td>
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<td>17</td>
<td>8018</td>
<td>PNC-55AC</td>
<td>$2.30</td>
<td>5-3/8&quot;</td>
<td>1.325&quot;</td>
<td>3/8&quot;</td>
<td>0.32 oz. 6 oz.</td>
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<tr>
<td>18</td>
<td>8019</td>
<td>BNC-55AO</td>
<td>$2.35</td>
<td>5</td>
<td>1.325&quot;</td>
<td>3/4&quot;</td>
<td>0.43 oz. 4 oz.</td>
</tr>
<tr>
<td>19</td>
<td>8021</td>
<td>PNC-60MS</td>
<td>$2.00</td>
<td>3-1/8&quot;</td>
<td>1.637&quot;</td>
<td>5/8&quot;</td>
<td>0.39 oz. 4 oz.</td>
</tr>
<tr>
<td>20</td>
<td>8022</td>
<td>PNC-60AH</td>
<td>$3.20</td>
<td>6-5/8&quot;</td>
<td>1.637&quot;</td>
<td>7/8&quot;</td>
<td>1.00 oz. 6 oz.</td>
</tr>
</tbody>
</table>

**Balsa Adapters**
Adapters give flexibility for rocket design. Switch from one size body tube to another for payload capsules, parachute compartments, propulsion sections, etc. Each adapter can be hollowed to make a passage for ejection gasses. All adapters have at least 1/2" mating surface on each end.

**Stage Coupler**
For multi-staging, joining body tubes, positioning adapter tubes, etc. Make perfect guides for cutting body tubes and mousing cut edges of body tubes, too. Ship Wt. for all is 3 oz. each.

**Nose Blocks**
Use this top quality feather-weight balsa nose blocks in payload sections anywhere else a solid bulkhead is required. Precision turned for exact fit in body tubes.

**Construction Supplies**

**Centering Rings**
AR-5055 CENTERING RINGS: For centering a BT-50 body tube within a BT-55. Extra strong for "D" engine mounts. Weight 0.062 oz. each. Ship Wt. 2 oz.

**AR-2050 CENTERING RINGS:** For centering a BT-20 body tube within a BT-50. Greater strength makes for use with high thrust engines. Weight per pair 0.285 oz. Ship Wt. 2 oz.

**Launch Lugs**

**MAXI-ROD LAUNCH LUG:** 2" long, fits 3/16" diameter launch rod.

**Dowels**
DOWELS: Extra strong, lightweight seasoned maple dowels. Ship. Wt. 5 oz.

**Engine Holders**
ENGINE HOLDER: Flat spring steel design gives easy installation and low drag. Recommended for sport and demonstration models. For Regular and "D" engines. Ship Wt. 1 oz.

**Paper Adapters**
RA-2060 RINGS: 10 rings for centering and mounting BT-20 in BT-50. Ship Wt. 2 oz.

**MULTI-PURPOSE SET:** Includes a total of 20 rings for positioning BT-5 to BT-20, BT-5 to BT-50. All rings are 1-1/4" long. Ship Wt. 6 oz. Also three universal tapered shrouds and instructions. Ship Wt. 2 oz.
Hobby and Sport Kites
Skylinks™ Kite Systems
Construkt several versions of the same kite.

SKYLINKS 1
Features Skylinks Kite System that builds 1 kite.
Ship. Wt. 12 oz.
No. 5013...$5.99

SKYLINKS 10
Features Skylinks Kite System that builds 10 different kites.
Ship. Wt. 1 lb., 4 oz.
No. 5015...$29.99

Hi-Flier offers you the choice of building several versions of hobby and sport kites from the same kit. Skylinks Kite Systems give you all the necessary parts to build train kites, tandem kites, even dual line controllable stunt kites that loop and dive.

JALBERT® PARAFOIL
Super High Performance Aerodynamic Nylon Kite.

This Parafoil kite was designed by noted kite inventor Domina Jalbert for the recovery of space vehicles. This kite is ready to fly when you open the carton. No assembly required. The parafoil will fly in almost any breeze effortlessly. Colorful, water-proof nylon construction. Tails included.

PARAFOIL KITE
Ship. Wt. 1 lb.
No. 5020...$14.99

HOBBY AND SPORT KITES
Alexander Graham Bell TETRAKITES™

TETRAKITE
Features TetraKite with 4 sails.
Ship. Wt. 14 oz.
No. 5016....$9.99

SUPERTETRAKITE
Features SuperTetraKite with 16 sails, 4 kites in 1 package.
No. 5017.....$34.99

The basic design of the TetraKite was developed by Alexander Graham Bell, inventor of the telephone. Hi-Flier’s precision engineered TetraKites are constructed of waterproof polyester sail material. Design versatility allows you to create your own giant kite by combining four TetraKites to form a 16-sail SuperTetraKite.

KITE REELS AND CORD

Kyt® Reel & Cord
Revolutionary Kyt® Reel made of rugged poly-styrene, features free spinning cord feed with blocking device and easy-winding fishing reel retrieve. Easy Snap-Lok™ assembly. Three hundred feet of standard weight cord included.

Kyt® Reel & Cord
Ship. Wt. 8 oz.
No. 5030.....$4.99

CORD WINDER & CORD


CORD WINDER & CORD
Ship. Wt. 8 oz.
No. 3100....$1.00

HIGH TEST KITE CORD

30 lb. High Test Kite Cord
Ship. Wt. 6 oz.
No. 3500....$1.99

Thirty pound High Test 500 foot Hi-Lon® kite cord is light in weight yet extremely strong. Holds the biggest kites in heavy winds. Recommended for all Hi-Flier Hobby and Sport kites.
WIN $75.00 IN FREE MERCHANDISE!!
ENTER THE DESIGN OF THE MONTH CONTEST

Have an idea for an original design? Enter our Design of the Month competition today. Your design could be published in an issue of Model Rocket News. Simply follow the rules below.

1. All entries become the property of Estes Industries and cannot be returned.
2. Employees of Estes Industries and members of their immediate families are not eligible.
3. Any type of model rocketry design can be entered (rockets, boost-giders, launching or recovery devices).
4. Designs should be new, original, and different, but they also need to be workable. The goal is to develop something new that other rocketeers can build and use successfully too.
5. Entries will be judged on practicality, originality, neatness, completeness, and clarity. All designs must be submitted and proven.
6. Your design entry should include a parts list and any instructions or diagrams you feel should be included.
7. Please do not send the actual model as it cannot be returned.
8. Photos of entries are greatly appreciated, but are not required.
9. You may send as many entries as you like.

NAR/HIAA MODEL ROCKETRY SAFETY CODE

1. Construction—My model rocket will be made of lightweight materials such as paper, wood, plastic and rubber, without any metal as structural parts.
2. ENGINES—Will only use pre-loaded factory-certified model rocket engines from the manufacturer. I will not change in any way nor tamper with the performance of engines.
3. Recovery—I will check the stability of my model rockets before their first flight, except when launching models of already proven stability.
4. Launching System—The system I use to launch my model rocket must be properly controlled and self-powered and will have a on-off switch that will return to off when released. I will remain at least 15 feet from any rocket that is being launched.
5. Launch Safety—I will not let anyone approach a model rocket on a launcher until I have made sure that either the safety interlock key has been removed or the battery has been disconnected from my launcher.
6. Flying Conditions—I will not launch my model rockets in high winds, near buildings, power lines, tall trees, low flying aircraft, or under any conditions which might be dangerous to people or property.
7. Launch Area—My model rocket will always be launched from a cleared area, free of any easy to burn materials, and I will only use self-igniting recovery wadding in my rockets.
8. Jet Deflector—My launcher will have a jet deflector to prevent the engine exhaust from hitting the ground directly.
9. Launch Rod—To prevent accidental eye injury I will always place the launcher so that the end of the rod is above eye level or cap the end of the rod with my hand when approaching it. I will never place my head or body over the launching rod. When my launcher is not in use I will always store it so that the launch rod is not in an upright position.
10. Power Lines—I will never attempt to recover my rocket from power lines or other dangerous places.
11. Launch Targets & Angle—I will not launch rockets so their flight path will carry them against targets on the ground, and will never use an explosive warhead or a payload that is intended to be flammable. My launching device will always be pointed within 30 degrees of vertical.
12. Pre-Launch Test—When conducting research activities, I will conduct a pre-launch test on my rocket. I will perform at least three launches before entering the actual launching.

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

ASTRO-CAM 110
AERIAL CAMERA WITH DELTA II LAUNCH VEHICLE

SKILL LEVEL: 2
Experience the thrill and excitement of taking incredible color photographs from hundreds of feet in the sky! Astro-Cam 110's 500mm second shutter is activated at ejection giving you a spectacular aerial photograph just prior to parachute deployment. Special features include an easy-to-assemble, high-quality, high-quality acrylic lens, molded plastic housing, glass first surface mirror, and high performance aerodynamic design for minimum drag and maximum altitude. Simple to operate and shoots one crisp, clear, full-color 110 photo per flight.

Delta II launch vehicle features specially designed pre-colored plastic fin unit for consistently smooth and stable flights. Plus white body tube, quick-release engine mount and easy-to-get-into two-color kit decals with dual roll patterns. No painting required! Returns to Earth via 120 dia parachute.

Camera specifications:
- Camera Specifications: Length: 19.1” Dia. 1.34” Fin Span 4.75” Wt. 3.75 oz. Ship Wt. 14 oz.
- Camera Specifications: Length: 6.5” Dia. 1.99” Wt. 1.36 oz. (without film). Wt. 1.76 oz. (with film).
- ENGINES: B8-5, C6-5, C6-7 (1st Fl.)
- No. 1327
- $22.00
- ENGINES: launch system, film, glue and finishing supplies not included.

ASTRO-CAM 110
AERIAL CAMERA MODEL ROCKETRY OUTFIT
WITH DELTA II LAUNCH VEHICLE

Includes: Astro-Cam 110 and Delta II launch vehicle (See above). Also included are:
- Big Foot Launch System with giant two-foot print for maximum launch pad stability
- Two 36” launch rod, blast deflector plate, hand-held launch controller with constant weight, safety key, ignition button, and 15 feet of launch cable.
- Flight Pak includes three C6-7, high performance Estes Rocket Engines plus Solar Igniters and Recovery Wadding.
- Requires 4 alkaline type "D" size batteries for power (not included).
- Uses Kodak Kodacolor 110 color print film, ASA 400, or equivalent—Not included. Film and developing are available locally. Ship Wt. 3 lbs.
- ENGINES: B8-5, C6-5, C6-7 (1st Fl.)
- No. 1410
- $39.95
- Film, batteries, glue and finishing supplies are not included.
**STAR SPEEDER**  
**Skill Level:** 2  
Single place galactic fighter capable of tremendous speed and maneuverability. The Estes version sports great performance with flights over 800 feet.  
**Length:** 13.75 in  
**Dia:** 0.755 in  
**Wt:** 1.13 oz  
**Engines:** A8-3 (1st Flight), B4-4, B6-4, B8-5, C6-5  
**No.:** 1386  
**Price:** $5.25

**ASTEROID EXPLORER**  
**Skill Level:** 2  
Geological data gathering probe of the 1990’s. Probes asteroids and other large masses for ore samples. Great display model and capable of flights over 1,000 feet.  
**Length:** 16 in  
**Dia:** 0.976 in  
**Wt:** 1.09 oz  
**Engines:** A8-3 (1st Flight), B4-4, B6-4, B8-5, C6-4, C6-7  
**No.:** 1386  
**Price:** $5.00

**SPACE STATION AQUARIUS**  
**Skill Level:** 3  
Large deep space research station that carries crew of 260 to the edges of the galaxy. This big bird flies to over 800 feet and returns safely to Earth via big 18” parachute.  
**Length:** 20.75 in  
**Dia:** 0.976 in  
**Wt:** 1.84 oz  
**Engines:** A8-3 (1st Flight), B4-2, B4-4, B6-2, B6-4, C6-3, C6-5  
**No.:** 1902  
**Price:** $8.00

**NOVA SCOUT SHIP**  
**Skill Level:** 2  
Scout ship of the awesome Star Ship Nova intergalactic explorer (see page 31). Designed for planetary exploration. Flies to 900 feet.  
**Length:** 15 in  
**Dia:** 0.976 in  
**Wt:** 1.29 oz  
**Engines:** A8-3 (1st Flight), B4-4, B6-4, B8-5, C6-3, C6-5  
**No.:** 1392  
**Price:** $5.00

**SCORPIUS**  
**Skill Level:** 3  
Futuristic cruise ship for deep space exploration powered by two ion induction electrification engines. An incredible display model.  
**Length:** 15.25”  
**Dia:** 0.976 in  
**Wt:** 1.58 oz  
**Engines:** A8-3, B4-4 (1st Flight), B6-4, B8-5, C6-5  
**No.:** 1375  
**Price:** $5.50

**FALCON COMMANDER**  
**Skill Level:** 1  
Futuristic forward swept-wing spacecraft. Terrific Skill Level 1 exotic model. Can achieve attitudes up to 1,000 feet.  
**Length:** 19.12”  
**Dia:** 0.976 in  
**Wt:** 1.11 oz  
**Engines:** A8-3, B4-4, B6-4, B6-6, B8-5, C6-5, C6-7  
**No.:** 1364  
**Price:** $5.25  

*Engines, launch system, glue and finishing supplies not included. Avg. Ship. Wt.: 12 oz.*
FUTURISTIC

NASA PEGASUS
SKILL LEVEL 2 Medium range research craft for NASA missions after the Space Shuttle. Flies over 850 feet. Length: 19.76 ft, Dia: 1.325 ft. Wt: 2.36 oz.
ENGINES: B-4-3 (1st Fit), B-4-5, B-4-7, C-4-3, C-4-3.
No. 1376
$6.50

STAR SHIP NOVA
SKILL LEVEL 3 Truly awesome in appearance, this intergalactic explorer is believed to be outfitted with both conventional atomic engines and hyper-space starfight drive. Heavily armed with multiple phaser banks, photon torpedoes, and energy deflection shields, the Nova is prepared to meet any foe. The Estes version of the magnificent starship is perfect for demonstrations and really great for display. Length: 19.75 ft, Dia: 0.976 ft, Wt: 2.3 oz.
ENGINES: B-4-2 (1st Fit), B-6-2, C-5-3, C-6-3.
No. 1371
$7.50

HYPERION
SKILL LEVEL 3 Exotic new deep-space cruiser of the 22nd Century, with unique ringtail design. Dramatic flights over 900 feet and gentle recoveries via huge 18” parachute. Length: 23.4 ft, Dia: 0.976 ft, Wt: 1.76 oz.
ENGINES: A-8-3, B-4-4 (1st Fit), B-6-4, B-8-3, C-6-5.
No. 1383
$6.00

STARFIGHTER COMBO KIT
SKILL LEVEL 3
TORELLIAN INVADER
Galactic invader and primary attack fighter from the Torellian Empire. Capable of deploying Zurchronian space mines and launching photon torpedoes. Length: 20” Dia: 0.976” Wt: 1.291 oz.
ENGINES: A-8-3, B-4-2, B-4-4 (1st Fit), B-6-2, B-6-4, B-8-5, C-6-5, C-6-7.

ORION STARFIGHTER
Perimeter defense starfighter for the Orion cluster. Outfitted with white plasma energy shield and Estegan crystal engines for star-streak acceleration. Length: 20.25” Dia: 0.976” Wt: 1.115 oz.
ENGINES: A-8-3, B-4-2, B-4-4 (1st Fit), B-6-2, B-6-4, B-8-5, C-6-5, C-6-7.

ORION STARFIGHTER & TORELLIAN INVADER COMBINATION KIT
No. 1343
$11.00

Engines, launch system, glue and finishing supplies not included. Avg. Ship. Wt: 12 oz.
**VINDICATOR**
SKILL LEVEL 3: Sleek interplanetary interceptor with futuristically detailed nose cone. A really sharp display model with starlight camouflage decor. Great demonstration model with flights up to 900 feet. Length: 25.5" Dia: 1.325" Wt: 2.6 oz.
ENGINES: B4-2, B6-2, B6-4 (1st Flt.), B8-6, C6-3, C6-5.
No. 1367
$7.50

**U.S.S.F. FIREFLASH**
ENGINES: A8-3 (1st Flt.), B4-4, B6-4, B8-6, C6-5.
No. 1909
$6.50

**ADVANCED TARGET DRONE**
SKILL LEVEL 2: U.S.A.F. Target Drone used to test the surface-to-air missiles of the 21st Century. Although it looks complex, the ATD is fast and easy to build. Length: 15.5" Dia: 0.976" Wt: 1.46 oz.
ENGINES: A8-3, B4-4 (1st Flt.), B6-4, B8-6, C6-5.
No. 1913
$6.00

**STARSHIP VEGA**
ENGINES: A8-3, B4-2, B4-4, B6-2, B6-4 (1st Flt.), B8-6, C6-6, C6-7.
No. 1320
$8.75

**SCISSOR-WING TRANSPORT**
SKILL LEVEL 3: This exciting bird introduces the revolutionary new Scissor-Wing concept. Features super SST styling and high flight reliability. Capable of glide times of more than 60 seconds. Internal injection power pod features vertical stabilizer fins. Comes ready-to-assemble with die-cut parts and two-color decals. Length: 22.75" Body Dia: 0.976" Wing Span 16" Wt. w/ pod 2.5 oz. w/out pod 1.8 oz.
ENGINES: B4-2 (1st Flt.), B6-2, C5-3, C6-3.
No. 1265
$10.00

Engines, launch system, glue and finishing supplies not included. Avg. Ship: Wt. 12 oz.
MARS LANDER
SKILL LEVEL 5 Displays futuristic concept for a planetary exploration and landing vehicle. Spring-loaded landing gear simulates realistic upright touchdown. Big 18" bright orange and white canopy 'chute makes for a really great recovery sequence. Includes highly detailed body panels and colorful scale-like decals. Height: 12" Dia: 3-1/2" Landing Gear Span: 13.2" Wt: 3.0 oz. Shelf Wt: 16 oz.
ENGINES: B4-2 (1st Flt.), B6-2, C5-3, C6-3
No: 1243
$15.00

XARCONIAN DESTROYER
ENGINES: A8-3 (1st Flt.), B4-2, B4-4, B6-2, B6-4, B8-6, C5-3, C6-3, C6-5
No: 1903
$5.50

SOARING EAGLE
SKILL LEVEL 4 Estes first flex-wing glider. Goes up like a rocket, then folds wings and glides into land. Glide times up to 2 minutes. Length: 23.6" Dia: 0.976" Wt: 2.42 oz.
ENGINES: B4-2 (1st Flt.), B6-2, B6-5, C5-3, C6-3
No: 1373
$7.75

U.S.S. PLEIADES
ENGINES: Single Stage: A8-3, B4-4 (1st Flt.), B6-4, B6-5, C6-5
Upper Stage: A8-5 (1st Flt.), B4-6, B6-6, C6-7
Booster: A8-0 (1st Flt.), B6-0, C6-0
No: 1910
$6.50

ORBITAL INTERCEPTOR
SKILL LEVEL 2 Exotic short range interceptor designed for orbital patrol and larger spacecraft escort. Spectacular flights over 1,200 feet. Length: 17" Dia: 0.975" Wt: 1.5 oz.
ENGINES: 1 A26-2, A8-3 (1st Flt.), B4-4, B6-4, B8-3, C5-3, C6-5, C6-7
No: 1359
$5.00

Environments, launch system, glue and finishing supplies not included. Avg.: Shelf Wt: 12 oz.
SPACE SHUTTLE COLUMBIA
SKILL LEVEL 2
Beautiful semi-scale model of America's newest spacecraft. Assembled easily with molded plastic nose cone and orbital maneuvering system pods. Spectacular flight over 500 feet with 16 parachute recovery. Makes a great display model too!
Length: 10.7" Wing Span 8.125" Dia. 1.637" Wt. 1.98 oz.
ENGINES: A8-3 (1st Fill.), B4-4, B6-4, B6-5, C6-5
No. 1385
$7.75

SPACE SHUTTLE
SKILL LEVEL 4
Dramatic 1:162nd scale reproduction of America's newest space vehicle. Designed as a reusable near space transportation system with satellite deployment and retrieval capability. Delivers really spectacular flights. Semi-scale orbiter employs glide recovery just like the real thing while boosters and external tank return via 18" parachute recovery. Our model features special stabilizer fins for atmospheric flight which remove easily for display. Kit components include injection molded, vacuum-formed plastic and die-cut parts. Incredibly display model with authentic NASA decor.
Shuttle Length: 13.6" Dia. 2.04" Orbiter Length: 9.0"
Orbiter Wingspan 7.1" Wt. 4.37 oz.
ENGINES: C5-3 (1st Fill.), C6-3
No. 1284
$15.00
Engines, launch system, glue and finishing supplies not included in rocket kit. Avg. Ship. Wt. 11 oz.

SPACE SHUTTLE COLUMBIA
FLYING MODEL ROCKETRY STARTER KIT
SKILL LEVEL 2
Newly redesigned to include the latest technology, this starter kit features the Space Shuttle Columbia kit (see above #1385). Power-Pulse™ Launch Controller, Porta Pad launcher with blast deflector and 18" x 36" launch rod. Also included are three NAR safety certified model rocket engines, parachute recovery wadding and solar igniters - everything you need to get your Shuttle program started today.
ENGINES: A8-3 (1st Fill.), B4-4, B6-4, B6-5, C6-5
Ship. Wt. 1 lb.
No. 1433
$21.95
Requires 6 volt Polaroid® Poly-Pulse™ P-100 battery, white glue, plastic cement, paint and finishing supplies not included.

Newly Re-Designed

SPACE SHUTTLE COLUMBIA STARTER KIT
HONEST JOHN
SKILL LEVEL 3
1 1/8th scale model of the famous U.S. Army surface-to-surface, supersonic ballistic missile, one of the mainstays of the Army's atomic weapons capability. This highly detailed model uses a single 'D' engine for power and comes with pre-shaped, accurately scaled fins and molded plastic nose cone. Spectacular recovery with giant, dual 24” orange and white canopies, chutes. Great for demonstrations and perfect as an impressive display model. A 3 1/2” launch rod is recommended for best liftoff results. Length: 37” Dia. 2 0” Wt. 14 oz. ENGINE: D12-3.
No. 1268 $32.95
1 1/100th Scale

SATURN V MOON ROCKET
SKILL LEVEL 5
A truly magnificent scale reproduction of the world's most famous rocket...the mighty Saturn V. First space vehicle to carry men to the moon and most recently utilized to place Skylab in orbit around Earth. Scaled to 1 1/100th of its actual size, our model stands an impressive 43 1/2” tall. Single 'D' engine power gives this baby a spectacular Cape Canaveral style liftoff. Apollo capsule has life-like recovery with bright 12” orange and white chute. Precision molded plastic engine nozzles and Apollo capsule with escape tower give detailed authenticity. Corrugated body wraps make this one of our most precise scale models. Also includes Tech Report on clustering. Length: 49 5/8” Dia. 3 3/8” Wt. 9 9/8 oz. Ship. Wt. 3 lbs. 5 oz.
ENGINE: May be flown as a 3 engine cluster or single engine. Cluster Power: G5-3 or G6-3 (3 required). ‘D’ Power: D12-3 (1 required).
No. 1226 $39.95

PERSHING-1A
SKILL LEVEL 3
This Maxi-Brute is a true scale model of the U.S. Army's surface-to-surface ballistic missile deployed with NATO units in Europe. Our 1 1/10 scale model is a 'D' engine powered with three color decals, pre-shaped fins, and dual 24” parachute recovery. A 3 1/2” launch rod should be used for best liftoff results. Length: 41” Dia. 3 3/8” Wt. 11 5/8 oz.
ENGINE: D12-3.
No. 1268 $32.95

PHOENIX
SKILL LEVEL 3
Big semi-scale model of the famous Phoenix air-to-air supersonic missile. Impressive in the air and on display. Single ‘D’ powered engine provides slow, realistic liftoff and flights over 600 feet. Length: 30” Dia. 2 60/” Wt. 6 6/8 oz.
ENGINE: D12-3 (1st Flt.)
No. 1380 $11.00

Engines, launch system, glue and finishing supplies not included. Avg. Ship. Wt. 32 oz.
Cruise Missile
SKILL LEVEL 4
Designed to be launched from a large aircraft like the Lockheed C-5 Galaxy or the B-52 Bomber, the Cruise Missile can deliver a nuclear warhead with pinpoint accuracy to its target. The Estes 1/8-scale version of this vehicle is a challenging model with blow-molded plastic body, die-cut plastic fins & wings, and injection molded plastic parts. Also included is a 4-color decal sheet, 12” chute, and wings that swing out for display. Length: 12.3” Wing Span 7.75” Wt: 2.79 oz.
ENGINES: A8-3, B4-4 (1st Flt.), B6-4, B9-5, C6-5
No. 1336 $11.00

Sea Dart
SKILL LEVEL 2
Semi-scale model of the British Aerospace Sea Dart surface-to-air missile. Used successfully in the Falkland’s battles. Flights over 800 feet on a C engine. Length: 16.5” Dia: 1.325” Wt: 1.7 oz.
ENGINES: A8-3 (1st Flt.), B4-4, B6-4, C6-5
No. 1301 $6.00

Nike-X
SKILL LEVEL 2
ENGINES: A8-3 (1st Flt.), B4-4, B6-4, B8-5, C6-5
No. 1270 $7.50

Sandpiper
SKILL LEVEL 2
Semi-scale model of actual target drone. Impressive in the air and on display. Spectacular flights over 900 feet. Length: 14.3” Dia: 0.976” Wt: 1.0 oz.
ENGINES: A8-3 (1st Flt.), B4-4, B6-4, B8-5, C6-5
No. 1389 $5.50

SAM-4
SKILL LEVEL 2
Scale-like surface-to-air missile with two-stage appearance. Excellent flights to 900 feet. Length: 18.2” Dia: 0.976” Wt: 1.1 oz.
ENGINES: A8-3, B4-2, B4-4 (1st Flt.), B6-2, B6-4, B9-5, C5-3, C6-3, C6-5
No. 1357 $5.50

Engines, launch system, glue and finishing supplies not included. Avg. Ship. Wt. 12 oz.
**MAXI ALPHA 3**
SKILL LEVEL 2 Very easy-to-assemble giant scale version of one of our most popular kits. Can be ready-to-launch in approximately 30 minutes. Features new press-fit plastic fin unit, plus plastic nose cone. "D" engine powered for truly spectacular flights up to 500 feet. Perfect for demonstrations. No painting required! Uses 3 1/8" launch rod. Length: 33 1/2" Dia. 2 1/2" Wt. 7.4 oz.
ENGINES: D12-3 (1st Flt.), D12-5, No. 1321 $15.00

**SKYBOLT**
SKILL LEVEL 2 Super "D" engine powered high performance sport model. Spectacular flights over 1,000 feet plus dramatic recovery with 90' streamer. Easy-to-assemble and finish. Length: 23" Dia. 1 3/4" Wt. 1.75 oz.
ENGINES: D11-9, D12-7 (1st Flt.), No. 1934 $5.75

**CHEROKEE-D**
SKILL LEVEL 2 Sleek and powerful "D" engine rocket that will practically sail out-of-sight. Big 18'' chute brings it down safely high-altitude flight. A really beautiful model for your first "D" powered kit. Length: 21 5/8" Dia. 1 35/32" Wt. 2.75 oz.
ENGINES: D11-9, D12-5 (1st Flt.), D12-7 No. 1247 $7.00

**CHALLENGER - II**
SKILL LEVEL 2 High performance "D" engine powered sport model. Easy-to-assemble and fly in less than one hour. No painting required with black plastic fin unit, yellow nose cone, and pre-colored white body tube. Recommended high altitude launch vehicle for the Astro Cam 110 Aerial Camera. (See page 33) Takes fantastic aerial photos from over 1,200 feet. (Astro Cam 110 Camera not included.) Length: 24 1/8" Dia. 1 31/8" Wt. 3.0 oz.
ENGINES: D11-9, D12-7 (1st Flt.) No. 1330 $8.65

Engines, launch system, glue and finishing supplies not included. Avg. Ship. Wt. 12 oz.
SCRAMBLER: 2
SKILL LEVEL 3  D' powered payloader for those fragile biological payloads. Try launching a fresh egg! Flights over 1,000 feet. Length: 25.4" Body Dia: 1.32"
Payload Dia: 1.64" Wt: 3.2 oz.
ENGINES: D12-5
NO: 1908
$8.95

MEAN MACHINE
Length: 78.75" Dia: 1.637" Wt: 5.8 oz.
ENGINE: D12-5
No: 1295
$11.50

COLOSSUS
SKILL LEVEL 2  Huge addition to our Maxi-Brute fleet. Over 4 feet long with big plastic nose cone and press-fit plastic fin unit. Quick and easy-to-assemble. Really spectacular! D' powered flights with slow, realistic liftoff. No painting required! Uses 3.16" launch rod.
Length: 51.25" Dia: 2.6" Wt: 9.52 oz.
ENGINE: D12-3
No: 1326
$24.00

MAXI STREAK
SKILL LEVEL 2  High altitude "D" powered version of the famous Estes Streak. Delivers flights over 1,300 feet and returns via huge 90" streamer recovery. Length: 13.1" Dia: 1.637" Wt: 1.76 oz.
ENGINES: D11-9, D12-5, D12-7 (1st Fit.)
No: 1387
$4.75

Engines, launch system, glue and finishing supplies not included. Avg Shp. Wt. 15 oz.
SKY RAIDER
SKILL LEVEL 2 Flights up to 1,500 feet are possible with this big "D" engine powered payloader. Great sports model with large payload section. Length: 32.75" Dia. 1.335" Wt. 2.39 oz.
ENGINES: D12-5, D12-7 (1st Fst.), C6-5 (with EM-2050 adaptor not included. See page D).
No. 1290
$7.80

SEA STRIKE "D"
SKILL LEVEL 3 Scale-like ship-to-air missile with two-stage super "D" engine power. High performance design for incredible 1,800 foot flights. Realistic military appearance. Features tumble recovery booster and 12" parachute recovery for the upper stage. Length 31" Dia. 1.34" Wt. 3.25 oz.
Upper Stage: D11-9, D12-7;
Booster Stage: D12-0.
No. 1332
$8.75

MACH-2
SKILL LEVEL 2 Experimental sounding rocket design. This bird is easy-to-assemble and mighty "D" engine powered for flights over 1,000 feet. Length: 25.5" Dia. 1.637" Wt. 3.6 oz.
No. 1379
$7.00

MAXI ICARUS
SKILL LEVEL 2 Huge super "D" engine powered payload model with large see-thru cargo section. Delivers spectacular flights over 1,000 feet. Over 8 cubic inches or up to 80 grams of payload capacity. Length: 29.75" Dia. 1.643" Wt. 3.2 oz.
ENGINE D12-5
No. 1331
$11.00

Engines, launch system, glue, and finishing supplies not included. Avg. Ship. Wt. 12 oz.

Photos pages 8, 9, 52 & 53 courtesy Lick Observatory.
All other background photos courtesy NASA.
Special effects photography by Charles Webb
POWER-PULSE™ LAUNCH CONTROLLER

Slim line, futuristically designed launch controller uses revolutionary new 6 volt, Polaroid® Polapulse™ P100 battery. Super thin, space age battery allows for perfect hand-held styling and delivers consistent ignition performance for more than 150 launchings.

Made of rugged styrene plastic, the Power-Pulse launch controller features safety key, arming light, and launch button, plus 15 feet of launch cable and pre-soldered micro-clips. Very easy-to-assemble and is small and compact for range box storage. Battery can be instantly removed from launch controller for use in other electronic devices. Use with Estes Solar Igniters (#2301) (Battery Not Included).

This launch controller of tomorrow features state-of-the-art technology. It's a must for every rocketeer, so make the Power-Pulse a part of your launch equipment today!

Length: 4-7/16"  
Width: 3-7/8"  
Depth: 15" to 1-13/16"  
Ship Wt.: 12 oz.

No. 2210  
Only $9.95

Polaroid® Polapulse™ P-100 Battery

Revolutionary new, super thin, high performance, 6 volt battery. Measures only 3.7" high by 3" wide by 0.18" thick, yet packs the power for more than 150 launchings. Use with Power-Pulse Launch Controller (No. 2210) and Solar Igniters (No. 2301).

Ship Wt.: 4 ounces

No. 2211  
Only $3.25 ea.

PORTA-PAD LAUNCH PAD

NEWLY Re-designed

Now re-designed for increased stability, the Porta-Pad is rugged enough to take the stress of countless launches, even with the big Estes "D" engines, yet it is lightweight and compact enough for easy carrying and storage. Strong, girder construction allows for launching all Estes rockets. Accommodates standard 1/8" rod (#2243) or heavy-duty 3/16" Maxi-Rod (#2244). Tilt adjustment allows you to compensate for wind direction. Ship Wt.: 1 lb. 6 oz.

No. 2217  
ONLY $9.50

The Power-Pulse™ Launch Controller (#2210), the Solar Launch Controller (#2300) or the Astron Launch Control System (#2212) are the recommended launch control systems for use with the Porta-Pad (#2217).

Big Foot™

"Designed for the Big Ones!"

MODEL ROCKET LAUNCH CONTROL SYSTEM

The Estes Big Foot launch control system is capable of launching all Estes models including Maxi-Brutes. Futuristically designed launch platform features rugged plastic construction and enormous "two-foot-print" for maximum launch pad stability. Includes blast deflector plate, 1/8" x 36" two-piece launch rod, adjustable swivel mount to compensate for wind direction which is adaptable to either 1/8" or 3/16" launch rods, and has legs which remove easily for compact storage. This launch control unit is engineered for simple, quick assembly and features safety key, continually check light, ignition button and 15 feet of launch cable. (Uses 4 alkaline type, "D" cell batteries and Estes Solar Igniters #2301—Not Included.) Ship Wt.: 2 lbs.

No. 2208  
$22.95

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**SOLAR LAUNCH CONTROLLER**

The Solar Launch Control System should be the standard equipment in your range box. This futuristic, specially designed launch control unit requires only 4 alkaline type AA-size batteries to operate. Advanced shape allows for perfect hand-held control. Unit is easily assembled in minutes and features safety key, continuity check lamp, ignition button, and 15 feet of lightweight launch cable. System is constructed of durable “non-breakable” plastic. Micro-clips are included. Use with Estes Solar Igniters (#2301). (Batteries not included.) Length: 6 1/4" Ht. 2 1/4" Width: 1 1/4" Wt. (with batteries) 7 oz. Shp. Wt. 8 oz.

No. 2300
$11.00

**Launch Supplies**

1/8" DIA. TWO-PIECE LAUNCH ROD: Handy collapsible two-piece rod for portable launchers. Pieces slip together to make a 3" long rod. Base rod has a diameter of 1/8". Includes Safety Cap & Key. Ship. Wt. 6 oz.

No. 2243
$2.25

ADD-ON ROD: Sturdy 1/8" diameter, 18" long launch rod section expands two-piece rod to 54" length. Ship. Wt. 6 oz.

No. 2236
$5.00


No. 2244
$3.50

MICRO-CLIPS: Easiest way to launch with the best. Spring-loaded solid steel clips connect lead wires to igniters. Easy-to-clean and highly conductive with flat contact surfaces. Only 1 1/4 inches long. Attach to leads with or without solder. Ship. Wt. 1 oz.

No. 2247
2 for $1.95

**PHANTOM**

Educational, See-Thru Rocket with Recovery System, 10" Parachute, Engine Mount, and Cut-Away Engine!

Perfect static demonstration model for workshops and presentations. Shows all internal components of a model rocket plus special cut-away version of C6-5 model rocket engine. Ideal for displays and exhibits.

Length: 12.6" Dia. 0.976" Wt. 1.35 oz. Ship. Wt. 3 oz.

No. 1207
$5.00

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**MODEL ROCKETRY’S MOST ADVANCED LAUNCH SYSTEM**

**Altitrak™ Altitude Finder**

Skill Level 1

Track your rocket to the top of its flight and instantly lock in its altitude on the “new” Altitrak altitude finder. Displays exact model rocket altitude on metric scale — no guessing! (Conversion table included for feet.) A precision instrument made of durable plastic. Easy-to-assemble and looks like futuristic laser pistol. How high did it go? Now you’ll know! Ship. Wt. 15 oz.

No. 2232
$7.50

**HOW HIGH DID IT GO?**

**EMERGENCY REPAIR KIT**

A must for every range box. Features many essential materials for “on-the-spot” repair of your model rockets. Ship. Wt. 9 oz.

No. 9015
$2.25

Includes:

- Sandpaper
- Screw Eyes
- White Glue Packet
- Launch Rod Safety Cap
- Universal Safety Key

**Predicted Altitude Computer**

The Estes Pocket Size Altitude Computer enables any rocketeer to predict his model rocket’s altitude in a matter of seconds. Just move the center slide in a simple procedure for fast, accurate results. Three color calculator comes complete with instructions. Ship. Wt. 3 oz.

No. 2233
$2.25

**BATTERY CLIPS**: Hook-up to car batteries. Heavy-duty clips connect to terminals up to 1" in dia. With insulators. Ship. Wt. 5 oz.

No. 2245
2 for $1.50

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FUTURISTIC PARTS ASSORTMENT
Create your own interplanetary voyagers and space fighters with this selection of science-fiction-style parts. Ideal for the creative designer. Over 50 parts! Includes special exotic fin patterns and design ideas sheet. Ship. Wt. 2 lb.

No. 1465 $24.95

FIN ALIGNMENT GUIDE
Position and glue fins quickly and easily. Fits body tubes up to BT-101. Designed for either 3 or 4 finned rockets, aligning fins at 90° or 120° to each other. Easily assembled with slip-together plastic parts. Adjusts quickly with plastic fin position clips. Ship. Wt. 3 lbs.

No. 2231 $8.25

Model Rocket Engines
Graphic explanation of a model rocket engine's basic construction and functions.

Reliability-Proven In Over 200 Million Safe Launchings!
Quality-Tested For High Performance Flights!
The Finest Engine Made...
You Can Depend On It... For Every Flight Application!!

The design and development of the Estes model rocket engine was the real beginning of the safe, recreational and exciting hobby that model rocketry has become.

Today's modern rocket engine is the result of over 25 years of engineering efforts at Estes Industries. Consequently, today's rocketeer has dependable, safety-proven engines for his use.

The energy-packed, solid propellant Estes model rocket engine is a complete power system for your rocket. It is designed and pre-manufactured to perform all power functions for dependable launch and activation of a recovery system. In one compact package it provides thrust for quick lift-off and acceleration to high altitudes, allows for a timed delay period to reach peak altitude while delivering a smoke trail for easy tracking, and supplies ejection power for the parachute or other recovery system for your rocket's safe return to Earth.

Reliability-proven in over 200 million launchings. Estes engines are manufactured under strict, quality-controlled conditions within exacting tolerance limits. You can count on them for consistent performance from one launch to the next. You'll launch with confidence in all your model rocketry activities.

More than 3% of all Estes model rocket engines produced are static tested to ensure rocketyness of the highest performing, most reliable model rocket engines made. Here, an Estes employee static tests an engine for optimal performance and safety in the advanced Estes engine testing facility.
### ROCKET ENGINE SELECTION CHART

**MIGHTY "D" ENGINES** Recommended Only for Experienced Rocketeers!

**SINGLE STAGE ENGINES**
- **1592** A2-2-5 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1597** A2-2 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1597** B2-2 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1597** C2-2 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1597** C2-3 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1597** C2-4 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1597** C2-5 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1597** C2-6 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1597** C2-7 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93

**UPPER STAGE ENGINES**
- **1594** C2-2 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1594** C2-3 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1594** C2-4 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1594** C2-5 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1594** C2-6 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1594** C2-7 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93

**BOOSTER ENGINES**
- **1594** A2-2 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1594** A2-2-3 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1594** A2-2-4 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1594** A2-2-5 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93

**MINI-ENGINE SELECTION CHART**

**SINGLE STAGE ENGINES**
- **1593** A2-2-5 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1598** C2-2 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1598** C2-3 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1598** C2-4 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1598** C2-5 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1598** C2-6 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1598** C2-7 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93

**UPPER STAGE ENGINES**
- **1594** C2-2 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1594** C2-3 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1594** C2-4 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1594** C2-5 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1594** C2-6 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93
- **1594** C2-7 $4.15 4.4 oz. 4.48 20.0 3 sec. 14 oz. 9 lb. 1.70 sec. 1.49 42.2 $0.79 24.93

**RECOVERY WADDING**
- Provides protection from hot ejection gases for parachutes and streamers. Each package contains approximately 75 4-1/2" squares — enough wadding for up to 25 flights. Instructions for installation are included in each package. Ship. Wt. 6 oz.

**ASTRON IGNITERS**
- Easy to use for reliable ignition every time. Recommended for launch systems using 6 or 12 volt car batteries or 12 volt lantern batteries. (Patent No. 3,863,559). Not recommended for Solar Launch Controllers (#2300), Big Foot Launch Control System (#2208) or Power-Pulse Launch Controller (#2210). Ship. Wt. 1 oz.

**BLAST-OFF FLIGHT PAK**
Recovery Supplies

PARACHUTE KITS: Get the best in parachute recovery! Two-color printed plastic chutes give maximum visibility with easy-rak design. Lightweight, durable and easily folded. These chutes are 0.0075" thick, allowing the most material to be packed into the least body space. Each kit comes complete with chute material, tape discs, and shroud lines. Shipped in 2 oz.

SHOCK CORD: Specify width when ordering. Shipped in 1 oz. 1/8" wide: Net Wt. 0.035 oz. No. 2276 1/4" wide: Net Wt. 0.078 oz. No. 2277 Also 36" long for greater stretch on these larger birds. 1/8" wide: Net Wt. 0.078 oz. No. 85744

TAPE STRIPES: For top strength, low bulk and low weight, multi-strand lines in sheets of 16 strips. Shipped in 2 oz.

TAPE DISCS: Fasten shroud lines to plastic parachutes or streamers with these 3/8" diameter, pressure sensitive Tape Discs. Shipped in sheets of 6 discs. Shipped in 2 oz.

SHROUD LINES: Build reliable, custom parachutes with this strong, hard surface shroud line cord. Comes in 70 yard spools. Shipped in 5 oz.

TAPE: For these durable, easy-to-cut tapes, Shipped in 5 oz.

STREET MATERIAL: Bright orange, flame-resistant crepe paper streamers. In 3/8" x 1/2", foot lengths, enough for two to eight streamers, specify size when ordering. Shipped in 1 oz. 1" wide: Net Wt. 0.04 oz. No. 2281 2" wide: Net Wt. 0.18 oz. No. 2341 4 oz. 6 oz. 2 oz. 2 oz.

SNAP SWIVELS: For quick changes and reduced tangle in your recovery systems, use these tiny 1" long stainless steel swivels. Net Wt. 0.01 oz. Shipped in 3 oz. 1 oz. No. 2282 1 oz. 1.70 oz.

SCREW EYES: Specify size when ordering. Shipped in 2 oz. for 6 screws.

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SIZZLER
Flying Model Rocketry
Starter Kit

SKILL LEVEL 1

Includes the new 23 inch long Sizzler model rocket kit featuring parachute recovery and flights over 900 feet. Also included is the Big Foot™ Launch System with big “two-foot-print” imprint for maximum launch pad stability. Includes blast deflector plate, 1/8” x 36” two-piece launch rod, adjustable swivel mount to compensate for wind direction which is adaptable to either 1/8” or 3/16” launch rods, and has legs which remove easily for compact storage.

(Uses 4 alkaline type “D” cell batteries - not included).

Flight Pak includes three NAR safety certified model rocket engines, parachute recovery wadding and Solar Igniters.

Ship. Wt.: 2 lbs.
ENGINES: A8-3 (1st Flt.), B4-4, B6-4, C6-5.

No. 1432 $18.95

(REQUIRES 4 alkaline type “D” cell batteries, glue and finishing supplies - not included.)

ESTES INDUSTRIES
PERROSE, CO 81240 USA

PN 2860