Discover Estes Model Rocketry!

A Personal Message From Vern Estes

Welcome!

You may not have thought of it, but the men and women involved in the American and Soviet space programs -- particularly the Astronauts -- are among the greatest scientists the world has ever produced. They have to be expert in rocketry, aeronautics, astronomy, navigation, physics, geology, biology, electronics, and medicine.

The very best time to learn about rocketry is when you are young. And there is no better way than by building your own Estes flying model rockets. You'll discover in no time that you'll be familiar with the technology, the jargon, and the physics of space flight.

What's more, in some cases you'll be way ahead of NASA! For example, on page 38 of this catalog you'll find a flying model of the new Space Shuttle. The actual vehicle was rolled out for public display September 15, 1976. The Estes model -- an incredible recreation that lets you recover the boosters and external tank via an 18" recovery 'chute, while the orbiter glides back to earth -- was in stock and flying long before the NASA rollout. And our sleek Andromeda on page 32, which has been flying for us for several years, is but a gleam in the eyes of some futurists.

Someday it could be you standing on the surface of the moon looking out into space at an "Earthrise"... or on the red, rocky terrain of Mars where no earthling has ever been before. And if your name should be added to the list of great pioneers of manned flight -- the Wright brothers, Bieriot, Lindbergh, Richard Byrd, John Glenn, and Neil Armstrong -- you can look back with pride at where you got your start -- in the exciting world of Estes model rocketry!

Sincerely,

Vern Estes

PARENTS: Last Summer A Young Rocketeer Made The 100 Millionth Launch Of An Estes Model Rocket... So You Are Assured This Is One Of The Safest Hobbies In America, As Well As One That Is Tremendously Educational!
HERE'S HOW TO USE YOUR ESTES CATALOG.

1. Name of the kit.
2. Skill Level number recommends the general skill 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.
3. Special features and additional kit information.
4. Specifications including length, diameter, and weight, in both English and Metric Equivalents, plus shipping weight for the kit.
5. Recommended engines for flying the rocket. Engines are listed from least powerful to most powerful. Also, indicates which engine should be used for the first flight.
6. Catalog number for kit which should always be used when ordering.
7. Price of the kit.
8. The background color on each page reflects the appropriate Skill Level color for the kits shown. (See chart below)

All kits in this catalog are grouped by Skill Level.

SKILL LEVELS

All model rocket kits in this catalog require assembly unless otherwise indicated. Some of these flying model rockets can be put together and be ready to launch in minutes. Others with their sophisticated aerodynamics and wealth of detail are more challenging. The Skill Level numbers given in each kit description recommend 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. For further information, refer to the chart below.

<table>
<thead>
<tr>
<th>Skill Level No.</th>
<th>Description</th>
<th>To Be Built By</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Very Simple</td>
<td>Beginning Rocketeer</td>
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<tr>
<td>2</td>
<td>Fairly Easy</td>
<td>Intermediate Rocketeer</td>
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<td>3</td>
<td>Average</td>
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<tr>
<td>4</td>
<td>Challenging</td>
<td>Advanced Rocketeer</td>
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<tr>
<td>5</td>
<td>Extremely Challenging</td>
<td>Expert Rocketeer</td>
</tr>
</tbody>
</table>

Most model rocket kits are constructed of light-weight hobby materials such as balsa wood, paper tubing and plastic. This diagram shows basic components found in most model rocket kits. Model Rocketry is recommended for ages 10 to adult. Adult supervision is suggested for those under 12 years of age.
NEW!

"THIS IS WHERE TO BEGIN"

Challenger-1
Flying Model Rocketry
Starter Kit

Everything you need for lift-off in less than 30 minutes! Very Easy-To-Assemble!(less 6-volt lantern battery and glue)

Here's What's Included In Your Starter Kit:

1. CHALLENGER-1 ROCKET
Sleek white body that requires no painting, easy-to-assemble with quick-release engine mount.

2. FIN UNIT
Bright orange plastic, all in one piece.

3. DECALS
Incredibly realistic, water soluble, easy to apply.

4. NOSE CONE
Bright orange, simple two-piece plastic construction.

5. RECOVERY PARACHUTE ASSEMBLY
Includes brightly-colored 12" chute (easy to spot from earth!), shroud lines, and shock cord plus all mounting materials.

6. CHALLENGER-1 LAUNCH CONTROL SYSTEM
Futuristically designed with ignition launch button... safety interlock key... and specialarming lamp for testing to see that all systems are "GO." Also included: light-weight launch cable with micro-clips which attach to Solar Igniters for reliable rocket ignition.

7. LAUNCH ROD
1/8" x 1 yard tall to guide your CHALLENGER-1 straight up into space.

8. MINI-BLAST DEFLECTOR
Just like the real thing at Cape Canaveral. Protects your launch pad from the rocket's blast.

9. POWER CAP
Fits easily on a 6 or 12-volt lantern battery, and serves as combination power source and launch pad. (Battery not included with kit.)

10. RECOVERY WADDING
Heat-resistant wadding to protect the recovery 'chute from the engine's ejection gases. (Important: Never substitute ordinary paper or tissue for this heat-resistant recovery wadding!)

11. BEGINNERS TECH MANUAL
A new publication featuring a variety of model rocketry data, so you can get started right!

12. THREE NAR SAFETY-CERTIFIED ROCKET ENGINES
Will send your CHALLENGER-1 hundreds of feet straight into the sky, then when it reaches apogee, it will separate the nose cone from the body which releases the recovery 'chute, and the entire vehicle will come floating gently downward, ready for another launch. (NOTE: Your CHALLENGER-1 can also accommodate more powerful rocket engines - the B-6-4 which will take it to over 750', and even the C-6-5, which will send it shooting up over 1,000'.)

13. SOLAR IGNITERS
The current from the battery passes through the micro-igniter clips to the igniters which create rocket engine ignition necessary for blast-off.

Costing only $9.95, this kit is a great introduction to model rocketry.

Imagine this: A launch pad in the middle of an empty field - a lot. On it is a slender Challenger-1 model rocket - poised for take-off, the sunlight gleaming on its realistic markings and insignia.

Suddenly, there's an eruption! A powerful blast from the tail shoots your Challenger-1 rocket straight up nearly a thousand feet in the air with a great Whoosh! Now it's a speck in space, high, high above, when suddenly... "There it is!" The recovery 'chute is deployed! A brightly colored parachute appears, and your Challenger-1 rocket floats gently back to Earth - just like the real thing!

Your CHALLENGER-1 kit features quick-finish decor, no painting required, and it can attain attitudes of up to 1000'!
The Perfect Model Rocketry STARTER KIT

Complete with everything you need to lift-off in minutes. (less 12-volt lantern battery and glue).

Right out of the future! Here's power...beauty...design — all fused into a neat, sleek starter kit that's easy to assemble, with no painting required.

While you'll want to use lower powered engines on your first flight, your STAR TREK rocket will take our higher powered engines, that will send it streaking skyward to over 1,000'. You'll almost hear Captain Kirk giving the orders while Spock scans the banks of instruments in preparation for return to Earth via the multi-colored 12' Recovery chute.

KIT INCLUDES:
1. Star Trek rocket that requires no painting with easy-to-assemble engine mount.
2. Fin unit of brightly colored plastic.
3. Decals of yellow and red for body and fins that simply press on.
4. Nose Cone of rugged plastic.
5. Recovery Parachute Assembly that features spectacular 12' orange-and-white striped 'chute, shroud lines and shock cord, plus all mounting materials.
6. STAR TREK Launch Control System, futuristically designed to include launch button, safety interlock key, special arming lamp for test firing, safety retardant, lightweight launch cable and micro-igniter switches.
7. Launch Rod 36' tall x 1/8' diameter to guarantee a straight, true lift-off every time.
8. Mini-Blast Deflector to protect your launch system at blast-off.
9. Power Cap of high-impact plastic to fit easily on 6- or 12-volt lantern battery to serve as combination power source and launch pad (12 volt lantern battery not included with kit).

STAR TREK FLYING MODEL ROCKETRY STARTER KIT
Cat. No. 1418 ....... ONLY $9.95

THE ALPHA III STARTER KIT

Includes the Space-Age Designed PORTA-PAD and heavy duty SOLAR LAUNCH CONTROLLER!

If you intend to make a real hobby of Estes Model Rocketry, this ALPHA III Starter Kit gives you immediate flexibility, because you'll be able to use this launch system with a standard 1/8' launch rod for most rockets, and a 3/16' maxi-rod for the giant "D" powered flying model rockets like the unbelievable Maxi-Bruises that stand more than 3' tall (see page 40 - 42).

If you intend to make a real hobby of Estes Model Rocketry, this ALPHA III Starter Kit gives you immediate flexibility, because you'll be able to use this launch system with a standard 1/8' launch rod for most rockets, and a 3/16' maxi-rod for the giant "D" powered flying model rockets like the unbelievable Maxi-Bruises that stand more than 3' tall (see page 40 - 42).

KIT INCLUDES:
1. ALPHA III Rocket with rugged bright plastic one-piece head unit and nose cone.
2. Realistic Decal sheet with water soluble decals for easy application.
4. PORTA-PAD launch platform of heavy duty plastic with strong gerber construction, yet easy to disassemble and extremely portable. Features 36' long x 1/8' diameter standard launch rod.
5. Blast Deflector Plates to protect the Porta-Pad.
6. SOLAR LAUNCH CONTROLLER extremely lightweight and futuristically designed, requiring only 4 alkaline AA batteries for ease of transport. (not included)
10. Alpha Book of Model Rocketry, the complete beginner's tech manual and guide.

1 lb. 2 oz.

Shipping wt. 3 lbs.
Cat. No. 1406

ONLY $12.95

THIS KIT if sold separately Would Cost Approximately $16.35. YOU SAVE $3.40

For full description of major items in this kit see: Alpha III (p. 13), Porta-Pad (p. 47), and Solar Launch Controller (p. 46).

(Not included: glue, paint, batteries, and modeling tools.)
DELUXE STARTER OUTFIT

Virtually everything you need to get started in Estes Model Rocketry in a big way. Includes Alpha Rocket, Sophisticated Porta-Pad and Solar Launch Control System, Paint, Hobby Knife, Alpha Book of Model Rocketry...

At one low price, you get everything needed for assembly, finishing, lift-off, and recovery. Included is the girder designed Porta-Pad Tripod Launcher with blast deflector plate which you can use for all Estes flying model rockets, including the giant Maxi-Brutes (see pages 40-42) with their mighty "D" engine powerplants. The Solar Launch Control System, futuristically designed to be used with just 4 tiny AA alkaline pen light batteries, so you are no longer locked into lugging an unwieldy 6v or 12v battery to the launch site... and the Alpha Rocket, the perfect beginner kit which will teach you in no time how to work with wood, glue, saw, and paint—techniques you must acquire before you can move on to higher skill levels and more complex and exciting vehicles... plus a safety-designed retracting hobby knife, glue, paint, thinner, sandpaper, brush.

KIT INCLUDES:
1. Alpha Rocket (see page 12).
2. Complete Porta-Pad Tripod Launcher (see page 47).
3. Solar Launch Controller (see page 48).
5. Three NAR Safety Certified Rocket Engines to guarantee you flights of hundreds of feet and more. (With more powerful engines later on, your Alpha can attain altitudes of over 1,000 ft.)

7. Solar Igniters for rocket engine ignition.
8. Construction and Finishing Supplies including hobby knife, sandpaper, glue, paint, thinner, and brush.
9. Alpha Book of Model Rocketry for all-around information and ideas on Estes model rocketry. (Page 62)

Shipping weight 3 lbs. 1 oz.

Super-Complete, DELUXE STARTER OUTFIT
Cat. No. 1407... ONLY $13.95

NO BUILDING... VERY LITTLE ASSEMBLY REQUIRED!

GET A ROCKET INTO SPACE QUICKER & EASIER THAN WITH ANY OTHER STARTER KIT!

THE IDEAL BEGINNER'S OUTFIT FOR FATHER AND SON. COMES COMPLETELY READY-TO-FLY IN 15 MINUTES. (LESS BATTERIES.) ALL PLASTIC SNAP-TOGETHER CONSTRUCTION FOR EASY, QUICK ASSEMBLY.

Features Everything you need to Lift-off TODAY!
Get the most out of model rocketry....

Join the ESTES aerospace CLUB today!

The most exciting hobby on Earth is even more fun when you are a member of the most exciting rocket club on Earth — The Estes Aerospace Club.

As soon as you join, you'll receive your own special EAC membership kit which includes the following exciting items:

**VIPER ROCKET** — Special kit designed exclusively for members of the Estes Aerospace Club. Features sleek styling, parachute recovery, and Mini-Brute power for maximum high performance.

**MEMBERSHIP CERTIFICATE** — Handsome membership certificate suitable for framing.

**CLUB EMBLEM** — Official iron-on patch with EAC insignia for tee shirt or jacket.

And as you progress to higher skill levels, you'll receive additional iron-on “thrust bars” signifying your achievements.

**DECAL SHEET** — Special EAC rocket decals to identify your models as part of the EAC fleet.

**RANGE BOX STICKERS** — Bright, multipurpose stick-ons for your range equipment.

**EAC STATIONERY** — Distinctive rocketeer stationery for your most important notes and letters.

**MODEL ROCKETRY TECHNICAL MANUAL** — Includes information on construction techniques, finishing, stability, tracking, recovery systems, multi-staging, and boost gliders, plus many other subjects.

**COPY OF MODEL ROCKET NEWS** — Features free plan designs, technical articles, cartoons, contests, construction hints, rocketeer contributions, special projects, and much, much more.

**EAC PRODUCTS BULLETIN** — Special club flier featuring outstanding offers for EAC kits, parts and accessories, rocket plans and technical publications which are available ONLY to members.

Membership in the Estes Aerospace Club opens up a whole new world of exciting model rocket activities. Your EAC Membership Kit is just the beginning.

You'll be eligible to participate in special projects and exciting contests open only to EAC members — many of them involving valuable prizes. As an official EAC club member you will be eligible for exclusive kits and special product offers. You'll have the opportunity to be selected as a member of the EAC Advisory Board which will suggest new product ideas to Estes Industries.

Further details on all these exciting programs and club services will be included with your EAC Membership Kit. Your EAC membership will remain in effect for as long as you remain an active Estes rocketeer.

Ship. wt. 9 oz.
Cat. No. 1447
EAC Membership ONLY $3.00

JOIN NOW! BECOME AN EAC ROCKETEER TODAY!!

Simply check the EAC membership box on your catalog order form and include $3.00

THRUSTR BAR ACHIEVEMENT PROGRAM

**SKILL LEVEL ONE**
BEGINNER/NEW EAC MEMBER

**SKILL LEVEL TWO**
INTERMEDIATE ROCKETS

**SKILL LEVEL THREE**
CRAFTSMAN ROCKETS

**SKILL LEVEL FOUR**
ADVANCED ROCKETS

**SKILL LEVEL FIVE**
EXPERT ROCKETS

**Alpha**

Skill Level 1

The ideal kit for your first or second rocket. Swept fin design makes it a really great performer. Balsa nose cone and fins, quick-release engine mount, and 12" parachute recovery.

**Specifications**

- Length: 12.25" (31.1cm)
- Diameter: 0.976" (24.8mm)
- Weight: 0.8 oz. (23 g)
- Shipping wt: 5 oz.
- Recommended Engines: 1/2A6-2, A8-3 (First flight)
- B6-4, C6-5

Cat. No. 1225 ........... $2.25

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**Big Bertha**

Skill Level 1

Perfect kit for a "big" second rocket. Ideal for demonstration launches. Slow, realistic lift-off for really spectacular flights. 24" from nose to tail, quick-release engine mount, and giant 18" parachute recovery make it a real favorite of rocketeers.

**Specifications**

- Length: 24" (61cm)
- Diameter: 1.637" (41.6mm)
- Weight: 2.2 oz. (64 g)
- Shipping wt: 11 oz.
- Recommended Engines: A8-3, B4-2, B6-2 (First flight)
- B6-4, C6-5

Cat. No. 1223 ....... $4.00

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**SCOUT**

Estes Industries’ first model rocket.

Skill Level 1

Originally developed in 1959, the Scout is still a super popular kit among rocketeers. Now our most historic rocket, it is sure to become a real collector’s item. Teaches you elementary balance and design principles. Sleek lines and tumble recovery for really exciting flights.

**Specifications**

- Length: 7" (17.8cm)
- Diameter: 0.765" (19.4mm)
- Weight: 0.3 oz. (9 g)
- Ship wt: 2 oz.
- Recommended Engines: 1/2A6-2 (First flight)
- A6-3, B6-4, C6-5

Cat. No. 1201 ...... $1.25

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**Alpha III**

Skill Level 1

Another great first or second kit. Plastic nose cone and fin assembly make for easy, quick assembly. This rocket well-delivers outstanding performance after flight. Roll pattern decal, quick-release engine mount and 12" parachute are features.

**Specifications**

- Length: 12.25" (31.1cm)
- Diameter: 0.976" (24.8mm)
- Weight: 1.2 oz. (33.9 g)
- Shipping wt: 10 oz.
- Recommended Engines: 1/2A6-2, A8-3 (First flight)
- B4-4, B6-4, C6-5

Cat. No. 1256 .... $3.00

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**STREAK**

Skill Level 1

Lightweight (1/8 oz. without engine) with wind-cheating design. Great for contests and records. Features simple feather-weight recovery.

**Specifications**

- Length: 5.6" (14.2cm)
- Diameter: 0.720" (18.3mm)
- Weight: 0.1 oz. (3 g)
- Shipping wt: 4 oz.
- Recommended Engines: 1/2A6-4 (First flight)
- A8-5, B6-6, C6-7

Cat. No. 1204 $1.00

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**Sky Hook**

Skill Level 1

An excellent kit for your second rocket. Easy-to-build with 12" parachute recovery. Terrific performance flight after flight.

**Specifications**

- Length: 12" (30.5cm)
- Diameter: 0.765" (19.4mm)
- Weight: 0.7 oz. (20 g)
- Shipping wt: 5 oz.
- Recommended Engines: 1/2A6-2 (First flight)
- A8-3, B6-6, B4-4, C6-7

Cat. No. 1208 .......... $2.00

Engines, Launch System, and Glue not included.
**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 every time.

**Specifications**
- Length: 9.1" (23.1cm)
- Diameter: 0.765" (19.4mm)
- Weight: 0.7 oz. (20 g)
- Shipping wt: 5 oz.
- Recommended Engines: 1/2A6-2 (21st)
  - AB-3
  - B6-4
  - C6-5
- Cat. No.: 1202... $2.00

**QUASAR**

Skill Level 1
Dramatic, easy-to-build model for beginners. Bright white plastic nose cone and fin assembly, Metallized preprinted mylar wrap-on decal for the body tube. No painting required. Quick-release engine mount and recovery by 12" plastic parachute.

**Specifications**
- Length: 14" (35.6cm)
- Diameter: 9.767" (24.8mm)
- Weight: 1.6 oz. (42 g)
- Shipping wt: 10 oz.
- Recommended Engines: 1/2A6-2 (21st)
  - AB-3
  - B6-4
  - C6-5
- Cat. No.: 0650... $3.00

**X-RAY**

Skill Level 1
Perfect for your first payloader or second kit. Features large see-through payload/cargo section. Perfect for research work of all kinds. The recommended single-stage payload vehicle for small biological projects. 12" parachute recovery.

**Specifications**
- Length: 16.75" (42.5cm)
- Diameter: 0.736" (18.7mm)
- Payload Sec. Dia.: 9.767" (24.8mm)
- Weight: 1.7 oz. (48 g)
- Shipping wt: 5 oz.
- Recommended Engines: 1/2A6-2 (21st)
  - AB-3
  - B8-4
  - C6-5
- Cat. No.: 1218... $3.25

**ANTARES**

Skill Level 1
Achieve flights over 1,200 feet with this high performance sports model. Kit features include fin and roll pattern decals plus 12" parachute recovery. Easy assembly with plastic nose cone, die-cut balsa parts, and quick-release engine mount.

**Specifications**
- Length: 14.6" (37.1cm)
- Diameter: 0.976" (24.8mm)
- Weight: 0.77 oz. (22 g)
- Shipping wt: 5 oz.
- Recommended Engines: 1/2A6-2 (21st)
  - AB-3
  - B6-4
  - C6-5
- Cat. No.: 1276
- $2.75

**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 & 12" parachute recovery. Plastic nose cone, die-cut balsa parts, and quick-release engine mount are included for rapid assembly and easy operation.

**Specifications**
- Length: 20.8" (52.3cm)
- Diameter: 0.976" (24.8mm)
- Weight: 1.3 oz. (37 g)
- Shipping wt: 5 oz.
- Recommended Engines: 1/2A6-2 (21st)
  - AB-3 (First flight)
  - B6-4
  - C6-5
- Cat. No.: 1277
- $3.00

Engines, Launch System, and Glue not included.
**Super Mini-Brutes**

**Mini Bertha**
- Skill Level 1
- A little sister to the famous Big Bertha listed on page 12.
- Great performance with colorful 10” parachute recovery.
- Two-color decal sheet, quick-release engine mount, and balsa and paper construction.

**Specifications**
- Length: 11.25” (28.6cm)
- Diameter: 0.736” (18.2mm)
- Weight: 0.484 oz. (13.72 g)
- Shipping wt.: 6 oz.

**Recommended Engines**
- 1/2A3-2T (First flight)
- A3-4T
- A10-3T

Cat. No. 0803 $2.00

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**Mosquito**
- Skill Level 1
- This 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.

**Specifications**
- Length: 3.9” (9.9cm)
- Diameter: 0.541” (13.74mm)
- Weight: 0.1 oz. (2.83 g)
- Shipping wt.: 4 oz.

**Recommended Engines**
- 1/4A3-2T (First flight)
- 1/4A3-4T
- A3-6T
- A10-3T

Cat. No. 0801 $0.89

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**Screamer**
- Skill Level 1
- Another super performer featuring spectacular streamer recovery. Screaming off the pad this bird is sure to catch the attention at your launch site.

**Specifications**
- Length: 7.8” (19.81 cm)
- Diameter: 0.541” (13.74mm)
- Weight: 0.256 oz. (6.37 g)
- Shipping wt.: 6 oz.

**Recommended Engines**
- 1/4A3-2T (First flight)
- 1/4A3-4T
- A3-6T
- A10-3T

Cat. No. 0802 $2.00

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**Super Flea**
- Skill Level 1
- The “Flea” has a competition design for ultra-high performance. Reaches incredible altitudes with ogive nose cone and swept fins. Easy-to-build and features breakaway drag recovery.

**Specifications**
- Length: 7.34” (18.4cm)
- Diameter: 0.541” (13.74mm)
- Weight: 0.158 oz. (4.5 g)

**Recommended Engines**
- 1/4A3-2T (First flight)
- 1/2A3-2T
- 1/2A3-4T
- A3-4T
- A10-3T

JaVelin & Super Flea Combination Shipping wt.: 6 oz.

Cat. No. 0815 $2.50

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**Javelin**
- Skill Level 1
- Super performance, easy-to-build competition design with streamer recovery. Scale-like sounding rocket appearance. Reaches altitudes over 1,000 feet.

**Specifications**
- Length: 12.4” (31.5cm)
- Diameter: 0.541” (13.74mm)
- Weight: 0.34 oz. (9.6 g)

**Recommended Engines**
- 1/4A3-2T (First flight)
- 1/2A3-2T
- A10-3T
- A3-4T

Cat. No. 0801 $2.00

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**Rogue**
- Skill Level 1
- Scale-like sounding research vehicle with realistic decor. Excellent performance for great sport flying. 10” parachute recovery and die-cut balsa parts.

**Specifications**
- Length: 11.7” (29.7cm)
- Diameter: 0.736” (18.7mm)
- Weight: 0.75 oz. (21.26 g)
- Shipping wt.: 6 oz.

**Recommended Engines**
- 1/4A3-2T (First flight)
- 1/2A3-2T
- A3-4T
- A10-3T

Cat. No. 0818 $2.00

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**Little John**
- Skill Level 1

**Specifications**
- Length: 14.0” (35.5cm)
- Diameter: 0.76” (19.81mm)
- Weight: 0.875 oz. (21.2 g)
- Shipping wt.: 6 oz.

**Recommended Engines**
- 1/2A3-2T (First flight)
- A3-4T

Cat. No. 0819 $2.50

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Engines, Launch System, and Glue not included.
**SUPER DRUTES**

**SKILL LEVEL 2**

U.S. AIR FORCE

**NEW!**

**Pegasus**

Skill Level 2


Specifications

- Length: 14.0" (35.6cm)
- Diameter: 0.736" (18.69mm)
- Weight: 0.74 oz. (21 g)
- Wing Span: 5.78" (14.61cm)
- Shipping wt.: 5 oz.
- Recommended Engines:
  - 1/4A3-2T (First flight)
  - 1/2A3-2T
  - A3-4T

Cat. No. 0806...$2.50

**BETA**

Skill Level 2

Two-stage Mini-Brute for really high flights. Low-drag design with sounding rocket-style decor. Booster stage has tumbling recovery while top stage returns on 10' parachute.

Pat. No. 3,932,302

Specifications

- Length: 13.76" (34.96cm)
- Diameter: 0.736" (18.69mm)
- Weight: 0.75 oz. (21.3 g)
- Shipping wt.: 6 oz.

Recommended Engines

- UPPER STAGE: 1/4A3-2T (First flight) / 1/2A3-4T / A3-6T / A10-3T
- BOOSTER STAGE: 1/2A3-0T (First flight) / A3-0T / A10-0T

Cat. No. 0845...$2.25

**mini BOMARC**

Skill Level 3

Scale model of famous surface-to-air interceptor missile. Authentic Canadian Air Force decor. Features die-cut fins, quick-release engine mount, and 8" parachute recovery.

Specifications

- Length: 11.75" (29.85cm)
- Diameter: 0.736" (18.69mm)
- Weight: 1.0 oz. (28 g)
- Wing Span: 4.8" (11.4cm)
- Shipping wt.: 5 oz.

Recommended Engines

- 1/2A3-2T (First flight) / A3-4T / A10-3T

Cat. No. 0805...$3.50

**SUPER DRUTES**

**SKILL LEVEL 3**

**NEW!**

**CONDOR**

Skill Level 3

Designed by Estes engineers as a futuristic orbital booster with recoverable shuttle for near-Earth missions. This exotic space model will be an exciting addition to your model rocketry collection. Shuttle-like parasite glider gives flights up to 90 sec., while realistic booster is recovered via 12" parachute. Economically mini-engine powered, the Condor features great-looking decals, die-cut balsa fins, quick-release engine mount, and molded plastic nose cone.

Specifications

- Booster Length: 18.25" (46.6cm)
- Booster Diameter: 0.976" (24.8mm)
- Weight (Booster w/Glider): 1.9 oz. (26.9 g)
- Glider Wing Span: 5.0" (12.7cm)
- Shipping wt.: 12 oz.
- Recommended Engines:
  - 1/2A3-2T (First flight)
  - A3-2T / A3-4T

Cat. No. 0807...$3.50

**Wolverine**

Skill Level 3

Futuristic Russian hypersonic interceptor designed for near-space missions. Ram jet nose cone and cockpit canopy, 12" parachute recovery with two-color Russian decals.

Specifications

- Length: 11.25" (28.6cm)
- Diameter: 0.976" (24.8mm)
- Weight: 0.875 oz. (24.8 g)
- Shipping wt.: 5 oz.
- Recommended Engines:
  - 1/2A3-2T (First flight)
  - A3-2T / A3-4T / A10-3T

Cat. No. 0816...$2.50

**STAR BLAZER**

Skill Level 3

Authentic space vehicle appearance with its forward crew cockpit canopy, structural fairing strips, and streamlined design. Three-color U.S.A.F. decals and 10" parachute recovery.

Specifications

- Length: 11.5" (29.2cm)
- Diameter: 0.736" (18.7mm)
- Weight: 0.75 oz. (20.7 g)
- Shipping wt.: 5 oz.
- Recommended Engines:
  - 1/4A3-2T (First flight)
  - 1/2A3-2T

Cat. No. 0831...$3.00

Engines, Launch System, and Glue not included.
**SKILL LEVEL 2**

**NEW!**

**TEROS**
Skill Level 2
Authentic anti-aircraft missile styling with U.S.A.F. decor. Exciting scramjet design with ramjet nose. Super sports model with 12" parachute, die-cut balsa fins and quick-release engine mount.

Specifications
- Length 13" (33.0cm)
- Diameter 0.976" (24.8mm)
- Weight 1.2 oz. (33.9 g)
- Shipping wt. 10 oz.

Recommended Engines
- 1/2A6-2 (First flight)
- A8-3 B6-4 C6-5
- Cat. No. 1285

$3.00

**RED MAX**
Skill Level 2
Far-out super-fit model.
Large stable design gives great sport performance. Freckly "Red Max" decals, molded plastic nose cone and die-cut fins. 18" parachute recovery for perfect launch, flight after flight.

Specifications
- Length 22.5" (57.2cm)
- Diameter 0.876" (22.4mm)
- Weight 1.6 oz. (43 g)
- Shipping wt. 8 oz.

Recommended Engines
- A8-3 (First flight)
- A8-5 B4-4 C6-5
- Cat. No. 1254

$5.00

**NIKEX**
Skill Level 2

Specifications
- Length 23.4" (59.4cm)
- Diameter 1.325" (33.7mm)
- Weight 2.3 oz. (65 g)
- Shipping wt. 9 oz.

Recommended Engines
- A8-3 (First flight)
- B4-4 B6-4 C6-5
- Cat. No. 1270...

$5.00

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**SAROS**
Skill Level 2
An excellent scale-like sounding rocket vehicle.

Specifications
- Length 13" (33.0cm)
- Diameter 0.976" (24.8mm)
- Weight 1.2 oz. (33.9 g)
- Shipping wt. 10 oz.

Recommended Engines
- 1/2A6-2 (First flight)
- A8-3 B6-4 C6-5
- Cat. No. 1285

$3.00

**DER RED MAX**
Skill Level 2
Far-out super-fit model.
Large stable design gives great sport performance. Freckly "Red Max" decals, molded plastic nose cone and die-cut fins. 18" parachute recovery for perfect launch, flight after flight.

Specifications
- Length 22.5" (57.2cm)
- Diameter 0.876" (24.8mm)
- Weight 1.6 oz. (43 g)
- Shipping wt. 8 oz.

Recommended Engines
- A8-3 (First flight)
- A8-5 B4-4 C6-5
- Cat. No. 1254

$5.00

**BANDIT**
Skill Level 2
Features advanced ejection ducting system. It never needs recovery wadding! High-performance design and military style appearance makes the Bandit a really impressive bird. Over 25" long with large payload section, die-cut fins, quick-release engine mount, U.S.A.F. decals, and 12" parachute recovery.

Specifications
- Length 27.75" (65.4cm)
- Diameter 1.325" (33.6mm)
- Weight 2.6 oz. (77.9 g)
- Shipping wt. 12.5 oz.

Recommended Engines
- A8-3 B4-4 B6-4 (First flight)
- B14-5 C6-5
- Cat. No. 1248

$6.00

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**Saros Replacement Plastic Parts Kit**
Includes nose cone, adapter and fin unit.

Cat. No. 45012...

$2.25

**BANDIT'S ADVANCED EJECTION DUCTING SYSTEM**
Cools ejection gases completely by the time they reach your parachute.

Rocket body tube
Inner ducting tube
Model rocket engine
Ejection gases
Outer ducting tube

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Engines, Launch System, and Glue not included.
SKILL LEVEL 2  "D" POWERED BIRDS

Using our mighty "D" engines these kits offer the ultimate in power and performance. Perfect for high altitude research and many payload experiments. All kits come complete ready-to-assemble with instructions. Engines not included.

A-2O DEMON

Skill Level 2
Super performing payload carrier with sounding research vehicle appearance. Bright silver easy-track foil press on decal for payload section. Allows for accurate in-flight tracking and recovery. Quick-release engine mount, sleek die-cut fins and 18" parachute.
Specifications
Length: 26.5" (67.3cm)
Diameter: 1.325" (33.6mm)
Weight: 2.75 oz. (78 g)
Shipping wt: 12 oz.
Recommended Engines
D12-7
Also:
B6-4, B14-4, C6-5
(Using EM-2060 Adapter, not included.)
Cat. No. 1258 $6.00

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 flight after flight. Die-cut fins, quick-release engine mount and sharp two-color decals. A really beautiful model for your first "D" powered kit.
Specifications
Length: 21.6" (54.9cm)
Diameter: 1.325" (33.7mm)
Weight: 2.75 oz. (78 g)
Shipping wt: 11 oz.
Recommended Engines
D12-5 (First flight) D12-7
Cat. No. 1247 $4.50

renegade

Skill Level 2
Spectacular, ultra-high performance "D" bird over 33" long. R&D style design gives it a real test vehicle appearance. Low-drag styling and giant 18" "chute means an outstanding flight every time. Contemporary decals, quick-release engine mount and die-cut fins.
Specifications
Length: 33.8" (85.9cm)
Diameter: 1.637" (41.6mm)
Weight: 4.6 oz. (132 g)
Shipping wt: 12 oz.
Recommended Engines
D12-5 (First flight) D12-7
Cat. No. 1271 $5.00

NEW! SKY RAIDER

Flights up to 1500 feet are possible with this big "D" engine powered payloader. Great sports model with large payload section, die-cut balsa fins and quick-release engine mount. Includes great looking kit name decals, high performance plastic nose cone and giant 18" parachute.
Specifications
Length: 32.78" (83.3cm)
Diameter: 1.325" (33.7mm)
Weight: 2.39 oz. (67.8 g)
Shipping wt: 11 oz.
Recommended Engines
D12-5 D12-7 (First flight) C6-5 (with EM-2060 adapter not included. See page 56.)
Cat. No. 1290 $4.00

Engines, Launch System, and Glue not included.
**AVENGER**

Skill Level 2
Long, slender lines give this bird the sounding rocket look. Large 18" chute brings payload section back gently, booster employs tumble recovery.

Cat. No. 1238 $5.00

**Vigilante**

Skill Level 2
Ultra-high performance two-stage model for flights over 1100 feet.

Kit features include impressive kit name decal, low drag plastic nose cone, and die-cut balsa fins. Sleekly designed upper stage returns via 18" parachute while the booster employs tumble recovery.

Recommended Engines
UPPER STAGE
A8-5 B6-6 (First flight) C6-7
BOOSTER
A8-0 B6-0 (First flight) B14-0 C6-0

Cat. No. 1278 $5.00

**PHOTON DISRUPTOR**

Skill Level 2
Equip your star fleet with this sophisticated scale missile from the 23rd century. Designed primarily as a mass conversion weapon to overload the defensive screens of an enemy vessel, the actual Photon Disruptor may also be programmed as an interceptor missile, a proximity space mine, or a space distress signal. Exact size, speed, range, and destruct radius of this vehicle are classified. Photon Disruptor uses impulse power unit and guidance system for launch from planetary surface. Kit features operational status detailing decor and comes complete with 12" parachute. Assembly and operation are made easy with plastic nose cone, die-cut balsa parts, and quick-release engine mount.

Recommended Engines
1/2A6-2 A6-3 (First flight)
A8-5 B6-4 B6-0 C6-0

Cat. No. 1282 $3.00

**MULTI-STAGERS**

Multi-Staging is the next step in expanding your model rocketry skills. Each kit demonstrates how real space ships operate. The first stage is always ignited electrically. Second stage ignition occurs automatically in mid-flight upon burnout of the first stage. Performance and maximum altitude are dramatically increased thru multi-staging.

**NEW! Odyssey**

Skill Level 2
This unique interstellar spacecraft is conceived to perform a variety of space rescue, exploratory, or intruder intercept missions. Odyssey's modular configuration permits rapid pre-launch preparation to flight status. Impulse power unit jets after lift-off from planetary, launch site. Its two-man crew and engineering section are then accelerated to near-light velocities for rendezvous and space rescue operations. Our designer's version includes die-cut balsa fins, 18" dia. recovery parachute and two-color rescue vehicle decor. Quick-release engine mount and super-detailed plastic nose section complete the exotic styling of this advanced spacecraft.

Recommended Engines
B4-4 B6-4 (First flight) C6-0

Cat. No. 1289 $5.00

**AVAILABLE March 15, 1977**

Engines, Launch System, and Glue not included.
**WAC CORPORAL**
Skill Level 2
Great model for your first scale bird. U.S. Army ground-to-ground ballistic and research vehicle. Low-drag design makes it a terrific sport flyer too! Accurate 1/16th scale. Die-cut fins and 12" chute.

**Specifications**
- Length: 11.8" (30cm)
- Diameter: 0.736" (18.7mm)
- Weight: 7 oz. (20g)
- Shipping wt.: 5 oz.

**Recommended Engines**
1/2A6-2 (First flight)
A8-3 B6-4 C6-5
Cat. No. 1211 ........ $2.50

**SANDHAWK (1/10th Scale)**
Skill Level 2
A mighty "D" engine powered, ultra-detailed, 30" tall scale model. Actual rocket is a single-stage, solid-propellant vehicle developed for upper-atmosphere research experiments. Real Sandhawk is capable of reaching a 100 mile apogee with 200 lb. payload. Our scale version features all plastic, highly-detailed nose cone, payload section, fins and tail assembly. Quick-release engine mount plus 12" chute for payload and big 18" parachute for rocket.

**Specifications**
- Length: 30.1" (76.5cm)
- Diameter: 1.325" (33.7mm)
- Weight: 5 oz. (14.2g)
- Shipping wt.: 11 oz.

**SPRINT**
Skill Level 3
Real competition design. Highest performance in its class. Up to 1,600 ft. with C6-7 engine. Low drag ogive nose cone and reduced tail section. Contest winning die-cut elliptical fins, decals, and streamer recovery.

**Specifications**
- Length: 13.8" (35cm)
- Diameter: 0.976" (24.9mm)
- Weight: 1 oz. (26g)
- Shipping wt.: 7 oz.

**Recommended Engines**
1/2A6-2 A8-3 (First flight)
B14-5 B4-6 B6-6 C6-7
Cat. No. 1249 ........ $3.00

**HAWK**
Engines, Launch System, and Glue not included.

**FIREFLY**
Skill Level 2
"Hitchhikes" on other larger models for glide durations of up to 30 seconds beginning at apogee. Perfect kit for your first glider with die-cut balsa parts. Impressive performance.

**Specifications**
- Length: 12" (30.5cm)
- Wing Span: 4.5" (11.4cm)
- Weight: 0.16 oz. (4.6g)
- Shipping wt.: 5 oz.

Cat. No. 1280 ........ $1.25

**DRIFTER**
Skill Level 2
Swept-fin design. Low weight, and large chute capacity make this bird great for competition, test, or sport flying. Interchangeable chutes: 24" for competition and 12" for test and sport.

**Specifications**
- Length: 14.3" (36.3cm)
- Diameter: 0.976" (24.9mm)
- Weight: 1 oz. (26g)
- Shipping wt.: 5 oz.

Recommended Engines
1/2A6-2 (First flight) A8-3 B6-4 C6-5
Cat. No. 1214 ........ $3.25

**GOBLIN**
Skill Level 3
Powerful and fast, this spooky little kit really gets up and moves. You'll need a good recovery team to retrieve her as she'll reach 1,500 feet. Wings optioned with "D" engines. Dramatic recovery with big, 2" wide bright orange tracking streamer. Includes die-cut fins, crazy decals and quick-release engine mount.

**Specifications**
- Length: 14.32" (36.3cm)
- Diameter: 1.325" (33.9mm)
- Weight: 2 oz. (56g)
- Shipping wt.: 7 oz.

Recommended Engines
D12-7 A8-3 B6-4 and C6-5 with adapter EM-2080, not included. See page 56.

Cat. No. 1255 ........ $4.00
**Apogee II**
Skill Level 3
Ultimate in 2-stage performance and reliability. See-through payload section lets you observe specimens without removing them from the rocket. 10° pre-assembled parachute and tumbling re-entry booster. Includes Tech Report on Multi-Staging.
Specifications:
- Length 14.7" (37.7cm)
- Diameter 0.736" (18.7mm)
- Weight 0.6 oz. (17 g)
Shipping wt. 6 oz.

**Farside**
Skill Level 3
Sophisticated 3-stage ultra-high altitude probe. Flies to well over 2,600 feet. Top stage cargo compartment makes it an excellent payload vehicle. Booster stages tumble back to earth while upper stage returns via 12" bright orange and white 'chute. Includes Tech Report on staging.
Pat. No. 3,292,302
Specifications:
- Length 21.5" (54.6cm)
- Diameter 0.976" (24.8mm)
- Weight 2.0 oz. (57 g)
- Shipping wt. 6 oz.

**Shrike**
Skill Level 3
Specifications:
- Length 29.5" (74.9cm)
- Diameter 0.976" (24.8mm)
- Weight 2.25 lb. (64 g)
- Shipping wt. 11 oz.

**Omega**
Skill Level 3
Specifications:
- With Payload Section and nose cone (for use without Cineroc):
  - Length 30.8" (78cm)
  - Diameter 1.637" (41.6mm)
  - Weight 4.0 oz. (113 g)
  - Shipping wt. 15 oz.

**Scrambler**
Skill Level 3
A super big "egg lofter" for sport or contest flying. Huge see-through payload section holds an egg or any other large payload. Three engine cluster gives you the power you need to boost your cargo. Capable of lifting a grade A hen's egg over 1,000 ft. and then gently returning it to earth. Kit includes two 18" parachutes, decals, and Tech Report on clustering.
 Specifications:
- Length 23.5" (59.7cm)
- Diameter 1.637" (41.6mm)
- Payload Dia. 1.796" (46.0mm)
- Weight 2.8 oz. (79 g)
- Shipping wt. 13 oz.

**Recommended Engines**
- A-8-3 B-6-4 (First flight) B-14-6 C-6-7
- Cat. No. 1208 $3.25

**Recommended Engines**
- A-8-0 B-6-0 (First flight) B-14-0
- C-6-0
- Cat. No. 1237 $7.00

**Recommended Engines**
- D-12-5 (First flight) Booster: D-12-0
- Upper Stage: D-12-7
- Single Stage Flights: D-12-5
- (Does not include camera)
- Cat. No. 1200 $8.00

Engines, Launch System, and Glue not included.
**GyroC**
Skill Level 3
An amazing and unique “helicopter” recovery system makes the GyroC a must for your fleet. Lift-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 is sure to catch the interest of on-lookers.

Specifications
Length: 9.8” (24.9cm)
Diameter: 0.738” (18.7mm)
Weight: 0.6 oz. (17 g)
Shipping wt: 5 oz.

Recommended Engines:
1/2A6-2 (First flight) A8-3 B6-4 C6-5
Cat. No. 1224 ............... $2.00

**Constellation**
Skill Level 3
Neatly styled single-stage payloader, perfect for those smaller cargos. Exotic appearance, plus fin tip “landing skids” gives it a real “space ship” look. Great performance for sport flying. See-through payload section, and 12” parachute recovery.

Specifications
Length: 16.2” (41.4cm)
Diameter: 0.976” (24.8mm)
Weight: 1.0 oz. (28 g)
Shipping wt: 5 oz.

Recommended Engines:
1/2A6-2 A8-3 (First flight) B6-4 B14-5 C6-5
Cat. No. 1235 ............... $3.00

**U.S.S. Atlantis**
Skill Level 3
Patrolling the distant outposts of our galaxy are super-fast starships like the USS Atlantis. This multi-mission star cruiser is designed for patrol, escort, transport, and fleet battle operations. Star flight capability is provided by two giant aft propulsion units. The unique, multi-level flight deck allows massive planet-side operations from synchronous or standard planetary orbit. In addition to superior speed and maneuverability, its powerful weaponry enables it to deal singlehandedly with most alien vessels. Kit includes colorful decals, die-cut balsa fins, plastic nose cone, and quick-release engine mount. Excellent performance with impressive 12” parachute recovery for flight-after-flight enjoyment.

Specifications
Length: 23.3” (59.2cm)
Diameter: 0.976” (24.8mm)
Weight: 1.86 oz. (56.2 g)
Shipping wt: 11 oz.

Recommended Engines:
A8-3 B4-4 B6-4 (First flight) C6-5
Cat. No. 1283 ............... $5.00

**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 ejection power pod features vertical stabilizer fins. Comes ready-to-assemble with die-cut parts and two-color decals.

Specifications
Length: 22.75” (57.7cm)
Body Dia: 0.976” (24.8mm)
Wing Span: 18” (45.8cm)
Weight w/pod: 2.5 oz. (71 g)
Weight w/o pod: 1.8 oz. (51 g)
Shipping wt: 16 oz.

Recommended Engines:
B4-2 (First flight) B6-2 C6-3
Cat. No. 1265 ............... $6.00

Engines, Launch System, and Glue not included.
**NEW! Starlab**

**Skill Level 3**
Advanced concept for NASA Space Station designed for either Earth or lunar orbit. Envisioned as a manned scientific laboratory assembled in space and operational by the year 2000, its multi-national crew would be resupplied by Earth or perhaps via a lunar colony shuttle craft. Our version features unique ring-fin stabilization, simulated solar panels and realistic docking shuttlecraft for display (removes quickly for flight). Plus dramatic 3-color decal, quick-release engine mount and 12” parachute recovery.

**Specifications**
- Length: 27.75” (70.48cm)
- Solar Panel Span: 7.4” (18.80cm)
- Ring Diameter: 4.0” (101.6mm)
- Weight: 2.19 oz. (62 g)
- Shipping wt.: 11 oz.
- Recommended Engines: B6-4 (First flight) C6-5
- Cat. No.: 1288

**Features**
- Realistic Docking SHUTTLE CRAFT For Display!

**$5.00**

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**INVADER**

**Skill Level 3**
RED ALERT PRIORITY MESSAGE FROM RIEGEL IV COLONY.... START - UNIDENTIFIED ALIEN SPACECRAFT HAVE ATTACKED RIEGEL IV COLONY - LARGE NUMBER ALIEN CRAFT ARRIVED SIMULTANEOUSLY VIA HYPERSPACE - OUTPOST DEFENSES CURRENTLY ENGAGING ENEMY VESSELS - SENSORS UNABLE TO FULLY PENETRATE ENEMY SCREENS - END TRANSMISSION

Previous is excerpt from first report of contact with Alien Invaders.

**Specifications**
- Length: 20.6” (52cm)
- Diameter: 0.976” (24.8mm)
- Weight: 1.62 oz. (46 g)
- Shipping wt.: 8 oz.
- Recommended Engines: 1/2A6-2 A6-3 (First flight) B4-4 B6-4 C6-5
- Cat. No.: 1281

**Interceptor**

**Skill Level 3**
Futuristic version of real interplanetary interceptor. Deep space exotic design makes it the pride of any modeler. Delivers excellent performance for really sensational flights. Dramatic 18” parachute recovery, two big sheets of four-color decals, and quick-release engine mount. Plus all die-cut balsa parts and detailed plastic nose cone, wing pods and tail cone.

**Specifications**
- Length: 26” (66cm)
- Wing Span: 7.4” (18.8cm)
- Diameter: 1.329” (33.6mm)
- Weight: 3.85 oz. (109 g)
- Shipping wt.: 12 oz.
- Recommended Engines: B4-2 B6-4 (First flight) C6-5
- Cat. No.: 1250

**$8.00**

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**Andromeda**

**Skill Level 3**
Designed for journeys to distant planets this incredible "starship of the future" will be an outstanding addition to your model rocket collection. Performing interplanetary missions within the galaxy, our engineer's conception of the actual ship features simulated hybrid fission-ion propulsion engines, forward crew module and colorful mission decor. This beauty is over 43” long and represents a unique entry to our own Starship Fleet. Kit features include die-cut parts, highly detailed decals, and quick-release engine mount. Andromeda's flights are of course most spectacular, especially with giant 18” parachute recovery.

**Specifications**
- Length: 43.3” (110cm)
- Diameter: 0.136” (18.7mm)
- Recommended Engines: B6-4 (First flight) C6-5
- Ship wt.: 11 oz.
- Cat. No.: 1273

**$6.00**

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**Replacement Plastic Parts Kit**
Includes nose cone, 2 wing pods and tail cone.
- Cat. No.: 45010

**$2.50**

**Engines, Launch System, and Glue Not Included.**
**SKILL LEVEL 3**

**V-2 (1/49th Scale)**

Skill Level 3

Scale model of the WW II German ground-to-ground ballistic missile. Its development opened the door to the exploration of space. The V-2 was the first rocket to solve the problems of propulsion and guidance. Our replica of this historic missile has excellent performance with impressive parachute recovery. Ready-to-assemble with balsa nose and tail cones.

Specifications

Length: 11 1/2" (28.4cm)

Diameter: 1 1/2" (34.7mm)

Weight: 1 1/4 oz. (40 g)

Shipping wt.: 7 oz.

Recommended Engines:

A-8-3

B-6-4 (First flight)

B-14-5

C-6-5

Cat. No. 1222

$4.00

**SATURN V (Semi-Scale)**

Skill Level 3

Though not fully detailed this model of the Saturn V is an amazingly good representation of our nation's largest launch vehicle that put the first man on the moon. Scaled 1 to 242 it is a practical size to build. Comes with pre-printed wrap-on decor, clear plastic fins, quick-release engine mount and 12" parachute recovery.

Specifications

Length: 18 1/2" (47cm)

Diameter: 1 5/8" (41.6mm)

Weight: 1 1/2 oz. (54 g)

Shipping wt.: 12 oz.

Recommended Engines:

A-8-3 (First flight) B-6-4

C-6-5

Cat. No. 1239

$4.50

**NIKE AJAX**

Skill Level 3

The first supersonic anti-aircraft missile, the Nike Ajax, was developed to defend large cities and industrial complexes against enemy bomber attack. Actual vehicle has a range of 30 to 50 miles and an effective altitude capability of approximately 60,000 feet at a speed of more than 1500 miles per hour. Real vehicle is boosted by a solid propellant rocket which drops away at a predetermined height as a sustainer liquid propellant motor cuts in. Our 1/24 to 1 semi-scale model comes complete with authentic U.S. Army decor and realistic detailing. Kit includes 18" parachute recovery, die-cut balsa parts, and quick-release engine mount.

Specifications

Length: 31 1/2" (79.8cm)

Diameter: 1 3/8" (34.7mm)

Weight: 2 1/4 oz. (70 g)

Shipping wt.: 11 oz.

Recommended Engines:

A-8-3 B-6-4 B-6-4 (First flight) C-6-5

Cat. No. 1279

$6.00

**AEROBEE 300**

Skill Level 3

Another great kit for your first or second-scale model. Originally developed in 1947, the Aerobee performed heavy duty upper atmosphere research during the International Geophysical Year 1957 - 58. The real rocket has recorded peak altitudes of 200 miles above the earth. Our smaller version features authentic scale decals, balsa detailing and 12" parachute. 1/15th Scale.

Specifications

Length: 18" (46cm)

Diameter: 0.97" (24.8mm)

Weight: 0.9 oz. (26 g)

Shipping wt.: 1 1/4 oz.

Recommended Engines:

A-8-3 (First flight) B-6-4 C-6-5

Cat. No. 1217

$3.25

**ARCAS®**

Skill Level 3

A precise reproduction of the well-known Atlantic Research Corp. sounding rocket. Designed to collect meteorological data at altitudes up to 40 miles. Original high performance design gives great performance to our smaller 1/34 scale version. Kit includes detailed fin mounts, authentic ARCAS® decals, and 18" parachute.

Specifications

Length: 22 1/8" (56cm)

Diameter: 1 3/8" (34.7mm)

Weight: 1 1/2 oz. (40 g)

Shipping wt.: 11 oz.

Recommended Engines:

A-8-3 (First flight) B-6-4

C-6-5

Cat. No. 1226

$4.00

**LTV Scout**

1/24th Scale

The Scout is a four-stage, solid-propellant launch vehicle used for a variety of space missions including orbital probe and re-entry by the United States and an impressive list of European nations. Since its first mission in 1960, Scout has been the launch vehicle for more than 90 missions, holding the record for consecutive successes among all NASA launch vehicles. We have chosen to scale the Italy version, known for its Uhara satellite which discovered the existence of "black holes" in space. This model is extremely detailed with many plastic parts and realistically decorated with 2-color decals. Other features include molded plastic fins and adapter sections, quick-release engine mount and big 18" parachute recovery.

Specifications

Length: 36 1/4" (92cm)

Diameter: 1 63/8" (41.6mm)

Weight: 2 1/2 oz. (70 g)

Shipping wt.: 11 oz.

Recommended Engines:

C-6-3

Cat. No. 1287

$6.00

**AVAILABLE March 15, 1977**

© Registered Trademark of The Atlantic Research Corporation, Alexandria, Virginia.
**SKILL LEVEL 4**

**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 engine booster system returns to Earth via huge 18” multi-colored parachute, and interplanetary vehicle glides home. Long and sleek, developed for both orbital and near-space missions, rocket with transport vehicle piggy backed go straight up, then separate at apogee for spectacular dual recovery. Includes realistic 3-color decals.

**Specifications**

- Length: 23” (58.4cm)
- Diameter: 0.976” (24.8mm)
- Wing Span: 7.9” (20cm)
- Weight: 2 oz. (57 g)

**Recommended Engines**

B6-2, B6-4 (First flight)

Cat. No. 1242

$5.50

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**Sky Dart**

Skill Level 4

This totally new rocket-powered glider design features an internal rear ejection power pod. Streamlined “Business SST” body styling results in a high performance glide along with good reliability. 12” parachute recovery brings power pod back safely. Pat. No. 3,157,980.

**Specifications**

- Wing Span: 13.6” (34.5cm)
- Length: 15.8” (40cm)
- Body Dia.: 0.976” (24.8mm)
- Weight: 1.28 oz. (35.4 g)
- Weight of Glider with Pod: 2.5 oz. (70.8 g)

**Recommended Engines**

A8-3, B4, B6-2 (First flight)

Cat. No. 1297

$6.00

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**Honest John**

Skill Level 4

Highly detailed version of U.S. Army’s surface-to-surface ballistic missile. Many small parts and authentic decals for a really good looking 1/24th scale model. Gives an excellent challenge to the experienced rocketeer. Dramatic flights with 12” parachute recovery.

**Specifications**

- Length: 13.75” (35cm)
- Diameter: 0.976” (24.8mm)
- Weight: 1.2 oz. (34 g)

**Recommended Engines**

1/2A6-2, A8-3 (First flight)

Cat. No. 1227

$4.00

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**Mars Snooper II**

Skill Level 4

Looks like a real space ship. Futuristic decor, advanced styling, and simulated touchdown pads give it a real science-fiction appearance. Eye-catching flight with big 18” parachute recovery. Includes die-cut parts, kit decals, and quick-release engine mount.

**Specifications**

- Length: 22.7” (57.6cm)
- Diameter: 0.976” (24.8mm)
- Weight: 2.3 oz. (66 g)

**Recommended Engines**

A9-3 (First flight) B4-2, B6-4, C6-5

Cat. No. 1220

$5.00

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**Star Trek Flying Model Rockets**

**Klingon**

Skill Level 4

Accurately detailed, our flying scale cruiser has been modified to permit atmospheric operations. Kit includes accurately detailed molded plastic and die-cut parts, Klingon warship insignia, quick release engine mount, and colorful orange and white canopy ‘chute.

**Specifications**

- Length: 15.1” (38.4cm)
- Wing Span: 9.3” (23.6cm)
- Weight: 2.5 oz. (70 g)

**Recommended Engines**

B4-2 (First flight) B6-4, C6-5

Cat. No. 1274

$7.00

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**Starship Enterprise**

Skill Level 4

Scaled from official STAR TREK drawings, our model starship has been modified for operations within planetary atmospheres. A parachute recovery probe attaches quickly for flight and removes easily for display. Other kit features include highly detailed molded plastic and die-cut parts, authentic decals, quick-release engine mount and 18” recovery parachute.

**Specifications**

- Display Length: 16.8” (42.6cm)
- Recovery Probe Length: 25.9” (65.8cm)
- Primary Hull Dia.: 7.5” (19cm)
- Weight: 3.8 oz. (110 g)

**Recommended Engines**

B6-2 (First flight) C6-3

Cat. No. 1276

$8.00

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© 1975 Paramount Pictures Corporation

Engines, Launch System, and Glue not included.
Model Rocketry's First Scale

Space Shuttle

Skill Level 4

Dramatically 1/182nd scale reproduction of America's newest space vehicle. Designed as a reusuable near-space transportation system, tests of the real thing are scheduled for the winter/spring of 1977. This 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 removes easily for display. Kit components include injection molded and vacuumformed plastic and die-cut parts plus quick-release engine mount.

Specifications
- Shuttle Length: 13.0' (34.6cm)
- Diameter: 2.04' (61.8mm)
- Orbiter Length: 9.0' (22.9cm)
- Orbiter Wingspan: 7.1' (18.5cm)
- Weight: 4.37 oz. (124 g)
- Shipping wt. 16 oz.

Recommended Engine C5-3

(Engines, Launch System, and Glue are not included with this kit.)

Cat. No. 1284

Only $8.00

Mercury Redstone

Skill Level 5

Famous NASA vehicle which boosted Commander Alan Shepard on America's first manned space flight. Beautifully scaled to 1/42nd actual size our Mercury Redstone features intricately detailed fin assemblies and escape tower. Launchings simulate real space missions as Mercury capsule returns via bright orange and white 12' canopy chute and rocket descends on larger 18' parachute recovery. Kit includes scale decals and quick-release engine mount.

Specifications
- Length: 23.6' (69.7cm)
- Diameter: 1.837' (41.6mm)
- Weight: 2.1 oz. (60 g)
- Shipping wt. 12 oz.

Recommended Engines A4-3, B6-4 (First flight) C6-5

Cat. No. 1241 $5.00

Mars Lander

Skill Level 4

Displays futuristic concept for a planetary exploration and landing vehicle. Spring-loaded landing gear simulates realistic upright touch-down. Big 18' bright orange and white canopy chute makes for a really great recovery sequence. Includes highly detailed body panels.

Specifications
- Height: 12' (3.65m)
- Diameter: 3.8' (106.5mm)
- Landing Gear Span: 13.2' (33.5cm)
- Weight: 3.0 oz. (85 g)

Shipping wt. 16 oz.

Recommended Engines B4-2 (First flight) B6-2 C6-3

Cat. No. 1243 $9.95

Bomarc

Skill Level 4

A beautifully detailed, 1/24th scale rendering of the U.S.A.F. surface-to-air interceptor missile. Features molded plastic components, and die-cut balsa parts. Big, authentic decals, vinyl stripping and metalized mylar panels. At apogee, the engine pod is jettisoned and descends via 12' parachute while the Bomarc returns as a boost glider... with a gentle, almost horizontal glide path.

Specifications
- Length: 23' (58.4cm)
- Diameter: 1.235' (33.6mm)
- Weight: 3.6 oz. (108 g)
- Shipping wt. 12 oz.

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

Cat. No. 0654 $7.00

Engines, Launch System, and Glue not included.
GIANT Flying Rockets Over 3-Feet Tall
MAXI-BRUTES!

NEW!

Alpha SKILL LEVEL 2

This giant scale model is a replica of the ground-to-ground ballistic missile developed at Peenemunde before and during World War II. This 1/19th scale Maxi-Brute features "D" engine power, detailed plastic nose cone, dual 24" parachute recovery and pre-shaped fins. Nose cone fits BT-101 tube. Model requires 3/16" launch rod for best lift-off performance. This historic reproduction will be the attention-getter at your launch site, and a handsome display model for your desk or bookshelf. Historical background is also included with instructions.

Specifications
Length 33.5" (85cm)
Diameter 3.938" (100mm)
Weight 12.5 oz (354.38 g)
Shipping wt. 2 lbs.
Recommended Engine D12-5
Cat. No. 1267

$16.95

Available March 15, 1977

German V-2

This 1/9th 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 new, highly detailed model uses a solid "D" engine for powered flight and comes with pre-shaped, accurately molded fins and molded plastic nose cone. Spectacular recovery with giant, dual 24" orange and white canopy chutes. Great for demonstrations and perfect for an impressive display model. A 3/16" launch rod is recommended for best lift-off results.

Specifications
Length 37" (94cm)
Diameter 2.6" (66mm)
Weight 14 oz (397 g)
Shipping wt. 2 lbs.
Recommended Engine D12-3
Cat. No. 1269

$16.95

Honest John

This Maxi-Brute is a true scale model of the U.S. Army's surface-to-surface ballistic missile produced by MartinMarietta and deployed with NATO units in Europe. Our 1/10 scale model is "D" engine powered with three color decals, pre-shaped fins, detailed molded plastic nose cone, and dual 24" parachute recovery. A 3/16" launch rod should be used for best lift-off results. The unusual fin configuration of this model makes it one of the most unique scale models ever to be offered. Additional historical background data is also included.

Specifications
Length 41" (104.4 cm)
Diameter 3.938" (100mm)
Weight 11.5 oz (326.03 g)
Shipping wt. 2 lbs.
Recommended Engine D12-3
Cat. No. 1268

$16.95

Pershing-1A

OVER 3 FEET TALL!
**SKILL LEVEL 5**

**GIANT MAXI-BRUTES!**

**SATURN I-B (1/70th Scale)**

Skill Level 5

Completely detailed model of the giant rocket that first lofted the lunar module into earth orbit. A real NASA workhorse, the Saturn I-B has most recently been used to shuttle astronaut crews to Skylab. Features four-engine cluster power for really dramatic lift-offs. Highly scaled escape tower and stabilizer fin assembly. Includes authentic U.S.A./NASA decor, quick-release engine mounts, and die-cut balsa parts. Plus big, dual 24” orange and white parachutes for main booster and 12” “chute for Apollo capsule. Tech report on engine clustering also included.

Specifications
- Length: 37” (94cm)
- Diameter: 3.93” (100mm)
- Weight: 9.9 oz. (280g)
- Shipping wt.: 3 lbs., 5 oz.
- Recommended Engines: A6-3, B6-2 (First flight), B6-4, C6-5
- (4 engines required. All must be the same type)

Cat. No. 1229 $14.95

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**SATURN V**

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 1/100th of its actual size, our model stands an impressive 45-1/2” tall. Single “D” engine power gives this baby a spectacular Cape Kennedy style lift-off. Apollo capsule has life-like recovery with bright 12” orange and white canopy “chute while big ship returns on giant dual 24” parachutes. Precision molded plastic engine nozzles and Apollo capsule with escape tower give detailed authenticity. Corrugated body完善ens make this one of our most precise scale models. Also includes Tech Report on clustering.

Specifications
- Length: 43.5” (110cm)
- Diameter: 3.93” (100mm)
- Weight: 9.9 oz. (280g)
- Shipping wt.: 3 lbs., 5 oz.
- Recommended Engines: A6-3, B6-2 (required)

Cat. No. 1236 $19.95

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**MODEL ROCKET ENGINES**

Reliability-proven in over 100 Million 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 engines was the result of 15 years of engineering efforts at Estes Industries. Consequently, today's rocketeers have dependable, safety-proven engines for their 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 system for your rocket's safe return to earth.

Reliability-proven in over 100 million launchings. Estes engines are manufactured under 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.

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**EDUCATIONAL SEE-THRU ROCKET WITH RECOVERY SYSTEM, PARACHUTE, WADDING, ENGINE MOUNT, AND CUT-AWAY ENGINE!**

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**PHANTOM**

Perfect static demonstration model for workshops and presentations. Shows all internal components of a model rocket plus special cut-away version of G6-S model rocket engine. Ideal for displays and exhibits.

- Length: 12.6” (32.0cm)
- Body Dia.: 0.976” (24.8mm)
- Weight: 1.35 oz. (38.3g)
- Shipping wt.: 3 oz.

Cat. No. 1207 $3.00
### ROCKET ENGINE SELECTION CHART

#### SINGLE STAGE ENGINES

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Engine Type</th>
<th>Price</th>
<th>Total Impulse</th>
<th>Thrust Duration</th>
<th>Initial Weight</th>
<th>Propellant Weight</th>
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<td>1/24-5</td>
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#### UPPPER STAGE ENGINES

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### MINI-ENGINE SELECTION CHART

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#### BOOSTER ENGINES

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### MIGHTY 'D' ENGINES

*Recommended Only for Experienced Rocketeers*

With the advancement of model rocketry to bigger, more complex projects, Estes Industries has developed the "D" engine (Series IV). The Estes "D" provides twice the power of the largest Series I engine. It's the first dependable "D" engine to provide the consistent high-thrust and total impulse levels necessary for peak performance in its class.

#### MIGHTY 'D' ENGINES

Complete instructions and rocket igniters are included with each package of Estes model rocket engines.

**D** engines are 2.75 in. (69.9cm) long and 0.945 in. (2.40cm) dia. Shipping weight of each package of "D" engines is approximately 6-1/2 oz.

<table>
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<tr>
<th>Cat. No.</th>
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<td>20.0</td>
<td>9 lbs</td>
<td>1.5 sec 1.52</td>
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</table>

### ASTRON IGNITERS

Easy to use for reliable ignition every time. Recommended for launch systems using 6 to 12 volts. Same type as supplied with all packages of Estes engines. Installation procedure featured on engine instructions. (Patent No. 3,363,559) Shipping weight 1 oz. (Not recommended for Launch Controller)

Cat. No. 2225 .................................................. 6 for $ .50
Cat. No. 2301 .................................................. 6 for $ .50

### SOLAR IGNITERS

Add increased reliability at lift-off with Estes "high performance" Solar Igniters. This uprated igniter is designed especially for the Solar Launch Controller (No.2300). Features easy engine installation and is suitable for all Estes launch control systems. Unique four element design makes it the most dependable igniter made. Shipping weight 1 oz.

Cat. No. 2274 .................................................. $.70
PORTA-PAD
PLASTIC TRIPOD
Space-age designed, the Porta-Pad is rugged enough to take the stress of countless launchings, even with the big Estes “D” engines, yet is lightweight and compact enough for easy carrying and storage. Strong, girded construction. Orange plastic legs snap off for storage in range box. Friction grip secures rod firmly (accommodates standard 1/8” rod (#2239) or heavy-duty 3/16” Maxi-rod (#2239). Tilt adjustment allows you to compensate for wind.
For extra versatility, Porta-pad can be adapted for rail launchings with Estes “C” Rail (#2260). Shipping weight is 1 lb. 8 oz.
Cat. No. 2217 .................... $5.00

RTILES Not Included
The Solar Launch Controller (#2300) or the Astron Launch Control System (#2212) are the recommended launch systems for use with the Tilt-A-Pad or Porta-Pad.

TILT-A-PAD
WOODEN TRIPOD
This flexible launcher gives you ideal launch control and convenience. Hardwood construction for durability. Adjusts to fit uneven ground. Tilt to compensate for wind direction and speed. Legs fold down for compact storage. Comes in easy to assemble kit form with complete instructions.
Shipping weight 2 lbs.
Cat. No. 2216 .................... $6.00

Astron Launch Control System
Newly redesigned Launch Controller features futuristic design and provides greater reliability with simplified assembly. Bright orange plastic controller gives realistic ignition system appearance. Recommended for 6 or 12 volt power sources. Perfect Launch Controller for your 12 volt car battery. No need to remove battery from car, simply connect launch system’s battery clips to terminals. Features include arming lamp, safety key, launch button, battery clips, micro-clips, and 18 feet of launch cable. Shipping weight 12 oz.
Cat. No. 2212 .................... $6.00

SOLAR LAUNCH CONTROLLER
The Solar Launch Control System should be standard equipment in your range box. This futuristic, designed launch control unit requires only 4 alkaline pen light batteries for power. 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 presoldered. Use with Estes Solar Igniters (#2301). (Batteries not included.)

Length: 6.13″ (155.7cm)
Height: 2.38″ (6.05cm)
Width: 1.44″ (3.66cm)
Weight (with batteries): 7 oz. (198 g)
Shipping weight: 8 oz.
Cat. No. 2300 .................... $5.50
THE FANTASTIC
ESTES LAND ROCKETS™

LIGHTNIN' BUG
A real four wheel bomb featuring "VW Funny Car" design with simulated "chute pouch and fall-out decals. 11.4" long, (28.96cm). Ship Wt. 15 oz. Cat. No. 4002 $4.95

SCORCHER
This "Salt Flats Machine" is a rocket engine on wheels ready to set a new land speed record. 12" long, (30.48cm). Ship Wt. 15 oz. Cat. No. 4003 $4.95

STARFIRE
A "Rocket Powered Rail Job" low to the ground with sleek lines ready to sprint the strip. Watch out, dragsters! 13.25" long, (33.66cm). Ship Wt. 15 oz. Cat. No. 4004 $4.95

Get the ESTES LAND ROCKET Race Kit!
FEATURES EVERYTHING YOU NEED TO RACE TODAY!
Discover the thrill and excitement of Land Rocket racing. Watch your machine streak away from the starting line in a cloud of jet exhaust. As she sprints across the finish, realistic drag chute is deployed just like the real thing.
Kit includes Screamin' Eagle racer with T-wing airfoil, mag wheels and racing slicks. Plus XR-100 re-useable rocket engine, colorful drag chute, official race flags, sponsor decals, and "Competition Guide". Plus ColdPower propellant and synchro line with anchor system. Ship wt. 27 oz. Cat. No. 4000 $7.95

SCREAMIN' EAGLE
This wide track monster looks like a "Mustang Funny Car" with giant slicks and T-wing airfoil ready for the Winter Nationals. 11.4" long, (28.96cm) Ship wt. 16 oz. Cat. No. 4001 $4.95

COLDPOWER PROPELLANT
High performance, non-flammable fuel for all Estes Land Rockets. 15 oz. can provides 10-15 runs.
Ship wt. 16 oz. Cat. No. 3404 $2.50

*Included in race kit only.

Race'em alone or with friends!
Hold your own Le Mans, Grand Prix, or Championship Drags!!
LAUNCH SUPPLIES

1/8" DIA. TWO-PIECE LAUNCH ROD: Handy collapsible two-piece rod for portable launchers. Pieces slip together to make a 36" long rod. Base rod has a diameter of 1/8", Shipping weight 6 oz. Cat. No. 2239 ....... $ .70

ADD-ON ROD: Sturdy 1/8" diameter, 18" long launch rod section expands two-piece rod to 52" length. Ship wt. 6 oz. Cat. No. 2236 $ .35 per section


LAUNCH RAILS: Rigid aluminum "C" rails offer countless possibilities for launcher design.

"C" RAIL: 3/8" square (outside). Comes in 18" long sections. Durable aluminum for long life and rust-free service. Use at least 2 sections connected with a joiner (see below). Ship wt. 6 oz. Cat. No. 38095 2 for $2.00

RAIL JOINER: Spring clip 2" long by 1/4" wide. Fits inside rail ends, holds two rail sections securely together. Ship wt. 2 oz. Cat. No. 2252 $ .65 each

BLAST DEFLECTOR PLATE: Slip-on metal deflector plate fits any launcher using a 1/8" rod, protects launcher base from rocket blast. Four-inch diameter. Shipping weight 5 oz. Cat. No. 2241 ...... $ .95

DELUXE BLAST DEFLECTOR: Durable pressed steel plate deflects engine blast outward away from launcher. Ship wt. 6 oz. Cat. No. 2240 ...... $ .85

SWIVEL ASSEMBLY: Provides 360° rotation and full tilt adjustment, yet locks in selected position. Handles 1/8" rod, 3/16" rod, and C-rail. Ship wt. 3/4 oz. Cat. No. 2219 ...... $2.00

MIcro-CLIPS: Equip your launcher with the best Spring-loaded solid clips connect lead wires to igniters. Easy-to-clean and highly conductive with flat contact surfaces. Only 1.1 inches long, attach to leads with or without solder. Shipping weight 1 oz. Cat. No. 2247 2 for $ .60

BATTERY CLIPS: Hook-up to car batteries. Heavy-duty clips connect to terminals up to 1" in dia. With insulators. Ship wt. 5 oz. Cat. No. 2245 2 for $1.25

NICHROME WIRE: Model rocket ignition wire. No. 30 recommended for use with car batteries. Cat. No. 32 for use with other power supplies. No. 30, 15-Foot Roll: Cat. No. 2228 ...... $ .75

No. 32, 15-Foot Roll: Cat. No. 2229 ...... $ .95

UNIVERSAL SAFETY KEY: Replacement safety interlock key for all Estes Launch Control Systems except Ready-To-Fly kits #0701 and #0715. Cat. No. 38099 ...... $ .25

Fin-Kwik

Fast! Simple! Accurate!

ASSEMBLING FIXTURE:
- Position and Glue Fins quickly and easily
- Fits Body Tubes up to BT-70
- Designed for either 3 or 4 finned rockets
- Aligns fins at 90° or 120° to each other
- Heavy-duty metal construction
- Completely adjustable

Cat. No. 2713 ......... ONLY $7.95

TRACKING EQUIPMENT

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. Cat. No. 9015 $ .85

ALTIMSCOPE

Find out how high your rocket went with this Altimscope! Comes in kit form complete with instructions, trig tables, technical report TR-3 on altitude tracking and 2-D altitude computer. Patent No. 3,198,147. Ship wt. 20 oz. Cat. No. 1415 $6.95

RECOVERY SUPPLIES

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

Cat. No. Description Parachute Diameter Net Weight Price Each
2261 PK-8 8 inches .035 oz. .60
2264 PK-12 12 inches .078 oz. .65
2267 PK-18 18 inches .144 oz. .70
2271 PK-24 24 inches .298 oz. $1.00

ALUMINIZED PARACHUTE MATERIAL: Extra strong coated polyethylene. 3 feet x 3 feet. 1.25 mil thick. Perfect for custom 'chutes, para-wings, etc. Shipping weight 2 oz. Cat. No. 2259 $2.00

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 included in each package. Shipping weight 6 oz. Cat. No. 2274 $ .70
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 Technology, you will have 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 series description number. Those which do not feature an additional explanation as to where they can be used. Normally, parts listing the same series 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 #2060 tube adapter (TA-2060) will adapt a BT-20 to a BT-60, and a #5055 centering ring (AR-5055) will center a BT-50 within a BT-85. By using balsa or paper adapters almost any combination of parts can be joined together. For ordering, be sure to use both the catalog number and the series description number (name).

RECOVERY SUPPLIES

SHOCK CORD: Specify length when ordering. Shipping weight 1 oz.
- 18" wide: Net wt. 0.009 oz. Cat. No. 2276 $ .25
- 1/4" wide: Net wt. 0.007 oz. Cat. No. 2277 $ .30
Also 36" long for greater stretch on those larger birds, 1/8" wide: Net wt. 0.0078 oz. Cat. No. 85744 $ .30

STREAMER MATERIAL: Bright orange, flame-resistant crepe paper streamers, 100' / 8" lengths, enough for two to eight streamers. Specify size when ordering. Shipping weight 1 oz.
- 1/4" wide: Net wt. .007 oz. Cat. No. 2234 $ .25
- 3/8" wide: Net wt. .01 oz. Cat. No. 2235 $ .25

SHROUD LINES: Build reliable, durable, custom parachutes with this strong, hard surface shroud line cord.
- Comes in 70 yd. spools. Shipping weight 5 oz. Cat. No. 2340 $ .70

TAPE STRIPS: For top strength, low bulk and low weight, fasten shroud lines with these 1/4" x 3/4" pressure sensitive Tape Discs. In sheets of 4 discs. Shipping weight 1 oz.
- Cat. No. 38412 $ .80

TAPE DISCS: Fasten shroud lines to plastic parachutes or streamers with these 3/4" pressure sensitive Tape Discs. In sheets of 6 discs. Shipping weight 1 oz.
- Cat. No. 2294 $ .65
- 4 sheets of 6 for $ .50

SNAP SWIVELS: For quick changes and reduced tangling in your recovery systems, use these tiny 1" long snap swivels. Net weight .01 oz. Shipping weight 1 oz.
- Cat. No. 2292 $ 1.20

YOUR DESIGN COULD WIN YOU A $75 MERCHANDISE CERTIFICATE

ENTER THE DESIGN OF THE MONTH CONTEST

Have an idea for an original design? Enter our Design of the Month contest today. Your design could be published in an issue of Model Rocket News, plus win you $75.00 in free merchandise from this catalog. Simply follow the rules below. Keep those entries coming, and maybe you’ll be our next winner!

DESIGN OF THE MONTH RULES

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, etc.).
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. Plans do not have to be flight-tested and proven. However, a proven design is more apt to win.
6. Your design entry should include a parts list and any instructions or diagrams you feel would be helpful.
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.
10. New contest every month.
11. All designs reaching Estes Industries during the calendar month will be entered in that month's competition. (Date of receipt, not postmark, will determine the month in which a design will be entered.)
12. If two or more exceptional entries are received during any month, the judges may, at their discretion, make identical first-place awards or give additional honorable mentions.
13. Designs should be sent to the Design of the Month Editor, Estes Industries, Inc., Penrose, Colorado 81240. However, all plans sent to us which are not specifically addressed to another contest or department will be automatically placed in the Design of the Month Competition.
14. Each month the designer of the winning entry will receive a certificate entitled him to $75.00 in merchandise and an award certificate suitable for framing. Award winners will be notified by mail.

GOOD LUCK!!
BODY TUBES

Spiral

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PARALLEL

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PAYLOAD SECTIONS

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Notes:
Payload Sections include nose cone, body tube, and adapter or bulk head.
ENGINE MOUNTS

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<tr>
<th>Engine Type</th>
<th>Cat. No.</th>
<th>Description</th>
<th>Price</th>
<th>Fits</th>
<th>Net Weight Oz.</th>
<th>Shipping Weight Oz.</th>
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<tr>
<td>For Series I &amp; II Engines - A, B, &amp; C type</td>
<td>3150</td>
<td>EH-2050</td>
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<tr>
<td>&amp; D type</td>
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<td>For Series IV Engines: 0.945&quot; x 2.75&quot;&quot;</td>
<td>3152</td>
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<td>For T Series Mini-Engines: 0.945&quot; x 1.75&quot;&quot;</td>
<td>3153</td>
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<td>Conversion Mount - From Series IV Engines to Series I &amp; II Engines</td>
<td>3154</td>
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Use Estes, high performance engine mounts for your original designs. All engine mounts feature easy-to-assemble instructions and lightweight components.

BALSADAPTERS

Adapters give flexibility for rocket design. Switch from one size body tube to another for payload capsules, parachute compartments, propulsion sections, etc. Adapters fitting BT-20 can be built-up with masking tape to fit BT-30. Any adapter can be hollowed out to make a passage for ejection gases. All adapters have at least 1/2" mating surface on each end.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
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<td>TA-5065</td>
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<td>BT-50 to BT-60</td>
<td>3.0&quot;</td>
<td>2.0&quot;</td>
<td>0.60</td>
</tr>
<tr>
<td>8036</td>
<td>TA-5060</td>
<td>$1.60</td>
<td>BT-50 to BT-60</td>
<td>3.0&quot;</td>
<td>2.0&quot;</td>
<td>0.60</td>
</tr>
<tr>
<td>70020</td>
<td>TA-6065</td>
<td>$.80</td>
<td>BT-50 to BT-60</td>
<td>3.0&quot;</td>
<td>2.0&quot;</td>
<td>0.60</td>
</tr>
<tr>
<td>8038</td>
<td>TA-5560</td>
<td>$.80</td>
<td>BT-55 to BT-60</td>
<td>3.0&quot;</td>
<td>2.0&quot;</td>
<td>0.60</td>
</tr>
<tr>
<td>70030</td>
<td>TA-5656</td>
<td>$.85</td>
<td>BT-55 to BT-60</td>
<td>3.0&quot;</td>
<td>2.0&quot;</td>
<td>0.60</td>
</tr>
<tr>
<td>8039</td>
<td>TA-6670</td>
<td>$1.50</td>
<td>BT-60 to BT-70</td>
<td>2.7&quot;</td>
<td>1.5&quot;</td>
<td>0.65</td>
</tr>
</tbody>
</table>

STAGE COUPLERS

For multi-staging, joining body tubes, positioning adapter rings, etc. Make perfect guides for cutting body tubes, too. Shipping weight for all is 3 oz each.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Price Each</th>
<th>Outside Diameter</th>
<th>Inside Diameter</th>
<th>Length</th>
<th>Fits</th>
<th>Average Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3053</td>
<td>JT-55</td>
<td>$ .35</td>
<td>.949&quot;</td>
<td>.920&quot;</td>
<td>1&quot; BT-50</td>
<td>BT-50</td>
<td>$ .25 oz.</td>
</tr>
<tr>
<td>3054</td>
<td>JT-65</td>
<td>$ .35</td>
<td>1.28&quot;</td>
<td>1.25&quot;</td>
<td>1.5&quot; BT-65</td>
<td>BT-65</td>
<td>$ .25 oz.</td>
</tr>
<tr>
<td>3055</td>
<td>JT-70A</td>
<td>$ .35</td>
<td>1.89&quot;</td>
<td>1.85&quot;</td>
<td>1.75&quot; BT-70</td>
<td>BT-70</td>
<td>$ .30 oz.</td>
</tr>
</tbody>
</table>

CENTERING RINGS

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 .288 oz. Shipping weight 3 oz.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Price Each</th>
<th>Outside Diameter</th>
<th>Inside Diameter</th>
<th>Length</th>
<th>Fits</th>
<th>Average Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100</td>
<td>4 pack</td>
<td>$ .30</td>
<td>3/4&quot; BT-5</td>
<td>3/4&quot; BT-50</td>
<td>BT-20</td>
<td>BT-50</td>
<td>10 for $.80</td>
</tr>
<tr>
<td>3102</td>
<td>4 pack</td>
<td>$ .60</td>
<td>1.1/2&quot; BT-5</td>
<td>1.1/2&quot; BT-50</td>
<td>BT-60</td>
<td>BT-50</td>
<td>4 for $.60</td>
</tr>
</tbody>
</table>

PAPER ADAPTERS

MULTI-PURPOSE SET Includes a total of 20 rings for positioning BT-5 in BT-20; BT-5, BT-20 in BT-50; and BT-5, BT-20, and BT-50 in BT-60. Also three universal tapered shrouds and instructions. Shipping weight 2 oz.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Price Each</th>
<th>Outside Diameter</th>
<th>Inside Diameter</th>
<th>Length</th>
<th>Fits</th>
<th>Average Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>8030</td>
<td>RA-2050</td>
<td>$ .55</td>
<td>BT-20</td>
<td>BT-50</td>
<td>BT-5</td>
<td>BT-50</td>
<td>.55 per set</td>
</tr>
<tr>
<td>8031</td>
<td>RA-2050 RINGS</td>
<td>$ .50 per set</td>
<td>BT-20</td>
<td>BT-50</td>
<td>BT-50</td>
<td>BT-50</td>
<td>.50 per set</td>
</tr>
<tr>
<td>8031</td>
<td>RA-2050 RINGS</td>
<td>$ .50 per set</td>
<td>BT-20</td>
<td>BT-50</td>
<td>BT-50</td>
<td>BT-50</td>
<td>.50 per set</td>
</tr>
<tr>
<td>8031</td>
<td>RA-2060 RINGS</td>
<td>$ .50 per set</td>
<td>BT-60</td>
<td>BT-50</td>
<td>BT-50</td>
<td>BT-50</td>
<td>.50 per set</td>
</tr>
</tbody>
</table>
FIN STOCK

<table>
<thead>
<tr>
<th>Cat. 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>32100</td>
<td>BFS-10</td>
<td>3 for $ .75</td>
<td>1/32 x 3 x 9</td>
<td>.065</td>
<td>4</td>
</tr>
<tr>
<td>32102</td>
<td>BFS-20</td>
<td>3 for $ .65</td>
<td>1/16 x 3 x 9</td>
<td>.130</td>
<td>6</td>
</tr>
<tr>
<td>32106</td>
<td>BFS-30L</td>
<td>3 for $ .80</td>
<td>1/16 x 3 x 12</td>
<td>.173</td>
<td>6</td>
</tr>
<tr>
<td>32104</td>
<td>BFS-20L</td>
<td>2 for $ .20</td>
<td>1/16 x 12 x 8</td>
<td>.015</td>
<td>2</td>
</tr>
<tr>
<td>32108</td>
<td>BFS-30</td>
<td>3 for $ .70</td>
<td>3/32 x 3 x 8</td>
<td>.150</td>
<td>150</td>
</tr>
<tr>
<td>32110</td>
<td>BFS-30L</td>
<td>3 for $ .85</td>
<td>3/32 x 3 x 12</td>
<td>.200</td>
<td>150</td>
</tr>
<tr>
<td>32116</td>
<td>BFS-40</td>
<td>3 for $ .80</td>
<td>1/8 x 3 x 9</td>
<td>.260</td>
<td>150</td>
</tr>
<tr>
<td>32118</td>
<td>BFS-40L</td>
<td>3 for $ .80</td>
<td>1/8 x 3 x 12</td>
<td>.260</td>
<td>150</td>
</tr>
<tr>
<td>32114</td>
<td>BFS-30W</td>
<td>$.85 each</td>
<td>4 x 18</td>
<td>.50</td>
<td>16</td>
</tr>
</tbody>
</table>

FIN PATTERNS

Popular fin designs, all tried and proven, printed full size on heavy index stock. Simply cut out and trace around pattern to transfer design to balsa. A must for the model rocket designer. Shipping weight 1 oz. Cat. No. 84485, SHEET No. 2 (14 patterns) $ .40 Cat. No. 84486, SHEET No. 3 (15 patterns) $ .40

CONSTRUCTION SUPPLIES

A Complete Construction and Finishing Set

One convenient package containing all the tools and supplies recommended for assembling, painting, and decorating most model rockets. Ideal for the beginner who doesn’t already have modeling equipment. This set helps you build the best models right from the start.

Contents:

- 1 Bottle White Glue
- 3 Emery Boards
- 1 Bottle Sanding Sealer
- 4 Bottles Paint (assorted colors)
- 1 Bottle Thinner
- 1 Gold Mine Special Decal
- 1 United States Decal

Shipping wt. 1.75 lbs. Cat. No. 1400 $ 6.85 Value Only $ 4.95

MAXI-ROD LAUNCH LUG: 2-1/4’’ long fits 3/16’’ dia. rod. Cat. No. 2338 4 for $ .50

REINFORCING: Reinforce fin joints, attach shock cords, 3’’ x 1’’ sheets of gaugze. Cat. No. 3006 6 for $ .70

DOWEL: Strong, lightweight, seasoned maple dowel. Shipped wt. 1 oz. Cat. No. 3066 6 for $ .70

ENGINE HOLDER: Flat spring steel design gives easy installation and low drag. Recommended for sport and demonstration models built from BT-5, BT-20 and BT-30. Cat. No. 3230 8 for $ .55

ENGINE LUG: Shorter version of engine holder. Recommended for regular and ‘‘D’’ engines. Cat. No. 3230 8 for $ .55

FIN MATERIAL: 3 NCD-2 Nose Cone Dowels Cat. No. 3066 8 for $ .55


Shipping wt. 2 1/2 lbs

Cat. No. 1462 $ 15.00 Value ONLY $ 9.95

LAUNCHER’S SPECIAL

Perfect starter assortment for developing your own “R & D” program. Over 74 pieces— at an excellent savings! Packed in reusable range box.

Contents:

- Nose Cones
- 1 PNC-60L 1 SM-1 Streamer Material
- 1 BNC-30D 2 TD-2 Tape Disks
- 1 BNC-30M 1 SLT-1 Shroud Line
- 1 BNC-20A 6 SC-1 Shock Cord
- 1 BNC-20B 1 SC-2 Shock Cord
- 1 BNC-20N 9 SE-2 Screw Eyes
- 1 BNC-10A
- 1 BNC-10B

MISCELLANEOUS

- Nose Sticks: 1 TJ-60C Stage Couple
- Body Tubes: 1 NB-30 Nose Block
- 2 BT-10H 1 NB-20 Nose Block
- 2 BT-20 1 EH-2060 Engine Holder
- 2 BT-30 1 TA-2060 Balsa Adapter
- 1 BT-60 1 TA-1 Multi-Purpose Paper Adapter Set
- Fin Material: 3 NCD-2 Nose Cone Dowels
- 1 BPS-10 3 LL-2C Launch Lug
- 2 BPS-20 3 EB-20A Engine Blocks
- 2 BPS-30 3 EB-30A Engine Blocks
- 2 BPS-40 3 NCW-1 Nose Cone Weight
- 1 BNC-20A 1 NCS-1 Nose Stock
- 1 BNC-10A 1 NCS-2 Nose Stock
- Recovery Equipment
- D-5 Decal
- 1 PK-8 A
- 2 PK-12A
- 1 PK-18A
- 1 PK-24A

Shipping wt. 1 lb. 10 oz. Cat. No. 1461 $7.00 Value ONLY $5.95

LIFT-OFF ASSORTMENT

For building an all-purpose rocket fleet. Lift off to more rocket building enjoyment with this special-value assortment.

Contents:

- Nose Cones
- 1 BNC-30C 1 BNC-30D 1 BNC-30E 1 BNC-30M 1 BNC-30N
- Body Tubes: 3 BPS-20 2 BPS-30
- Recovery Equipment
- 1 PK-8 A
- 1 PK-12A
- 1 PK-18A
- 1 PK-24A

Shipping wt. 2 lbs Cat. No. 1462 $15.00 Value ONLY $9.95

Customizing Materials

A subsidiary of Damon

WEIGHTS: Balance rockets for stability. ROUND LEAD WEIGHTS — 11/16” dia., center hole. Weight: 0.12 oz. each. Shipping wt. 1 oz Cat. No. 2305 8 for $ .75

BALANCING WEIGHTS — Flexible lead strips. 3” x 1/4” x 0.02”. Weight: 0.085 oz. each. Shipping wt. 1 oz. Cat. No. 2307 10 for $ .75

LAUNCH LUGS: Super-strength laminated launch lugs feature mylar plastic core for durability, paper outer layer for easy gluing. Inside diameter 8/32”, fits 1/8” rod. Ship wt. 1 oz.

1-1/4’’ long: Cat. No. 2331 12 for $ .75

2-1/8’’ long: Cat. No. 2332 10 for $ .75

5” long: Cat. No. 2325 6 for $ .85

8” long: Cat. No. 2326 4 for $ .85
MODELING TOOLS

A. KNIFE AND TOOL SET: Contains small, medium, and heavy-duty knives and an entire assortment of blades, gouges, router, and puncher. Plus planer, 1" sander, spokeshave, and balsa stripper. In wooden box. Shipping weight 2 lbs.
Cat. No. 2693 ........... $14.95 each
B. KNIFE CHEST: Small, medium, and heavy-duty knives plus 9 assorted extra blades. In natural finish wood chest. Shipping weight 1 lb, 8 oz.
Cat. No. 2692 ........... $6.50 each
C. RAZOR SAW: Fits #4 handle. 1" wide x 5" long. Used razor saw blade for cutting balsa and body tube. Shipping weight 6 oz.
Cat. No. 2683 ........... $ .55 each
D. DOUBLE KNIFE SET: Nos. 1 & 2 knives with 10 extra asstd. blades. Shipping weight 8 oz.
Cat. No. 2674 ........... $3.00 each

DECALS

A. Deluxe Decals for roll pattern and fins. Red, white, orange, and black 4" x 9" sheet.
Cat. No. 37013 ........... $ .70 ea.
B. Kit Name decals for your favorite models. Red, white, yellow, and black 3-1/2" x 9-1/4".
Cat. No. 37011 ........... $ .35 ea.
C. Gold Mine Special Decals for lettering, vents, hatches, etc. Red, white, and black 3-1/2" x 9-1/4" sheet.
Cat. No. 37005 ........... $ .35 ea.
D. Kit Name Decals for your favorite models. 4" x 8-1/4" sheet. Available in black or white. Specify color when ordering.
Cat. No. 38930 ........... $ .35 ea.
E. Multi-Purpose Decals featuring a variety of favorite markings. Printed black on clear 3" x 4-1/2" sheet.
Cat. No. 37043 ........... $30 ea.
F. Color stripes for body tube and fins. 4-1/4" x 10" sheet with ten stripes 1/32" through 1/2" wide and 9-1/2" long. Available in red, black, or yellow. Specify color when ordering.
Cat. No. 36950 ........... $ .45 ea.
G. 1/5" Checkboarders for colorful roll patterns. 4-1/4" x 10" sheet. Available in red, black, gold, or white. Specify color when ordering.
Cat. No. 38935 ........... $ .35 ea.

FINISHING SUPPLIES

A. STYRENE CEMENT: 1/2 oz. bottle. For cementing plastic to plastic. Ship. wt. 2 oz.
Cat. No. 2619 ........... $ .35 each
B. WHITE GLUE: Sets fast, gives super strong joints with wood, paper, cloth, and other porous materials. In 2 oz. plastic squeeze bottle. Ship. wt. 6 oz.
Cat. No. 86016 ........... $ .85 each
Cat. No. 2640 ........... $ .25 ea.
Cat. No. 2650 ........... $1.00 each
Cat. No. 2680 ........... $1.00 each
F. SANDING SEALER: Fills small holes in balsa, paper, and other porous materials, provides a smooth surface for paint or dope. In 1 oz. bottles. Ship. wt. 4 oz.
Cat. No. 2625 ........... $ .55 each
Cat. No. 2600 ........... $ .45 each
H. THINNER: For diluting enamel, dope, and sanding sealer. Excellent for brush cleaning. 2 oz. bottle. Specify type when ordering. Ship. wt. 4 oz.
Cat. No. 2641 ........... $ .45 each
I. BODY PUTTY: Fill cracks, holes, grain marks in balsa parts, make smooth finish on bodies. 1-1/2 oz. tube. Ship. wt. 5 oz.
Cat. No. 2653 ........... $ .70 each
J. STYRENE CEMENT: 1/2 oz. tube. For cementing plastic to other materials. Ship. wt. 2 oz.
Cat. No. 2643 ........... $ .30 each
Cat. No. 2656 ........... $ .60 each
L. 12 Sheets Medium -
Cat. No. 2618 ........... $ .60 each
12 Sheets Fine -
Cat. No. 2616 ........... $ .60 each
12 Sheets Extra Fine -
Cat. No. 2614 ........... $ .70 each
36 Sheets Assorted (12 ea.) -
Cat. No. 2612 ........... $ .90 each
M. PAINT BRUSHES: Two #1 brushes for extra fine work, two #4 brushes for normal work, and two #6 brushes for covering large areas rapidly. Sets of six only. Ship. wt. 2 oz.
Cat. No. 2605 ........... $1.00 each

DECORATING TAPE:

black. Thin, tough, pressure-sensitive tape is perfect for stripes, bars, and other decoration. Only .0015" thick, in rolls 1/2 inch wide and 144 inches long. Ship. wt. 5 oz.
Cat. No. 2591 ........... $ .40 ea.
Cat. No. 2592 ........... $ .45 ea.
Cat. No. 2593 ........... $ .45 ea.
Cat. No. 2594 ........... $ .45 ea.
**ROCKETEER T-SHIRTS**

Be the first in your area to wear one.

Both exciting designs are silk-screened on premium quality, 100% white cotton, polo style, domestic T-shirts. Completely washable!

Available in Boy’s Sizes 10 · 12 and 14 · 16 and in Men’s Sizes small (34 · 36), medium (38 · 40), and large (42 · 44). Be sure to specify size in Product Description on Order Form. Ship. Wt. 8 oz.

**MODEL ROCKETERY T-SHIRT**

Far-out mod design identifies you as an active model rocketry enthusiast. Printed in seven fantastic colors (Orange, Lime Green, Magenta, Yellow, Red, Blue, and Black).

Cat. No. 2950
Only $4.95

**SPACE SHUTTLE T-SHIRT**

Dramatic Space Shuttle blast-off reproduced in seven blazing colors (Orange, Lime Green, Yellow, Red, Green, Blue, and Black).

Cat. No. 2956
Only $4.95
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</tbody>
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## MODEL ROCKETRY SAFETY CODE

1. **Construction** - My model rockets will be made of lightweight materials such as paper, wood, plastic and rubber, without any metal as structural parts.

2. **Engines** - I will use only pre-loaded factory made model rocket engines in the manner recommended by the manufacturer. I will not change in any way nor attempt to reload these engines.

3. **Recovery** - I will always use a recovery system in my model rockets that will return them safely to the ground so that they may be flown again.

4. **Weight Limits** - My model rocket will weigh no more than 453 grams (16 ozs.) at liftoff, and the engines will contain no more than 113 grams (4 ozs.) of propellant.

5. **Stability** - I will check the stability of my model rockets before their first flight, except when launching models of already proven stability.

6. **Launching System** - The system I use to launch my model rockets must be remotely controlled and electrically operated, and will contain a switch that will return to "off" when released. I will remain at least 10 feet away from any rocket that is being launched.

7. **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 the launcher.

8. **Firing Conditions** - I will not fire my model rocket in high winds, near buildings, power lines, tall trees, low flying aircraft, or under any conditions which might be dangerous to people or property.

9. **Launch Area** - My model rockets will always be launched from a cleared area, free of any easily burnable materials, and I will only use non-flammable recovery wadding in my rockets.

10. **Jet Deflector** - My launcher will have a jet deflector device to prevent the engine exhaust from hitting the ground directly.

11. **Launch Rod** - To prevent accidental eye injury I will always place the launcher so 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.

12. **Power Lines** - I will never attempt to recover my rocket from power lines or other dangerous places.

13. **Launch Targets & Angle** - I will not launch rockets so their flight path will carry them towards 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.

14. **Pre-Launch Test** - When conducting research activities with unproven designs or methods, I will, when possible, determine their reliability through pre-launch tests. I will conduct launches of unproven designs in complete isolation from persons not participating in 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.

**Signed**

This Solid Propellant Model Rocket Safety Code is Approved by The National Association of Rocketry and the Hobby Industry Association of America.
The perfect beginner’s outfit for father and son. Be ready to launch your X-15 Rocket Plane in less than 15 minutes. Features all plastic snap-together construction for easy, quick assembly.

Ready-to-fly X-15 Rocket Plane comes with preassembled 10” parachute, authentic scale decor, and easy-lock engine mount. It looks like the real thing!

Portable futuristic launch control system is ruggedly designed to provide launch-after-launch enjoyment. Advanced launch controller is designed for easy-grip hand held control with safety interlock key and launch control button. Realistic launch pad features 24” two-piece launch rod, pre-soldered micro-clips, mini-blast deflector, and sturdy girder construction. The entire system is pre-wired. (Requires four AA size alkaline penlight batteries for operation.)

X-15 Flight Pack includes 3 NAR Safety Certified A3-4T mini engines, parachute recovery wadding, and Estes high reliability Solar igniters.

Special Bonus: Model Rocketry Tech Manual is also provided to get you started off right. Ship. wt. 2 lbs. 8 oz.
Cat. No. 0715 ................................ Only $15.95

Available April 15, 1977

Estes Industries, Penrose Colorado 81240