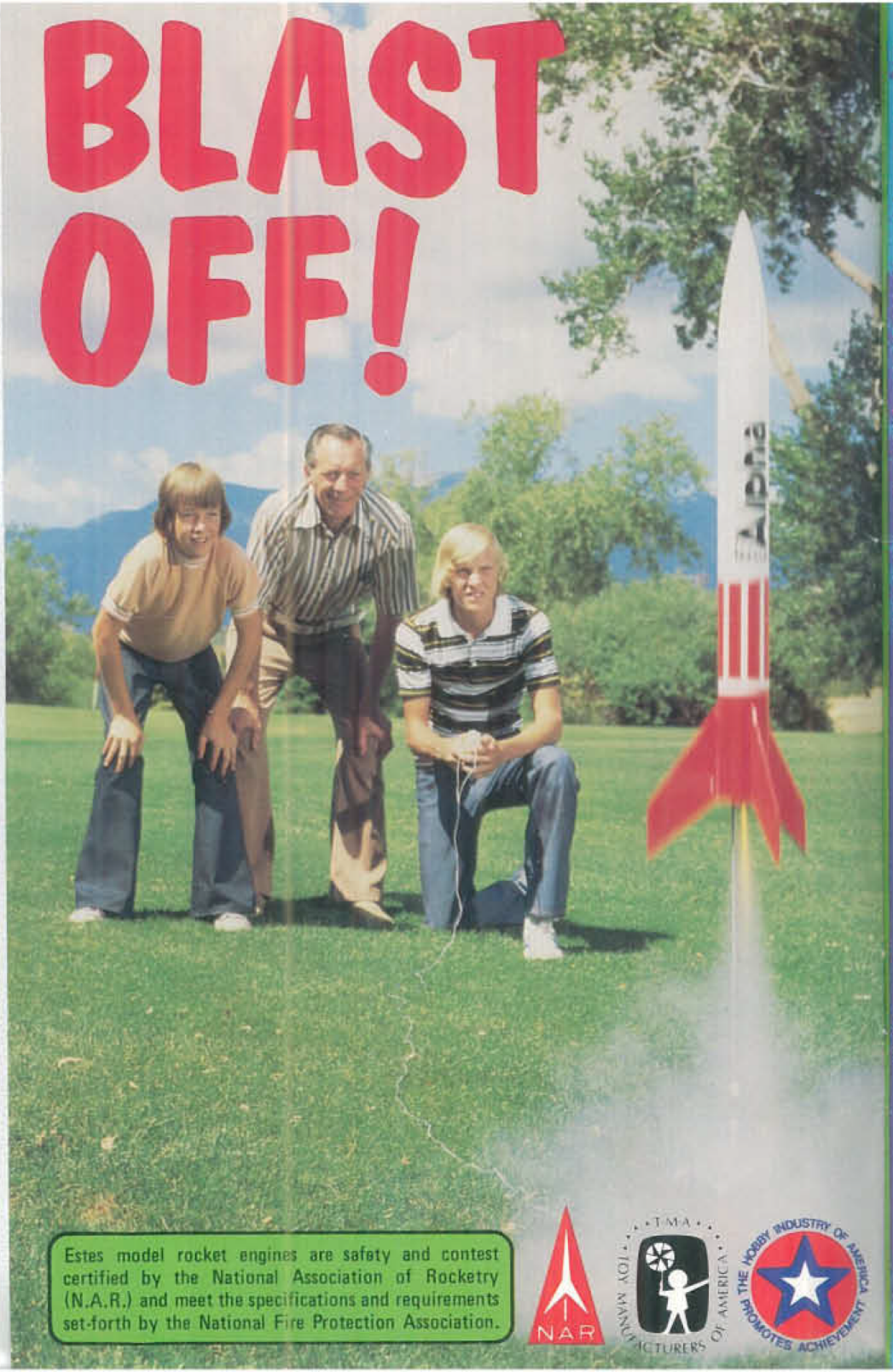
ESTES
A SUBSIDIARY OF DAMON
MODEL ROCKETRY CATALOG
"NEW" BATTLESTAR GALACTICA T.M.
Flying Model Rockets
See center of this catalog.
NO. 782
50¢

BLAST OFF!



Estes model rocket engines are safety and contest certified by the National Association of Rocketry (N.A.R.) and meet the specifications and requirements set-forth by the National Fire Protection Association.

NAR

TMA TOY MANUFACTURERS OF AMERICA

THE HOBBY INDUSTRY OF AMERICA PROMOTES ACHIEVEMENT

A Special Anniversary Message From Vern Estes...

Welcome!

You may not believe it, but 1978 is our 20th big year of making flying model rockets. It seems amazing that we were putting up spacecraft the same year the United States Army put up America's first artificial satellite in 1958, long before manned spaceflight or journeys to the moon.

But what of 1978? The big news is STAR WARS! After working feverishly for months, six spectacular space vehicles are coming off the production lines--the incredible X-Wing Fighter...the awesome TIE Fighter...a flying version of the "robot hero" R2-D2...the Proton Torpedo Outfit, the missile that destroyed the Imperial Death Star! ...the spectacular X-Wing Model Rocketry Starter Kit...and the giant Maxi-X-Wing, the exact same size as those used for all those great special effects in STAR WARS.

The other big news of 1978 is the continued testing of NASA's Space Shuttle Enterprise. You'll find the Estes scale flying model on page 41. When we say scale, we mean it too; the boosters and external tank return to earth by parachute, while the Enterprise glides back on its own -- just like the real thing!

Finally, don't forget the Estes Aerospace Club. When you join, you receive a huge assortment of materials and information plus a Viper rocket kit designed and flown exclusively by club members. Get the most out of model rocketry and join the EAC today! See pages 12 and 13 for complete details.

Join us during our 20th Anniversary -- the biggest year of model rocketry ever! Good flying and "May The Force Be With You".

Sincerely,

Vern Estes

Vern Estes

ESTES' 20th ANNIVERSARY! STAR WARS IS HERE! SPACE SHUTTLE IS FLYING!

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HERE'S HOW TO USE YOUR ESTES CATALOG.

All prices in this catalog are subject to change without notice.

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.

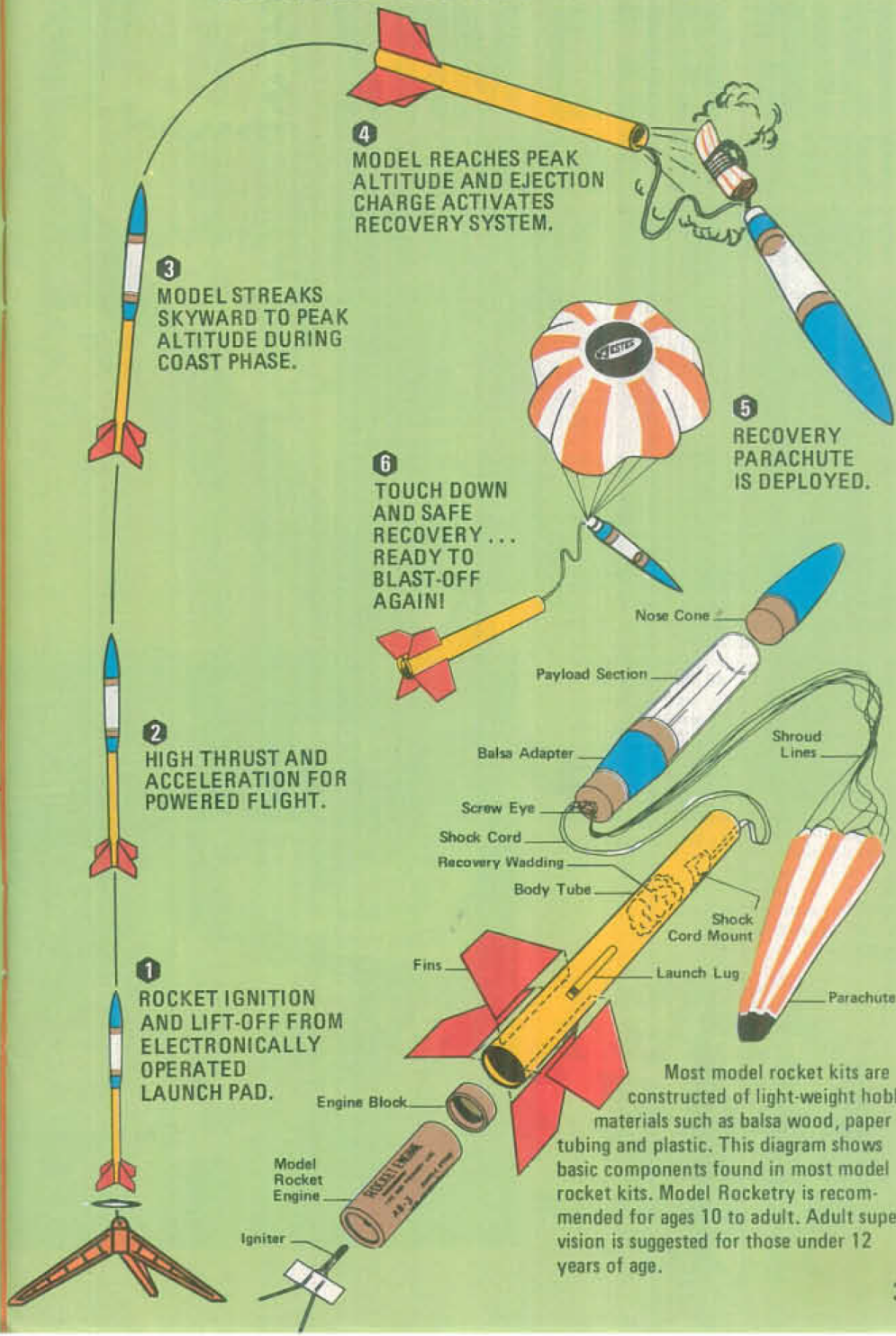
SKILL LEVELS

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.

Skill Level No.	Description	To Be Built By
1	Very Simple	Beginning Rocketeer
2	Fairly Easy	Intermediate Rocketeer
3	Average	Craftsman Rocketeer
4	Challenging	Advanced Rocketeer
5	Extremely Challenging	Expert Rocketeer

ESTES
A SUBSIDIARY OF DAMON

FLIGHT SEQUENCE & MODEL ROCKET PARTS



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.

"THIS IS WHERE TO BEGIN"

DER BIG RED MAX

NEW!

DELUXE MODEL ROCKETRY OUTFIT

Virtually everything you need to get started in Estes Model Rocketry in a big way. Includes the "New" Big Red Max Rocket. . .the all "New" ultra advanced Big Foot Launch Control System. . .Engines. . .Launching Supplies. . .and the "Alpha Book of Model Rocketry.

At a moderate price you get practically everything needed for assembly, lift-off, and recovery. (Batteries, glue and finishing supplies are not included.) With this outfit you'll be well on your way to discovering the exciting "World of Model Rocketry". Experience the fun of building and the thrill of flying the Big Red Max rocket. This big bird, over two feet long, is easy to assemble with die-cut balsa fins, quick-release engine mount, huge plastic nose cone, and "far-out" Red Max decal sheet. Excellent performance with giant 18" orange and white parachute.

"New" Big Foot Launch Control System (page 52) is capable of launching all the rockets in this catalog and is especially recommended for launching the Maxi-Brutes on pages 45, 46, 47, and 48. Futuristically designed launch platform features rugged plastic construction and enormous "two foot print" for maximum launch pad stability. Requires four inexpensive "D" cell batteries for power (not included). Launch pad includes blast deflector plate, 1/8"X36" two-piece launch rod, and adjustable swivel mount to compensate for wind direction.

EASY TO ASSEMBLE!

(BATTERIES, GLUE, AND FINISHING SUPPLIES NOT INCLUDED.)

YOUR BIG FOOT LAUNCH CONTROL SYSTEM WILL LAUNCH EVERY ROCKET IN THIS CATALOG!

OVER 2 FEET TALL

Launch control unit features quick assembly plus safety key, continuity check light, ignition button and 15 feet of launch cable.

Flight Pak is complete with three high performance, N.A.R. safety-certified engines (two "B" type and one "C" type engines) plus parachute recovery wadding and "Solar" rocket igniters for your first series of exciting flights.

Last, but not least, we have included the "Alpha Book of Model Rocketry" to help teach you the basic principles and techniques you should acquire before moving on to higher Skill Levels and more complex and exciting vehicles.

der Big Red Max
Deluxe Model Rocketry Outfit
Cat. No. 1403
Ship wt. 3 lbs.

Only $16.95

$23.40 VALUE You Save $6.45

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 the 3/16" maxi-rod for the giant "D" powered flying model rockets like the unbelieveable Maxi-Brutes that stand more than 3' tall (see pages 45 - 48).

In addition, the PORTA-PAD tilts to your specifications giving you the option of distance as well as height. You have flexibility, too, with the SOLAR LAUNCH CONTROL system, in that it can be activated by only 4 alkaline AA batteries for power (not included). Advanced shape allows for perfect hand-held control, and unit is easily assembled in minutes.

KIT INCLUDES:
1. ALPHA III Rocket with rugged bright plastic one-piece fin unit and nose cone.
2. Realistic Decal sheet with water soluble decals for easy application.
3. Brightly colored 12" Recovery Parachute with shroud lines and shock cord.
4. PORTA-PAD launch platform of heavy duty plastic with strong girder construction, yet easy to disassemble and extremely portable. Features 36" long x 1/8" diameter standard launch rod.
5. Blast Deflector Plate to protect the Porta-Pad.
6. SOLAR LAUNCH CONTROLLER, extremely lightweight and futuristically designed, requiring only 4 alkaline AA batteries (not included) for ease of transport.
7. Parachute Recovery Wadding.
8. Solar Igniters.
9. Three NAR Safety Certified Rocket Engines.
10. Alpha Book of Model Rocketry, the complete beginner's tech manual and guide.

Ship wt. 3 lbs.
Cat. No. 1406

THIS KIT-If Sold Separately-Would Cost Approximately $19.50. YOU SAVE $5.55

Only $13.95

For full description of major items in this kit see: Alpha III (p. 15), Porta-Pad (p. 53), and Solar Launch Controller (p. 53).

HERE'S THE STARTER KIT THAT'LL GIVE YOU THE SOPHISTICATED LAUNCH SYSTEM YOU'LL NEED FOR THE "BIG BIRDS" LATER ON!

(Not included, glue, paint, batteries, and modeling tools.)

Challenger-1 Flying Model Rocketry Starter Kit

Assembles in less than 30 Minutes!

This high performance Challenger-1 rocket is very easy-to-assemble with bright orange plastic nose cone and fin unit. Features quick-finish decor with precolored body tube and realistic roll pattern decals. No painting required! This Challenger-1 rocket can be launched over and over again and can attain altitudes over 1,000 feet! Returns via 12" recovery parachute. You need only replace the rocket engine, igniter, and recovery wadding for each new flight.

Challenger-1 Launch Control System features futuristically designed hand-held launch controller with arming lamp, safety key, launch button, and 15 feet of launch cable with micro igniter clips. Plus sleekly designed launch pad with blast deflector plate and 1/8"X36" two-piece launch rod. Entire system sets up quickly for launch and disassembles easily for compact storage.

Flight Pak includes three N.A.R. safety certified model rocket engines, parachute recovery wadding, and high reliability Solar Igniters for three exciting flights.

Special Bonus - New "Beginner's Tech Manual" filled with model rocketry data to get you started off right. (Ship. wt. 1 lb.)

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

Cat. No. 1416

ONLY $9.95

(Requires 6 or 12 volt lantern battery and glue-not included.)

STAR TREK™ The Perfect Model Rocketry STARTER KIT

Complete with everything you need to lift-off in minutes. (less 6-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 testing circuitry, lightweight launch cable and micro-igniter clips.
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 fits easily on 6 or 12-volt lantern battery to serve as combination power source and launch pad (6 or 12 volt lantern battery and glue not included with kit).
10. **Three NAR Safety-Certified Rocket Engines** for your first three flights to send your STAR TREK rocket hundreds of feet into the sky. Later you can use more powerful engines to achieve heights over 1,000 feet!
11. **Recovery Wadding** to protect 'chute assembly from effects of rocket blast.
12. **Astron igniters** for reliable rocket ignition every time.
13. **Beginners Tech Manual,** chock full of model rocketry information.

EASY-TO-ASSEMBLE

Ready-To-Launch In Less Than 30 Minutes

Recommended Engines:
1/2A6-2
A8-3 (first flight)
B4-4 B6-4 C6-5

Shipping wt. 1 lb. 2 oz.

STAR TREK FLYING MODEL ROCKETRY STARTER KIT

Cat. No. 1418 **ONLY $10.95**

©1976 Paramount Pictures Corporation

X-15 STARTER KIT

It Really Flies!

1/68th Scale X-15 Rocket Ready-to-launch in 15 minutes.

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 $17.95**

from STAR WARS™

NEW!

MAY THE FORCE BE WITH YOU!

Join the ranks of the Jedi Knights with this X-WING STARTER OUTFIT. Complete with authentic X-WING FIGHTER. . . "NEW" BIG FOOT LAUNCH CONTROL SYSTEM. . .High Performance Engines. . .And More!

Imagine your thrill and excitement as you admire your completed X-WING FIGHTER posed for lift-off atop its Big Foot Launch Pad. As your countdown ends, a powerful blast sends your X-WING streaking towards the heavens with a great WHOOOSH! Now several hundred feet above, you track your X-WING, when suddenly. . ."There it is!". . .The recovery 'chute is deployed. A brightly colored parachute appears, and your X-WING FIGHTER floats gently back to Earth. . .ready for another sensational flight!

STARTER OUTFIT features highly detailed T-65 X-WING FIGHTER with authentic 3-color scale decor and 12" parachute recovery. (See page 31.) Plus "New" Big Foot Launch Control System with enormous "two foot print" for maximum launch pad stability. (See page 52.) STAR WARS Flight Pak includes high performance engines, parachute recovery wadding, and "Solar" rocket igniters for three spectacular flights. The "Alpha Book of Model Rocketry" is also enclosed to get you started off right!
Ship wt. 3 lbs.
Cat. No. 1422 . . . . . **Only $18.95**

X-Wing Fighter STARTER OUTFIT

$25.60 VALUE
Save $6.65

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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.

Join More Than 25,000 Estes Rocketeers Getting The Most Out Of Model Rocketry!

FEATURES VIPER ROCKET

You Get All This And MORE...

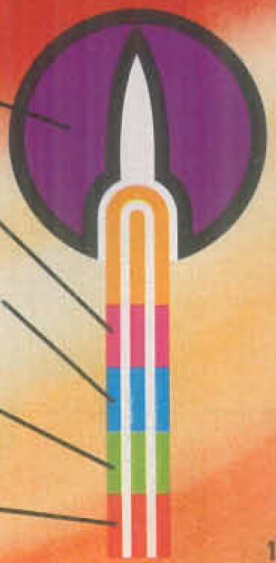
Further details on all these exciting programs and club services will be included with your EAC Membership Kit. Your EAC membership will remain in effect for as long as you remain an active Estes rocketeer.

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 **$3.50**

THRUST BAR ACHIEVEMENT PROGRAM



- SKILL LEVEL ONE BEGINNER/NEW EAC MEMBER
- SKILL LEVEL TWO INTERMEDIATE ROCKETEER
- SKILL LEVEL THREE CRAFTSMAN ROCKETEER
- SKILL LEVEL FOUR ADVANCED ROCKETEER
- SKILL LEVEL FIVE EXPERT ROCKETEER

SKILL LEVEL 1

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. (62.4 g)
Shipping wt. 11 oz.
Recommended Engines
A8-3 B4-2 B6-2 (First Flight)
B6-4 C6-5
Cat. No. 1223 . . . . . **$5.00**

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)
B4-4 B6-4 C6-5
Cat. No. 1225 . . . . . **$2.75**

NEW!

WIZARD

Skill Level 1
Simple, quick construction with balsa nose cone and die-cut fins. One of the highest performing vehicles in Estes fleet with its 1600 foot altitude capability and huge 30 inch streamer recovery system that makes it easy to track. Includes great looking kit decals too!

Specifications
Length 12" (30.5cm)
Diameter 0.736" (18.7mm)
Weight 0.79 oz. (20 g)
Ship wt. 5 oz.
Recommended Engines
1/2A6-4 A8-5 (First flight)
B4-6 B6-4 B6-6 C6-7
Cat. No. 1292 . . . . . **$1.95**

Alpha III

Skill Level 1
Another great first or second kit. Plastic nose cone and fin assembly make for easy, quick assembly. This rocket will deliver outstanding performance flight after flight. 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**

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.
Pat. No. 3,114,317

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)
A8-3 B6-4 C6-5
Cat. No. 1201 . . . . . **$1.75**

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 . . . . . **$2.50**

STREAK

(Decals not included.)

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 . . . . . **$1.50**

Engines, Launch System, and Glue not included.

SKILL LEVEL 1

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 (First flight)
A8-3 B6-4 C6-5
Cat. No. 1202 . . . **$2.50**

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 0.976" (24.8mm)
Weight 1.5 oz. (42 g)
Shipping wt. 10 oz.
Recommended Engines
1/2A6-2 A8-3 (First flight) A8-5 B4-4 B6-4 C6-5
Cat. No. 0650 . . **$4.00**

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. 0.976" (24.8mm)
Weight 0.7 oz. (20 g)
Shipping wt. 5 oz.
Recommended Engines
1/2A6-2 A8-3 (First flight) B6-4 B14-5 C6-5
Cat. No. 1218 . . . . . **$4.00**

ANTARES

Skill Level 1
Achieve flights over 1200 feet with this high performance sports model. Kit features include fin and roll pattern decals plus 10" 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 A8-3 (First flight) A8-5 B4-4 B6-4 C6-5
Cat. No. 1276
$3.50

SCAMP

Skill Level 1
Great sports flier with sleek, high performance design. Features 12" parachute recovery with roll pattern and fin decals. Easy-to-assemble with die-cut balsa parts, plastic nose cone and quick-release engine mount.

Specifications
Length 13.75" (34.9cm)
Diameter 0.976" (24.8mm)
Weight 0.8 oz. (23 g)
Shipping wt. 5 oz.
Recommended Engines
1/2A6-2 (First flight) A8-3 B6-4 C6-5
Cat. No. 1286
$3.50

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" (52.8cm)
Diameter 0.976" (24.8mm)
Weight 1.3 oz. (37 g)
Shipping wt. 5 oz.
Recommended Engines
1/2A6-2 A8-3 (First flight) B4-4 B6-4 C6-5
Cat. No. 1277 . . . . . **$4.00**

Engines, Launch System, and Glue not included.

SUPER mini-BRUTES

SKILL LEVEL 1

mini Bertha

Skill Level 1
A little sister to the famous Big Bertha listed on page 14 Great performance with colorful 10" parachute recovery. Two-color decal sheet, quick-release engine mount, and balsa and paper construction.
Specifications
Length 11.25" (28.58cm)
Diameter 0.736" (18.69mm)
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
$2.50

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 1/2A3-4T
A3-6T A10-3T
Cat. No. 0801 ..... **$ .99**

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 0.255 oz. (7.23 g)
Shipping wt. 6 oz.
Recommended Engines
1/4A3-2T (First flight)
1/4A3-4T 1/2A3-4T
A3-6T A10-3T
Cat. No. 0802 ..... **$2.50**

Engines, Launch System, and Glue not included.

Can Attain Altitudes Over 1,000 Feet!

2 For The Price Of 1 Super Flea & Javelin Only $3.00

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 break-away drag recovery.
Specifications
Length 7.34" (18.64cm)
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 ..... **$3.00**

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

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 ..... **$2.50**

LITTLE JOHN

Skill Level 1
Authentic appearance of a semi-scale surface-to-surface military vehicle with U.S. Army decor. Die-cut fins, quick-release engine mount and bright 10" parachute recovery.
Specifications
Length 14.0" (35.6cm)
Diameter 0.976" (24.81mm)
Weight 0.875 oz. (21.2 g)
Shipping wt. 6 oz.
Recommended Engines
1/2A3-2T (First flight) A3-4T A10-3T
Cat. No. 0819 ..... **$3.00**

SUPER mini-BRUTES
SKILL LEVEL 2

Pegasus

Skill Level 2

U.S. Air Force Mach 3 reconnaissance missile of the near future. Designed for launch from the wing of a supersonic bomber about to enter enemy territory, Pegasus transmits vital real-time intelligence data on the enemy's defenses. Kit features scale-like 2-color decals and huge high performance fan jets for super-fast acceleration. Plus die-cut balsa parts, quick-release engine mount and 12" parachute.

Specifications

Length	14.0" (35.56cm)
Diameter	0.736" (18.69mm)
Weight	0.74 oz. (21 g)
Wing Span	5.75" (14.61cm)
Shipping wt.	5 oz.

Recommended Engines

1/4A3-2T (First Flight) 1/2A3-2T A3-4T

Cat. No. 0806 ..... $3.50

BETA

Skill Level 2

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

Pat. No. 3,392,302

Specifications

Length 13.76" (34.95cm)
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 ..... $2.75

Engines, Launch System, and Glue not included.

SUPER mini-BRUTES
SKILL LEVEL 3

CONDOR

Skill Level 3

Designed by Estes engineers as a futuristic orbital booster with recoverable shuttle for near-Earth missions, this exotic sports 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" (46.4cm)
Booster Diameter 0.976" (24.8mm)
Weight (Booster w/Glider) 1.0 oz. (28.3 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 ..... $4.00

Wolverine

Skill Level 3

Futuristic Russian hypersonic interceptor designed for near-space missions. Ramjet nose cone and cockpit canopy. 10" 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 ..... $3.00

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 10" parachute recovery.

Specifications

Length	11.75" (29.85cm)
Diameter	0.736" (18.69mm)
Weight	1.0 oz. (28.3 g)
Wing Span	4.5" (11.43cm)
Shipping wt.	5 oz.

Recommended Engines

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

Cat. No. 0805 ..... $4.00

SKILL LEVEL 2

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
$3.50

SAROS

Skill Level 2
An excellent scale-like sounding rocket vehicle. High performance design for really high flights. Payload section plus plastic nose cone, adapter section, and fin unit. Embossed metallic fin rivet press-on with three-color decals. Quick-release engine mount and 12" parachute recovery.
Specifications
Length 22.5" (57.2cm)
Diameter 0.976" (24.8mm)
Weight 1.5 oz. (43 g)
Shipping wt. 8 oz.
Recommended Engines
A8-3 (First flight)
A8-5 B4-4
C6-5
Cat. No. 1254
$5.00

DER RED MAX

Skill Level 2
Far-out super-fun model. Large stable design gives great sport performance. Freaky "Red Max" decal sheet. Molded plastic nose cone and die-cut fins. 18" parachute recovery for perfect launch, flight after flight.
Specifications
Length 16.25" (41.3cm)
Diameter 1.637" (41.6mm)
Weight 2.375 oz. (67 g)
Shipping wt. 12 oz.
Recommended Engines
B4-2 (First flight)
B6-2 B6-4 C6-5
Cat. No. 0651
$5.00

Saros Replacement Plastic Parts Kit
Includes nose cone, adapter and fin unit.
Cat. No. 45012 . . . . **$2.50**

Engines, Launch System, and Glue not included.

PATRIOT

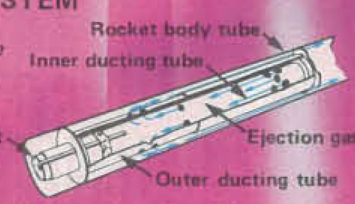
Skill Level 2
Big, burly, and impressive sport model - over 25" tall. Spectacular "All-American" red, white, and blue decor. Two big decal sheets, 5 colors in all. Fast, easy construction with molded plastic nose cone and die-cut balsa fins. Recovery by 18" parachute.
Specifications
Length 26" (66cm)
Diameter 1.637" (41.6mm)
Weight 3.3 oz. (94 g)
Shipping wt. 12 oz.
Recommended Engines
B4-2 (First flight)
B6-4 C6-5
Cat. No. 0652 . **$6.00**

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. (73.7 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

BANDIT'S ADVANCED EJECTION DUCTING SYSTEM

Cools ejection gases completely by the time they reach your parachute.



NIKE-X

Skill Level 2
Scale-like single-stage model of U.S. Army's 4th generation, two-stage surface-to-air interceptor missile. Nike-style design with U.S. Army decor. Great performance for really impressive flights. Easy-to-assemble. Realistic roll pattern decals, quick-release engine mount, die-cut fins, and big 18" parachute.
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**

SKILL LEVEL 2

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 ..... $5.00

"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-20 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.	12.5 oz.

Recommended Engines
D12-7
Also:
B6-4 B14-5 C6-5
(Using EM-2050 Adapter not included.)
Cat. No. 1258 ..... $7.00

Engines, Launch System, and Glue not included.

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 ..... $6.00

SKY RAIDER

Skill Level 2
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 decal, high performance plastic nose cone and giant 18" parachute.

Specifications

Length	32.75" (83.2cm)
Diameter	1.325" (33.7mm)
Weight	2.39 oz. (67.8 g)
Ship. wt.	11 oz.

Recommended Engines
D12-5 D12-7 (First flight)
C6-5 (with EM-2050 adapter not included. See page 62.
Cat. No. 1290
$5.00

Engines, Launch System, and Glue not included.

SKILL LEVEL 2
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.

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.
Pat. No. 3,292,302

Specifications

Length	32" (81.3cm)
Diameter	1.325" (33.7mm)
Weight	2.7 oz. (77 g)
Shipping wt.	16 oz.

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. 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.

Specifications

Length 26.5" (67cm)
Diameter 1.325" (33.6mm)
Weight 2.25 oz. (64 g)
Shipping wt. 13 oz.

Recommended Engines
UPPER STAGE
1/2A6-4 A8-5 (First Flight)
B4-6 B6-6 C6-7
BOOSTER
A8-0 (First Flight) B6-0
C6-0

Cat. No. 1278 . . . . . **$5.00**

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) Weight 0.16 oz. (4.6 g)
Wing Span 4.5" (11.4cm) Shipping wt. 5 oz.

Cat. No. 1280 . . . . . **$1.50**

NEW! SUPER-LONG SPORT-FLIERS

ESTES Mean Machine

Skill Level 2

Tallest rocket in the Estes fleet. Over 6 feet long with giant 24" parachute recovery. "D" engine powered for spectacular flights over 800 feet. Easily assembled with die-cut balsa fins, quick-release engine mount and plastic nose cone. Huge "kit name" decal adds the finishing touch for a really great looking bird.

Specifications

Length	78.75" (200cm)
Diameter	1.637" (41.6mm)
Weight	5.8 oz. (164 g)
Ship wt.	16 oz.

Recommended Engine
D12-5
Ship wt. 16 oz.
Cat. No. 1295 . . . . . **$8.00**

Over 6 Feet Tall!

Nearly 5 Feet Long!

COBRA 1500

Skill Level 2

Attain flights over 700 feet with "C" engine from this extra long sport flier. Giant decal sheet plus die-cut balsa fins, quick-release engine mount and plastic nose cone. Perfect demonstration model with large 18" parachute recovery.

Specifications

Length	59" (149.9cm)
Diameter	1.325" (33.6mm)
Weight	3.17 oz. (90 g)

Recommended Engines
A8-3 (First flight) B4-4 B6-4 C6-5
Ship wt. 12 oz.
Cat. No. 1294 . . . . . **$5.00**

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-flier too! Accurate 1/16th scale. Die-cut fins and 12" 'chute.

Specifications
Length 11.8" (30cm)
Diameter 0.736" (18.7mm)
Weight .7 oz. (20 g)
Shipping wt. 5 oz.
Recommended Engines
1/2A6-2 (First Flight)
A8-3 B6-4 C6-5
Cat. No. 1211 . . . **$3.00**

Replacement Plastic Parts Kit:
(SANDHAWK ONLY)
Includes tail section, fins, payload section, nose cone and antennae.
Cat. No. 45011 . . . . . **$3.25**

SANDHAWK

(1/10th Scale)

Skill Level 2
A mighty "D" engine powered, ultra-detailed, 30" tall scale model. Actual rocket is 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. (141.75 g)
Shipping wt. 11oz.
Recommended Engines
B4-2 C6-3 D12-5 (First Flight) Use EM-2050 adaptor for other than "D" engines, not included. See page 60.
Cat. No. 1251 . . . . . **$6.00**

BLACK BRANT III

NEW!

Skill Level 2
Sounding scale model of the primary research vehicle produced by Canadian Bristol Aerospace. An excellent choice for your first scale project. Simple construction with plastic nose cone and engine nozzle, die-cut balsa fins and quick-release engine mount. Plus authentic scale decals and 12" parachute. Flys over 1,000 feet with "C" engine.

Specifications
Length 20.6" (52.3cm)
Diameter .976" (24.8mm)
Weight 1.06 oz. (30 g)
Ship wt. 5 oz.
Recommended Engines
A8-3 (First flight) B4-4
B6-4 C6-5
Cat. No. 1293 . . . . . **$4.00**

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.

Specifications
Length 18.25" (46.4cm)
Diameter 0.976" (24.8mm)
Weight 1.4 oz. (40 g)
Shipping wt. 6 oz.
Recommended Engines
1/2A6-2 A8-3 (First flight)
A8-5 B4-4 B6-4 C6-5
Cat. No. 1282 . . . . . **$4.00**

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 jettisons 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.

Specifications:
Length 24.1" (61.21cm)
Diameter 1.325" (33.7mm)
Weight 2.40 oz. (68 g)
Shipping wt. 12 oz.
Recommended Engines
B4-4 B6-4 (First flight) C6-5
Cat. No. 1289 . . . . . **$5.00**

Engines, Launch System, and Glue not included.

SKILL LEVEL 2 & 3

NEW!

T.I.E. Fighter

Skill Level 3

Primary attack craft of the Imperial Forces commanded by Lord Darth Vader. Technologically advanced propulsion systems combined with its awesome appearance give the T.I.E Fighter an overall effect of Gothic Evil. Kit features include highly detailed, pre-colored plastic cockpit and fuselage, quick-release engine mount and big 18" recovery 'chute. Special parachute recovery probe attaches quickly for flight and removes easily for display.

Specifications

Display Length	5.4" (13.7cm)
Wing Span	5.0" (12.7cm)
Flying Length	21.0" (53.2cm)
Ship wt.	12 oz.

Recommended Engine
C6-3

Cat. No. 1299 ..... $8.00

STAR WARS™

Flying Model Rockets!

X-WING Fighter

Skill Level 2

Scale model of the T-65 X-Wing Fighter piloted by Luke Skywalker during the Rebel Forces attack on the Imperial Death Star. Although simple to construct this model retains all the realism and detail of the actual models used in the film. Great for demonstrations with flights over 300 feet and 12" recovery 'chute. Highly detailed with authentic 3-color decals makes it a spectacular display model too! Kit includes die-cut balsa wings, plastic fuselage, and quick-release engine mount. Small balsa fins have been added for Earth flight.

Specifications

Length	10.9" (27.6cm)
Diameter	1.4" (33.6mm)
Wing Span	8.9" (22.5cm)
Weight	3.5 oz. (99.2 g)
Ship wt.	12 oz.

Recommended Engine
C6-3

Cat. No. 1298 ..... $8.00

"ROBOT HERO"

R2-D2

Skill Level 2

Own your very own STAR WARS R2-D2 robot!

Destined to become the most famous movie robot of all time, our model is 1/5 actual size and actually flies. Artoo "pops his top" in normal model rocket fashion to deploy an 18" dia. recovery parachute for landing on the planet of your choice. Kit features include a molded plastic body dome and body skirt, a precisely detailed 4-color body wrap-on, quick-change engine mount and stabilizer leg-fins. This cantankerous 'droid is certain to be everybodys' favorite at your launch site, or on your display shelf.

Specifications

Height	9.0" (22.8cm)	Ship wt. 16 oz.
Diameter	3.744" (95.09mm)	
Weight	5.1 oz. (145 g)	

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

Cat. No. 1301 ..... $7.00

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Engines, Launch System, and Glue not included.

SKILL LEVEL 3

NEW!

Satellite Interceptor

Skill Level 3

Envisioned by designers to be operational by 1990, this ultra-sophisticated interceptor patrols near-space for possible aggression by hostile satellites. Highly advanced defense systems include both nuclear and laser armaments. Kit features include printed balsa fins, plastic nose and exhaust cones, quick-release engine mount, and realistic two-color decals. Flights over 600' with 12" parachute recovery.

Specifications

Length	22.25" (56.5cm)
Diameter	.0976" (24.8mm)
Fin Span	5.5" (14cm)
Weight	1.38 oz. (39 g)
Ship wt.	11 oz.

Recommended Engines

A8-3 B4-4 (First flight) B6-4 C6-5

Cat. No. 1296 ..... $4.00

SOLAR SAILER

NEW!

Skill Level 3

Simulates one of the newest, most sophisticated space concepts for the 1980's, and like the Space Shuttle Enterprise, Estes engineers have it flying long before NASA does. Developed for low cost, long duration, deep space missions the real vehicle will use sunlight pressure to push it away from Earth at speeds up to 35,000 mph. Our model features printed balsa fins, quick-release engine mount and realistic decals simulating solar panels and girder construction. Truly spectacular recovery with giant 24" solar sail 'chute.

Specifications

Length	39" (100cm)
Diameter	.976" (24.8mm)
Weight	2.8 oz. (80 g)
Ship wt.	11 oz.

Recommended Engines

B6-4 (First flight) C6-5

Cat. No. 1297 ..... $7.00

GLEAMS LIKE A JEWEL HIGH UP IN SPACE!

constellation

Skill Level 3

Sleekly styled single-stage payloader, perfect for those smaller cargos. Exotic appearance, plus fin tip "landing shocks" gives it a real "space ship" look. Great performance for sport flying. See-through payload section, and 12" parachute recovery. (Decals not included.)

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 .... $3.50

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 shuttlecraft. 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" (70.49cm)
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 ..... $5.00

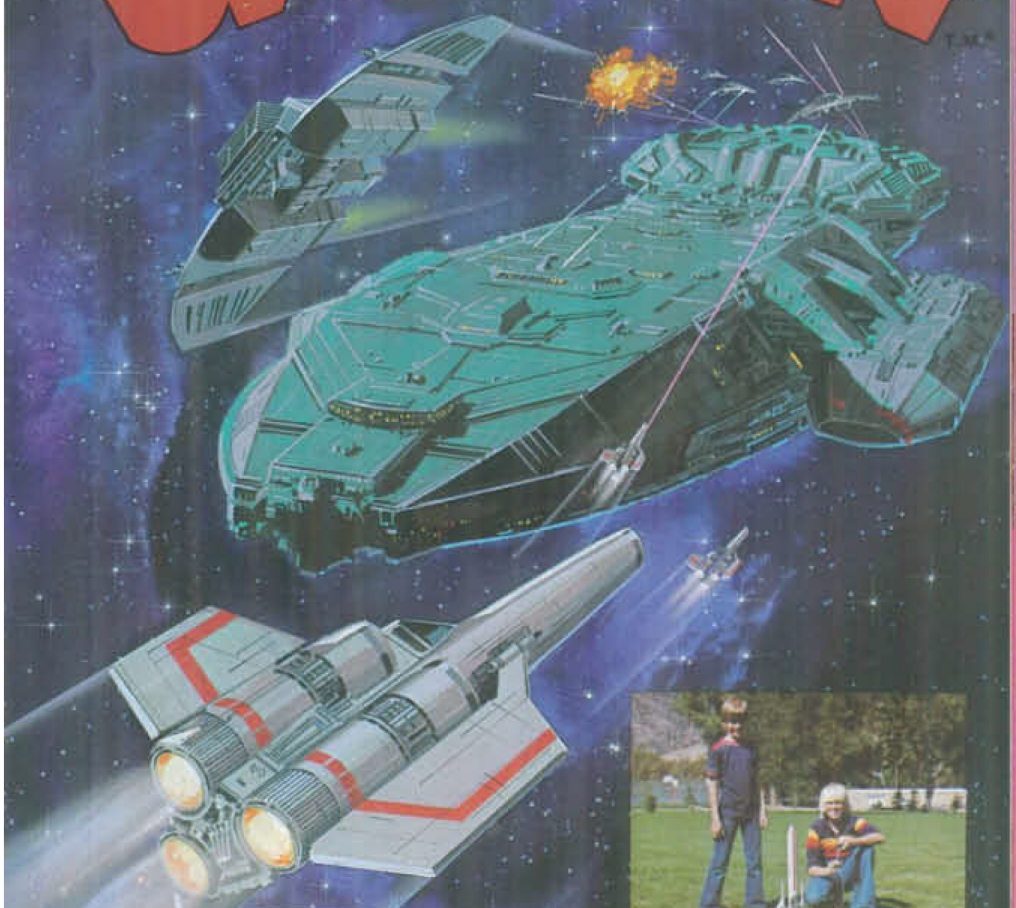
Features Realistic Docking SHUTTLE CRAFT For Display!

Engines, Launch System, and Glue not included.

BATTLESTAR GALACTICA

FLYING MODEL ROCKETS

T.M.*



ESTES

A SUBSIDIARY OF DAMON

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NEW!

BATTLESTAR GALACTICA

T.M.*

This BATTLESTAR GALACTICA T.M.* Model Rocketry Outfit requires 6 volt lantern battery, paint and glue. [not included]

Available Now!

COLONIAL **VIPER** T.M.*

Flying Model Rocketry Outfit

SKILL LEVEL 2

Suggested for Individuals with some model building experience.

This BATTLESTAR GALACTICA T.M.* Model Rocketry Outfit features sport-scale Colonial Viper T.M.* and complete launch control system, plus model rocket engines, parachute recovery wadding, and Solar rocket igniters for 3 exciting flights.

Colonial Viper T.M.* is an easy-to-assemble sport-scale model with die-cut fins, quick-release engine mount, realistic decals and 12" parachute.

Launch Control System features futuristically designed hand-held launch controller with arming lamp, safety key, launch button, and 15 feet of launch cable with micro clips. Plus sleekly designed launch pad with blast deflector plate and 1/8" x 36" two-piece launch rod.

Flight Pak includes three N.A.R. safety certified model rocket engines, parachute recovery wadding, and high reliability Solar igniters.

Recommended 6 Volt Lantern Batteries: Ever-ready #731 / Ray-O-Vac #918 / Burgess TW-1 N.E.D.A. Type #918

Recommended Engines for Colonial Viper T.M.* B6-4 or C6-5, Ship Wt. 1 lb.

Cat. No. 1318 ..... **Only $16.00**

NEW!

BATTLESTAR GALACTICA T.M.*

ESTES.
A SUBSIDIARY OF DAMON

FLYING MODEL ROCKETS

COLONIAL VIPER T.M.*

Skill level 2

Available Now!

Outstanding sport-scale model of the BATTLESTAR GALACTICA'S T.M.* primary attack craft. Backbone of Colonial defenses, the Colonial Viper T.M.* is small, fast, and dead on target when encountering the treacherous Cylon Raiders.T.M.* This sensational kit is easy-to-assemble with die-cut fins, plastic nose cone, quick-release engine mount, and realistic BATTLESTAR GALACTICA T.M.* decals. Can attain altitudes over 600 feet with "C" type rocket engines. The Colonial Viper T.M.* deploys a 12" recovery parachute for a safe flight and gentle recovery time after time.

Specifications:
Length 11.75" (29.85 cm)
Diameter 0.976" (24.81 mm)
Fin span 4.625" (11.75 cm)
Weight 2.01 oz. (57 g)
12" Parachute recovery
Ship. Wt. 6 oz.
Cat. No. 1310

Only $7.00

Recommended engines:
B6-4 (First flight) and C6-5

Awesome scale replica of the Cylon's primary attack craft. Our model will feature molded plastic fuselage, quick-release engine mount, 2-color decal, 18" parachute, and special flight probe which removes easily for display.
Cat. No. 1313

Cylon Raider T.M.*

Skill level 3
Available Spring 1979
(Please do not order at this time)

Available Now!

Laser Torpedo T.M.*

Skill level 2

Envisioned by Estes designers to be the most powerful weapon carried aloft and deployed by the Colonial Viper T.M.* Especially effective against the Cylon's thermal mines placed in various forbidden stellar regions. Our version features futuristically shaped nose cone, die-cut fins, quick-release engine mount, and scale-like laser weapon decals. The Laser Torpedo T.M.* will reach altitudes over 800 feet with "C" type rocket engine and returns to earth via 12" recovery parachute.

Specifications:
Length 15" (38.1 cm)
Diameter 0.976" (24.8 mm)
Weight 1.06 oz. (30 g)
12" Parachute recovery
Ship Wt. 6 oz.

Recommended engines:
1/2A6-2, A8-3 (First flight) A8-5, B4-4, B6-4, and C6-5
Cat. No. 1311 ..... **Only $6.00**

Model Rocketry Flight Pak

Features three B6-4 and two C6-5 high performance rocket engines plus parachute recovery wadding and 6 Solar rocket igniters.

Cat. No. 1319
Only $4.00

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SKILL LEVEL 3

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 single-handedly 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. (52.7 g)
Shipping wt.	11 oz.

Recommended Engines

A8-3 B4-4 B6-4 (First Flight) C6-5

Cat. No. 1283 ..... **$ 5.00**

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	0.736" (18.7mm)
Fin Span	11.8" (30.1cm)
Weight	3.0 oz. (85 g)
Ship wt.	11 oz.

Recommended Engines

B6-4 (First Flight) C6-5

Cat. No. 1273 ..... **$7.00**

Alien INVADER

Skill Level 3

By computer enhancement of declassified portion of sensor readings, Estes engineers have produced a replica of the Alien Invader spacecraft. Available data indicates alien spacecraft capable of limited atmospheric operations. Precise crew complement, internal features, and weaponry not determined from sensor data. Your model includes a plastic forward command hull, engine-engineering section, and outboard atmospheric propulsion units. Kit is complete with die-cut balsa parts, quick-release engine mount, 12" 'chute, and unusual battle insignia decals.

Specifications

Length	20.5" (52cm)
Diameter	0.976" (24.8mm)
Weight	1.62 oz. (46 g)
Shipping wt.	8 oz.

Recommended Engines

1/2A6-2 A8-3 (First Flight)
B4-4 B6-4 C6-5

Cat. No. 1281
$4.50

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	1.325" (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**

Replacement Plastic Parts Kit
Includes nose cone, 2 wing pods and tail cone.
Cat. No. 45010 ..... **$2.75**

Engines, Launch System, and Glue not included.

SKILL LEVEL 3

Drifter

Skill Level 3
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" (24.8mm)
Weight	1 oz. (28 g)
Shipping wt.	5 oz.

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

Cat. No. 1214 . . . . . **$ 4.00**

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 reducer tail section. Contest winning die-cut elliptical fins, decals, and streamer recovery.

Specifications

Length	13.8" (35cm)
Diameter	0.976" (24.8mm)
Weight	1.0 oz. (28 g)
Shipping wt.	7 oz.

Recommended Engines
1/2A6-2 A8-3 (First Flight) B14-5 B4-6 B6-6 C6-7

Cat. No. 1249 . . . . **$ 3.50**

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 and more flight after flight with "D" engines. Dramatic recovery with big, 2" wide bright orange tracking streamer. Includes crazy decals and quick-release engine mount.

Specifications

Length	14.32" (36.3cm)
Diameter	1.325" (33.6mm)
Weight	2.0 oz. (56.6 g)
Shipping wt.	7 oz.

Recommended Engines
D12-7 (A8-3, B6-4 and C6-5 with adapter EM-2050, not included. See page 60.

Cat. No. 1255 . . . . . **$5.00**

gyROC

"WITH HELICOPTER RECOVERY"

Skill Level 3
An amazing and unique "helicopter" recovery system makes the Gyroc a must for your fleet. Lifts-off with main fins in straight-away position. Engine's ejection charge allows rear fin tips to snap sideways causing rotor effect and helicopter recovery. Unusual appearance and strange performance is sure to catch the interest of on-lookers.

Specifications

Length	9.8" (24.9cm)
Diameter	0.736" (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 . . . . . **$ 2.50**

SHRIKE

Skill Level 3
Employs easy pop-and-go staging method. Just insert engines, plug the stages together and you're ready-to-go! Transparent payload section for your cargo. Really sleek design for super high performance flights. Die-cut fins and deluxe four-color decals. Optional 12" or 18" parachute recovery with tumbling booster.

Specifications

Length	29.5" (74.9cm)
Diameter	0.976" (24.8mm)
Weight	2.25 oz. (64 g)
Shipping wt.	11 oz.

Recommended Engines
UPPER STAGE
1/2A6-4 A8-5 B6-4 B6-6 (First flight) B14-7 C6-7
BOOSTER
A8-0 B6-0 (First flight) B14-0 C6-0

Cat. No. 1246 . . . . . **$7.00**

OMEGA

Skill Level 3
Ultimate in two stage, "D" engine performance for lofting heavier payloads. Features pop-and-go staging, high performance plastic ogive nose cone, large payload section and die-cut fins. Plus two-color fin decals, 18" parachute recovery and tumbling booster.

Specifications
With payload section and nose cone.

Length	30.5" (77.5cm)
Diameter	1.637" (41.6mm)
Weight	4.0 oz. (113 g)
Shipping wt.	15 oz.

Recommended Engines
D12-5 (First flight) Booster: D12-0
Upper Stage: D12-7
Single Stage Flights: D12-5

Cat. No. 1200 . . . . . **$9.50**

Engines, Launch System, and Glue not included.

SKILL LEVEL 3

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 sustaining liquid propellant motor cuts in. Our 12.4 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	31.25" (79.38cm)
Diameter	1.325" (33.7mm)
Weight	2.6 oz. (74 g)
Shipping wt.	11 oz.

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

Cat. No. 1279. . . . . **$6.00**

(Semi-Scale)

SATURN V

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" (46cm)
Diameter 1.637" (41.6mm)
Weight 1.9 oz. (54 g)
Shipping wt. 12 oz.
Recommended Engines
A8-3 (First Flight) B6-4 C6-5

Cat. No. 1239 . . . . . **$6.00**

NEW!

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 260 miles above the earth. Our smaller version features authentic scale decals, balsa detailing and 12" 'chute. 1/15th Scale.

Specifications
Length 20" (50.8cm)
Diameter 0.976" (24.8cm)
Weight 0.9 oz. (26 g)
Shipping wt. 14 oz.
Recommended Engines
1/2A6-2 A8-3 (First Flight)
B6-4 C6-5

Cat. No. 1217 . . . . . **$4.00**

1/24th Scale

LTV Scout

Skill Level 3

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 Italia version, known for its Uhura satellite which discovered the existance of "black holes" in space. This model is extremely detailed with many plastic parts and realistically decored with 2-color decals. Other features include molded plastic fins and adapter sections, quick-release engine mount and big 18" parachute recovery.

Specifications
Length 36.09" (91.67cm)
Diameter 1.637" (41.58mm)
Weight 3.85 oz. (109 g)
Shipping wt. 11 oz.
Recommended Engines
C6-5
Cat. No. 1287
$7.00

OVER 3 FEET TALL!

BOMARC

Skill Level 3

Beautifully detailed, 1/24th scale flying model, of the famous U.S.A.F. surface-to-air interceptor missile. Our scale replica features authentic four-color decals, die-cut balsa fins, plastic nose cone and quick-release engine mount. Great performance too with dramatic 18" parachute recovery.

Specifications

Length	23" (58.4cm)
Diameter	1.325" (33.6mm)
Span	9" (22.9cm)
Weight	3.5 oz. (99 g)

Shipping wt. 12 oz.
Recommended Engines
B4-4 B6-2 (First flight) C6-3 C6-5
Cat. No. 0657 . . . . . **$7.00**

LTV Scout Replacement Plastic Parts Kit.
Cat. No. 32473 $2.75

Engines, Launch System, and Glue not included.

SKILL LEVEL 3

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. Pat. No. 3,292,302. (Decals not included.)

Specifications
Length 14.7" (37.5cm)
Diameter 0.736" (18.7mm)
Weight 0.6 oz. (17 g)
Shipping wt. 6 oz.
Recommended Engines
UPPER STAGE
1/2A6-4 (First Flight)
A8-5 B4-6 B6-6 B14-7
C6-7
BOOSTER
1/2A6-0 (First Flight)
A8-0 B6-0 B14-0
C6-0
Cat. No. 1205 . . . . . **$4.00**

Farside

Skill Level 3

Sophisticated 3-stage ultra-high altitude probe. Flies to well over 2,500 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.
Recommended Engines
FIRST STAGE
1/2A6-0 A8-0 B14-0 (First Flight)
SECOND STAGE
1/2A6-0 (First Flight) A8-0 B6-0
B14-0 C6-0
TOP STAGE
1/2A6-4 (First Flight) A8-5
B4-6 B6-6 B14-7
C6-7
Cat. No. 1212 . . **$5.50**

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" (2.48cm)
Wing Span	16" (40.6cm)
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 . . . . . **$7.00**

SKILL LEVEL 4

Model Rocketry's First Scale

space shuttle

So Realistic, That From A Distance, You'd Swear It Was The Real Thing!!

Dramatic 1/162nd scale reproduction of America's newest space vehicle. Designed as a reuseable near space transportation system, tests of the real thing have been taking place for several months. 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 remove easily for display. Kit components include injection molded and vacuformed plastic and die-cut parts plus quick-release engine mount.

Specifications
Shuttle Length
13.6" (34.5cm)
Diameter 2.04"
(51.8mm)
Orbiter Length
9.0" (22.9cm)
Orbiter Wingspan
7.1" (18.9cm)
Weight 4.37 oz.
(124 g)
Shipping wt. 16 oz.
Recommended Engine
C6-3
(Engines, Launch System, and Glue are not included with this kit.)
Cat. No. 1284
Only $9.95

ASTONISHINGLY REALISTIC RECOVERY SYSTEM! Space Shuttle and Booster Rockets separate in space! Boosters return to earth via giant 18" recovery 'chute, while orbiter glides home!

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.

TRANSPORT SHIP

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

RE-ENTRY VEHICLE

Length	8.6" (21.8cm)
Diameter	0.736" (18.7mm)
Wing Span	5" (12.7cm)
Weight	0.5 oz. (14 g)
Shipping wt.	16 oz.

Recommended Engines
B6-2 B6-4 (First Flight)
C6-5
Cat. No. 1242 **$6.00**

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)	Weight	1.2 oz. (34 g)
Diameter	0.976" (24.8mm)	Shipping wt.	7 oz.

Recommended Engines
1/2A6-2 A8-3 (First Flight) B4-4 B6-4 C6-5
Cat. No. 1227 ..... **$5.00**

MARS SNOOPER II

Skill Level 4

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

Specifications

Length	22.3" (56.5cm)
Diameter	0.976" (24.8mm)
Weight	2.3 oz. (66 g)
Shipping wt.	8 oz.

Recommended Engines
A8-3 (First flight) B4-2 B6-4 C6-5
Cat. No. 1220 ..... **$6.00**

STAR TREK™

FLYING MODEL ROCKETS

KLINGON BATTLE CRUISER

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 8.9" (22.6cm)
Weight 2.5 oz. (70 g)
Shipping wt. 12 oz.
Recommended Engines
B4-2 (First flight) B6-4
C6-5
Cat. No. 1274 ..... **$8.00**

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)
Shipping wt. 16 oz.
Recommended Engines
B6-2 (First flight) C6-3
Cat. No. 1275 ..... **$9.00**

© 1975 Paramount Pictures Corporation

Engines, Launch System, and Glue not included.

SKILL LEVEL 5

MARS LANDER

Skill Level 5

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, colorful scale-like decals, and quick-release engine mount.

Specifications

Height	12" (30.5cm)	Diameter	3.8" (96.5mm)
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

—NASA Photo

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 desends on larger 18" parachute. Kit includes scale decals and quick-release engine mount.

Specifications

Length	23.5" (59.7cm)	Diameter	1.637" (41.6mm)
Weight	2.1 oz. (60 g)	Shipping wt.	12 oz.

Recommended Engines

A8-3 B6-4 (First Flight) C6-5

Cat. No. 1241 ..... $6.00

Engines, Launch System, and Glue not included.

STAR WARS™ MAXI-BRUTE! X-WING Fighter

Exact Size Used by STAR WARS™ Special Effects Team

NEW!

Skill Level 2

Darth Vader and his Imperial Forces will turn and run when confronted by this huge scale replica of science fiction's most popular spacecraft. This giant T-65 X-WING Fighter is easy to assemble with fantastic detailing and authentic "Death Star" mission decor. By far the most dramatic "STAR WARS" model available for display. "D" engine powered for great performance too! Spectacular flights over 300 feet. Kit components include die-cut balsa parts and highly detailed plastic fuselage, engines and laser pods. Plus quick-release engine mount, scale decals, big 24" parachute recovery and attractive display stand. A 3/16" launch rod is recommended for lift-off.

Small fins have been added for Earth flight.

Specifications

Length 21 5/8" (54.9 cm) Wing Span 16 1/4" (41.3 cm)
Diameter 3 5/16" (83 cm) Weight 11 oz. (312 g)
Shipping wt. 2 lbs. **Recommended Engine** D12-3

Over 16" Wingspan And Nearly 22" Long

Cat. No. 1302

Only $19.95

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GIANT Flying Rockets Over 3-Feet Tall MAXI-BRUTES!

Alpha
SKILL LEVEL 2

Giant scale version of our most popular rocket, the Alpha. Great for demonstrations with slow realistic lift-off and dramatic 24" parachute recovery. Flights up to 500 feet with "D" engine. Comes with die-cut balsa fins, molded plastic nose cone, quick-release engine mount and huge decals. Assembles in approximately 30 minutes. Recommended for 3/16" launch rod.

Specifications
Length 33.2" (84.33cm)
Diameter 2.6" (66.04mm)
Weight 6.17 oz. (175 g)
Ship. wt. 16 oz.
Recommended Engine
D12-5
Cat. No. 1291 . . . . . **$9.00**

German V-2
Skill Level 3

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
D12-3
Cat. No. 1267 . . . . **$18.95**

NEARLY 3 FEET TALL!

HONEST JOHN
Skill Level 3

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 single "D" engine for power and comes with pre-shaped, accurately scaled fins and molded plastic nose cone. Spectacular recovery with giant, dual 24" orange and white canopy 'chutes. Great for demonstrations and perfect as 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
$18.95

PERSHING-1A
Skill Level 3

This Maxi-Brute is a true scale model of the U.S. Army's surface-to-surface ballistic missile produced by Martin-Marietta and deployed with NATO units in Europe. Our 1/10 scale model is "D" engine powered with three color decals, preshaped 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" (104.14cm)
Diameter 3.938" (100mm)
Weight 11.5 oz. (326.03 g)
Shipping wt. 2 lbs.
Recommended Engine
D12-3
Cat. No. 1268
$18.95

OVER 3 FEET TALL!

Engines, Launch System, and Glue not included.

SKILL LEVEL 5

GIANT MAXI-BRUTE!

(1/100th Scale)

SATURN V

Skill Level 5

A truly magnificant 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 43-1/2" tall. Single "D" engine power gives this baby a spectacular Cape Kennedy-style liftoff. 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 wrap-ons make this one of our most precise scale models. Also includes Tech Report on clustering.

Specifications

Length	43.5" (110cm)
Diameter	3.938" (100mm)
Weight	9.9 oz. (280 g)
Shipping wt.	3 lbs., 5 oz.

Recommended Engines

May be flown as 3 engine cluster or single engine.

Cluster Power:	C6-3 (3 required)
"D" Power:	D12-3 (1 required)

Cat. No. 1236 . . . . . $24.95

—NASA Photo

Engines, Launch System, and Glue not included.

ESTES MODEL ROCKET ENGINES

A SUBSIDIARY OF DAMON

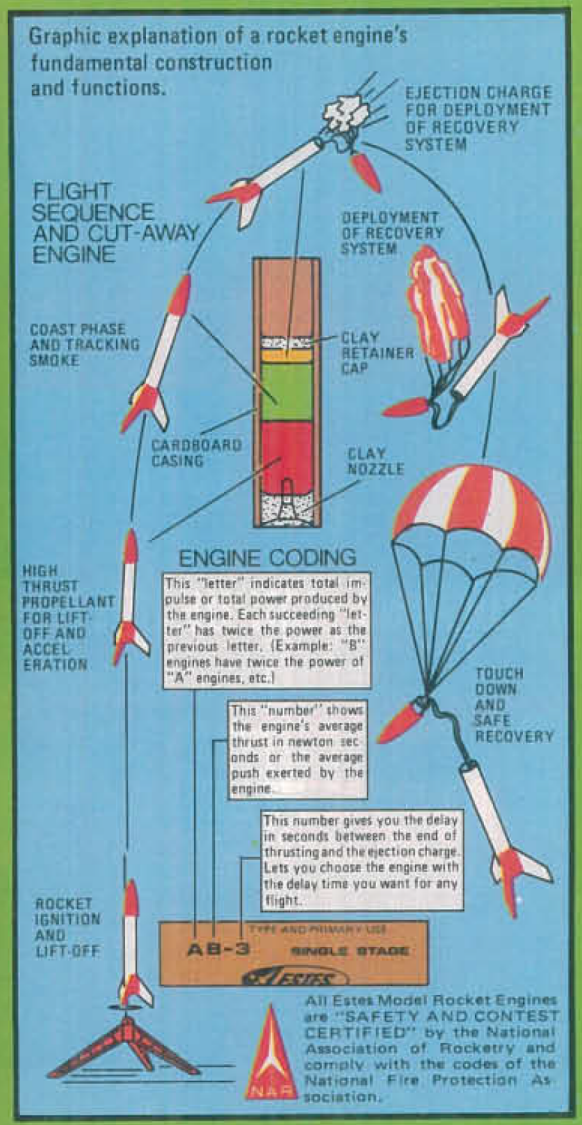
Reliability-proven in over 135 Million launchings!
Quality-Tested for High Performance Flights!!
The finest engine made .... you can depend on it .... for every flight application!!!

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

Today's modern rocket engine is the result of over 20 years of engineering efforts at Estes Industries. Consequently, today's rocketeer has dependable, safety-proven engines for his use.

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

Reliability-proven in over 135 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.



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

PHANTOM

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

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

Cat. No. 1207 . . . . . $3.50

ROCKET ENGINE SELECTION CHART

Cat. No.	Engine Type	Prices 3 for	Total Impulse lb-sec①	Total Impulse n-sec②	Time Delay (±15%)	Max. Lift Wt.	Max. Thrust	Thrust Duration	Initial Weight Oz.	Initial Weight G	Propellant Weight Oz.	Propellant Weight G
SINGLE STAGE ENGINES												
1593	1/2A6-2	3 for $1.65	0.28	1.25	2 sec.	2.5 oz.	46 oz.	0.20 sec.	0.53	15.0	0.055	1.56
1598	A8-3	3 for $1.75	0.56	2.50	3 sec.	4.0 oz.	48 oz.	0.32 sec.	0.57	16.2	0.110	3.12
1601	B4-2	3 for $1.85	1.12	5.00	2 sec.	4.0 oz.	48 oz.	1.20 sec.	0.70	19.8	0.294	8.33
1602	B4-4	3 for $1.85	1.12	5.00	4 sec.	3.5 oz.	48 oz.	1.20 sec.	0.74	21.0	0.294	8.33
1605	B6-2	3 for $1.85	1.12	5.00	2 sec.	4.5 oz.	48 oz.	0.83 sec.	0.68	19.3	0.220	6.24
1606	B6-4	3 for $1.85	1.12	5.00	4 sec.	4.0 oz.	48 oz.	0.83 sec.	0.71	20.1	0.220	6.24
1609	B14-5*	3 for $2.05	1.12	5.00	5 sec.	5.0 oz.	7 lb.	0.35 sec.	0.69	19.6	0.220	6.24
1613	C6-3	3 for $2.05	2.25	10.00	3 sec.	4.0 oz.	48 oz.	1.70 sec.	0.88	24.9	0.440	12.48
1614	C6-5	3 for $2.05	2.25	10.00	5 sec.	4.0 oz.	48 oz.	1.70 sec.	0.91	25.8	0.440	12.48
UPPER STAGE ENGINES③												
1594	1/2A6-4	3 for $1.65	0.28	1.25	4 sec.	1.0 oz.	46 oz.	0.20 sec.	0.54	15.3	0.055	1.56
1599	A8-5	3 for $1.75	0.56	2.50	5 sec.	2.0 oz.	48 oz.	0.32 sec.	0.62	17.6	0.110	3.12
1604	B4-6	3 for $1.85	1.12	5.00	6 sec.	1.5 oz.	48 oz.	1.20 sec.	0.78	22.1	0.294	8.33
1607	B6-6	3 for $1.85	1.12	5.00	6 sec.	2.0 oz.	48 oz.	0.83 sec.	0.76	22.1	0.220	6.24
1611	B14-7*	3 for $2.05	1.12	5.00	7 sec.	2.5 oz.	7 lb.	0.35 sec.	0.73	20.7	0.220	6.24
1615	C6-7	3 for $2.05	2.25	10.00	7 sec.	2.5 oz.	48 oz.	1.70 sec.	0.96	26.9	0.440	12.48
BOOSTER ENGINES												
1595	1/2A6-0	3 for $1.65	0.28	1.25	none	4.0 oz.	46 oz.	0.18 sec.	0.48	13.6	0.055	1.56
1600	A8-0	3 for $1.75	0.56	2.50	none	4.0 oz.	48 oz.	0.30 sec.	0.51	14.2	0.110	3.12
1608	B6-0	3 for $1.85	1.12	5.00	none	4.0 oz.	48 oz.	0.80 sec.	0.58	16.4	0.220	6.24
1612	B14-0*	3 for $2.05	1.12	5.00	none	6.0 oz.	7 lb.	0.35 sec.	0.61	17.3	0.220	6.24
1616	C6-0	3 for $2.05	2.25	10.00	none	4.0 oz.	48 oz.	1.68 sec.	0.80	22.7	0.440	12.48

GREEN LABEL

PURPLE OR BLUE LABEL

RED LABEL

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

*Series II engines have core-burning grain with large propellant burning area for high initial thrust with short thrust duration.

All engines listed on this page are 2.75 in. (6.99cm) long and 0.690 in. (1.75cm) dia.

Shipping weight of each package of engines is approximately 4 oz.

-IMPORTANT- IMPORTANT- IMPORTANT-

All the rockets shown in this catalog can be flown over and over again. Simply replace the engine, igniter, and recovery wadding for each new flight.

ASTRON IGNITERS: Easy to use for reliable ignition every time. Recommended for launch systems using 6 to 12 volt car batteries or 12 volt lantern batteries. Installation procedure featured on engine instructions. (Patent No. 3,363,559). Shipping weight 1 oz. Not recommended for Solar Launch Controller or Big Foot Launch Systems.

Cat. No. 2225 ..... **6 for $ .70**

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 (#2300) and Big Foot Launch Control System (#2208). 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. 2301 ..... **6 for $ .70**

MINI-ENGINE SELECTION CHART

Cat. No.	Engine Type	Prices 4 for	Total Impulse lb-sec①	Total Impulse n-sec②	Time Delay (±15%)	Max. Lift Wt.	Max. Thrust	Thrust Duration	Initial Weight Oz.	Initial Weight G	Propellant Weight Oz.	Propellant Weight G
SINGLE STAGE ENGINES												
1500	1/4 A3-2T	4 for $1.75	0.14	0.625	2 sec.	1 oz.	23 oz.	0.18 sec.	0.173	4.9	0.031	0.88
1503	1/2 A3-2T	4 for $1.85	0.28	1.25	2 sec.	2 oz.	28 oz.	0.36 sec.	0.198	5.6	0.062	1.75
1506	A3-2T	4 for $1.95	0.56	2.50	2 sec.	3 oz.	28 oz.	0.86 sec.	0.254	7.2	0.124	3.50
1507	A3-4T	4 for $1.95	0.56	2.50	4 sec.	2 oz.	28 oz.	0.86 sec.	0.268	7.6	0.124	3.50
1511	A10-3T	4 for $1.95	0.56	2.50	3 sec.	5 oz.	48 oz.	0.26 sec.	0.277	7.9	0.133	3.78
UPPER STAGE ENGINES③												
1501	1/4 A3-4T	4 for $1.75	0.14	0.625	4 sec.	1 oz.	23 oz.	0.18 sec.	0.187	5.3	0.031	0.88
1504	1/2 A3-4T	4 for $1.85	0.28	1.25	4 sec.	1 oz.	28 oz.	0.36 sec.	0.213	6.0	0.062	1.75
1508	A3-6T	4 for $1.95	0.56	2.50	6 sec.	1 oz.	28 oz.	0.86 sec.	0.282	8.0	0.124	3.50
BOOSTER ENGINES												
1505	1/2 A3-0T	4 for $1.85	0.28	1.25	none	3 oz.	28 oz.	0.36 sec.	0.166	4.7	0.062	1.75
1509	A3-0T	4 for $1.95	0.56	2.50	none	3 oz.	28 oz.	0.86 sec.	0.226	6.4	0.124	3.50
1510	A10-0T	4 for $1.95	0.56	2.50	none	5 oz.	48 oz.	0.26 sec.	0.235	6.7	0.133	3.70

Mini-Engines are 1.75 in. (4.45cm) long and .500 in. (1.27cm) dia. Shipping weight of each package of mini-engines is approximately 2-1/2 oz.

MIGHTY "D" ENGINES

Recommended Only for Experienced Rocketeers!

With the advancement of model rocketry to bigger birds, larger payloads, and higher altitude demands, 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.

Cat. No.	Engine Type	Prices 3 for	Total Impulse lb-sec①	Total Impulse n-sec②	Time Delay (±15%)	Max. Lift Wt.	Max. Thrust	Thrust Duration	Initial Weight Oz.	Initial Weight G	Propellant Weight Oz.	Propellant Weight G
SINGLE STAGE ENGINES												
1666	D12-3	3 for $3.50	4.48	20.0	3 sec.	14 oz.	9 lb.	1.50 sec.	1.49	42.2	0.879	24.93
1667	D12-5	3 for $3.50	4.48	20.0	5 sec.	10 oz.	9 lb.	1.50 sec.	1.52	43.1	0.879	24.93
UPPER STAGE ENGINES③												
1668	D12-7	3 for $3.50	4.48	20.0	7 sec.	8 oz.	9 lb.	1.50 sec.	1.55	44.0	0.879	24.93
BOOSTER ENGINES												
1665	D12-0	3 for $3.50	4.48	20.0	none	14 oz.	9 lb.	1.48 sec.	1.44	40.9	0.879	24.93

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

Cat. No. 2274 ..... **$ .85**

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

"D" engines are 2.75 in. (6.99cm) long and 0.945 in. (2.40cm) dia.

Shipping weight of each package of "D" engines is approximately 6-1/2 oz.

NOTES:

① Pound - seconds (Figures shown are maximum.)

② Newton - seconds (Figures shown are maximum.)

③ Or Single Stage Engine if used in very light rocket.

Big Foot™

NEW!

ALL NEW HIGHLY ADVANCED!

MODEL ROCKET LAUNCH CONTROL SYSTEM

USES INEXPENSIVE "D" CELL BATTERIES!

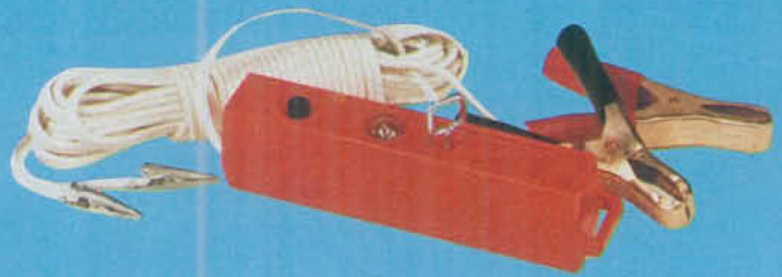
The all new Estes Big Foot launch control system is capable of launching all Estes models including Maxi-Brutes. Futuristically designed launch platform features rugged plastic construction and enormous "two foot print" for maximum launch pad stability. Includes blast deflector plate, 1/8"X36" two-piece launch rod, swivel mount that is adaptable to either 1/8" or 3/16" launch rods, and legs which remove easily for compact storage. This launch control unit is newly engineered for simple, quick assembly and features safety key, continuity check light, ignition button and 15 feet of launch cable. Uses 4 inexpensive "D" cell batteries and Estes Solar igniters #2301 (not included). Ship wt. 2 lbs.
Cat. No. 2208 ..... $13.95

Requires four "D" cell batteries for power (not included).

Rocket Not Included

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



ESTES

SOLAR LAUNCH CONTROLLER

MODEL ROCKETRY'S MOST ADVANCED LAUNCH SYSTEM

The Solar Launch Control System should be standard equipment in your range box. This futuristically 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" (15.57cm)
Height 2.38" (6.05cm)
Width 1.44" (3.66cm)
Weight (with batteries) 7 oz. (199 g)
Shipping weight 8 oz.
Cat. No. 2300 ..... $7.00

PORTA-PAD

PLASTIC LAUNCH PAD

Here's The Perfect Launch Pad For All Your "Birds"!

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, girder construction. Orange plastic legs snap off for storage in range box. Friction grip secures rod firmly (accommodates standard 1/8" rod (#2235) 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 (#2250). Shipping weight is 1 lb. 8oz.
Cat. No. 2217 ..... $6.00

TILT-A-PAD

WOODEN LAUNCH PAD

This flexible launcher gives you ideal launch control and convenience. Hardwood construction for durability. Adjusts to fit uneven ground. Tilts 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 lb.
Cat. No. 2216 ..... $7.50

Rockets Not Included

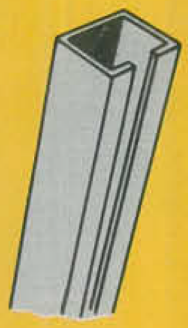
The Solar Launch Controller (#2300) or the Astron Launch Control System (#2212) are the recommended launch systems for use with the Tilt-A-Pad or Porta-Pad.

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. 2234 . . . . . **$ .95**

ADD-ON ROD: Sturdy 1/8" diameter, 18" long launch rod section expands two-piece rod to 53" length. Ship. wt. 6 oz. Cat. No. 2236
$ .50 per section

3/16" DIA. MAXI-ROD: Perfect for launching Maxi-Brutes (German V-2, Pershing 1-A, Honest John and "new" Maxi-Alpha). Fits Porta-Pad Tripod (#2217). Two-piece construction. 36" long, lightweight aluminum launch rod. Collapsible for easy storage. Ship. wt. 12 oz.
Cat. No. 2239 . . . . . **$1.90**



LAUNCH RAILS: Rigid aluminum 'C' rails offer countless possibilities for launcher designs.

'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 $2.25**

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 **$ .75 each**

BLAST DEFLECTOR PLATE: Slip-on metal deflector plate fits any launcher using 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. 5 oz.
Cat. No. 2240 . . . . . **$1.00**

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 . . . . . **$2.25**

MICRO-CLIPS: Equip your launcher with the best. Spring-loaded solid steel clips connect lead wires to igniters. Easy-to-clean and highly conductive with flat contact surfaces. Only 1.1 inches long, attach to leads with or without solder.
Shipping weight 1 oz.
Cat. No. 2247 **2 for $ .70**

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 $1.50**

NICHROME WIRE: Model rocket ignition wire. No. 30 recommended for use with car batteries, No. 32 for use with other power supplies.
No. 30, 15-Foot Roll:
Cat. No. 2228 . . . . . **$ .85**
No. 32, 15-Foot Roll:
Cat. No. 2229 . . . . . **$1.00**

UNIVERSAL SAFETY KEY: Replacement safety interlock key for all Estes Launch Control Systems except Ready-To-Fly kits #0701 and #0715.
Cat. No. 38101 . . . . **$ .35**

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 $8.95**

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 . . . . . **$1.00**

ALTISCOPE

Find out how high your rocket went with this Altiscope! Comes in kit form complete with instructions, trig tables, technical report TR-3 on altitude tracking and 2-D altitude computer. Patent No. 3,208,147. Ship. wt. 20 oz.
Cat. No. 1415 . . . . . **$7.95**

RECOVERY SUPPLIES

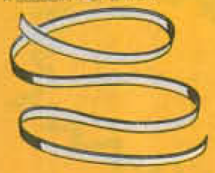
PARACHUTE KITS: Get the best in parachute recovery! Two-color printed plastic 'chutes give maximum visibility — feature easy-to-see pattern. Lightweight, durable, and easily folded. These 'chutes are only 0.0075" thick, allowing the most material to be packed into the least body space. Each kit comes 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.	$ .70
2264	PK-12	12 inches	.078 oz.	$ .75
2267	PK-18	18 inches	.144 oz.	$ .80
2271	PK-24	24 inches	.298 oz.	$1.00

NEW!

LAUNCH ROD SAFETY CAP with UNIVERSAL SAFETY KEY for Launch Pad Safety!
Ship wt. 4 oz.
Cat. No. 2205
Only 50¢

RECOVERY SUPPLIES



SHOCK CORD: Specify width when ordering. Shipping weight 1 oz.
1/8" wide: Net wt. 0.039 oz.,
Cat. No. 2276 $ .35
1/4" wide: Net wt. 0.078 oz.,
Cat. No. 2277 $ .40

Also 36" long for greater stretch on those larger birds.
1/8" wide: Net wt. 0.078 oz.,
Cat. No. 85744 . . . . . $ .40

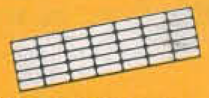
SCREW EYES: Specify size when ordering. Shipping weight for 6 eyes, 1 oz.
LARGE EYE:
1" long; .04 oz.
Cat. No. 2280 . . **6 for $ .65**
SMALL EYE:
3/4" long; .03 oz.
Cat. No. 2283 . . **6 for $ .65**
EXTRA SMALL EYE:
5/8" long; .01 oz.
Cat. No. 2281 . . **6 for $ .65**

STREAMER MATERIAL: Bright orange, flame-resistant crepe paper streamers. In 7½-foot lengths, enough for two to eight streamers. Specify size when ordering. Shipping weight 1 oz.
1" wide — Net wt. .092 oz.
Cat. No. 2341 **6 for $1.50**
2" wide — Net wt. .184 oz.
Cat. No. 2343 **6 for $1.50**

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
4 sheets of 6 for $ .80

SHROUD LINES: Build reliable, durable, custom parachutes with this strong, hard surface shroud line cord.

Comes in 70 yard spools. Shipping weight 5 oz.
Cat. No. 2340 . . . . . $ .85



TAPE STRIPS: For top strength, low bulk and low weight, fasten shroud lines with these 1/4" x 3/4" tape strips, in sheets of 12 strips. Shipping weight 1 oz.
Cat. No. 38412
6 sheets of 12 for $ .90

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 for 12 swivels, 1 oz.
Cat. No. 2292 . **12 for $1.25**

TECHNICAL REPORTS
SPECIAL PUBLICATIONS

ROCKET STABILITY — TR-1
Cat. No. 84721 . . . . . $ .50

ALTITUDE TRACKING — TR-3
Cat. No. 84723 . . . . . $ .50

MODEL ROCKETRY STUDY GUIDE — TR-8
Cat. No. 84728 . . . . . **$1.00**

ALTITUDE PREDICTION CHARTS — TR-10
Cat. No. 84730 . . . . . **$1.50**

AERODYNAMIC DRAG OF MODEL ROCKETS — TR-11
Cat. No. 84731 . . . . . **$1.50**

THE ALPHA BOOK OF MODEL ROCKETRY
Cat. No. 2820 . . . . . $ .75

PROJECTS IN MODEL ROCKETRY
Cat. No. 2831 . . . . . $ .75

MODEL ROCKET LAUNCH SYSTEMS
Cat. No. 2811 . . . . . $ .50

SPACE AGE TECHNOLOGY
Cat. No. 2813 . . . . . **$1.50**
A "Teacher's" Manual (Cat. No. 2823) is available to educators for **$1.50**

ESTES MODEL ROCKET CONTEST GUIDE
Cat. No. 2815 . . . . . $ .75

AEROSPACE EDUCATION AND MODEL ROCKETRY
Cat. No. 2816 . . . . . **$1.50**
(Single copies free to educators requesting it on school stationery.)

ESTES GUIDE FOR AEROSPACE CLUBS
Cat. No. 2817 . . . . . $ .75

CUSTOMIZING MATERIALS

A $30.00 VALUE

Designer's Special

Ideal parts assortment for the creative rocketeer. Develop your own R & D Program. Over 75 pieces at an excellent savings!

Body Tubes
2 BT-5
2 BT-20
2 BT-50
1 BT-55
1 BT-60

Nose Cones
1 BNC-5E
1 BNC-5S
1 BNC-20B
1 BNC-20R
1 PNC-50K
1 PNC-50Y
1 PNC-55AC
1 PNC-60L

Fin Material
2 BFS-20
2 BFS-30
2 BFS-40

Parachutes
1 PK-8
2 PK-12
1 PK-18
1 PK-24

Recovery Equipment
3 Shock Cord 1/8"X18"
1 Shock Cord 1/8"X36"
1 Shock Cord 1/4"X36"
1 Streamer Material 1"X30"
6 Screw Eyes

Miscellaneous
3 Engine Blocks (EB-20A)
3 Engine Holders (EH-3)
3 Engine Holders (EH-2)
1 Engine Mount (EH-2050)
1 Engine Mount (EH-2060)
1 Nose Block (NB-20)
1 Nose Block (NB-50)
1 Stage Coupler (JT-55C)
1 Stage Coupler (JT-60C)
1 Balsa Adapter (TA-2050A)
1 Multi-Purpose Paper Adapter Set (TA-1)
12 Launch Lugs (2-3/8" Long)
1 Alpha Book of Model Rocketry
1 Fin Pattern Sheet No. 2
1 Fin Pattern Sheet No. 3

Cat. No. 1463 **Only $14.95**

NEW!

GIANT MAXI-BRUTE Nose Cone

Perfect for your monster size designs. Made of lightweight plastic and fits BT-101 body tubes.

Length 12.5" (30.6cm)
Weight 3.6 oz. (102 g)
Ship wt. 12 oz.
Cat. No. 71050

Only $2.50

ESTES
A SUBSIDIARY OF DAMON

Create your own award winning design... YOUR DESIGN COULD WIN YOU A $75 MERCHANDISE CERTIFICATE

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

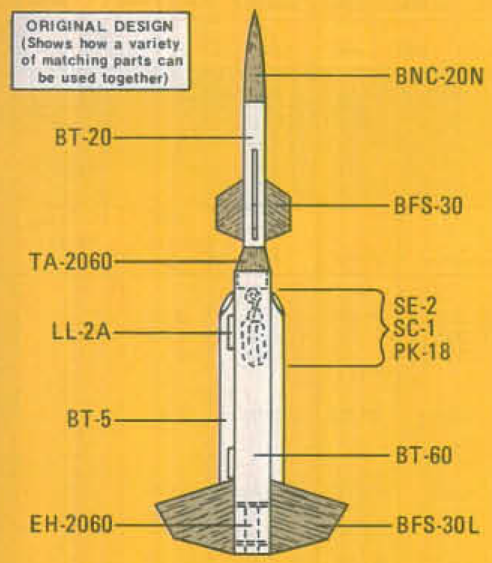
DESIGN OF THE MONTH RULES

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-gliders, 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 entitling him to $75.00 in merchandise and an award certificate suitable for framing. Award winners will be notified by mail.

GOOD LUCK!!

ENTER THE DESIGN OF THE MONTH CONTEST

Build Your Own Design With Estes Quality Model Rocket Parts



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

Nearly all matching Estes parts have the same 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-55. 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).

CONSTRUCTION SUPPLIES

MAXI-ROD LAUNCH LUG: 2" long fits 3/16" dia. rod.
Cat. No. 2328 **4 for $ .65**

LAUNCH LUGS: Super-strength laminated launch lugs feature mylar plastic core for durability, paper outer layer for easy gluing. Inside diameter 5/32", fit 1/8" rod. Ship wt. 1 oz.
1-1/4" long:
Cat. No. 2321 **12 for $ .80**
2-3/8" long:
Cat. No. 2322 **10 for $ .90**

DOWELS: Extra strong, lightweight, seasoned maple dowels. Ship. wt. 5 oz.
1/8"x18'
Cat. No. 32056 **8 for $ .60**
1/12"x12"
Cat. No. 32058 **8 for $ .60**

COMPETITION PAYLOAD: How high can your rocket lift an ounce of lead? This 1 oz. payload weight, 3/4" in diameter, is certified for NAR competition. Ship wt. 2 oz.
Cat. No. 38292 **2 for $1.25**

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. For Regular and "D" Engines. Ship wt. 1 oz.
Cat. No. 3140 **3 for $1.00**
For Mini-Engines.
Ship wt. 1 oz.
Cat. No. 3143 **3 for $ .80**

NOSE BLOCKS

Use these top quality featherweight balsa nose blocks in payload sections and anywhere else a solid bulkhead is required. Precision turned for exact fit in body tubes.

Cat. No.	Description	Price Each	Outside Diameter	Length	Fits	Weight in Oz. Net.	Ship.
70152	NB-20	$ .55	.710"	3/4"	BT-20	.014	1
70158	NB-50	$ .65	.950"	1"	BT-50	.040	4
70162	NB-55	$ .65	1.283"	1-1/4"	BT-55	.115	4
70164	NB-60	$ .80	1.595"	1-1/2"	BT-60	.190	4

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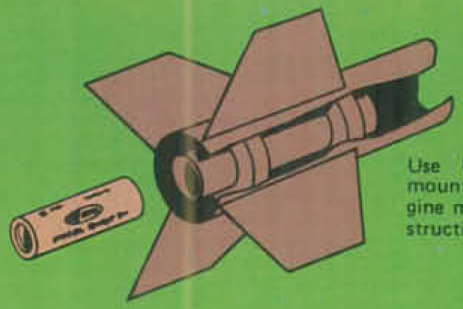
ENGINE BLOCKS

Used for positioning the engine in the rocket. Provides a hollow bulkhead for the engine to develop thrust against, as well as an opening for gases to pass for normal ejection.

Cat. No.	Description	Price 3 for	Outside Dia.	Inside Dia.	Length	Fits	Weight in Oz. Net.	Ship.
3131	EB-20A	3/$.50	.708"	.65"	1/4"	BT-20	.009	1

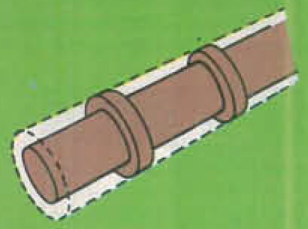
ENGINE MOUNTS

Engine Type	Cat. No.	Description	Price	Fits	Net Weight Oz.	Shipping Weight Oz.
For Series I & II Engines—A, B, & C type 0.69"x2.75"	3150 3151 3152	EH-2050 EH-2055 EH-2060	$ .80 $ .80 $ .80	BT-50 BT-55 BT-60	0.1 0.14 0.17	5 5 5
For Series IV Engines-D type 0.945" x 2.75"	3155	EM-5063	$1.00	Saturn V	0.4	5
For T Series Mini-Engines .5"x1.75"	3153	EM-520	$ .75	BT-20	0.09	5
Special Purpose Quick-Change Conversion Mount —From Series IV Engines to Series I & II Engines	3154	EM-2050	$ .85	BT-50	0.19	5



Use Estes, high performance engine mounts for your original designs. All engine mounts feature easy-to-assemble instructions and lightweight components.

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 .285 oz. Shipping weight 3 oz.
Cat. No. 3100 . . . . . 10 for $ .95

AR-5055 CENTERING RINGS
To center a BT-50 tube in a BT-55 body tube. Extra strong for "D" engine mounts. Weight 0.062 oz. each. Shipping weight 2 oz.
Cat. No. 3102 . . . . . 4 for $ .75

BALSA ADAPTERS

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 to make a passage for ejection gases. All adapters have at least 1/2" mating surface on each end.

Cat. No.	Description	Price Each	Mates Tubes	Length	Taper Length	Weight Oz. Net.	Ship.
8031	TA-520	$ .70	BT-5 to BT-20	1.75"	0.75"	0.04	1
8032	TA-550	$ .75	BT-5 to BT-50	2.2"	1.0"	0.06	4
8033	TA-2055	$ .85	BT-20 to BT-55	2.5"	1.5"	0.22	4
8034	TA-2060	$1.50	BT-20 to BT-60	3.0"	2.0"	0.20	4
8035	TA-5055	$1.00	BT-50 to BT-55	2.0"	1.0"	0.60	4
8036	TA-5060	$1.90	BT-50 to BT-60	3.0"	2.0"	0.23	4
8038	TA-5560	$1.00	BT-55 to BT-60	2.2"	1.0"	0.25	4
8039	TA-6070	$1.75	BT-60 to BT-70	2.7"	1.5"	0.65	4

STAGE COUPLERS

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

Cat. No.	Description	Price Each	Outside Diameter	Inside Diameter	Length	Fits	Average Weight
3050	JT-5C	$ .40	.513"	.455"	3/4"	BT-5	.020 oz.
3051	JT-20C	$ .40	.708"	.650"	3/4"	BT-20	.027 oz.
3052	JT-50C	$ .45	.949"	.920"	1"	BT-50	.051 oz.
3053	JT-55C	$ .45	1.28"	1.25"	1.3"	BT-55	.088 oz.
3054	JT-60C	$ .45	1.59"	1.55"	1-1/2"	BT-60	.124 oz.
3055	JT-70A	$ .70	2.175"	2.115"	1-1/4"	BT-70	.140 oz.

PAPER ADAPTERS

MULTI-PURPOSE SET — Includes a total of 20 rings for positioning BT-5 in BT-20; BT-5, BT-20, BT-30 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.
Cat. No. 8030 . . . . . $ .80

RA-2050 RINGS — 20 rings for centering and mounting BT-20 in BT-50. Shipping weight 2 oz.
Cat. No. 3110 . . . . . $ .60 per set

RA-2055 RINGS — 10 rings for centering and mounting BT-20 in BT-55. Shipping weight 2 oz.
Cat. No. 3111 . . . . . $ .70 per set

RA-2060 RINGS — 10 rings for centering and mounting BT-20 in BT-60. Shipping weight 2 oz.
Cat. No. 3113 . . . . . $ .60 per set

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BODY TUBES

Cat. No.	Description	Price Each	Length	Inside Diameter	Outside Diameter	Wall Thickness	Weight in Oz. Net.	Ship.
Spiral-Wound Paper Tube, for nose sections and strap-on payloads								
3070	BT-5	$ .70	18"	0.515"	0.541"	0.013"	.219	11
Spiral-Wound Paper Tube, for competition and sport models								
3072	BT-20	$ .70	18"	0.710"	0.736"	0.013"	.288	11
Spiral-Wound Paper Tube, for sport and high performance payload models								
3073	BT-50	$ .80	18"	0.950"	0.976"	0.013"	.378	11
Spiral-Wound Paper Tube, for sport and demonstration models								
3074	BT-55	$1.00	18"	1.283"	1.325"	0.021"	.672	11
Spiral-Wound Paper Tube, for sport and demonstration models								
3075	BT-60	$1.10	18"	1.595"	1.637"	0.021"	.960	11
Spiral-Wound Paper Tube, for monster models and tail rings								
3076	BT-70	$1.50	17.5"	2.175"	2.217"	0.021"	1.300	14
Spiral-Wound Paper Tube, for giant-scale models								
30438	BT-101	$2.15	16.5"	3.896"	3.938"	0.021"	1.974	16

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.

Each T-Shirt Printed In Seven Blazing Colors!

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 $5.95**

MODEL ROCKETRY 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 $5.95**

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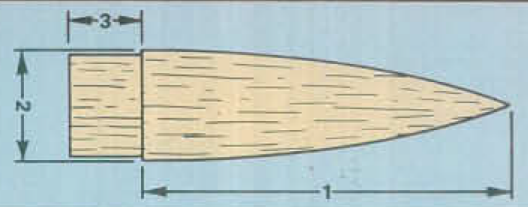
NOSE CONES

Nose cone dimensions listed in columns 1, 2, and 3.

In "Description" column BNC stands for balsa nose cone and PNC for plastic nose cone.



Shape	No.	Cat. No.	Description	Price Each	Dimensions 1	2	3	Average Weight	Ship. Weight
BT-5	1	8002	BNC-5V	$ .65	3/4"	0.541"	1/4"	0.013 oz.	1 oz.
	2	8000	BNC-5E	$ .65	1-3/8"	0.541"	1/4"	0.020 oz.	1 oz.
	3	8001	BNC-5S	$ .65	1-1/2"	0.541"	1/4"	0.016 oz.	1 oz.
	4	8003	BNC-5W	$ .80	2-7/8"	0.541"	1/4"	0.039 oz.	2 oz.
BT-20	5	8004	BNC-20A	$ .55	13/16"	0.736"	1/4"	0.03 oz.	1 oz.
	6	8005	BNC-20B	$ .70	1-11/16"	0.736"	5/16"	0.05 oz.	1 oz.
	7	8007	BNC-20R	$ .80	2-3/4"	0.736"	3/8"	0.07 oz.	2 oz.
	8	8006	BNC-20N	$ .85	2-3/4"	0.736"	1/2"	0.08 oz.	2 oz.
BT-50	9	8008	BNC-50J	$ .80	1-3/8"	0.976"	1/2"	0.08 oz.	4 oz.
	10	8009	BNC-50K	$ .90	2-3/4"	0.976"	1/2"	0.13 oz.	4 oz.
	10	71008	PNC-50K	$ .75	2-3/4"	0.976"	1/2"	0.13 oz.	4 oz.
	11	8010	BNC-50X	$1.00	3-1/4"	0.976"	1/2"	0.15 oz.	4 oz.
	12	8011	BNC-50Y	$1.25	4-3/8"	0.976"	3/8"	0.16 oz.	6 oz.
	12	71009	PNC-50Y	$1.10	4-3/8"	0.976"	3/8"	0.16 oz.	6 oz.
BT-55	13	8012	BNC-55AA	$1.10	3-1/8"	1.325"	1/2"	0.15 oz.	4 oz.
	14	8014	BNC-55F	$1.50	3-7/8"	1.325"	1/2"	0.19 oz.	4 oz.
	15	71070	PNC-55AC	$1.25	5-3/8"	1.325"	3/8"	0.32 oz.	6 oz.
	16	71075	PNC-55AO	$1.25	5"	1.325"	3/4"	0.43 oz.	4 oz.
BT-60	17	8020	PNC-60L	$1.25	3-1/8"	1.637"	5/8"	0.34 oz.	4 oz.
	18	8021	PNC-60AH	$2.50	6-5/8"	1.637"	7/8"	1.0 oz.	6 oz.
BT-70	19	8019	BNC-70AJ	$2.75	4-1/4"	2.217"	1"	0.85 oz.	6 oz.

FIN STOCK

Top quality balsa sheeting for making fins for model rockets. For maximum strength, grain of wood should follow the leading edge of fin. Read FINS in Vol. 3, No. 3 of the MODEL ROCKET NEWS for more information.

Cat. No.	Description	Price	Dimensions (In Inches)	Weight in Oz. Net.	Ship.	Major Use
32102	BFS-20	3 for $ .70	1/16x3x9	.130	4	High Performance
32106	BFS-20L	3 for $ .85	1/16x3x12	.173	6	High Performance
32108	BFS-30	3 for $ .75	3/32x3x9	.150	4	Sport Models
32110	BFS-30L	3 for $ .90	3/32x3x12	.200	6	Sport Models
32116	BFS-40	3 for $ .85	1/8x3x9	.200	4	Cluster Rockets
32118	BFS-40L	3 for $ .95	1/8x3x12	.265	6	Glider Wings

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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 lift-off, 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 my launcher.
8. Flying Conditions – I will not launch 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 easy to burn 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 against targets on the ground, and will never use an explosive warhead nor 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 launchings 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 Rocketry Safety Code Is Approved by The National Association of Rocketry and the Hobby Industry Association of America.

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