BEFORE YOU START

Read all instructions before beginning work on your model. Make sure you have all parts and materials. When you are thoroughly familiar with the assembly procedure, begin construction. Check off each step as you complete it. In each step, test-fit the parts together before applying any glue. If some part doesn’t fit properly, sand lightly or build up as required for precision assembly.

TOOLS AND MATERIALS

In addition to the parts included in this kit you will need: Scissors, white glue (Elmer’s, Titebond, or similar), a modeling knife with sharp blade, pencil, ruler, sandpaper, sanding sealer, masking tape, paint brush, light blue spray enamel, and dark blue spray enamel.

For easy and positive alignment of the fins on your model, we recommend the use of Estes’ Fin Alignment Guide, Part. No. 2231.

PARTS LIST

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>A 1</td>
<td>Engine Mount Tube (type BT-20J)</td>
</tr>
<tr>
<td>B 2</td>
<td>Adapter Rings (type RA-2055)</td>
</tr>
<tr>
<td>C 1</td>
<td>Engine Hook (type EH-2)</td>
</tr>
<tr>
<td>D 1</td>
<td>Body Tube (type BT-55)</td>
</tr>
<tr>
<td>E 1</td>
<td>Launch Lug (type LL-2B)</td>
</tr>
<tr>
<td>F 1</td>
<td>Nose Cone (type PNC-55AO)</td>
</tr>
<tr>
<td>G 1</td>
<td>Shock Cord (type SC-1)</td>
</tr>
<tr>
<td>H 1</td>
<td>Shroud Line (type SLT-108)</td>
</tr>
<tr>
<td>I 1</td>
<td>Tape Disc Set (type TD-3F)</td>
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<tr>
<td>J 1</td>
<td>Parachute (type PK-18A)</td>
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<td>K 1</td>
<td>Balsa Fin Sheet (type BF-7B)</td>
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<td>L 1</td>
<td>Decal (type KD-1368)</td>
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<tr>
<td>M 1</td>
<td>Pattern Sheet (type SP-1368)</td>
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<tr>
<td>N 1</td>
<td>Shock Cord Mount (type SCM-50)</td>
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RECOMMENDED ENGINES:
A8-3  B4-4  B6-4  B8-5  B14-5  C6-5  C6-7
ASSEMBLY INSTRUCTIONS

1. Cut a 1/8" wide slit in the engine mount tube (part A), 1/4" from one end as shown. Apply a 1-1/2" long line of glue to the tube as shown. Push one end of the engine hook (part C) into the slit and press the main part of the hook into the glue.

2. Separate the adapter rings from the die-cut card (part B). Cut a notch in one of the rings as illustrated and glue the rings to the engine mount tube. The notched ring should be placed over the engine hook. Let this assembly dry completely.

3. Cut out the shock cord mount (part N). Fold on dotted lines, then unfold and apply glue to Section 1. Lay the end of the shock cord (part G) into the glue. Fold over and apply glue to the back of Section 1 and the exposed portion of Section 2. Fold again to complete mount. Curl the edges of the mount up so it will match the contour of the body tube and hold with your fingers until the glue sets.

4. Apply glue to the inside of the body tube (part D) at one end over an area about 1-1/2" to 2" from one end. The glued area should be the same size as the shock cord mount. Press the mount into the glue as shown and hold it until the glue sets.

5. Test-fit the engine mount assembly into the other end of the 18" long body tube. If necessary, sand the edges of the rings until the unit slides smoothly in the tube. Apply a ring of glue around inside of rear end of body tube about 2" to 2-1/2" from the end of the tube. Immediately slide the engine mount into place, unnotched ring first, so the end of the engine mount is even with the rear of the body tube. Do not pause during this operation, or the glue may stick with the mount in the wrong position.

6. Cut out the body tube marking guide. Wrap it around the rear of the body tube. Mark the tube at each arrow point, front and rear. Draw a straight line connecting each matching front and rear mark. (Use a ruler when drawing lines.) Extend the launch lug line forward 8" (align launch lug line with engine hook).

7. Fine-sand both sides of balsa sheet free fin edges with knife. Fine-sand the balsa sheets (part K), then carefully remove the die-cut fins from the sheet. Free the edges with a sharp knife. Sand the leading and trailing edges of the fins round. Leave the other edges square.

8. Spread glue on root edge.
PAINTING AND DETAILING

It is recommended that after the first trial flights, and before higher altitude flights, that finishing, sanding, and painting be done. This will increase the altitude achieved.

Your model will be ready to fly as soon as the glue dries. The length of time required for the glue to dry varies from about one hour to several hours. The lower the temperature, the higher the humidity, and the more glue you applied, the longer is the time required for the glue to dry. If you used white glue, do not fly the model until the glue has dried enough to be clear.

The Comet flies well without the application of sanding sealer and paint. To achieve superior performance, the balsa should be sealed and then the entire model given a smooth coat of paint to reduce drag.

Glue the launch lug (part E) to the body on its line. The front of the lug should be 8" from the rear of the body. Align it straight on the body.

Apply all glue reinforcements to fins and launch lug as shown in Step 11. There will be ten reinforcements. Let all glue dry completely. Apply sanding sealer to all balsa surfaces. Allow the sealer to dry and sand it smooth. Repeat this step as many times as needed to fill all the grain lines in the wood. Use either dope or enamel to finish your model, but don’t use one over the other.

Spray paint the entire rocket with light blue spray enamel. When this is dry, measure 8" from the tip of the nose cone down the body tube and place a mark. Wrap the remaining portion of the rocket with newspaper and seal with masking tape to prevent the paint from running under the paper. Spray paint the nose cone and body tube to the mark with dark blue spray enamel. When painting your rocket, spray several light “mist” coats of paint rather than one heavy coat.
If you elect to apply decal stars to your model, be sure that paint is dry (allow at least overnight for drying). Cut out a section of decal with one or more stars on it, dip in lukewarm water for approximately 30 seconds, and then slide individual stars off the backing sheet and onto model. Blot away excess water. For best results, let the model dry overnight and apply a coat of clear spray to protect the decals.

**LAUNCHING COMPONENTS**

Be sure to follow the HIAA-NAR® Model Rocket Safety Code when carrying out your model rocket activities.

HIAA -- Hobby Industry Association of America
NAR -- National Association of Rocketry

To launch your model you will need the following items:
- An Estes model rocket launch system
- Parachute recovery wadding (Estes Cat. No. 2274)
- Recommended Engines: A8-3, B4-4, B6-4, B8-5, B14-5, C6-5, C6-7. Use an A8-3 engine for your first flight.

**COUNTDOWN CHECKLIST**

**T-14** Pack 4 or 5 squares of loosely crumpled recovery wadding into the body tube.

**T-13**

- **SPIKE**
- **FOLD**
- **ROLL**
- **INSERT INTO BODY TUBE**
- **WADDING**

Hold the parachute at its center and pass the other hand down it to form a "spike" shape. Fold this spike in half. Roll parachute into tube shape to fit easily into body. Pack 'chute into the tube on top of the wadding. Pack the shroud lines and shock cord in on top of the parachute and slip the nose cone into place.

**NOTE:** DO NOT pack parachute until you are actually ready to launch. For maximum parachute reliability, lightly dust the 'chute with ordinary talcum powder before each flight, especially in cold weather.

**T-12** Pack parachute, shroud lines, and shock cord neatly into rocket body.

**NOTE:** Nose cone should separate easily from rocket body tube, but should not be extremely loose. If fit is too tight, sand inside of body tube and shoulder of nose cone with fine sandpaper. If fit is too loose, add a wrapping of transparent tape or masking tape to the shoulder of the nose cone.

**T-11**

- **INSERT IGNITER**
- **BEND**
- **MASKING TAPE**

Select an engine and install an igniter as directed in the engine instructions. Use an A8-3 engine for your first flight.

**T-10**

- **MASKING TAPE**
- **ENGINE HOOK MUST LATCH SECURELY**

Insert engine into rocket engine mount. Engine hook must latch securely over end of the engine.

**T-9** Disarm the launch panel -- REMOVE SAFETY KEY!

**T-8**

- **LAUNCH LUG**
- **LAUNCH ROD**
- **IGNITER**
- **BLAST DEFLECTOR**
- **MICRO-CLIPS**

Slide launch rod through rocket launch lug and place rocket on launch pad. Make sure the rocket slides freely on the launch rod. Clean the micro-clips and attach them to the igniter wires. Arrange the clips so they do not touch each other or the metal blast deflector. Attach clips as close to engine as possible.

**T-7** Clear the launch area, alert recovery crew and trackers. Check for low flying aircraft and unauthorized persons in the recovery area.

**T-6** Arm the launch panel -- INSERT SAFETY KEY!

**-5-4-3-2-1- LAUNCH!!**

Repeat Countdown Checklist for each flight.

**MISFIRE PROCEDURE**

Occasionally the igniter will heat and burn into two pieces without igniting the engine. This is almost always caused by a failure to install it correctly. REMOVE SAFETY KEY from launch panel, remove the model, clean the igniter residue from the engine nozzle, and install a new igniter. Repeat the Countdown Checklist.
BODY TUBE MARKING GUIDE

FIN

LAUNCH LUG

FIN

FIN

PATTERN SHEET
1368 COMET
PN 84276

SHOCK CORD
SEC. 1
SEC. 2
SEC. 3

PN 84444

ESTES
A DIVISION OF PAMPEX
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</tbody>
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COMET
FLYING MODEL
ROCKET
SKILL LEVEL 1

- High Performance Sport Flyer
- Easy-To-Assemble
- Great Flights Over 1,200 Feet
- 18" Parachute Recovery
- Plastic Nose Cone
- Die-Cut Balsa Fins
- Quick-Release Engine Mount
- Kit Decals

Length: 24.35" (61.9 cm)
Dia.: 1.375" (34.9 mm)
Wt.: 1.8 oz. (51 g)

ENGINES:
A5-2 (Estes F1): #44-4
B4: #55, #65, #67

This is a hobby kit requiring assembly. Recommended for ages 10 and up. Engines, launch systems, glue and finishing supplies are not included. Adult supervision is suggested for those under 12 years of age when flying model rockets.