NOTE: Test fit all parts together before applying glue. If parts don’t fit properly, sand as required for precision assembly.

<table>
<thead>
<tr>
<th>Part</th>
<th>Qty.</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>Engine Mount 2.75 in. (69.9 mm)</td>
<td>030408</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>Engine Hook</td>
<td>035021</td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td>Green Adapter Ring 1.13”(28.7 mm)</td>
<td>030165-2</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
<td>Engine Block</td>
<td>030224</td>
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<tr>
<td>E</td>
<td>1</td>
<td>Main Body Tube BT 50 9” (228.6mm)</td>
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</tr>
<tr>
<td>F</td>
<td>1</td>
<td>Balsa Tube Adapter</td>
<td>070008</td>
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<tr>
<td>G</td>
<td>1</td>
<td>Upper Body Tube BT 20 9” (228.6mm)</td>
<td>030314</td>
</tr>
<tr>
<td>H</td>
<td>1</td>
<td>Balsa Nose Cone</td>
<td>070228</td>
</tr>
<tr>
<td>I</td>
<td>4</td>
<td>Laser Cut Lower Balsa Fins</td>
<td>065978</td>
</tr>
<tr>
<td>J</td>
<td>4</td>
<td>Laser Cut Upper Fins</td>
<td>065978</td>
</tr>
<tr>
<td>K</td>
<td>4</td>
<td>Hardwood Strips 4&quot; (101.6 mm)</td>
<td>032073</td>
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<tr>
<td>L</td>
<td>1</td>
<td>Launch Lug 2&quot; (51 mm)</td>
<td>038190</td>
</tr>
<tr>
<td>M</td>
<td>1</td>
<td>Screw Eye</td>
<td>038251</td>
</tr>
<tr>
<td>N</td>
<td>1</td>
<td>Shock Cord 24&quot; (61cm)</td>
<td>038367</td>
</tr>
<tr>
<td>O</td>
<td>1</td>
<td>Parachute 12&quot; (30 cm)</td>
<td>035801</td>
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<tr>
<td>P</td>
<td>1</td>
<td>Ricochet™ Decals (not shown)</td>
<td>065980</td>
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</table>

SUPPLIES In addition to the parts included in the kit you will also need:

- SCISSORS
- PENCIL
- RULER
- FINE SAND PAPER (#320-#400 GRIT)
- CARPENTER’S GLUE
- MODELING KNIFE
- MASKING TAPE
- SPRAY PRIMER (WHITE)
- SPRAY PAINT CLEAR COAT (OPTIONAL)
- SPRAY PAINT WHITE
- SPRAY PAINT BLUE
- SPRAY PAINT BLACK
**FIN PREPARATION**

1. Sand both sides of balsa sheet with fine sandpaper (#320 or #400 grit).
4. Sand leading edge round.

**ENGINE MOUNT ASSEMBLY**

1. Measure and mark [A].
2. Cut slit at mark.
4. Slide [C] to mark. Apply glue to both sides of [C].
5. Apply glue in end of [A].

**TUBE MARKING**

1. Cut tube marking guide from instructions.
3. Connect “FL” and “LL” on [E]. Use door frame as a straight edge. Measure and mark “LL” from end of [E].
LOWER FIN ATTACHMENT

1. Apply glue to root edge of I. Let dry 1 minute. Apply 2nd layer of glue.

2. Position I over FL even with end of E. Let dry. Repeat for remaining I. Check alignment using guide.

HARDWOOD STRIP ATTACHMENT

1. Sand sides of K smooth.

2. Bevel each end of K 45 degrees. Sand smooth.

3. Place mark on each K.

4. Apply glue to bottom K. Position K centered over “FL” with mark forward. Repeat for remaining K. Check alignment using guide.

UPPER FIN ATTACHMENT


2. Repeat for remaining J. Let fins dry. Check alignment using guide.

LAUNCH LUG ATTACHMENT

1. Sand L with fine sandpaper.

INSTALL ENGINE MOUNT

1. Apply glue inside of E.
2. Slide motor tube assembly even with end of E. Let dry.

UPPER BODY TUBE ASSEMBLY

1. Check fit of F in E and G. Sand as required for fit.
2. Apply ring of glue in G. Slide F into G.
4. Screw M into F
5. Test fit H in G. Sand as required for fit.
6. Apply ring of glue in G. Slide H into G. Let dry.

INSTALL SHOCK CORD MOUNT

1. Cut shock cord mount from instructions.
2. Apply glue to mount. Place N on Section 2. Fold forward.
3. Apply glue and fold forward. Squeeze tight!
4. Apply glue to shock cord mount and insert in E. Hold until glue sets. Let dry.

ROCKET FINISHING

NOTE: We have found Testors One Coat Lacquer, Testors Model Master spray paints (color of your choice) and Testors Gloss Lacquer (# 1961) to be excellent for providing a long lasting and durable finish on your rocket. Always be sure to spray your models outside or in a well ventilated area.

Steps for a Quality Finish:
1. Stuff shock cord into body tube and hold in place with paper.
2. Lightly sand entire rocket with fine sandpaper (#320 or #400 grit).
3. Apply glue fillets to fins and launch lug.
   a. Allow glue to dry overnight.
4. Paint the main rocket body and upper rocket tube separately. Assemble after painting is complete.
5. Use a stick inserted into the engine tube end of the rocket body for painting.
6. Hold the upper rocket section by the screw eye with a clip or pliers for painting.
7. We recommend a good filler/primer to be applied to the balsa fins, tube adapter and nose cone before painting.
   a. Sand after each application for a smooth finish.
8. Apply 1-2 light coats of white primer to upper and lower rocket sections.
   a. Lightly sand with fine sandpaper (#320 or #400 grit) between coats.
   b. Allow to dry between each coat.
9. Spray paint tube adapter gloss white.
   a. Let paint dry overnight (24 hours is best).
10. Apply masking tape and protective cover around tube adapter.
11. Spray paint upper rocket section gloss blue.
   a. Let paint dry overnight (24 hours is best). Remove tape.
12. Apply masking tape and protective cover around nose cone and upper rocket section.
   a. Let paint dry overnight (24 hours is best). Remove tape.
ROCKET FINISHING CONTINUED
14. Spray paint main rocket body gloss white.
   a. Let paint dry overnight (24 hours is best).
15. Apply masking tape between fins and protective cover over lower rocket section.
   a. Let paint dry overnight (24 hours is best). Remove tape and cover.
17. Apply waterslide decals where shown.
   A. Cut the decal to be applied from the decal sheet, trimming close to the decal edge.
   B. Hold the decal in warm water until decal begins to curl.
   C. Remove the entire decal, position in place and slide the decal backing material from under the decal and onto
   the model as close to final position as possible.
   D. Gently blot out excess water with a clean paper towel.
   E. Allow decals to set overnight before applying protective clear coat.
18. When decals are dry, spray entire rocket (body and nose cone with Testor's clear lacquer #1961). This will provide added
    protection and shine to your Ricochet rocket!

RECOVERY SYSTEM ATTACHMENT

1. Form loop with shroud lines.
2. Insert the loop through M.
3. Pass parachute through loop.
4. Pull lines tight.
5. Tie N to M with double knot.

PREPARE FLIGHT RECOVERY
NOTE: Only Estes Recovery Wadding (302274) recommended.

1. Pull shock cord taut when inserting recovery wadding.
2. Insert 3 - 4 loosely crumpled squares recovery wadding. Push below shock cord attachment.
4. Fold.
5. Roll.

PREPARE ENGINE

⚠️ WARNING: FLAMMABLE
To avoid serious injury, read instructions & NAR Safety Code included with engines.
PREPARE ENGINE ONLY WHEN YOU ARE OUTSIDE AT THE LAUNCH SITE PREPARING TO LAUNCH!
If you do not use your prepared engine, remove the igniter before storing engine.

1. Separate igniter and igniter plug.
2. Insert igniter.
3. Insert plug.
4. Push down.
5. Gently bend igniters to form leads as shown.
6. Insert engine into rocket.

NOTE: Recovery wadding and streamer must slide easily into body tube. If too tight, redo.
COUNTDOWN AND LAUNCH

KEY ALWAYS OUT UNTIL FINAL COUNTDOWN!

1...

2...

3...

4...

5...

Masking Tape

15 FT. (4.6 M)

INSERT KEY. PUSH DOWN HARD. BULB WILL LIGHT.

WHILE HOLDING KEY DOWN FIRMLY, PRESS LAUNCH BUTTON UNTIL LIFT-OFF!

Estes Launch Supplies Needed:
(Sold Separately)
Porta Pad® Launch Pad
Electron Beam® Launch Controller
Recovery Wadding (302274)
Igniters (with engines)
Igniter Plugs (with engines)
Recommended Estes Engines:
A8-3 (First Flight),
B6-4, C6-5

PRECAUTIONS

PRE-LAUNCH CHECK
For safety, never launch a damaged rocket. Check the rocket’s body, nose cone and fins. Also, check the engine mount, recovery system and launch lug. Repair any damage before launching the rocket.

FLYING YOUR ROCKET
Choose a large field (500 ft. [152 m] square) free of dry weeds and brown grass. The larger the launch area, the better your chance of recovering your rocket. Football fields and playgrounds are great. Launch only with little or no wind and good visibility.

Always follow the enclosed National Association of Rocketry (NAR) SAFETY CODE.

MISFIRES
TAKE THE KEY OUT OF THE CONTROLLER, WAIT ONE MINUTE BEFORE GOING NEAR THE ROCKET! Disconnect the igniter clips and remove the engine. Take the plug and igniter out of the engine. If the igniter has burned, it worked but did not ignite the engine because it was not touching the propellant inside the engine. Put a new igniter all the way inside the engine without bending it. Push the plug in place. Repeat the steps under Countdown and Launch.
<table>
<thead>
<tr>
<th>Quantity</th>
<th>Description</th>
<th>Type</th>
<th>Number</th>
<th>Details1</th>
<th>Details2</th>
<th>Details3</th>
<th>Details4</th>
<th>Comment</th>
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<td>2.0&quot; long</td>
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<td>.5&quot; back</td>
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<td>Multicolor</td>
<td>Self Stick</td>
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</tbody>
</table>

* Diecut part number
RICOCHET
FLYING MODEL ROCKET KIT

- Basic Builder Series!
- Simple to Glue and Paint!
- Air to Air Missile Styling!

FLIES UP TO
1125 FEET
(343 M)

Requires launch system and flight supplies - sold separately. See back for details.

Recommended for ages 10 and up with adult supervision for those under 12.

www.estesrockets.com

22 Inches Tall!

To Launch This Rocket, You Will Need

- Estes Porta Pad™ II Launch Pad
- Estes Launch Controller
- Estes Model Rocket Engines
- Estes Ignitors and Plugs
- Estes Recovery Wadding

IMPORTANT INFORMATION:
- Requires Assembly. Requires hobby tools, yellow or white glue, paint, finishing supplies, ignition, wadding, and launch system - NOT INCLUDED.
- Safety Code and Full One Year Warranty Enclosed.
- Use only with Estes products. CAUTION: Use of this Estes product with any other brand-name rocket product containing any defect or causing any damage may void the Estes warranty.
- Allergy Information: Product may contain latex.
- WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
- Do not launch a model rocket into a cloud in a manner which constitutes a danger to air safety.
- This model rocket is for launch only. Care, paint, motors, flight packs - NON COMPRESSIBLE.
- Code de Sécurité et Garantie comprimées.

EMPLOYEZ SEULEMENT AVEC DES PRODUITS D'ESTES. Mise en garde: L'utilisation de ce produit Estes avec un produit d'une autre marque enlèvera une défectuosité ou causant des dommages peut annuler la garantie Estes.

L'Information D'Allergie: Le produit peut contenir le latex.

Estes-Cox Corp.
1295 H Street, PO Box 227
Penrose, CO 81240-0227
MADE IN CHINA

Color of product may vary.

www.estesrockets.com

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