NEW from ESTES mini- BRUTES flying Model Rockets
mini-
BRUTES

- super performance
- bantam-weight
- mini-priced

New from Estes, world-leader in Model Rocketry! Mini-BRUTES have super-powered, mini-engines to send them soaring high, wide and happy into space—to open up a whole new world of mini-rocketry fun and excitement! Mini-priced, too. Away they go!

The Fleet Pack
Get all three Mini-Brutes—Mosquito, Screamer, and Mini Bertha—at a special low price! Launch them all and have the fun of comparing high-flying super-performance!
Order No. TK-123 $2.49

Or, you can order them separately.

MOSQUITO
Body Dia. 0.541 in. (13.73 mm)
Length 3.9 in. (9.9 cm)
Weight 0.1 oz. (2.83 gr)
Recommended Engines 1/4 A3-2T, 1/4 A3-4T, 1/2 A3-4T, A3-6T
Order No. TK-1 $ .49

SCREAMER
Spectacular streamer recovery. Balsa and paper construction with simple paint pattern and decals.
Body Dia. 0.541 in. (13.73 mm)
Length 7.6 in. (19.31 cm)
Weight 0.225 oz. (6.37 gr)
Recommended Engines 1/4 A3-2T, 1/4 A3-4T, 1/2 A3-4T, A3-6T
Order No. TK-2 $ .99

MINI BERTHA
The really tough Mini-Brute. Parachute recovery with colorful 8" plastic 'chute. Two color decal sheets. Balsa and paper construction.
Body Dia. 0.736 in. (18.70 mm)
Length 11.25 in. (28.60 cm)
Weight 0.494 oz. (13.71 gr)
Recommended Engines 1/2 A3-2T, A3-4T
Order No. TK-3 $1.29

MINI-ENGINE SELECTION CHART

<table>
<thead>
<tr>
<th>Cat. No. and Engine Type</th>
<th>Prices</th>
<th>Total Impulse</th>
<th>Time Delay</th>
<th>Lift-off Weight</th>
<th>Maximum Thrust</th>
<th>Thrust Duration</th>
<th>Initial Weight</th>
<th>Propellant Weight</th>
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</thead>
<tbody>
<tr>
<td>SINGLE STAGE ENGINES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>1/4 A3-2T</td>
<td>4 for $ .99</td>
<td>0.14</td>
<td>0.625</td>
<td>2 sec</td>
<td>1 oz.</td>
<td>23 oz.</td>
<td>0.18 sec</td>
<td>0.173</td>
</tr>
<tr>
<td>1/2 A3-2T</td>
<td>4 for $1.09</td>
<td>0.28</td>
<td>1.26</td>
<td>2 sec</td>
<td>2 oz.</td>
<td>28 oz.</td>
<td>0.36 sec</td>
<td>0.198</td>
</tr>
<tr>
<td>A3-2T</td>
<td>4 for $1.19</td>
<td>0.50</td>
<td>2.50</td>
<td>2 sec</td>
<td>2 oz.</td>
<td>28 oz.</td>
<td>0.56 sec</td>
<td>0.254</td>
</tr>
<tr>
<td>A3-4T</td>
<td>4 for $1.19</td>
<td>0.56</td>
<td>2.50</td>
<td>2 sec</td>
<td>2 oz.</td>
<td>28 oz.</td>
<td>0.56 sec</td>
<td>0.258</td>
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<tr>
<td>UPPER STAGE ENGINES</td>
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<td></td>
</tr>
<tr>
<td>1/4 A3-4T</td>
<td>4 for $ .99</td>
<td>0.14</td>
<td>0.625</td>
<td>4 sec</td>
<td>1 oz.</td>
<td>23 oz.</td>
<td>0.18 sec</td>
<td>0.197</td>
</tr>
<tr>
<td>1/2 A3-4T</td>
<td>4 for $1.09</td>
<td>0.28</td>
<td>1.26</td>
<td>4 sec</td>
<td>2 oz.</td>
<td>28 oz.</td>
<td>0.36 sec</td>
<td>0.212</td>
</tr>
<tr>
<td>A3-6T</td>
<td>4 for $1.19</td>
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<td>2.50</td>
<td>6 sec</td>
<td>1 oz.</td>
<td>28 oz.</td>
<td>0.56 sec</td>
<td>0.262</td>
</tr>
<tr>
<td>BOOSTER ENGINES</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/4 A3-0T</td>
<td>4 for $1.09</td>
<td>0.28</td>
<td>1.25</td>
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<td>3.5 oz.</td>
<td>28 oz.</td>
<td>0.36 sec</td>
<td>0.166</td>
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<tr>
<td>A3-0T</td>
<td>4 for $1.19</td>
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<td>2.50</td>
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<td>3.5 oz.</td>
<td>28 oz.</td>
<td>0.86 sec</td>
<td>0.226</td>
</tr>
</tbody>
</table>

Each pack of 4 engines includes 5 igniters. Designed for specific launch and flight functions, rocket engines are expendable—not reusable. Average thrust: 3 newtons.

MINI-ENGINE ADAPTER
Fly your short engine (Series III) bird with a mini-engine—reduce weight and get higher performance. Heavy duty construction, yet weighs only 0.09 oz.
Cat. No. 713-EM-520

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