Note: Sale to persons under age of 18 prohibited by Federal law. Do not smoke when using these motors or use in the vicinity of open flames. Caution: Keep out of reach of children.

Read and follow all instructions before use. Use these model rocket motors only in accordance with these instructions. AEROTECH Composite Model Rocket Motors are NOT toys! Handle with care and respect. Read and follow all instructions before and during use.

General Information
AEROTECH Composite Model Rocket Motors are the most technically advanced model rocket motors available from AEROTECH Composite Model Rocket Motors as America’s space boosters. Pound for pound, this propellant delivers nearly 3 times the power of black powder used in other model rocket motors. AEROTECH Composite Model Rocket Motors allow you to fly larger rockets, heavier payloads, and achieve higher altitudes than ever before!

Motor Classification
Each AEROTECH Composite Model Rocket Motor is stamped with a code (e.g. E15-W) that gives important information about the motor’s performance. The letter indicates the total impulse (in Newton-seconds) produced by the motor. Each succeeding letter indicates a power level up to twice that indicated by the previous letter. For example, an “F” motor may be twice as powerful as an “E” motor. The number following the letter code indicates the average thrust in Newtons. The next number above the code indicates a relative increase in performance. For example, a model rocket motor containing a propellant formulation used in the motor.

Storage and Handling
Store AEROTECH Composite Model Rocket Motors in a dry place where the temperature will remain between 45°F and 100°F. Do not cut, saw, attempt to alter the size, attempt to disassemble, attempt to modify, or drop an AEROTECH Composite Model Rocket Motor. Do not use an AEROTECH Composite Model Rocket Motor that you believe has been damaged in any way. Do not ignite an AEROTECH Composite Model Rocket Motor indoors. Do not breathe fumes from the rocket motor exhaust.

Use
Use AEROTECH Composite Model Rocket Motors only in model rockets designed and built for them.

Ignition and Launching
1. Select and carefully straighten the AEROTECH Copperhead™ igniter provided.

2. Fig. 2-Holding the Copperhead™ between thumb and forefinger, insert the black coated end into the nozzle and probe the slot in the propellant grain. Slowly rotating the motor while grasping the tip of the igniter may help in the ignition of the fuel.

3. Once the Copperhead™ has entered the propellant grain slot, continue inserting it until contact is made with the delay element at the forward end of the motor. Failure to insert to the Copperhead™ igniter as described may result in low thrust or ignition of the motor.

4. Slot

5. Red Elastic Band

6. Prepare the recovery system of your rocket. Make sure that all elements of the recovery system are in good working order.

7. Slide the rocket onto the rod or rail of your launch pad. Model rockets powered by AEROTECH Composite Model Rocket Motors must be fished from a launch pad having a launch rod or rail at least 36 inches long or two-thirds the combined length of the rocket body and nose cone, whichever is greater. Do not launch a rocket powered by an AEROTECH Composite Model Rocket Motor from any launch rod or rail shorter than that specified in the rocket kit assembly and use instructions. The AEROTECH MANITS™ model rocket launch pad will accommodate launch rods of several diameters and lengths and may be used with all types of model rockets.

8. Make sure the electrical launch control switch is disarmed and then attach the igniter clip to the AEROTECH Composite Model Rocket Motor. Use only an AEROTECH INTERLOCK™ electrical launch controller (or other electrical launch controller with an INTERLOCK™ igniter clip) to ignite the AEROTECH Composite Model Rocket Motor. Test the INTERLOCK™ electrical launch controller for proper safe operation before each flying session; testing and operating procedures are detailed in the instructions for the INTERLOCK™ electrical launch controller.

9. Stand at least 30 feet from the launch pad when flying a model rocket powered by an AEROTECH Composite Model Rocket Motor. Do not allow spectators to stand less than 30 feet from the launch pad. After arming the INTERLOCK™ electrical launch controller give a loud, audible five second countdown before pressing the launch button.

10. Read and follow the Model Rocket Safety Code of the National Association of Rocketry (NAR) and comply with all federal, state and local laws in all activities with model rockets.

MISFIRES
A misfire occurs and an AEROTECH Composite Model Rocket Motor does not ignite for any reason. Prior to re-arming any unused propellants and re-armed motors, check the nozzle pointed away from your face and body and away from any other person’s face or body— remove the red plastic cap and the Copperhead™ igniter, and repeat the motor preparation and launching process. Caution: The nozzle and the plastic casing of an AEROTECH Composite Model Rocket Motor remain hot for several minutes after operation. Do not touch any part of the motor for at least five minutes after operation. Remove an expended motor casing from a model rocket with piers.

Fire Safety
For a minor burn, apply a burn settlement. For a severe burn, immerse the burned area in ice water at once and see a physician as quickly as possible.

In the unlikely event of oral ingestion of the propellant, induce vomiting and see a physician as quickly as possible. AEROTECH Composite Model Rocket Motor contains a propellant that consists of ammonium perchlorate and a rubber like plastic elastomer.

Disposal
Damaged, defective, or unwanted motors should be disposed of in the following manner. Pack the motor firmly in the ground with just the nozzle showing, away from buildings, people, animals, and flammable materials. Be sure the nozzle is pointing straight up and is clear. Ignore electrical, gas ignitions, from a distance of 30 feet or more. Propellant and delay fuel will burn consumed. Do not approach for at least five minutes after the firing. Do not put any part of your body near the motor during the process. Dispose of spent motor in metal trash.

Warning: Remember than the motor may be hot after firing. Allow time for it to cool down!

Typical Time-Thrust Curves

Maximum liftoff weight is a recommendation that is provided only as a general guideline and should not be used at the exclusion of other considerations of rocket flight stability, recovery safety and weight.

Motor Performance Data

<table>
<thead>
<tr>
<th>MOTOR TYPE</th>
<th>PROPellant WEIGHT</th>
<th>TOTAL impulse</th>
<th>AVERAGE THRUST</th>
</tr>
</thead>
<tbody>
<tr>
<td>G55</td>
<td>5.10,15W</td>
<td>2.20 62.5 27.0 120.0</td>
<td>12.4 55.0</td>
</tr>
<tr>
<td>G55</td>
<td>5.10,25W</td>
<td>2.20 62.5 27.0 120.0</td>
<td>12.4 55.0</td>
</tr>
<tr>
<td>G48</td>
<td>5.10-15T</td>
<td>2.20 57.1 29.0 130.0</td>
<td>28.1 125.0</td>
</tr>
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RCS Rocket Motor Components
NON-STD CLASS 1.4 ‘G’ MOTOR INSTRUCTIONS WARNING-FLAMMABLE: Read Instructions Before Use.

Division of RCS Rocket Motor Components, Inc.