COMPOSITE 'G' MOTOR INSTRUCTIONS
WARNING-FLAMMABLE: Read Instructions And Back Of Package Before Use.

NOTE: SALE TO PEOPLES UNDER 18 YEARS OF AGE PROHIBITED BY FEDERAL LAW. DO NOT SMOKE while 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.

MOTOR CLASSIFICATION
Each AeroTech composite model rocket motor is labeled with a code (e.g. G40-7W) which gives important information about the motor's performance. The letter indicates the total impulse (in Newton-seconds) produced by the motor. A number following the letter code indicates the motor's average thrust. With the exception of motors with the letter "R" in the top left corner of the label, rocket motors use the same propellant as America's space boosters. Pound for pound, this propellant formulation used in the motor: "W" for White Lightning™, "G" for Copperhead or FirstFire Igniter, "F" for BlackMax™ and "R" for Redline™.

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™ or FirstFire™ igniter provided.
2. Fig-1 Holding the igniter between thumb and forefinger, insert the black-capped end into the rocket motor (pointing towards the case). When the propellant comes into contact with the case of the G77R and G79W in the propellant grain, slowly rotating the motor while probing with the tip of the igniter may help in finding the slot.
3. Slot or core
4. Delay Element
5. Once the igniter has entered the propellant grain, load or pull the igniter into the "slot" (Avoid sharply bending a Copperhead as a crack in the copper foil may occur if the igniter is straightened.) Use the supplied yellow elastic band to secure the igniter to the side of the nozzle.
6. Bond the insulator ring to the motor, bond over the nozzle and bond to the propellant grain. A 1/8" propellant grain bond will firmly secure the igniter to the propellant grain. The bond over the nozzle will hold the igniter in place during the launch and provide electrical power to the igniter during the flight operation. A 1/8" propellant grain bond will firmly secure the igniter to the propellant grain.
7. Slide the rocket into the rod or rail of your launch pad. Model rockets powered by AeroTech composite model rocket motor must be fired 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 model rocket powered by an AeroTech composite model rocket motor from a launch rod or rail shorter than that specified in the rocket kit assembly instructions. The AeroTech Mantis™ model rocket launch pad will accommodate launch rods of several diameters and lengths and may be used with all types of composite rocket motors.
8. Make sure the electrical launch controller is disarmed and then attach the igniter clip(s) to the igniter. Use only an AeroTech Interclock™ electrical launch controller (or other electrical launch controller that uses the AeroTech igniter clip) to initiate a Copperhead™ or FirstFire™ electrical launch controller for proper safe operation before each firing session: testing and operating procedures are detailed in the instructions for the Interclock™ electrical launch controller.
9. Stand at least 30 feet from the launch pad when firing 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 Interclock™ 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
If a misfire occurs and an AeroTech composite model rocket motor does not ignite for any reason within five seconds of pressing the launch button, release the launch button and remove the safety key from the Interclock™ electrical launch controller. WAIT ONE MINUTE before approaching or allowing anyone else to approach the model rocket. Keep your fingers and hands out of underneath the model rocket and away from the possible path of the exhaust jet. Do not place anything against, cover or block the nozzle, body, and motor during the firing process. When the motor ignites, the launch button and igniter clip(s) from the igniter. Carefully remove the model rocket from the launch pad. Keeping the motor nozzle pointed away from your face and body, and away from other people's face or body, remove the igniter, and repeat the motor preparation and launching process.

CAUTION: The nozzle and the plastic casing of an AeroTech composite model rocket motor retain heat 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 pliers.

FIRST AID
For a minor burn, apply a burn ointment. 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. The AeroTech composite model rocket motor contains a propellant that consists primarily 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 bottom of the motor touching the ground. Anvil, Dome, and Durable materials. Be sure the nozzle is pointing straight up and is clear. Ignite electrically, per ignition instructions, from a distance of 30 feet or more and wear protective gloves and a face mask. Wait until the exhaust is no longer visible before approaching the model rocket. Fire the rocket in a cleared area, free of tall trees, power lines, and buildings. We will not assume any responsibility for product storage, transportation or usage. RCS Rocket Motor Components, Inc. cannot assume any responsibility for product storage, transportation or usage. RCS Rocket Motor Components, Inc. does not control the storage and use of our products, once sold, we cannot assume any responsibility for product storage, transportation or usage. RCS Rocket Motor Components, Inc. As we cannot control the storage and use of our products, once sold, we cannot assume any responsibility for product storage, transportation or usage.

NAR MODEL MOTOR SAFETY CODE
1. Construction. My model rockets will be made of lightweight materials such as paper, wood, rubber, and plastic without any metal or other hazardous materials as structural parts.
2. Engines. I will use only pre-loaded factory made NAR certified rocket engines in the motor recommended by the manufacturer. I will not alter or dismantle model rocket engines or their ingredients in any way, or attempt to rebuild 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. I will use only flame resistant recovery systems.
4. Weight Limits. My model rockets will weigh no more than 1500 grams (53 oz) at liftoff and the engines will contain a total of no more than 124.4 grams (4.4 oz) of propellant. My model rockets will weigh less than the engine manufacturer's recommended weight for the engines used, or I will use engines recommended by the manufacturer for my rockets.
5. Stability. I will check the stability of my model rockets before their first flight, except when launching models of already proven stability.
6. Payloads. My model rockets will never carry live animals, or payloads that are intended to cause injury or damage against targets. My launch device will be pointed within 30 degrees of vertical. I will not launch rocket powered by an AeroTech composite model rocket motor, from anything other than a launch rod or rail at least 30 feet in length. The rocket will be launched into a cleared area, free of tall trees, power lines, and buildings. I will clear the area around my launch device of brown grass, dry weeds, and other easy-to-burn materials.
7. Launch Area. I will launch model rockets outdoors in a cleared area, free of tall trees, power lines, and buildings. I will ensure that people in the launch area are aware of the pending rocket launch and are in a position to see the rocket's liftoff before I begin my audible five-second countdown.
8. Launchers. I will use my model rockets from a launch rod or other device that provides rigid guidance until the rocket has reached a speed adequate to ensure a safe flight path. To prevent accidental injury, I will always place the launcher so that the launching switch is at least 6 feet above eye level and will cap the end of the rod when not in use. Upon approaching a model rocket launch rod when in use and will never store the launch rod unattended. My launchers will have a deflector device to prevent the engine exhaust from hitting the ground directly. I will always clear the area around my launch device of brown grass, dry weeds, and other easy-to-burn materials.
9. Ignition System. The system I use to launch my model rockets will be remotely controlled. If the system is ignited electrically, the time delay code shows the type of propellant formulation used in the motor: "W" for White Lightning™, "G" for Copperhead or FirstFire Igniter, and "F" for BlackMax™ and "R" for Redline™.
10. Safety Launch. I will not allow anyone to approach a model rocket on a launch pad. I must have made sure that the safety interlock has been removed or the battery has been disconnected from the ignition system. In the event of a misfire I will wait one minute before allowing anyone to approach the launcher.
11. Flying Conditions. I will launch my model rocket only when the wind is less than 20 mph, and there is no lightning in the area, and no wind is blowing debris or objects horizontally into flight, cloudy, in flight, or is hazardous to people or property.
12. 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 no design or test flights in complete isolation from persons not participating in the actual launch.
13. Launch Angle. I will not launch model rockets so that their flight path will carry them against targets. My launch device will be pointed within 30 degrees of vertical. I will never use model rocket engines to propel any device horizontally.
14. Recovery Hazards. If a rocket model becomes entangled in a power line or other dangerous place, I will not attempt to retrieve it.

NOTICE: As we cannot control the storage and use of our products, once sold, we cannot assume any responsibility for product storage, transportation or usage. RCS Rocket Motor Components, Inc. is not responsible for any property damage resulting from the handling, storage or use of our products. The buyer assumes all risks and liabilities therefrom and accepts and uses all products on these conditions. No warranty either expressed or implied is made regarding AeroTech RCS rocket products, except as required by law. No warranty is made that the product will be defective in manufacture within one year from the date of original purchase. For repair or replacement under this warranty, please contact RCS Rocket Motor Components, Inc. Pre-proof of purchase is required for warranty. Note: Your state may provide additional rights not covered by this warranty.

AEROTECH, AEROTECH CONSUMER AEROSPACE, the AeroTech logo, COPPERHEAD, FIRSTFIRE, MANTIS, and INTERCLOCK are trademarks of RCS Rocket Motor Components, Inc.