AeroTech composite rocket motors use the same type of propellant as America’s space-bound rocket motors and can deliver over 3 times the power of black powder used in other rocket motors. AeroTech composite rocket motors allow you to fly larger rockets, heavier payloads, and achieve higher altitudes than ever before!

**MOTOR CLASSIFICATION**

Each AeroTech composite rocket motor is labeled with a code (e.g. HP-G75M) which indicates the type of motor at a glance. The performance. The "HP" prefix indicates that this is a "high-power" motor for use only by certified consumers. The next letter indicates the total impulse (seconds-seconds) produced by the motor. Each succeeding letter indicates a power level up to twice that indicated by the previous letter. For example, a "G" motor can be twice as powerful as an "F" motor. The number following the letter code indicates the motor's average thrust in Newtons. The next number of the code shows the time delay in seconds between propellant burnout. The "B" and "P" letters following the number code show the type of propellant formulation used in the motor: "B" for BlackMax™, "P" for BlueMax™, "T" for BlueThunder™, "F" for BlackMax™, and "R" for RedLine™.

**STORAGE AND HANDLING**

Store AeroTech composite 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, attempt to alter the shape, attempt to disassemble, attempt to modify, attempt to alter the size, attempt to disassemble, attempt to modify, attempt to alter the shape. Do not use an AeroTech composite rocket motor indoors. Do not breathe fumes from the rocket motor exhaust.

**USE**


**WARNING**

HP-G75M rocket motors are standard for rockets designed and built for them. Always store, transport, and use the rocket motor as required by the manufacturer. Do not allow other persons to use the rocket motor or the launch system. Do not launch a rocket powered by the HP-G75M rocket motor in the vicinity of open flames or other heat sources. Do not use the HP-G75M rocket motor in the vicinity of open flames or other heat sources.

**Precautions Regarding Metalstorm "Sparky" Motors**

Controlled tests show that AeroTech composite propellant rocket motors will not explode in fires and normally will not ignite if subjected to intense, sustained fires for two minutes or less. Use water to fight fires in which AeroTech composite rocket motors may become involved; direct the water at the AeroTech composite rocket motors to keep them below their 550°F autoignition temperature. Use carbon dioxide fire extinguishers will NOT extinguish burning propel- lant of the type used in AeroTech composite rocket motors. 

**PRECAUTIONS REGARDING METALSTORM “SPARKY” MOTORS**

Caution: Metalstorm composite rocket motors produce showers of hot sparks during operation which may present a fire hazard. Clear the launch area of all combustible materials for at least a 75 foot radius. Follow the NAR and TRA safety codes at all times. Water or other firefighting media should be available in the event of fire.

**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 to ignite electrically. Per ignition instructions, from a distance of at least 50 feet or more. Propellant, delay, and ignition charge will burn until consumed. Do not approach for at least five minutes after the firing. Do not put any part of your body over the motor during the process. Dispose of spent motor in inert trash. WARNING: Remember that the motor will be very hot after firing. Allow time for it to cool down.

**FIRE SAFETY**

1. Certification. I will only fly high power rockets or possess high power rocket motors that are within the scope of my user certification and required licensing.
2. Materials. I will use lightweight materials such as paper, wood, rubber, plastic, fiberglass, or when necessary durable metal, for the construction of my rocket.
3. Motors. I will use only certified, commercially made rocket motors, and will not tamper with or modify motors in any way. For any purpose except those expressly recommended by the manufacturer. I will not modify, smoke, open flames, or heat sources within 25 feet of the motor.
4. Ignition System. I will launch my rockets with an electrical launch system, and with electrical motor igniters that are installed in the motor only after my rocket is at the launch pad or in a designated prepping area. My launch system will have a safety interlock that is activated when the switch is not installed until my rocket is ready for launch, and will use a launch switch that returns to the "off" position when released. I will not install any "in-the-box" systems for motors or recovery devices, and I will not attach safety interlocks that interrupt the current path until the rocket is at the launch pad.
5. Misfires. I will not launch my rockets unless there is a button of my electrical launch system, I will remove the launch system's interlock or disconnect its battery, and will wait 60 seconds after the last launch attempt before allowing anyone to approach the rocket.
6. Launch Safety. I will use a 5-second countdown before launch. I will ensure that no person is closer to the launch pad than allowed by the accompanying Minimum Distance Table, and that a means is available to warn participants and spectators in the event of a problem. I will check the stability of my rocket before flight and will not launch it if it cannot be determined to be stable.
Thunder™, "FJ" for BlackMax™ and "R" for Redline™.

Out and the firing of the ejection charge. The letter following the time powerful as an "F" motor. The number following the letter code the previous letter. For example, a "G" motor can be twice as performance. The "HP" prefix indicates that this is a "hIgh-power"

Larger rockets, heavier payloads, and achieve higher altitudes than America's space boosters. Pound for pound, this propellant can

PERSONS UNDER 18 YEARS OF AGE PROHIBITED BY FEDERAL LAW. For use HP-G75M rocket motors only in accordance with these instructions. SALE TO Division of RCS Rocket Motor Components, Inc.

indoors. Do not breathe fumes from the rocket motor exhaust.

Fig.-2

Gently bend the end of the initiator that protrudes from the nozzle Fig.-1

Mantis™ rocket launch pad will accommodate launch rods of several diameters and lengths and may be

IGNITION AND LAUNCHING

WARNING-FLAMMABLE: Read All Instructions

FirstFire Jr.™ initiator provided.

This is the trajectory curve for the 50 lb. thrust rocket motor. The thrust is plotted as a function of time. The motor is ignited electrically, per ignition instructions, from a distance of 75 feet of hot sparks during operation which may present a fire hazard. Clear fires in which AeroTech fires in which AeroTech...

In the unlikely event of oral ingestion of the propellant, induce

the burned area in ice water at once and see a physician as quickly

CAUTION:

repeat the motor preparation and launching process with a new

WHAT IS A ROCKET MOTOR?

must not ignite for any reason within five seconds of pressing the launch

The core of the rocket motor is the propellant. The propellant is a combustible compound made from a mixture of

The performance of this rocket motor is described in terms of its core and delay element. The core is the propellant and delay element is the delay charge. The delay charge is required to delay the ignition of the core by a time interval that is adjustable.

2. Materials. I will use only lightweight materials such as paper, wood, rubber, plastic,

the motor preparation and launching process with a new.

3. Electrical System. I will use electric igniters that are installed in the motor only after my rocket is at the

4. Motor Preparations. I will remove the motor casing and replace it with a new motor casing, I will remove the launcher's safety interlock or disconnect its battery, and will

5. Misfires. If my rocket does not launch when I press the button of my electrical launch

Motor Performance Data

MOTOR PERFORMANCE DATA

MOTOR PERFORMANCE DATA

CAUTION: Do not cut, saw,

8. Size. My rocket will not contain any combination of motors that total more than

5.0

10.0

15.0

20.0

25.0

0.00 0.50 1.00 1.50 2.00

Time in Seconds

Thrust in Pounds

GENERAL INFORMATION

Fig.-2

FirstFire Jr.

Initiator

The core of the rocket motor is the propellant. The propellant is a combustible compound made from a mixture of

The performance of this rocket motor is described in terms of its core and delay element. The core is the propellant and delay element is the delay charge. The delay charge is required to delay the ignition of the core by a time interval that is adjustable.

CAUTION: Do not cut, saw,

NAR HIGH POWER ROCKET SAFETY CODE

NO CUTTING, SAWING OR OTHER DANGEROUS PLACES, FLY IT UNDER CONDITIONS WHERE IT IS LIKELY TO RECOVER IN

13. Recovery Safety. I will not attempt to recover my rocket from power lines, tall trees,

11. Launcher Location. My launcher will be 1500 feet from any inhabited building or

10. Grounds. I will ensure that the boundary of the launch site, and will not put any flammable or explosive payload in

9. Stand at least 50 feet from the launch pad when flying a rocket

8. Size. My rocket will not contain any combination of motors that total more than

7. Fuel. I will ensure that the propellant is clean and dry. The propellant is a combustible compound made from a mixture of

6. Motors. I will limit the number of motors to 20, and use only motors marked "G" or "HP-G75M rocket motors only in accordance with these instructions. SALE TO Division of RCS Rocket Motor Components, Inc.

5. Misfires. If my rocket does not launch when I press the button of my electrical launch

4. Motor Preparations. I will remove the motor casing and replace it with a new motor casing, I will remove the launcher's safety interlock or disconnect its battery, and will

3. Electrical System. I will use electric igniters that are installed in the motor only after my rocket is at the

2. Materials. I will use only lightweight materials such as paper, wood, rubber, plastic,

1. Introduction. "G"-powered motors are designed to be ignited electrically, per ignition instructions, from a distance of 75 feet. The "G" motor...