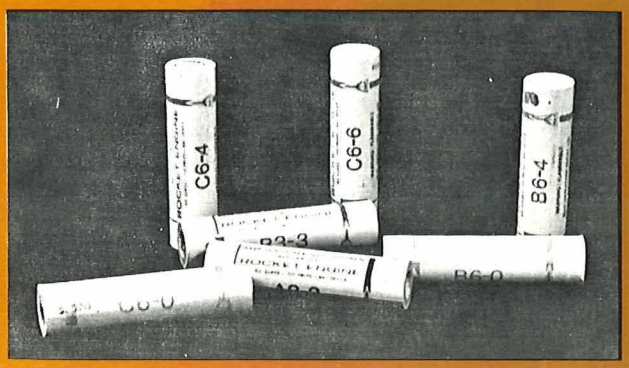
AVI THRUSTER-18®
MODEL ROCKET MOTORS

The new standard of quality and performance.

A better product at a better price.



The AVI Thruster-18® model rocket motors are miniature solid propellant rocket units specifically designed for propelling the AVI model rockets. They are made in a range from Type A through Type C. They are the USA "standard" size of 18 millimeters diameter (0.690 inches) and 70 millimeters long (2.75 inches). This standard 18 x 70mm. size will fit most model rockets and may therefore be used to propel models other than the AVI kits.

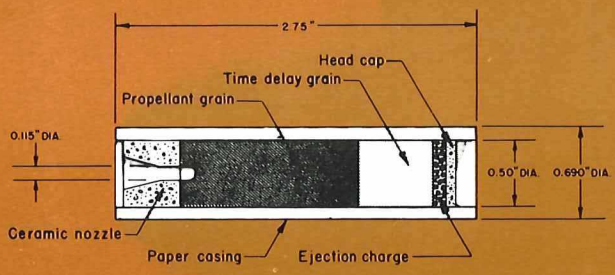
All AVI model rocket motors carry the Safety & Contest Certification of the National Association of Rocketry (NAR) signifying that they conform to the standards established by the Federation Aeronautique Internationale and the National Fire Protection Association Code 41-L.

AVI Thruster-18 model rocket motors are reaction motors designed specifically for the sole purpose of propelling AVI model rockets and other similar model rockets. They are scientifically designed, produced on automatic machinery, and subjected to rigid statistical quality controls. It is very important that care be exercised in their use. ALL INSTRUCTIONS must be read thoroughly first and followed completely. Model rocket motors are designed for one purpose only. They are not toys, and their mis-use must be absolutely avoided.

HOW DOES A THRUSTER-18 WORK?

Refer to the cutaway drawing that shows a typical AVI model rocket motor. The various parts are labelled.

The motor is started by an electrical igniter consisting of a piece of nichrome wire with a bead of "suibb" material on its tip. This is inserted into the nozzle by the modeler before launching. When an electric current of 2 amperes at 6 volts is passed through the igniter, its temperature rises above the 550 degree F. needed to ignite the propellant with which it is in contact.



The solid propellant grain burns only on its surface from the nozzle end forward like a cigarette. The combustion process takes place at very high temperatures producing about 2000 cubic inches of gas for every ounce of propellant material. This gas is created very rapidly and rushes out of the special ceramic de Laval rocket nozzle at a speed of about 1800 miles per hour. This hot rush of gas produces thrust which propels the model rocket skyward.

Once the propellant grain is used up, the time delay grain is automatically ignited. It produces very little thrust and allows the model rocket to coast to apogee. It includes a special chemical which produces a smoke trail to permit you to see the model at very high altitudes.

When the time delay grain is exhausted, the ejeection charge is automatically activated. This produces a quick puff of gas to pressurize the inside of the model rocket and expel the recovery device.

When the recovery device brings the model back to a gentle landing, the expended motor can be removed and discarded. The model rocket is then ready for another flight with a fresh model rocket motor installed.

All AVI model rocket motors are intended for only a single use and must be discarded after they are used.

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