

How Black Powder Rocket Motors Work

1

Cut-A-Way Of Rocket Engine

Paper Case
Clay Cap
Ejection Charge
Delay Composition
Black Powder Propellant
Clay Nozzle

Igniter

Electric current heats the igniter wire. The pyrogen on the tip flares up and starts the propellant burning.

2

The black-powder propellant quickly burns and creates the thrust that pushes the rocket into the air.

Did you know that black powder propellant burns at a rate of about 1 inch per second?

3

Thrust continues until all the propellant is consumed. Then the delay composition starts burning.

4

The delay composition burns slowly, making lots of smoke. The rocket coasts upward to its peak altitude during this time.

5

The delay composition is now completely consumed. The ejection charge ignites.

6

The fast burning ejection charge overpressurizes the case, and bursts through the clay cap. This also pushes off the nose cone and ejects the parachute.