

Carbide Mortar Makes Big Bang

By Evan Wright

THIS little mortar can be heard for blocks, and a young artilleryman can fire it from dawn to dusk on a quarter's worth of calcium carbide. The chemical generates acetylene gas for harmlessly small explosions behind a soft rubber ball.

The mortar barrel is a large fruit-juice can (4½" by 7"). To bring the muzzle down to a snug fit for a 4" ball, cut four equally spaced slots a couple of inches long in the front, lap the edges slightly, and solder the seams. Quarter-inch nuts, soldered to the can sides, act as trunnions. A thin ⅜"-20 nut, soldered over a hole in the bottom of the can, forms a fitting for the detonator—a model-engine spark plug.

The mortar base is made from ¾" plywood. Besides supporting the barrel, it houses a small ignition system, consisting of two flashlight batteries, a model-airplane spark coil, a 20-microfarad radio condenser and a doorbell button.

When the button is pushed down, the condenser takes up a small charge from

the batteries. This charge surges through the coil when the button is released, producing a hot spark at the plug.

To fire the mortar, tip up the barrel at a 45° angle and drop in two rice-size pieces of carbide (adding more will make the explosion no bigger). Add a teaspoon of water, jam the ball in the muzzle, and let the gas generate for half a minute. Push down the button momentarily, then release it, and—boom. There goes that ball!

