

144. Dried Seed Timer

by The Jolly Roger

A time delay device for electrical firing circuits can be made using the principle of expansion of dried seeds.

Material Required:

- Dried peas, beans, or other dehydrated seeds
- Wide-mouth glass jar with non-metal cap
- Two screws or bolts
- Thin metal plate
- Hand drill
- Screwdriver

Procedure:

1. Determine the rate of the rise of the dried seeds selected. This is necessary to determine the delay time of the timer.
 - Place a sample of the dried seeds in the jar and cover with water.
 - Measure the time it takes for the seeds to rise a given height. Most dried seeds increase 50% in one to two hours.
2. Cut a disc from thin metal plate. Disc should fit loosely inside the jar.

NOTE: If metal is painted, rusty, or otherwise coated, it must be scraped or sanded to obtain a clean metal surface

3. Drill two holes in the cap of the jar about 2 inches apart. Diameter of holes should be such that screws or bolts will thread tightly into them. If the jar has a metal cap or no cap, a piece of wood or plastic (NOT METAL) can be used as a cover.
4. Turn the two screws or bolts through the holes in the cap. Bolts should extend about one in. (2.5 cm) into the jar.

IMPORTANT: Both bolts must extend the same distance below the container cover.

5. Pour dried seeds into the container. The level will depend upon the previously measured rise time and the desired delay.
6. Place the metal disc in the jar on top of the seeds.

How to use:

1. Add just enough water to completely cover the seeds and place the cap on the jar.
2. Attach connecting wires from the firing circuit to the two screws on the cap.

Expansion of the seeds will raise the metal disc until it contacts the screws and closes the circuit.

145. Nail Grenade

by The Jolly Roger

Effective fragmentation grenades can be made from a block of TNT or other blasting explosive and nails.

Material Required:

- Block of TNT or other blasting explosive
- Nails
- Non-electric (military or improvised) blasting cap
- Fuse Cord
- Tape, string, wire, or glue

Procedure:

1. If an explosive charge other than a standard TNT block is used, make a hole in the center of the charge for inserting the blasting cap. TNT can be drilled with relative safety. With plastic explosives, a hole can be made by pressing a round stick into the center of the charge. The hole should be deep enough that the blasting cap is totally within the explosive.
2. Tape, tie, or glue one or two rows of closely packed nails to the sides of the explosive block. Nails should completely cover the four surfaces of the block.
3. Place blasting cap on one end of the fuse cord and crimp with pliers.

NOTE: To find out how long the fuse cord should be, check the time it takes a known length to burn. If 12 inches (30 cm) burns for 30 seconds, a 10 second delay will require a 4 inch (10 cm) fuse.

4. Insert the blasting cap in the hole in the block of explosive. Tape or tie fuse cord securely in place so that it will not fall out when the grenade is thrown.

Alternate Use: