



## Backpack Archeology Screen

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Figure 1—Collapsible aluminum archeology screen.

Archeological sites frequently lack practical vehicle access. Backpacking is the preferred mode of transport for equipment and supplies. Although the traditional archeologist's screen (hereafter referred to as "screen") is an essential tool for screening of artifacts, it is bulky and difficult to carry on foot. To address the problem, San Dimas Technology and Development Center (SDTDC) created a lightweight, collapsible, compact screen. Developers focused on simplicity, durability, and adaptability to varying height preferences. (See figure 1.)

### Aluminum Archeology Screen

The 16-pound collapsible aluminum screen that SDTDC created can be disassembled into a few main components for easy transport by backpack. (See figure 2.) Metal becomes very hot in the sun; be careful not to burn your hands. Basic setup and disassembly require no tools. The screen can be set up in 2 to 3 minutes. The screen mesh can be replaced with alternate sizes of mesh squares that can be rolled up and carried with the screen to the site. Usually the screen mesh is left attached to the lateral members when taken down for packing, making it easier to reassemble. SDTDC did not develop an insert.



Figure 2—The collapsed aluminum screen.



## How To Assemble the Screen

### Box Assembly

To assemble the screen, follow the instructions below, using the figures as visual guides.

1. Work on the ground or other flat surface.
2. Unroll the screen mesh attached to the lateral subassembly, with the bottom of the screen facing up; the 1 1/4 by 3/8-inch bar clamp strips will be visible. (See figure 3.)



Figure 3—The screen that is attached to the lateral subassembly is unrolled.

3. Lay the sidemembers near the lateral assembly. Make sure the legs are pointing in the same direction; either all are pointing toward you or all are pointing away from you. (See figure 4.)



Figure 4—The side member subassemblies are placed beside the screen.

4. Place the side member subassemblies under the mesh edges to form a square; 3/8-inch threaded studs are facing up.
5. Align the guide pins and connecting bolts with their respective holes and engage the connecting bolts by turning the screw knobs clockwise. Do not tighten completely until all four bolts are fully engaged. These bolts screw into the ends of the lateral assembly. (See figure 9.)
6. Place the two screen clamp strips over the three studs on each side subassembly piece. Place the Tee nuts over the studs and tighten firmly. (See figures 5 and 6.)



Figure 5—The screen clamp strip is placed over the three studs.



Figure 6—The Tee nuts are placed over the studs and tightened firmly.

### Leg Length

Leg length is adjustable. The legs have optional 2-inch spacers for extra height. (See figure 7.) The spacers may be positioned above or below the crossmember. (See figure 8.) The lower leg sections are 14-inches long and are interchangeable with the handles on the screen box; the screen box handles are 10-inches long. By interchanging the legs with the handles, or by including the spacers, users have four optional box heights: 32, 34, 36, and 38 inches. (See figure 9.)



Figure 7—Legs have optional 2-inch spacers for extra height.



Figure 8—Spacers may be positioned above or below the crossmember.

### Leg Assembly

Two connecting sections containing spring-loaded plungers at either end attach the lower and upper leg sections together. Depress the plungers to insert or remove the connector, snapping them into either of two optional positioning holes in the upper support leg, and



Figure 9—Screen box handles are 10-inches long.

into a single hole in the lower leg section. If the 2-inch spacer is not used, snap the connector plunger into the upper hole of the upper leg section on one side.

Slide the crossmember over the connector and align the other side of the crossmember with the opposite leg. (See figure 10.) Depress the plunger of the other connector; insert the plunger through the crossmember and into the upper support leg section.



Figure 10—The crossmember slides over the connector and the other side of the crossmember aligns with the opposite leg.

Depress the plunger on the exposed end of each connector, and slide the lower leg extension into place; snap the plungers into their respective positioning holes. (See figure 11.)



Figure 11—The plungers snap into their respective positioning holes.

### **Disassembly**

Start to disassemble by laying the screen box down with the Tee nuts facing up. Depress the plunger in one of the lower leg sections and slide the section off. Next, depress the plunger in the upper leg section and slide the connector out. Repeat on the other side.

Loosen Tee nuts and unscrew the connecting bolt knobs. Set aside the sidemembers and roll the screen mesh up between the lateral members. It may be beneficial to tie a cord around the screen assembly for easier packing.

### **Drawings**

Detailed Auto CAD drawings, v. 14, are on the SDTDC Web site at <http://fsweb.sdtdc.wo.fs.fed.us/programs/rec/heritage.html>. Look under Current Projects for “Drawings.”

### **Cost**

Material and labor costs vary with location. A screen built at SDTDC cost \$678, which included \$150 for the aluminum, \$50 for ancillary parts (aluminum screen, screw knobs, cap screws, screen mesh, U-bolts, retaining clip, and so on), and 12 hours of labor at \$34 per hour including overhead. A contract shop in the Los Angeles area would charge \$65 per hour for labor for a total cost of \$850.

Screens can be fabricated at the SDTDC. For further information, contact Ellen Eubanks at (909)599-1267, ext. 225.

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