

## MATERIALS AND HARDWARE FOR J-POLE CONSTRUCTION

Copper wire, 12 gauge, solid  
Copper pipe, 1/2", 10 ft standard length  
Copper 1/2" tee  
Copper 1/2" elbow, 90 degree  
Copper 1/2" end cap, 2 each  
SO-239 or N female connector (your choice), through-hole or 4-hole square mount, depending upon availability\*  
.030", .032, or .040 brass or copper sheet, at least 1.5x4"  
4-40x3/4" screws with hex nuts, 3 each (brass or stainless is recommended)  
\*If using a 4-hole square mount connector, add 4-40x1/4" screws with matching hex nuts, 4 each  
Rosin core solder

## TOOLS

Bench vise  
Center punch  
#33 drill bit  
#44 drill bit  
1/4" drill bit  
Electric drill or drill press  
File, flat, fine  
File, 1/4" round (if large tapered reamer is not available)  
Hack saw  
Hammer  
Lineman's pliers, 6 or 8"  
Permanent marker, blue or black ink, ultra fine point  
Propane torch  
Ruler  
Screwdriver  
Soldering iron, 60-80 watt  
Tape measure, inch AND metric  
Tapered reamer, 3/8-1" (if not available, use 1/4" round file)  
Tin snips, offset blades (use hacksaw if tin snips are not available)  
Tubing cutter (if not available, use hacksaw)

## CONSTRUCTING THE COPPER J-POLE MAIN BODY

1. Using the tape measure, permanent marker, and tubing cutter, mark out and cut one of each length listed in the dimensions on page 1 from the 10-foot copper pipe. If using a hack saw instead of a tubing cutter, clamp the pipe firmly in the bench vise before cutting.
2. Attach the segments of pipe to the hardware as follows: base segment, copper tee, longest segment (dimension A): between the side hole of the copper tee and the copper elbow (dimension D in diagram), insert the smallest segment. On the upward-pointing hole in the elbow, insert segment B (see diagram). DO NOT attach the copper caps yet (the feedpoint assembly will need to be installed first). Place the assembled segments and hardware on a fireproof work surface such as a metal or tile (NOT wood, plastic, or concrete), make sure segments A and B are parallel and in plane, then heat and solder them together with the propane torch.