

## MINI HIGH-BANKER

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This small High-Banker is relatively easy to build. I was able to bend all the pieces using some scrap steel angle bar stock as bending guides in my bench vise. I used a rubber hammer to "refine" the edges. If you have access to a brake (sheet metal bending tool) so much the better. The thinner the aluminum stock, the lighter the completed unit will be. A definite advantage if you plan to pack it into the backcountry.

Some of the pieces are welded together using Fluxless Aluminum Repair Rod. I found this rod very easy to use after just a few practice tries on scrap aluminum. You don't need sophisticated aluminum welding equipment, all you need is a propane torch. If you don't have a local supplier, you can obtain this rod from: Scott Williford, 130 S.W. 86th Ct., South Beach, OR 97366. The last price quote I got was \$20.00 a pound + shipping and handling. It would be wise to write for the latest prices.

- 1.) Start out by cutting sheet aluminum pieces 1,2,3,4,6,7,8,9,11 and 12 to plan dimensions. Note: the sheet aluminum thickness is not critical. It all depends on how rugged and heavy you wish to make your mini-banker. Slight adjustments to fit may be necessary when you bend the pieces. PC8 & 9 should be at approx 1/8" thick aluminum or steel.
- 2.) Lay out and drill 7/16" holes in PC2. Make sure the holes along the bend are as close as possible to the line. This reduces water loss over the end of the box. An alternate method would be to cut out this section and weld in a piece of expanded metal as a classifier.
- 4.) Drill 5/32" holes as indicated in PC7, 8, and 11. Drill a 5/8" in PC2
- 5.) Cut PC5 to plan dimensions. PC5 is floorboard matting from old Volkswagen Vans. It has a checkerboard square pattern that works very well for trapping the coarse gold. To give it some rigidity, glue the smooth side to PC4.
- 6.) Cut PC10 to plan dimension. PC10 is expanded metal screen.
- 7.) Mark pieces 1, 3, and bend 90 degrees.
- 8.) Bend the sides of PC2, 90 degrees, making sure the finished piece will fit inside PC1.
- 9.) Bend sides of PC6, 90 degrees (make sure it is slightly smaller than the inside width of PC2 so the weld will not interfere with the fit inside PC1). Bend the end tab in line with the hypotenuse of the sides.
- 10.) Weld the gravel guide trough (PC6) on the bottom of the Loader Box (PC2). Make sure the end of the trough is approximately 13/4" back from the end of the box. This

allows room for the classified gravel to pass between the trough and the gravel stop (PC12).

11.) Weld the gravel stop (PC12) to the end of the sluice box (PC1).

12.) Fit PC3 on the end of PC1, drill four holes for #6/32 sheet metal screws. Install screws.

13.) Lay the two PC8's inside the sides of the sluice box. Trim the three PC9's to fit between the two PC8's. After you have a good fit, remove from the box and weld PC8 at each end and one in the center. This forms the riffle bar frame.

14.) Place the PC4-5 assembly in the sluice box firmly against the gravel stop, then butt the end of the miners moss at the end of PC4-5 assembly. Place the riffle assembly on top of the miners moss and drill two 1/4" pivot holes through the side of the sluice box and riffle assembly. Install 1/4" x 20 nuts and bolts. The riffle assembly should be installed so that it compresses the miners moss against the bottom of the box.

15.) Round the ends of PC11, place in the box as shown in the assembly drawing. Be sure it compresses the riffle assembly when you drill for the pivot bolts.

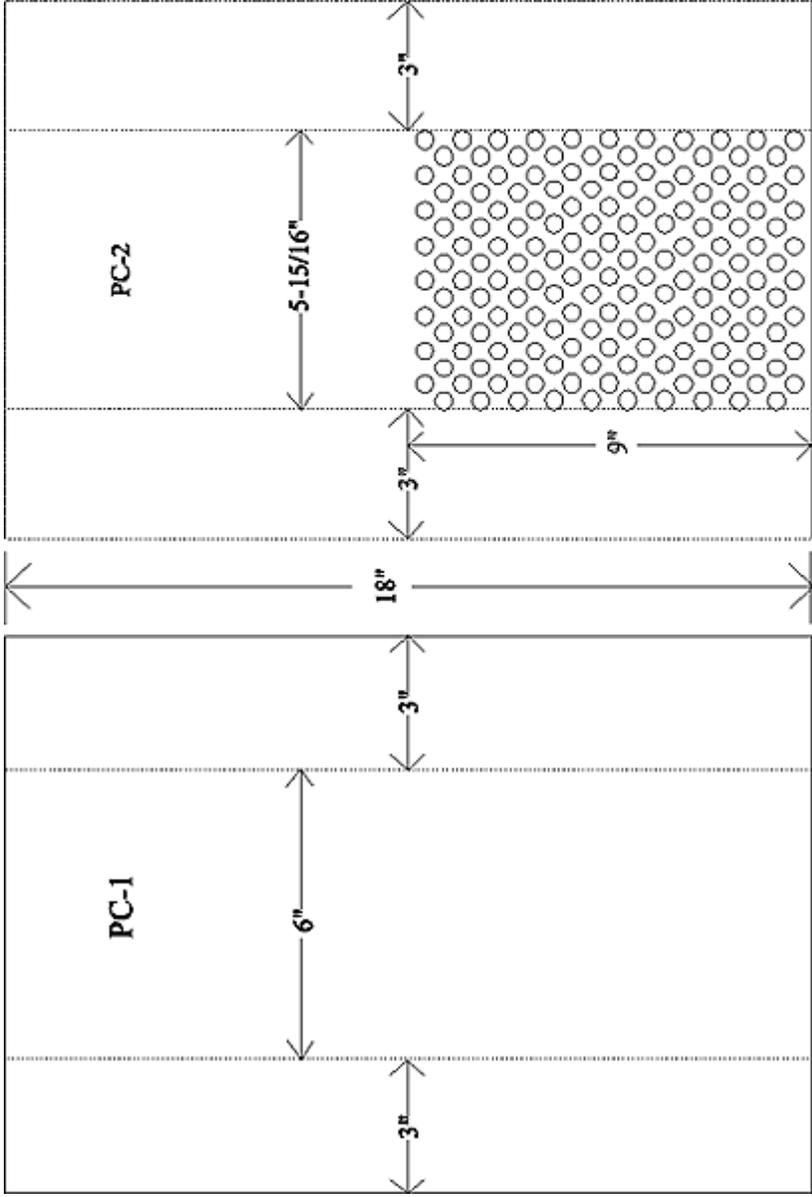
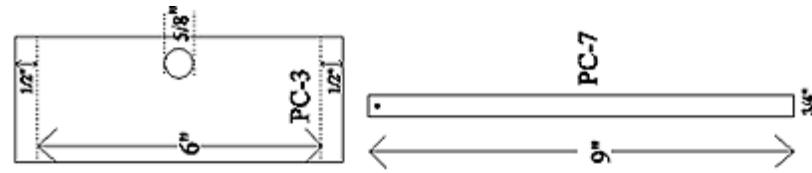
16.) Position PC2 inside PC1 as shown in the assembly drawing, mark and drill holes for 1/4" x 20 bolts. Install nuts and bolts so the two boxes can pivot freely. Note: the end of PC2 must overhang PC1 at least 1/2" so the larger classified gravel won't drop into the sluice box.

17.) Drill and install the braces (PC7) using 10-32 bolts. Drill extra holes about an inch apart in line with the first hole so the box can be set at different angles to suit varying field conditions.

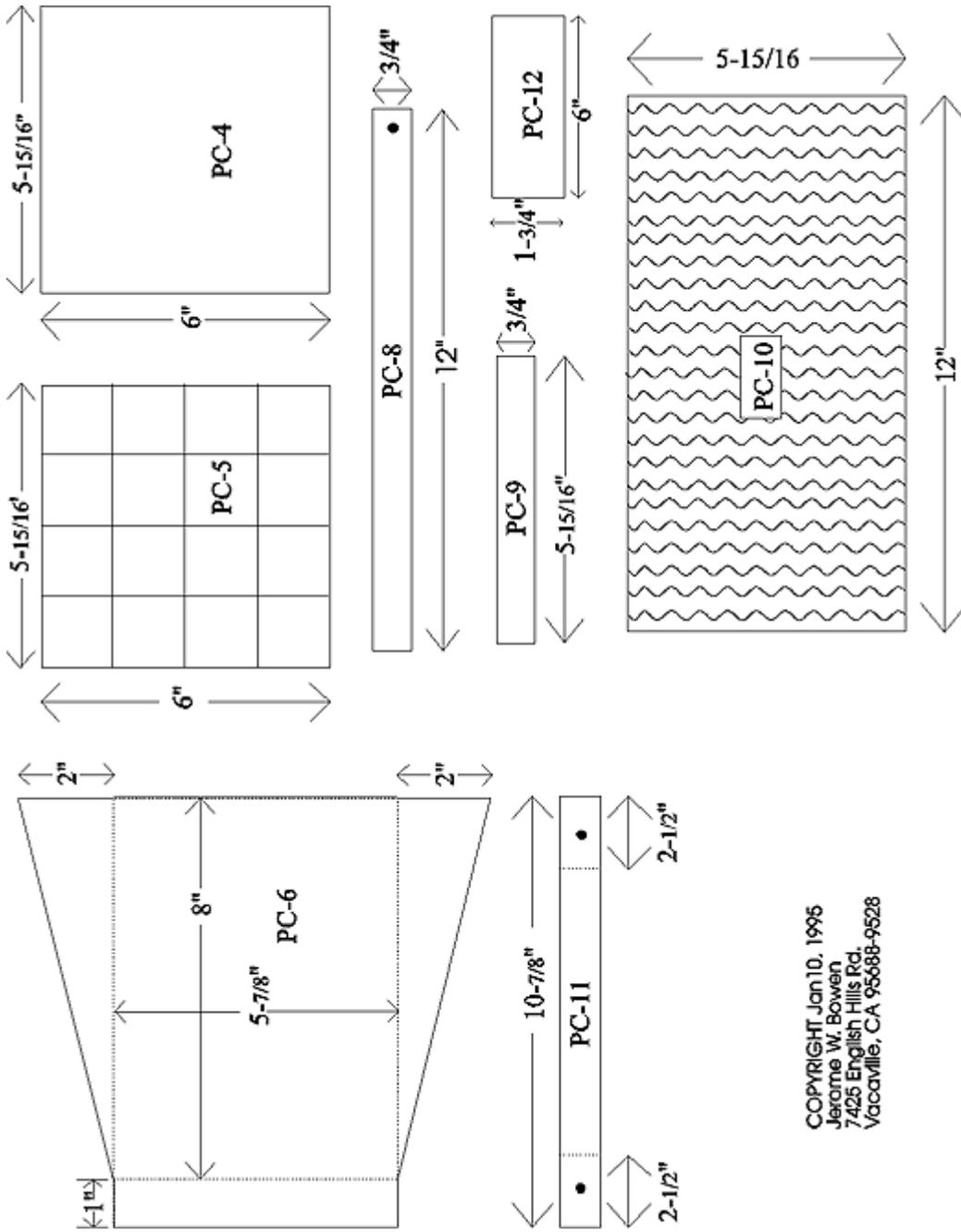
18.) Assemble the spray bar and install using 6-32 machine screws.

The mini-banker will work well with a flow of water as low as 5 GPM since no riffles are used . The low flow is even desirable because it allows the very fine gold to drop into the miners moss. There are many gas and electric pumps on the market which are small and lightweight. The disadvantage of electric pumps is you need to drag a heavy battery around. My preference is one of those small 2 cycle gas pumps that weigh in at about 6 to 8 pounds. In addition you could add legs and/or build a 20 to 30 gallon container to use as a recirculating water setup. I'll provide plans in a future issue of several different modifications for the "tinkerers" to try.

**Plans page 1 of 3**



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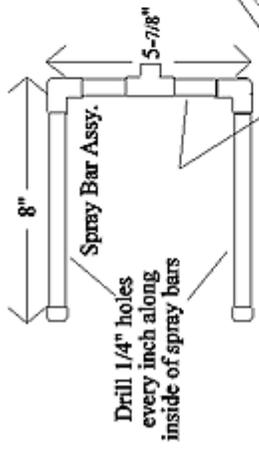
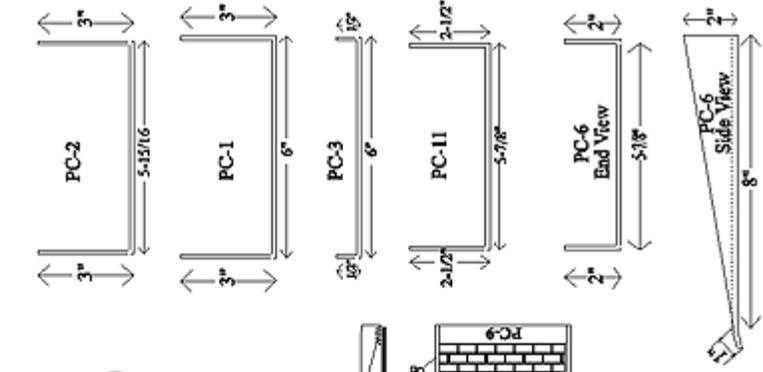


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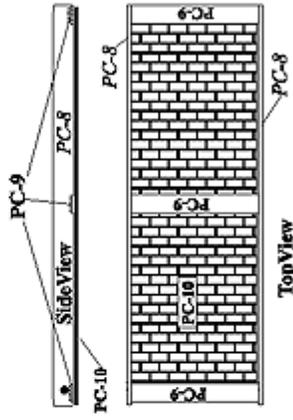
**PARTS LIST**

- PC-1 ... Sluice Box ..... 1ea
- PC-2 ... Loader Box ..... 1ea
- PC-3 ... End Plate ..... 1ea
- PC-4 ... VW Mat Backplate ... 1ea
- PC-5 ... VW Mat ..... 1ea
- PC-6 ... Guide Trough ..... 1ea
- PC-7 ... Brace ..... 2ea
- PC-8 ... Rifle Side ..... 3ea
- PC-9 ... Rifle end ..... 2ea
- PC-10 ... Rifle Screen ..... 1ea
- PC-11 ... Rifle Retainer ..... 2ea
- PC-12 ... Gravel Stop Plate ..... 1ea
- PC-13 ... Miners Moss ..... 12" x 6"

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Rifle Assy.



TopView

Mini High-Banker Assy.

