

Home-Made Under Water Dredge 3" & 4"

~ By ~ Dale Russell

Total cost approximately \$45.00 or less, mine was \$7.00. Using 20 gage sheet metal 1 piece 18" x 42" and 8" x 40". For the intake flange use a toilet flange 3" or 4". For proper fit you will need to glue in a piece of ABS pipe, letting it stick out 3". You must slit the first 11 1/1" of the pipe so a clamp can tighten your nozzle built from the last issue. When folding the sheet metal keep folds straight and as tight as possible. I used 2 each 1 x 48 with the sheet metal clamped between them and a mallet to bend the metal. Pop-riquet the joints and folds together and also use silicone on all joints. The intake end must be tight and flat, after assembling mark out the mount position for the flange and cut out the intake hole and drill mount holes. The riffles are made out of 1/8" x 1 1/4" flat bar on the side. For the riffles themselves sheet metal may be bent Hungarian style 13 gage. They must be only 1" high because you are going to mount a 3 1/8" screen on top the full length. Starting from the bottom of the taper to the other end it can be riveted or tack welded. Note: also the venture hose clamp should be heavy duty bolt type.

Theory of this design having an enlarged cavity at the end of the ventura allows the cavitation of the liquefied pay gravel to ease and the heavier material to settle lower to the working riffles. The grizzly screen keeps the riffles clear of 1/2" plus pebbles and allows the recovery of 3/8 and finer gold. Micron size gold is possible using proper deep rib carpet and also with the use of refrigerator magnet strips attached to the bottom under side of the riffles to catch the magnet sand which has super fine gold attached. The narrowed portion of the box, picks up jetison speed to eject the over burden after the pay has been extracted. I have checked regulations and you are only limited by nozzle and hose size. It states nothing on the number of nozzles. If you have pumps enough not exceeding 16 hp, you could increase the width to 12" and make a dual 4 and use it legally. However, I suggest you use more rigid material for the box. My unit is a 6 x 6 with a 4" intake and has worked great for the last 2 seasons. When I designed this unit I had an engineer flow test it in a computer at work. The results were astonishing even to him. Total weight with nozzle under 10 lbs.

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