

Quite possibly the cheapest, most worthwhile and cost effective project available.

Simply center the vial in the tube, pinch each end with pliers. Pick up a hunk of wood from the waste bin and plane both edges.

Drill a hole for view and slots for the tangs. Loose mount the vial.

To level the level, set level on a table and elevate one end. Flip end for end and shim vial in the slots so the vial has the same offset both ways. Then put a spot of wood dough in the slots to hold securely. Now go out and price a new level and see how much you have saved.

Or use the below plans:

Cut blank stock 1" X 2-1/2" either 24", 36" or 48". Find the center of the stock and lay out the lines for the horizontal vial as per diagram. Come in 1-1/2" from one end of the stock and lay out the lines for the vertical vial as shown. Clamp a piece of 1" thick scrap to the top edge of the stock and drill the 1/2" hole using a 1" drill. Chisel out the square hole for the horizontal vial. Using the table saw, make many passes, cut out the relief for the face plate. Drill out a 1/8" hole as a pilot for the vertical vial drill. Drill 1/2 way from both ends. Drill a 1/2" vial hole, drilling from both ends. Drill a 1" window hole for the vertical vial. Sand the hole smooth before going on. Center a vial in the plastic tube for vertical vial. With the horizontal vial in place, crimp both ends of the plastic tubing with pliers. Drill or punch two screw holes in the horizontal vial and mount with #4 or #6 round head wood screws. Level both the horizontal and vertical vials as per below. Cut two 1/2" plugs and glue in vertical vial holes. To make the cover plate, drill two 1/4" holes 7/8" apart and join by cutting out with a saber saw (with a metal blade). Drill and countersink four holes for #4 mounting screws. Mount cover plate then remove. Sand and finish level and remove cover plate. (be sure to mask out vials before finishing). To level the level: Elevate one end of the level slightly with a thin piece of wood. Mark where the bubble stops on the horizontal vial. Now turn the level around and adjust so that the bubble in the is in the same position on the other side. Repeat until the bubble offset is equal. Find a vertical surface and using small shims, adjust the vertical vial in the same manner. Be careful not to let the vial slide out of the plastic tube. When both of the vials are adjusted, secure in place with wood dough on their ends. (wood dough can be removed if re-adjustment is needed).

