



M-03 Assembly Instructions for Liquid Level Accelerometer

See parts diagram on reverse side.

CAUTION: ALWAYS USE ANY PLASTIC SOLVENT IN A WELL-VENTILATED AREA.

The accelerometer is built from 1/8" thick clear acrylic plastic. Remove the paper from each piece of plastic. Place one of the two large (approx: 10cm x 20cm) rectangular pieces of plastic (part a) on a flat surface.

A convenient way to handle the plastic solvent in the following steps is with a syringe or an eyedropper that has a small opening. The solvent can also be applied with a small brush, but a lot of the solvent will evaporate. Avoid breathing the vapors.

Using the diagram as a guide, align the outer edge of part b with part a, and use a little acrylic plastic solvent cement (e.g., Weld.on #4) to hold the pieces together. Let dry for at least 20 seconds. Similarly, add parts c and d, in order. Note that there will be a 0.6cm opening at the top of accelerometer after adding part d. Let the assembly dry for few minutes before proceeding.

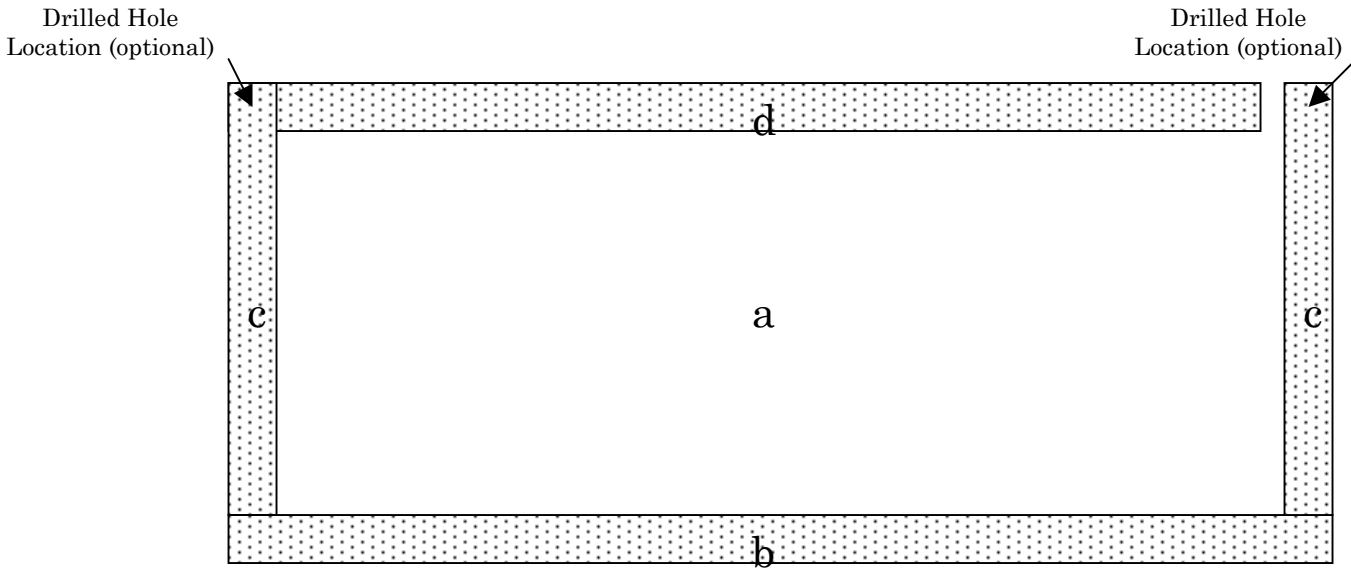
Place the remaining part a on top. Align the bottom edge carefully, and use a little solvent to hold this last piece in place. Let dry for few minutes. The solvent should now be applied carefully along the outside edges, so that capillary action will draw the solvent between the pieces of plastic. Allow five minutes for the solvent to dry.

Finally, inject a small amount of solvent into the inside of accelerometer. Rotate accelerometer so that solvent flows around on the inside of the accelerometer to seal the interior joints. Allow another five minutes drying time.

To avoid cracking the plastic in the next step, be sure that the accelerometer is held down firmly. Then, drill two 1/8" diameter holes through all three layers of acrylic in the top right and top left of accelerometer as shown in diagram. A bent paper clip can be threaded through these holes so the accelerometer can be used as a pendulum or rotated about an axis. You may want to drill holes in the bottom corners as well so that a second accelerometer can be suspended from the bottom.

Fill the cavity of the accelerometer about half full of water, and add a drop of food coloring. Generally, water will not leak out even if accelerometer is turned up side down. However, some of the water will leak out if the accelerometer is dropped or has a very large acceleration. If you wish, this can spill can be avoided by putting silicon sealer in the fill opening or taping it shut. Now your "trusty acceleration indicator" is ready for action.

DIAGRAM FOR CONSTRUCTION OF LIQUID LEVEL ACCELEROMETER



RECOMMENDED SOLVENT FOR ASSEMBLING LIQUID ACCELEROMETER KITS

The solvent used to join the pieces of our assembled accelerometers (M-03-A) is Weld-on #3 or Weld-on #4. This product can be obtained from most local plastic supply houses or fabricators, some craft shops, and an occasional hobby store. Small tubes of similar solvents may be found in most hobby stores. Due to postal regulations, we cannot ship the solvent with the kits. If you have any difficulty locating this product, you may wish to contact the manufacturer to determine the location of a supplier in your locale. Their contact information is

Warehouse/Sales/Marketing

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